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# Slow Violence in Post-9/11 New York City: Low-Income Residents as Environmental and Financial Shields

During our morning walk to preschool on September 11, 2001, my mother and I witnessed the first Twin Tower collapse in smoke against an eerily clear blue sky. Our apartment became uninhabitable in the aftermath of the destruction that day, and we were eventually relocated by the city to a subsidized apartment—a building closer to Ground Zero—all while being assured that the still polluted air was safe to breathe. One year later, we were priced out of the neighborhood and evicted from the apartment. This was a common story in the so-called “economic rebuild” of Lower Manhattan, which prioritized Wall Street’s needs over residents’ safety. At the age of four, I witnessed firsthand the sacrificing of low-income communities by the government in the face of disaster. Although the events of 9/11 were catastrophic, the day of the attacks was only the beginning. Twenty years later, the need remains to incorporate various time scales and disciplines within the study of such disasters: specifically the need to examine the long-term outcomes of intertwined environmental and socioeconomic violence.

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## Time Scales of Disaster

A satellite image taken by NASA from space of the smoke plume covering parts of Manhattan and Brooklyn on the morning of September 11, 2001, depicts the dramatic scope of the initial disaster, yet this infamous image—like most that have come to represent the attacks in the public imagination—in no way encapsulates the true scope of the disaster with regard to *time*: the invisible scope of long-lasting impacts. The most famous images of the disaster were all taken on 9/11 or in the days immediately after, while there was much less media coverage of the longer-term pollution in the months that followed. This aspect of slow violence was simply more difficult to capture and convey visually: the burning sensation of each breath, the taste of metal in the air, the ache that accompanied the disposal of contaminated belongings.

The World Trade Center fires burned continuously for about 100 days, from September 11 until December 20, 2001,[1] and toxic dusts lingered in the air. In an effort to extend the search for missing survivors throughout the month of September, extensive use of water to extinguish the flames was prohibited on-site.[2] Once rescue efforts were concluded, the cleanup process left the entire site vulnerable to flare-ups for an additional two months, as unspent jet fuel was reexposed to oxygen.[3] By the time the fires were extinguished, dust and toxic particles had already contaminated the air and settled over vast areas of Lower Manhattan and Brooklyn, both outdoors and indoors. This environmental disaster produced soft borders both in time and space, yet the government's response created *definitive* and unequal borders between classes, neighborhoods, and periods of time covered, as it decided who and what was covered by its financial assistance programs.

### Dust Toxicity, Distribution, and Health Effects

This story of slow violence, in fact, begins decades earlier, with the chosen materials and structural system for the World Trade Center. At the time of their construction from the late 1960s to the early 1970s, the Twin Towers represented an innovative structural precedent for skyscrapers—an open, column-free floor plan was achieved through the strategic use of floor trusses and a tube-frame design.[4] However, under the heat of the fires on September 11, the steel columns of this “tube” melted, causing each floor truss to lose its connection to the façade and core.[5] Each concrete floor plate then successively gave way beneath the weight of the others as the buildings collapsed, and high levels of dust and particulates were generated as the 2,000 tons of asbestos and 400,000 tons of concrete used in the buildings' construction were released into the atmosphere.[6]

Despite this toxicity, only three days after September 11, Christine Todd Whitman, then the head of the Environmental Protection Agency (EPA), assured New Yorkers on national television: “The good news continues to be that air samples we have taken have all been at levels that cause us no concern”; one week later, she announced that the air was “safe to breathe and the water safe to drink.”[7] Having transitioned to her position from a career in politics as governor of New Jersey, Whitman possessed no science background or previous environmental disaster response experience. Months and years later, these remarks were withdrawn, as evidence mounted against the safety of the air in Lower Manhattan. In fact, many retroactive reports suggest that the EPA did not detect pollution because it *actively failed to look for it*—levels were so high, it's likely that sensors were rendered unreadable and no further efforts were made to collect data accurately.[8]

Following the attacks, the George W. Bush administration tasked the Federal Emergency Management Agency (FEMA) to lead the rescue and cleanup efforts. Per the federal government's plan, “environmental tasks were split into three: the Environmental Protection Agency (EPA) focused on *outdoor air*, the Occupational Safety and Health Administration (OSHA) was in charge at Ground Zero, and the New York City Departments of Health and Environmental Protection were in charge of *indoor air* in office buildings, homes, and public places.”[9] This separation of air quality management into

[1] *Guardian* staff and agencies, “Ground Zero Stops Burning, after 100 Days,” *Guardian*, December 20, 2001, [link](#).

[2] Jonathan Beard, “Ground Zero's Fires Still Burning,” *New Scientist*, December 3, 2001, [link](#).

[3] *Guardian* staff and agencies, “Ground Zero Stops Burning, after 100 Days.”

[4] “World Trade Center Disaster: Initial Response,” *Fire Engineering*, September 1, 2002, [link](#).

[5] “9/11 Remembering World Trade Centers,” Civilix: Civil Engineering Knowledge Base, August 5, 2018, [link](#).

[6] The use of toxic materials and overly efficient structural systems, while commonplace in contemporary architecture, remains an avoidable risk and serves as a cautionary tale in the design of future frameworks for disaster resilience. Whether the disaster is a fire, flood, or earthquake, destroyed building materials will likely return into the air, water, and soil, perpetuating the slow violence of the kind following 9/11. See Blair Kamin, “What Made New York's Twin Towers Collapse?,” *Chicago Tribune*, December 6, 2001, [link](#).

[7] Robin Shulman, “Ex-EPA Chief Is Ruled Not Liable for 9/11 Safety Claims,” *Washington Post*, April 23, 2008, [link](#).

[8] Suzanne Mattei, *Pollution and Deception at Ground Zero: How the Bush Administration's Reckless Disregard of 9/11 Toxic Hazards Poses Long-Term Threats for New York City and the Nation* (Oakland, CA: Sierra Club, 2004), [link](#).

[9] Ray Suarez, “Toxic Fallout from the Collapse of the World Trade Center,” *PBS NewsHour*, April 16, 2002, [link](#). Emphasis by the author.

two different agencies established a false dichotomy between the “indoors” and “outdoors,” in which the soft borders of pollution were completely neglected. When the EPA retracted its statements on the air’s safety, the agency attempted to justify initial statements by stating it had only been in reference to *outdoor* air safety, not *indoor*. Of course, none of the air was safe to breathe while the fires were still burning, and while the dusts remained in the air. However, this weak excuse allowed the EPA to craft its own claims about “outdoor” toxicity levels essentially without accountability or blame.[10]

At the time, the government prevented major press outlets from covering this air pollution; the *New York Daily News* was the only major media company to do so, hiring independent environmental scientists to test dust samples around the World Trade Center, Battery Park City, Chinatown, and the Lower East Side.[11] All their samples contained toxic levels of heavy metals and other carcinogens. During the first eighteen hours after the towers’ collapse, the prevailing winds had been traveling east, so the independent studies analyzing the chemical composition of the smoke collected samples mainly to the east and southeast of the World Trade Center. As the smoke began to settle in the days following 9/11, however, much of the resulting dust was easily and repeatedly resuspended into the air by wind currents and physical disturbance,[12] thereby creating toxic circumstances for the residential areas north and west of Ground Zero. Residences and buildings within these areas were often cleaned without adequate protection or equipment: dusting surfaces and air vents caused residents and first responders to immediately inhale all the toxic dusts present in their environment.[13] In fact, according to FEMA’s own Office of Inspector General, “the program to test and clean residences began *months* after the disaster,” and many residents never even knew of its existence.[14]

The dust samples collected in the area were composed of a toxic mixture of building debris, heavy metals, and jet fuel from the planes used in the attack.[15] When inhaled or ingested, these elements can cause immediate lung scarring and coughing, chronic asthma, pulmonary disease, acid reflux, and gastrointestinal issues. These health concerns are compounded by the more immediate injuries sustained by first responders and survivors,[16] as well as by the mental health conditions that continue to afflict thousands of residents who experienced the attacks. In the weeks and months following the attacks, the so-called 9/11 cough became common among New Yorkers living with the air pollution in the immediate area, and over 25,000 residents developed asthma due to this exposure.[17]

These multiple health conditions are further intensified when experienced together: for instance, poor asthma control is statistically associated with several other conditions “common among 9/11 survivors, including gastrointestinal issues, obesity, post-traumatic stress disorder, depression, and anxiety.”[18] If residents developed one new health condition due to 9/11 exposure, it was likely worsened by another pollution-induced condition or a preexisting condition—these negative health impacts are all intertwined.

[10] A 2006 congressional investigation initiated by Hillary Clinton attempted to hold Whitman accountable for her September 2001 false statements about air quality at Ground Zero, to no avail and without resulting repercussions. See Winnie Hu, “Clinton and Nadler Seek Inquiry into EPA Response to Sept. 11,” *New York Times*, August 27, 2003, [link](#).

[11] Amy Goodman and Juan González, “‘9/11’s Unsettled Dust’: Bush’s EPA Hid Health Risks from Toxic Dust at Ground Zero & Thousands Died,” *Democracy Now!*, September 7, 2021, [link](#).

[12] Morton Lippmann, Mitchell D. Cohen, and Lung-Chi Chen, “Health Effects of World Trade Center (WTC) Dust: An Unprecedented Disaster with Inadequate Risk Management,” *Critical Reviews in Toxicology* 45, no. 6 (2015): 492–530.

[13] Conversation between author and Laura Carriker, Lower Manhattan resident and 9/11 survivor.

[14] Office of Inspector General, *Evaluation Report: EPA’s Response to the World Trade Center Collapse: Challenges, Successes, and Areas for Improvement*, August 2003, [link](#).

[15] The primary elements consisted of construction materials, soot, paint (leaded and unleaded), metals, and fibers (asbestos, mineral wool, and fiberglass). Also present were unburned or partially burned jet fuel, plastic, cellulose, and various everyday materials that were ignited by the fire. See Paul J. Liroy et al., “Characterization of the Dust/Smoke Aerosol That Settled East of the World Trade Center (WTC) in Lower Manhattan after the Collapse of the WTC 11 September 2001,” *Environmental Health Perspectives* 110, no. 7 (2002): 703–714.

[16] Mainly burns, fractures, and muscular traumas.

[17] A decade later, in 2011, over two-thirds of those individuals continued to experience “poorly-controlled asthma” symptoms. See Hannah T. Jordan et al., “Factors Associated with Poor Control of 9/11-Related Asthma 10–11 Years after the 2001 World Trade Center Terrorist Attacks,” *Journal of Asthma* 52, no. 6 (2015): 630–637; conversation between author and Laura Carriker, Lower Manhattan resident and 9/11 survivor; see also Vinicius Antao et al., “9/11 Residential Exposures: The Impact of World Trade Center Dust on Respiratory Outcomes of Lower Manhattan Residents,” *International Journal of Environmental Research and Public Health* 16, no. 5 (2019): 798.

[18] Jordan et al., “Factors Associated with Poor Control of 9/11-Related Asthma 10–11 Years after the 2001 World Trade Center Terrorist Attacks.”

## Initial Displacement and Response

Government intervention following 9/11 guaranteed that these negative health effects would be concentrated among only certain New Yorkers. While the explosion and collapse of the Twin Towers led to the prolonged, and in some cases permanent, displacement of thousands of residents within the vicinity due to pollution, as well as extensive property damage, not all of those displaced moved *farther* away from the toxic site. The newly established Lower Manhattan Development Corporation (LMDC) created the Residential Grant Program in order to subsidize relocations to specifically demarcated buildings and areas immediately surrounding Ground Zero, offering low-cost rental options to individuals and families in need. Among the recipients of this grant were my mother and me—a few days after 9/11, our landlord deemed our original Lower East Side apartment uninhabitable due to severe toxic dust contamination and façade damage from airborne debris. We were forced to live with family friends for several months, until the Residential Grant Program processed our application and relocated our family to a new apartment in Battery Park City—an apartment that was actually closer to Ground Zero.



Residential Grant Program, zones of coverage. Courtesy of the author, data sourced from Jay Romano, "Your Home; Aid Plans For Areas Hurt on 9/11," *New York Times*, August 25, 2002, <https://www.nytimes.com/2002/08/25/realestate/your-home-aid-plans-for-areas-hurt-on-9-11.html?auth=linked-google>.

The Residential Grant Program's area of coverage directly correlates with the New York City Disaster Area—the criteria for the World Trade Center Health Program covering 9/11-related health concerns. This grant applied both to *existing* residents who had remained or returned to the disaster zone after September 11 and to *new* residents who relocated closer to Ground Zero from nearby neighborhoods in order to take advantage of the subsidy. The program divided Lower Manhattan into three zones: Zone 1, containing about 9,000 residential units between Chambers and Nassau Streets; Zone 2, containing about 20,000 units below Canal Street; and Zone 3, containing about 15,000 units below Delancey and Lafayette Streets. Residents of Zone 1, the zone closest to Ground Zero (and therefore with the highest concentrations of pollutants), were provided the highest subsidies to remain in or relocate to the area.[19] My family, for instance, was displaced from Zone 2 and relocated to Zone 1, an area of significantly higher dust levels. My mother recalled that upon

[19] Jay Romano, "Your Home; Aid Plans for Areas Hurt on 9/11," *New York Times*, August 25, 2002, [link](#).

our relocation, she had felt frightened about the toxicity of the area but had known that she did not possess any financial alternative. Although relatively low in value, these subsidies were often the only solution for low-income families to remain housed. All grants were dispensed as lump sums up front, in some cases providing \$6,000 to \$12,000 at once, a highly unusual opportunity for families living paycheck to paycheck. In all cases, this sum was paid directly to landlords by the city; though this was done with the official intent of avoiding rental applications or credit checks for new tenants, it instead often resulted in heightening landlords' positions of power. These subsidies were only available for one or two years, and often placed residents in apartments whose rents were outside their normal budgets, which allowed landlords to proceed however they pleased once the city's compensation expired and left many residents, once again, displaced.

The city's official aim with the Residential Grant Program was "to provide financial assistance to Lower Manhattan residents in recognition of the personal, family and living expenses they may have incurred as a result of living in the disaster area," and did not mention pollution or health effects.<sup>[20]</sup> All retroactive reports on the program focus on the economic growth of the neighborhood post-9/11, on the rapid reopening of Wall Street, and on declining vacancy rates—all superficial signs of success compared to the inequities it exacerbated among vulnerable populations. In addition to witnessing the initial attacks, low-income residents often endured the longest-term impacts, yet were placed in the most precarious position.

#### Economic Reconstruction Efforts: "It Pays to Live Downtown" Campaign

The LMDC was formed immediately after the attacks to plan the overall reconstruction of the neighborhood; its funds amounted to approximately \$18 billion, which included Housing and Urban Development's Residential Grant Program. According to the Residential Grant Program's own report, over \$227 million in grants were dispersed to a combination of 156 businesses and 39,805 households from 2001 to 2003—*only a little more than 1 percent* of the overall reconstruction funds.<sup>[21]</sup> In fact, if the funds utilized had been divided evenly among the households served, the grant have would amount to only \$5,700 per household, barely enough for six months of survival in New York City. Nevertheless, the LMDC created a campaign to publicize its program, with posters that featured a big red apple growing money reading, "IT PAYS TO LIVE DOWNTOWN: Grants for Downtown Residents," and proclaiming, "New York Loves Downtown Residents."<sup>[22]</sup> These posters, which hugely emphasized symbols of cash, were also translated into Chinese and Spanish, the languages predominantly spoken in the lower-income neighborhoods north of the World Trade Center: Chinatown and the Lower East Side, respectively. While the subsidies were helpful in theory, the translated posters signal that they were intended to directly attract low-income communities, communities of color, and those most at risk of homelessness in the face of disaster to an area *known* to be contaminated.

[20] Lower Manhattan Development Corporation, "Residential Grant Program," Renew NYC, September 1, 2008, [link](#).

[21] US Department of Housing and Urban Development, *Recovery Snapshot: LMDC Residential Grant Program*, 2006, archived at [link](#).

[22] US General Accounting Office, *September 11: Overview of Federal Disaster Assistance to the New York City Area*, October 2003, [link](#).



The LMDC's "IT PAYS TO LIVE DOWNTOWN" campaign posters, placed around New York City in 2001-2002.

When Wall Street reopened on September 17, 2001, residential vacancy rates in Lower Manhattan peaked at 40 percent—New Yorkers did not find this real estate desirable, nor did they want to live in such close proximity to an active disaster site.<sup>[23]</sup> By January 2002, vacancy rates dropped to 26 percent with the introduction of the Residential Grant Program; by 2005, vacancy rates were down to a normal rate of 5 percent once toxicity levels had decreased.<sup>[24]</sup> Given that many residents displaced after 9/11 could only afford to live in the area due to subsidies, many of the 2002 residents were not among those living in a prospering Financial District in 2005. As Lower Manhattan recovered its status as a financial center, relocated low-income residents were used as a buffer until pollution levels dissipated and residential real estate values recovered. Indeed, in early 2003, 53 percent of Zone 1 residents (as per Residential Grant Program zones) were *new* to the area after 9/11, and many came from low-income communities.<sup>[25]</sup> Many of these families and individuals were served eviction warnings or priced out of their subsidized apartments in the years that followed—when we were evicted, my mother recalled, dozens of other families moved out of our building at the same time, for the same reason. It was common knowledge in the neighborhood that once the subsidies timed out, it was time to move out. Likely *not* by accident, these events have gone completely undocumented in housing courts or other formal census data due to the informal nature of evictions and displacements. Government reports actively left these narratives out, instead referring to “the population” of Lower Manhattan as one continuous group, experiencing constant economic growth. In 2019, the average income of Lower Manhattan residents was about \$260,000, more than quadruple the city’s average,<sup>[26]</sup> indicating there were few or no low-income residents remaining in the area and a surge in high-income residents. In contrast, in Chinatown and the Lower East Side combined, from where many of the RGP residents had relocated earlier, the average income was much lower: \$42,000 in 2019.<sup>[27]</sup>

[23] US Department of Housing and Urban Development, *Recovery Snapshot: LMDC Residential Grant Program*.

[24] US Department of Housing and Urban Development, *Recovery Snapshot: LMDC Residential Grant Program*.

[25] US Department of Housing and Urban Development, *Recovery Snapshot: LMDC Residential Grant Program*.

[26] Alliance for Downtown New York, *25 Years of Setting the Bar: Downtown Alliance 2019 Annual Report*, February 2020, [link](#).

[27] “Lower East Side/Chinatown Neighborhood Profile,” New York University Furman Center, May 27, 2021, [link](#).

## Governmental, Corporate, and Individual Actors in the Rebuilding of Lower Manhattan

As low-income communities served as Lower Manhattan's financial shield, government and Wall Street actors benefited. It was reported that President Bush had ordered Wall Street to be reopened within a week of the attacks, pressuring EPA chief Christine Todd Whitman to make erroneous claims about the air quality in order to ensure economic stability.[28] Whitman herself possessed significant ties to Wall Street—in 2001, she owned stock in Citigroup, her husband worked for the same bank, and she began her political career working under Nelson Rockefeller, whose family founded Chase Bank.[29]

Indeed, almost all government actors involved in reconstruction efforts at the time possessed some connection to Wall Street or big banks, and thus had an incentive to prioritize these financial institutions over human life. On the side of economic revitalization efforts, the LMDC was created by the Empire State Development Corporation, a state-level organization with the power to “issue bonds and notes, grant loans and tax exemptions, acquire private property, exercise eminent domain, create subsidiaries, and override local laws, ordinances, codes, charters or regulations (e.g., zoning), bypassing the NY's state constitution limits.”[30] Thus, traditional channels of approval and regulation could be easily circumvented for the sake of overall economic growth. The newly appointed head of the LMDC, John C. Whitehead, had previously been a partner at and chairman of Goldman Sachs, as well as a director of the New York Stock Exchange.[31] Whitehead also had a long association with the Rockefeller family, overseeing the Rockefeller Group's investments (including real estate), and had previously worked as Deputy Secretary of State in the Reagan administration.[32] Since the mid-2000s, the motives and relevance of the LMDC have remained at times unclear to residents, with City Council member Julie Menin (then member of Manhattan Community Board 1) stating in 2006, “We've always questioned the wisdom of having the LMDC involved in that project, given that they have no background in environmental issues.”[33] In fact, publicly available LMDC meeting notes from 2002 indicate Whitehead's enthusiasm for supposed “positive developments... including the return of 8500 Merrill Lynch employees to the area... the opening of the West Side Highway and the return of 400 workers from the Bank of Nova Scotia to the area.”[34] Whitehead's comments reveal an overt focus on the financial sector's return to normalcy, with no mention of supporting other residents impacted in the attacks. Much of the discussion around rebuilding and economic revitalization at this time revolved around Wall Street and the reopening of banks as the primary priority.

The federal government, along with the LMDC, was responsible for the distribution of funds to physically rebuild most of the destroyed buildings and repair damages in the area. However, as of July 2001, Larry Silverstein of Silverstein Properties held the 100-year lease for the World Trade Center building itself, through the Port Authority of New York and New Jersey, and was therefore contractually obligated to rebuild a new tower of comparable scale with the insurance provider's compensation of about \$4 billion.[35] This incentivized real estate developers to continue to invest in Lower Manhattan, since they knew that the financial center would return to its position of prominence once One World Trade Center was completed.

[28] Lisa Katzman, dir., *9/11's Unsettled Dust* (Oley, PA: Bullfrog Films, 2021), 92 min.

[29] Goodman and González, “9/11's Unsettled Dust.”

[30] US General Accounting Office, *September 11: Overview of Federal Disaster Assistance to the New York City Area*.

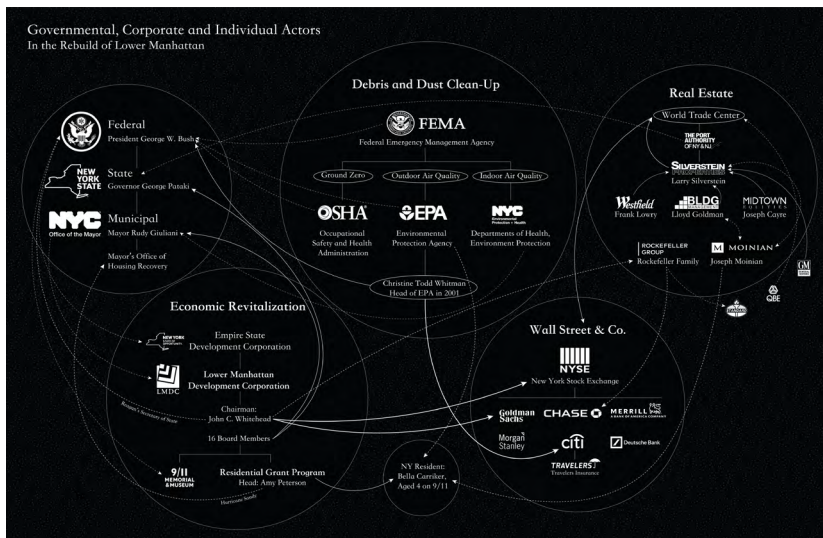
[31] Douglas Martin, “John C. Whitehead, Who Led Effort to Rebuild after 9/11, Dies at 92,” *New York Times*, February 8, 2015, [link](#).

[32] In addition, the Residential Grant Program was managed by Amy Peterson, who went on to work for the Mayor's Office of Housing Recovery after Hurricane Katrina in 2012. This indicates a pattern of administrations appointing officials with little environmental disaster experience to positions of importance in these situations. See Women Builders Council Champion Awards, *Amy A. Peterson: Director, Mayor's Office of Housing Recovery*, 2015, [link](#).

[33] David W. Dunlap, “Downtown Rebuilding Agency Says It Is No Longer Needed,” *New York Times*, July 26, 2006, [link](#).

[34] Eileen McEvoy, “Lower Manhattan Development Corporation: Meeting of the Directors,” meeting minutes, New York, April 24, 2002, [link](#).

[35] Brendan Pierson, “World Trade Center Developer Loses Final 9/11 Lawsuit against Insurer,” *Reuters*, August 2, 2018, [link](#).



Governmental, corporate, and individual actors involved in the rebuild of Lower Manhattan. Courtesy of the author.

All of Larry Silverstein's co-investors in the World Trade Center also owned other real estate in the neighborhood and had ties to the Moinian Group, who evicted my mother and me in 2003 from our Residential Grant Program—subsidized apartment. Throughout their implication in this process of slow violence and displacement, these government agencies and real estate groups were somewhat paradoxically involved in the development of the 9/11 Memorial and Museum, intended to commemorate the attacks. Founded by the LMDC, the memorial opened with John C. Whitehead as chairman and Joseph Moinian (founder of the Moinian Group) on the board of trustees.[36] The very individuals who contributed to my own family's exposure to pollution and housing insecurity were also responsible for how 9/11 would be remembered—and thus *what parts of the disaster, destruction, and loss of life* would be remembered and which would be obscured. While memorialization is an important act for survivors and families of victims, the museum also contributes to a tourism economy that caters primarily to those who did not experience the pollution, who visit the memorial as they would the Statue of Liberty or Times Square without grasping these nuanced histories.

[36] "Board of Trustees," 9/11 Memorial & Museum, [link](#).

### Autobiographical Notes

In 2002, the Residential Grant Program subsidized our relocation to a combined luxury/affordable housing building at One West Street in Battery Park City, managed by the Moinian Group and Columbus Property Management. That same spring, the "EPA, FEMA and New York City announced a voluntary cleanup program for residential units to address the concerns of lower Manhattan residents." [37] Many people did not know of this program, nor had the resources to access it. The following year, in January 2003, our apartment was cleaned and examined by the EPA. At this time, they provided my mother a statement indicating asbestos levels "not exceeding [the EPA's] risk-based clearance level." Upon questioning my safety (I was five at the time) to the presiding coordinator, my mother was told, "Officially, yeah, it's clean. Unofficially, I would get you and your daughter the hell out as soon as you can. This area will be contaminated for a long time." In the spring, when real estate values had

[37] US Environmental Protection Agency, *Interim Final WTC Residential Confirmation Cleaning Study*, vol. 1, May 2003, [link](#).



inflated sufficiently for rent increases, my family was given an eviction notice, providing thirty days to either pay increased fees or vacate the premises. The building management at One West Street retained our city-subsidized deposit after our departure, and my mother and I left New York for several years due to financial constraints. In 2022, the Moinian Group continues to manage One West Street, and studios in the building are leased for a minimum of \$3,250 per month—completely unaffordable to any low or middle-income resident.[38]

[38] “Ocean: Lower Manhattan Apartments for Rent,” Moinian Group, November 7, 2021, [link](#).

Lasting Health Concerns

In the immediate aftermath of 9/11, Lower Manhattan residents were encouraged to wear protective gear, such as masks, to shield themselves from the pollution and dust, but relatively few people did so regularly.[39] The importance of this protection was not well understood at the time due to insufficient public information and lack of data on the smoke cloud’s composition. In addition, professional-grade masks were reserved for first responders and were virtually impossible for the public to acquire, forcing residents to use cloth masks, which are highly ineffective in protecting against the fine particles in toxic air pollution. My mother and I both used cloth masks following September 11, yet we both developed chronic coughs that lasted into 2002. My close childhood friend at the time suddenly developed lifelong asthma as a result. A close family friend and neighbor from the building, who was also evicted, developed cancer about a decade later, but the correlation with dust toxicity had not occurred to her or my mother until now. During that time, residents had simply been in survival mode, without the privilege to question longer-term impacts.

[39] Anthony DePalma, “Air Masks at Issue in Claims of 9/11 Illnesses,” *New York Times*, June 5, 2006, [link](#).



Author and her mother using homemade cloth masks on 9/11. Courtesy of the author.

Since fall 2001, over 1,000 additional first responders and survivors have died as a direct result of illnesses tied to their exposure to toxic dust. After dozens of ill first responders were denied disability rights and adequate access to health care following 9/11, their activism finally resulted in the federal approval of the Zadroga Act in 2010, which established a longer-term protection for survivors.[40] This bill does not provide any direct compensation. Instead it facilitates the infrastructure and funds to create the World

[40] James Zadroga 9/11 Health and Compensation Act of 2010, H.R. 847, 111th Congress (2009–2010), [link](#).

Trade Center Health Program, which covers health care for over 100,000 first responders and residents of Lower Manhattan in the event of any physical or mental ailments listed above.[41] Despite this hard-fought battle for a comprehensive health care program, it was not until two years later that the act was amended to include long-term ailments, now including virtually every form of cancer. In 2015, the federal government finally acknowledged the slower violence endured by survivors and agreed to cover any linked medical issue until 2090. I myself am covered under this act for life, due to my exposure at only four years old.

Indeed, many otherwise healthy young adults who experienced 9/11 have developed chronic conditions and cancers associated with toxicity exposure in recent years. These include survivors of the initial tower collapses, first responders, and even the teenage students who returned for classes to the still-contaminated Stuyvesant High School, located directly across from Ground Zero, in early October 2001.[42] City officials cleared the school only three weeks after 9/11, following the EPA's claims about the air's safety, while the school's principal threatened to expel students should they take time off for health reasons. Governor George Pataki also gave special permission to station barges to collect toxic debris from the Ground Zero cleanup right next to the school. At least twenty of Stuyvesant's graduates from that time developed cancer by their thirties, resulting in several recent deaths.[43] The namesake of the Zadroga Act, NYPD officer James Zadroga, died of respiratory disease at age thirty-four in 2006. Marcy Borders, also known as the "Dust Lady," died of stomach cancer at forty-two in 2015. Borders had also developed severe depression and addiction problems as a result of the trauma she experienced.[44] Long-term mental conditions, including depression and PTSD, are commonly associated with *low-income* 9/11 survivors in particular. [45] Recent studies also indicate evidence for increased cognitive dysfunction in middle-aged survivors, as well as increased risk for serious illness and death during the COVID-19 pandemic, likely due to previous lung damage.[46] These dramatic health effects are pervasive, life-altering, and long-lasting, and many will not be fully observed until decades from now.

### Conclusion: The Combined Effects of Pollution and Displacement

While the Residential Grant Program did in fact boost the economy of Lower Manhattan, it did so at the expense of its most vulnerable populations, and only until landlords could fill high-value real estate with wealthier residents. Prior to 9/11, low-income residents were already at an economic disadvantage; eviction has additional long-term effects on future housing security and financial stability, and can even lead to future debt. Several new bodies of research suggest that evictions are a factor in increased risk of homelessness, the development of mental health conditions (particularly PTSD, depression, and anxiety), and higher emergency room use, as well as increased long-term residential instability.[47] From my own experience, I know these risks and many other destabilizing forces to be true after eviction. Pollution-caused ailments have also been shown to produce financial distress. Asthma, for instance, was responsible for \$81.9 billion in losses across the United States between 2008 and 2013 due to missed work or school, incurred medical costs, and mortality.

[41] "Covered Conditions—World Trade Center Health Program," Centers for Disease Control and Prevention, [link](#).

[42] "Lila Nordstrom," 9/11 Memorial & Museum, video, 5:10, [link](#).

[43] Lila Nordstrom, "9/11 Made Me and My Stuyvesant Classmates Sick—and It Took Years for People to Listen," *New York Post*, September 8, 2021, [link](#).

[44] J. Freedom du Lac, "The Photo of the Doomed 9/11 'Dust Lady' Still Haunts Us after All These Years," *Washington Post*, September 11, 2018, [link](#).

[45] Arijit Nandi et al., "Patterns and Predictors of Trajectories of Depression after an Urban Disaster," *Annals of Epidemiology* 19, no. 11 (2009): 761–770.

[46] Robert D. Daniels et al., "A Workshop on Cognitive Aging and Impairment in the 9/11-Exposed Population," *International Journal of Environmental Research and Public Health* 18, no. 2 (2021): 681.

[47] Robert Collinson and Davin Reed, "The Effects of Evictions on Low-Income Households." New York University, 2018, [link](#).

[48] As indicated previously, asthma was one of the primary health conditions that resulted from toxic dust exposure during and after 9/11.

These correlations are not a coincidence: low-income residents were paid to live in the most toxic areas, used as both economic and environmental shields in the reconstruction efforts in Lower Manhattan, then replaced once the area recovered sufficiently. Throughout the 9/11 reconstruction efforts, the government placed a strong emphasis on “getting back to normal” as soon as possible—a capitalist refrain eerily similar to the US government’s response to the COVID-19 pandemic. In 2001, New York residents who could afford to move out of the disaster area did, just as they did in 2020—displacing health risks solely onto low-income communities so that the economy could continue churning out profits. The sacrifice of low-income communities in the face of disaster has become commonplace in America and around the world; yet these scenarios are not inevitable, but rather designed, and therefore must be prevented in the future.

[48] Tursynbek Nurmagambetov, Robin Kuwahara, and Paul Garbe, “The Economic Burden of Asthma in the United States, 2008–2013,” *Annals of the American Thoracic Society* 15, no. 3 (2018): 348–356, [link](#).