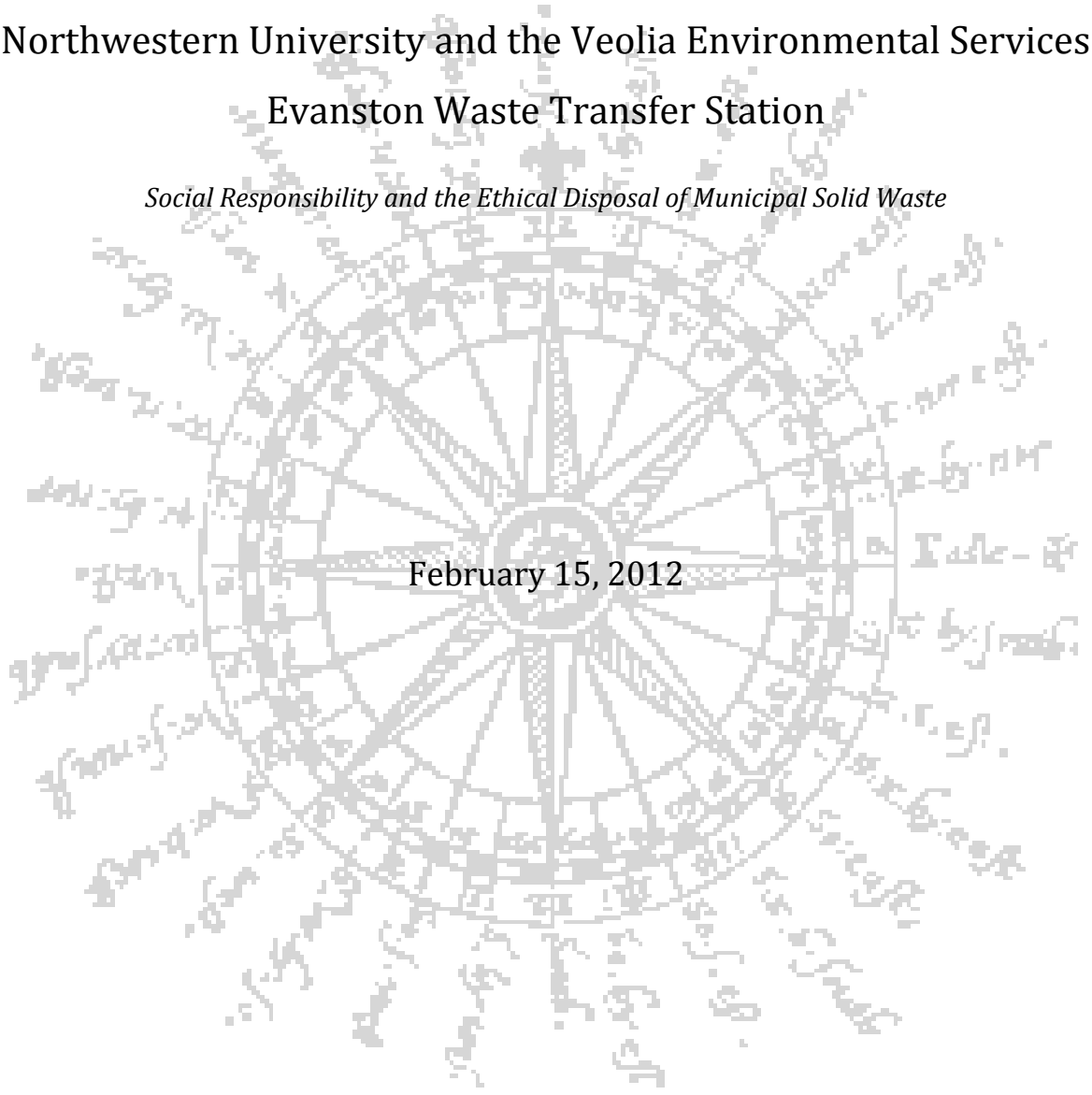
Northwestern University and the Veolia Environmental Services Evanston Waste Transfer Station

Social Responsibility and the Ethical Disposal of Municipal Solid Waste



February 15, 2012

The Brady Scholars in Ethics in Civic Life

Class of 2012

Contents

EXECUTIVE SUMMARY

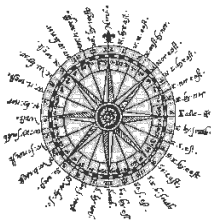
In light of the problematic nature of Veolia Environmental Service's Evanston waste transfer station, the Brady Scholars have identified several ethically viable waste disposal alternatives that present themselves to the University Administration. Our research indicates that multiple solid waste haulers capable of handling major clients like Northwestern University serve the northern Chicago metropolitan area, and that these waste management companies operate a variety of responsibly sited solid waste transfer stations in our region.

We urge the University Administration to consider our findings as Northwestern's solid waste disposal is tendered to haulers through a competitive bidding process, and we strongly encourage the Administration to make the avoidance of the Veolia Evanston transfer station a condition for all future waste management contracts with the region's haulers. We are convinced that taking this feasible, socially responsible step – a moral imperative, as we will argue – would greatly improve the University's relationship with the Evanston community. It would also demonstrate Northwestern's commitment to environmental sustainability and social justice, rendering our University more competitive with other top schools that make extensive efforts in these issue areas.

This White Paper is divided into four sections. The first explains the purpose of the Brady Scholars Program and why our class chose this project; the second explores why the issues raised by the controversial Veolia Evanston waste transfer station are important in a local as well as in a national context; the third describes the legal history of the transfer site and Veolia's corporate conduct in matters regarding this station; the fourth recommends appropriate alternatives to Veolia's waste disposal practices and highlights the benefits of increasing Northwestern's environmental sustainability through redirecting our University's solid waste stream to other, less objectionable transfer sites.

The findings, arguments and proposals compiled in this document are the result of nearly three years of research, deliberation and planning. As Northwestern students and Evanston citizens, we are deeply committed to strengthening the ties that bind our two communities, and we are convinced that the implementation of the following recommendations will make an effective, visible and, above all, morally *good* contribution to improving our University's relationship with Evanston residents and leaders.

The Brady Scholars Class of 2012



I. The Brady Scholars Program; Choosing a Senior Year Project

I.1. The Brady Scholars Program

The Brady Scholars Program in Ethics in Civic Life is dedicated to educating ethical leaders of tomorrow. As the program's website states:

> "Universities carefully teach the skillfulness and craft of the academic disciplines. Students are prepared for national and international leadership. Yet, what has challenged our society most profoundly in the last decade has not been American ingenuity, mastery, or dedication; rather, it has been questions about the possibility of achieving ethical leadership within civic life."[1]

To this end, each year a group of sixteen undergraduate students is selected through a competitive application process. This group then participates in three ethics seminars throughout sophomore year; the seminars include *The Good Self*, *The Good Neighbor,* and *The Good Society*. The three seminars each have thematic focuses, transitioning from theories of individual morality to interpersonal morality, then on to societal or global morality. After reading and discussing the works of thinkers such as Aristotle, Plato, Kant, Habermas, and Pogge, the Brady Scholars are called upon to choose an ethical issue inspired by this education. At the end of sophomore year, the Brady class votes on an issue that affects the Northwestern and Evanston communities and then studies abroad during junior year, in part to observe how other societies around the world tackle the issue the students have chosen to address. After months of deliberation, discussion and voting, the 2012 senior class of Brady Scholars decided to examine the often tense relationship between the Northwestern University community and its Evanston neighbors. Committed to being good neighbors, the 2012 class of Scholars spent senior year engaged in a project that emphasizes the moral obligations and civic responsibilities inherent in the Northwestern-Evanston relationship.

I.2. History of Veolia's Evanston Waste Transfer Site

Beginning as a family-owned business in the second half of the 20th century, a small garbage dump in Evanston's Fifth Ward gradually grew into a large waste management operation. In 1984, the dump was transformed into a waste transfer station (WTS), in what is historically a low-income segment of West Evanston; over 80% of residents in Census Tract 8092 – the area in question – are

[1] Brady Scholars Program in Ethics in Civic Life. *About Us*, February 14, 2012, http://www.bradyprogram.northwestern.edu/about.htm.

black or Hispanic.[2] The original permit to operate a WTS in this location was awarded to the locally owned Active Service Corporation (ASC) in compliance with Illinois Environmental Protection Agency (IEPA) standards of the time. The site was subsequently controlled by Browning-Ferris and later by Onyx, the latter ultimately being acquired by Veolia Environmental Services (Veolia ES, VES) North America.[3] The WTS is located on the north side of Church Street, just south of Darrow Avenue, and is still maintained by Veolia today.[4]

Veolia Environmental Services began as a small, family-owned business in the mid 1900's, and has since grown into a huge multinational corporation. According to its website, "VES is the world's largest waste services company, with over 100,000 employees in 42 countries generating revenues of $13 billion in 2009."[5] The Fifth Ward waste transfer station would unlikely be able to obtain an IEPA permit today, as it stands on just 1.69 acres of land[6] and is so close to local residences that some claim they can touch the WTS's fence from their windows.[7] Although this raises a number of environmental and health concerns (see II.2. *Environmental and Health Effects of Municipal Solid Waste*), the City of Evanston can do little to change Veolia's operation: The site was "grandfathered" into compliance with IEPA regulations. That is, since the site met IEPA standards when it was issued its operating permit in 1984, it is virtually immune to newer regulations with which is does not comply.

Resident concerns related to the WTS, which have been the subject of neighborhood complaints for decades according to Fifth Ward Alderwoman Delores Holmes,[8] include dust, noise, vermin, possible infrastructural damage and potentially harmful chemicals emanating from the 500 tons of garbage that the WTS processes daily. According to Ashley McIlwee of the City of Evanston Health Department, Veolia has made efforts to pick up trash, use white noise technology and odor masking sprays to pacify complaints. Veolia cites having spent $3.5 million to erect a structure enclosing the transfer station, but many residents have found this addition less than satisfactory. In the summer of 2011, after years of local complaints to Alderwoman Holmes, the City of Evanston issued its first citations against the station over odor and noise complaints.[9]

---

[2] YoChicago. *A loose history of Evanston*, 5 September, 2011, http://yochicago.com/a-loose-history-of-evanston/23809/.

[3] Helt Gavin, Mary, "Tonnage Fees Imposed on Waste Transfer Station Could Generate Lawsuit." *Evanston Round Table*, August 16, 2011.

[4] City of Evanston. *Maps*, February 14, 2012, http://www.cityofevanston.org/evanston-life/maps/.

[5] Veolia Environmental Services. *About Us*, February 14, 2012, http://veoliaes-wte.com/About%20Us.

[6] Illinois Environmental Protection Agency (IEPA). *Region Two: Chicago Metropolitan Landfills, Transfer Stations, Compost Facilities (2009)*, accessed February 9, 2012, http://www.epa.state.il.us/land/landfill-capacity/2009/region-2.pdf.

[7] Cohen, Rebecca, "Neighbors complain of odor, trash from local waste site." *The Daily Northwestern*, July 27, 2007.

[8] Meeting with Evanston Mayor E. Tisdahl and Evanston Fifth Ward Alderwoman D. Holmes, February 2, 2012.

[9] Yousef, Odette, "Summer ripened fight over Evanston waste station." *WBEZ.org*, September 29, 2011, http://www.wbez.org/story/summer-ripened-fight-over-evanston-waste-station-92574#.

Given the predominantly minority and low-income demographic of Evanston's Fifth Ward, the history of Veolia's waste transfer station here has not only health and environmental implications, but major social ones as well (see II.1. *Environmental Justice*). Evanston's Fifth Ward and West Evanston more broadly have been excluded from funding and have not experienced the same level of economic progress that has allowed other districts in the City to thrive.[10] Employing few Evanston residents, the Veolia WTS does little for the Fifth Ward community – one could say it has done more harm than good, in fact. By driving down property values and contributing to a generally unsavory atmosphere, the site is a malignant force that potentially hinders growth and perpetuates social inequality in Evanston.[11]

I.3. The Brady Scholars and Evanston Community Organizers

In the spring of 2011, a group of Evanston residents approached the Brady Scholars class of 2012 as potential partners in a civic engagement project. Several moral issues related to the Northwestern-Evanston relationship underlie the citizens' disturbing personal stories about living near the transfer station and their commitment to resolving this community problem. We quickly realized that we could apply our skills and resources to addressing these matters in cooperation with the informally organized citizens' group, *Evanston Citizens for Environmental Justice*, that aims to "bring environmental justice to Evanston's West Side so that people of all ages can live, work, play, and attend school in a clean, green, and economically vibrant neighborhood."[12] In the summer of 2011, our class of Brady Scholars began researching the citizens' group through various local news stories, through the group's website (DumptheEvanstonDump.com), and through the official City of Evanston records on ordinance violations for the Veolia WTS that had been supported and compiled by *Evanston Citizens for Environmental Justice*.

Evanston Citizens for Environmental Justice, describes itself as a "grassroots group of concerned citizens and students looking to educate our neighbors, the media, and our local, state, and federal representatives of the damaging effects of the Evanston Veolia Waste Transfer Station operating one block from Evanston Township High School, across the street from Mason Park, and right next door to residential homes." [13] The group aims to inform its audience about what it describes as an outdated and impractical environmental situation in their neighborhoods, as well as to improve Evanston's West Side in order to help the City progress toward reaching the goals of its 2007 master plan.[14] (In 2007 – and after months of community consultation – the City of Evanston

---

[10] *Ibid*.

[11] Wong, Brittney, "Evanston's west-side disparities." *The Daily Northwestern*, March 2, 2010.

[12] "Home."*Dump the Evanston Dump*, accessed February 2, 2012, http://www.dumptheevanstondump.com/index.html.

[13] Helt Gavin, Mary, "Veolia Hands Evanston a Carrot and a Stick." *Evanston Roundtable,* January 18, 2012.

[14] "Flyer." *Evanston Citizens for Environmental Justice*. accessed February 2, 2012, http://www.dumptheevanstondump.com/uploads/4/1/3/3/4133461/evanston_citzens_for_environmental_justice_flyer.pdf.

published this detailed master plan for improving the City. The plan broadly aims to raise the quality of living for all Evanston residents. It makes no mention of accommodating the Veolia WTS.)

Most of the group's records regarding Veolia's violations and City action taken against the transfer station can be found on the *Evanston Citizens for Environmental Justice* website. The Brady Scholars have been working with the citizens' group to update and improve the quality of that information, thereby helping the group make its case more effectively; we are preparing an additional White Paper for *Evanston Citizens for Environmental Justice* with recommendations for the group's future strategy and tactics. The citizens' long-term goal is to become permanent advocates for environmental justice in Evanston, which may entail seeking official recognition as a 501c3 organization.[15] This would allow the group to fund-raise and participate as a single entity in legal proceedings.

The Brady students have been working alongside *Evanston Citizens for Environmental Justice* for months to enhance the coherence and delivery of the group's message, to improve the quality of the information that the group provides, as well as to raise awareness of the citizens' cause within the Northwestern community. By conducting independent research on Northwestern University's implication in Veolia's controversial Fifth Ward operation and by bringing this issue to the attention of the University Administration, the 2012 class of Brady Scholars hopes to win the lasting support of Northwestern's leadership for the promotion of environmental justice in Evanston. By introducing other student groups to the problems caused by Veolia's WTS, and by fostering collaboration between on-campus student organizations and *Evanston Citizens for Environmental Justice*, we are laying the groundwork for a sustainable solution to this community problem.

I.4. Neighbors, Ethics, and Waste Disposal

For its senior project, the 2012 class of Brady Scholars decided to tackle a concrete problem related to the often tense relationship between the Evanston and Northwestern communities. Over the summer of 2011, *Evanston Citizens for Environmental Justice* approached Professor Laurie Zoloth, the director of the Brady Scholars Program, seeking the Brady students' help with the citizens' group's WTS campaign. As Northwestern students and Evanston citizens, the Brady Scholars' unique positioning allows us to act as a bridge between the Northwestern and Evanston communities. Our work on this project has provided resources to *Evanston Citizens for Environmental Justice*'s "Dump the Evanston Dump" campaign, and we have spoken to the University Administration on numerous occasions about how Northwestern can contribute to resolving the issues of environmental injustice that underlie that citizen initiative.

[15] White, Kristen. *Telephone Interview*. November 7, 2011.

In further efforts to perpetuate the 2012 Brady Scholars' project, we have contacted Northwestern student groups that will work with *Evanston Citizens for Environmental Justice* in the future; they will take on various collaborative projects, such as producing a video for the campaign's website. Environmental groups on campus may also be able to help the University further reduce its overall solid waste output and increase the proportion of recycled waste within that output; because Northwestern's recyclables are not transferred through Veolia's Evanston WTS, this would diminish the University's contribution to the controversial site's waste flow.

By working on this project, the 2012 class of Brady Scholars is able to provide support to the Fifth Ward community and, by doing so, to explore a facet of Northwestern's troubled interaction with Evanston. As a class of civically minded students examining the moral implications of Northwestern's use of Veolia's Evanston waste transfer station, we see the University's contributions to this WTS as a reason for grave apprehension: The WTS, situated in a low-income area of Evanston, serves relatively affluent parts of the City (including our University) and surrounding high-income suburbs; the site's proximity to residential housing, to the Evanston high school, and to a heavily frequented park gives rise to serious health and safety concerns. Our research has convinced us that if a similar WTS were located in a more affluent part of Evanston, the troubling condition of the station and related health and safety concerns would have been addressed years – perhaps decades – ago. For moral reasons, we cannot accept Northwestern's ongoing contributions to Veolia's Evanston site that continue to strain Evanston-Northwestern relations.

II. Waste Transfer Sites in National Perspective

II.1. Environmental Justice

Environmental racism is racial or socio-economic discrimination, intentional or unintentional, in enforcement of environmental rules and regulations; waste management facilities are placed in minority and low-income communities as a result. Environmental justice advocates seek to correct the inequality in distribution of environmental burdens. They are concerned about the negative environmental effects of disproportionate refuse-dumping in poor and minority (especially poor African American and Hispanic) communities. These communities are often exploited by more wealthy and powerful groups because they lack political influence. Negative environmental effects (see II.2. *Environmental and Health Effects of Municipal Solid Waste*) are often a direct result of waste and industrial sites located in or near these residential areas. In addition to this environmental impact, waste sites often have a negative effect on both the health and the economic status of such facilities' neighbors. A national conversation regarding environmental justice is gaining in prominence. Increasingly, attention is being paid to the practice of dumping waste in poor and minority communities. This problem is not specific to Chicago or to Evanston; rather, research shows that these injustices are occurring across the country.

II.1.a. Race, Poverty, and Environmental Burdens

According to the latest available Census demographic maps provided by the City of Evanston, the Fifth Ward, where the Veolia WTS is located, is disproportionately African American relative to the rest of the City.[16] While there are no comprehensive data on income distribution by Evanston's Wards, our research and conversations with City officials seem to confirm the notion that the continuing operation of Veolia's Evanston WTS in the Fifth Ward represents an instance of environmental racism against a predominantly poor minority community.

Environmental justice is at the moral core of the Veolia waste transfer site issue. Northwestern's use of the site is morally impermissible: By transferring its waste through this WTS, the University tolerates patterns of environmental racism. By dumping in the Fifth Ward, we are promoting the ongoing abuse of the poorest Evanston citizens in order to meet the needs of the City's most privileged residents. We could not imagine allowing our neighbors in Evanston to dump trash on or near our beautiful campus; however, dumping University trash in the Fifth Ward – quite literally in the back yards of Fifth Ward residents – is tolerated. As civically minded students committed to promoting social justice, we believe that this practice is deeply unethical. To end our

[16] City of Evanston. *Maps*.

University's practice of dumping waste in an underserved community would not merely constitute a symbolic gesture; this would be a new way of shaping the City as a place of justice.

II.1.B. Environmental Racism and the Environmental Justice Movement

Significant research has been done to examine and support the concept of environmental racism, and many of the guiding ideas are consistent. The basic shared perception of environmental justice activists and researchers, as summarized by Professor Robert Bullard, director of the Environmental Justice Resource Center at Clark Atlanta University, is that "People of color, working class people, and poor people are disproportionately impacted by air pollution, municipal solid waste landfills and incinerators, toxic waste sites, lead smelters, toxic fish consumption, and childhood lead poisoning."[17] Another writer, Rachel Massey, from the Global Development and Environmental Institute at Tufts University, frames the issue by saying that "minority and low-income communities often bear a disproportionate share of environmental costs."[18]

One of the most prolific authors on the topic and a pioneer of the environmental justice movement, Bullard focuses on specific locations and cases of environmental injustice, using household data and case studies to support his ideas. His book *Dumping in Dixie: Race, Class, and Environmental Quality* is an exploration of the disproportionate amount of pollution and other environmental stressors in black neighborhoods in the South. Bullard argues that most unwanted uses for land have followed a historical trend he names the "path of least resistance"[19]: Toxic dumping sites, chemical plants, and waste facilities end up in low-income and minority communities because these communities have very limited political support and influence. They lack advocates and lobbyists, and are silenced even at the local level. The moral demand for social equity in this field is not met because the distribution of harmful sites is concentrated in powerless communities.

In her 2004 paper "Environmental Justice: Income, Race, and Health," Massey points to the strong link between race and location of hazardous waste facilities.[20] She also describes how environmental contaminants affect the health of communities, which increases the injustice of environmental racism. (The full text of her article is included as *Appendix VI*.) Massey examines the increase in cancer rates among children who have been exposed to solvents, pesticides, and air pollution close to waste management facilities. She also studies rising asthma rates as a result of airborne contaminants, and concludes that, "Some diseases and disabilities that have an

---

[17] Bullard, Robert D. "Environmental Justice for All: It's the Right Thing to Do." *Journal of Environmental Law and Litigation* 9 (1994), p. 281.

[18] Massey, Rachel. "Environmental Justice: Income, Race, and Health", *Global Development and Environment Institute*, Tufts University, 2004, p. 3.

[19] Bullard, *op. cit.*, p. 26.

[20] Massey, *op. cit.*, p. 7.

environmental component are unequally distributed across race and income levels."[21] Specific dangers of municipal waste sites will be discussed in depth in the next section.

Many other voices have contributed to the debate on environmental justice. In 2006, MacArthur "Genius" Grant recipient Majora Carter, an environmental justice advocate and director of the *Majora Carter Group*, discussed the environmental justice research she conducted in communities in the South Bronx at a *TED Talks* forum.[22] She highlighted concerns about parks-to-people ratios and about socio-economic and racial disparities in access to democratic decision-making bodies. In his book *Garbage Wars*: *The Struggle for Environmental Justice In Chicago*, David Naguib Pellow concluded that "low-income persons and people of color bear a disproportionate burden of environmental hazards."[23] Professor Pellow observes that while all humans contribute to making garbage, poor communities and communities of color are those that are most exposed to the pollution and toxins that garbage brings in the form of dumps, transfer stations, and other waste facilities.[24]

II.1.B. Environmental Injustice: Houston Case Study

The issue of and debate over environmental justice is far from new. Below, we review a brief case study of Houston's landfills, which squarely illustrates an historic pattern of discrimination against poor and minority communities. The following information was published in a 1994 article by Robert Bullard in the *Journal of Environmental Law and Litigation*.

In 1967, a riot broke out among students at Texas Southern University in Houston, a predominantly African American college.[25] This riot was in part motivated by the tragic death of an 8-year old African American girl, who had drowned in a garbage dump. The student protestors were enraged: Fueled by a desire to push this injustice to the fore, they questioned why the offending dump was not only located in the mostly African American neighborhood of Sunnyside, but also situated next to a city park, and directly across the street from an elementary school.

The placement of Sunnyside's dump was neither the byproduct of chance nor a historical anomaly, but the result of discriminatory policies. As Bullard notes, from the mid-1920s to the late 1970s, every single one of Houston's five municipal landfills were to be found in well-established African American communities: Freedmen's Town/Fourth Ward, Sunnyside, Trinity Gardens, and

---

[21] *Ibid.*, p. 6.
[22] TED Talks. *Majora Carter: Greening the ghetto*, February 2006, http://www.ted.com/talks/majora_carter_s_tale_of_urban_renewal.html.
[23] Pellow, David Naguib. *Garbage Wars: The Struggle for Environmental Justice in Chicago*. The MIT Press: 2004.
[24] *Ibid.*, p. 2.
[25] Bullard, *op. cit.*, p. 284.

Acres Homes.[26] The dump at Acres Homes is particularly telling in this regard, for it exemplifies the disparate impact of garbage disposal felt and endured by racial minorities. Curiously, Acres Homes is actually located in the "mostly white northwest quadrant of the city."[27] While it constitutes only a small part of this quadrant, it is the predominantly African American neighborhood of Acres Homes – not one of its mostly white sectors – that has experienced "a long history of uncontrolled dump sites."[28]

When it came to Houston's incinerators, the narrative was no different. At the time of Bullard's writing, Houston operated eight garbage incinerators; of these, five were considered relatively large, and the remaining three were mini-units.[29] Again, all five of the city's largest garbage incinerators were located in African American and Latino neighborhoods (four in the former, one in the latter). When the city contracted Houston Natural gas to construct three mini-incinerators, only one was eventually located in the mostly white Larchmont community, whereas two facilities were built in the primarily African American neighborhoods of Kashmere Gardens and Carverdale.

Bullard thus shows that twelve out of thirteen waste-related facilities in Houston were located in neighborhoods populated primarily by racial minorities – usually African Americans – at the time his article was written. It is highly implausible that this disparate impact of waste-related facilities on minority populations resulted from chance alone; it was, rather, the result of discriminatory policies.

II.1.c. Political and Governmental Response

Scientific research and case studies (like the one above) support and sustain a political movement by advocates for environmental justice. A landmark event in the development of the environmental justice movement was the 1982 legal battle over siting a hazardous waste landfill in Warren County, North Carolina.[30] The environmental justice movement has had, and continues to have, far-reaching consequences. After almost a decade of lobbying by environmentalists and civil rights activists, the United States government responded in a significant way by changing its environmental policy.

Responding to public pressure from activists, in 1990 the Environmental Protection Agency established an Environmental Equity Workshop that was designed to evaluate evidence gathered on environmental racism and to identify how to alleviate the problem. In 1992, the Workshop released a report that agreed in large part with the activists' findings and goals. The Workshop

---

[26] *Ibid.*, p. 293.

[27] *Ibid.*

[28] *Ibid.*

[29] *Ibid.*, p. 294.

[30] Massey, *op. cit.*, p. 7.

found a strong correlation between the location of hazardous waste facilities and the percentage of minority community members in those areas.[31]

In February 1994, President Clinton signed Executive Order 12898 (*cf*. *Appendix VII*). This Order required every federal agency to achieve environmental justice by acknowledging and alleviating the environmental and health impacts that an agency's operation may have on minority and low-income communities.[32]

In her article "Race, class and environmental justice", Professor Susan L. Cutter of the University of South Carolina points out just how significant these changes were: "The growth of the environmental justice movement in the USA surprised even the most seasoned of policy-makers by its speed and the magnitude of its impact on USA national policy."[33]

Sadly, this is not the end of the story. Although advances have been made, the problem of environmental racism persists. Professor Bullard, writing after Executive Order 12898 was signed, expresses the worry that "Despite recent attempts made by the United States government to level the playing field, African Americans, Latino Americans, Asian Americans, and Native Americans continue to bear a disproportionate burden of environmental and health risks where they live, work, and play."[34]

II.2. Environmental and Health Effects of Municipal Solid Waste

Municipal waste systems are designed to minimize the impact of our waste on the environment and on human health. By concentrating and containing municipal solid waste (MSW), government workers or private contractors can more closely control any possible negative impact the waste may have on individuals and on the environment. Unfortunately, full mitigation of the negative effects of our waste is impractical – if not impossible – and local environmental contamination from facilities that handle or store MSW is common. The degree of this contamination depends on environmental factors, technology used at the facilities, size of the facilities, volume of waste handled, and the content of the waste itself. This section considers the environmental and health effects of mishandled hazardous waste as well as the environmental and health effects of waste that the United States Environmental Protection Agency (EPA) considers nonhazardous. We then proceed to apply these findings to the Veolia Waste Transfer Station, to summarize the work the Brady Scholars class of 2012 has done towards measuring the environmental and health impact of the station, and, finally, to present the conclusions drawn from this work.

---

[31] *Cit. in* Cutter, Susan L. "Race, class and environmental justice". *Progress in Human Geography* 19/1 (1995), pp. 111-122.
[32] *Ibid.*, p. 111.
[33] *Ibid.*
[34] Bullard, *op. cit.*, p. 281.

II.2.A. HAZARDOUS WASTE

While the EPA considers MSW to be all commonly discarded materials excluding hazardous, industrial, and construction waste, waste facilities often have no way of determining whether hazardous waste has been illegally included in general MSW.[35] The EPA defines hazardous waste as any refuse that is dangerous or potentially harmful to our health or to the environment. Hazardous waste items include discarded commercial products like cleaning fluids or pesticides, the by-products of manufacturing processes including chemicals and heavy metals, as well as household products.[36] Specific examples of dangerous materials in hazardous waste include heavy metals such as lead, cadmium, arsenic, mercury and chromium, as well as asbestos, a naturally occurring carcinogenic fibrous mineral. High concentrations of these hazardous materials can lead to health problems in humans as well as to environmental damage.

Heavy Metals in MSW

While household hazardous waste – including paints, batteries, oils, cleaners and pesticides – are required by law to be disposed of in designated locations, the presence of hazardous materials in general refuse is often unknown. According to data presented in a European Commission report, batteries are the largest source of lead and likely the largest source of cadmium in OECD member countries' waste sites.[37] Sources of mercury include batteries, fluorescent light bulbs, thermostats, and measuring and control devices such as thermometers.[38] Many of these items are commonly included in MSW, from where the chemicals they contain can leach into groundwater.

Numerous health problems are associated with low-level environmental exposure to the aforementioned types of heavy metals. Iron, mercury, lead, and cadmium pose the greatest risk to humans, while, according to Peter Woodbury of the Cornell Waste Management Institute, arsenic, chromium, copper, nickel and zinc are not found in high enough concentrations to cause problems for plant, animal, or human health.[39] Overexposure to lead affects the human nervous system by blocking the release and binding of neurotransmitters; this can adversely affect behavior and the ability to learn.[40] Lead is therefore especially harmful to children who are exposed to this heavy

---

[35] U.S. Environmental Protection Agency. *Municipal solid waste*, 2012, http://www.epa.gov/osw/nonhaz/municipal/.

[36] U.S. Environmental Protection Agency. *Hazardous Waste*, 2012, http://www.epa.gov/osw/hazard/.

[37] European Commission. *Heavy Metals in Waste*; *Final Report*, DG ENV.E3, Project ENV.E3/ETU/2000/0058; COWI A/S: Denmark, 2002.

[38] *Ibid*.

[39] Woodbury, P., "Potential effects of heavy metals in municipal solid waste composts on plants and the environment." *Cornell Waste Management Institute*, 1993, pp.1-4.

[40] Rosen, J. F., "Adverse health effects of lead at low exposure levels: trends in the management of childhood lead poisoning." *Toxicology*. 97 (1995), pp. 11-17.

metal in dust and soil. High concentrations of lead and cadmium can lead to kidney problems, including kidney failure.[41]

Asbestos in MSW

The inhalation of asbestos is known to have adverse health effects on humans who are repeatedly exposed to this material over a long period of time. When asbestos fibers are inhaled, they may become trapped in the human lungs and remain there indefinitely. Over time, these fibers can accumulate and cause scarring and inflammation, which can limit breathing and lead to further serious health problems – including asbestosis; lung cancer; and mesothelioma, a cardiothoracic cancer.[42] Asbestos-contaminated refuse has been discovered at MSW facilities in communities throughout the United States.[43]

Biological Contamination in MSW

While EPA-regulated hazardous wastes in MSW are a large source of environmental contaminants, not all contaminants are regulated. Organic material in MSW leads to bacterial and fungal growth. According to a study by Otto M. Poulsen *et al*., exposure to airborne microorganisms causes health problems among workers at waste sorting and recycling plants.[44] In particular, those working at waste transfer stations and landfills are at an increased risk of pulmonary disorders and gastrointestinal problems.[45] The findings of several other studies will be reviewed briefly in the following section; each demonstrates that both waste transfer stations and waste dumps contain biological contaminants in concentrations high enough to have adverse health effects on workers at these sites.

After examining waste transfer stations, landfills, and incineration plants, Crook *et al*. reported high total bacterial counts, high concentrations of airborne fungal spores, and high levels of airborne fecal coliform bacteria.[46] Spores can be dangerous to human health because they are small enough to enter the lungs. The inhalation of fungal spores containing significant amounts of mycotoxins is known to be associated with a number of serious diseases, including toxic

---

[41] European Commission, *op. cit*.

[42] U.S. Environmental Protection Agency. *Asbestos*, 2012, http://www.epa.gov/asbestos/pubs/help.html.

[43] Manos, C. G., K. J. Patel-Mandlik, and D. J. Lisk, "Prevalence of Asbestos in Composted Waste from 26 Communities in the United States." *Archives of Environmental Contamination and Toxicology* 23 (1992), pp. 266-269.

[44] Poulsen, Otto M., "Sorting and recycling of domestic waste. Review of occupational health problems and their possible causes." *The Science of the Total Environment* 168 (1995), pp. 33-56.

[45] *Ibid*.

[46] Crook, B., S. Higgins, J. Lacey, "Airborne Microorganisms Associated with Domestic Waste Disposal." *Crop Protection Division*, AFRC Institute of Arable Crops Research. Rothamsted Experimental Station, Harpenden, Herts, AL5 2JQ, 1987, pp. 1-119.

pneumonitis, hypersensitivity pneumonitis, tremors, chronic fatigue syndrome, kidney failure, and cancer.[47]

Further significant findings near waste transfer stations, landfills, and incineration plants are discussed in the works of S. Z. Mansdorf and J. Gaube. Mansdorf identifies up to 10^8 viable microorganisms living in a gram of unseparated domestic waste, which may pose a health risk to highly exposed workers.[48] Gaube locates 10^8-10^9 viable bacteria in a gram of unseparated domestic waste.[49] Additionally, Gaube examined the hands and clothes of workers handling unsorted domestic waste, and reports that they were contaminated by streptococci, enterobacteria, coliforms and other microorganisms.[50] While not all of these organisms are pathogenic, several are known to cause bacterial infection.

D. Mozzon found that waste transfer stations contained organic dust exceeding the Danish occupational exposure limit.[51] According to the U.S. Department of Labor, "long-term exposure to organic dust can lead to congestion, coughing or wheezing, sensitivity to dust, and frequent infections, such as colds, bronchitis, and pneumonia."[52] Moreover, those exposed to organic dust may develop serious respiratory illnesses, such as Organic Dust Toxic Syndrome (ODTS) and Farmer's Lung.[53] Farmer's Lung is a disease caused by mold spores which the body's immune system cannot counteract, potentially causing lung damage and resulting in death.[54]

II.2.B. Examples of Waste Transfer Station and Landfill contamination

While it is important to note the potential for waste transfer station and landfill contamination and what form such contamination may take, it is also useful to examine cases where action has been taken in response to perceived or measurable environmental or health impacts. Three cases discussed below show different responses to unacceptable practices at MSW facilities.

---

[47] Sorenson, W.G., "Fungal spores: hazardous to health?" *Environmental Health Perspectives* 107 (1999), pp. 469–472.

[48] Mansdorf, S.Z., M.A. Golembiewski and M.W. Fletcher. *Industrial Hygiene Characterization and Aerobiology of Resource Recovery Systems*. NIOSH, Morgantown, USA, 1982.

[49] Gaube, J., E. Jager and R. Ruden, *Untersuchung der hygienischen Auswirkungen der getrennten Sammlung von Alt- und Schadstoffen*. Institut fur Hygiene der Freien Universität Berlin, Berlin, 1986.

[50] *Ibid*.

[51] Mozzon, D., D.A. Brown and J.W. Smith, "Occupational exposure to airborne dust, respirable quartz and metals arising from refuse handling, burning and landfilling." *American Industrial Hygiene Association Journal* 48 (1987), pp. 111-116.

[52] Occupational and Health Safety Administration at the U.S. Department of Labor. *Organic Dust*., http://www.osha.gov/SLTC/youth/agriculture/organicdust.html.

[53] *Ibid*.

[54] *Ibid*.

Orange County, North Carolina

The Orange County Landfill in North Carolina is scheduled to close next year due to complaints from local residents about constant unpleasant odor and rampant vermin. The facility has been in operation since 1972, but opposition to the site has been mounting in the past few years. Located next to the landfill, the Roger's Road neighborhood is home to lower income families, all of whom draw their drinking water from backyard groundwater wells. In 2011, a survey of 11 groundwater wells in the neighborhood was conducted. Results showed that 9 of 11 wells were contaminated and failed to meet EPA standards for safe drinking water. These findings prompted discussions about closing the facility.[55]

Rochester, New York

The City of Rochester is preparing to spend over a million dollars refitting a landfill in its jurisdiction. The landfill has generated toxic runoff that affects the soil surrounding nine nearby buildings. This problem results from a stream of contaminated groundwater that spreads north and west from Emerson and McCrackanville streets beneath about 10 acres of city-owned land. Chlorinated solvents similar to TCEs and PCEs contaminate local soil; these solvents have been tied to birth defects, cancer, neurological issues and other serious health concerns.[56] The presence of these chemicals in Rochester's environment has prompted the City to take measures intended to protect those who live and work in the surrounding area.

New York and London

A study of several London sites has shown that WTSs increase ambient levels of particulate matter (PM) in surrounding neighborhoods due to increased traffic of large trucks and raised dust levels. On days when WTS activities were carried out, PM levels were elevated at all sites surveyed, with a statistical p value of .030. Variable PM oxidative potential, bioavailable iron, and total metal concentrations were observed on these days.[57] Increased PM levels have been conclusively linked to cardio and respiratory health conditions, including asthma.

***

[55] Surane, Jenny. "Orange County landfill to close, Rogers Road residents to ask county for restitution." *The Daily Tarheel*. January 25, 2012.

[56] Sharp, Brian. "Toxic vapors at old landfill may cost Rochester $1 million to fix." *The Democrat and Chronicle*. January 12, 2012.

[57] Godri, K. J., S. T. Duggan, G. W. Fuller, T. Baker, D. Green, F. J. Kelly, and I. S. Mudway, "Particulate Matter Oxidative Potential from Waste Transfer Station Activity." *Environmental Health Impacts*. 118 (2010), pp. 493-498.

II.2.c. Application to Veolia's Evanston Waste Transfer Station

The Veolia Waste Transfer Station has not been tested for the presence of heavy metals, asbestos, biogenic toxins, or levels of organic dust. While it is unclear whether or not these toxins are present at this site, there are several studies that show the presence of harmful toxins at other waste transfer stations and waste dumps around the United States. It is furthermore worth noting that no systematic effort – other than haphazard "visual inspection" by garbage truck drivers – is made by Veolia ES's Evanston operators to exclude hazardous loads from entering the site. Testing the Veolia WTS could prove the presence or absence of environmental contaminants that have the potential to negatively affect the health of Evanston neighbors. Such tests have precedent in similar cases throughout the United States, and have in the past led to significant improvements of waste facilities like Veolia's Evanston WTS.

Potential Testing for Soil Contamination at Veolia's Evanston WTS

In order to assess the practicality of testing for soil contamination attributable to the Evanston Veolia Transfer Station, the Brady class of 2012 sought to make use of the intellectual and material resources available at Northwestern University. We approached professors and graduate students for advice regarding testing the Veolia waste transfer station for soil contamination and other troubling environmental factors.

With the help of several Northwestern professors and external experts, we identified four primary issues to consider with respect to the collection soil samples near the Veolia WTS. First, the Evanston waste transfer station sits on previously industrial land, so its soil may already have been contaminated. Second, in order to link any contamination to Veolia's activities, soil samples should be collected in concentric circles around the WTS. Third, samples could be collected and tested either through a private contractor's field services, or "in-house," that is with Northwestern's resources, manpower and academic backing. Finally, the samples can be collected legally from the public property around the waste transfer station, but may not be collected on the WTS's grounds proper unless approved by Veolia ES. This spatial limitation could adversely affect our ability to establish direct correlation between soil sample contamination levels and the waste transfer station's activities.

As we sought to obtain departmental backing for our soil sample project, we were told both by the department chair and by the program assistant of the Northwestern Chemical Engineering Department that no departmental faculty member specialized in soil sample studies. We subsequently approached the Civil and Environmental Engineering Department and were referred to Professor Jean-Francois Gaillard, who has conducted research with soil samples. Professor Gaillard informed us that neither he nor anyone else in his department could assist us, because the department's labs are suited for research rather than the specific type of chemical analysis required by our project. Professor Gaillard let us know that we had best approach a lab accredited by the Illinois EPA (IEPA) to carry out our soil sample testing.

Upon speaking to multiple graduate students and Professor Charles Dowding of the Civil Engineering Department, we learned that it could be impossible to get any professor at Northwestern to obtain this soil sample for us due to University faculty's time constraints. We consequently turned to outside experts. We spoke to Rick Scott at Lewis, Yockey, and Brown, an Illinois civil engineering consultancy. Scott suggested that we collect the samples ourselves and send them to a lab for testing. He was furthermore convinced that Northwestern had most of the facilities necessary to carry out the testing we requested. We have compiled a list of IEPA-accredited soil sample firms in *Appendix IV*.

Vibration Study at Veolia's Evanston WTS

Evanston residents have complained that the trucks that service the Veolia transfer site cause noise disturbances, and that this heavy traffic poses a danger to children playing in the park across the street from the WTS as well as to students attending the nearby high school. In addition, citizens have expressed fears that the vibrations caused by these trucks could be damaging the foundations of their houses. To investigate the latter claim, we met with Northwestern University Professor Charles Dowding, an expert on vibration studies, and spoke to three of his staff assistants. They all expressed an interest in helping the Brady Scholars in this project.

Professor Dowding and his assistants offered us free use of their equipment for measuring traffic vibrations. The instrument the researchers dispose of is not a validated velocity gauge, so its readings could not serve as evidence in the City of Evanston's legal proceedings against Veolia ES. Even so, this instrument could quantify the effects of truck traffic on neighbors' homes. Professor Dowding offered to instruct us on the instrument's operation, and suggested we conduct a traffic study simultaneous to the vibration measurements in order to adequately identify the source of each vibration.

Northwestern's experts find it highly unlikely, however, that the garbage trucks could produce vibrations deep enough to crack any building's foundations. In order to fracture a residential building's cement foundation, a vibration velocity of at least 5 centimeters per second is required.[58] A typical 24-ton garbage truck travelling at 50 kilometers an hour and passing over an 11 millimeter bump produces a vibration of only 1 millimeter per second – one-fiftieth the critical vibration velocity.[59] The vibrations caused by truck traffic would therefore likely be more than an order of magnitude smaller than the vibrational velocity required to damage the foundations of affected houses. The cracks cited by the residents are more likely caused by changes in humidity and temperature.

While the community remains concerned regarding the possibility of vibration damage, we do not intend to pursue vibration research: The extremely low probability that the trucks cause

[58] Dowding, C. H. *Impacting, Vibrating, Rotating, and Rolling Construction Equipment*: *Construction Vibrations*, Upper Saddle River, NJ: Prentice-Hall, 1996, pp. 247-264.
[59] *Ibid*.

sufficient vibration to test the theoretical limits of the residential foundations devalues further empirical research efforts. If we chose to pursue vibration testing, however, the necessary equipment and training would be easily accessible via Northwestern faculty.

II.2.D. CONCLUSIONS REGARDING PHYSICAL TESTS OF VEOLIA'S EVANSTON WTS ENVIRONMENTAL IMPACT

The Brady Scholars Class of 2012 does not intend to pursue either soil sample testing or vibration testing near the Veolia WTS. While soil samples could support the assumption that the Veolia WTS has negatively impacted the health of its Evanston neighbors, conducting these tests remains outside the scope of our project. Our research has suggested possible contaminants to test for, and has provided several possible avenues for testing that could be pursued by student or citizen organizations. Aerosol tests, noise measurements, odor measurements, and vermin counts would also significantly inform an environmental impact statement for the Veolia WTS. Whether or not these tests are conducted, research on similar stations around the world suggests that the Evanston Veolia transfer station is likely to be negatively impacting both the local environment and the health of Evanston residents.

III. Legal History of the Evanston Transfer Station and Veolia's Corporate Conduct

III.1. A History of Misleading Verbal Agreements

Developers involved in the original presentation of the plans for the Evanston waste transfer site repeatedly misled members of the City's Site Plan and Appearance Review Committee (SPAARC). SPAARC is an Evanston review committee that ensures the compatibility of new construction proposals and projects with adjacent developments. [60] The developers' misrepresentation resulted in the building and operating of a transfer station much different from the site that was originally proposed.

In their initial proposal to SPAARC, presenters from Active Service Corporation (one of Veolia's predecessors) suggested that they were mindful of the neighbors' welfare, and revealed that they intended to consult neighbors about the width of the buffer between the site and the surrounding houses at the rear of the facility.[61] ASC never consulted the Evanston neighbors. Presenters also assured SPAARC that the site's hours of operation would be 6:30am to 4:00pm, and that the majority of truck traffic entering and leaving the facility would occur during the mid-morning and mid-afternoon.[62] Conversations with people living in the neighborhood near the transfer station show that these commitments regarding hours of operation and traffic patterns have not been maintained. On several occasions, SPAARC's members made suggestions to presenters regarding changes in the design of the facility's door panels, the layout of its roof, and the width of a walkway at the eastern entrance.[63] In each instance, the presenters assured the committee that they would act on these suggestions. None of the suggestions appear to have been taken into account.

This behavior points to a general pattern of deceitful interaction between Active Service Corporation's developers and City authorities. While the City engaged in discussions and raised concerns about details of the site's construction and operation, the presenters appeared accommodating but ultimately ignored the City's suggestions and concerns over neighbors' welfare. City authorities were, for the time being, under the impression that their suggestions were being taken into account; meanwhile, the site's management proposed incremental changes that adversely affected the station's neighbors. These changes included moving the facility's air-conditioning unit and realigning the 6-foot setback from the south lot line to increase the area of the

[60] City of Evanston. *Site Plan and Appearance Review Committee: Agendas & minutes*, February 14, 2012, http://www.cityofevanston.org/government/boards-commissions/site-plan-and-appearance-review-committee/.
[61] SPAARC Meeting Notes, December 18, 2002, p. 2.
[62] *Ibid.*, p. 2.
[63] *Ibid.*, pp. 2-3.

site.[64] The deliberate misrepresentation by the site's management demonstrates how ASC was able to circumvent City regulation and proceed with the construction and expansion of an objectionable MSW management facility that continues to exist and operate today, under Veolia ES's ownership. By sending its refuse through Veolia's Evanston WTS, Northwestern University is effectively supporting an operation that was made possible by unacceptable, deliberately deceptive and abusive corporate behavior toward minority and low-income citizens. The University's continued use of this site ignores and effectively excuses the problematic corporate conduct of Active Service Corporation and of Veolia ES (see below).

III.2. Veolia's Response to Negative Media Coverage on its Evanston Operation and to Political Pressure

Growing complaints about the stench emanating from the Church Street transfer station came to a head this past summer (2011), with some Fifth Ward residents "[agreeing] that it got worse this summer than before."[65] According to an article published on WBEZ.org, citizens have complained not only about the smell, but also about the noise of passing trucks and the presence of rats in the neighborhood. Due to growing discontent in the community, the Evanston Health Department has hired a full-time city inspector, "simply to handle the volume of complaints about the Veolia Station."[66] In addition, Evanston also hosts a hotline through which citizens may file complaints, and once a critical mass of complaints is reached a citation may be issued by the City. Until this past summer, the agency responsible for regulating the Veolia WTS was the Illinois Environmental Protection Agency, which typically inspects the site once a year; the IEPA has issued one citation in over a decade, according to an article published in "Evanston Now."[67] As of October 2011, the City of Evanston had issued five such citations.

Of these five citations – issued for 'Strong Garbage Odor' – Veolia has only paid two, at a total cost to the corporation of $375. In an attempt to "at least partially offset, but not come close to recapturing the enormous financial burdens imposed on the city by the operation,"[68] the City of Evanston has imposed a tonnage fee of $2 per ton of solid waste on Veolia ES. Despite this fine, an article published in the "Evanston Round Table" contends that economic development at Church and Dodge will be impossible for as long as the transfer station remains there.[69] The same article relates that although Veolia has employed several deodorizing techniques in attempts to mask the smell of the facility, residents continue to file odor-related complaints.

---

[64] *Ibid.*, p. 3.

[65] Yousef, *op. cit.*

[66] Smith, Bill. "Residents doubt Veolia can be good neighbor." *Evanston Now*, January 11, 2011, http://evanstonnow.com/story/business/bill-smith/2011-01-21/residents-doubt-veolia-can-be-good-neighbor.

[67] *Ibid*.

[68] Gavin, Mary Helt. "Tonnage Fees."

[69] *Ibid*.

Veolia has appealed the City's fines and tonnage fee by arguing that the transfer station is equipped with standard odor-reducing technology. Residents are urging the city to take bolder action against the multinational corporation.[3] A survey of local residents indeed uncovered "deep skepticism [...] that any changes in the operation could turn the transfer station into an acceptable neighbor."[70]

It has become clear that Veolia feels it has met its obligations to the Fifth Ward community, and the corporation appears unwilling to make further concessions to the City and to Evanston residents. Veolia ES has announced that it will sue the City over the imposed tonnage fee and odor citations, as well as over supposed zoning code violations of the WTS.[3] Veolia writes off Evanston citizens' hostility as a result of neighborhood gentrification and homeowners' attempts to find a scapegoat for falling property values following the mortgage crisis.[1]

Evanston Mayor Elizabeth Tisdahl insists that the waste transfer station is not sufficiently spacious for the volume of refuse it handles. According to Mayor Tisdahl, current law requires a site that handles a similar amount of waste as Veolia's Evanston WTS to be at least 25 acres large, and to be located no less than 1000 ft from residential property.[71] In its current state, the WTS occupies less than 2 acres of land, and is directly adjacent to residential properties.

Veolia argues that its Evanston site is in compliance with IEPA regulation. The station did, in fact, meet regulatory standards when it was awarded its original operating permit in 1984; these dated standards for maximum waste volume per acre continue to apply to the Evanston WTS. A similarly sited facility would not be allowed to open today. What was once a small neighborhood business venture has over the years become "a corporate-driven enterprise that is permitted to ignore current regulations because the state's environmental act allows pre-existing businesses to claim grandfathered status."[4] However, as Mayor Tisdahl has pointed out, "Arguably, an older facility should get more, not less, environmental scrutiny."[4] Greater scrutiny of Veolia's Evanston WTS and rigorous application and enforcement of *current* IEPA standards should be priorities for Evanston citizens and responsible Veolia ES clients alike.

---

[70] Smith, *op. cit*.

[71] Berkowitz, Karen. "City, Veolia prepare for possible court fight." *Evanston Review*. August 30, 2011, http://evanston.suntimes.com/news/7275609-418/city-veolia-prepare-for-possible-court-fight.html.

IV. Recommending Appropriate Alternatives

IV.1. Alternative Vendors in Northern Cook County

The Solid Waste Agency of Northern Cook County (SWANCC) lists several solid waste haulers that serve the northern Chicago metropolitan area and northern and northwestern suburbs, including Evanston.[72] The great volume of solid waste generated by the University requires competitive vendors to dispose of a comprehensive waste-hauling capacity; this disqualifies smaller waste haulers from bidding for Northwestern's waste management contract and limits the number of competitive vendors to only a handful, as was pointed out to us in a recent meeting with senior University Administrators. Referring to SWANCC's register of regional solid waste haulers, we have identified three vendors that should be capable of entering competitive bids for Northwestern University's solid waste management contract. These vendors are Waste Management of Illinois; Groot Industries; and Veolia Environmental Services Solid Waste Midwest. Contact information for the regional corporate headquarters of these haulers can be found below.

Waste Management of Illinois, Inc.	**Groot Industries, Inc. – East**	**Veolia ES Solid Waste Midwest LLC**
Regional corporate HQ:	*Regional Corporate HQ:*	*Regional corporate HQ:*
1411 Opus Place, Suite 400 Downers Grove, IL 60515	2500 Landmeier Road Elk Grove Village, IL 60007	766 Hunter Drive Batavia, IL 60510
Tel.: 800-796-9696	Tel.: 773-242-1977	Tel.: 630-879-3587

Section 2 (*Alternative Waste Transfer Sites*) examines the solid waste transfer stations operated by these vendors in the northern and northwestern suburbs; a list of these stations can be found in *Appendices I* (*Chicago Metropolitan Area Waste Transfer Stations*), *II* (*Transfer Stations in Cook County*) and *III* (*Satellite Images and Specifications of Transfer Stations Highlighted in this Report*). We believe that the use of these transfer stations presents a viable, ethical, and socially responsible alternative to transferring the University's waste through Veolia's Evanston site.

[72] SWANCC's register of area vendors can be found at http: www.swancc.org/contacts/hauler-contacts. SWANCC is a regional intergovernmental agency dedicated to providing waste management information and solutions in the northern Chicago metropolitan area and in the northern and northwestern suburbs.

IV.2. Alternative Waste Transfer Sites

The Evanston waste transfer station appears to be deeply entrenched in the garbage transport infrastructure of the surrounding communities. According to IEPA figures from 2009, the site processed 152,316 tons of garbage, or about 417 tons per day.[73] This puts it near the median of trash volume processed for reporting sites in metropolitan Chicago (*cf. Appendix I*).

The Brady Scholars sought to determine, with greatest possible accuracy, the origins of the waste being transferred through the Evanston WTS. Using data provided by Northwestern, as well as in email communications from City of Evanston officials, we were able to establish the provenance of less than 14% of the total waste volume being moved through the transfer site. Evanston estimates that the station is now handling 160,000 tons of garbage per year, a modest increase from 2009. Of this, Northwestern University contributes as estimated 3,360 tons per year, or 2.10% of the total.[74] Lake Shore haulers, as part of its condominium service contract, brings 3,709 tons to the site per year, or 2.32%. Groot Industries, as part of its commercial franchise contract, brings 15,120 tons to the site annually, or 9.45% of the total yearly volume. *In toto*, the City's numbers account for merely 22,189 tons out of 160,000 tons transferred through the Veolia facility per year, or 13.87%. Household refuse in Evanston does not go through the site, but is instead carried by Groot to the Solid Waste Agency of Northern Cook County (SWANCC) transfer station in Glenview. The unaccounted-for 86.13% of annual waste volume at the Evanston site are possibly hauled in by Veolia itself, or perhaps by other companies such as Flood Brothers or Waste Management.

Anecdotal evidence from Northwestern administrators and Evanston officials, which we have been unable to corroborate with further data, suggests that trash haulers may be delivering loads to Evanston from other North Shore suburbs, and from the northern neighborhoods of Chicago. The overall picture can be somewhat further elucidated nonetheless: Though it is public knowledge that the Village of Wilmette contracts with Veolia ES for all residential waste removal,[75] it is unknown how much, if any, of its waste is transferred through the Evanston WTS. The map of transfer stations in the Chicago area produced by the IEPA (*cf. Appendix II*), shows that there are only a few transfer stations of significant size located in northeastern Cook County – a zone where settlements are older, denser, and more constricted by virtue of geographic proximity to Lake Michigan than other areas of Chicagoland. Consequently, the community's ideal circumstance – the

---

[73] IEPA, *op. cit*.

[74] The city's estimate for Northwestern's 2012 trash contribution is lower than NU's confirmed MSW output in 2010, which was 3,905 tons on the year, or about 10.8 tons/day. However, even if the higher number were used to estimate NU's percentage contribution to the transfer site, and the lower annual tonnage total were used from the 2009 IEPA report, the percentage of total MSW that NU contributes would remain below 3%. Backing this assessment is a comment from a Veolia spokesperson, who confirmed during a tour of the Evanston station given to several Brady students that NU's percentage contribution is in the low single digits.

[75] Village of Wilmette. *Refuse, Recycling and Yard Waste Program*, February 9, 2012 http://www.wilmette.com/departments/public_works/refuseandrecycling2.aspx,

diversion of all refuse away from the Evanston WTS to facilitate its closure – would likely require significant changes to existing logistical infrastructure.

Though the process of closing the Evanston transfer station and rerouting all of its garbage would be difficult, an incremental step toward this goal could be taken if Northwestern chose to re-route its refuse elsewhere. While the total volume of garbage diverted would be small, the symbolic and political impact of this action could be significant.

The Brady Scholars have identified several waste transfer stations that could serve as alternatives to Veolia's Evanston facility for Northwestern University's MSW. Northwestern is already sending its recyclables, which constitute some 30% of all garbage volume, to Veolia's Northbrook transfer station. This site would be a logical destination to which to divert non-recyclable MSW. Between 2007 and 2009, waste volume at the Northbrook facility dropped from 136,208 tons/year to 95,192 tons/year;[76] barring a major rebound since then, it is likely that the site could process Northwestern's two dump trucks of refuse per day – an increase of less than 4,000 tons annually. With redoubled recycling and garbage reduction efforts on campus, which the Administration is seeking in conjunction with a new Sustainability Coordinator, these contributions might be cut down further.

A second alternative would be to send Northwestern's waste to the Glenview WTS, operated on behalf of SWANCC by Groot Industries. This site is located at a distance from residential areas and processes MSW inside a fully-enclosed building, according to Google Maps satellite photos (*cf. Appendix III*). Total waste volume at Glenview declined slightly between 2007 and 2009, from 307,541 tons/year to 282,581 tons/year.[77] The commercial tipping fee, or cost to unload commercial garbage there, was $67.50/ton in 2009.[78]

A third alternative site within a reasonable distance of the University is Waste Management's Northwest WTS, located in an industrial park adjacent to Chicago Executive Airport in Wheeling. This site saw a major decrease in waste volume from 2007 to 2009, dropping from 286,693 tons/year to only 156,608 tons/year.[79] Like the Glenview site, the Waste Management facility appears to be far better situated than the Evanston Transfer station with respect to neighbors and the environment.

Data from the 2009 IEPA waste transfer station index suggest that alternative sites capable of accepting Northwestern's MSW are available in northern Cook County. In other words, the use of the Evanston site for garbage transfer is not necessitated by a lack of technically-feasible alternatives. In light of this reality, the Brady Scholars believe that the complaints of elected officials and citizens in Evanston about the nuisance of the Evanston facility should be taken into consideration when choosing a waste disposal plan. In a recent meeting with Brady students, Mayor

[76] IEPA, *op. cit*.
[77] *Ibid.*
[78] *Ibid*.
[79] *Ibid.*

Tisdahl bluntly and unequivocally stated her view on the Veolia facility: "It has to go."[80] She said that it is not acceptable that people in the immediate vicinity cannot sit in their back yards on summer days due to the stench of garbage. Mayor Tisdahl and Alderwoman Holmes of the Fifth Ward, in which the Evanston WTS and the adjacent properties to its west are located, concur that the benefits of eliminating the pollution, nuisance and potential danger related to Veolia's WTS operation outweigh the costs of forfeiting the handful of jobs and modest tax revenues that the site currently provides.

In our recent meeting, Alderwoman Holmes further described how constituents of all socio-economic backgrounds have been complaining about the presence of the transfer station for many years. One elderly gentleman, she said, has been expressing his disapproval since 1959. Much citizen discontent has not been recorded over the years; the City of Evanston now urges its residents wishing to file WTS-related complaints to call 311, a new hotline, so that their grievances can be officially documented.

Though the volume of complaints has risen considerably since the construction of a condominium complex across the abandoned railroad easement on the eastern edge of the site, health and safety concerns predate the arrival of these new, more affluent neighbors. Opposition to the transfer station cuts across lines of race and class. The Mayor and Alderwoman asserted that gentrification of the neighborhood would not be a problem in the event of the WTS's closure, thanks to Evanston's ongoing efforts to build new mixed-income residences in the area, and to convert foreclosed properties into affordable housing.

In light of these general concerns, which have provoked litigation between the City of Evanston and Veolia Environmental Services, the Brady Scholars encourage the Northwestern Administration to review its waste disposal contract carefully and responsibly, and to choose to route our campus trash away from the Evanston transfer site. We believe that doing so would serve to better our crucial relationship with Evanston neighbors, to demonstrate the University's commitments to social justice and sustainability, and to improve the local environment.

IV.3. Ethics and Waste Disposal at American Universities

In the process of researching how Northwestern University may dispose of its MSW in a more ethical manner, the Brady Scholars have examined how other sustainability-minded universities responsibly dispose of their waste. The following brief case studies of American institutions similar to Northwestern University exemplify previously unmentioned benefits of improving our sustainability profile. The majority of the institutions that we researched have developed sustainability initiatives and have made notable efforts to create more sustainable college and university campuses. By taking inspiration from these examples, Northwestern University may benefit in its own push for greater

[80] Meeting with Evanston Mayor E. Tisdahl and Evanston Fifth Ward Alderwoman D. Holmes, February 2, 2012.

sustainability; refusing to use the Evanston WTS would also leave Northwestern with impressive positive publicity by showcasing its commitment to sustainability and social justice, on par with the "green" efforts of other top academic institutions.

Williams College has made remarkable efforts for greater sustainability in the past decade, especially under the direction of its former President, Morton Schapiro. After being drafted in the fall of 2005, plans to build the Zilkha Center for Environmental Initiatives were set in motion. The Sustainability Initiative establishes sustainability as an institutional priority, and, specifically, works to reduce the college's emissions by 10%. Additionally, Williams College has committed itself to avoiding emissions that may result from future building projects.[81]

Much like Williams, both Yale and Columbia University have made concrete commitments to reducing waste and emissions. Yale University has set a goal to reduce solid waste by 25% by June of 2013 as well to increase recycling by 25%. President Richard Levin has also committed the university to reducing greenhouse gas emissions by 43% below 2005 levels by 2020.[82] Similarly, Columbia University has made plans to reduce greenhouse emissions by 30% by 2017. The Columbia campus has also ensured that its new buildings meet LEED Silver standards. The initiative furthermore includes energy audits, improved lab efficiency, better furniture, and hosting a local market twice a week.[83]

Several other colleges and universities have established sustainability committees, standards, and initiatives to make environmentally friendly changes at their institutions. Harvard University recently built Library Park, a 1.75 acre plot on reclaimed industrial land; the Park is designated for public use – a gift to the local community.[84] The University of Chicago employs a three-person staff that has developed a multi-year strategic sustainability plan consisting of nine key markers, including high performance buildings, attention to climate change and renewable energy, and water conservation. Finally, the University of Southern California has taken an initiative to recycle at least one third of its campus waste and has developed a sustainability committee to represent student and faculty in support of further sustainability initiatives.[85]

---

[81] "Sustainability at Williams College." *Sustainability*, February 6, 2012, http://sustainability.williams.edu/.
[82] "Sustainability at Yale." *Yale University Office of Sustainability,* February 6, 2012, http://sustainability.yale.edu/node/57.
[83] "Environmental Stewardship." *Columbia University*, February 6, 2012, http://www.environment.columbia.edu/.
[84] Marshall, Lauren, and Colleen Marsh. "Library Opens in Allston." *Harvard Gazette*. July 11, 2011.
[85] "Sustainability at the University of Chicago." *Sustainability*. February 6, 2012, http://sustainability.uchicago.edu/.

CONCLUSION

We have shown that Northwestern University's continued use of Veolia Environmental Service's waste transfer station in Evanston's Fifth Ward is unacceptable. The site's location and operation in a part of the City predominantly inhabited by poor and minority citizens raises serious environmental, social and legal concerns. Above all, the University's business with this Veolia WTS is morally objectionable. We urge the University Administration to consider our findings as Northwestern's solid waste disposal is tendered to haulers, and we strongly encourage the Administration to make the avoidance of the Veolia Evanston transfer station a condition for all future waste management contracts with the region's vendors. We are convinced that taking this feasible, socially responsible step would demonstrate Northwestern's commitment to environmental sustainability and social justice, rendering our University more competitive with other top schools that make extensive efforts in these issue areas. Most importantly, changing Northwestern's waste disposal practices would fulfill the University community's moral obligation to its neighbors in Evanston, all the while improving the often troubled relationship between Northwestern and the City.

BIBLIOGRAPHY

Berkowitz, Karen. "City, Veolia prepare for possible court fight." *Evanston Review*. August 30, 2011, http://evanston.suntimes.com/news/7275609-418/city-veolia-prepare-for-possible-court-fight.html.

Brady Scholars Program in Ethics in Civic Life. *About Us*, February 14, 2012, http://www.bradyprogram.northwestern.edu/about.htm.

Bullard, Robert D. "Environmental Justice for All: It's the Right Thing to Do." *Journal of Environmental Law and Litigation* 9 (1994), pp. 281-308.

City of Evanston. *Maps*, February 14, 2012, http://www.cityofevanston.org/evanston-life/maps/.

City of Evanston. *Site Plan and Appearance Review Committee: Agendas & minutes*, February 14, 2012, http://www.cityofevanston.org/government/boards-commissions/site-plan-and-appearance-review-committee/.

Cohen, Rebecca, "Neighbors complain of odor, trash from local waste site." *The Daily Northwestern*, July 27, 2007.

Crook, B., S. Higgins, J. Lacey, "Airborne Microorganisms Associated with Domestic Waste Disposal." *Crop Protection Division*, AFRC Institute of Arable Crops Research. Rothamsted Experimental Station, Harpenden, Herts, AL5 2JQ, 1987, pp. 1-119.

Cutter, Susan L. "Race, class and environmental justice". *Progress in Human Geography* 19/1 (1995), pp 111-122.

Dowding, C. H. *Impacting, Vibrating, Rotating, and Rolling Construction Equipment*: *Construction Vibrations*, Upper Saddle River, NJ: Prentice-Hall, 1996.

"Environmental Stewardship." *Columbia University*, February 6, 2012, http://www.environment.columbia.edu/.

European Commission. *Heavy Metals in Waste; Final Report*, DG ENV.E3, Project ENV.E3/ETU/2000/0058; COWI A/S: Denmark, 2002.

"Flyer." *Evanston Citizens for Environmental Justice*. accessed February 2, 2012, http://www.dumptheevanstondump.com/uploads/4/1/3/3/4133461/evanston_citzens_for_environmental_justice_flyer.pdf.

Gaube, J., E. Jager and R. Ruden, *Untersuchung der hygienischen Auswirkungen der getrennten Sammlung von Alt- und Schadstoffen*. Institut fur Hygiene der Freien Universität Berlin, Berlin, 1986.

Godri, K. J., S. T. Duggan, G. W. Fuller, T. Baker, D. Green, F. J. Kelly, and I. S. Mudway, "Particulate Matter Oxidative Potential from Waste Transfer Station Activity." *Environmental Health Impacts*. 118 (2010), pp. 493-498.

Helt Gavin, Mary, "Tonnage Fees Imposed on Waste Transfer Station Could Generate Lawsuit." *Evanston Round Table*, August 16, 2011.

Helt Gavin, Mary, "Veolia Hands Evanston a Carrot and a Stick." *Evanston Roundtable,* January 18, 2012.

"Home."*Dump the Evanston Dump*, accessed February 2, 2012, http://www.dumptheevanstondump.com/index.html.

Illinois Environmental Protection Agency. *Region Two: Chicago Metropolitan Landfills, Transfer Stations, Compost Facilities (2009)*, accessed February 9, 2012, http://www.epa.state.il.us/land/landfill-capacity/2009/region-2.pdf.

Manos, C. G., K. J. Patel-Mandlik, and D. J. Lisk, "Prevalence of Asbestos in Composted Waste from 26 Communities in the United States." *Archives of Environmental Contamination and Toxicology* 23 (1992), pp. 266-269.

Mansdorf, S.Z., M.A. Golembiewski and M.W. Fletcher. *Industrial Hygiene Characterization and Aerobiology of Resource Recovery Systems*. NIOSH, Morgantown, USA, 1982.

Marshall, Lauren, and Colleen Marsh. "Library Opens in Allston." *Harvard Gazette*. July 11, 2011.

Massey, Rachel. "Environmental Justice: Income, Race, and Health", *Global Development and Environment Institute*, Tufts University, 2004.

Meeting with Evanston Mayor E. Tisdahl and Evanston Fifth Ward Alderwoman D. Holmes, February 2, 2012.

Mozzon, D., D.A. Brown and J.W. Smith, "Occupational exposure to airborne dust, respirable quartz and metals arising from refuse handling, burning and landfilling." *American Industrial Hygiene Association Journal* 48 (1987), pp. 111-116.

Occupational and Health Safety Administration at the U.S. Department of Labor. *Organic Dust*., http://www.osha.gov/SLTC/youth/agriculture/organicdust.html.

Poulsen, Otto M., "Sorting and recycling of domestic waste. Review of occupational health problems and their possible causes." *The Science of the Total Environment* 168 (1995), pp. 33-56.

Rosen, J. F., "Adverse health effects of lead at low exposure levels: trends in the management of childhood lead poisoning." *Toxicology*. 97 (1995), pp. 11-17.

Sharp, Brian. "Toxic vapors at old landfill may cost Rochester $1 million to fix." *The Democrat and Chronicle*. January 12, 2012.

Smith, Bill. "Residents doubt Veolia can be good neighbor." *Evanston Now*, January 11, 2011, http://evanstonnow.com/story/business/bill-smith/2011-01-21/residents-doubt-veolia-can-be-good-neighbor.

Sorenson, W.G., "Fungal spores: hazardous to health?" *Environmental Health Perspectives* 107, 1999, pp. 469–472.

SPAARC Meeting Notes, December 18, 2002.

Surane, Jenny. "Orange County landfill to close, Rogers Road residents to ask county for restitution." *The Daily Tarheel*. January 25, 2012.

"Sustainability at the University of Chicago." *Sustainability*. February 6, 2012, http://sustainability.uchicago.edu/.

"Sustainability at Williams College." *Sustainability*, February 6, 2012, http://sustainability.williams.edu/

"Sustainability at Yale." *Yale University Office of Sustainability,* February 6, 2012, http://sustainability.yale.edu/node/57.

TED Talks. *Majora Carter: Greening the ghetto*, February 2006, http://www.ted.com/talks/majora_carter_s_tale_of_urban_renewal.html.

U.S. Environmental Protection Agency. *Asbestos*, 2012, http://www.epa.gov/asbestos/pubs/help.html.

U.S. Environmental Protection Agency. *Hazardous Waste*, 2012, http://www.epa.gov/osw/hazard/.

U.S. Environmental Protection Agency. *Municipal solid waste*, 2012, http://www.epa.gov/osw/nonhaz/municipal/.

Veolia Environmental Services. *About Us*, February 14, 2012, http://veoliaes-wte.com/About%20Us.

Village of Wilmette. *Refuse, Recycling and Yard Waste Program*, February 9, 2012 http://www.wilmette.com/departments/public_works/refuseandrecycling2.aspx,

White, Kristen. *Telephone Interview*. November 7, 2011.

Wong, Brittney, "Evanston's west-side disparities." *The Daily Northwestern*, March 2, 2010.

Woodbury, P., "Potential effects of heavy metals in municipal solid waste composts on plants and the environment." *Cornell Waste Management Institute*, 1993, pp.1-4.

YoChicago. *A loose history of Evanston*, 5 September, 2011, http://yochicago.com/a-loose-history-of-evanston/23809/.

Yousef, Odette, "Summer ripened fight over Evanston waste station." *WBEZ.org*, September 29, 2011, http://www.wbez.org/story/summer-ripened-fight-over-evanston-waste-station-92574#.

Appendix I – Chicago Metropolitan Area Waste Transfer Stations: Waste Handled in 2009.

	Municipality	County	Tons
Recycling Systems Inc. [1]	Chicago	Cook	546,283
Planet Recovery Transfer Station	Chicago	Cook	357,827
Veolia ES SW MW LLC/MP	Melrose Park	Cook	350,000
Hooker Street TS	Chicago	Cook	322,216
Waste Management/J	Joliet	Will	305,000
Glenview Transfer Station	Glenview	Cook	282,581
ARC Disposal & Recycling	Mt. Prospect	Cook	268,513
West Cook Transfer Station	Forest View	Cook	260,000
Waste Management/Bluff City TS [1]	Elgin	Cook	254,761
Northwest Mat'l. Rec. & Recy.	Chicago	Cook	244,469
Calumet Transfer Station	Chicago	Cook	238,058
Loop Transfer-Laflin	Chicago	Cook	231,798
AW/Groen Waste Services	Crestwood	Cook	228,124
Shred-All Recycling Systems TS	Chicago	Cook	226,131
Loop Transfer - 64th Street	Chicago	Cook	196,798
Waste Mgt.-Northwest/W	Wheeling	Cook	156,608
Veolia ES SW MW LLC/E	Evanston	Cook	152,318
Riverdale Recycling Inc.	Riverdale	Cook	149,844
Northlake Transfer Station [2]	Northlake	Cook	145,898
Veolia ES SW MW LLC/RM	Rolling Meadows	Cook	137,302
Waste Mgt.-Metro/S	Stickney	Cook	129,588
Waste Management/E	Elburn	Kane	128,717
Ravenswood Disposal Service TS	Chicago	Cook	127,000
Waste Mgt.-So. Suburbs/Rec. Am./A	Alsip	Cook	117,881
Liberty Waste	McCook	Cook	107,574
Medill Mat'l. Rec. & Recy.	Chicago	Cook	102,092
Apollo Disposal Service TS	Momence	Kankakee	100,000
Veolia ES SW MW LLC/N	Northbrook	Cook	95,192
34th Street Mat'l. Rec. & Recy.	Chicago	Cook	80,183
CID Transfer Station	Chicago	Cook	48,289
Waste Management/Rockdale	Rockdale	Will	37,436
SRS North Lot	Chicago	Cook	29,410
Citiwaste Transfer Station	Joliet	Will	25,538
American Wood Recycling TS	Hoffman Estates	Cook	18,980
City Waste Transfer	Chicago	Cook	14,392
JKS Ventures Inc.	Melrose Park	Cook	6,500
Virginia Road Transfer Facility [3]	Crystal Lake	McHenry	3,951
Winnetka Municipal LSW Trans.	Winnetka	Cook	3,690
Mariani Landscape Transfer [3]	Lake Bluff	Lake	3,200
Meyer Material/MDC LSW TS	McHenry	McHenry	2,500
Zion Municipal Trans. Stn.	Zion	Lake	924
Des Plaines Trans. Stn.	Des Plaines	Cook	725
Highland Park LSW TS	Highland Park	Lake	45
Glencoe Water Tower Site	Glencoe	Cook	20
Aspen Valley LSW TS [2]	Park City	Lake	0
Best Lawns TS	Streamwood	Cook	0
C & L LSW Trans. Stn.	Chicago Heights	Cook	0
Cloverleaf Farms Transfer	Elgin	Cook	0
DuKane Transfer Facility [3]	West Chicago	DuPage	0
DuPage Yard Waste TS	West Chicago	DuPage	0

Eco Materials Waukegan LSW TS	Waukegan	Lake	0
Greenwood Development	Maywood	Cook	0
Greenwood Transfer Facility [1]	Maywood	Cook	0
➡ Groot Industries/Chicago TS	Elk Grove Village	Cook	0
➡ Groot Industries/McCook TS	McCook	Cook	0
Harvey Transfer Station	Harvey	Cook	0
Homewood Scavenger Service TS	East Hazel Crest	Cook	0
James Park LSW Transfer Station [2 & b]	Evanston	Cook	0
Kucera Disposal Company	Cicero	Cook	0
Lake Forest Transfer Facility	Lake Forest	Lake	0
Land & Lakes/Wheeling LSW	Buffalo Grove	Lake	0
Land & Lakes/Willow Ranch (LSW) TS	Romeoville	Will	0
Montgomery Landscape Wst. Coll.	Montgomery	Kane	0
Mr. K's Garden & Mat'l. Center TS	Park Ridge	Cook	0
Oak Development LLC [1 & c]	Lake Bluff	Lake	0
Oak Forest Public Works	Oak Forest	Cook	0
Perricone Brothers Landscaping Inc. [2]	Volo	Lake	0
Prairie Lakes Recycling and Transfer	Matteson	Cook	0
River Bend Prairie Recy. & Trans.	Chicago	Cook	0
Robbins Recycling & Transfer [1]	Robbins	Cook	0
Star Disposal Service LSW TS	Park Forest	Cook	0
Star Disposal Service TS	Park Forest	Cook	0
United Disposal of Bradley TS	Bradley	Kankakee	0
➡ Veolia ES SW MW LLC/B	Batavia	Kane	0
Wilmette Village Yard	Wilmette	Cook	0
Total			**6,238,354**

Transfer Stations showing zero were active in 2009, but operator did not report quantity

[1] Opened in 2007

[2] Opened in 2008

[3] Permitted in 2009

[a] Operator change 2007-2009

[b] James Park Leaf Compost in Evanston closed in 2008 and became a landscape

[c] DK (LSW) TS relocated and was renamed Oak Development LLC in July 2007

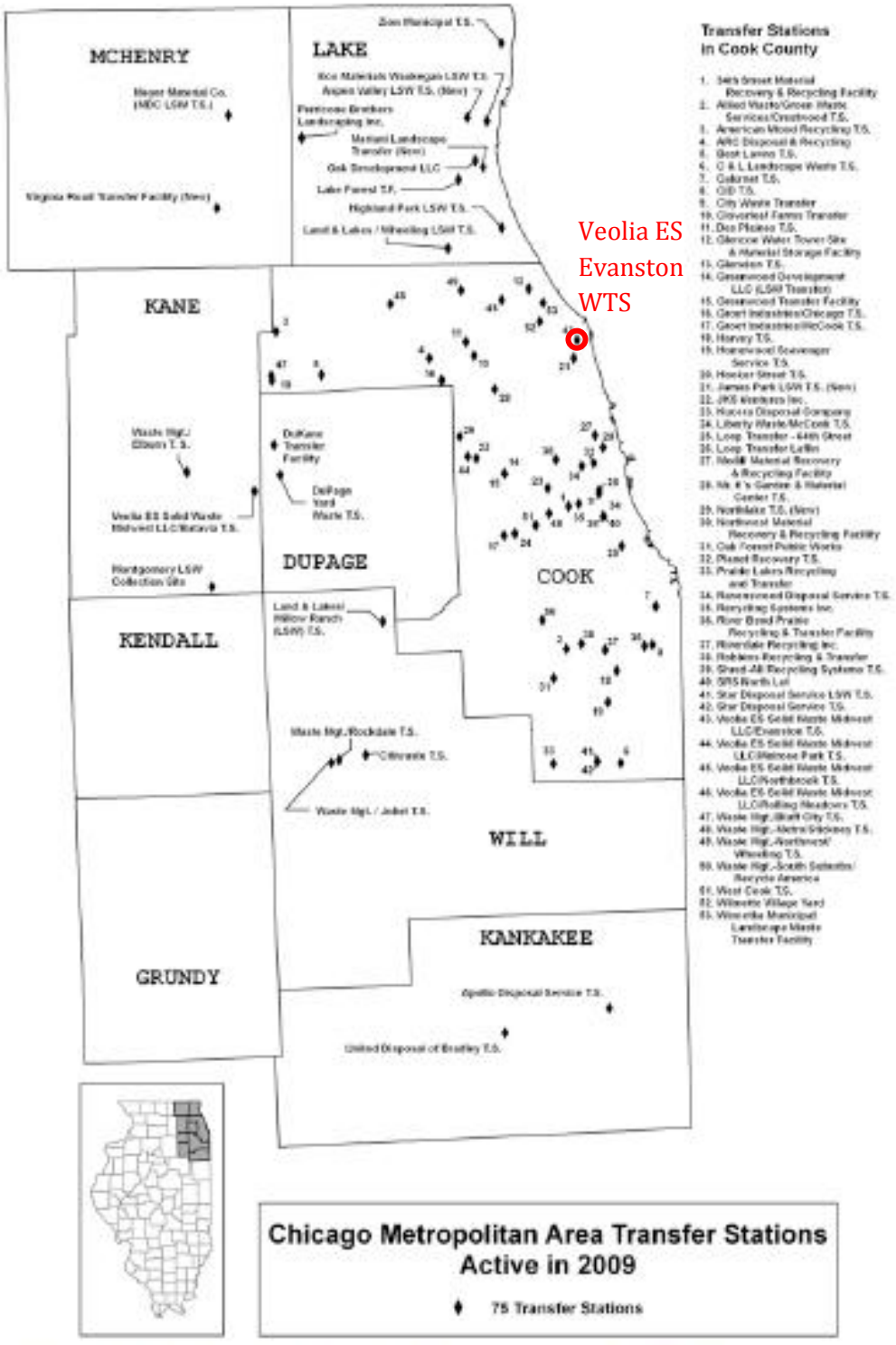
➡ *Indicates Veolia Transfer Station in Chicago metropolitan/North suburbs area*

➡ *Indicates Waste Management Transfer Station in Chicago metropolitan/North suburbs area*

➡ *Indicates Groot Transfer Station in Chicago metropolitan/North suburbs area*

Source: Illinois Environmental Protection Agency. *Nonhazardous Solid Waste Management and Landfill Capacity in Illinois: 2009. Region Two, Chicago Metropolitan*, 2010, pp. R2.4-R2.5, R2.13 *et seqq.*

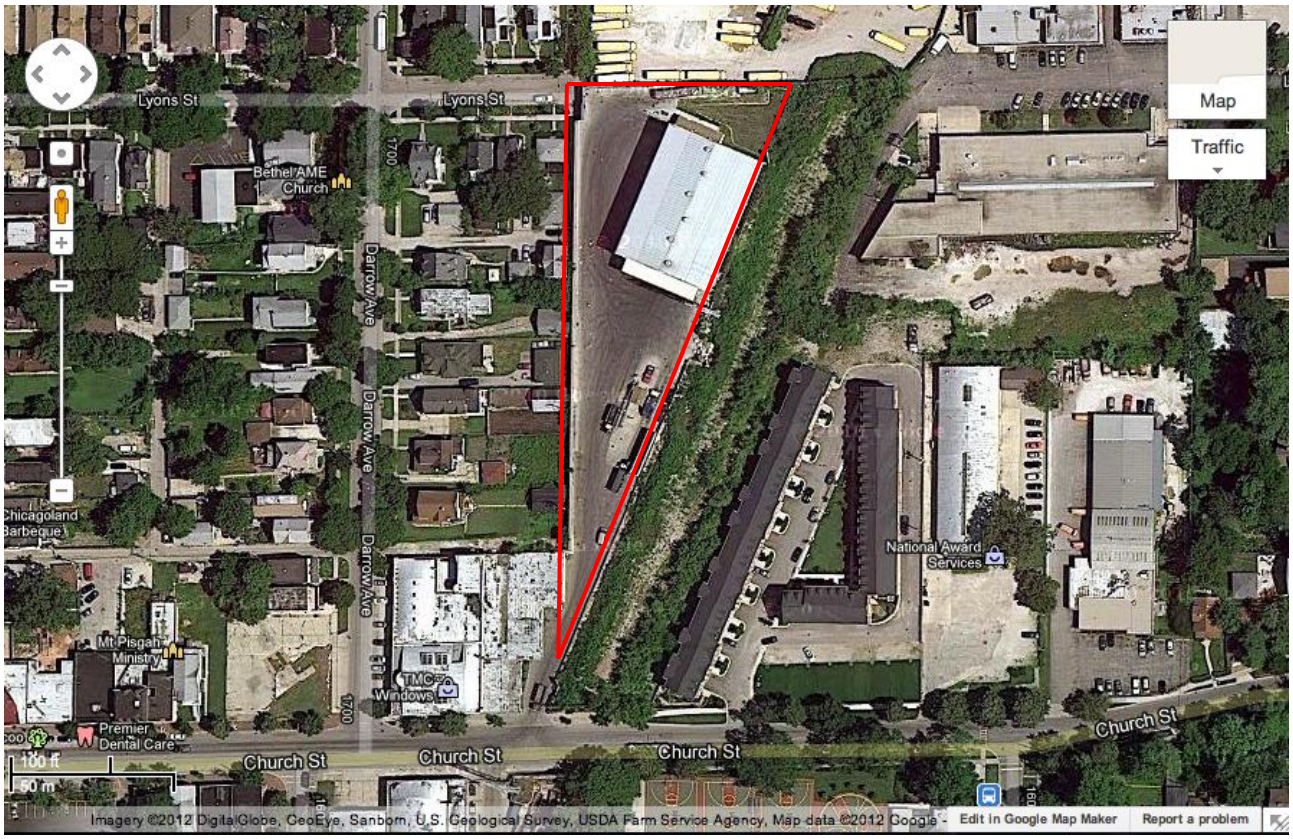
APPENDIX II – TRANSFER STATIONS IN COOK COUNTY



Source: Illinois Environmental Protection Agency. *Nonhazardous Solid Waste Management and Landfill Capacity in Illinois: 2009. Region Two, Chicago Metropolitan*, 2010.

APPENDIX III – SATELLITE IMAGES AND SPECIFICATIONS OF TRANSFER STATIONS HIGHLIGHTED IN THIS REPORT

III.1. VEOLIA ES EVANSTON WTS



Google Maps image of Evanston WTS, operated by Veolia ES Solid Waste Midwest LLC.

1711 Church St., Evanston, IL

847-328-3427

2009 waste tonnage reported to IEPA: 152,316 tons; 500 tons/day

Site acreage: 1.69

The waste transfer facility is the warehouse in the center of the upper half of the image. The condominium facility built in 2005 across the tree-lined railroad easement is the black-roofed, triangular building south of the transfer facility. Single family houses abut the transfer station property line to the west, situating the Evanston station squarely in a residential area. Alternative WTS (see satellite images below) maintain proper distance from residences and other non-industrial installations and infrastructure.

At a 2009 reported tipping fee of $65/ton, the estimated annual revenue generated by this site would be $9.9 million. Our research suggests that fewer than a dozen workers are employed at the site, excluding Veolia drivers who are hauling in garbage (number unknown). Without knowing the full details of compensation and operating expenses, we cannot accurately estimate the profit margin of operations.

III.2. GROOT/SWANCC GLENVIEW WTS

Google Maps image of the Solid Waste Agency of Northern Cook Co.'s Glenview WTS, operated by Groot Industries.

3 Providence Drive, Glenview, IL

847-390-6820

2009 waste tonnage reported to IEPA: 282,581 tons, 1,086 tons/day

Site acreage: 7

III.3. WASTE MANAGEMENT WHELLING WTS

Google Maps image of the Waste Management-Northwest/Wheeling WTS (and adjacent industrial park buildings), operated by Waste Management.

260 Sumac Road, Wheeling, IL

847-520-0059 x16

2009 waste tonnage reported to IEPA: 156,608 tons, 602 tons/day

Site acreage: 1.32

III.4. VEOLIA ES NORTHBROOK WTS

Google Maps image of the Northbrook WTS, operated by Veolia ES Solid Waste Midwest LLC.

2750 Shermer Road, Northbrook, IL

847-272-4145

2009 waste tonnage reported to IEPA: 95,192 tons, 372 tons/day

Site acreage: 1

APPENDIX IV – SOIL SAMPLE FIRMS

IV.1. ARRO LABORATORY, INC.

P.O. Box 686
Joliet, IL 60434-0686
Contact: Joan Serdar
Telephone: (815) 727-5436

IV.2. GABRIEL LABORATORIES, LTD.

1421 North Elston Ave.
Chicago, IL 60622
Contact: John Polich
Telephone: (773) 486-2123

IV.3. GAYNES LABS INCORPORATED (NOT IEPA APPROVED)

9708 Industrial Dirve
Bridgeview, IL 60455
Telephone: 708-233-6655

IV.4. SCIENTIFIC CONTROL LABORATORY, INC.

3158 South Kolin Avenue
Chicago, IL 60623-4831
Contact: Linda Kenny
Telephone: (773) 254-2406

IV.5. ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

8100 North Austin Ave.
Morton Grove, IL 60053-3203
(847) 324-3341

IV.6. PDC LABORATORIES, INC.

2231 W. Altorfer Drive
Peoria, IL 61615
(309) 692-9688

Source: IEPA. *List of Accredited Labs*, February 14, 2012, http://www.epa.state.il.us/well-water/list-accredited-labs.html.

Appendix V – City of Evanston Health Department Memorandum (February 1, 2012)

See below.

Appendix VI – Rachel Massey: "Environmental Justice: Income, Race, and Health."

See below.

Appendix VII – Executive Order 12898 (1994)

See below.