# *The City of New York*

# New Solid Waste Management Plan

# Conceptual Outline


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*Commissioner,*

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**Michael McMahon**

*Chairman,*

*City Council Sanitation and Solid Waste Management Committee*

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## *Mission*

- Clean City Streets and Arteries
- Collection of City Solid Waste*
- Disposal of City Solid Waste*
- Snow Removal
- Marketing of Economically-viable Recyclables

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* Excludes Commercial and Industrial Solid Waste

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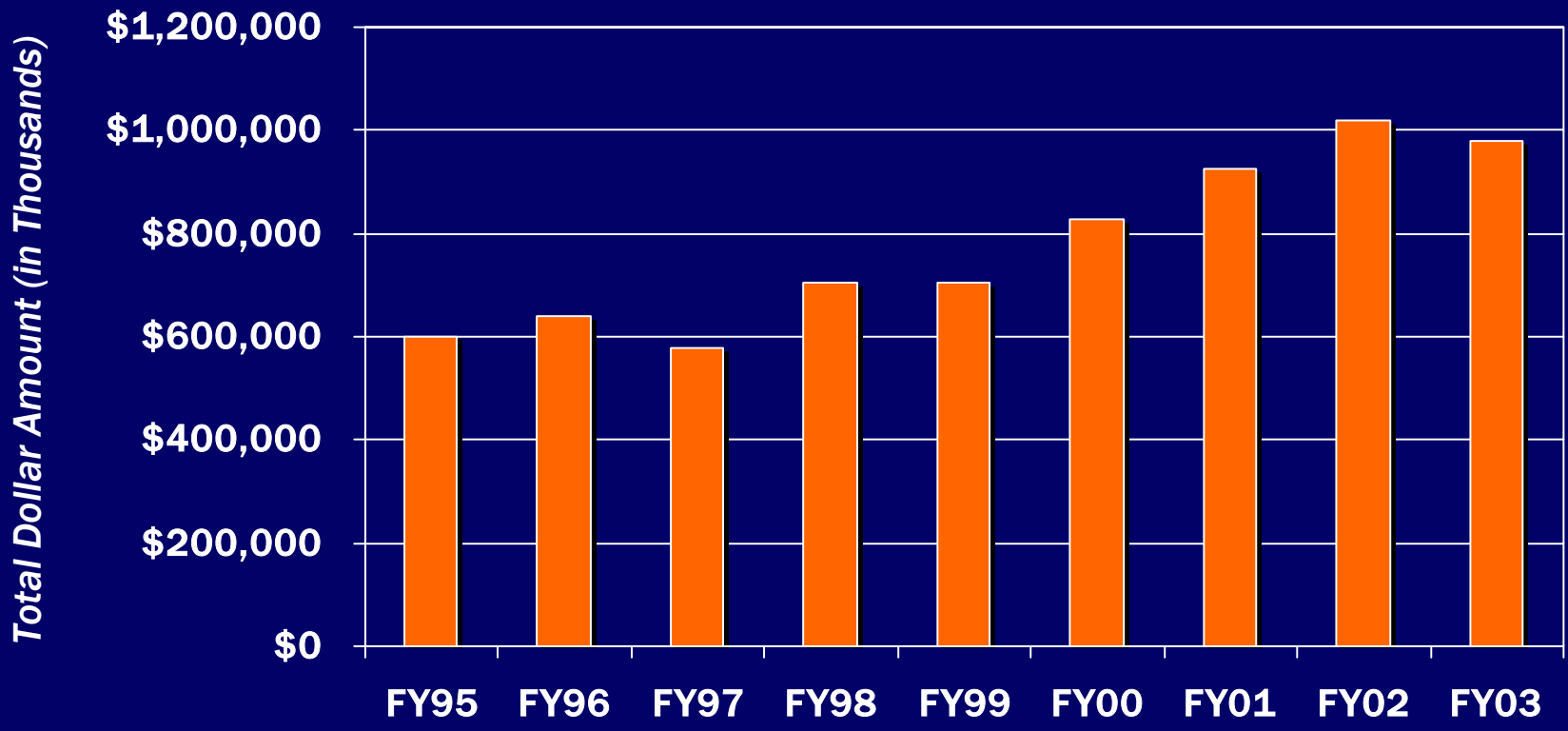
## *Operating Costs FY 1995 – FY 2003**




** FY 1995 – 2001 based on Comptroller's Annual Report; FY 2002 – 2003 based on FY03 Adopted Plan*

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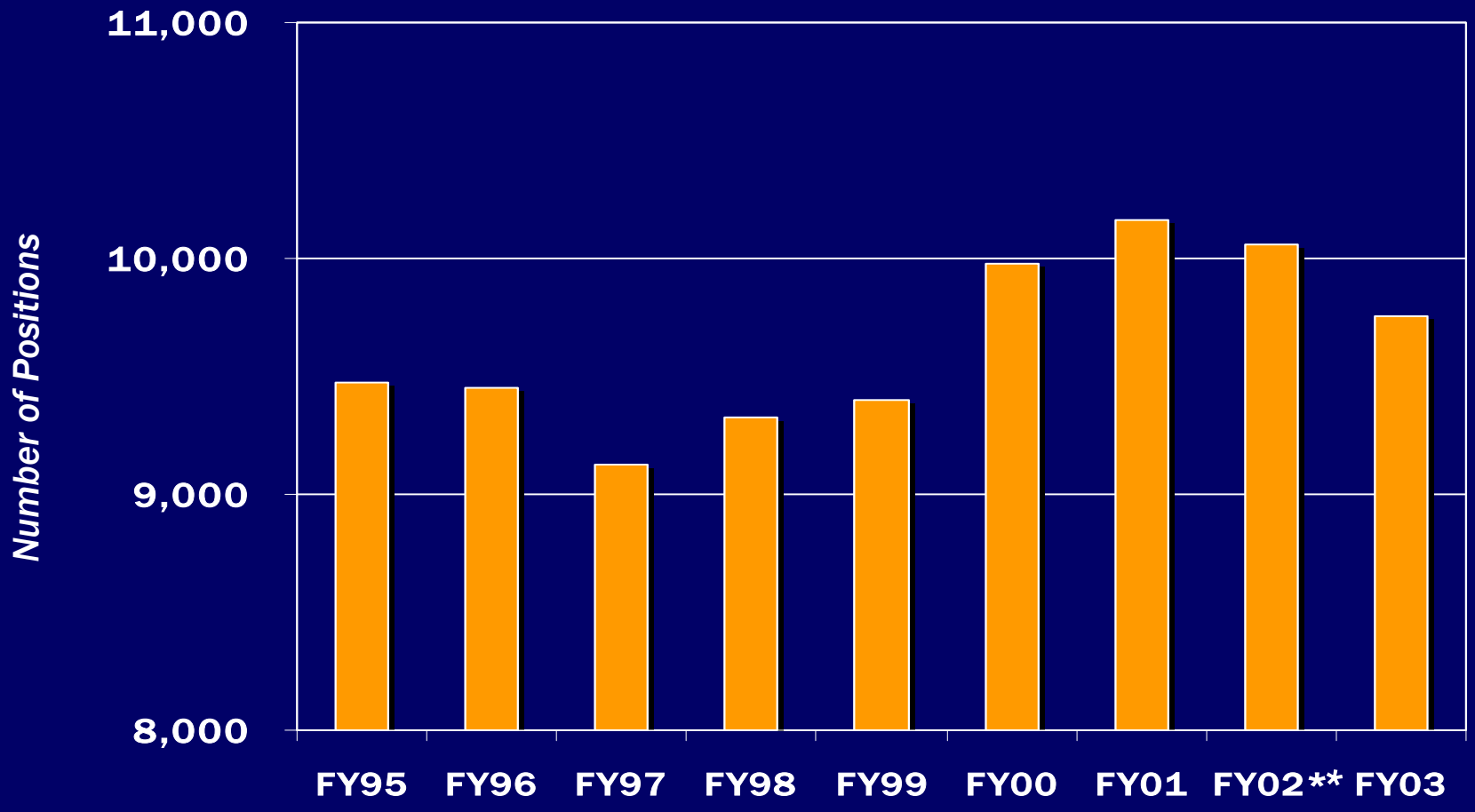
## *Headcount FY 1995 - FY 2003**




** FY 1995-2001 based on Comptroller's Annual Report; FY 2002-2003 based on FY03 Adopted Plan*

*** May 2002 Actual Headcount*

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## *Sanitation Truck Fleet*

**Trucks**

| | |
|---|---|
| Refuse Collection Trucks | 1,476 |
| Recycling Trucks | 551 |
| Other Trucks | 225 |
| Total | 2,252 |

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## *Waste Collected Daily (in Tons)**

| Fiscal Year | Total Refuse | Collected for Recycling | Grand Total |
|---|---|---|---|
| 1997 | 12,649 | 1,605 | 14,254 |
| 1998 | 12,648 | 1,950 | 14,598 |
| 1999 | 12,227 | 2,185 | 14,412 |
| 2000 | 12,333 | 2,426 | 14,759 |
| 2001 | 11,678 | 2,462 | 14,140 |
| 2002** | 11,162 | 2,436 | 13,598 |

* Excludes non-recyclable commercial waste handled by private carters, estimated at 10,000 tons/day. Including commercial waste, total waste stream in 2002 is estimated at 23,600 tons/day.

** FY 2002 preliminary estimate.

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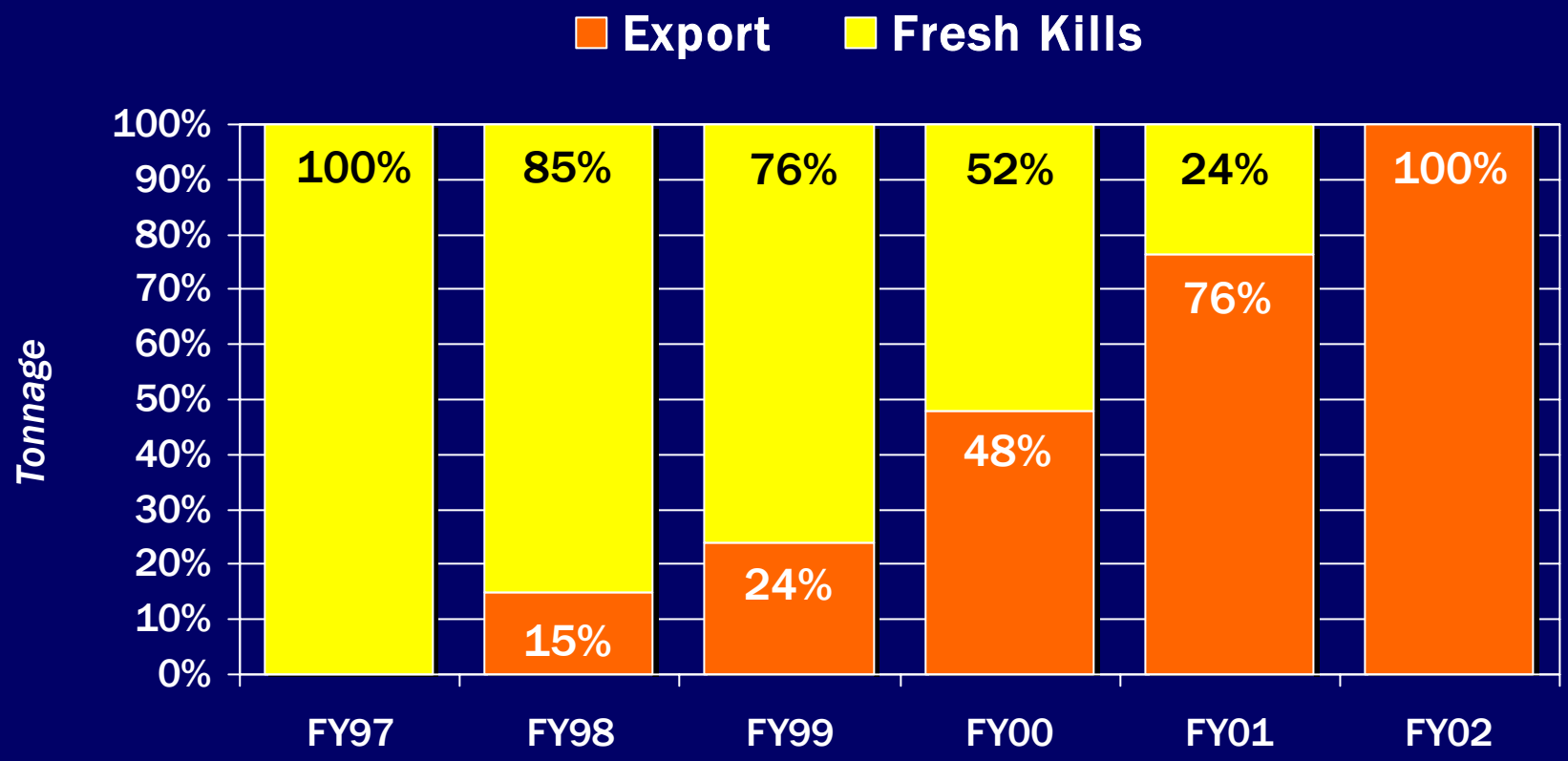
## *Waste Disposal — Fresh Kills vs. Export*



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## *Waste Recycled*

- The City is re-evaluating its Recycling Program to ensure an environmentally and economically efficient long-term strategy
- The current program of recycling paper and metals results in significantly higher recycling yield
- Over 95% of paper collected for recycling is recycled and not disposed of in a landfill after collection. The City anticipates a high recycling yield for the "metal-only" recycling program that began July 1, 2002.

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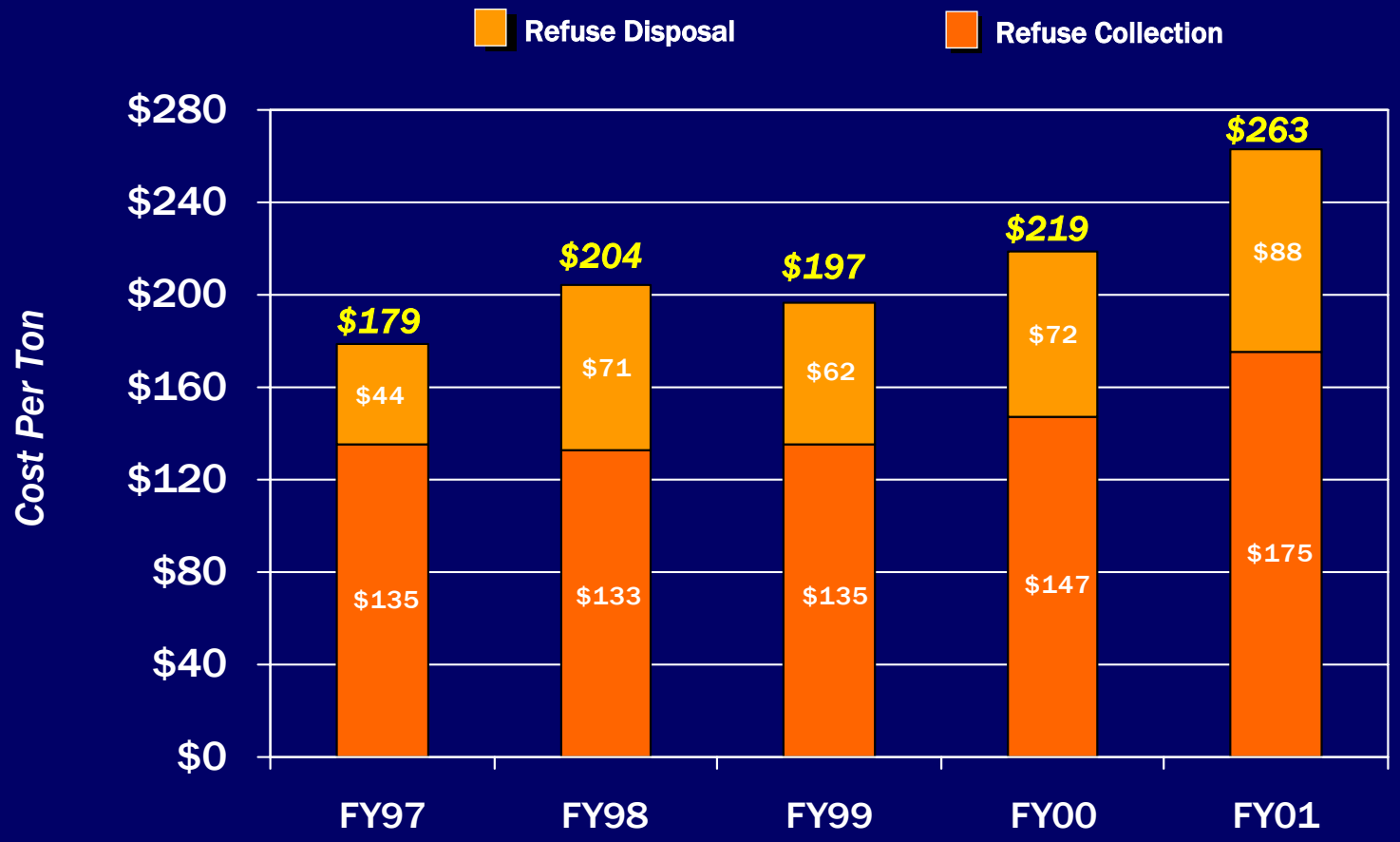
## *Refuse Cost (Per Ton)*



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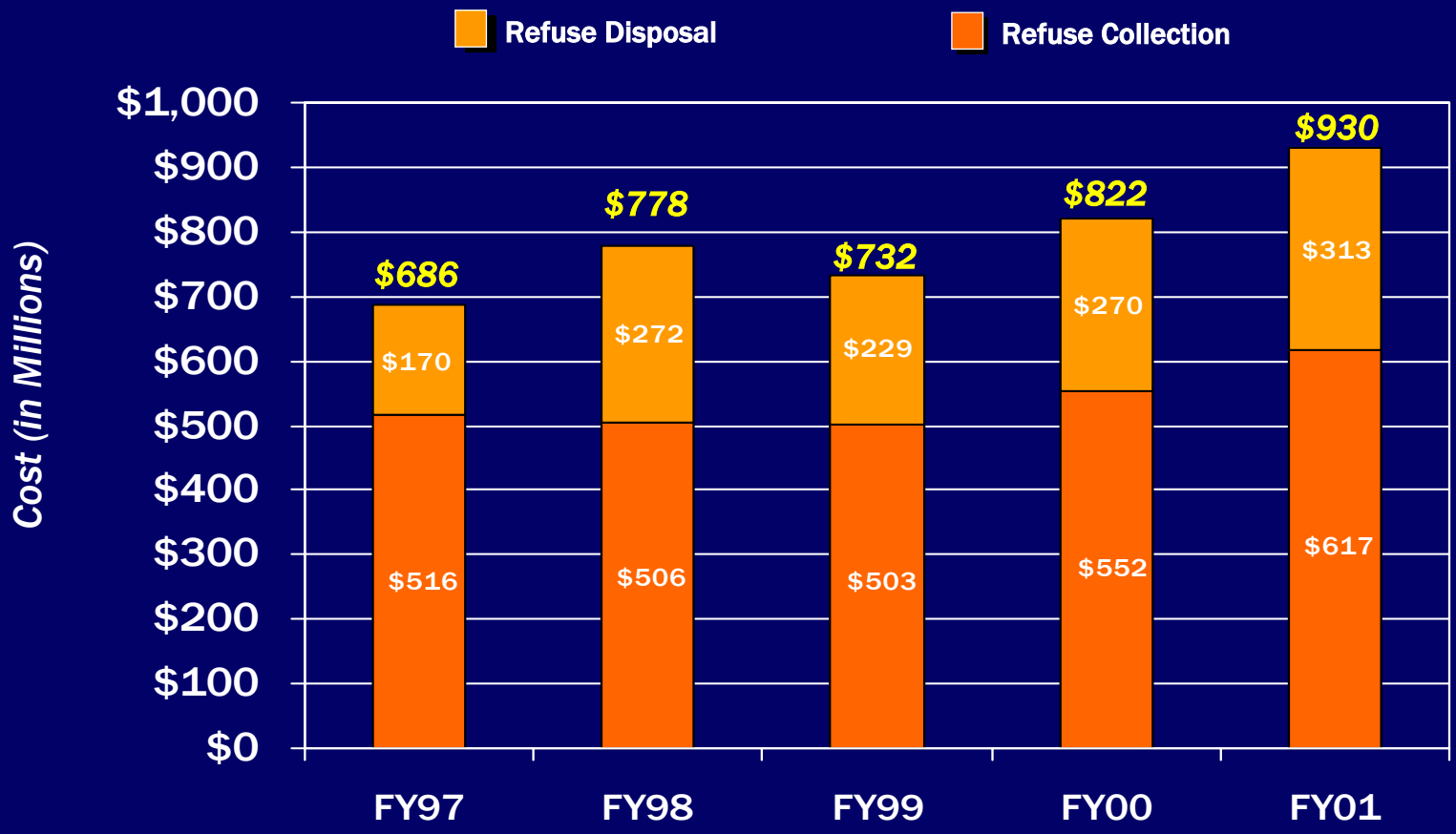
## *Refuse Cost (in Millions)*



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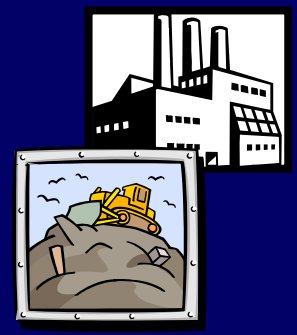
## *Waste Processing - Today*

Non-Recycled Waste

*Bronx, Brooklyn, Queens, L.I., N.J*

*Transfer Station*

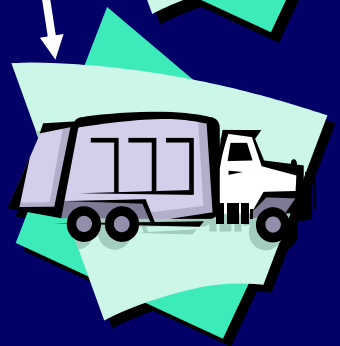


Recycled Waste (Paper)

*Bronx, Brooklyn, Queens, Manhattan*

*Transfer Station*

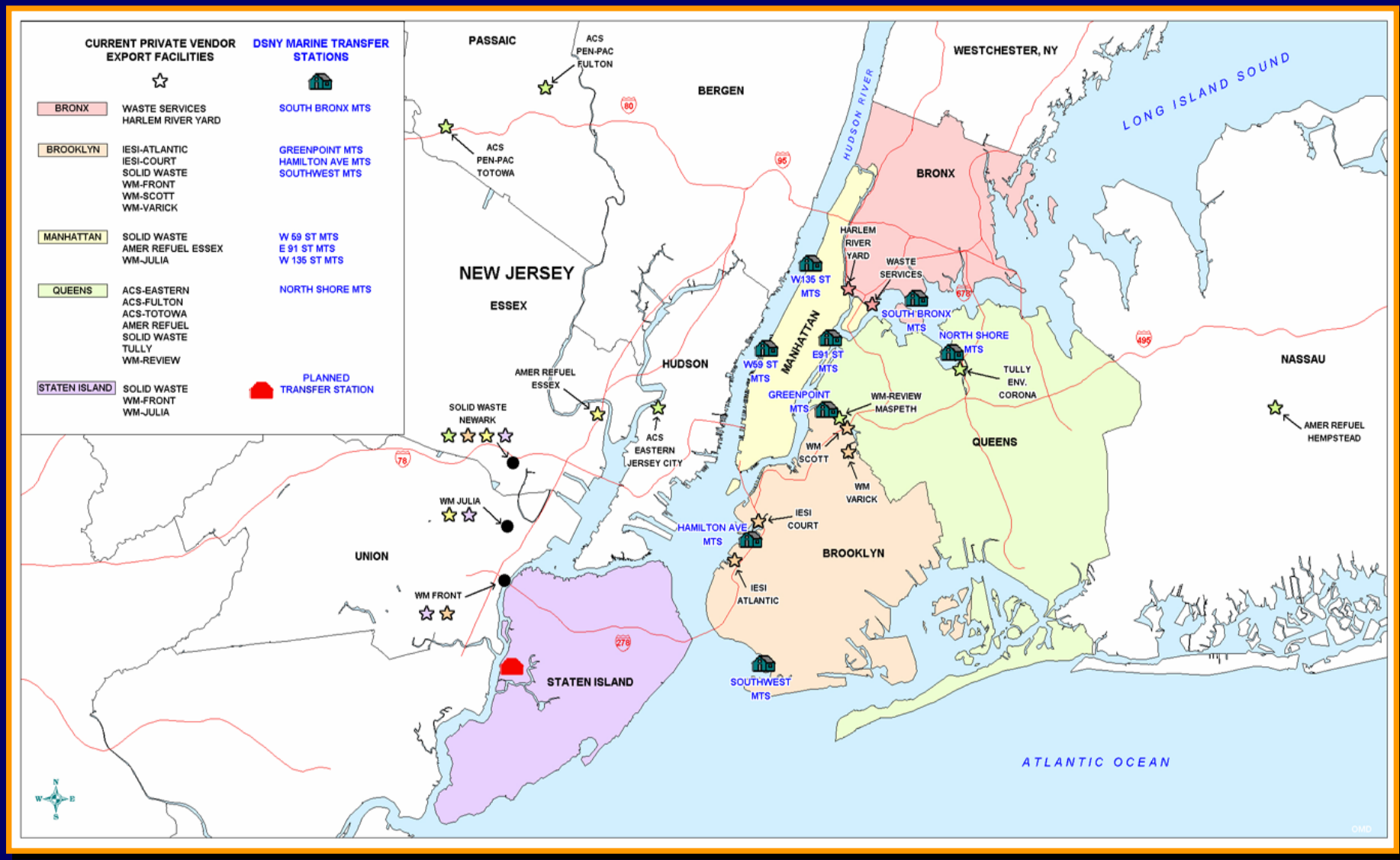
Recycled Waste (Metal)



*S.I. (directly by truck)*

# Current Waste Disposal Process Relies on a Vast Network of Land–Based Transfer Stations and Waste–to–Energy Facilities to Handle the City's Daily Refuse

# New Solid Waste Management Plan Will Utilize Marine Transfer Stations, Reducing Heavy Reliance on Land-Based Facilities



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## *New Solid Waste Management Plan*

### *Objectives*

- Reduce utilization of land-based transfer stations and number of waste stream handling points that pollute our neighborhoods
- Reduce waste hauling truck traffic and related pollution
- Reduce dependency on diminishing local capacity of landfill host communities that can strangle us economically
- Reduce vulnerability to private export contractors' failure to perform
- Reduce cost of waste disposal
- Develop an economically and environmentally justified recycling plan
- Distribute waste facilities fairly in proportion to waste generated

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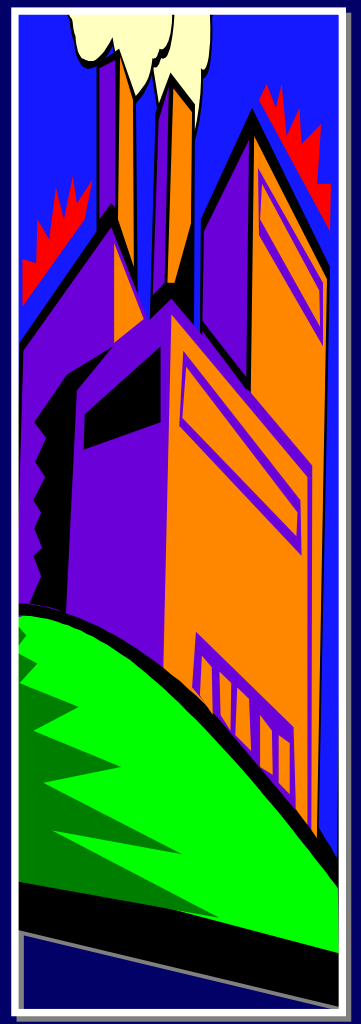
# Department of Sanitation
## *New Solid Waste Management Plan*
### *Challenges*

- **Environmental**
  - While there are over 3,500 active landfills in the US, NYC no longer has any open, permitted landfills
  - Landfills close to major urban centers are extremely scarce
  - Most contracted landfill space is 80 miles or more from NYC
  - Solid waste hauling over roadways results in highway pollution, road degradation and traffic congestion
- **Political**
  - NIMBY for waste transfer facilities
  - Incineration technology continues to improve, but remains controversial
- **Manage City's Costs and Destiny by Maximizing Options**
  - Total waste collection and disposal costs have grown from $179 per ton in 1997 to $263 per ton in 2001 – disposal costs alone have doubled during the same period
  - Lack of disposal alternatives leaves City vulnerable to increased landfill fees charged by host communities
  - Limited choice of transportation methods results in increasingly expensive hauling contracts



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## *New Solid Waste Management Plan*

### *Strategies to Meet the Challenge*

- Containerization is key to environmental protection
- Maximize use of city's waterways to reduce road degradation and pollution
- Minimize handling of waste stream
- Expand transportation alternatives

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## *New Solid Waste Management Plan*

***Based on a feasibility study performed by a consortium of firms led by Greeley and Hansen, LLC a preliminary outline for a waste containerization program has been developed.***

***Key assumptions include:***

- Upgrade and utilize City's Marine Transfer Station (MTS) system
- Cease plans to develop land-based sites
- Waste compaction and containerization at each MTS
- Transport of compacted waste from MTS' via sealed containers on barges to port container/rail facilities
- Transport to final disposal facilities by either truck, ship or rail

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## *New Solid Waste Management Plan*

### *Marine Transfer Station (MTS) to Transfer Facilities - Capacity Plan*

- Disposal of total City residential refuse of 11,200 tons per day
- Compaction at Marine Transfer Station into standard 20 ft. sealed containers
- Transport refuse via barge to transfer facility

| |  |
|---|---|
| *Container Dimensions* | *20 ft x 8 ft x 9.5 ft* |
| *Refuse Tons per Container (compacted)** | *20* |
| *Tonnage per Barge* | *400* |
| *Number of Containers Needed Daily* | *560* |
| *Number of Barges Needed Daily* | *28* |

**Container with dimensions of 20' x 8' x 9.5' holds 11 tons uncompacted*

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## *New Solid Waste Management Plan*

### *Barge to Rail - Capacity Plan*

- Disposal of total City residential refuse of 11,200 tons per day
- Compaction at Marine Transfer Station into standard 20 ft. sealed containers
- Transport refuse via barge to rail facility for transport to final disposal site

| |  |
|---|---|
| *Container Dimensions* | *20 ft x 8 ft x 9.5 ft* |
| *Refuse Tons per Container (compacted)** | *20* |
| *Tonnage per Rail Car* | *60* |
| *Number of Containers Needed Daily* | *560* |
| *Number of Rail Cars Needed Daily* | *187* |

**Container with dimensions of 20' x 8' x 9.5' holds 11 tons uncompacted*

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## *New Solid Waste Management Plan*

### *Barge to Ship - Capacity Plan*

- Disposal of total City residential refuse of 11,200 tons per day
- Compaction at Marine Transfer Station into standard 20 ft. sealed containers
- Transport refuse via barge to port facility for transport to final disposal site

| | *Ship*  |
|---|---|
| *Container Dimensions* | *20 ft x 8 ft x 9.5 ft* |
| *Refuse Tons per Container (compacted)** | *20* |
| *Tonnage per Ship* | *6,000* |
| *Number of Containers Needed Daily* | *560* |
| *Number of Container Ships Needed Daily* | *2* |

**Container with dimensions of 20' x 8' x 9.5' holds 11 tons uncompacted*

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## *New Solid Waste Management Plan*

### *Fiscal and Operational Impact*

| | |
|---|---|
| (+) | MTS Construction/Reconstruction |
| (+) | Barge Acquisition |
| (+) | Waste Containers |
| (+) | Waste Compaction Equipment |
| (-) | Truck Hauling<br>• *Trucks*<br>• *Manpower* |

***Net cost implication to be determined. However, the new solid waste management plan gives the City significantly greater flexibility in disposal options, vastly improved environmental impacts, and lessened vulnerability to any single disposal method or market.***

(+) *Investment*
(-) *Cost Savings*