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Update: The Waste Stream Managed by the
Department of Sanitation, 2000-2004

BACKGROUND PAPER

FEBRUARY 2001

Overview of

The Waste Stream Managed by the NYC
Department of Sanitation

IBO

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Note to the reader:

- Unless otherwise specified, all years in the text are New York City fiscal years (July 1 to June 30).
- To maintain consistency with waste tonnage amounts presented in the City's Solid Waste Management Plans, this report presents waste measurements in tons per day based on 312 collection days per year.

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Table of Contents

Section	Page
Introduction	1
I. Overview of Department of Sanitation-Managed Waste	2
Trends in Recycling and Disposal	4
Closure of the Fresh Kills Landfill	9
II. Curbside and Containerized Program	13
III. Other DOS-Managed Waste	21
Sources and Notes	27
Sources	27
Notes	28

List of Figures

S1. Summary of DOS-Managed Waste, 1992-2002	2
1. Average Daily Tonnage of DOS-Managed Waste, 1992-2002	4
2. DOS-Managed Waste: Total Recycled and Total Disposed Waste, 1992-2002	5
3. DOS-Managed Waste: Tons Per Day Recycled, 1992-2002	6
4. Local Law 19 Recycled Waste, 1992-2002	8
5. Waste Disposed at Fresh Kills and Waste Exported, 1997-2002	10
6. Department of Sanitation Expense and Revenue Summary	12
7. Curbside and Containerized Program, 1992-2002	13
8. Material Collected through the Curbside and Containerized Program for Recycling	14
9. Curbside & Containerized Program Recycling, 1992-2002	16
10. Historical Timeline of Curbside & Containerized Recycling Program, 1992-2002 ...	17
11. Capture Rate for MGP and Paper, 1992-2002	19
12. Recycling Capture Rates Vary Widely Across Sanitation Districts	20
13. DOS-Managed Other Waste, 1992-2002	21
14. Sources of the Disposed Portion of Other Waste	22
15. Sources of Recycled Portion of Other Waste	23
16. Asphalt and Millings and Road and Cover Material Recycled, 1992-2002	24
17. Other DOS-Managed Waste Recycled, Excluding Asphalt & Millings and Construction & Demolition, 1992-2002	26
18. Appendix: DOS-Managed Waste, 1992-2002	29

Introduction

This document provides a comprehensive description of the portion of the New York City waste stream managed by the city's Department of Sanitation (DOS). It is intended as a reference document. Actual fiscal year 1992-2000 data are provided, as well as projections from DOS for fiscal years 2000 (presented for comparison purposes), 2001 and 2002.

In 2000, New York City residents and businesses generated approximately 45,882 tons of waste per day, of which 40 percent—18,327 tons per day (tpd)—was managed by DOS and the remaining 60 percent was managed by the private sector. Two-thirds of the waste managed by DOS is handled under the curbside and containerized program (C&C program), that is, waste from households and institutions. DOS classifies the remaining one-third as Other-Department Managed Waste ("other waste"). Figure S.1 presents a summary of the DOS-managed waste stream.

Approximately 35 percent of the 18,327 tpd of waste managed by DOS in 2000 was recycled, 34 percent was disposed of directly at the Fresh Kills landfill on Staten Island, and 31 percent was exported to disposal sites outside of the city. By April 2001, Fresh Kills will cease accepting waste for disposal; thus all waste which is not recycled will be exported to out-of-state disposal facilities.

DOS's operating expenditures have increased from \$590.5 million in 1997 to \$940.6 million projected for 2001. This increase can largely be attributed to the cost of closing Fresh Kills Landfill and the export of trash to out-of-city disposal facilities.

This report is organized in three sections. Section I presents a general overview of the waste managed by DOS, reviews trends in disposal and recycling, discusses the impact of the closure of Fresh Kills on the methods of waste disposal, and summarizes DOS' operating expenditures and revenues. Section II reviews the curbside and containerized program, while Section III discusses other DOS-managed waste.

Figure S-1. Summary of DOS-Managed Waste, 1992-2002 (tons per day)												
Fiscal Year	Actual									DOS Projected		
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2000	2001	2002
Curbside and Containerized Waste												
Total	11,596	11,794	11,682	11,628	11,341	11,788	11,970	11,975	11,870	11,976	11,709	12,019
Disposed	10,975	10,947	10,186	10,140	9,872	10,213	10,065	9,834	9,470	9,613	9,244	9,013
Recycled	621	847	1,496	1,488	1,469	1,575	1,905	2,141	2,400	2,363	2,465	3,006
<i>C&C Diversion Rate</i>	<i>5.4%</i>	<i>7.2%</i>	<i>12.8%</i>	<i>12.8%</i>	<i>13.0%</i>	<i>13.4%</i>	<i>15.9%</i>	<i>17.9%</i>	<i>20.2%</i>	<i>19.7%</i>	<i>21.1%</i>	<i>25.0%</i>
Other Waste												
Total	3,137	3,442	3,194	6,012	5,003	4,311	3,827	4,639	6,457	3,924	5,415	4,201
Disposed	2,768	2,894	2,510	2,541	2,561	1,998	2,130	2,032	2,456	1,828	2,491	1,926
Recycled	369	548	684	3,471	2,442	2,313	1,697	2,607	4,001	2,096	2,924	2,275
<i>Other Waste Diversion Rate</i>	<i>11.8%</i>	<i>15.9%</i>	<i>21.4%</i>	<i>57.7%</i>	<i>48.8%</i>	<i>53.7%</i>	<i>44.3%</i>	<i>56.2%</i>	<i>62.0%</i>	<i>53.4%</i>	<i>54.0%</i>	<i>54.2%</i>
Total DOS-Managed Waste												
Total	14,733	15,236	14,876	17,640	16,344	16,099	15,797	16,614	18,327	15,900	17,124	16,220
Disposed	13,743	13,841	12,696	12,681	12,433	12,211	12,195	11,866	11,926	11,441	11,735	10,939
Recycled	990	1,395	2,180	4,959	3,911	3,888	3,602	4,748	6,401	4,459	5,389	5,281
<i>Overall Diversion Rate</i>	<i>6.7%</i>	<i>9.2%</i>	<i>14.7%</i>	<i>28.1%</i>	<i>23.9%</i>	<i>24.2%</i>	<i>22.8%</i>	<i>28.6%</i>	<i>34.9%</i>	<i>28.0%</i>	<i>31.5%</i>	<i>32.6%</i>
SOURCES: IBO; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; DOS Local Law 19 Tons Per Day Recycled (January 2001).												

Section I. Overview of Department of Sanitation-Managed Waste

The Department of Sanitation (DOS) managed 18,327 tons per day (tpd) of waste in 2000—two-thirds through the curbside and containerized program (C&C Program) and one-third as other department managed waste (“other waste”).

- The DOS-managed waste stream is made up largely of residential and institutional trash and recyclables. Businesses and other entities generate an additional 27,555 tpd¹ of commercial waste, which is managed by the private sector.
- DOS collected 11,870 tpd of trash and recyclables through the curbside and containerized program in 2000. This waste stream is generated by households and institutions (including public and private schools, colleges, museums, libraries, city agencies and correctional facilities) within the 59 sanitation districts (coterminous with community districts), and collected on a weekly basis by DOS at the curb either in plastic bags, front-end-loading containers or roll-on-roll-off containers. Section II discusses the curbside and containerized program in detail.
- DOS also handled 6,457 tpd of “other waste” in 2000. “Other waste” is any waste for which DOS is responsible but does not collect at the curb, and includes waste from street and lot cleaning operations, New York City Housing Authority buildings, some city, state and federal offices, and certain waste from the city’s Departments of Environmental Protection and Parks and Recreation. Section III discusses the other waste component in detail.

Curbside program tonnage has been essentially flat over the 1992-2000 period, while the “other waste” component has been much more variable from year to year.

- Figure 1 provides historical and projected data on tons of waste per day managed by DOS for 1992-2002, broken down by “C&C waste” and “other waste.”
- The amount of waste managed under the curbside and containerized program has remained largely stable during the period between 1992 and 2000, increasing by only 274 tpd—or 2.4 percent—from 1992 to 2000.
- “Other waste” fluctuates greatly from year to year. From 1992 to 2000, the average daily tonnage of “other waste” has varied between 3,100 tpd and 6,500 tpd. The 2000 level was 6,457 tpd—105.8 percent above the 1992 level and 39.1 percent above the 1999 level. The fluctuation can be primarily attributed to the variability from year to year in the amount of construction and demolition (C&D) debris recycled into road and cover material at the Fresh Kills Landfill.

Figure 1. Average Daily Tonnage of DOS-Managed Waste, 1992-2002
(average tons per day)

Fiscal Year	C&C waste	Other Waste	Total
<i>Actual</i>			
1992	11,596	3,137	14,733
1993	11,794	3,442	15,236
1994	11,682	3,194	14,876
1995	11,628	6,012	17,640
1996	11,341	5,003	16,344
1997	11,788	4,311	16,099
1998	11,970	3,827	15,797
1999	11,975	4,639	16,614
2000	11,870	6,457	18,327
<i>DOS Projected</i>			
2000	11,976	3,924	15,900
2001	11,709	5,415	17,124
2002	12,019	4,201	16,220

SOURCES: Independent Budget Office; 1998 Draft SWMP Draft Modification; May 2000 SWMP Draft Modification, DOS Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001).

Trends in Recycling and Disposal

Between 1992 and 2000, waste sent for disposal declined 13.2 percent, while the amount of waste recycled grew by a factor of five.

- Of the 18,327 tpd of DOS-managed waste in 2000, 11,926 tpd were sent for disposal and 6,401 tpd were recycled. Figure 2 provides data on the amount of recycled and disposed waste managed by DOS from 1992 to 2000, with projections through 2002.
- The city's overall recycling diversion rate² for DOS-managed waste has increased from less than 7 percent in 1992 to almost 35 percent in 2000. Figure 3 summarizes the recycled portion of the waste stream managed by DOS from 1992 to 2000, with projections for 2001 and 2002.
 - Recycling of paper and metal, glass, and plastic (MGP) and of asphalt and millings has been steadily growing; however, the amount of recycled C&D debris has fluctuated greatly from 1992 to 2000.
 - The city's overall recycling rate of 34.9 percent for 2000 was 24.6 percent higher than projected by DOS. This discrepancy can be largely explained by an unanticipated increase the recycling of "other waste," in particular the recycling of C&D debris and millings.

Figure 2. DOS-Managed Waste: Total Recycled and Total Disposed Waste, 1992-2002*(average tons per day)*

Fiscal Year	Recycled	Disposed	Total	Diversion Rate
<i>Actual</i>				
1992	990	13,743	14,733	6.7%
1993	1,395	13,841	15,236	9.2%
1994	2,180	12,696	14,876	14.7%
1995	4,959	12,681	17,640	28.1%
1996	3,911	12,433	16,344	23.9%
1997	3,955	12,211	16,100	24.2%
1998	3,602	12,195	15,797	22.8%
1999	4,748	11,866	16,614	28.6%
2000	6,401	11,926	18,327	34.9%
<i>DOS Projected</i>				
2000	4,459	11,441	15,900	28.0%
2001	5,389	11,735	17,124	31.5%
2002	5,281	10,939	16,220	32.6%

SOURCES: Independent Budget Office; 1998 SWMP Draft Modification, May 2000 SWMP Draft Modification; DOS Recycling Diversion Report; September 2000 MMR, DOS Local Law 19 Tons per Day spreadsheet (January 2001).

Figure 3. DOS-Managed Waste: Tons Per Day Recycled, 1992-2002
(average tons per day)

Fiscal Year	MGP and paper	Asphalt & millings	Construction & demolition debris	All other	Total
<i>Actual</i>					
1992	613	272	N.A.	105	990
1993	835	337	N.A.	223	1,395
1994	1,481	337	N.A.	362	2,180
1995	1,474	305	2,811	369	4,959
1996	1,457	315	1,900	239	3,911
1997	1,563	508	1,591	226	3,888
1998	1,883	686	846	187	3,602
1999	2,112	671	1,762	203	4,748
2000	2,333	1,209	2,654	205	6,401
<i>DOS Projected</i>					
2000	2,300	669	1,243	247	4,459
2001	2,390	818	1,966	215	5,389
2002	2,937	688	1,449	207	5,281

SOURCES: Independent Budget Office; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled (January 2001).

Local Law 19 of 1989 (as amended by subsequent court orders) required the city to recycle 3,400 tpd by July 14, 1999.

- New York City's Recycling Law (Local Law 19 of 1989) (Administrative Code of the City of New York sec. 16-301 et seq.) required DOS to establish a comprehensive recycling program for the City of New York and authorized the promulgation of regulations to implement such a program. Section 16-305 of the law required DOS to meet specifically mandated tonnage requirements for solid waste disposal—4,250 tpd by July 1993.
 - The city's failure to meet this mandatory tonnage level led to protracted litigation resulting in a succession of judicial orders directing DOS to comply with the Recycling Law.
 - ◆ The first court order ruled that DOS could no longer count C&D debris towards the mandated tonnages, by holding that "C&D debris are not recyclable material contained in Department-collected solid waste pursuant to section 305" of Local Law 19.³

- ◆ Several months later, the court modified the original compliance schedule, ordering DOS to divert 3,400 tons per day of designated recyclables by July 14, 1999, and 4,250 tpd by July 14, 2001.⁴
- DOS reports that it first met the July 1999 3,400 tpd mandate in the month of October 1999 by recycling an average of 3,448 tpd; the average daily rate for 2000 is 3,712 tons (the first fiscal year the mandated level was met). However, some environmental organizations and City Council members dispute the inclusion of materials such as asphalt & millings and dirt reused from lot cleaning operations towards these tonnage requirements. For 2000, if the disputed materials are excluded from the total, the city failed to reach the court-ordered target by nearly 1,000 tpd.
- Figure 4 presents the list of recycled waste that may be counted towards the Local Law 19 recycling mandates, as well as the disputed materials. The recycled waste that may be counted towards the Local Law 19 recycling mandates are a subset of the recycled portion of the DOS-managed waste (See Figure 2). Specifically, C&D debris and abandoned vehicles are not included as DOS does not count these materials towards the Local Law 19 requirements. The figure compares the total average tons per day of recycled waste (with and without the disputed materials) from 1992 to 2002 with the Local Law 19 recycling tonnage mandates. In addition, the recycling diversion rate is calculated (with and without the disputed materials).
 - DOS projects a Local Law 19 recycling level (including disputed materials) of 3,391 tpd for 2001, a reduction of 321 tpd from 2000 due to a projected decrease in millings recycling. This amount would fall short of the mandated recycling target of 4,250 tpd by July 14, 2001 and would just about meet the 3,400 tpd for July 14, 1999. DOS projects that in 2002 it will recycle 3,796 tpd (including disputed materials)—454 tpd shy of the 4,250 tpd mandate.
 - If the disputed materials are included, the recycling diversion rate is 23.7 percent in 2000. By including Local Law 19 recycled waste and excluding the disputed materials, the city's recycling rate is 17.2 percent in 2000. Overall, including C&D debris and abandoned vehicles as well as the disputed materials, the city reports a recycling rate of 34.9 percent (see Figure 2).

Figure 4. Local Law 19 Recycled Waste, 1992-2002
(tons per day)

Fiscal Year	1992	1993	1994	1995	Actual					DOS Projected	
					1996	1997	1998	1999	2000	2001	2002
<u>Curbside & containerized program</u>											
MGP & Paper	613	835	1,481	1,474	1,457	1,563	1,883	2,112	2,326	2,390	2,937
Leaves & trees	<u>8</u>	<u>12</u>	<u>15</u>	<u>14</u>	<u>12</u>	<u>13</u>	<u>22</u>	<u>29</u>	<u>70</u>	<u>75</u>	<u>69</u>
Total	621	847	1,496	1,488	1,469	1,576	1,905	2,141	2,396	2,465	3,006
<u>"Other Waste"^a</u>											
Bulk waste		5	18	13	12	14	16	15	15	14	17
City agency paper	17	17	17	15	15	13	13	12	11	11	11
Food waste		1	1	1	2	4	12	15	19	19	18
Tires				3	10	8	5	6	11	11	11
Other small programs				60	44	34	27	49	28	26	25
Asphalt & millings ^b	272	337	337	305	315	508	686	671	1,209	818	688
Dirt from lot cleaning ^b	<u>80</u>	<u>188</u>	<u>188</u>	<u>172</u>	<u>76</u>	<u>77</u>	<u>34</u>	<u>31</u>	<u>23</u>	<u>27</u>	<u>20</u>
Total	369	548	561	569	474	658	793	799	1,316	926	790
<u>Total Local Law 19 waste, including disputed materials</u>											
	990	1,395	2,057	2,057	1,943	2,234	2,698	2,940	3,712	3,391	3,796
<i>Diversion rate</i>	6.7%	9.2%	13.9%	14.0%	13.5%	15.5%	18.1%	19.9%	23.7%	22.4%	25.8%
<u>Total Local Law 19 waste, excluding disputed materials</u>											
	638	870	1,532	1,580	1,552	1,649	1,978	2,238	2,480	2,546	3,088
<i>Diversion rate</i>	4.4%	5.9%	10.8%	11.1%	11.1%	11.9%	14.0%	15.9%	17.2%	17.8%	22.0%
SOURCES: IBO; 1998 SWMP Draft Modification; May 2000 SWMP Modification; Residential Recycling Diversion Reports; Local Law 19 Tons per Day Recycled (Nov. 2, 2000)											
NOTES: ^a Under Local Law 19, construction and demolition debris and abandoned vehicles are not counted as recyclable materials. ^b Disputed materials.											

Closure of the Fresh Kills Landfill

Of the 18,327 tpd of waste managed by DOS in 2000, approximately 35 percent was recycled, 34 percent was disposed of directly at the Fresh Kills landfill on Staten Island, and 31 percent was exported to disposal sites outside of New York City.

- In May 1996, Mayor Giuliani and Governor Pataki announced that Fresh Kills would be closed by December 31, 2001—a decision subsequently ratified in New York State Environmental Conservation Law.
- Fiscal year 1997 was the last year that all DOS-managed waste was disposed of at Fresh Kills. In July 1997, DOS began a five-phase interim export program to divert waste from Fresh Kills to out-of-city disposal facilities.⁵
 - Phase 1 (started July 1997): Export of 1,895 tpd of Bronx trash at \$54.82 per ton;
 - Phase 2 (started December 1998): Export of 2,334 tpd of Brooklyn's trash at a weighted average of \$60.03 per ton;
 - Phase 3 (started December 1999): Export of 2,798 tpd of Manhattan and Staten Island's trash at a weighted average of \$63.75;
 - Phase 4 (started September 2000): Export of 1,073 tpd Brooklyn's trash at a weighted average of \$69.16 per ton;
 - Phase 5 (started February 2001 and phased-in over 6 weeks): Export of 3,281 tpd of Queens trash at a weighted average of \$68.22 per ton.
- In 2000, 1.9 million tons of trash were disposed of at Fresh Kills compared to 3.8 million tons in 1997, a 50 percent decrease. Figure 5 compares the amount of trash disposed of at Fresh Kills with the amount exported from 1997 to 2002.
 - DOS projects that of the total DOS-managed waste needing disposal in 2001, 27.5 percent will be disposed of at Fresh Kills and 72.5 percent of the trash will be exported (primarily by truck) to out-of-city disposal sites. By 2002, 100 percent will be exported and there will be no trash sent to Fresh Kills. Based on the current implementation schedule of the Phase 5 export contracts, Fresh Kills will cease accepting waste by April 2001, a full 9 months ahead of the original closure schedule.
 - The transition from disposal (including transfer, transport, and unloading) at the city-owned Fresh Kills landfill at roughly \$43 per ton⁶ to paying \$63.30 per ton to the private sector (transfer, transport and disposal) has resulted in better record keeping and measurement practices.⁷ The decrease in the amount of waste disposed of, at least in part, can be attributed to the improvements in trash measurement.

Figure 5. Waste Disposed at Fresh Kills and Waste Exported, 1997-2002							
Fiscal Year	Disposed at Fresh Kills		Exported		Total		Percent exported
	Tons (000's)	Tpd	Tons (000's)	Tpd	Tons (000's)	Tpd	
<i>Actual</i>							
1997	3,810	12,211	0	0	3,810	12,211	0.0%
1998	3,240	10,383	565	1,812	3,805	12,195	14.9%
1999	2,807	8,998	895	2,868	3,702	11,866	24.2%
2000	1,921	6,156	1,800	5,770	3,721	11,926	48.4%
<i>DOS Projected</i>							
2001	1,008	3,232	2,653	8,503	3,661	11,735	72.5%
2002	0	0	3,413	10,939	3,413	10,939	100.0%

SOURCES: Independent Budget Office; MMRs; May 2000 SWMP Draft Modification.

Summary of DOS Operating Expenditures and Revenues from Recycling

According to IBO projections, DOS' operating expenditures have increased from \$590.5 million in 1997 to 838.3 million in 2000, and will exceed \$940 million in 2001.

- The annual cost of waste disposal nearly tripled from \$55.7 million in 1997 to \$160.8 million in 2000 (Figure 6).
 - This increase is directly attributable to the closure of Fresh Kills and the phased-in export program.
 - As of April 2001, the city will be paying on average \$63.30 per ton to export DOS managed waste to out-of-city disposal facilities.
- Cleaning and collection costs have also increased substantially, from \$347 million in 1997 to \$439.7 million in 2000, a 26.7 percent increase.
 - The majority of this increase is due to the rise in collection and relay costs associated with the interim export program's utilization of out-of-city waste transfer stations and incinerators for all waste generated in Manhattan and Staten Island.
- The operating budget for the Bureau of Waste Prevention, Reuse and Recycling (BWPRR) comprises between 3.0 to 4.0 percent of the total operating budget for DOS, \$27 million in 2000.
- Revenue from recycling has increased from \$1.2 million in 1999 to \$8.2 million in 2000, of which 97.6 percent can be attributed to paper recycling.

- Although revenues from paper recycling have historically been volatile, newly negotiated 20-year recycling contracts will insulate the city from future fluctuations in the paper market. The contracts obligate the private vendors to pay DOS a minimum floor price for each ton of paper delivered. Whenever indexed monthly prices go below the floor the contractor receives a credit to be redeemed against subsequent price increases above the minimum floor price.
- The fees charged for processing MGP outweigh any revenues derived from this waste stream. Only aluminum, a small portion of the MGP stream—just one percent by weight of recyclables—generates significant revenues.
- According to DOS's projections of recycling diversion rates, paper recycling will increase 27.5 percent between 2000 and 2002.

Figure 6. Department of Sanitation Operating Expenses and Recycling Revenues, 1992-2001
Dollars in millions

	1992	1993	1994	1995	<u>Actual</u> 1996	1997	1998	1999	2000	<u>Projected</u> 2001
Operating Expenses										
Executive Administration	62.8	66.0	78.6	63.8	88.8	96.7	106.8	127.0	132.3	na
<i>BWPRR</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	20.3	23.7	27.7	27.2	<i>na</i>
Cleaning & Collection	347.2	385.1	401.8	393.5	360.8	347.0	358.8	389.1	439.7	na
Waste Disposal	69.0	69.2	63.0	58.6	60.9	55.7	85.7	103.3	160.8	na
Building Management	15.1	14.8	15.2	15.0	15.6	14.4	13.9	13.6	13.7	na
Bureau of Motor Equipment	72.7	72.9	74.4	67.6	64.8	64.9	65.2	67.8	74.2	na
Snow	8.5	24.2	53.1	24.4	60.5	11.8	8.7	14.9	17.6	na
Total Expenses	575.3	632.2	686.1	622.9	651.4	590.5	639.1	715.7	838.3	940.6
Recycling Revenues										
Curbside Paper	na	na	na	na	11.3	0.1	0.9	0.9	7.7	na
Metal Bulk	na	na	na	na	0.2	0.0	0.2	0.2	0.2	na
City Agency Office Paper	<u>na</u>	<u>na</u>	<u>na</u>	<u>na</u>	<u>0.3</u>	<u>0.3</u>	<u>0.2</u>	<u>0.1</u>	<u>0.3</u>	<u>na</u>
Total Recycling Revenues	na	na	na	5.0	11.8	0.4	1.3	1.2	8.2	na

SOURCES: IBO; IFMS; FMS; DOS Bureau of Waste Prevention, Reuse and Recycling (BWPRR); DOS Bureau of Planning and Budget.
NOTE: na = not available

Section II. Curbside and Containerized Program

The waste stream handled under the curbside and containerized (C&C) program has been relatively flat from 1992 to 2000, growing just 2.4 percent.

- The C&C program handles trash and recyclables from households, street waste basket collections, and institutions, including public and private schools, colleges and universities, museums, libraries, correctional facilities, tax-exempt non-profit organizations, and some city agencies. Figure 7 summarizes the C&C program's waste stream.

Figure 7. Curbside and Containerized Program, 1992-2002 (tons per day)				
Fiscal Year	Total C&C	Disposed	Recycled	Diversion Rate
<i>Actual</i>				
1992	11,596	10,975	621	5.4%
1993	11,794	10,947	847	7.2%
1994	11,682	10,186	1,496	12.8%
1995	11,628	10,140	1,488	12.8%
1996	11,341	9,872	1,469	13.0%
1997	11,788	10,213	1,575	13.4%
1998	11,970	10,065	1,905	15.9%
1999	11,975	9,834	2,141	17.9%
2000	11,870	9,470	2,400	20.2%
<i>DOS Projected</i>				
2000	11,976	9,613	2,363	19.7%
2001	11,709	9,244	2,465	21.1%
2002	12,019	9,013	3,006	25.0%
SOURCES: Independent Budget Office; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; DOS Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001).				

The disposed portion of the C&C waste stream declined 14.2 percent from 1992 to 2000.

- The disposed portion of the curbside and containerized program declined from 10,975 tpd in 1992 to 9,470 tpd in 2000, with a further 5.1 percent drop to 9,013 tpd projected by 2002.

The C&C program's recycling diversion rate has grown from 5.4 percent to 20.2 percent from 1992 to 2000.

- Figure 8 lists the three main categories of recyclables collected under the C&C recycling program and a description of what is included in each category. Household and institutional paper and metal, glass and plastic (MGP) are the principal components of the C&C recycled waste stream. Leaf and Christmas tree collections are seasonal: leaves are currently collected in the months of October and November in at least a portion of the sanitation districts in all boroughs except Manhattan, and Christmas trees are collected in all boroughs in January.

<p>Figure 8. Material Collected through the Curbside and Containerized Program for Recycling</p> <p>1. Metal, Glass, and Plastic (MGP)</p> <ul style="list-style-type: none"> • Metal cans (tuna, soup, empty aerosol cans, empty and dried paint cans, etc.) • Glass bottles and jars (juice, wine, mayonnaise, jam, etc.) • Plastic bottles and jugs (detergent, shampoo, soda, milk, water, juice, etc.) • Aluminum foil wrap, trays (pie pans, take-out tins, etc.) and cans • Household metal (large and small items made of more than 50 percent metal such as appliances, furniture, utensils, tools, toys, etc.) • Plastic/wax-coated beverage cartons (i.e., drink boxes, milk and juice cartons) <p>2. Paper</p> <ul style="list-style-type: none"> • Newspaper • Magazines • Corrugated • Paper (colored and white paper, glossy paper, envelopes, mail, wrapping paper, small cardboard, empty paper towel and toilet paper rolls, paper bags, paper/cardboard egg cartons and product trays, soft cover books, telephone books, catalogs) <p>3. Leaves and Trees (seasonal)</p> <ul style="list-style-type: none"> • Leaves collected for composting from residents in Staten Island, Brooklyn, the Bronx and Queens. • Christmas trees collected for composting <p>SOURCES: Independent Budget Office; DOS educational material on recycling.</p>

The curbside and containerized recycling program was phased in over time, with numerous fits and starts. As of April 2000, for the first time since the start of the program, all sanitation districts were receiving essentially the same level of service.

- Figure 9 presents historical and projected tonnage and diversion rate data on recycled MGP, paper, leaves and trees from 1992 to 2002.⁸ Figure 10 summarizes the history of the curbside and containerized recycling program.
- Historically, the significant increases in the recycling diversion rate have occurred when a new material was introduced into the recycling program (such as the addition of mixed paper recycling) or when there was an increase in the frequency of recycling collections (for example, the switch from no recycling or alternate week recycling to weekly collections). It should also be noted that public education programs accompanied each of these program changes.
- In 1989 when Local Law 19 was enacted, 14 out of 59 sanitation districts participated in the curbside and containerized recycling program. By 1992, 29 districts were participating, and by 1994, all 59 districts were recycling newspapers, magazines, corrugated cardboard, metal, glass, and plastic.
- Between 1994 and 1997, there was only a 5.3 percent increase in recycling and a great deal of confusion among city residents about what and when to recycle. In 1996, Staten Island and Bronx residents were instructed to recycle mixed paper, only to be told in 1997 to stop and then to start again. Also in 1997, weekly recycling was replaced with alternate week recycling in 33 of the 59 sanitation districts. Seventeen districts were already on an alternate week schedule, and nine districts continued to recycle on a weekly basis.
- Since 1997, however, there has been a dramatic increase in recycling: a 52.3 percent increase in average daily tonnage from 1997 to 2000. The large increase resulted from the introduction of mixed paper recycling throughout the city, the return to weekly recycling collections, and the expansion of fall leaf collection to 35 sanitation districts. Paper recycling increased by 42.7 percent, MGP recycling by 59.4 percent, leaves recycling by 757.1 percent and trees by 40.0 percent.
- Paper recycling increased 25.7 percent from 1995 (when no districts had mixed paper recycling collection) to 1998 (when all districts had mixed paper recycling collection). MGP recycling increased 30.9 percent during the same time period.
- In 1998, nine districts were restored to weekly recycling, 21 districts were added in 1999 and the remaining 20 received weekly recycling in 2000. With the restoration of weekly recycling in the Bronx in April 2000, all sanitation districts are receiving the same level of service (with the exception of leaf collection), for the first time in the history of the C&C program,

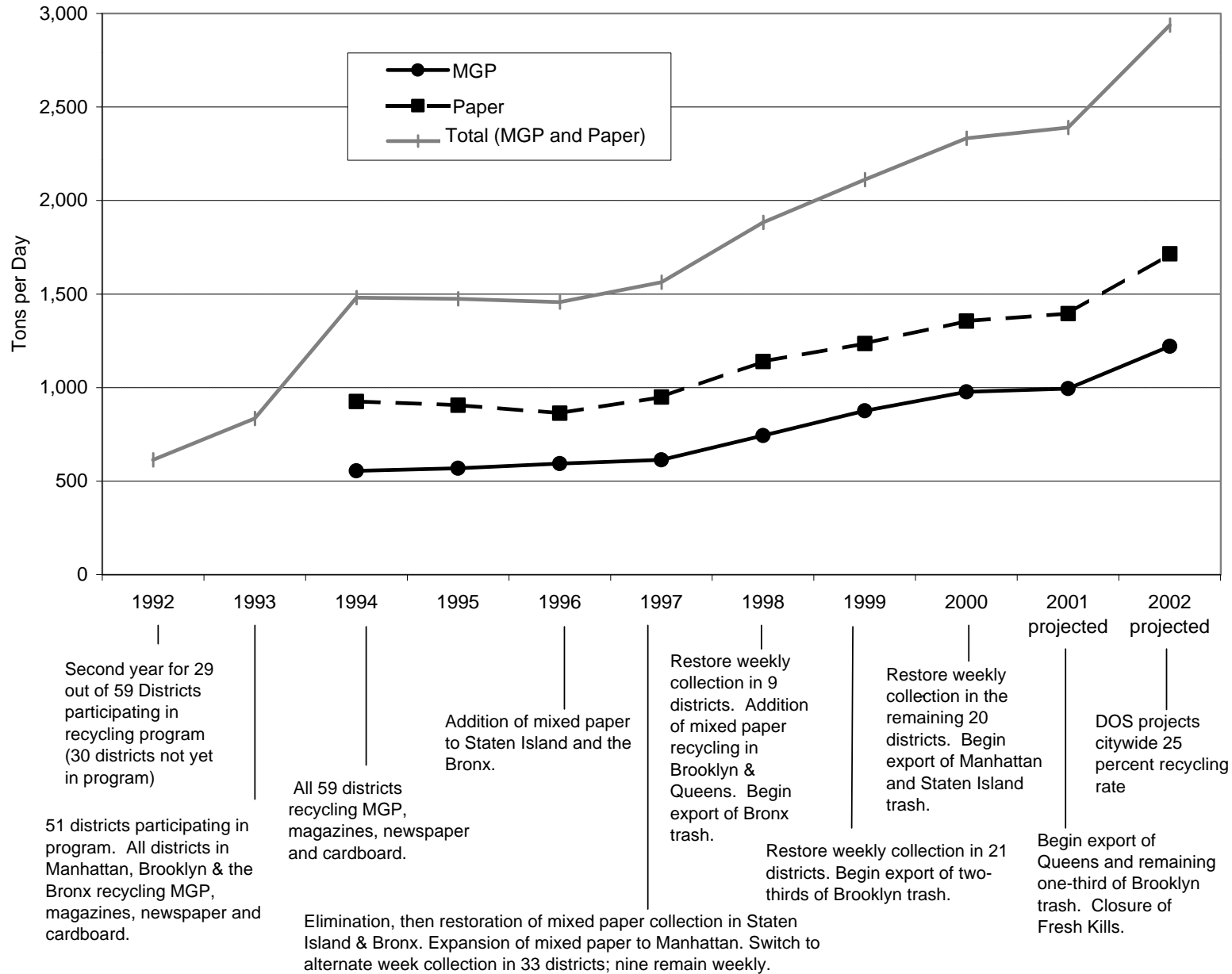
- There was a 172.7 percent increase in leaf composting from 1999 to 2000, due to the addition of all 14 sanitation districts in Queens to the leaf collection program. Prior to the addition of Queens, 13 districts in Brooklyn, five in the Bronx, all districts in Staten Island and no districts in Manhattan received leaf collection. In Fall 2000, the program was expanded to include Brooklyn Sanitation District 6. As a result of the leaf collection program, almost 19,000 tons of waste were diverted from Fresh Kills and over 7,150 New York City households received compost through the Compost Give-Back program in 2000.
- Although additional material has been added over the history of the C&C recycling program, the relative composition of the collected recycling stream has been constant since the beginning. In 1994, the recycled portion of the waste stream was comprised of 37.1 percent MGP, 61.9 percent paper and 0.9 percent leaves and trees; in 1997, the recycled portion was comprised of 38.9 percent MGP, 60.3 percent paper, 0.4 percent leaves and 0.3 percent trees; and in 2000 it was comprised of 40.7 percent MGP, 56.5 percent paper, 2.5 percent leaves and 0.3 percent trees.

Figure 9. Curbside & Containerized Program Recycling, 1992-2002*(tons per day)*

Fiscal Year	MGP	Paper	MGP & Paper	Leaves	Trees	Leaves & Trees	Total Waste Diverted	Diversion Rate
<i>Actual</i>								
1992	n.a.	n.a.	613	n.a.	n.a.	8	621	5.4%
1993	n.a.	n.a.	835	n.a.	n.a.	12	847	7.2%
1994	555	926	1,481	n.a.	n.a.	15	1,496	12.8%
1995	568	906	1,474	n.a.	n.a.	14	1,488	12.8%
1996	594	863	1,457	n.a.	n.a.	12	1,469	13.0%
1997	613	950	1,563	7	5	12	1,575	13.4%
1998	744	1,139	1,883	15	7	22	1,905	15.9%
1999	876	1,236	2,112	22	7	29	2,141	17.9%
2000	977	1,356	2,333	60	7	67	2,400	20.2%
<i>DOS Projected</i>								
2000	954	1,346	2,300	56	7	63	2,363	19.7%
2001	994	1,396	2,390	68	7	75	2,465	21.1%
2002	1,221	1,716	2,937	60	9	69	3,006	25.0%

SOURCES: Independent Budget Office; DOS Residential Recycling Diversion Reports; May 2000 SWMP Draft Modification; DOS Local Law 19 Tons per Day spreadsheet (January 2001).

Figure 10. Historical Timeline of the Curbside and Containerized Recycling Program, 1992-2002



SOURCES: IBO; May 2000 SWMP Draft Modification; Recycling Diversion Reports; DOS Local Law 19 Tons per Day

DOS plans to increase the curbside and containerized recycling diversion rate to 25.0 percent by 2002.

- Negotiations in November 2000 between the City Council and DOS resulted in several new measures to increase the recycling diversion rate beginning in 2001, including funding for 28 waste prevention/recycling coordinators and a pilot program in public schools to increase the frequency of recycling collection through the use of dual-bin trucks in the Bronx and Queens.
- In 2000, the city achieved an average recycling diversion rate of 20.2 percent. In the first quarter of 2001 (July–September 2000), the C&C program had a recycling diversion rate of 19.8 percent, compared with an 18.9 percent diversion rate for the first quarter of 2000—a 4.8 percent increase.
- DOS's current projection for 2001 is 21.1 percent—a 4.5 percent increase over 2000 recycling rates. (Note that the projected 2001 diversion rate in the May 2000 SWMP Draft Modification is 23.1 percent).

Less than half of all potentially recyclable materials are set out by residents and institutions for recycling collection.

- Based on DOS's 1990 Waste Composition Study,⁹ 45 percent of the total curbside and containerized waste stream consists of potentially recyclable (as defined by DOS) paper and MGP.
 - The composition of the waste stream varies by sanitation district. While the average waste composition is 45 percent recyclables, the composition ranges from 50.8 percent in Manhattan Sanitation District 4 to 38.3 percent in Queens Sanitation District 10. This difference may at least partially be explained by the relative production of yard waste in these two districts. In general, communities in Queens generate a greater quantity of yard waste than communities in Manhattan. As a result, targeted recyclables (MGP and paper) comprise a lower percentage of the overall waste stream in Queens than in Manhattan.
- Figure 11 presents the average capture rates for MGP and paper from 1992 to 2002. The capture rate is the waste put out by residents and institutions for separate recycling collection as a percentage of the total amount of potentially recyclable materials (as defined by DOS).
 - There was an upward trend in the average capture rate through 1999. Large increases in 1994 and 1998 reflect major expansions in the recycling program.

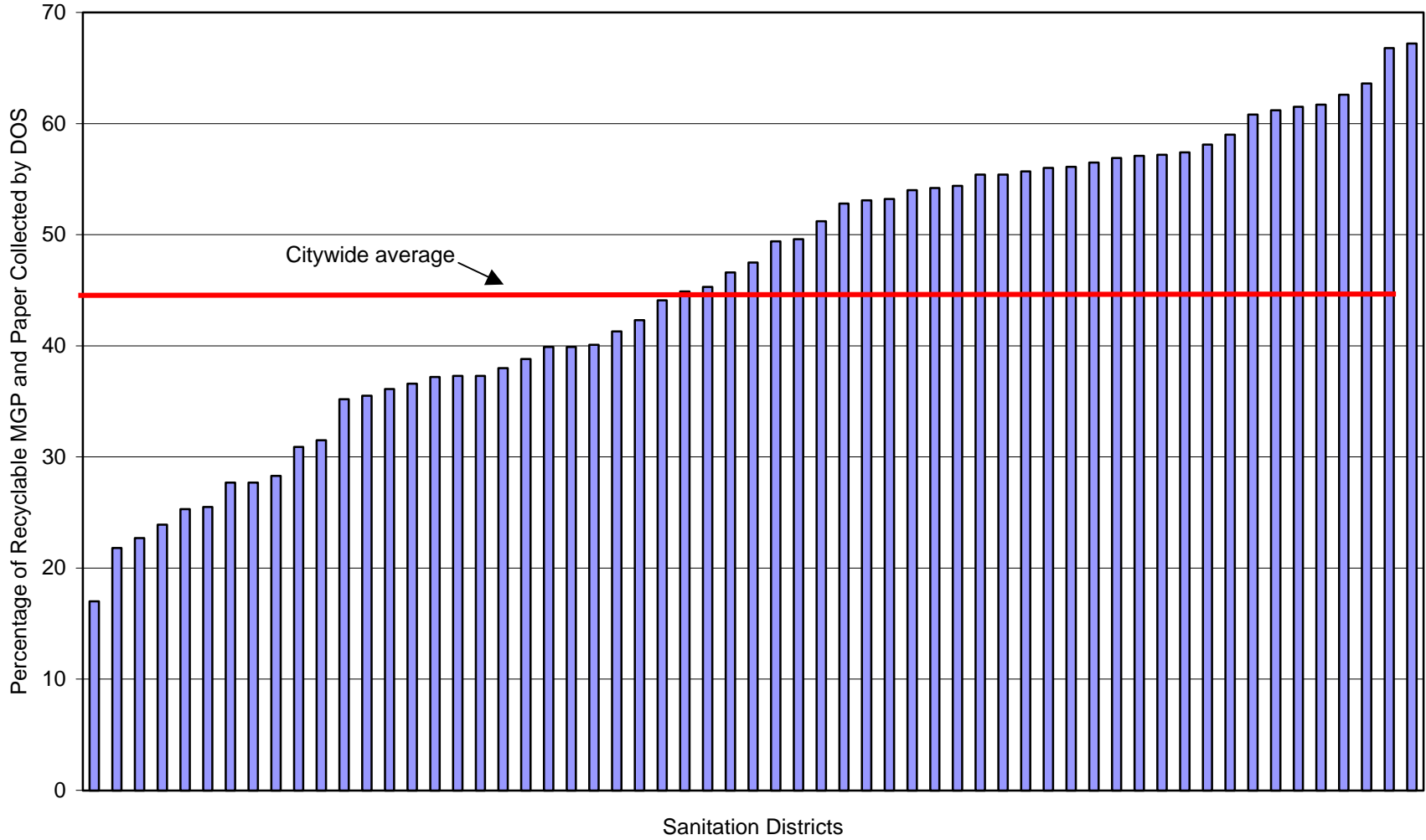
- The capture rate fell for the first time in 2000, to 44.0 percent from 48.5 percent in 1999—well below DOS' projected rate of 52.6 percent.
- Capture rates vary substantially by sanitation district, ranging from a high of 67.2 percent down to 17.0 percent. See Figure 12 for the distribution of capture rates across the 59 sanitation districts.
- In the May 2000 SWMP Draft Modification, DOS projects a 66.1 percent capture rate for 2002, roughly equivalent to the current highest capture rate in the city. If the projected 2002 capture rate is achieved, it would result in a nearly 30.0 percent recycling diversion rate—considerably above DOS's stated 2002 recycling diversion rate goal of 25 percent. A 55.5 percent average capture rate would be sufficient to allow the city to reach the 25 percent recycling goal.
- After paper and MGP, food waste comprises the next largest portion of the waste stream at 13 percent, according to the 1990 Waste Composition Study. In the early to mid 1990's, DOS ran three pilot curbside and containerized food waste composting programs in Park Slope and Starrett City, Brooklyn, and in several Staten Island neighborhoods. These pilot programs were terminated and not expanded to other communities. DOS does not currently target food waste in its C&C recycling program.

Figure 11. Capture Rate for MGP and Paper, 1992-2002
(Percent of recyclable waste stream actually put out for collection)

Fiscal year	
<i>Actual</i>	
1992	14.3%
1993	19.2%
1994	34.3%
1995	34.3%
1996	34.8%
1997	35.9%
1998	46.2%
1999	48.5%
2000	44.0%
<i>DOS Projected</i>	
2000	52.6%
2001	60.9%
2002	66.1%

SOURCES: Independent Budget Office; May 2000 SWMP Draft Modification.

Figure 12. Recycling Capture Rates Vary Widely Across Sanitation Districts (FY 2000)



SOURCE: Independent Budget Office; DOS Recycling Diversion Reports

Section III. Other DOS-Managed Waste

The amount of waste other than from the C&C program managed by DOS (“other waste”) fluctuates greatly from year to year, largely dependent on the level of construction and demolition (C&D) debris recycled.

- “Other waste” is any waste for which DOS is responsible that is not collected under the curbside and containerized recycling program.
- Figure 13 provides historical tonnage data from 1992 projected through 2002.

Figure 13. DOS-Managed Other Waste, 1992-2002 (tons per day)				
Fiscal Year	Total	Disposed	Recycled	Diversion Rate
<i>Actual</i>				
1992	3,137	2,768	369	11.8%
1993	3,442	2,894	548	15.9%
1994	3,194	2,510	684	21.4%
1995	6,012	2,541	3,471	57.7%
1996	5,003	2,561	2,442	48.8%
1997	4,311	1,998	2,313	53.7%
1998	3,827	2,130	1,697	44.3%
1999	4,639	2,032	2,607	56.2%
2000	6,457	2,456	4,001	62.0%
<i>DOS Projected</i>				
2000	3,924	1,828	2,096	53.4%
2001	5,415	2,491	2,924	54.0%
2002	4,201	1,926	2,275	54.2%
SOURCES: Independent Budget Office; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; DOS Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001).				

The disposed portion of other waste declined 11.3 percent from 1992 to 2000.

- Figure 14 lists the sources of the disposed portion of other waste.

Figure 14. Sources of the Disposed Portion of Other Waste
<ul style="list-style-type: none">• New York City Housing Authority (NYCHA) waste• Waste derived from lot cleaning operations• Street sweepings from street cleaning operations• Waste from certain institutions• Office waste from some city, state and federal agencies• NYC Department of Environmental Protection (DEP) waste• Department of Parks and Recreation waste
SOURCE: Independent Budget Office; May 2000 SWMP Draft Modification

The recycled portion of other waste has fluctuated significantly, mostly due to the inclusion of construction and demolition debris.

- Figure 15 lists the types and sources of the recycled portion of other waste.
- The recycling diversion rate of other waste has grown from 11.8 percent in 1992 to 62.0 percent in 2000. The increase in the diversion rate is largely due to the inclusion of construction and demolition debris into the DOS-managed waste stream beginning in 1995.
 - DOS operates a crushing and screening plant at Fresh Kills for recycling excavation debris for road construction and cover material at the landfill. The debris consists of stones and dirt from city and private sector construction jobs. The private sector contribution was 12.6 percent in 2000. However, DOS projects that, in 2002, the private sector contribution will increase to 25.0 percent.
- The unusually high level of other waste in 2000 can be attributed to increased recycling of construction and demolition debris for road and cover material, as well as the recycling of stockpiled milling waste from DOT's road resurfacing operations for the construction of roads at Fresh Kills.

Figure 15. Sources of Recycled Portion of Other Waste

Category	Materials Collected
City Agency Paper	Office paper from city government agencies that is collected under one private sector contract. This does not include office paper from city agencies collected under the C&C recycling program or from city agencies located in privately managed buildings.
Construction & Demolition (C&D) Debris	Construction and demolition (C&D) debris generated by city agencies and the private sector is processed at the C&D crushing facilities at Fresh Kills and used as cover material and in construction of roadways at the Fresh Kills landfill.
Lot Cleaning Dirt	Reuse of screened dirt from lot cleaning operations.
Food Waste	Food waste generated at Riker's Island correctional facility and composted at Riker's Island compost facility.
Asphalt and Millings	Asphalt refers to asphalt millings generated by Department of Transportation (DOT) street resurfacing operations that are recycled back into asphalt for street repaving. The asphalt plant utilizes 40 percent asphalt millings and 60 percent clean aggregate to produce new asphalt for repaving. Millings refers to asphalt millings generated by DOT street resurfacing operations that are given to DOS for use at the Fresh Kills Landfill.
Abandoned Vehicles	Abandoned vehicles recovered by DOS's Derelict Vehicle Operations (DVO).
Tires	Tires dropped off by residents at each of the 59 sanitation garages throughout the city and at the self-help bulk sites located in every borough except Manhattan at designated sanitation garages.
Bulk Waste	Bulky items (e.g., furniture, appliances) dropped off by residents at the four self-help bulk sites located in every borough except Manhattan at designated sanitation garages; metal bulk waste from DOS's lot cleaning operations; and Housing Authority bulk metal.
Other Small Programs	Items recovered by the Material for the Arts (MFA) program and donated to public arts programs for reuse; grass and wood waste brought to the Fresh Kills Landfill by landscapers for composting.
SOURCE: 1996 SWMP Modification.	

Asphalt and millings and C&D debris account for 96.6 percent of the other waste recycled in 2000.

- All asphalt and millings waste that is generated as a result of resurfacing of streets by the city's Department of Transportation (DOT) is recycled. The portion that is classified as "asphalt" is recycled for use in repaving city streets, and the portion that is classified as "millings" is used by DOS at Fresh Kills. Any asphalt that is not used by DOT to produce new asphalt or used at the landfill is sold to the private sector for recycling.¹⁰

- Milling waste increased from 227 tons per day in 1999 to 778 tons per day in 2000, a 242.7 percent increase. The recycling of construction and demolition (C&D) debris increased from 1,762 tpd in 1999 to 2,654 tpd in 2000—a 50.6 percent increase (Figure 15).
- Millings and C&D debris accounted for 53.6 percent of the total amount of DOS-managed waste recycled in 2000. Since both these materials are used as road and/or cover material at Fresh Kills, 53.6 percent of the “recycled” DOS-managed waste stream actually ends up at the landfill. Increases in recycling of asphalt and millings and C&D debris does not result in a corresponding decrease in the amount of disposed/exported waste.
- Once the Fresh Kills landfill is closed to the dumping of trash, there will be ongoing and new activities that may require the continued use of some road and cover material (such as capping, long-term monitoring and maintenance activities of the landfill; operation of the composting facility and new waste transfer station). It is unclear, however, how much material will be needed by DOS at the Fresh Kills site or whether any unutilized material will end up being exported for disposal or handled by the private sector for recycling.

Figure 16. Asphalt and Millings and Construction and Demolition (C&D) Debris Recycled, 1992-2002
(tons per day)

Fiscal Year	Asphalt	Millings	Asphalt and Millings (A&M)	Construction and Demolition (C&D) Debris	Total	A&M + R&C as Percent of Total Other Waste Recycled
<i>Actual</i>						
1992	n.a.	n.a.	272	*	272	73.7%
1993	n.a.	n.a.	337	*	337	61.5%
1994	n.a.	n.a.	337	*	337	49.3%
1995	n.a.	n.a.	305	2,811	3,116	89.8%
1996	n.a.	n.a.	315	1,900	2,215	90.7%
1997	184	324	508	1,591	2,099	90.7%
1998	336	350	686	846	1,532	90.3%
1999	444	227	671	1,762	2,433	93.3%
2000	431	778	1,209	2,654	3,863	96.6%
<i>DOS Projected</i>						
2000	390	279	669	1,243	1,912	91.2%
2001	438	380	818	1,966	2,784	95.2%
2002	407	281	688	1,449	2,137	93.9%

SOURCES: Independent Budget Office; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; DOS Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001).

The amount of recycled waste that makes up the remaining 3.4 percent of the other waste recycled has been declining since 1995, and is a decreasing percentage of the total DOS-managed waste stream.¹¹

- The remaining 3.4 percent of recycled other waste includes bulk waste, city agency paper, composted food waste, dirt from lot cleaning, abandoned vehicles, and tires. The components and average daily tonnage are summarized in Figure 17.
 - New materials were added to the program through 1995, including bulk waste in 1993, abandoned vehicles in 1994, and tires in 1995.
 - Although the types of materials recycled have remained unchanged since 1995, there has been a 61.1 percent decrease in the amount of these materials recycled between 1995 and 2000.
 - It may appear that city government agencies recycled 35.3 percent less paper in 2000 as compared to 1992. However, the “city agency paper” recycling category only captures a portion of the total amount of paper recycled by city agencies. There has been an increase in the number of city agencies serviced by DOS under the C&C program and, in addition, an increase of city agencies located in privately managed commercial buildings. Paper recycled by these agencies is not included in this category.

Figure 17. Other DOS-Managed Waste Recycled, Excluding Asphalt & Millings and Construction & Demolition, 1992-2002*(tons per day)*

Fiscal Year	Bulk Waste	City Agency Paper	Food Waste	Lot Cleaning	Abandoned Vehicles	Tires	Other Small Programs ^a	Total	As Percent of Other Waste Recycled
<i>Actual</i>									
1992	*	17	*	80	*	*	*	97	26.3%
1993	5	17	1	188	*	*	*	211	38.5%
1994	18	17	1	188	123	*	*	347	50.7%
1995	13	15	1	172	91	3	60	355	10.2%
1996	12	15	2	76	68	10	44	227	9.3%
1997	14	13	4	77	64	8	34	214	9.3%
1998	16	13	12	34	58	5	27	165	9.7%
1999	15	12	15	31	46	6	49	174	6.7%
2000	15	11	19	23	31	11	28	138	3.4%
<i>DOS Projected</i>									
2000	15	13	19	33	44	13	47	184	8.8%
2001	14	11	19	27	32	11	26	140	4.8%
2002	17	11	18	20	36	11	25	138	6.1%

NOTE: ^aOther Small Programs include Material For The Arts, and wood and grass clippings.

SOURCES: Independent Budget Office; 1998 SWMP Draft Modification; May 2000 SWMP Draft Modification; DOS Recycling Diversion Reports; DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001).

Sources and Notes

Sources

The following data sources were used in the preparation of this report:

1998 SWMP Draft Modification

- 1992-1997 recycling and disposal data for curbside and containerized program and “other waste.”

May 2000 SWMP Draft Modification

- 1992-1999 recycling, disposal and capture rate data for curbside and containerized program.
- 2001-2002 (projected) capture rate data for curbside and containerized program.
- 1992-2002 (projected) disposal tonnages for curbside and containerized program and “other waste.”

DOS Local Law 19 Tons per Day Recycled spreadsheet (January 2001)

- 1997-2002 (projected) recycling data.

Recycling Diversion Reports (April 1999-September 2000)

- July 1999– June 2000 recycling and disposal data for commercial waste.
- July 1999-September 2000 recycling, disposal, and capture rate data for the curbside and containerized program by sanitation district.

Mayor's Management Reports (1994-2000)

- 1994-2001 Fresh Kills disposal data.
- 1998-2001 export data.
- 1994-2001 MGP and paper recycling data.

Notes

¹ The size of the commercial waste stream was estimated using the quarterly averages presented in DOS's Recycling Diversion Reports. The quality and accuracy of the commercial waste data has been questioned by DOS in these reports. DOS continues to evaluate areas for potential double counting of material between transfer stations and material delivered to private transfer stations from outside the city.

² The diversion rate is the portion of the total waste generated (trash and recyclables) diverted from the waste stream for recycling. The diversion rate is measured by dividing the weight of DOS-collected recyclables by the weight of the total waste stream (trash plus recyclables).

³ *Natural Resources Defense Council v. N.Y.C. Department of Sanitation* (N.Y. Sup. Ct., N.Y. County, Jan. 15, 1997) (No. 12648/91), *aff'd* 247 A.D.2d 261, 669 N.Y.S.2d 37 (N.Y. App. Div, 1998).

⁴ *Natural Resources Defense Council v. N.Y.C. Department of Sanitation* (N.Y. Sup. Ct., N.Y. County, June 13, 1997) (No. 12648/91).

⁵ All export/disposal fees (\$ per ton) are as of April 2001 and all export tonnage amounts are based on average tons per day as of April 2001.

⁶ The \$43 per ton is based on the 1996 SWMP Modification estimate of \$37 per ton, inflated to 2001 dollars.

⁷ When measuring waste destined for the Fresh Kills landfill, city sanitation trucks were weighed only once, prior to dumping their loads of trash. Now, however, when measuring waste destined for export, city sanitation trucks are weighed both before and after dumping their loads of trash—a more accurate means of measurement. It should be noted that for recyclables, DOS has always weighed sanitation trucks both and after dumping their loads.

⁸ The recycling data presented here overstates actual recycling. Approximately one-third of all metal, glass and plastic and 5 percent of the paper (or a total of 17 percent of all recyclables) put out by residents and institutions for collection under the curbside and containerized program are not actually recyclables as defined by DOS and therefore are ultimately disposed of as regular trash after going to the material recovery facility (MRF) for sorting.

⁹ The *New York City Waste Composition Study (1989-1990)* (included as an appendix to the original 1992 Solid Waste Management Plan) may no longer reflect current waste composition. In 1997, DOS conducted a limited waste composition study as part of the "Mixed Waste Processing in New York City, A Pilot Test Evaluation" that focused on low-diversion rate districts. The pilot study revealed that MGP and paper as a percent of the total waste stream in the studied districts was significantly lower than what was found in the 1990 Study for those districts. In the May 2000 SWMP Draft Modification, DOS will conduct a new waste composition study of the current waste stream.

¹⁰ The recycled asphalt that is sold to the private sector is not considered part of the DOS-managed waste stream.

¹¹ This excludes asphalt and millings and construction and demolition debris from the total waste stream.

Figure A-1. DOS-Managed Waste, 1992-2002

(tons per day, based on 312 days per year)

Fiscal Year	Actual									Projected		
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2000	2001	2002
Curbside and Containerized (C&C) Waste												
Total	11,596	11,794	11,682	11,628	11,341	11,788	11,970	11,975	11,870	11,976	11,709	12,019
Disposed	10,975	10,947	10,186	10,140	9,872	10,213	10,065	9,834	9,470	9,613	9,244	9,013
Recycled	621	847	1,496	1,488	1,469	1,575	1,905	2,141	2,400	2,363	2,465	3,006
MGP			555	568	594	613	744	876	977	954	994	1,221
Paper			926	906	863	950	1,139	1,236	1,356	1,346	1,396	1,716
MGP/Paper	613	835	1,481	1,474	1,457	1,563	1,883	2,112	2,333	2,300	2,390	2,937
Leaves						7	15	22	60	56	68	60
Trees						5	7	7	7	7	7	9
Leaves/Trees	8	12	15	14	12	12	22	29	67	63	75	69
<i>C&C Diversion Rate</i>	5.4%	7.2%	12.8%	12.8%	13.0%	13.4%	15.9%	17.9%	20.2%	19.7%	21.1%	25.0%
Other Waste												
Total	3,137	3,442	3,194	6,012	5,003	4,311	3,827	4,639	6,457	3,924	5,415	4,201
Disposed	2,768	2,894	2,510	2,541	2,561	1,998	2,130	2,032	2,456	1,828	2,491	1,926
Recycled	369	548	684	3,471	2,442	2,313	1,697	2,607	4,001	2,096	2,924	2,275
Asphalt						184	336	444	431	390	438	407
Millings						324	350	227	778	279	380	281
Asphalt and Millings	272	337	337	305	315	508	686	671	1,209	669	818	688
Bulk Waste		5	18	13	12	14	16	15	15	15	14	17
City Agency Paper	17	17	17	15	15	13	13	12	11	13	11	11
Food Waste	0	1	1	1	2	4	12	15	19	19	19	18
Tires				3	10	8	5	6	11	13	11	11
Other Small Programs				60	44	34	27	49	28	47	26	25
Lot Cleaning	80	188	188	172	76	77	34	31	23	33	27	20
Abandoned Vehicles			123	91	68	64	58	46	31	44	32	36
C&D debris				2,811	1,900	1,591	846	1,762	2,654	1,243	1,966	1,449
<i>Other Waste Diversion Rate</i>	11.8%	15.9%	21.4%	57.7%	48.8%	53.7%	44.3%	56.2%	62.0%	53.4%	54.0%	54.2%
Overall DOS Managed Waste												
Total	14,733	15,236	14,876	17,640	16,344	16,099	15,797	16,614	18,327	15,900	17,124	16,220
Disposed	13,743	13,841	12,696	12,681	12,433	12,211	12,195	11,866	11,926	11,441	11,735	10,939
Recycled	990	1,395	2,180	4,959	3,911	3,888	3,602	4,748	6,401	4,459	5,389	5,281
<i>Overall Diversion Rate</i>	6.7%	9.2%	14.7%	28.1%	23.9%	24.2%	22.8%	28.6%	34.9%	28.0%	31.5%	32.6%

SOURCES: IBO; DOS Recycling Diversion Reports, 1998 SWMP Draft Modification, May 2000 SWMP Draft Modification, DOS Local Law 19 Tons Per Day Recycled (11/02/00)

NOTES: Prior to 1994, metal, glass, and plastic and paper were not reported separately; prior to 1997 leaves and trees were also reported together, as were asphalt and millings.

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