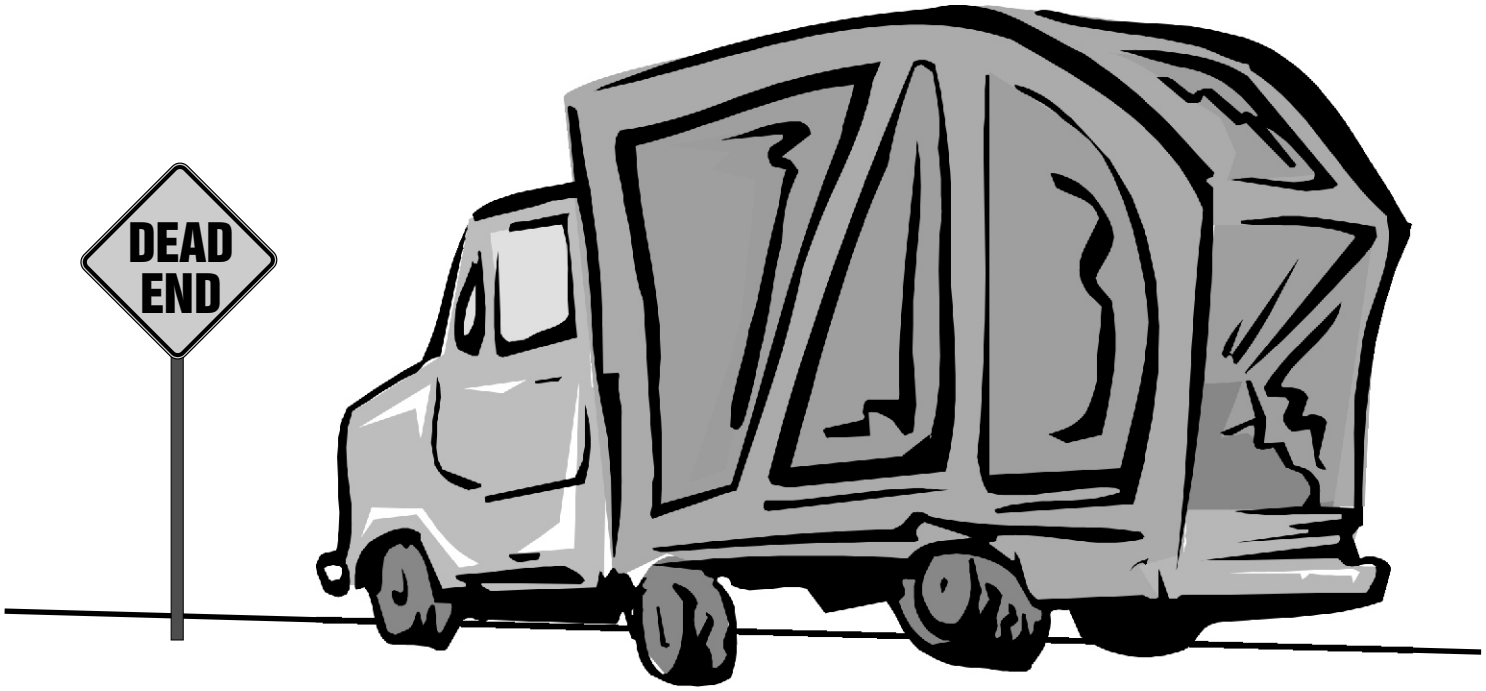
No Room To Move

New York City's Impending Solid Waste Crisis



City of New York
Office of the Comptroller
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Executive Summary

This report demonstrates that unfavorable market forces and changing governmental regulations may lead to unprecedented expenses for New York City to dispose of its waste. The public and private sectors in New York City collectively generate more than 15 million tons of waste each year, more than 10 million tons of which is disposed of outside New York City. This reliance on outside sources to manage the City's waste stream significantly compromises the City's long-term financial interests. Accordingly, the City must make immediate efforts to exercise control over its waste disposal process.

Two states absorb more than 70 percent of the public and private sector waste exported from New York City to landfills and incinerators. In 2003, Pennsylvania and Virginia reported receiving more than 4.1 million and 1.8 million tons of waste, respectively, from New York State. Both states have adopted a number of regulatory measures to address the negative impacts associated with large landfills that call into question the continuing ability of New York City to rely on these two states to meet its disposal needs. Further, a review of several mid-western and southern states found no large waste importing landfill with excess permitted capacities that could reliably meet New York City's long-term disposal needs. For New York City to meet its disposal needs, it will likely have to access landfills that are not currently accepting large volumes of out-of-state waste.

With the closure of the Fresh Kills Landfill in 2001, New York City more than doubled the volume of putrescible waste it exported. The result has been accelerated closure time-frames for nearby landfills and many local waste transfer stations operating at close to 100 percent of their permitted capacity. The New York City Department of Sanitation's (DOS) large waste disposal contracts, practically speaking, are also competing directly with New York City's private sector for extremely limited waste transfer and disposal space. The lack of in-City waste transfer capacity requires that DOS contract with firms outside the City at great cost.

The rising costs of exporting waste from New York City and the questionable reliability of the current network of disposal facilities present significant risks to both the public and private sectors. One indication of the impact of potential waste disposal capacity shortages has been a sharp increase in the cost of the DOS waste export contracts. The lowest bids for the most recent solicitation for exporting waste increased from $54 to $75 per ton compared to the bids accepted for the first waste export contract issued in 1997. During this same period, the private sector's cost for disposal of putrescible waste increased by 50 percent since 1997, adding more than $60 million per year to the cost of waste disposal from New York City's private sector.

DOS's long-term waste export planning must address the full range of waste disposal needs of the private and public sectors concurrently. Historically, DOS's planning process made an artificial distinction between the waste generated by the public and private sectors. This distinction may place the City at significant risk for failing to take advantage of increasing economies of scale to lower processing, transportation and disposal costs presented by an integrated public/private waste export infrastructure. As DOS prepares to make a large investment in publicly financed waste containerization facilities, the failure to develop a system that maximizes cost savings and lowers community impacts for all of the waste managed in the City would be a missed opportunity. DOS should take steps to ensure that the private sector is not faced with significant new waste disposal costs, which would create a competitive disadvantage for New York City businesses.

Currently, there is no viable rail or barge-based waste export system for moving large volumes of waste from New York City to distant disposal sites. Nearly all of the waste that is exported from New York City is transported by truck, making transportation costs extremely sensitive to even moderate increases in fuel costs, travel time and distance. Without an efficient inter-modal waste export system, the public and private sectors will be forced to rely on the current truck-based waste export system that has negative impacts on quality of life and public health and drastically limits the available disposal options due to the high cost of transporting waste to distant disposal sites by truck. The rapidly increasing cost of fuel will only further raise this cost.

DOS must also consider how to increase the rate of waste prevention and recycling as critical components of the effort to develop a sustainable long-term waste export program. DOS's current planning model, despite a significant rise in disposal costs and a lowering of recycling processing costs, continues to plan primarily for a landfill and incineration disposal strategy. Although the recent announcement of a much more competitive 20-year contract to process recyclables is an important change in policy direction, this policy decision was not made in the context of overall long-term planning for the City's waste management needs, but in response to DOS's failure to achieve any discernable savings from suspending plastic and glass recycling.

A more aggressive planning process would include a careful analysis as to whether other alternatives, such as recycling and waste reduction, can be made cost-competitive. The City must also appeal to the Federal government for assistance with this issue, which is impacting numerous municipalities nation-wide.

With landfill and incineration disposal costs rising steeply and their current reliability in question, it is imperative that the City address this issue before escalating costs significantly impact the City's fiscal strength. The City must create a more self-reliant process that mitigates dependence on outside interests and other states. By developing smarter strategies, we can generate viable long-
term strategies and own our own solutions.

Recommendations

Evaluate the Role of Publicly Controlled Waste Disposal Capacity

New York City should aggressively pursue the development of publicly controlled disposal capacity. It should be noted that similar efforts are being pursued by Los Angeles, which purchased the development rights of an existing landfill. New York City should be in a position to meet a portion of the waste disposal needs of the public and private sectors by providing access to a disposal facility or facilities it controls. Currently, 91 percent of the waste landfilled by New York City is controlled by three national waste management companies. As long as New York City is wholly reliant on a small number of firms for the disposal of its waste, it will have only limited control over its short- or long-term costs.

Consider the Development of In-State Disposal Capacity

To quickly increase in-state disposal capacity, New York City should consider purchasing access to, or the development rights of, existing landfills in upstate New York. Under DEC's regulations, solid waste management facilities may increase their capacity by 49.9% without having to seek a major modification of their permit.

Additionally, the City should partner with the New York State Department of Environmental Conservation (DEC) to consider building new disposal capacity in New York State. New York State is currently capable of meeting only a very small portion of the waste disposal needs of New York City. In-state disposal capacity provides a number of advantages, including: 1) a degree of regulatory certainty that out-of-state landfills cannot guarantee; 2) existing rail and barge transportation networks can be used to reach upstate landfills; 3) investments to improve existing transportation networks will benefit the entire state; 4) the considerable economic activity associated with waste disposal operations will remain within New York State; and 5) in-state disposal capacity reduces the likelihood that waste importing States will demand national legislation limiting waste exports.

The process to site and build a landfill in upstate New York could prove to be extremely time consuming. This is likely even if the local municipality has entered into a community host benefit agreement with New York City. Previous efforts to site controversial landfills in upstate New York have resulted in protracted difficulties due to community opposition and permitting requirements. Accordingly, the construction of a landfill in upstate New York is likely a very long-term option.

Evaluate the Purchase/Development of Publicly Controlled Out-of-State Landfills

New York City should evaluate purchasing permitted but significantly underutilized landfills in other parts of the country, near appropriate rail and/or water transportation infrastructure that could provide long-term disposal capacity for its waste. For example, the Spoon Ridge Landfill in Fulton County, Illinois, is permitted to accept 39 million tons of waste but is currently not operating due to a lack of disposal demand. This facility has no daily permit limitations, can be accessed directly by rail and is located in a sparsely populated area. Waste Management, Inc. recently gained control over the Cottonwood Hills Landfill, in Illinois which has 25 million tons of excess capacity and has seen its waste imports grow from 1,118 tons in 2000 to 210,548 in 2002. Ohio was recently presented with a new proposal to build a new landfill with a capacity of 50 million tons. If New York City could gain access to several large under-utilized landfills, it could provide the public and private sector with significant long-term disposal capacity.

Plan for the Disposal Needs of the Public and Private Sectors

DOS must plan for the short- and long-term management and disposal of all of the waste generated in New York City. An integrated approach to waste export for the public and private sector could dramatically reduce the concentration of truck-based waste transfer stations and provide alternative disposal options for small waste companies that currently have to use the waste transfer stations operated by their competitors to dispose of their waste. An integrated waste export system also presents an opportunity for the City to raise significant revenues by establishing a reasonable fee structure for access to its inter-modal waste export facilities.

Identify Short-Term Public/Private Sector Inter-Modal Waste Export Opportunities

DOS must work with the private sector to quickly develop adequate inter-modal transportation systems for private and public sector waste exported from New York City. DOS should evaluate the inter-modal transportation options currently available to the private sector and the investments it can make over the short-term that would increase access to inter-modal facilities. In light of the limited rail capacity from New York City, this effort will likely include access to rail facilities on the New Jersey waterfront.

Mitigate the Complex Transportation Logistics of Moving Waste from the East Coast as a Barrier to Smaller Firms Competing for New York City's Waste

To increase the competition for New York City's waste and diversify the disposal options available to New York City, DOS must directly address the City's complicated transportation logistics. These logistics present a barrier to small firms that are interested in competing for New York City's waste. DOS should negotiate directly with rail, barge and trucking companies to obtain volume discounts for the transportation of waste from New York City and coordinate the movement of waste from rail and barge facilities, if necessary, to the final disposal locations. Many small and medium-sized firms do not have the resources or the capability to negotiate the complicated transportation logistics of moving waste from the East Coast. By coordinating the City's transportation of waste from inter-modal rail or port facilities to disposal sites, small and medium disposal facilities will be in a better position to place bids on waste disposal contracts. When selecting disposal options, DOS would calculate the cost of disposal and the cost of transportation in determining the lowest cost option, as the Department currently does for its current waste export contracts.

Develop Short- Mid- and Long-Term Waste Disposal Contracts to Increase Private Sector Competition and Diversify Disposal Locations

DOS should develop a series of short-, medium- and long-term disposal contracts. Many firms cannot guarantee 20 years of disposal due to capacity limitations and regulatory uncertainties. With appropriate transportation logistical support, the number of firms competing for New York City's waste may dramatically increase. Using a series of laddered contracts could also help diversify the location of disposal facilities and reduce the risks of appearing to place an undue burden on one or two states' waste disposal systems. Another important advantage of not concentrating New York City's waste disposal in one or two states is that the useful life of existing permitted landfills capacity is greatly extended. The City must also appeal to the Federal government for assistance with this issue which is impacting numerous municipalities nation-wide.

Reduce Volume of Waste Exported

New York City must reduce the amount of waste that is exported to other jurisdictions for final disposal. In the long run, the most cost competitive waste management solution will likely be a fully-integrated recycling and waste prevention program in which New York City takes an active role in creating viable markets for recycled products. The City's recent announcement that it would enter into a 20 year contract with Hugo Neu, to begin in 2007, demonstrates the value of not focusing simply on "burn and dump" as the waste management options for New York City. New York City must begin to aggressively develop local markets for recycled materials, support a recycled manufacturing industry and develop waste prevention programs.

Summary of Major Findings

Defining the Waste Disposal Needs of New York City, In-State Disposal Capacity and Waste Exports from East Coast States:

- In 2002, New York City generated more than 15.5 million tons of waste and exported more than 8 million tons of waste to landfills and incinerators outside New York City.

- Escalating demand for landfill capacity--driven primarily by New York City--and rapidly declining landfill availability has effectively displaced other parts of New York State from access to Pennsylvania landfills. Between 2001 and 2002, the volume of waste managed by landfills and incinerators in New York State increased by nearly 1 million tons. Since 1998, in-state disposal rates have increased by more than 2.5 million tons per year and municipal landfills have experienced a dramatic increase in utilization rates from 66 percent to 90 percent.

- Existing in-state disposal capacity cannot meet New York City's waste disposal needs. If New York City were permitted to utilize 100 percent of the excess permitted waste disposal capacity at existing private sector landfills, these facilities could manage only 1.1 million tons of waste per year.

- New York State and New Jersey accounted for 84 percent of the more than 16 million tons of waste exported yearly from the East Coast. Given the relentless demand among states on the East Coast for out-of-state disposal capacity, the competition for nearby waste disposal facilities will become particularly acute as landfill and/or incineration disposal capacity declines.

Evaluation of Out-of-State Landfill Disposal Capacity

Pennsylvania:

- Pennsylvania is the largest importer of out-of-state waste in the United States. In 2003, 10.5 million tons per year of waste from other states was disposed of in Pennsylvania. Pennsylvania reports receiving 4.1 million tons of waste from New York State in 2003. Regulatory steps taken by Pennsylvania to reduce the impact of landfills resulted in a 2 million ton decline in the amount of out-of-state waste imported between 2001 and 2003.

- Out-of-state waste that is sent to Pennsylvania landfills is concentrated at large waste importing facilities. Without the approval of new landfills or major expansions, the current waste disposal demand at large waste importing landfills will be between 4.2 and 6.2 million tons per year greater than the available supply by 2007. By 2013, the current demand at large waste importing landfills will be between 7.2 and 9.2 million tons per year greater than the available supply.

Virginia:

- There is a small network of landfills in Virginia taking out-of-state waste that could serve, at best, as a short-term solution before new landfills or major expansion permits would be required. Operating at their maximum capacity, the Chambers and Atlantic Waste landfills, which currently take the majority of their waste from New York State, could manage an additional 3.4 million tons of waste per year. At that rate, the Chambers and Atlantic Waste landfills would exhaust, respectively, their permitted capacity by 2014 and 2015. Given the political climate in Virginia, the permitting processes for these landfills could be controversial and protracted.

Ohio, Indiana, Illinois and South Carolina:

- A review of available landfill disposal capacity of several mid-western and southern states found that the existing network of landfills accepting large volumes of out-of-state waste could not manage a significant increase in waste from New York City over an extended period of time. The American Landfill in Ohio in 2003 had an excess capacity of 2.8 million tons per year. However, this facility will require expansion permits at its current rate of utilization by 2007 and the local community has already initiated efforts to have this permit expansion rejected.

- The Illinois Department of Environmental Protection does not place limits on the amount of waste that can be disposed of at its landfills and has a number of large underutilized landfills that could be used to manage large amounts of out-of-state waste. The Spoon Ridge Landfill, which can be accessed directly by rail, has a permitted capacity of nearly 40 million tons but has not opened due to a lack of disposal demand. Waste Management, Inc. recently gained control over the Cottonwood Hills Landfill, which has 25 million tons of excess capacity and has seen its waste imports grow from 1,118 tons in 2000 to 210,548 in 2002.

- South Carolina promulgated new regulations that require evidence that a local planning area's available permitted capacity is not adequate to meet the State's disposal needs or promote competition prior to issuing expansion or new landfill permits. As a result, New York City's ability to utilize landfills in South Carolina for a large portion of its waste disposal needs has been effectively eliminated. Should other states implement a similar regulatory structure, the ability of New York City to meet is waste disposal needs outside New York State would be in jeopardy.

Introduction

This report provides an overview of the volume of waste generated in New York City and evaluates the reliability of the short- and long-term out-of-city disposal facilities the City currently uses to manage the waste that cannot be reused or recycled. New York City generated more than 15 million tons of waste in 2002, of which more than 10.2 million tons were generated by the private sector and 5.2 million tons were generated by the public sector.[1] Ensuring that this waste is collected and reused, recycled or exported for out-of-city disposal is the responsibility of a multi-billion dollar network of public and private sector waste management facilities and operations. As seen by the rapid increase in DOS's expenditures from $600 million in Fiscal Year 1995 to $1 billion in Fiscal Year 2005, the cost of disposing of New York City's waste has significant budget implications.[2]

Nearly 10 years since the announced closure of the Fresh Kills Landfill, DOS is still struggling to develop a long-term solution to managing the waste generated by the public sector. To date, DOS's long-term procurement efforts have given away much of the responsibility for planning where and how to dispose of the City's waste to the private sector.

During the Giuliani Administration, DOS's plan called for the private sector to build large waterfront waste transfer stations that would consolidate waste delivered by barges loaded at DOS's existing network of marine transfer stations (MTSs). DOS's long-term plans did not address the waste disposal needs of the private sector [3] and essentially gave away all of the responsibility for planning where to site, build, operate and dispose of public sector waste generated to the private sector. Very few firms were capable of identifying suitable sites to build waste export facilities and/or guarantee 20 years of disposal capacity. Ultimately, DOS's first effort to develop a long-term waste export plan for public sector waste ended in a failed procurement process.

DOS also claimed during the Giuliani Administration that the MTS's could not be retrofitted to directly consolidate waste into containers for delivery to inter-modal transportation sites.[4] The Bloomberg Administration reversed the Giuliani Administration's policy regarding MTSs and DOS has begun to plan to retrofit the MTS system to allow for the direct containerization of waste.[5] DOS has entered into a $35 million engineering contract to develop detailed specifications for how the MTSs could be retrofitted to directly containerize the waste delivered to these facilities.[6] DOS has estimated that the cost of retrofitting the MTS's will be more than $400 million and that the MTSs will not be retrofitted until 2008.[7]

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[1] See Table 1.
[2] Comprehensive Annual Financial Reports of the Comptroller for the Fiscal Year 1995 and the Fiscal Year 2005 Adopted Budget.
[3] Final Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan Draft Modification, 2000.
[4] Department of Sanitation Feasibility Report on MTS Conversion, April 1999.
[5] DOS's New Solid Waste Management Plan Outline, issued July 31, 2002.
[6] Contract for the Provision of Engineering and Other Services for the Marine Export of Solid Waste, PIN # 82703RR00038.
[7]" Official Says Mayor's Plan for Garbage Could Take 6 Years," New York Times, January 1, 2003.

DOS's long-term RFP for the export of waste from Staten Island continues this pattern, whereby all of the considerable logistical and operational issues of moving waste outside the City are left entirely to the private sector. However, DOS did design the transfer station and is contemplating operating the facility.[8] DOS's Staten Island RFP, however, is fraught with logistical and operational uncertainties that will undoubtedly increase the cost of waste disposal. Several examples raised by potential bidders include: (1) the necessary rail infrastructure for this facility has not been developed; (2) there is no definitive date by which rail service will be operational; (3) proposers will not be able to enter into service agreements with the rail road operators that match the length of the proposed 20 year contract; (4) the Staten Island transfer station was designed to use a 64 foot railcar when the industry standard is a 90 foot railcar; and (5) DOS's RFP does not supply sufficient waste to make a unit train that would significantly lower transportation costs. Further, no potential bidder can be assured of winning future DOS contracts and, therefore, cannot anticipate achieving greater economy of scale savings by managing more waste. These uncertainties will certainly drive up price of disposal over the 20 year life of the Staten Island contract.

In sharp contrast to DOS's current past planning process, this report demonstrates that DOS's long-term waste export planning must address the waste disposal needs of the private and public sector concurrently. The volume of waste managed by the private sector is considerable and, like DOS, businesses need access to reliable and affordable waste disposal options. The private sector in New York City generates more than 10 million tons of waste each year, of which approximately 6 million is exported to a variety of disposal sites outside New York City. It is likely that more than 5 million tons of private sector waste is exported to landfills and incinerators.[9] The in-City waste transfer stations and the out-of-City disposal sites DOS currently uses to dispose of more than 3 million tons of waste per year are the very same facilities that are utilized by the private sector. Practically speaking, under the current waste export scenarios, New York City government is competing directly with its private sector for limited waste transfer and landfill disposal space.[10]

As a result of DOS's interim-waste export contracts, there is virtually no excess capacity at putrescible waste transfer stations located within New York City. Currently, New York City has approximately 16,000 tons per day of daily permitted putrescible waste disposal capacity, of which 3,000 tons per day was not utilized. Nearly 90% of this excess capacity is found at two transfer stations operated by Waste Management Inc. and Republic Services, Inc. Without access to incinerators and transfer stations in New Jersey and Long Island, New York City would be incapable of managing the putrescible waste it generates.

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[8] Since the issuance of the RFP for exporting waste from Staten Island, in response to concerns of the Staten Island Borough President, DOS amended the RFP to allow Visy Paper to submit a proposal to manage Staten Island's residential waste at a waste-to-energy facility. Considering that DOS has begun construction on the $30 million waste export facility, it is unclear what will become of this facility should DOS accept Visy's proposal.

[9] See Section 3.

[10] Ibid.

The increased competition for limited disposal and transfer station capacity has resulted in rapidly rising disposal costs. DOS's disposal fee to access nearby waste transfer stations and incinerators has increased from $54 per ton in 1997[11] to an average of $69 per ton in Fiscal Year 2004.[12] The low bid for the most recent solicitation to export waste from Brooklyn increased from $62 per ton to $75. The private sector has seen putrescible waste disposal costs increase 50 percent from 1997 to 2003,[13] adding an estimated $60 million per year to the cost of disposing private sector waste in New York City.[14] DOS's continuing artificial distinction between the waste generated by the public and private sector in its waste export planning efforts places the City at significant risk of increased waste disposal costs and could create a competitive disadvantage for New York City businesses.

The majority of the waste exported from New York City and State is disposed of in facilities located in Pennsylvania and Virginia. In 2003, more than 10.5 million tons of waste was exported to Pennsylvania from other states, of which 9.8 million was sent to landfills. In Virginia, more than 6.5 million tons of out-of-state waste was disposed of in its landfills in 2003. Accordingly, this report pays special attention to the reliability of the network of landfills in these two states.

The review of landfill capacity data from Pennsylvania finds that 98 percent of the waste from New York State was taken to disposal facilities accepting more than 100,000 tons of waste from other states and that these landfills managed 99 percent of all the out-of-state waste sent to Pennsylvania each year. At several landfills in Pennsylvania in close proximity to New York City, over 80 percent of the waste managed was from other states. Currently, the daily supply of permitted landfill disposal capacity at these landfills is greater than the demand for disposal capacity. Statewide, this report estimates that large waste importing landfills in Pennsylvania had more than 18,000 tons per day of unused permitted capacity in 2003.

However, should the Pennsylvania Department of Environmental Protection (PADEP) not allow for the expansion of existing landfills over the next three years, New York State may have to significantly increase its reliance on disposal facilities outside of Pennsylvania and/or see significant increases in disposal costs. A review of the permits and remaining capacities of landfills accepting large volumes of out-of-state waste finds that the demand for disposal capacity will be significantly greater than the available permitted capacity. Without the approval of new landfills or major expansions by PADEP, the current waste disposal demand at large waste importing landfills will be between 4.2 and 6.2 million tons per year greater than the available supply by 2007. By 2013, the current demand at large waste importing landfills will be between 7.2 and 9.2 million tons per year greater than the available supply.

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[11] New York City Independent Budget Office, Supplement to Inside the Budget Issue No. 77, February 2001.

[12] DOS's average disposal cost for Fiscal Year 2004 was calculated by the Comptroller's Office.

[13] Crain's Waste News, March 31, 2003.

[14] The estimated cost of increased transfer station disposal fees to businesses was calculated for this study by the Comptroller's Office by calculating the increase in disposal costs multiplied by the volume of putrescible waste disposed by the private sector at landfills and incinerators.

With a looming waste disposal capacity shortage in Pennsylvania, DOS's failure to actively plan for the needs of the private sector when designing its proposed $400 million inter-modal waste export infrastructure leaves the private businesses precariously reliant on the current truck-based waste export system. While DOS is making significant investments to lower its long-term transportation and disposal costs, the private sector is left to fend for itself. If New York City should find it necessary to send even a small portion of its waste by truck to landfills in the mid-west, the increased transportation costs rise to a level that could curtail private sector growth and add significant additional costs to the private sector. For example, the cost of exporting 3,500 tons per day of waste by truck to the Milam Recycling and Disposal Landfill located in Illinois, compared with the nearest large waste importing landfill in Pennsylvania, would add nearly $140 million per year in transportation costs alone to the cost of doing business in New York City.

Further, this report finds that there are relatively few facilities outside of Pennsylvania that currently take large volumes of out-of-state waste which could manage significant volumes of waste from New York City. Additionally, a number of states that have seen waste imports increase in the 1990s have taken steps to strengthen their regulatory processes to reduce the impacts associated with large landfills. Each opportunity for new regulatory intervention, such as requests for permit expansions or the siting of a new landfill, present significant risks to the ability of New York City to reliably access out-of-state disposal capacity. In this climate, requests for permit expansions or the siting of new landfills presents new regulatory opportunities for state and local agencies to curtail facilities' operations.

Some states have taken action to effectively reduce or eliminate waste imports. For instance, regulations adopted in 2000 in South Carolina effectively capped existing permitted capacity and eliminated a large waste importing landfill discussed as a possible disposal location by a national waste management company for a large portion of New York City's waste from consideration.[15] Regulatory changes adopted since the announced closure of the Fresh Kills landfill in Pennsylvania have given local communities new avenues to oppose the expansion of existing landfills, imposed increased fees on waste disposed of in landfills, and created stricter safety standards on waste trucks. These standards have been used to impound and fine non-conforming vehicles. PADEP's efforts have reduced waste imports into Pennsylvania by more than 2 million tons per year between 2001 and 2003. Virginia passed legislation in 1999 that would have effectively banned the importation of out-of-state waste had it not been struck down as unconstitutional. Virginia pursued this case to the United States Supreme Court, which refused to consider Virginia's appeal, without comment, in March of 2002.

Addressing the needs of the public and private sectors requires the City to develop an integrated public/private waste management infrastructure that will reduce overall environmental and quality-of-life impacts, optimize the recovery of recyclables, lower overall costs and provide stability and diversify where the City disposes of its waste to ensure it can access reliable disposal capacity over its current 20 year planning horizon.

[15] "Efforts to Close Fresh Kills Are Taking Unforeseen Tolls", New York Times, February 21, 2000.

A flexible inter-modal waste export system would also allow the City to reach distant waste disposal facilities whose existing disposal capacities could not be utilized due to the costs associated with the current truck-based waste export system.

However, it is critical that DOS's planning process move beyond looking at the optimal mix of landfill and incineration disposal options. Indeed, the optimization of the recovery of reusable materials and waste reduction might be the only reliable long-term solution that allows New York City significant control over the costs of managing the waste it generates. First, recycling and waste reduction has the distinct advantage of not relying on the continued cooperation of jurisdictions outside New York City. Recycling also provides the City with a significant degree of control over rising disposal costs by eliminating the transportation costs associated with reaching distant landfills and incinerators. Further, New York City can lower its recycling costs by providing support for markets for recycled goods. Waste prevention efforts, such as legislation limiting excess packaging, avoid 100 percent of all of the disposal costs.

Paper recycling currently generates $7 per ton in direct revenue and supports the operations of the Visy Recycled Paper Mill, which employs 160 workers and which has invested more than $200 million in developing new manufacturing capacity in New York City. Visy Paper is planning to invest an additional $30 million expanding its facility and will employ an additional 125 workers.[16] The $51 per ton processing cost DOS will pay for metal, glass and plastic recycling, under a five year contract with Hugo Neu, is $24 per ton less than the most recent low bid for exporting waste from Brooklyn. A longer-term contract would certainly lower the per-ton processing costs.[17] The recycling plant Hugo Neu will build to process metal, glass and plastic, represents a $15 million investment in new manufacturing capacity in the Bronx and will initially employ 25 workers.[18] Accessing disposal sites outside New York City provides none of these important social and financial benefits.

A more thoughtful planning process would include a careful analysis as to whether other alternatives, such as recycling and waste reduction, can be made cost-competitive. With landfill and incineration disposal costs rising steeply and their current reliability in question, it is important that DOS move beyond its traditional reliance on dump and burn solutions. If New York City is going to be in a position to properly plan for meeting its waste needs over the next 20 years, DOS must openly and objectively evaluate whether alternatives to disposal can become the low cost/impact option over the planning horizon.

DOS's recent announcement of a 20 year contract for managing the recyclables collected by the Department, a wholesale reversal of its previous efforts to eliminate the recycling of metal, glass and plastic, is a positive policy shift.[19] However, this policy

[16] Visy Paper's New Facility to Create 125 Additional Jobs in Staten Island, Mayor Office Press Release, June 3, 2003.
[17] "Hugo Neu Schnitzer East Improves Bid for Recycling of New York City's Metal, Glass, and Plastic by $19 Per Ton", Hugo Neu Press Release, May 5, 2003.
[18] "Something Green in the Garbage?" City Recycling May Pay After All, New York Times, May 4, 2003.
[19] Mayor Recommits to Ambitious Recycling Pact, New York Times, September 14, 2004.

change was made not as part of its long-term planning efforts for managing the City's waste, but rather as a result of repeated demonstrations that the suspension of glass and plastic recycling failed to generate the savings anticipated by the suspension.

Defining the Volume of Waste Generated and Exported from New York City and States on the East Coast

The waste disposal needs of New York City government compete in the market-place with the waste disposal needs of the businesses within the City, as well as those of other cities and states that utilize some of the same disposal facilities that the public and private sector in New York City rely on for affordable and reliable disposal capacity.

The Current Waste Management Infrastructure in New York City

The City's residential waste management infrastructure consists of DOS garages for each Community Board, section stations where Sanitation workers can take shift breaks, vehicle repair facilities, a number of non-active incinerators, MTSs and garbage barges. There are MTSs located in Manhattan (3), Brooklyn (3), Queens (1), and the Bronx (1).[20] Prior to the closure of the City's last in-City disposal facility, at the MTS, waste collection vehicles tipped their load into an open hopper garbage barge. Once the barge received about 650 tons of waste, it was covered with a net and taken to a DOS-operated landfill or incinerator where a crane removed the waste from the garbage barge. The reconstruction of the MTS's to allow for direct containerization of wastes is the foundation of DOS's current waste export plan.

Beginning in the late 1950s, commercial waste was collected by the private sector. Prior to that time, DOS collected and disposed of both the public and private sector wastes. Though DOS gave up its responsibility for collecting private sector waste, a significant portion of the commercial waste stream continued to be disposed of at DOS operated facilities. During fiscal year 1988, in-City disposal facilities managed nearly 8 million tons of waste, of which only 3.4 million was collected by DOS. In 1989, DOS significantly raised its tipping fees purportedly in an effort to recognize the value of its limited disposal capacity and increase revenues.[21]

Unfortunately, DOS had performed no evaluation as to how the private sector would respond to this development or how commercial waste would be managed, processed and exported to out-of-city disposal facilities. The private sector was unwilling to pay the higher tipping costs at municipal facilities and, virtually overnight, a massive new waste export infrastructure was created for managing the commercial waste that had previously been disposed of at in-City facilities. Between fiscal years 1988 and 1989, commercial waste disposed of at landfills dropped by nearly 100%.[22] In response to the unplanned need for waste transfer and export capacity, an ad-hoc and often illegal collection of private waste transfer stations developed overnight. After more than a decade of organized community opposition, many of the worst facilities were closed.

[20] New York City Department of Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan Draft Modification, October 2000.
[21] The Mayor's Management Report, September 17, 1989.
[22] Ibid.

However, as a result DOS's failure to properly plan for the disposal needs of the private sector, the remaining commercial waste transfer stations remain primarily concentrated in Williamsburg, Brooklyn and the South Bronx, with several transfer stations also located in Queens, Staten Island and East New York, Brooklyn.[23]

Currently, the vast majority of the public and private sector waste generated in New York City is managed by waste transfer stations. Combined, these transfer stations managed more than 15 million tons per year (TPY) of public and private sector waste in 2002.[24] The vast majority of waste that is exported from waste transfer stations in New York City is removed using long-haul trucks. A small portion of the waste generated in New York City is taken directly to out-of-city waste disposal facilities or transfer stations, primarily located in New Jersey.[25] There is one transfer station in the Bronx operated by Waste Management, Inc. that exports the waste delivered to the facility by train.[26]

In some instances, waste transfer stations that used to serve the private sector have contracted nearly all of their capacity to be used by DOS and can no longer meet the needs of the private sector. Under its current interim waste export contracts, DOS relies primarily on putrescible waste transfer stations for the disposal of municipal waste. A review of existing waste export contracts by the Comptroller's Office found that waste transfer stations manage 86 percent of the waste DOS has contracted for the disposal of public sector waste.

Volume of Waste Generated in New York City

DOS keeps detailed records on the waste it manages. However, until recently it had not evaluated how much waste is generated and managed by the private sector. In compliance with Local Law 74 of 2000, DOS released a Preliminary Commercial Waste Management Study (CWMS) in June 2002 and a final CWMS in March of 2004. The CWMS used four primary sources of information to evaluate the volume of waste generated in the City. First, DOS used its own records of waste managed by the Department. Second, DOS used the records supplied by private waste transfer stations to DOS on the volume of material managed at their facilities. Third, the Department asked waste management companies to estimate the volume and disposal location of the waste they collect. Fourth, DOS used an employment-based waste generation methodology to estimate the volume of waste generated in New York City.

Combining data from DOS's CWMS, the Mayor's Management Reports, and the Independent Budget Office, the Comptroller's Office estimates that the public and private sectors generated approximately 50,000 tons per day of waste in 2002. This is 24,000 more tons per day than had previously been estimated when DOS completed its

[23] Taking Out the Trash: A New Direction for New York City's Waste, Organization of Waterfront Neighborhoods and Consumer Policy Institute/Consumers Union, May 31, 2000.
[24] New York City Comprehensive Commercial Waste Management Study, Preliminary and Final Reports issued by the New York City Department of Sanitation in June 2002 and March 2004.
[25] Ibid.
[26] New York City Department of Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan Draft Modification, October 2000.

1992 Comprehensive Solid Waste Management Plan. As shown in Table 1, New York City generated over 15.5 million tons of waste in 2002.

Table 1: Estimate of Private and Municipal Waste Generated Per Year in New York City (2002)[27]

	Putrescible	Non-Putrescible	Recycling/Fill	Total
Municipal Waste	3,088,104	300,490	1,869,000	5,257,594
Private Waste	3,295,677	2,893,332	4,089,930	10,278,939
Total Waste Generated	**6,383,781**	**3,193,822**	**5,958,930**	**15,536,533**

Private waste transfer stations, where the waste is prepared to be disposed of, recycled, or reused, initially manage the vast majority of the material generated in the City.

Putrescible waste, which includes large volumes of organic waste, is uniformly disposed of in landfills and incinerators. Waste that is classified as non-putrescible and recycling/fill by DOS can often be recycled or used again in local construction projects. For example, in 2000 DOS used over 3,700 tons per day of recycling/fill waste at the Fresh Kills Landfill for a variety of construction projects related to the final closure of the landfill and at the Visy paper mill. As expected, the private sector generates significantly more non-putrescible and recycling/fill material than the public sector, since it is primarily responsible for the construction activity that generally generates this waste stream. As discussed below, the recycling rates for fill and non-putrescible waste significantly reduces the volume of material that the City exports to out-of-city disposal sites.

In planning for DOS's future disposal needs, it is important to consider that after the final closure of the Fresh Kills landfill DOS will have to find alternative uses for the non-putrescible and fill material currently used in construction projects at the landfill. DOS anticipates completing the final cap of the Fresh Kills Landfill in approximately 2.5 years. Non-putrescible and fill material is prohibited under DEC's regulations from being commingled with putrescible waste and is not compatible with the waste export facility designs being contemplated by DOS. If this material were ultimately disposed of at private transfer stations at prices similar to the current waste export contracts, the City would incur an additional $70 million per year in disposal costs.

Volume of Waste Exported From New York City

Table 2 presents the estimated volume of waste exported in 2002 by the public and private sectors to out-of-city waste management facilities. In 2002, the public and private sectors managed approximately 5 million tons of waste within the City and exported 10.4 million tons of waste to out-of-City facilities.

Exporting 10.4 million tons of waste each year requires reliable access to approximately 34,000 tons of out-of-city waste management capacity each day. As demonstrated later in the report, not all of this waste is disposed of in landfills and

[27] Table one was developed by the Comptroller's Office using data from DOS's Final and Preliminary CWMS, the Mayor's Management Reports and from data supplied by DOS to the New York City Independent Budget Office.

incinerators. Recycling/fill material in particular appears to find alternative disposal options based on the volume of waste other states report receiving from New York City/State.

Table 2: Disposal Location of Waste Generated or Managed in New York City in 2002(Tons per Year) [28]

Waste Stream	Final Disposal in NYC	Final Disposal Outside NYC	Total Waste Disposed
Putrescible[29]	1,022,719	5,361,062	6,383,781
Non-Putrescible	314,760	2,879,062	3,193,822
Recycling/Fill	3,743,484	2,215,446	5,958,930
Total	5,080,933	10,455,570	15,536,533

Putrescible and non-putrescible waste comprises the majority of waste that is exported to out-of-city facilities, accounting for nearly 8.2 million of the 10.4 million tons of the waste that is exported to out-of-city disposal facilities each year. Though recycling/fill material accounted for 38% of the waste generated, it accounted for only 21% of the waste exported outside New York City due to its high rate of re-use in a variety of construction projects and at the Visy Paper mill on Staten Island.

Given the high rate of in-City disposal for recycling/fill waste reported by DOS, it is unlikely that this waste stream is being exported to relatively expensive landfills. However, considering the volume of recycling/fill waste exported from the City and that this waste stream represents a potentially large future export cost for DOS, a detailed review of how recycling/fill material is utilized should be undertaken. If the disposal locations and or re-use opportunities for recycling/fill are not reliable for either the short- or long-term, disposal costs could rise significantly for the public and private sectors.

Volume of New York City Waste Disposed of in Out-of-City Landfills and Incinerators

With a clear understanding of the volume of waste New York City currently exports one can evaluate whether the current network of disposal facilities will continue to reliably meet New York City's waste management needs over the short- and/or long-term. However, DOS's CWMS did not report where the City's waste is currently disposed. To determine the amount of waste the City disposes of in landfills and incinerators, this report evaluates the records of state and federal agencies that either track and/or regulate the disposal of solid waste in landfills and/or incinerators.

The estimates of the volume of waste being exported from New York City were compared to the volume of waste importing states reported receiving at their landfills and incinerators from New York State. Generally, state environmental agencies require

[28] Table Two was developed by the Comptroller's Office using data in DOS's CWMS Preliminary and Final Reports issued in June 2002 and March 2004.

[29] DOS included commercial paper recycling in its definition of putrescible waste in the Final CWMS. The volume of paper included in the total volume of putrescible waste is assumed not to have an impact on long-term disposal needs of New York City.

reports from waste disposal facilities that summarize the volume, type and origin of the waste managed. Although the reporting requirements vary from state to state, all the states reviewed in this report tracked the total volume of waste disposed of and the state in which the waste originated for every facility. No state required disposal facilities to indicate the municipality where the waste originated.

Since importing states do not indicate the municipality the waste originated from, it is difficult to determine with absolute certainty if a volume of waste that is landfilled or incinerated originated in New York State or New York City. The New York State Assembly's Legislative Commission on Solid Waste reported that approximately 1.2 million tons of waste was exported from regions outside New York City in 2001.[30] However, DEC's 2002 annual report on the volume of waste disposed of within New York State found a nearly 1 million ton increase in the amount of waste disposed of at landfills and incinerators.[31] Since it is unlikely that any waste from New York City is being disposed of in upstate New York due to transportation costs, the increase in in-state disposal likely represents a significant decline in the amount of waste being exported from areas outside of New York City. In light of the most recent data available from DEC, the amount of waste exported to landfills and incinerators from regions outside New York City in 2002 was likely significantly less than the 1.2 million tons reported in 2001.

Due to differences in the dates state regulatory agencies release data on disposal trends, this report used 2002 as a baseline to estimate the volume and disposal location of waste from New York State. Six states reported receiving more than 8.2 million tons of waste from New York State in 2002, with Pennsylvania (4.7 million tons), New Jersey (1.4 million tons)[32] Virginia (1.4 million tons), and Ohio (900,000 tons) receiving the majority of the waste exported.

As seen in Table 3, waste export totals for putrescible and non-putrescible waste from New York City are very similar to the volume of waste states report receiving from New York State. The data presented in Tables 2 and 3, give a reasonable estimate of the volume of landfill and incineration disposal capacity the private and public sectors currently require to meet their waste disposal needs. Given the volume of waste being exported, relatively small discrepancies would not significantly alter the amount of disposal capacity that is required on a daily basis to meet the waste management needs of New York City and State.

[30] "Where will the Garbage go? 2002", New York State Assembly Legislative Commission on Solid Waste, March 1, 2004.
[31] Draft Summary of Landfill and Incinerator Disposal Rates and Capacities issued June 2004 by DEC.
[32] More than 900,000 tons of waste exported to New Jersey from New York State was sent to transfer stations that ultimately sent their waste to Pennsylvania. The vast majority of the waste delivered to New Jersey is municipal waste.

Table 3: Volume of Waste Exported From New York State as Reported by Receiving States in 2002[33]	
State	**Waste Received From New York State (Tons Per Year)**
Connecticut	3,760
Massachusetts	2,517
New Jersey	1,477,686
Ohio	922,198
Pennsylvania	4,782,519
Virginia	1,475,512
Total Imports from New York State	8,664,192
Volume of Putrescible and Non-Putrescible Waste Exported from New York City	8,240,124

[33] Table 3 was calculated using disposal data provided by state regulatory agencies and the report "Interstate Flow of Municipal Solid Waste among the NEWMOA States in 2002", issued by the Northeast Waste Management Official's Association, May 2004.

New York City Must Rely On Other States' Disposal Capacity

To evaluate how reliant New York City is on out-of-state disposal capacity, this report reviewed DEC's summary of the landfill and incinerator annual reports each disposal facility submitted to DEC for 2002 and evaluated landfill and incineration facilities' permitted capacities, the amount of waste managed, the amount of unused daily permitted capacity, total remaining capacity, proposed increases to annual permit limits and proposed capacity expansions. Excess permitted capacity represents the amount of disposal capacity that was not used during the reporting year. Table 4 presents a summary of the waste disposal capacity in New York State.

As seen in Table 4, New York State had approximately 1.7 million tons of excess, or unused, permitted landfill and incineration capacity in 2002. If New York City were permitted access to 100 percent of this excess permitted capacity, the City would still require more than 6.5 million tons per year of out-of-state landfill and incineration disposal capacity. However, it is highly unlikely that New York City would be allowed unrestricted access to all of the disposal facilities within New York State.

Table 4: Excess Incineration, Municipal and Private Landfill Capacity in New York State for the 2002 Reporting Year (Tons/Year) [34]

Type of Disposal Facility	Waste Managed	Existing Annual Permit Limits	Excess Annual Permitted Capacity	Percentage of Annual Permitted Capacity Used
Incinerators	3,683,844	3,886,206	202,362	95 percent
Municipal Landfills	3,131,894	3,459,405	327,511	90 percent
Private Landfills	4,260,416	5,450,940	1,190,524	78 percent
Total	11,076,154	12,796,551	1,720,397	86 percent

In particular, municipal landfills have wide discretion over the volumes and origins of the waste that are disposed of within their facilities and often have service area restrictions that prohibit waste generated outside the service area from being disposed of in the facility. For example, the enabling legislation that created the Oneida-Herkimer Solid Waste Authority prohibits the importation of waste from outside its two county service area at its proposed 208,000 ton per year landfill. Additionally, municipally owned landfills often prefer to lengthen the life expectancy of their landfill capacity in order to avoid the difficulties and costs associated with siting or expansion. As can be seen in Table 6, incinerators tend to have relatively small volumes of excess capacity, since these facilities need consistent daily volumes of waste to operate

[34] Table 4 was calculated by the Comptroller's Office using data supplied by DEC summarizing annual facility reports submitted for 2001. The excess permitted capacity at the Al Turi Landfill, located in Orange County, was removed from this calculation due to DEC's continuing enforcement efforts against this facility, which managed only 23,086 tons of waste in 2002.

efficiently and pay off debt. On average, incinerators in New York State utilized 95 percent of their permitted capacity in 2002.

An indication of the increasing impact waste export costs and shifting large volumes of waste from New York City to Pennsylvania can be seen in the large increase in in-state disposal rates. Between 2001 and 2002, the volume of waste managed by landfills and incinerators in New York State increased by nearly 1 million tons. Since 1998, in-state disposal rates have increased by more than 2.5 million tons per year and municipal landfills have seen their average utilization rate increase from 66 percent to 90 percent.

Table 5 reviews the status of private sector landfills and the current proposals to increase annual permit limits, expand capacity or site new landfills. Private sector landfills represent approximately 70 percent or 1.1 million tons of the excess disposal capacity potentially available in New York State in 2002. Clearly, private sector landfills, which would likely be the most amenable to accepting waste from New York City, could meet just a small fraction of the City's total disposal needs. Given the limited amount of excess in-state disposal capacity, this report evaluated whether the private sector was taking any steps that might significantly impact the volume of in-state disposal capacity.

Table 5: Status of Private Landfills Operating in New York State for the 2002 Reporting Year [35]								
Facility	County	Waste Managed in 2001 **(**Tons**)**	Excess Annual Permitted Capacity (Tons)	Proposed Annual Permit Expansion (Tons)	Existing Permitted Landfill Capacity (Tons)	Proposed Capacity (Tons)	Remaining Years of Capacity Left Based on Current Rate of Utilization	Comments
Niagara Recycling	Niagara	573,403	86,597	N/A	2,296,900	3,000,000	4	Has just begun permitting process; Cannot take putrescible waste
Seneca Meadows	Seneca	1,650,936	191,064	N/A	11,378,250	NA	7	Permit expansion approved in 1993; Construction of new capacity nearly completed
High Acres (WMNY)	Monroe	855,535	218,965	N/A	19,191,255	7,980,000	22	
WMI-Albion	Orleans	N/A		550,000	N/A	7,350,000	N/A	DEC approved siting of new landfill – WMI has not committed to build landfill
Chaffee	Erie	330,920	269,080	N/A	1,353,478	24,600,000	4	Scoping for EIS is completed; Active opposition may delay permitting
Modern	Niagara	601,572	13,428	N/A	1,849,780	3,000,000	3	Expansion recently approved, though not yet constructed
IWS-Farmersville	Cattaraugus	N/A		915,000	N/A	16,848,000	N/A	Siting process started in '91; DEC preparing notice of complete application
Hyland MSW	Allegany	224,964	7,476		1,059,690		4	Town rejected request for expansion in November '02
Total	N/A	3,874,394	1,190,524	1,465,000	41,178,453	62,778,000	NA	
NA = Not Applicable								

[35] Table 5 was calculated by the Comptroller's Office using a database supplied by DEC summarizing annual facility reports submitted for 2002 and interviews with DEC regional staff.

The private sector has submitted proposals to DEC to increase annual permit limits on existing landfills by 1.4 million tons per year and add an additional 63.2 million tons of capacity through facility expansions or the siting of new landfills. If all the current proposals to increase annual permit tonnage were approved by DEC and built, private landfills would have an excess disposal capacity of approximately 2.6 million tons per year. Even if one assumes that 100 percent of this excess capacity were utilized by New York City, approximately 6 million tons of out-of-state landfill and incineration disposal capacity would likely still be required to meet the City's disposal needs.

It does not seem reasonable to assume that New York State will have adequate new disposal capacity available to New York City in the near future. The two landfills proposing to increase their annual waste disposal capacity, WMI-Albion and IWS-Farmersville, seem unlikely candidates to meet New York City's short-term or long-term needs. DEC regional staff report that the applicant for the WMI-Albion landfill has not committed to constructing the approved capacity. The IWS-Farmersville landfill has been going through the permitting process since 1991 due to organized opposition by Concerned Citizens of Cattaraugus County, Inc, which may eventually result in the application being rejected by DEC.[36]

Further, the capacity at private landfills may drop over the next few years. Currently operating landfills will near their maximum capacity and may not be able to expand further if faced with local community opposition. The Chaffe Landfill has only four years of capacity remaining based on its current utilization rate and has just completed its scoping process for the Environmental Impact Statement required for its proposed expansion. Without community opposition, these technically complicated environmental reviews can take several years to complete. Where there is sophisticated public opposition, as is the case for the Chaffe Landfill, these environmental reviews can take considerably longer.[37]

[36] See www.homestead.com/concernedcitizens.
[37] See www.homestead.com/concernedcitizens/maplink_CID.html.

Recommendations

As demonstrated in Appendix A, if Pennsylvania does not allow for significant expansion of its current landfill capacity, New York City may be unable to meet its daily disposal needs within the region. The increasing demand on disposal capacity in close proximity to New York City has significantly increased waste disposal prices. The combined increase in waste disposal costs for the public and private sector since the closure of the Fresh Kills Landfill is more than $350 million per year.

To prepare for the potential shortage of nearby waste disposal capacity, this report recommends that New York City take a number of crucial steps:

Evaluate the Role of Publicly Controlled Waste Disposal Capacity

New York City should pursue the development of publicly controlled disposal capacity. Currently, 91 percent of the waste landfilled by New York City is controlled by three national waste management companies. As long as New York City is wholly reliant on a small number of firms for the disposal of its waste, it will have only limited control over its short- or long-term costs.

The development of publicly controlled disposal capacity will ensure that New York City will have a viable disposal alternative should the regulatory environment within a particular state dramatically change over the next 10 to 20 years. Further, publicly controlled disposal capacity will ensure that the private sector must compete aggressively to gain access to one of the largest segments of the national waste disposal market.

Consider the Development of In-State Disposal Capacity

To quickly gain access to in-state disposal capacity, New York City should consider purchasing access to, or the development rights of, existing landfills in upstate New York to provide in-state disposal capacity over the short-term.

Additionally, the City should partner with the New York State Department of Environmental Conservation to consider building new disposal capacity in New York State. In-state disposal capacity provides a number of advantages, including: 1) a degree of regulatory certainty that out-of-state landfills cannot guarantee; 2) existing rail and barge transportation networks can be used to reach up-state landfills; 3) investments to improve existing transportation networks will benefit the entire state; 4) the considerable economic activity associated with waste disposal operations will remain within New York State; and 5) in-state disposal capacity reduces the likelihood that waste importing State will demand national legislation limiting waste exports.

Evaluate the Purchase/Development of Publicly Controlled Out-of-State Landfills

New York City should evaluate purchasing permitted but significantly underutilized landfills in other parts of the country, near appropriate rail and or water transportation infrastructure that could provide long-term disposal capacity for its waste.

Plan for the Disposal Needs of the Public and Private Sector

DOS must plan for the short- and long-term management and disposal of all of the waste generated in New York City. An integrated approach to waste export for the public and private sector could dramatically reduce the concentration of truck-based waste transfer stations and provide alternative disposal options for small waste companies that must currently use the waste transfer stations operated by their competitors to dispose of waste. An integrated waste export system also presents an opportunity for the City to raise significant revenues by establishing a reasonable fee structure for access to its inter-modal waste export facilities.

Identify Short-Term Public/Private Sector Inter-Modal Waste Export Opportunities

DOS must work with the private sector to quickly develop adequate inter-modal transportation systems for private and public sector waste exported from New York City. DOS should evaluate the inter-modal transportation options currently available to the private sector and the investments it can make over the short-term that would increase access to inter-modal facilities. In light of the limited rail capacity from New York City, this effort will likely include access to rail facilities on the New Jersey waterfront.

Mitigate the Complex Transportation Logistics of Moving Waste From the East Coast As A Barrier to Smaller Firms Competing for New York City's Waste

To increase the competition for New York City's waste and diversify the disposal options available to New York City, DOS should remove complicated transportation logistics which serve as a barrier to smaller firms competing for New York City's waste.

Develop Short-, Mid- and Long-Term Waste Disposal Contracts to Increase Private Sector Competition and Diversify Disposal Locations

To maximize the opportunities presented by the closure of the Fresh Kills Landfill, New York City must be in a position to respond quickly to changing market conditions and take maximum advantage of the volume discounts New York City could achieve by creating competition among disposal facilities.

Reduce Volume of Waste Exported

New York City must take steps to reduce the amount of waste that is exported to other jurisdictions for final disposal. In the long run, the most cost competitive waste management solution likely will be a fully-integrated recycling and waste prevention program in which New York City takes an active role to create viable markets for recycled products. The City must also appeal to the Federal government for assistance with this issue, which is impacting numerous municipalities nation-wide.

Appendix A

Analysis of Waste Exports from East Coast States and Landfill Disposal Capacity

Waste Exports from East Coast States, Maryland and the District of Columbia Compete with New York City for Disposal Capacity

Beginning in the 1980s, the nation's largest waste management companies began a series of acquisitions of smaller companies. This trend was followed by mergers of national waste management companies in the 1990s. Both trends led to a dramatic increase in the total volume of waste being imported and exported between states. The Congressional Research Service's (CRS) November 2002 Inter-State Shipment of Solid Waste Report estimated that 35 million tons of waste was exported between states during 2001, an increase of 14.3 million tons compared with 1993. As seen in Table 6, "East Coast States"[38] exported more than 16 million tons of waste during 2002. New Jersey and New York accounted for 84 percent of the total waste exported from East Coast States.

In 2004, the Northeast Waste Management Official's Association (NEWMOA) reported that 90 percent of the waste exported from States was disposed of outside the region,[39] primarily in Pennsylvania and Virginia. However, East Coast States are not the only states that rely on Pennsylvania and Virginia to manage their waste. Combined, Pennsylvania and Virginia reported receiving more than 3.4 million tons of waste from Maryland and the District of Columbia. The East Coast States, Maryland and the District of Columbia exported more than 20 million tons of waste in 2002. Pennsylvania and Virginia report importing more than 11.6 million and 5.4 million tons per year respectively in 2002 from various states.[40]

[38] For the purposes of this report, the membership of the Northeast Waste Management Official's Association (NEWMOA) is used as the definition of East Coast States. These states include Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

[39] Interstate Flow of Municipal Solid Waste among the NEWMOA States in 2002, Northeast Waste Management Official's Association, Final Draft, May 2004.

[40] The total volume of out-of-state waste imported by Pennsylvania was calculated by the Comptroller's Office using electronic data supplied by PADEP. The volume of waste imported to Virginia was presented in the VADEQ's June 2003 report Solid Waste Managed in Virginia during Calendar Year 2002 and annual reports submitted by waste management facilities in Virginia.

Table 6: Volume of Waste Exported from East Coast States, Maryland, and the District of Columbia in 2002[41]	
State	**2002 Exports**
Connecticut	815,570
Maine	41,403
Massachusetts	1,494,413
New Hampshire	127,855
New Jersey	6,142,353
New York	7,718,067
Rhode Island	56,123
Vermont	70,297
District of Columbia	1,160,152
Maryland	2,433,176
Total	20,059,408

As Table 6 illustrates, New York City is not alone in meeting its disposal needs by exporting its waste to other states. In many instances, many states are competing directly with New York City for access to limited disposal capacity. Further, this report demonstrates that the current network of disposal sites within New York State could not begin to manage the volume of waste currently exported to out-of-state disposal facilities by New York City. The following sections, examine in detail the ability of large waste importing landfills in Pennsylvania, Virginia, Ohio, Indiana, Illinois and South Carolina to meet the disposal needs of New York City over the short- and long-term.

Status of Waste Disposal Capacity in Pennsylvania

New York City currently relies on out-of-state disposal capacity to meet its waste disposal needs, with the majority of its waste disposal needs being met by Pennsylvania, Virginia and Ohio. This section evaluates the short- and long-term reliability of the waste disposal capacity of Pennsylvania.

In response to the volume of waste being imported into Pennsylvania, PADEP has taken a number of regulatory steps aimed at reducing the impacts associated with importing large volumes of waste. In late 1996, then-Governor Tom Ridge issued an Executive Order calling for the overhaul of Pennsylvania's solid waste permit review process. One of the resulting significant changes in PADEP's regulations was the establishment of an environmental assessment process which evaluates the harms and benefits of proposed landfills and/or landfill expansions. Under this revised regulatory

[41] Table 6 was calculated using waste import data supplied by the receiving states and the report "Interstate Flow of Municipal Solid Waste among the NEWMOA States in 2002", issued by the Northeast Waste Management Official's Association, Final Draft, May 2004.

review process, prior to PADEP evaluating the technical merits of a landfill permit application, it first makes a determination as to whether the benefits of the proposed action outweighed its social, environmental, quality-of-life and other harms. In September of 2000, Pennsylvania's Environmental Quality Board adopted final regulations that would implement the policies developed pursuant to the 1996 Executive Orders. PADEP also issued new regulations governing the operation of waste trucks and in June 2002 instituted a $4 per ton charge on every ton of waste landfilled within the state.[42]

Volume of Waste Disposed of in Pennsylvania

PADEP requires waste disposal facilities to keep detailed records on the types of waste received and the state in which the waste originated. PADEP also limits the amount of waste that can be disposed of within a landfill or incinerator on a daily basis. Waste disposal facilities are required to submit quarterly reports that describe the volume, type and origin of the waste received, from which PADEP generates an annual facility report. PADEP supplied the Comptroller's office with data summarizing the annual facility reports for 2003 and summaries of the daily permit limitations and remaining disposal capacity as of January 2002[43], the most recent available. Using this data, one can determine the remaining capacity, the volume of out of state waste imported, utilization rates, estimate the year expansion permits would be required, and project the decline in the volume of statewide permitted capacity if PADEP did not issue new landfill expansion permits or site new landfills.

The review found that the total volume of waste managed by disposal facilities in Pennsylvania in 2003 was 25.4 million tons per year, of which 2.8 million tons was managed by incinerators. Of this volume, Pennsylvania reported receiving more than 10.5 million tons of waste from other states, making it the largest waste importer in the United States. Of the 10.5 million tons of out-of-state waste managed in 2003, 9.8 million tons was landfilled and 720,000 tons was incinerated. Of the 4.1 million tons of waste originating in New York State, approximately 340,000 tons was incinerated. In response to higher disposal costs and uncertainty as to whether permit expansions would be approved, Pennsylvania saw the volume of out-of-state waste imported drop by more than 2.2 million tons between 2001 and 2003. During this same period total disposal declined by just 1.3 million tons.

The vast majority of the waste imported into Pennsylvania is reliant on landfills taking relatively large volumes of out-of-state waste. While Pennsylvania had 49 active landfills in 2003, the majority of out-of-state waste was concentrated at ten landfills that accepted more than 300,000 tons of out-of-state waste and accounted for 80 percent of all out-of-state disposed of in landfills. An additional eleven landfills accepted between 100,000 and 300,000 tons of out-of-state and accounted for 19 percent of out-of-state waste disposed of at landfills. Combined these large waste importing landfills managed 99 percent of all waste imported into Pennsylvania. At six

[42] Ridge Administration Record on Waste Issues, Pennsylvania Department of Environmental Protection, July 21, 2003. See www.dep.state.pa.us/dep/airwaste/wm/targetingtrash/2001_trash_record.htm.
[43] To calculate future landfill capacity, this report uses the most recent data available.

of the large waste importing landfills, over 70 percent of the waste disposed of was from out-of-state.

Clearly, these large out-of-state waste importing landfills serve regional and national markets and are critical to the ability of New York City to continue to meet its short-term disposal needs. Given the reliance of out-of-state waste on these landfills, this report focuses the assessment of future disposal capacity in Pennsylvania on large waste importing landfills.

PADEP divides Pennsylvania into six regions, South East, North East, South Central, North Central, South West, and North West. Table 7 summarizes the volume and origin of the waste managed by large waste importing landfills in each region, their permitted daily capacity and excess daily permitted capacity. Table 7 represents the maximum amount of permitted landfill capacity at large waste importing landfills and does not necessarily represent the amount of disposal capacity that is available to New York City or State. Many landfills operate below their permitted capacity in an effort to lengthen the life of the facility and have contractual arrangements that limit the volume of capacity that could be offered to the New York City.

Table 7: Summary of Volume of Waste Managed by Large Waste Importing Landfills in PADEP's Six Regions in 2003 (Tons) [44]

Region	Volume Managed (Annual)	Waste From Out of State (Annual)	Daily Permitted Capacity[45]	Unused Daily Permitted Capacity
South East	3,875,086	2,849,233	18,333	5,913
North East	3,877,751	2,273,139	17,475	5,046
South Central	4,195,819	1,689,011	15,234	1,786
North Central	NA	NA	NA	NA
South West	3,124,213	1,458,531	14,700	4,687
North West	1,737,547	1,438,623	6,500	931
Statewide Total	16,810,415	9,708,536	72,242	18,362

Table 7 clarifies a number of important issues. For Pennsylvania to manage the 16.8 million tons of waste landfilled at large waste importing landfills in 2003 required more

[44] Table 9 was calculated by the Comptroller's Office using data supplied by PADEP. Daily permitted capacities reflect PADEP permit decisions as of July 2004.

[45] Daily permitted capacity (DPC) is the amount of waste that can dispose of on an average day under the landfills current permit.

than 53,000 tons of daily disposal capacity.[46] Out-of-state waste accounted for 31,000 tons per day of the disposal demand at large waste importing landfills.

Landfills located in PADEP's North East, South East and South Central regions, due to their proximity to New York and New Jersey, managed 72 percent of total volume of out-of-state waste imported into Pennsylvania. Many of these landfills are nearing their maximum designed capacity and have either applied or will be soon be applying for landfill expansion permits. Should even a small portion of the landfills in these regions be denied permit expansions and or have their daily capacities reduced, the implications for the New York City could be significant.

Evaluating the Future Disposal Capacity of Pennsylvania's Landfills

PADEP waste disposal facility permits set limits on the amount of waste that can be managed on a daily basis, referred to as the Daily Permitted Capacity (DPC). One of the key limitations on the ability of landfills in Pennsylvania to meet the disposal needs of other states is the DPC of each landfill. When the collective DPC in Pennsylvania falls below the disposal demand from in-state and out-of-state sources, waste that was previously landfilled in Pennsylvania must find alternative disposal facilities. The gap between the DPC and the disposal demand is referred to as negative or excess disposal capacity. As demonstrated in Table 7, the DPC for large waste importing landfills in Pennsylvania in 2003 was 72,242 tons, of which 18,362 tons per day was unused or excess capacity.

To evaluate the ability of large waste importing landfills in Pennsylvania to continue to meet the demand for out-of-state disposal capacity, this report determined the (1) DPC, (2) the amount of waste disposed of in 2003, which represents the "demand" for its disposal capacity, (3) the amount of excess/unused permitted capacity and (4) the number of years remaining until the landfill's total permitted capacity would be exhausted without permit expansions being approved by PADEP for each landfill. These variables were used to predict the DPC of each PADEP Region under the following assumptions: (1) there would be no growth in the volume of waste needing to be disposed of over time; (2) as an individual landfill's DPC was met or its permitted capacity exhausted, other large waste importing landfills would accept the increased volume until their DPC was met and, (3) PADEP would not issue permits for expanded or new capacity until 2013.[47]

Chart 1[48] demonstrates that there will be a more than 15,400 ton per day negative gap between the demand for disposal capacity and DPC in 2007 statewide should PADEP not issue landfill expansion permits. The statewide shortage in DPC will grow to more than 25,000 tons per day in 2013. On an annual basis, the demand versus capacity gap

[46] Daily disposal volumes are calculated using an industry standard of 312 operating days per year, which takes into account days landfills do not generally operate.

[47] During the development of this report, PADEP issued several landfill expansion permits. The Comptroller's Office modified the landfill capacity and permit data provided by PADEP from 2002 and 2003 to reflect the impact of these permit decisions.

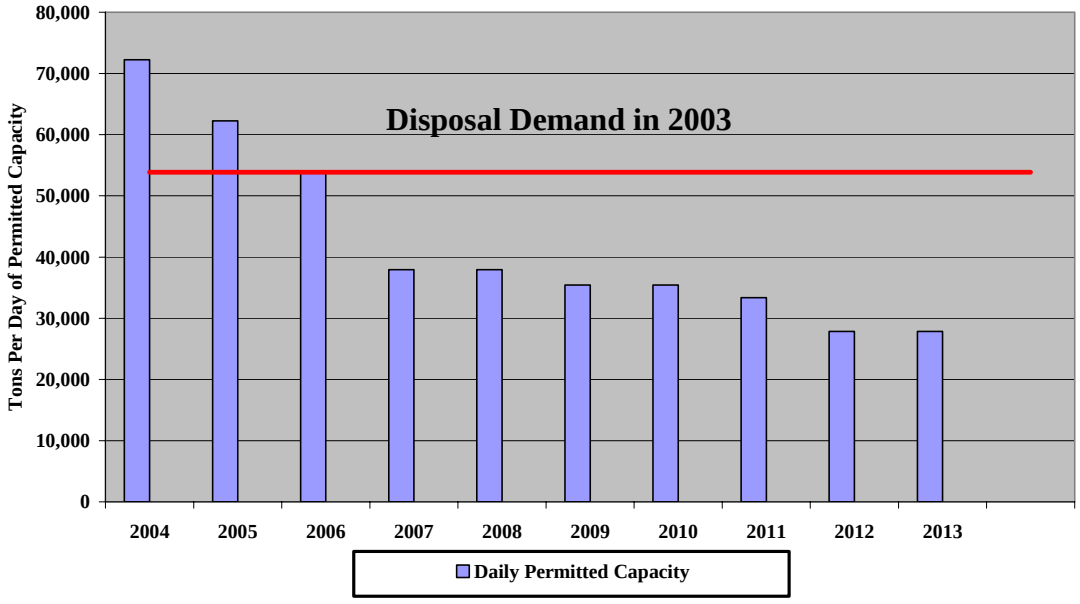
[48] Chart 1 was developed by the Comptroller's Office from the landfill capacity and permit data provided by PADEP for 2002 and 2003.

would grow from more than 4.8 million tons per year in 2007 to nearly 8 million tons per year in 2013.

If the large waste importing landfills from other regions do not operate at their maximum capacity in response to declining permitted capacity in other regions, the amount of waste that will have to shift from Pennsylvania to other states in the short-term is significantly higher. Chart 2 evaluates how the potential statewide shortage in DPC would be distributed between PADEP's six regions under the assumption that as the demand for disposal capacity becomes larger than the regional DPC, the excess waste is exported to other states.

Based on recent waste disposal trends in Pennsylvania, as disposal capacity has declined in close proximity to New York City and New Jersey, out-of-state waste has not shifted to other regions. Since 2001, nearly 2.2 million tons of out-of-state waste has been diverted from Pennsylvania. During this same period, New York State's in-state disposal rates increased by nearly 1 million tons and municipal landfills have seen their utilization increase to 90% in 2002 from 66% in 1998. Accordingly, it seems more likely that as disposal capacity declines in Pennsylvania, the volume of out-of-state waste will shift from Pennsylvania to other states.

Chart 1: Landfill Disposal Demand Compared to Daily Permitted Capacity at Large Waste Importing Landfills in Pennsylvania

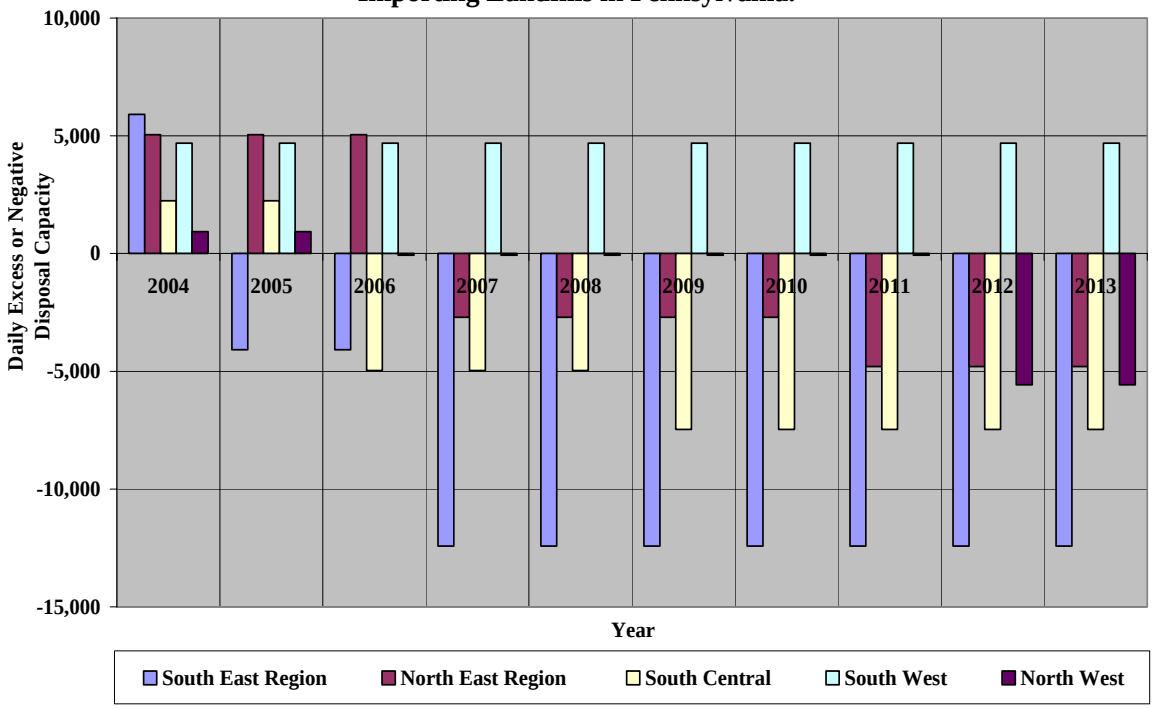


As can be seen in Chart 2[49], without the approval of landfill expansions or the siting of new landfills, there will be a significant shortage of waste disposal capacity in the three regions that currently manage the majority of the out-of-state waste imported to

[49] Chart 2 was developed by the Comptroller's Office from the landfill capacity and permit data provided by PADEP for the 2003. The North Central Region did not have any landfills that accepted more than 100,000 tons of out-of-state waste.

Pennsylvania. If PADEP does not approve new landfill expansions by 2007, the demand for disposal capacity will be greater than the DPC in the South East, North East and South Central Regions by more than 12,420, 2,704 and 4,971 tons per day respectively. Combined, these three regions will have a DPC shortage of more than 20,000 tons per day in 2007 or more than 6.2 million tons per year. Should major new waste importing landfills not be approved by 2013, the current demand for disposal capacity would be 30,000 tons per day or 9.2 million tons per year larger than the available permitted capacity. This looming shortage raises serious questions regarding the ability of Pennsylvania to continue to play a major role in meeting New York City's short- or long-term disposal needs.

Chart 2: Without New Landfills or Expansions, There are Large Gaps Between Daily Permitted Capacity and Disposal Demand at Large Waste Importing Landfills in Pennsylvania.



Although large waste importing landfills in the South West Region will continue to have excess capacity past 2010, landfills in this region will not be able to absorb the shortage of capacity that will be experienced by the North East, South East, South Central and North West Regions should landfill expansions not be approved by PADEP.

Though PADEP may not deny all of the requests for permit expansions by large waste importing landfills, the agency has taken a number of actions that will likely significantly reduce the amount of permitted landfill capacity available. PADEP denied Alliance Sanitary Landfill's request for an expansion when it found that the harms of the facility outweighed the benefits in May of 2001 and the facility recently withdrew

its appeal of this decision.[50] The Alliance Sanitary Landfill's DPC is 5,000 tons and will likely exhaust its capacity in 2007 based on its current utilization rate of approximately 1,900 tons per day. In 2003, 84 percent of the waste disposed of at the Alliance Sanitary Landfill was from out-of-state, of which more than 220,000 tons of was from New York State.

PADEP rejected the expansion applications to expand the Pottstown and Pine Grove Landfills due to significant deficiencies. While these landfills did not take large volumes of waste from New York, they represent the loss of landfills that had agreed to take large volumes of out-of-state waste in the past. PADEP has suspended its review of the Pottstown Landfill pending a ruling from the Federal Aviation Administration of the proposal's impact on the Pottstown Municipal Airport. The Pottstown Landfill will likely exhaust its capacity by the end of 2004 and will represent the loss of 5,333 tons per day of disposal capacity.[51] The volume of out-of-state waste disposed of at the Pottstown Landfill dropped from 131,000 in 2001 to 26,000 tons in 2003. PADEP rejected the Pine Grove Landfill's evaluation of the harms and benefits of its proposed expansion, without which PADEP does not consider the technical merits of the proposed expansion.[52] The Pine Grove Landfill is permitted to manage 1,500 tons per day and will likely exhaust its capacity by the end of 2006. In response to the uncertainty of this landfill continuing to operate, its utilization dropped by more than 70% between 2001 and 2003, with out-of-state waste disposed of at the Pine Grove Landfill falling from 105,000 tons to just 3,000 tons.

While PADEP recently approved an increase in disposal capacity for the Tullytown Landfill, which has a DPC of 8,333 tons, it will require new expansion permits by 2007 at its current rate of utilization. The Tullytown Landfill accepted 1.1 million tons of out-of-state waste in 2003, a decline of nearly than 1 million tons compared to 2001. New York State sent more than 696,000 tons of waste to the Tullytown Landfill in 2003, a decline of nearly 300,000 tons compared to 2001. The ability of this facility to meet the needs of New York City over the short-term is in serious question. PADEP may determine that the Tullytown Landfill will not be allowed to expand further due to a variety of environmental constraints which would prohibit any further physical expansion of the landfill. To replace this capacity would require the siting of a new landfill.[53] Given the current regulatory climate in Pennsylvania, it is likely that the approval process for siting a new landfill serving primarily out-of-state disposal needs will be lengthy.

The assessment of the reliability of the permitted landfill disposal capacity in Pennsylvania demonstrates the magnitude of the waste disposal crisis that could result should PADEP not approve landfill expansions in the very near future. Should landfill

[50] DEP Denies Alliance Landfill Expansion Application, PADEP Environmental Protection Update, May 18, 2001.
[51] DEP Returns Pottstown Landfill Expansion Applications, PADEP Environmental Protection Update, December 15, 2000; August 13, 2002 email communication from PADEP staff overseeing waste management facilities in the South East Region.
[52] Landfill Expansion Bid Nears Rejection, The Patriot News, August 8, 2003.
[53] August 13, 2003 email communication from PADEP staff overseeing waste management facilities in the South East Region.

expansions not be approved, New York City would likely experience significant increases in disposal costs as the supply of disposal capacity declines and/or have to shift large portions of its waste to disposal facilities located in states further away and incur increased transportation costs. Combined, large waste importing landfills that face clear, if not insurmountable, regulatory hurdles represent more than 20,000 tons per day of disposal capacity.

Status of Waste Disposal Capacity in Virginia

The public and private sectors in New York City currently require reliable daily disposal capacity for more than 8 million tons of waste per year, of which approximately 4.1 million tons is currently disposed of in Pennsylvania. As demonstrated, New York City may no longer be able to dispose of significant volumes of waste in Pennsylvania in the near future. Therefore, as the second largest importer of out-of-state waste from New York State and the nation, Virginia is likely to play a major role in meeting New York City's waste management needs.

The Virginia Department of Environmental Quality (VADEQ) has historically had few restrictions limiting the siting, permitting, or operation of landfills and delegated this responsibility to local jurisdictions. A number of waste management companies have taken advantage of this lax regulatory structure to develop large landfills that serve regional and national waste disposal markets. The four largest landfills receiving out-of-state waste in Virginia were permitted between 1989 and 1995.[54]

With the development of these large landfills, Virginia saw a rapid increase in the amount of out-of-state waste being imported during the 1990s. In response, VADEQ drafted a number of new reporting requirements and regulations governing solid waste management facilities in 1996.[55] Soon after the closure of the Fresh Kills Landfill and in response to proposals by Waste Management, Inc. to ship large volumes of the City's residential waste by barge to landfills in Virginia, the General Assembly passed legislation in 1999 that would have drastically restricted the volume of waste that could be managed by large landfills serving national/regional waste markets. The legislation was challenged in federal court and found to inappropriately restrict interstate trade by U.S. District Judge James Spencer. Virginia's efforts to gain approval of the legislation ended in March of 2002 when the U.S. Supreme Court refused to consider Virginia's appeal of the 4th U.S. Circuit Court of Appeals ruling finding that the legislation was unconstitutional.[56] In response to this decision, VADEQ is in the process of drafting new regulations which will presumably address some of the public's concerns with the impacts associated with the rise in waste imports while not running afoul of the federal interstate commerce laws. In July of 2003, VADEQ adopted regulations governing the movement of waste by barge.[57]

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[54] Report on the Management of Solid Waste in the Commonwealth of Virginia, A Historical Review, Prepared by VADEQ, November 1998.
[55] Ibid.
[56] U.S. Supreme Court Ends Virginia' Legal Fight to Curtail Out-of-State Trash, Associated Press, March 3, 2002.
[57] Virginia's Waste Management Board approved regulations governing the movement of waste by barge in July 2003. See http://www.deq.state.va.us/waste/pdf/wstregs/pregnsus.pdf.

Measuring Landfill Capacity in Virginia

To evaluate the volume and reliability of disposal capacity in Virginia, this report uses individual permit information and statewide summaries of the volume of waste disposed of, the volume of waste imported from other states, permit limitations on the amount of waste that can disposed of and remaining disposal capacity at all landfills between 2002 and 2003. The volume and origin of out-of-state waste disposed of at individual landfills in 2003 has not been released by VADEQ and this report uses data from 2002. Based on this review of VADEQ's landfill disposal data, this report found that there were relatively few facilities that accepted large volumes of out-of-state waste and/or were permitted to handle the volumes of waste necessary to meet New York City's daily disposal needs.

Table 8 provides a summary of the disposal trends for landfills accepting more than 100,000 tons of out-of-state waste in 2002 and disposal volumes and remaining capacities in 2003. Unlike Pennsylvania, which had 21 landfills that accepted large volumes of out-of-state waste, only six landfills in Virginia managed 99 percent of the out-of-state waste disposed of in the state in 2002. Just three landfills managed 90 percent of the waste imported from New York and 82 percent of all waste imported into Virginia in 2002. Between 2002 and 2003, Virginia imported an additional 1.1 million tons of waste and New York increased its exports to Virginia from 1.4 million to 1.8 million tons.

While the overall total excess daily disposal capacity at large waste importing landfills in Virginia is relatively large at more than 11,000 tons per day in 2003, 94 percent of this excess capacity is located at the Atlantic Waste and Charles City landfills operated by Waste Management, Inc. New York State is currently the largest exporter to both of these landfills, accounting for 67 percent of out-of-state waste disposed of at the Atlantic Waste landfill and 85 percent of the waste disposed of at the Charles City landfill. Of critical importance to New York City, VADEQ approved Atlantic Waste's request to expand its capacity, extending its life for approximately 10 years by adding 42 million tons of additional capacity between 2002 and 2003. Had VADEQ not approved this expansion, the largest waste importing landfill in Virginia would have had exhausted its permitted capacity in just 1.5 years if it operated at full capacity.

Combined, the Atlantic Waste and the Charles City Landfills are permitted to accept nearly 11,000 tons of additional waste per day. If New York City were allowed access to 100% of this excess capacity, an additional 3.4 million tons of waste could be shipped per year to Virginia. These landfills are well positioned to assume a greater volume of waste from New York. The Atlantic Waste landfill is accessible by rail and the Charles City landfill is accessible by barge. Currently, Waste Management sends waste through its inter-modal facility located in the Bronx by train to the Atlantic Waste landfill and has proposed shipping waste by barge to its Charles City facility. DOS recently issued regulations governing the siting of inter-modal barge and rail waste export facilities which may facilitate the development of private sector initiated inter-modal waste export facilities.

Table 8: Summary of the Permit Status of Landfills in Virginia Accepting More Than 100,000 Tons Per Year of Out-of-State Waste in 2002[58]							
Landfill	Total Volume Disposed (Tons)	Volume of Out-of-State Waste Disposed (Tons)	Waste From New York 2002	Daily Permitted Capacity	Excess Daily Permitted Capacity	Remaining Permitted Capacity (tons)	Year Permitted Capacity is Exhausted Operating at Maximum Capacity
Atlantic Waste	2,235,879	1,318,298	879,639	15,000	7,834	50,881,819	2015
Brunswick Waste Management (checking daily disposal)	1,966,600	926,946	206,204	3,329	-2,974	14,416,854	2018
King and Queen SLF	886,313	501,332	96,921	4,000	1,159	15,144,500	2016
King George County LF	1,335,675	744,457	0	4,000	-281	17,221,479	2018
Middle Peninsula SLF & Recyc. Cntr.	421,620	401,528	18,626	2,000	649	20,270,189	2036
Chambers Landfill Charles City WMI	572,556	280,168	238,950	5,000	3,165	15,724,482	2014
Total	7,418,643	4,172,729	1,474,634	33,329	11,648*	133,659,323	2016
*The landfills that appear to operate beyond their permitted capacity have been removed from the total							

While the volume of excess capacity at these two facilities is considerable, it is well below the potential 4.8 to 6.2 million ton annual gap possible in Pennsylvania in 2007. Further, operating at maximum capacity would result in Waste Management needing to apply for expansion permits in the relatively near future. In light of the concerns expressed by VADEQ regarding new landfills and landfill expansions, new permits may be issued in a more rigorous regulatory environment. If there is sophisticated and organized opposition to a landfill's expansion permit, final decisions by state regulators could be delayed for significant periods of time. Based on this review, it is clear that relying significantly on the existing volume of permitted disposal capacity in Virginia for New York City's long-term disposal needs is filled with significant risks.

Evaluation of Landfill Capacity in Ohio, Indiana, Illinois and South Carolina:

[58] Table 8 was developed by the Comptroller's Office using data supplied by VADEQ and the annual reports submitted by waste management facilities to VADEQ on the volume of waste managed.

Based on a review of the landfill capacity in Pennsylvania and Virginia, this report demonstrates how reliant New York City is on favorable rulings by state regulators to allow for the continued expansion or siting of waste importing landfills in these states. Further, the report demonstrates the serious inherent risks of New York City meeting nearly all of its disposal needs in two states whose regulatory processes can change significantly and thereby effectively reduce the volume of out-of-state waste that can be disposed of within its borders by limiting capacity expansions, lowering daily tonnage limits on landfills, rejecting the siting of new landfills and increasing impact fees.

Accordingly, if New York City is going to have reliable out-of-state waste disposal options for the short- and long-term, it will likely need to contract with a wider array of disposal facilities than it has in the past. There are a number of states in the Mid-West and South that are commonly discussed as having under-utilized landfill disposal capacity. These states are Ohio, Indiana, Illinois, and South Carolina. To evaluate the reliability and/or ability of landfills in these states to meet the needs of New York City, this report used landfill utilization and remaining capacity data supplied by the state agency which regulates the operation of solid waste management facilities in these states. A summary of the findings is presented in Table 9.

Table 9: Summary of Disposal and Capacity Information for Landfills Taking More than 100,000 tons of Out-of-State Waste in Ohio, Indiana, South Carolina and Illinois

State/ Reporting Year	Number of Landfills	Total Volume of Waste Disposed	Volume of Out-of-State Waste Disposed	Annual Excess Disposal Capacity	Remaining Permitted Capacity
Ohio (2003)	6	4,642,192	1,860,118 (2002)	5,497,808	35,581,583
Indiana (2002)	2	938,482	571,025*	No Annual Limits	15,331,882
Illinois (2002)	5	2,476,133	1,382,120	No Annual Limits	40,769,000**
South Carolina (2003)	2	2,142,328	812,425	1,002,611	30,311,512
Total	15	10,199,135	4,625,688	6,500,419***	121,993,977

*Nearly all of the waste imported into Indiana was from Illinois. **Sixty-two percent of permitted capacity was located at one landfill owned by Waste Management, Inc. *** Total for landfills with annual permit limitations.

As can be seen in Table 9, if 100 percent of the existing disposal capacity at these facilities were dedicated to waste from New York City, these four states could meet a significant portion of the City's waste disposal needs.

However, this is a highly unlikely scenario. Nearly all of the out-of-state waste disposed of at the two landfills taking more than 100,000 tons of out-of-state waste in Indiana came from the Chicago metropolitan area. In Illinois, the Milam Recycling and Disposal Facility accounted for more than 50 percent of the volume of out-of-state waste imported into the state and serves almost exclusively the St. Louis metropolitan area. These landfills are currently serving local markets and may not be willing to have their existing permitted capacity quickly exhausted by importing significant volumes of waste from outside their current service areas. For example, the Newton Landfill in Indiana accepted more than 400,000 tons of out-of-state waste will require permit expansions in 2005 at its current rate of utilization.

Landfills that are serving regional and national markets that could meet the needs of New York City are the BFI Carbon Limestone Sanitary Landfill and the American Landfill in Ohio. These two facilities managed 72 percent of the out-of-state waste disposed of within Ohio, had 3.4 million tons of annual excess disposal capacity and approximately 32 million tons of remaining permitted capacity in 2002. The American Landfill also has a permitted daily capacity of 15,000 tons, making it one of the largest operating landfills in the United States. However, the American Landfill will exhaust its current permitted capacity in 2007 at its current rate of utilization and has recently applied for approximately 56 million tons of new capacity. Local organizations have begun to organize against American Landfill's expansion, which may delay a permit decision.

In South Carolina a new regulatory structure for determining the permitted annual capacity of its existing landfills and restricting the siting of new landfills was adopted in June of 2000. The regulation requires that the State certify that there is a need for a landfill expansion or the siting of a new landfill prior to a permit application can be submitted for technical review. Among other restrictions, the regulations limit the total number of disposal facilities, establishes defined planning areas within which assessments are made as to whether there is sufficient solid waste disposal capacity to meet local needs and sets a maximum annual tonnage cap for which a facility may apply, which is based on the total disposal needs of the planning area where the disposal facility is located.[59]

As a result of South Carolina's regulatory changes, the Lee County Landfill where Allied Waste, Inc. had proposed taking 3 million tons of waste from New York City[60] has had its annual disposal capacity capped at 1.9 million tons. Should other states begin to take similar regulatory approaches to address their concerns regarding the import of out-of-state waste, the ability of New York City to meet its short- or long-term waste disposal needs would be quickly called into question.

One possible solution would be to utilize landfills that have large excess capacities that do not currently import large volumes of out-of-state waste. Landfills in Illinois and Indiana may be best positioned to accept significantly larger volumes of waste from New York City since there are no annual limitations on the volume of waste that can be

[59] See www.scdhec.gov/lwm/html/plan.html.

[60] "Efforts to Close Fresh Kills Are Taking Unforeseen Tolls", New York Times, February 21, 2000.

disposed. The Spoon Ridge Landfill in Illinois, which can be accessed directly by rail, has permitted capacity of nearly 40 million tons but has not opened due to a lack of disposal demand. Waste Management, Inc. recently gained control over the Cottonwood Hills Landfill in Illinois, which has 25 million tons of excess capacity and has seen its waste imports grow from 1,118 tons in 2000 to 210,548 tons in 2002. In Indiana, the Victory and Twin Bridges Landfills had more than 17 million and 15 million tons, respectively, of permitted excess capacity in 2002.

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