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Trash Talk: Solid Waste Disposal in New York City

Alexander Williams

Abstract:

In 2010, Americans produced 250 million tons of solid waste. Where does this massive amount of waste go after we throw it out? The majority of the waste is disposed of in landfills where it does not break down, produces poisonous leachate which can contaminate soil and groundwater supplies, and contributes twenty-five percent of America's methane emissions. The challenges and hazards of solid waste disposal are no more evident than in New York City. New York City residents produce over 50,000 tons of solid waste and recyclables every day. With the closing of the Fresh Kills Landfill on Staten Island in 2001, the disposal of this waste has become economically inefficient, politically problematic, and ethically questionable. In my thesis, I will detail the political aspects of New York City's solid waste disposal practices; and discuss the history and ethics of the disposal of New York City's waste.

The Mobro 4000

In March 1987, the *Mobro 4000* set out from Islip, Long Island, New York destined for Morehead City, North Carolina loaded with 3,100 tons of garbage. The *Mobro 4000* was chartered by Lowell Harrelson, an Alabama entrepreneur, who hoped to make money off barging garbage from New York to landfills along the East coast and off the methane produced by this garbage. Harrelson enlisted the help of Tommy Gesuale who, at the time, was the only man in New York City that privately barged garbage. With the \$300,000 backing of Gesuale and Salvatore Avellino of the Lucchese crime family, Harrelson believed that the *Mobro 4000* was a fool proof idea; he was dead wrong. On April 1, 1987, the *Mobro 4000* docked in North Carolina; it was met by several media outlets and inspectors. One inspector found a bed pan, a sign of possibly hazardous medical waste, in the *Mobro 4000's* cargo and turned the barge away. From North Carolina, the *Mobro 4000* traveled to Louisiana where it was again turned away by state inspectors. This trend continued as the barge traveled to Mexico, to Belize and to Key West, Florida, each time the *Mobro 4000* was barred from unloading its cargo. In May 1987, the Environmental Protection Agency sent inspectors to investigate the *Mobro 4000's* cargo; they found nothing untoward and the barge made its way back to New York City. Upon arrival, the *Mobro 4000* was again barred from entering the harbor due to several court orders filed by New York City council members who could not take the political hit of allowing the *Mobro 4000's* garbage to be dumped in their district. Finally, on May 12, 1987, in a comical and ironic ending to this five month saga, the town of Islip, the *Mobro 4000's* origin, chose to accept the barge's cargo after it was incinerated in Brooklyn. Throughout the *Mobro 4000's* voyage, the barge was covered extensively by the media; the "gar-barge" was a favorite nickname. This media

attention brought to light the many issues of solid waste disposal in the United States. In 1987, around eighty percent of America's garbage was destined for the landfill; ten percent was incinerated; and only ten percent was recycled. At the same time, thousands of landfills were closing nationwide, sparking widespread panic over where our garbage was going to be disposed of. The *Mobro 4000* became a symbol of this growing concern and it marked a turning point in recycling and composting efforts around the country. In 1988, only 1,000 communities in the United States had curbside recycling programs; by 2000, half of the country's population was able to dispose of their recyclables in curbside bins. This massive increase was due, in part, to the *Mobro 4000's* journey.

So were the fears generated by the *Mobro 4000* warranted? Yes and no. The thousands of landfills closing in the late 1980's were mostly small open dumps that were being shut down by new regulations put in place by the Environmental Protection Agency. While these dumps were disappearing, large-scale regional landfills, which complied with EPA regulations, were opening. In general, landfill space was not decreasing; it was being centralized.



In terms of exporting garbage, the *Mobro 4000* and Lowell Harrelson were ahead of their time. In 2013, New York City exports around 23,000 tons of garbage per day; this garbage travels a total of 500,000 miles to landfills in South Carolina, Virginia, Pennsylvania and Ohio among other states. This amount of trash is equivalent to seven *Mobro 4000*'s a day, fifty a week, and twenty-six hundred a year. These staggering numbers detail just one aspect of the unsustainable solid waste disposal practices employed in New York City today. I begin this thesis paper with a discussion of the *Mobro 4000* fiasco because it was a microcosm of the larger questions I will be investigating. Mainly, what is the most efficient and sustainable way to dispose of New York City's solid waste?

Introduction

Americans produce an incredibly large amount of waste on an annual basis, 250 million tons to be exact. Needless to say, this trash must be disposed of somewhere that is out of sight and out of mind. I'd like to introduce the landfill. Also known as a dump, landfills are sites used for the disposal of waste materials. They date back thousands of years, historically a landfill was known as a midden, when they were used as disposal sites for domestic waste such as human excrement, animal bone and plant material. As a result of the large amount of trash produced by Americans, landfills in this country are rapidly reaching capacity. According to the EPA, in 1979, there were 18,500 landfills open for operation; this number has dropped drastically in the last thirty years. In 2006, there were only 1,754 landfills still able to receive waste and this number is consistently decreasing. Due to this lack of landfills, the disposal of solid waste in the United States relies more and more on long-haul trucking. This reliance has only contributed another detrimental environmental impact to the problem of waste disposal – greenhouse gas emissions from trucks. Coupled with the environmental concerns already present, such as soil and groundwater contamination and methane emissions, waste disposal in landfills poses a serious risk to environmental health in this country. In this thesis, I will focus on New York City's solid waste disposal practices and argue that a concentration on recycling and a barge-based disposal network is the most effective way to sustainably and responsibly dispose of this metropolis' waste.

The History and Politics of Incineration

The modern environmental movement received a un expected shot in the arm with the election of Ronald Reagan as the 40th President of the United States in 1980. Reagan and his

appointees, all known deregulation advocates, sought to tear down the agencies they deemed unnecessary; one such agency was the Environmental Protection Agency. In 1981, Anne Gorsuch was appointed the administrator of the EPA. During her tenure from '81 to '83, Gorsuch did everything in her power to eviscerate and dismember the EPA. From severely cutting the EPA's budget to utterly mishandling Superfund sites, Gorsuch was universally despised by environmental organizations. The environmental movement was reignited by the Gorsuch administration's actions and policies. At this time, the movement changed its rhetoric and goals. Environmental organizations now sought to level the playing field with corporations through new laws and regulations that protected national resources and interests. A main goal was to reinvent the corporation and encourage sustainable production.

The reigniting of the environmental movement had a large impact on New York City. The Brooklyn Navy Yard Incinerator was originally proposed under Mayor Edward Koch's administration as part of a large-scale incineration plan. The plan called for the construction of many incinerators throughout the City. The administration believed the plan would solve many of New York City's solid waste disposal problems, mainly the increasing costs and decreasing space in regional landfills. However, due to opposition, by 1985, the plan was pared down to just one incinerator per borough. The Brooklyn Navy Yard Incinerator was the most controversial of the remaining incinerators and the fight that ensued brought all of New York City's political interests into the public eye.

The first major hurdle for the Brooklyn Navy Yard Incinerator's approval was obtaining legal and financial advisers for the project. In 1984, Koch was able to secure this support.

Miraculously, the Mayor achieved this feat without the support of the City Council president or the Comptroller. The Department of Sanitation then had to approach the Board of Estimate's final approval for the project. Norman Steisel, the head of the Sanitation Department, placed in charge of acquiring this approval. In 1985, Steisel gathered a group of influential New Yorkers to secure the necessary votes. These men included: Samuel Lindenbaum who was in charge of wooing Andrew Stein, Manhattan's Borough President; Sid Davidoff who was of doing the same with Donald Manes and Stanley Simon, representatives of the Bronx and Queens respectively; the Fishers, Brooklyn socialites were dispatched to keep Howard Golden, the borough's President, quiet; and Howard Rubenstein was fittingly placed in charge of public relations. With this crack team, Steisel secured the Board of Estimate's approval in 1985.

After securing the approval of the Board of Estimate and the City Council, the only hurdle left for the Brooklyn Navy Yard Incinerator was to secure permits from the New York State Department of Conservation. This department, a product of the environmental movement of the 1970's, had to determine whether or not the Brooklyn Navy Yard Incinerator complied with regulations before its construction began. During the permitting process, the Brooklyn Navy Yard Incinerator was met with many objections. The main objections were registered by Barry Commoner, the National Resource Defense Council (NRDC), the Environmental Defense Fund (EDF), and the New York Public Interest Research Group (NYPIRG).

Barry Commoner was a native of Brooklyn, New York; the son of Russian Jewish immigrants. He received a bachelor's degree in zoology from Columbia University and a master's and doctoral degree in biology from Harvard University. After serving in World War

II, Commoner became a professor at Washington University in St. Louis, Missouri. During his time at Washington University, Commoner became a distinguished professor, founded the Center for the Biology of Natural Systems, and was one of the founders of the environmental movement. Commoner was also a leader in the discovery and testing of the environmental impacts of dichlorodiphenyltrichloroethane, or DDT, and dioxin. In the mid 1960's, Commoner first noticed DDT effects on the osprey population of Gardiners Island, New York. The chemical was wreaking havoc of this population because it was thinning the bird's egg shells. Due to this research, as well as the work of Rachel Carson's *Silent Spring*, DDT spraying was banned in 1972. As mentioned, Barry Commoner also performed extensive research on the occurrence and effects of dioxin. In 1978, dioxin was first found in emissions from a Swedish incinerator. This same occurrence of dioxin was noticed by Commoner in the emissions from an incinerator in Hempstead, New York. As a result of this discovery and further research, Commoner determined that mass-burn incinerators, like the Brooklyn Navy Yard Incinerator, synthesized dioxin. This by-product of incineration, Commoner said, would harm at least 421 New York City residents if the incinerator was constructed and put into use. These claims caught the attention of the NRDC and the EDF, who joined the fight to stop the construction of the Brooklyn Navy Yard Incinerator.

The Environmental Defense Fund, founded in 1967, is a nonprofit environmental advocacy group that advocates, generally, for economic, or market-based, solutions to environmental problems. A main goal of the EDF in the late 1980's was to implement an alternative handling system for New York City's recyclables known as source-separation

recycling. This new system would require New York City residents to separate their waste into garbage and recyclables. Prior to the original Board of Estimate vote on the Brooklyn Navy Yard Incinerator, the EDF released a report that weighed the costs of incineration and the costs of recycling; they found recycling to be much cheaper. As a result of this report and the EDF's ultimate goal, the organization extracted an agreement from Norman Steisel to establish a recycling program that was equivalent, in funding and infrastructure, to Steisel's waste-to-energy plans. In return for the development of a recycling program, the EDF would support the Brooklyn Navy Yard Incinerator.

The National Resource Defense Council, founded in 1970, is a nonpartisan, nonprofit environmental advocacy group that uses mainly litigation to protect the environment. The NRDC, much like the EDF, sought a deal with Steisel in exchange for the organization's support of the Brooklyn Navy Yard Incinerator. They wanted acid capturing devices included in the design of the incinerator's smokestacks. The NRDC, along with the EDF, also obtained permit that guaranteed the Brooklyn Navy Yard Incinerator's closure if a maximum level of airborne pollutants was exceeded. Steisel, and his architects, obliged and the support of the NRDC was secured.

Although the concessions won by the EDF and the NRDC were important, they displayed what Barry Commoner called "soft path" environmental politics. The "soft path," according to Commoner, "is the easy one; it accepts the private corporate governance of production decisions and seeks only to regulate the resultant environmental impact" (Miller 246-247). The best solution to fighting the Brooklyn Navy Yard Incinerator was "hard-path" environmental politics.

“The hard path is the difficult one; it would confront the real source of environmental degradation – the technology choice – and debate who should govern it, and for what purpose” (Miller 247). This tactic was employed by the New York Public Interest Research Group, or NYPIRG (nigh-purg). NYPIRG, heeding the advice of Saul Alinsky to make weaknesses into strengths, mobilized thousands of student volunteers to fight the Brooklyn Navy Yard Incinerator. This group was seen as a weakness prior to NYPIRG’s work because it was dormant; thousands of able-bodied and educated young adults, and their talents, were wasting away on college campuses in and around New York City. NYPIRG successfully harnessed this untapped power and the rewards were tremendous. The leader of these volunteers was Arthur Kell, a graduate of the Oberlin Conservatory of Music, who was charged with defeating the Brooklyn Navy Yard project. Although Steisel and his cohorts had secured political approval from the necessary New York City bodies, the NYDEC still had to issue permits before construction could begin at the Brooklyn Navy Yard; this is where NYPIRG and Kell focused their efforts. NYPIRG, sticking with its “hard path” line, did not support the EDF, the NRDC, and the NYDEC’s plan to extract a recycling law from Steisel in exchange for support of the Brooklyn Navy Yard Incinerator. Instead, NYPIRG sought to bypass the customary paths through which regulations and policies are determined. So, in 1987, Kell started canvassing door-to-door in the City and began forming a locally-based coalition of community members and organizations that could block any sort of waste management compromise.

A key component of Arthur Kell’s fight against the Brooklyn Navy Yard project was the ash produced in the incineration process. Ash is a by-product of incineration. When solid waste is burned, a residue remains of the grate of the incinerator; this residue is known as ash. The

amount of ash that remains is determined by the efficiency of the incineration process. Of interest to Kell was the fact that ash produced through incineration is toxic; its toxicity is determined through lab tests that recombined ash with reagents that are slightly stronger than acidic rainfall that occurs on landfills in the Midwest and Northeast. In general, the toxicity of ash is quite low and does not pose a major threat to the environment if disposed of in a landfill. In fact, raw garbage in landfills can produce much higher levels of toxicity than ash. This fact did not matter to Kell; ash was new and unknown, the public had not yet formed an opinion on how to properly dispose of it. NYPIRG and Kell seized this opportunity and by the end of their campaign, ash was the most toxic of toxic in the public's eye.

The first victory for Arthur Kell came in 1986. At this time, Wheelabrator-Frye Inc., the company behind the Brooklyn Navy Yard Incinerator, had tried to circumvent the permitting process by hiring a freelance judge instead of waiting for a judge from the NYDEC to become available. Kell filed a lawsuit, on the last possible day of hearings, with the NYDEC "charging that a conflict of interest was produced by having a permit applicant pay hearing costs" (Miller 256). This tactic was rewarded with unimagined success. The appellate court hearing the case ruled in favor of Kell and the freelance judge was disqualified. When the NYDEC was finally able to hear Wheelabrator's case more than a year had past. During this year, 1987, amendments to the Clean Air Act had passed which placed far more stringent regulations on emissions from facilities such as incinerators. As a result of these new regulations and existing concerns, the hearing process lasted for sixteen months; this prolonged process gave NYPIRG another chance to turn the public against the Brooklyn Navy Yard Incinerator. In early 1988, Governor Mario

Cuomo began receiving letters in droves from Staten Islanders asking him not to allow ash to be disposed of in Fresh Kills Landfill. In November, Staten Islanders registered an official protest when they strung ten thousand anti-ash signatures across three garbage trucks in front of one of the entrances to Fresh Kills. Although this protest showed galvanized support against the Brooklyn Navy Yard project and secured a ban on dumping ash at Fresh Kills, all signs suggested that the NYDEC would rule in favor of the project. Governor Cuomo's and Mayor Koch's administration were in favor of the project and their power seemed to be turning the tide against NYPIRG and Kell. However, in a surprise ruling, the DEC Commissioner, Thomas Jorling, ruled against the Brooklyn Navy Yard Incinerator. This decision, according to members of Jorling's staff, "surprised the hell out of everyone" (Miller 257). No matter the reason for Jorling's decision, it breathed life back into NYPIRG's campaign.

However, three months later, in March of 1989, Wheelabrator had devised what they believed to be an infallible solution to the Arthur Kell problem. Wheelabrator was now part of the multinational waste hauling giant, Waste Management Inc. As part of this merger, Wheelabrator secured the rights to one third of Waste Management's landfill space. This acquisition put Wheelabrator in prime position to finally secure permits for the Brooklyn Navy Yard project. But Kell was not done fighting; he responded to Wheelabrator's newfound optimism by pointing out a clause in the DEC regulations that required companies to identify the specific landfill, or landfills, that would be receiving the incinerator's ash. Wheelabrator countered by identifying the Fairless facility in Falls Township, Pennsylvania as the accepting landfill. Kell, his days numbered, travels to Falls Township in a last ditch effort to stop the

Brooklyn Navy Yard Incinerator's construction. Upon arrival at the location of the Fairless facility, Kell realizes that it does not exist. He immediately contacts the local newspaper, the *Bucks County Courier Times*, and the story of the Fairless facility is published three weeks later. Needless to say, Wheelabrator was utterly disgraced and thwarted once again by Kell. The only options Wheelabrator could rely on at this point was that Commissioner Jorling would lift the ban on dumping ash at Fresh Kills or grant variance from the requirement of identifying the ash-receiving landfill. The Fresh Kills option was eliminated when bore tests showed that the designated ash area did not have thick enough or uniform deposits of clay underneath it. Jorling struck down the variance option and, for the time being, the Brooklyn Navy Yard Incinerator was defeated. Kell almost singlehandedly had defeated the project by vilifying ash and making its export outside the city unacceptable.

In 1989, David Dinkins, New York City's first African-American Mayor, was elected. Despite Dinkins' campaign pledge to place a moratorium on the Brooklyn Navy Yard Incinerator project, one of his first actions was to appoint Norman Steisel, former DSNY Commissioner and incineration lobbyists, to the post of first-deputy Mayor. This appointment was heavily scrutinized by environmental and community groups within the city because, although Steisel had made great strides in terms of efficiency while leading the Sanitation Department, he was not known for his environmental track record. One of Steisel's main issues was with the newly enacted New York City recycling law, or Local Law 19. This law, a product of the fight over the Brooklyn Navy Yard project, had eliminated the majority of the gains Steisel had made as DSNY Commissioner. Steisel had a personal vendetta towards this law mainly because the

implementation of Local Law 19 was highly inefficient in its early years. To combat this problem, Steisel wanted to increase the length of and decrease the overall number of collection routes. Unfortunately, Brendan Sexton, Steisel's successor, had set floors on the number of routes; therefore, the number of routes could only go up, not down. Sexton had to go, so Steisel replaced him with Steven Polan, an accomplished labor negotiator. Polan immediately set to work by threatening the sanitation labor unions with privatization. If the unions would not accept fewer routes, then Polan would privatize the collection of recyclables. This method was not uncommon as about two thirds of American cities were using private companies to haul trash and recyclables in 1990. Polan's approach may have worked, but Steisel chose a different path. He was going to eliminate the recycling program all together if the sanitation unions did not comply with his requests. In order to accomplish his goal, Steisel proposed a budget in 1990 that contained zero funding for recycling. This action sparked a mass exodus, a brain drain, of workers from the recycling department. It also caused a large public outcry. From celebrities to community organizers, Steisel's decision was almost uniformly opposed by the public. The immense opposition to the elimination of the recycling budget eventually forced Steisel to reverse his decision. However, Local Law 19 was still far from perfect and it would take a large-scale collaborative effort to solve this law's many issues.

One of the main obstacles to properly implementing Local Law 19, and any solid waste disposal practice, at this time was another law that resulted from the Brooklyn Navy Yard project debate. This state law required every locality to make a plan on how to dispose of, decrease, and recycle their waste in an economically and environmentally practical manner over the next

twenty years. For New York City officials, this task was extremely difficult because of the sheer size and variety of waste the city produces. Many questions had to be answered such as: what is in the waste? Where does the waste come from? What recovered materials are marketable? In order to acquire the necessary information, the Department of Sanitation deployed teams to collect data from every borough over a one year period. During this time, the teams weighed each collected item in three hundred seventy five tons of waste. With this data, the DOS convened a committee of representatives from community boards, environmental groups, civic groups and elected officials and business and real estate interests. This committee met every other week in a collaborative and transparent manner to discuss how to effectively implement a new waste management system. Barry Commoner, among others, applauded and praised this committee for its breadth of knowledge and inclusion of vastly different opinions and interests. However, the progress of the DOS committee would come to screeching halt in September of 1991 with the publication of a New York Times article.

This article, titled “NEW INCINERATORS TERMED ESSENTIAL IN NEW YORK,” featured an interview with the DOS Commissioner, Steven Polan. In this interview, Polan stated that the only way for New York City to properly solve its growing waste problem was to construct as many as three new incinerators within city limits. In Polan’s own words, “The city collects 14,500 tons of waste a day. ‘Even with very aggressive recycling, we still need to burn 10,000 tons’” (nytimes). The administration’s plan was to build up to three new incinerators and expand three existing incinerators to burn sixty eight percent of the city’s waste. This construction would cost one billion dollars. The DOS drafted this plan because they believed

they could not reach the recycling goals set by the state; only twenty five percent of New York City's solid waste was economically feasible to recycle, Polan argued. This small percentage was due to the inability of recycled material markets to efficiently allocate NYC's recyclables and to the ever decreasing amount of landfill space in and around the city.

The administration's and Steven Polan's comments united the many environmental and community groups in New York City, much like Anne Gorsuch's reign as EPA administrator had on a national scale. They provided these groups, such as NYPIRG, with the ability to frame the administration as environmentally unconscious and not having New York City residents' best interest at heart. These organizations created a new slogan to counter the administration's plan; they called it "RECYCLE FIRST." This counter plan suggested that the city establish the degree to which waste reduction, recycling and composting programs could absorb the city's waste before investing in and moving forward with any new incineration plans. One aspect of this plan was a campaign organized by NYPIRG called "The Campaign for Recycle First." This campaign enlisted the help of hundreds of volunteers that canvassed the streets of New York City spreading the word about the benefits of recycling and the dangers of incineration. It was the largest grassroots campaign focused on an environmental issue in the city's history.

As a result of this counter-campaign and the increasing pressure of the DOS, Steven Polan resigned. He was replaced by Emily Lloyd, the first female head of a uniformed New York City agency. Lloyd, a handpicked appointee of Steisel's, made her first order of business the advancement of the Brooklyn Navy Yard Incinerator project; the once dead incinerator was now thrown back into the fray. In order to counter Lloyd's proposition, NYPIRG introduced a

bill into City Council through Walter McCaffrey, a representative from Queens, which would give the Council the power to veto any waste management plan proposed by an administration. The bill passed with thirty four of City Council's fifty one members voting yes. After the vote, the affirming members all stood in solidarity on the City Council steps and declared that they would never approve the present administration's incineration plan; this pledge would be put to the test.

Lobbyists for garbage disposal behemoths, such as Waste Management Inc, were following close behind the NYPIRG campaigners. Using their vast resources and influence, these lobbyists began to turn the tide against NYPIRG and its affiliates. Emily Lloyd was also handing out political concessions left and right to help garner support for the Brooklyn Navy Yard project. In Staten Island, Lloyd secured votes by guaranteeing that no ash would ever be dumped at Fresh Kills Landfill. In Brooklyn, Lloyd promised the closure of New York City's second to last existing incinerator; this decision erased nearly two thirds of the incinerator capacity that her three thousand ton proposal relied on. Further reflecting the shifting support for Lloyd's incineration plans was a frank statement from Peter Vallone, the Council Speaker, "Every car is an incinerator" (Miller 276). Ultimately, Lloyd and the industry lobbyists were able to secure the necessary votes and the administration's plan passed. However, at this stage, the plan was a shadow of its original self and it had been stripped of any sense of intellectual credibility.

After the incineration plan passed, Lloyd immediately reopened the permit application for the Brooklyn Navy Yard Project even though she had agreed to develop a full scale recycling program first; this just another shoddy political action to add to the list. A Virginia landfill was

chosen to receive the leftover ash and the Brooklyn Navy Yard Incinerator looked to be on its way to construction. Arthur Kell enters the conversation once again. Kell points out that in restarting the permitting process, Lloyd initially contacted an administrative judge which violated the rules governing contact between applicants and judges. Lloyd apologized for this misstep and Thomas Jorling, DEC Commissioner, allowed the proceedings to continue on one condition. The Brooklyn Navy Yard Incinerator would be required to purchase enough nitrogen dioxide credits to offset the incinerators emissions. Jorling thought this would defeat the project because of the lack of credits available on the market; however, Kell was not assured of this outcome and continued his resistance. He filed a preliminary injunction against the project to delay the permit issuance until after the deadline, therefore defeating the project. Jorling overrode Kell on the basis that the permit was first filed for several years ago and that the present deadline only applied to new permits. Kell then brought his complaint to the New York State legislature which ruled against Jorling, but gave the city one final chance. At this time, thousands of small-scale incinerators located in apartment building across the city were being shut down. The state legislature allowed the city to use emissions credits from these incinerators in their calculations for how many new credits would have to be purchased for the Brooklyn Navy Yard project. The city would be able to find and purchase the necessary emissions credits and the project seemed to be on its way to securing permits. However, good fortune came, the ever-present, Arthur Kell's way once again. In early 1993, an internal leak to Kell blew the Brooklyn Navy Yard project's case wide open. The Department of Sanitation had found polychlorinated biphenyls, or PCBs, and fuel oil in the soil at the Brooklyn Navy Yard site; they

failed to mention this finding in their environmental impact statement report. This intentional cover up led to a large-scale investigation and the recently elected Mayor Rudy Giuliani, seeing no solution to this continuing problem, delayed funding for the Brooklyn Navy Yard Incinerator until 1999. Arthur Kell had, once again, bettered his opponents at the DOS and City Council and won a great victory for the citizens of New York City.

The Giuliani Administration and Fresh Kills Landfill

Upon entering New York's City Hall, Mayor Rudy Giuliani immediately began scaling down the previous administration's waste management plan. Giuliani's plan eliminated funding for public recycling education coordinators, mixed-waste garbage trucks, advertising plans to reduce waste, a pilot composting facility, and six materials recovery plants. The Mayor's 1994 budget cut the recycling collection budget, added no new materials to the collection list and decreased collection frequency from once a week to twice a month. It was evident to all involved parties that Mayor Giuliani's main goal was to cut costs and decrease government influence, not look out for the New York City environments best interests. However, a decision Giuliani was about to make went above and beyond anybody's expectations.

Guy Molinari, Staten Island's Borough President, was a third-generation fighter and despiser of Fresh Kills Landfill. With Giuliani's election as New York City's Mayor and George Pataki's election as New York State's Governor, Molinari finally saw his chance to shut down the massive landfill. In 1996, in a closed door meeting between Giuliani and Molinari, a date was set for the closure of Fresh Kills Landfill; not surprisingly, this date fell on Giuliani's last day in office. The reason for this decision has never been disclosed, and most likely never will be, but it smelled of the scent of politically back scratching. Staten Island has long been the

backbone of Republican support in New York City; its voters were one of the main reasons both Giuliani and Pataki won their respective elections. These two men owed Molinari, and his constituents, a favor and they were about to get it. When the bill proposing the closure of Fresh Kills reached the legislature floor in Albany, no one opposed it; it passed virtually unnoticed, somewhat like a formality. This bill drew significantly less attention than Steven Polan's interview in the New York Times several years earlier even though the editorial pages had warned against the economic consequences of exporting waste. This fear was about to turn into a reality, as the city was set to enter into and depend upon the largest set of private contracts in city history with the closure of Fresh Kills. The fact that not a single bit of information as to why Fresh Kills was closed has ever been released to the public can not be stressed enough. As of today, there have been no statements about research done on the closure's effect on public or environmental health or on New York City's economy. At the time of Giuliani's decision, conservative estimates stated that Fresh Kills could remain open for another twenty years. However, with efforts to reduce waste, recycle and compost more materials, Fresh Kills could very easily receive waste from New York City for another fifty years. Giuliani, to the best of the public's knowledge, cared little for these facts and Fresh Kills Landfill, the receiver of forty percent of New York City's waste, was simply shut down, end of story.

The economic impact of this decision is astounding. The value of the remaining one hundred million cubic yards of capacity at Fresh Kills was estimated at six billion dollars in 1996. With a projected seven percent annual increase in disposal fees and thirteen thousand ton per day increase in waste generation plus at least twenty years of inflation, the economic value of

this landfill capacity was astronomical. Furthermore, by closing Fresh Kills, Giuliani increased New York City budget by one hundred million dollars a year. For a Mayor who prided himself on cutting almost one hundred seventy million dollars a year out of NYC's budget by throwing one hundred sixty thousand people of welfare and gutting the Board of Education funding, this decision defies logic. Lastly, Giuliani played right into the hands of the waste management industry by closing Fresh Kills. New York City would now solely rely on private contracts to dispose of its solid waste leaving future generations of New Yorkers vulnerable to this oligarchic industry.



The Ethics of Borough Equity

Environmental justice is a movement that fights against environmental racism, or the placement of environmentally harmful facilities, such as landfills and toxic waste dumps, in low-income and minority neighborhoods and communities. This movement began in the early

1980's after an incident in Warren County, North Carolina. Afton, North Carolina was a rural, low-income, primarily African-American community and, in 1982, they opposed the placement of a hazardous waste dump in their vicinity. The state authorities who determined that Afton was an ideal location for this new dump had dismissed the many concerns of registered by Afton resident while making their decision. This utter disregard for the residents of Afton's well being was met with fierce opposition; residents lied in the middle of the road in order to stop the advancing garbage trucks. This incident, and the subsequent protests, shed light on a larger issue and was the first major milestone of the environmental justice movement. Protests leading up to the Warren County incident included the fight for workplace rights by Latino farm workers under Cesar Chavez in the early 1960's. In 1967, African-American students protested the placement of a landfill in their Houston neighborhood; and, in 1968, residents of West Harlem fought against a new sewage treatment plant in their community.

As the Afton protests grew, prominent Civil Rights leaders found a new cause and quickly headed for the small Southern town. These leaders, such as Reverend Ben Chavis and Reverend Joseph Lowery, brought with them many of the same tactics used during the Civil Rights Movement. They planned to use marches, rallies, petitions, coalition building, education, litigation and nonviolent direct action to fight against environmental racism. After the Afton protests, the environmental justice leaders began to notice a pattern: an overwhelming majority of pollution-producing facilities are located in low-income and minority communities. These communities had trouble fighting against these facilities because they lacked political and monetary power, they were less educated about the negative environmental impacts of these facilities, and, in Latino communities, information provided only in English was difficult to

understand or unintelligible all together. A General Accounting Office (GAO) study performed in 1983 found that seventy five percent of hazardous waste landfills in eight Southeastern states were located in low-income and minority neighborhoods. In 1987, the United Church of Christ's Commission for Racial Justice released a report titled "Toxic Wastes and Race in the United States." This report concluded that the single most important factor in the placement of toxic waste facilities was race and that these placement practices were an intentional result of land-use policy. In 1990, Robert Bullard, a foremost scholar of environmental racism, wrote *Dumping in Dixie: Race, Class, and Environmental Equality*. This book affirmed and supported the environmental racism claims of the environmental justice movement.

With these findings and reports behind them, environmental justice leaders set out to bring their message to the United States as a whole. In 1990, these leaders challenged the most powerful environmental organizations, such as the NRDC and the EDF, to address issues of environmental racism. Until this point, these organizations had not confronted issues pertaining to race and social class. Matthew Gandy writes in *Concrete and Clay: Reworking Nature in New York City*, "The main difference between the mainstream environmental movement and its detractors is rooted in the tension between the protection of poor neighborhoods and the protection of affluent neighborhoods" (Gandy 225-226). The detractors, mainly the environmental justice movement, believed ignoring the connection between race, social class, and environmental degradation was unacceptable. By challenging large, national environmental organizations, this fledging movement was able to make environmental racism a national issue. After challenging the nation's largest environmental organizations, environmental justice leaders

turned their attention to the federal government. They sent letters to leading figures in George H. W. Bush's administration requesting that policy recommendations pertaining to issues of environmental racism be developed. These letters led to the creation of the Environmental protection Agency's Office of Environmental Equity. Continuing from this success, in 1991, the environmental justice movement convened a summit of leaders in Washington, District of Columbia, to develop the "Principles of Environmental Justice" and a "Call to Action" for the movement. These documents formed a solid basis for the environmental justice movement and made its message and goals concrete and undeniable. After all this groundwork was put in place, the environmental justice movement won its largest victory to date on February 11, 1994. On this date, President Bill Clinton signed Executive Order 12898 which directed all federal agencies to determine and address the disproportionately high adverse health and environmental impacts of their decisions on low-income and minority communities. With this landmark legislation, the environmental justice solidified its place on the national scale. What was and is the movement's impact on New York City?

The closure of Fresh Kills Landfill had multiple negative consequences, one of them being the increased use of waste transfer stations, or WTS. At its peak, Fresh Kills handled around thirteen thousand tons of waste per day; the majority of which was barged to the landfill from several locations around New York City. This barge-based system was centered on marine transfer station (MTS) and existed until the late 1980's. At this time, city officials decided to increase the tipping fees at Fresh Kills from eighteen to forty dollars per ton. This decision was made in order to increase the longevity of the landfill, which ironically would be shut down just

a decade later. The increase in tipping fees had a negative aspect; it drove private waste disposal companies away from Fresh Kills and its associated marine transfer station network. This shift brought about the rise of waste transfer stations which relied on long haul trucking to dispose of garbage. These WTS are disproportionately located in low-income and minority neighborhoods in New York City's outer boroughs. In 2013, there are fifty eight waste transfer stations in New York City; thirty two of these facilities are located in just two neighborhoods: the South Bronx and Williamsburg/Greenpoint in Brooklyn. These neighborhoods handle over sixty percent of the twelve million plus tons of waste that flows through waste transfer stations annually. Waste transfer stations are associated with high rates of dust, cockroaches, and large rats the size of small pets. Areas around these facilities are subjugated to increased levels of truck traffic, diesel fuel emissions, traffic backup, putrid odors and noise pollution. These negative environmental impacts have lessened the quality of life for residents in the vicinity of waste transfer stations; specifically, the incidence of childhood asthma is much higher, twice the national average, in affected neighborhoods. The vulnerability of low-income and minority neighborhoods to the effects of waste transfer stations post-Fresh Kills made New York City's waste disposal practices an environmental justice issue. One of the foremost organizations fighting against the usage of waste transfer stations was the Organization of Waterfront Neighborhoods (OWN). This organization was formed in 1996 with the announcement of the closure of Fresh Kills. OWN is a coalition of twenty four members from neighborhoods, such as the South Bronx and North Brooklyn, which are burdened by waste transfer stations. The coalition fights against policies that exacerbate the problems associated with waste transfer stations, specifically those related to

asthma. Their main platform or message is borough equity, or the idea that each borough should handle and dispose of its own waste. OWN also critiqued NIMBYism; they saw this idea as one of the main reasons the majority of waste transfer stations were located in the neighborhoods they were fighting for. With strong support from the community, OWN has been able to raise awareness about the negative impacts of waste transfer stations on low-income and minority neighborhoods in New York City. So, how did these neighborhoods come to bear the burden of these facilities? An aspect of OWN's name – waterfront – provides a hint.

In post-World War II New York City, the economy has shifted from an industrial and manufacturing-based model to an intellectually driven one. The globalized economy that developed during the latter half of the twentieth century favored intellectual capital. This shift spelled the rise of multinational companies focused on industries such as banking, insurance, and technology, just to name a few. With these companies increased power, came increased demand for real estate in well known cities around the world. In New York City, Manhattan is a prime example of this kind of real estate. The new interest in land of New York City's central island caused real estate prices to skyrocket. This increase in price meant that it was no longer a viable option to handle waste in Manhattan. The waste for New York City's most affluent borough would now be handled solely in the outer boroughs where cheap land was readily available. This shift in waste management practices formed a borough and neighborhood hierarchy in New York City based on race and social class.

This new mindset did not end at New York City's limits. The city now effectively reigned over the cheap rural space of most of the East Coast and parts of the Midwest. New

York City looked down upon these regions and determined they were acceptable disposal areas for the city's garbage. Mayor Rudy Giuliani famously stated that, "People in Virginia like to utilize New York because it is a culture center and business center. What goes along with being a business center is that we're very crowded, and we don't have room to handle the garbage...so this is a reciprocal relationship" (Sze 119). Statements like this, and the ideas that backed them, from prominent New York City figures showed just how domineering the city had become in its solid waste disposal practices.

Returning to New York City itself, successive mayoral administrations, starting in the 1940's, saw New York City's prime real estate as too valuable for manufacturing uses. This changing sentiment led to the transformation of the waterfront from a thriving industrial area to one that was only needed for disposing of waste – a completely unproductive form of land use. Polluting these areas was now deemed acceptable and the waterfront, along with its inhabitants, fell into utter disrepair.

Privatization of solid waste disposal in New York City also had environmental justice implications. At the turn of the twentieth century, private companies were generally viewed as corrupt and predatory. As a result, public works, such as sewer systems, were viewed as necessary especially in terms of accountability. This sentiment made a full one hundred and eighty degree shift by the late twentieth century. At this time, private companies were viewed as more competitive and, therefore, more efficient. Also, the ideas of anti-government and anti-regulation proponents were gaining traction throughout the nation. In New York City, there is a split between public and private waste disposal. The city government, under the Department of

Sanitation, handles residential waste, while a myriad of private companies handle commercial waste. This split was maintained virtually unchanged until 1995 when the Manhattan district attorney Robert Morgenthau broke apart the organized crime ring that controlled private hauling in New York City. This syndicated organization included twenty three firms, seventeen executives, and four trade organizations. After Morgenthau's victory, the price for hauling commercial waste, which had been inflated, plummeted by thirty and seventy five percent. This decrease allowed more private firms to enter the market and increased competition. While the public does not have a large incentive to fuel competition for public contracts, private contractors stand to gain large amounts of money and power by securing and controlling the market for public contracts. In order to secure these contracts, private companies must be efficient, innovative, entrepreneurial and flexible; all attributes that are no longer associated with the public sector. The major problem with the increased competition between private companies is that these firms are driven by profits. They do not concern themselves with issues of public welfare unless regulated by the government to do so. This attitude or culture leads to environmentally racist practices. Evidence of this fact can be found in New York City where private companies have chose to locate the majority of their waste transfer stations in two low-income and minority communities: the South Bronx and North Brooklyn.

Globalization of the American economy has also created issues of environmental justice in New York City. The new global economy of the late twentieth and early twenty first centuries has removed New York City from its physical limits by commoditizing garbage. The process of commoditization has resulted in New York City shipping its garbage to rural and international

landfills thousands of miles away. This new form of solid waste disposal is controlled by multinational waste corporations. In this last decade, virtually every state in the Midwest, and several on the East Coast, has begun accepting New York City's garbage. These states include Connecticut, Florida, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Ohio, Pennsylvania, Virginia and West Virginia. With landfill space in these states decreasing rapidly, New York City may begin exporting its waste to developing countries where environmental regulations are less strict – recall the voyage of the *Mobro 4000*. The increase in waste export is a result of the consolidation of waste management companies in the late 1990's. In 1998, USA Waste acquired Waste Management for thirteen and a half billion dollars. This consolidation formed the largest waste disposal company in the world. At this time, Allied Waste also acquired Browning Ferris to form the second largest waste company in the world. As a result of these mergers, in 2000, only four companies accounted for eighty five percent of the waste industry's revenue. Further evidence for these mergers affect on waste disposal practices can be found in the number of states who exported waste before and after this time period. In 1989, only thirteen states and Washington D.C. exported waste; by 2000, this number had increased by sixty eight percent to forty seven states.

The local impacts of global consolidation were immense. In the late 1990's, Waste Management secured its first contract in the South Bronx. Brown Ferris was soon to follow and both of these companies had atrocious environmental records. Waste Management faced over six hundred government pollution citations between 1980 and 1992 and Browning Ferris admitted to two hundred and seventy civil penalties between 1981 and 1991 (Sze 225). With the

USA Waste and Waste Management merger, these companies controlled forty percent of New York City garbage industry and seventy to ninety percent of the waste volume passing through waste transfer stations. By 2001, USA Waste/Waste Management and Allied Waste/Browning Ferris controlled sixty five percent of New York City's waste transfer station capacity. In 2002, just three short years after securing its first contract, Waste Management secured thirty two percent of garbage transport and thirty eight percent of waste disposal capacity within one hundred miles of New York City. The instantaneous rise to power experienced by this small number of multinational corporations was disastrous for the public and environmental health of neighborhoods located near waste transfer stations. For these corporations, garbage is a commodity, it is money, and it is profit. These companies have no incentive to decrease the amount of waste that is produced because this decrease would result in the reduction of their profit margin. These companies actually are incentivized to increase garbage production especially if they own both the waste transfer stations and the landfill space, as many do. This perverse incentive system produced by the garbage industry results in increased negative effects of waste transfer stations on New York City residents. It also has formed an unsustainable disposal network built on export. What if other states begin refusing New York City's garbage? How will waste be disposed of then?

In 1996, with the issuance of New York City's first solid waste management plan (SWMP), solutions to the city's waste disposal issues began developing. Mayor Rudy Giuliani and Governor George Pataki assembled a task force to suggest solutions to New York City's garbage woes. This task force recommended that the city utilize marine transfer stations, cautioned against exporting waste and highlighted borough equity as key aspects of a sustainable

solid waste disposal plan. In his administration's final report, Mayor Giuliani, in typical fashion, disregarded all of these suggestions and instead chose to rely on waste transfer stations that exported garbage and overly burdened low-income and minority communities. This report, issued in 1998, called for the construction of new facilities in Brooklyn and New Jersey and did not perform any study into whether or not existing marine transfer stations could be utilized. OWN immediately and vehemently opposed Giuliani's plan, as they should have. OWN's slogan was "Recycle, Reduce and Retrofit." They wanted to implement a system that emphasized recycling, reduced the waste stream, and retrofitted existing marine transfer stations. Giuliani's plan, OWN feared, would only contribute to the problems facing their communities, not mitigate them. Through OWN and other organizations protests, a draft environmental impact statement of the SWMP was released in 2000. This report focused on a barge-based export system and contained plans to retrofit five existing marine transfer stations around the city; an option the previous SWMP stated was a technical impossibility – thanks Giuliani. Building off this plan, in 2002, the newly elected Mayor Michael Bloomberg issued his administration's conceptual SWMP. This plan also supported reducing truck traffic, retaining municipal control of waste disposal to guard against the previously described private companies and increasing recycling efforts. These ideas would help reduce asthma rates around the city and retain jobs for city workers as well as reduce the waste stream. Bloomberg's plan, which focused on many environmental justice issues, was approved by the NYDEC in 2007 and is presently being implemented around the city.

Recycling also carries with it issues of environmental justice. The United States has a long history of recycling; in fact, the throwaway culture witnessed today is actually the new phenomenon. Several recycling options exist in modern times, these include: waste reduction, pre-consumer recycling, product reuse, primary recovery and secondary recovery. Primary recovery is the most commonly used form and it involves collection through curbside pickup, street bins and centralized sorting facilities. Proponents of recycling praise the practice for conserving natural resources, preventing pollution, saving energy and reducing the amount of garbage that is landfilled or incinerated. Opponents of recycling deride the practice for costing more resources than it saves, producing pollution, and being more expensive than landfilling waste. The reality of the situation is that recycling, just like waste disposal, is a commodity-based profit-driven industry with large private firms competing for public contracts. These companies generally employ low-income and minority workers who occupy an out-of-sight out-of-mind status. The experience of these workers is made invisible because community and environmental groups normally seek only to form recycling programs, not to police them. In New York City, recycling is highly inefficient even to this day; however, it is wholeheartedly supported by organizations such as OUN who believe recycling to be the best way to reduce the waste stream and decrease the effects of waste transfer stations. In an ironic twist, these organizations, by not investigating recycling facilities work environments, are supporting an industry that negatively affects the mental and physical health of residents of the neighborhoods they seek to protect.

Solutions

As stated, Mayor Bloomberg's SWMP focused on increasing recycling efforts around the city and implementing a barge-based waste disposal network. In this section, I will detail the specific facilities that the Bloomberg SWMP advocates.

Recyclables

The Sims Municipal Recycling Facility will be located in the South Brooklyn Marine Terminal on the 30th Street Pier. This facility is part of larger effort by the Sims Hugo Neu Corporation (SHN) to accept, process and market metal, paper and glass (MGP) and mixed paper in New York City. It will utilize a network of existing SHN marine transfer stations to receive materials from every borough. This facility is projected to decrease in-city truck traffic by fifty five thousand miles per year.

The West 59th Street marine transfer station is the current site for mixed paper recycling in the city; this paper is processed on Staten Island. The administration plans to retrofit this facility to accept commercial waste, but at present this is not a possibility. In order to make this goal a reality, the SWMP suggests retrofitting the Gansevoort Street marine transfer station which has not been used by the DOS since 1991. Reopening this facility would allow for an efficient truck-to-barge transfer system in Lower Manhattan, allow the West 59th Street station to be upgraded and adhere to the principle of borough equity. The overall benefits of constructing and retrofitting these recycling facilities are numerous. They include the maintenance of the city's curbside MGP program for at least the next twenty years; the equitable distribution of transfer stations among city boroughs; an increase in the recovery rate of recyclables; an opportunity to produce and market new recovered materials is increased; the stabilization of

costs in the long term; a barge-based disposal network for recyclables; and the creation of local jobs.

Garbage

The East 91st Street marine transfer station will handle waste from four Manhattan districts. This station is a foremost step in borough equity since it would be the only transfer station in Manhattan handling garbage.

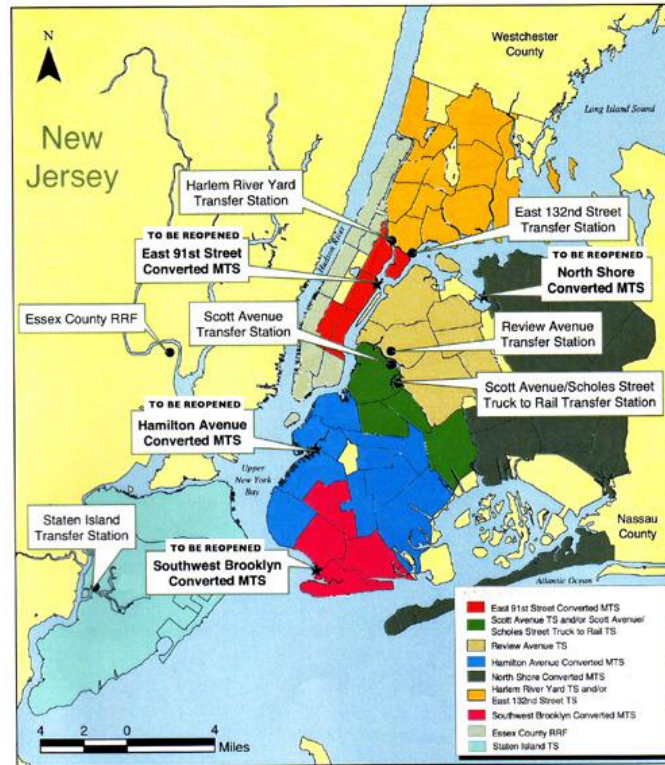
The North Shore marine transfer station in Queens will handle waste from eight Queens districts and significantly reduce pressure on the Jamaica neighborhood which presently has a concentration of waste transfer stations.

The Hamilton Avenue marine transfer station will handle waste from ten Brooklyn districts and the Southwest Brooklyn marine transfer station will handle waste from the remaining 4 districts in this borough. These stations play a vital role in reducing pressure on the neighborhoods of North Brooklyn near Newtown Creek where the city's highest concentration of waste transfer stations is located.

Retrofitting these four marine transfer stations would, once again, implement a barge-based disposal system and increase borough equity in New York City.

PlaNYC

Along with Mayor Bloomberg's solid waste management plan, the present New York City administration released PlaNYC in 2007. This plan sought to prepare New York City for a projected one million additional residents, increase economic development and combat climate. The plan deals with a myriad of issues, one of them being solid waste management. Several solutions are proposed and I will cover the most important solutions in this section.



New York City needs to begin reducing its waste stream. In order to achieve this goal the city must promote waste prevention opportunities. These opportunities include decreasing the use of plastic water bottles, plastic bags and paper. New York City has some of the best tap water in the United States; residents should utilize this supply by using reusable water bottles. In New York City, over five billion plastic bags are collected annually. These bags weigh a combined one hundred and ten thousand tons and cost ten million dollars to dispose of. If New York City residents began using readily available reusable bags, these numbers could be significantly reduced. Every year, New York City generates two and a half million tons of waste paper, only half is recycled. If residents began reducing their paper usage through electronic means and recycling more paper, this number would drop drastically.

The Department of Sanitation must increase its recovery of resources. This goal can be achieved by incentivizing recycling, improving the convenience of recycling and recovering organic materials. If the city developed programs similar to others like LEED certification, then more businesses would be encouraged to recycle in order to gain recognition. The present state of recycling in New York City is confusing. With different bins and bags for almost every material, residents have trouble complying with city codes and laws. By simplifying these codes, the city could increase recycling rates among its residents. Furthermore, increasing the number and availability of public recycling bins would increase the recovery rate. At present, the DOS does not have any system in place for the recovery of organic materials. These materials are quite valuable as they can be turned into compost that can be used in city parks and community gardens. Organic waste is also extremely heavy because of its high water content. This attribute makes disposing of this waste in landfills highly inefficient because it cannot be transported in as large a quantity as other materials. In landfills, organic matter also produces high rates of methane emissions because it breaks down in anaerobic conditions. Methane is an environmentally harmful greenhouse gas that contributes around sixteen percent of the greenhouse effect. By recovering and composting organic materials, the DOS could improve the city's parks and decrease the city's greenhouse gas emissions.

Conclusion

Throughout New York City's history, solid waste disposal has been one of the most complicated issues the city has faced. In the modern era, this issue has only become more complex as the city's production of waste has increased, a recycling program has been

implemented and environmental justice advocates have fought to protect certain neighborhoods. Moving forward, the city must adhere to the principles first suggested by Mayor Giuliani and Governor Pataki's solid waste disposal task force – borough equity and a barge-based system. These principles, coupled with increased recycling efforts, have been embodied by the plans developed under the Bloomberg administration. If subsequent Mayors continue the work of this transformative administration, New York City's solid waste disposal system will be sustainable and efficient for many years to come.

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