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The Interstate Highway System and Environmental Justice: Disproportionate Environmental Impacts on Low Income and Minority Communities

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Abstract:

Equity does not exist for all citizens with access to a clean, safe, and stable environment. In our present day, a number of urban populations suffer from the effects of heavy and disproportionate pollution from our major roadways and systems. Institutionalized racism and classism are pervasively linked to the development of large scale infrastructure in the United States. This thesis explores the historic roots of environmental racism through an assessment of the placement of the United States Interstate system, an infrastructural juggernaut which provided employment and an incentivized lifestyle for millions of upper class white Americans at the cost of minority neighborhoods, cultural hubs, and business centers. Using an assortment of quantitative data from sources such as the New York City 2010 Census, this thesis tracks racial and class demographics along the Interstate system, drawing a link between proximity, race, and socioeconomic status. At the same time it keeps in mind the modern contexts environmental racism has, highlighting the impact of highway placements on the health of those forced to live in close proximity to its margins, from increased rates of asthma and heart disease to psychological fragmentation as a result of noise pollution. It also addresses the economic motivations and implications of the Interstate system, as well as other urban infrastructural systems and discusses policy tools such as subsidies and eminent domain which have lawfully permitted racial and classist discrimination. In assessing both the history of environmental racism, the contemporary manifestations of it, and the correlation between policy and pollution, this thesis provides a number of policy solutions in an attempt to chip away at the systems which manipulate the environment to satisfy their own greed at the cost of millions of low income and minority lives.
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Introduction. Highways of Exploitation: Environmental Injustice and the Interstate

Environmental justice as an ethical discipline involves the application of a socially conscious and critical lens over systems of oppression which have enforced inequity amongst members of minority, low-income, and other populations on the margins of American society. It attempts to shed light on the ways in which the environment is manipulated to increase disparities in populations that have traditionally fallen outside the privileged world of the upper-class, white majority. Environmental racism, more specifically, focuses on the correlation of environmental hazard and social standing, discussing the ways in which groups and populations who are underrepresented and stigmatized are targeted by the excessive pollution, public health dangers, and other environmental hazards resulting from the placement of large-scale infrastructure. This thesis will focus on environmental justice and environmental racism specifically in an urban setting, highlighting the link between the Interstate Highway System, environmental and public health degradation, and socioeconomic status. Once the connection between environmental manipulation and racism has been established, the resulting negative effects and implications will be made abundantly clear. Racism is a pervasive, intricate, and institutional problem; subsequently policy solutions and recommendations must supersede individual-level or even community-level remediation. Solutions must be geared towards systematic and sustainable change arising from a combination of municipal, state, and federal legislation in order to dismantle the political and economic structures which support the persistence of environmental racism.

Mainly focusing on New York City specifically, Chapter 2 will discuss the historical roots of the Interstate Highway System, constructed to provide white families the incentives to move
into the suburbs as the cost of the minority cultural and commercial districts. It will analyze and assess the political incentives and subsidies allowing for suburban development, social programs which explicitly excluded African-American populations from accessing the same prosperity. Specific detail will be given towards the massive infrastructural changes undertaken by Robert Moses, a New York City planner whose projects changed the urban landscape at the cost of millions of minority and low-income households, displaced by the construction of roadways such as the Cross-Bronx Expressway and the Brooklyn-Queens Expressway.

Using quantitative data from the 2010 New York City Census and the Racial Dot Map developed by the Demographics Research Group at the University of Virginia, Chapter 3 will assess the modern-day manifestations of environmental racism along the Interstate Highway System, which is lined almost exclusively with low-income and minority households, an incredible sustaining implication of the system’s construction sixty years ago. As data will show, in New York City alone, the composition of neighborhoods lining Interstate systems is almost exclusively black, Asian, Latino, and Hispanic. Conversely, these populations are also targeted for their socioeconomic status, the majority of whom live in low-income conditions. While these minority groups may not have been explicitly targeted by infrastructural planners in the present, the historic racism that led to the construction of these roads permeates today. Environmental racism manifests in the public health maladies that radiate from major roadways, including heart disease and cancer from particulate inhalation, psychological issues resulting from noise pollution, and a growing food insecurity which is incidentally tied to the popularization of car culture, a cultural trend which has separated low-income urban communities from nutritious sources of caloric intake.
Chapter 4 will use insight and information from the public health discipline, discussing the disproportionate effects of living in close proximity to the Interstate, including asthma, hearth disease, stroke, and psychological degradation. Conversely, it will explore other manifestations of environmental racism tied either explicitly or implicitly towards the Interstate Highway System and the popularization of car culture, including the placement of transit depositories and garbage collection stations in New York City. Similarly to the placement of low-income and minority communities in proximity to the Interstate Highway System, evidence will show that environmental racism persists within these hazardous and pollution intensive infrastructural fixtures. The concentration of bus depositories finds itself heavy within the outer boroughs, with the south Bronx and Upper Manhattan regions, two predominantly African-American and Hispanic areas, suffering the most while within upper-class white communities this infrastructure nearly vanishes. Clean air is a basic human right, one that should not be influenced by tax brackets or racial composition. The distribution of these bus depositories is a prime example of the relationship between environmental conditions and socioeconomic status, an inequitable link which promotes the well-being of upper-class white communities at the cost of heavy pollution and public health maladies within racial and economic minority populations.

A necessary connection to make is the one between the economy and environmental racism, a relationship which stealthily promotes the corporate agenda of conglomerates who directly and indirectly profit from the exploitation of low-income and minority areas, using them as pollution havens in order to escape the regulatory framework put in place by legislation which attempts to limit the production of pollutants, toxic waste, and chemical byproducts. Subsequently, Chapter 5 will discuss the political economy of the United States and its
connection to environmental injustice. It will discuss the manipulation of public policy in the form of public incentives and eminent domain, which seizes private land for the supposed well-being of the public, a public comprised of upper class, white, United States citizens. This political and economic approach to looking at the ways in which monetary gain influences environmental racism will unravel the ways in which corporate interests can affect political influence which in turn creates the justification through which low-income communities suffer from the negative effects of industrialization and transportation.

Finally Chapter 6 will explore policy tools and recommendations highlighting federal legislation like Intermodal Surface Transportation Efficiency Act, which attempts to rectify the output of pollutants, particulates, and carcinogens present along the Interstate Highway System and other major roadways. It will explore the successes, failures, and potential this federal program poses on dismantling environmental racism within urban communities with the hope of creating a new legislative program which will synthesize the achievements of pre-existing legislation in order to promote a more fully realized approach to regulating the production of pollutants tied to automobile transportation. It will conclude with a discussion on the subsidization of automobile transport and the importance of redirecting federal investment towards rapid transit programs which would encourage large scale use of more efficient, less environmentally hazardous transportation between urban and suburban areas. It will highlight the proposed Hartford Line Rail Program, an underfunded infrastructural proposal which would link three major metropolitan areas under an efficient network of interconnected train lines, serving as an alternative form of transportation for millions of residents who rely on the Interstate Highway System daily for their commute. The allocation of federal, state, and local funding as
well as support from private sector investors within these large scale, massive transit systems will serve as a countercultural attack on American car culture which promotes an inefficient, environmental degradative, and socially irresponsible method of transportation resulting in tangible and ever lasting health problems for the millions of individuals who are forced to live along the very highways accountable for their devastation.

Chapter 1. Environmental Racism and Justice: An Ethical Overview of the Environmental Justice Movement.

In order to fully comprehend the systemic oppression environmental racism poses to those who live on the margins of the Interstate Highway System, an ethical foundation must be laid down, detailing the environmental justice movement which attempts to dismantle these institutional sources of societal discrimination. In many ways, environmental justice serves as a critical assessor of the downfalls of utilitarianism, an ethical discipline which calls for the maximization of social happiness. What utilitarianism fails to take into account, however, are the economic and racial contexts in which this maximization takes place. As Donald VanDeVeer states in *The Environmental Ethics and Policy Handbook* “environmental burdens of various sorts do affect humans, and it is important to consider the way in which environmental burdens get distributed by *policies* that we conscious adopt...or *processes* to which we individually contribute” (VanDeVeer, 35). The environmental burdens to which VanDeVeer alludes have the potential to harm the biology of each human equally, but the reality of this harm is intrinsically inequitable.
The distribution of environmental burdens and maladies finds itself skewed when placed under a racial lens, with minority groups experiencing an exponentially greater impact compared to white and upper class groups. Figure 1 shows the distribution of asthma levels amongst racial groups over four different community types: urban, metropolitan, suburban, and rural.

Within all four areas African Americans and Hispanic populations experienced heightened levels of asthma hospitalization compared to White and Asian populations. In urban communities alone, African Americans were affected by asthma hospitalization rates 450% greater than white persons within the same urban boundaries. Hispanics found themselves experiencing asthma rates 300% greater than their white counterparts. Nationally, the distribution of asthma hospitalizations remains skewed when distributed across different racial groups. Compared to the national average, African Americans experienced asthma hospitalization at rates 305% greater while Hispanic populations experienced asthma hospitalization at rates 203% greater (Metropolitan Area Planning Council).
Clearly, the distribution of environmental burdens is one of inequity, with minority groups experiencing higher levels of public health issues as a result of this disparity. Utilitarianism will claim that, due to the national average of asthma hospitalization being lower than within specific racial groups, that the policies and processes which contribute towards asthma levels are functioning in a just way, as they are maximizing happiness for a greater number of people. What this neglects to consider, however, is which groups profit over others. In the case of asthma, it is white and asian populations. Utilitarianism overlooks racism, stating that what is right and what is just completely disregards the suffering of specific groups, targeted by oppression over others. This is what environmental justice hopes to remedy, this is the reason in which looking at the critical infrastructure of the United States denotes a responsibility to actively consider the racial implications of resulting environmental hazards. Environmental justice looks at this distribution of asthma rates and concludes that, even though a large amount of people are healthy and safe, there are specific populations who are disproportionately suffering, meaning that the system is flawed. “It is not news that who gets the dirty work or the “dirt” has often been a matter of which groups are least favored in a particular society (VanDeVeer, 36). In the case of environmental racism within the United States, specifically along the Interstate Highway System, those who suffer from the inhalation of automobile particulates and the noise pollution associated with nonstop travel are racial and economic minorities, groups historically targeted due to the racist assumption that their lives and their lived experiences are of a lesser importance to groups holding social dominance and power.

The poisonous waste and toxic outpouring of pollutants, PCBs, and carcinogens find themselves concentrated within communities of color and communities of working class
individuals who find themselves surrounded by factories, chemical plants, and infrastructural megaprojects which reek of environmental waste. These groups are at the margins of a society which does not take their wellbeing and prosperity into the same consideration as those with white skin who pay higher taxes. In citing “Toxic Wastes and Race in the United States”, a nationwide study attempting to trace the impact of environmental degradation upon racial minorities, environmental journalist Karl Grossman describes evidence of a systematic link between communities of color, the dumping of hazardous waste, the output of pollutants and particulates, and the contamination of public goods such as water and air. According to that study, Grossman reports

Race proved to be the most influential among variables tested in association with the location of commercial hazardous waste facilities. This represented a consistent national pattern. Communities with the greatest number of commercial hazardous waste facilities had the highest composition of ethnic residents…three out of every five black and Hispanic Americans lived in communities with uncontrolled toxic waste sites. Black were heavily overrepresented in the populations of metropolitan areas with the largest number of uncontrolled toxic waste sites. (Grossman, 553)

This analysis describes a permutation of racism within environmental issues, highlighting the ways in which minority groups are afflicted by the hazardous manipulation of environments for purposed of industrial development and economic gain. It represents a nationwide trend of substantial and harmful racial discrimination in which minority groups are targeted because of a systemic disregard for their wellbeing. This lack of interest couples with a basic need to place dump sites, depositories, factories, and infrastructure in some location to produce environmentally racist policies which leave them polluting minority neighborhoods, causing severe and disproportionate health issues for those living within the area. In the past two decades
within New York City alone, West Harlem residents saw an increase in the placement of exploitative facilities contributing towards environmental burdens including a sewage treatment plant, a marine transfer station for garbage, and multiple bus storage depots (Grossman, 553).

Environmental justice is not only threatened by racist policies and procedures within the sociopolitical sphere, but is also targeted by the mainstream environmentalist movement, which supports initiatives and directives which are usually only obtainable by mainly white, middle-to-upper class, consumer populations. According to Peggy Shepard, an environmental justice activist and former leader of the West Harlem Environmental Action group (WEACT), “we get so used to the stereotype that what environmentalism means is wildlife and the preservation of open space. There has not sufficient movement on urban environmental problems: incinerators, sewage treatment plants, factories polluting the air, devastating occupational exposure” (Grossman, 553). This disconnect between social groups and the environment is intrinsically flawed. There are few social, political, and cultural issues that do not have ties to the environment, and vice versa. Mainstream environmentalism and the increase of “green” movements contributes towards this differentiation between built communities and the outside environment, dominating educational curricula and media coverage of environmental issues. Driving a hybrid, buying locally grown produce, composting, dedicating to a vegan lifestyle and recycling are all great, but they neglect their socioeconomic contexts. Environmentalism, when defined under the assumptions above, is accessible only to those who can afford it. While the upper classes choose to better their environment through lifestyle changes, low-income and minority populations suffer under environmental conditions and hazards out of their control.
The environmental justice movement, as a result, was born out of a desire to create active and engaging policy support for those suffering from the health conditions resulting from pollution, contamination, and hazardous infrastructure. It developed as a means of overcoming systemic oppression within the various institutions in the United States, including housing and labor. While there is no official start to the movement and no centralized body of authority, the environmental justice movement has foundations within the many other movements towards social equality found in the mid to late 20th Century. The grassroots organizing of the Civil Rights movement provided inspiration and a framework of direct action to those attempting to mobilize in advocacy for providing environmental equity. According to Luke Cole and Sheila Foster in their book *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement* leaders and activists within the Civil Rights movement who then became active in the blossoming Environmental Justice movement brought with them a history of, and experience with, direct action, which led to similar exercises of grassroots power by the Environmental Justice movement; a perspective that recognized the disproportionate impact of environmental hazards was not random or the result of “neutral” decisions but a product of the same social and economic structure which had produced de jure and de facto segregation and other racial oppression (Cole, 21).

Assessed within the context of the Interstate Highway System, an infrastructural mega project which extended its influence throughout all major metropolitan areas in the United States, it becomes clear that the political and economic motivations behind its construction fell under the same decision making process alluded to by Cole and Foster; a sociopolitical directive which led ultimately to greater racial segregation in order to promote the flourishing of white suburban communities developed in accordance with the Interstate system.
Fusing with similar social equity movements such as the Toxic Waste movement generated as a result of the contamination of Love Canal, NY and the labor movements undertaken by social figures like Cesar Chavez, who advocated for agricultural workers rights as a result of a contamination from harmful chemicals and unfair labor practices, the Environmental Justice movement gained stability and a greater mobility. 1991 saw the first ever national congregation of groups and organizations coming together for environmental justice. The First National People of Color Leadership Summit provided an unprecedented forum for achieving change, “there were speeches by leaders in the national social justice movement…strategy sessions on issues such as toxic dumps and legal challenges, and caucuses for delegated organized by region and by race” (Cole, 32). This conference served as means of declaring that social injustice, racism, and classism all persist within environmental circles and therefore necessitate a powerful counteraction to overcome this oppression. It laid the groundwork through which urban, suburban, and rural communities nationwide were able to recognize environmental injustice and develop actions and policies to fight against it. The conference provided both a tangible and abstract legitimacy for the Environmental Justice movement, giving it the strength and authority to obtain a national platform for institutional change.

The development of the United States’ most massive transportation project in the mid to late 20th Century provided the grounds through which automobiles and a suburban lifestyle became the pinnacle of American achievement. It granted families comprehensive mobility and provided an unprecedented network of connections between major metropolitan areas throughout the country. Operating in conjunction with this newfound interconnectivity of the United States was the interests of economic development within the transportation industry. This relationship, between the growth and proliferation of the Interstate System and the American economy came to rely on each other in a symbiotic function, fueling and informing one another to increase growth and profit. According to Howard Frumkin in his essay “Cities, Suburbs, and Urban Sprawl”, “many interests promoted publicly funded road building, including the tire, oil, automobile, and road-building industries, while public transportation continued to be viewed as a private initiative that needed to be self-supporting” (Frumkin, 145). This massive undertaking required heavy public investment in order to fuel public prosperity, providing jobs, revenue streams, and tax incentives in order to support automobile travel.

In order to support all these benefits and connect United States cities with each other in a seamless, easily accessible way, massive areas of land within urban centers needed to be carved out and demolished to make way for the Interstate roadways. It is within this destruction that environmental racism initially manifests in conjunction with the Interstate Highway System, as minority neighborhoods became the targets of widespread destruction in order to promote the construction of urban expressways. As stated in Chapter 1, groups on the margins of society are
easily exploited because of social and political forces which neglect to see their interests as equally important as the interests of white populations or populations of a higher socioeconomic rank. As a result, the Interstate system plowed through a large amount of African-American, Hispanic, and Latino cultural and economic centers, forcing millions out of their homes and millions more to live in close proximity to the chaos the Interstate system posed within cities. In Miami, the African-American neighborhood of Overtown became the victim of this destruction, as Interstate-95 demolished the area entirely.

It ripped through the center of Overtown, wiping out extensive housing as well as the black business district. One massive expressway interchange alone took up twenty square blocks of densely settled land and destroyed the housing of about 10,000 people. Some 40,000 African Americans made Overtown home before the interstate came, but less than 8,000 now remain in an urban wasteland dominated by the expressway (Fullilove, 182).

Families who remained within urban cities following the construction of the Interstate found themselves separated and isolated from other neighborhoods both within and beyond city limits. Only those who could afford the means of automobile transport, mainly middle to upper class white families, were able to transcend the enclosure expressways posed upon city neighborhoods. Those who could not afford private transportation found themselves trapped within the boundaries created by the Interstate system, walled in by massive roadways unaccessible to non-automobile transportation. This, coupled with a general underfunding of public transit systems, lead to further racial alienation within cities like Miami, Los Angeles, and New York City. Subsequently, the construction of the Interstate highway system had a profound economic impact on urban communities, as suburban lifestyles became more promising for white, middle to upper class families, who were able to use government subsidies and incentives in order to move into settlements outside of major metropolitan areas within the United States.
Access to these incentives, however, becomes yet another manifestation of environmental racism as a result of the Interstate system and its promotion of a suburban American lifestyle. According to Russell Lopez in his book *The Built Environment and Public Health* the construction of highways linking cities and suburbs “made it easier for upper- and middle-income families to leave the cities, weakening the tax base. The chaos and destruction caused by highway construction further debilitated inner-city neighborhoods and pushed even more people to leave cities” (Lopez, 77). As more and more white families and families of a higher socioeconomic status exited cities, the public goods and services offered to urban residents became heavily underfunded, damaging the well-being of minority and low-income groups who could not afford a private provision of these goods and services. This social phenomenon, known as white flight, was fed by the Interstate system, which allowed white populations to exit cities while excluding minority and low-income groups from doing the same.

This exclusion of minority families from a suburban life away from the destruction of the interstate was intentional and institutional, as dictated by the policies and procedures of programs, subsidies, and incentives which allowed white families to move out of cities. This represents a blatant and legally sanctioned method of environmental racism, which forced minority families to live in the urban deserts created by the Interstate. As David Chappel states in his essay “Did Racists Create the Suburban Nation?”, the most accessible government incentives, the Interstate Highway Trust Fund and the mortgage subsidies provided by the FHA and VA “induced Americans to own more cars and houses…[however], The FHA’s guidelines were explicitly racist. Local zoning laws enforced—and often created—class distinctions…choking off the improvement of black neighborhoods, pouring extra capital into white ones (Chappel,
While white families were granted a state-sanctioned method of transferring to a suburban life, minority families were forced to remain within cities, bearing the grunt of the environmental and economic burdens created by the Interstate system, which will be discussed in Chapters 3 and 5, respectively.

As stated previously, the Interstate Highways System’s targeting of racial minorities was a nationwide trend, ripping apart the social, economic, and cultural bonds holding those populations together. New York City was no exception, with Robert Moses’ proposed and then conceived seven mile superhighway, the Cross Bronx Expressway, tearing through African-American, Hispanic, and eastern European neighborhoods. The Cross Bronx Expressway remains today a major artery of travel between New England and the Mid-Atlantic, and continues to pose a clear and present danger to the heath, safety, and overall well-being of the millions who live in the surrounding regions of the highway. Construction of the Cross Bronx Expressway was in and of itself a cost-intensive and complicated endeavor. According to Anthony Flint, author of *Wrestling with Moses*, the Cross-Bronx Expressway “required blasting tons of rock in submerged sections, crossing a hundred streets….and [a slashing] through one mile of densely populated neighborhoods. Over fifteen hundred families would be forced to relocate…[it was] completed in 1963 at a cost of $128 million” (Flint, 142). The construction of the interstate represented one in a series of massive urban transformations at the hands of Robert Moses, an infamous and incredibly influential New York City urban planner. Moses’ proposal for the Cross Bronx Expressway, and other linkages for the Interstate Highway System, proved incredibly costly for the minority urban communities impacted by its destruction. The plan served as a microcosm for racial relationships with the sociopolitical manipulation of the
environment, stating that the well being and livelihood of minority groups was of no concern to Moses’ attempt at urban renewal.

The construction of the Cross Bronx Expressway also represented Moses’ disregard of community voices and cooperation, the latter of which was completely absent in the placement of the Interstate. According to Flint, the construction of the Cross Bronx Expressway “represented Moses’s dominance over neighborhood objections…the Cross Bronx Expressway broke up thriving and diverse immigrant enclaves and jump-started the economic and social decline of the Bronx” (Flint, 142). An inherently environmentally racist proposal, the Cross Bronx Expressway’s function was to clear up traffic congestion into and out of New York City, alleviating pressure and pollution for city residents. It did this at the cost of thousands of homes, commercial stores, schools, cultural centers, and the idea of a neighborhood definition that provided minority groups with a sense of belonging and identity within a sociopolitical climate which rejected them as equals. It also did this with no reassurance that congestion on New York City roadways would be lessened. In her most influential book, *The Death and Life of Great American Cities*, urban theorist Jane Jacobs openly criticizes Moses for his construction of above-ground expressways within the city and his proposal for the construction of another expressway through Mid-Manhattan. She writes “instead of serving as bypassers, expressways in cities serve too frequently as dumpers. Mr Moses’s proposed plan…is always presented appealingly as a fast route to keep traffic out of the city…[and yet] by accommodating traffic aimed at the heart of the city, it will actually tend to choke up city bypass traffic (Jacobs, 479).

Due to the proposed Spaghetti Junction approach to the expressway construction, a feature found in both the Bruckner Expressway and Cross Bronx Expressway, two major roadways within the
Bronx, a series of overlapping and underlapping off- and on-ramps would lead to the convergence of far too many arteries of traffic, ultimately leading to greater congestion along the roadways. For this reason, Jacobs asserts, Moses’s Mid-Manhattan Expressway plan ultimately fails, and that was before the mention of the thousands of black and Puerto Ricans homes and places of employment that would need to be torn down in order to accommodate the new expressway.

One particular mile of the Cross Bronx Expressway through the East Tremont neighborhood, fell under a severe destruction and displacement as a result of the Interstate’s construction. Concurrently, Moses fell under severe scrutiny for his failure to relocate this particular section of the Interstate two blocks south of its eventual path. Robert Caro, the author of *The Power Broker*, stated that this particular mile of road was puzzling, as it “would destroy

![Figure 2. The Failed Alternative Source: The Power Broker](Image)
hundreds upon hundreds of homes, homes in which lived thousands of men, women and children. And it would cost millions upon millions of dollars in condemnation [and demolition] costs” (Caro, 851). Figure 2 shows the alternative route, two blocks south of the East Tremont neighborhood. A relatively low-populated area bordering Crotona Park, construction would have only required the demolition of “six small buildings”, allowing for the thousands of minority families within East Tremont to keep their homes and also allowing the city to keep its tax revenues from this neighborhood (Caro, 864). However, Moses ignored the well-being of these families, and seized the East Tremont land from its inhabitants, a choice rooted in ignorance and a disregard for the thousands of minority lives calling East Tremont home. It is important to keep in mind that what happened in East Tremont and along the Cross Bronx Expressway occurred as well with the construction of the Brooklyn-Queens Expressway, the Bruckner Expressway, and outside the city in major metropolitan districts nationwide, including the construction of Interstate 95 in Miami and the construction of Interstate 10 in New Orleans, both of which plowed through African-American cultural and economic hubs. These permutations of environmental racism left a long-standing impact on the neighborhoods destroyed by the Interstate system, an impact which persists in the present day albeit in a different form. The legacy of Robert Moses’s disregard for the neighborhoods destroyed to make way for the construction of the Interstate system is alive and well, with a similar lack of concern on behalf of policy makers and non-affected citizens towards the health of those suffering from air pollution, noise pollution, and the ever present food insecurity enforced by our culture of sprawl. “There is a wistful myth that if only we had enough money to spend we could wipe out our slums in ten years…but look what we have built…promenades that go from no place to nowhere.
Expressways that eviscerate great cities. This is not the rebuilding of cities. This is the sacking of cities (Jacobs, 4). Jane Jacobs’ words hold true today, as millions are forced to live in the remains of great neighborhoods destroyed by vapid ambition.

Chapter 3. Modern Segregation: The Distribution of Race and Class Along the Interstate

Consistently, residential neighborhoods located along the Interstate system in urban areas are comprised of racial minorities and people of a lower socioeconomic status. The barriers set in motion by the construction of expressways in the Bronx, Brooklyn, Queens, Miami, Los Angeles, and other metropolitan areas throughout the United States persist today, presenting populations with a myriad of health problems resulting from the negative environmental impact large-scale automobile transport imposes upon those living in close proximity to American roadways. It is minority groups who disproportionately receive the burden of these environmental hazards, as has been traditionally so for centuries prior. The following chapter is dedicated to a quantitative analysis of the racial composition within neighborhoods surrounding the Interstate Highway System in urban areas. The trend, as this chapter will prove, is that these zones are heavily populated with racial minorities, a continuation of the environmental racism that allowed Robert Moses and urban planners nationwide the ability to destroy entire cultures with the stroke of a pen.

Utilizing the Racial Dot Map, a massive survey tool created by the University of Virginia, this chapter will examine the modern day distribution of race within areas of close proximity to the Interstate. Parallel to the Racial Dot Map is a simple, yet incredibly effective mapping software, which will be used to show the location of Interstate systems in conjunction with their
racial composition. The combination of Google Maps and the Racial Dot Map, as well as information from the New York City Census of 2010, will show that there is an extreme socioeconomic and racial divide between those who live near highways and those who do not. This will serve as an important connection between the history of environmental racism within the construction of the Interstate system and the present day environmental racism resulting from its construction.

To begin, we first look at the Cross Bronx Expressway, the seven mile juggernaut of Robert Moses’s creation. In assessing the regions surrounding Cross Bronx and Bruckner Expressways, the maps will show an interesting parallel between the racial composition of urban communities surrounding Interstates, roadways which allow travel of all vehicles including buses and trucks, and the suburban composition of communities surrounding parkways, in this case the Pelham Parkway, which only allows the travel of passenger automobiles and thus is more environmentally stable.

Figure 3. Racial Composition of the Cross Bronx Expressway
Figure 3 above shows the racial makeup of the neighborhoods surrounding the Cross Bronx Expressway and Bruckner Expressway. The Cross Bronx is shown in the right map as the orange segment running along the line tracked by the red location marker. When compared to the Racial Dot Map on the left, it is evident that the majority of the population is Hispanic, represented by orange dots. When assessed closer, it also becomes clear that the only predominant concentration of Asian populations, represented by red dots, is also along the Cross Bronx, as shown by the blue arrow. Comparing the racial makeup of the neighborhoods surrounding the Cross Bronx with the neighborhoods surrounding the Pelham Parkway, seen in the top right of both maps, the majority of the population switches to white residents, represented by blue dots. The green arrow on the Racial Dot Map points this out. An enlarged version of Figure 3 can be found in the appendix.

Next up, Chicago, a city with both a smaller and less dense population and also a city with significantly less Interstate highways than New York City. However, as Figure 4 will show,
the city falls victim to the same trend, with urban populations surrounding the major Interstate arteries comprised mostly of minority groups.

Both images highlight Interstates 94 and 290, represented by the purple line. As seen from the Racial Dot Map, the composition of groups along these two major roadways is mainly black, represented by green dots and Asian, represented by red dots. Also represented is Interstate 55, also known as the Stevenson Expressway, which is highlighted on both maps by the magenta line. The neighborhoods surrounding this stretch of road are mainly Hispanic, with some patches of an Asian predominancy. Areas of Chicago with a predominantly white population occur in areas far removed from the Interstate system, as represented by the top right corner of the Racial Dot Map, which shows Evanston, an immediate suburb of Chicago accessed solely by smaller roads and avenues. As evidenced by the proliferation of blue dots, this area is mostly white. Another interesting phenomenon occurs within spotted black circle on the Racial Dot Map. It is a phenomenon I have described at the racial barrier effect, in which neighborhoods that are predominantly white and in close proximity to the Interstate system are separated from direct contact by a barrier of minority groups. In the case of Interstate 94, white communities are separated from direct contact by a predominantly black population. In the case of Interstate 54, white communities are separated from direct contact by a predominantly Hispanic population. Thus, even when there are white communities close to Interstate systems, they are surrounded by minority populations who are in even closer proximity to the Interstate systems, meaning that those communities bear the brunt of negative environmental impact from living along the Interstate. An enlarged version of Figure 4 can be found in the appendix.
The same effect carries over into my final urban example, the southern metropolis of Houston, Texas. The Interstate System in Houston is a bit different than in Chicago or New York. In comparison with New York, the Interstate runs through the center of the city while in New York, the Interstate runs only through the outer boroughs. In comparison to Chicago, the Interstate in Houston maintains what is called an auxiliary loop towards the outer edge of the city, basically meaning an Interstate highway runs in a circle around the inner-city. However different Houston may be in terms of infrastructural layout, the same trends persist, with the majority of those living on the border of an urban Interstate Highway belonging to a minority group.

Figure 5. Racial Composition of Houston Expressways

Figure 5 shows the racial distribution along Interstate highways within Houston. The purple line represents Interstate 69 while the red line represents Interstate 45. As seen along Interstate 69, the majority of residents living along the Interstate are either black, represented by green dots or...
Hispanic, represented by orange dots. Interstate 45 shows that the majority of residents living along the Interstate are Hispanic. The black segments on the Racial Dot Map represent the racial barrier zones discussed previously. While there are white populations, represented by blue dots, living in relative proximity to the Interstate, they are once again separated from it by a wave of minority populations who again receive the most severe environment hazards radiated from the roadways. It is also interesting to note the way in which the city is segregated by race, a phenomenon akin to Fullilove’s claim that the Interstate system created and enforced racial boundaries. What occurs in modern day Houston is the same thing, with Interstate 45 separating white communities from Hispanic communities and Interstate 69 separating Hispanic communities from black communities. Despite the nearly 50 year span between the construction of the Interstate system and today, the manipulation of the environment to fuel racial segregation persists today. A larger version of Figure 5 can be found in the appendix.

While there is no graphical distribution of socioeconomic rank in a similar style to the Racial Dot Map, an interesting correlation is found between New York City boroughs and median income. Unfortunately, it is not enough to prove a relationship between socioeconomic status and proximity to the Interstate system, but can be assumed due to the inherent links between classism and racism, that the majority of those living along the Interstate system are also of a lower socioeconomic rank. According to the New York City. According to the 2013 American Community Survey, the median household income in the Bronx, a borough comprised of racial minorities and also a borough containing three major Interstate Highways, was $37,357. While in Manhattan, a borough containing mainly white communities and no major Interstate
Highways, the median income was $72,190 (U.S. Census Bureau). Again, while it is not enough to provide a causal link between Interstate proximity and socioeconomic rank, it is important to point out the income gap between these two boroughs inversely with the amount of Interstate Highways within them.

Chapter 4. The Disproportionate Impact of the Interstate Highway System on Public Health

Living along an Interstate Highway is not an easy undertaking. In many cases, due to the limitations of wages and income for families of a lower socioeconomic rank, it isn’t a choice. Some will argue that living along the Interstate, and subsequently falling prey to the myriad of health problems resulting from large scale automobile travel, can be rectified simply by moving away. They argue that it should not be the responsibility of government or the public to affect sweeping change to better the lives of the millions who are at risk of heart disease, cancer, and psychological issues, it should be the responsibility of those who live along the system to relocate themselves. What this line of reasoning neglects is that clean air and pristine public health are not private goods, they are civil rights. Rights that have been tarnished by environmental injustice to disproportionately place the burden of pollution, particulate, and waste output upon communities of color and communities of a lower socioeconomic rank. Access to a clean environment should not be a racial problem or an economic problem, but it is. The reality of the situation is that sources of pollution are put into neighborhoods composed of minority groups much more readily than in neighborhoods where upper class white populations reside. Municipal decisions, dictated by governments, target these communities. It is the reason why the Interstate system plowed through African American and Hispanic neighborhoods, and it
is the reason why waste stations, treatment plants, and bus depots find themselves almost entirely removed from white communities. As a result of these environmentally unjust policies, minority neighborhoods suffer. For example, WE ACT, the West Harlem Environmental Action Inc., tracked the inverse relationship between asthma rates and the placement of bus depots within Manhattan. Using the Racial Dot Map, it becomes clear that there is another relationship present. The positive relationship between bus depots, asthma, and communities of color. Figure 6 shows two images: WE ACT’s findings on asthma levels and bus depots, and a Racial Dot Map image highlighting the racial composition of these areas.

Figure 6. Asthma Rates and Race in New York City  Source: WE ACT
The black line on the Racial Dot Map represents 96th Street and the near instant racial swap from majority white to majority Hispanic. Conversely, the WE ACT map shows the placement of bus depots within these areas, with six placed above 96th Street in areas of predominantly black and Hispanic communities and only three placed below 96th Street in predominantly white communities. This means that minority communities are twice as likely to live in close proximity to a bus depot, which results in heightened asthma rates, as represented by the darker shades of red on the WE ACT map, than white communities. Effectively, because of this disproportionate placement of infrastructure, which echoes the placement of the Interstate system, minority groups in New York City are twice as likely to contract asthma than white communities. An enlarged version of Figure 6 can be found in the appendix.

Zooming in on the infrastructural focus of this thesis, the Interstate Highway System, the resulting public health problems posed upon the minority groups living along urban highways increase exponentially when compared to the predominantly white areas living farther away. Interstate Highways, especially within congested urban areas, play host to an abundance of air pollutants exhausting from numerous passenger cars, buses, and diesel trucks. This has a major impact on both the environment surrounding the Interstate and upon the people living around it. According to Russell Lopez, “residents who live near highways are more likely to be exposed to higher levels of particulates, oxides of nitrogen, carbon monoxide, and other pollutants. These exposures have been linked to…asthma, cardiovascular disease, and certain cancers” (Lopez, 77). Lopez is keen to point out the relationship between these health problems and racial and economic composition Interstate adjacent neighborhoods, stating that “these roads are often alongside or in the middle of low-income and minority communities” resulting in a
disproportionate public health impact, similar to WE ACT’s findings on asthma levels within Upper Manhattan.

A solution to this problem, especially within urban communities affected by increased highway congestion is to construct more roads. More roads means less traffic, and less traffic means less idle. Less idle means less pollution. However ideal or logical as this may sound, the reality of increased road construction looks much different. As the amount of Interstate systems within urban areas increase, so does air pollution. A study undertaken by Allison Cassady of the United States Public Interest Research Group, tracks the relationship between the increase in Interstate construction with the increase in urban air pollution, which again targets the minority groups who live along the Interstate disproportionately from the white populations who live farther away. In her study, which surveyed over 300 United States cities ranging from populations under 250,000 to over nine million, she concluded that “the average city could expect a 10.9% increase in nitrous oxide emissions and a 10.7% increase in VOC emissions assuming similar levels of per-vehicle pollution” (Cassady, 16). This increase in emissions stemming from an increase in Interstate expansion, while serving as an attempt to limit the amount of particulates being emitted into surrounding neighborhoods, proves more damaging to the minority and low-income populations living along urban expressways, as they are the groups who receive the most severe burden of pollution increase.

A group of scientists from The Center for Disease Control and Prevention echo both Lopez and Cassady’s concerns about the health risks posed upon communities living alongside Interstate Highways. Their report, entitled “Residential Proximity to Major Highways-United States, 2010”, uses a combination of Geographic Information Systems (GIS) and multiple census
According to their findings, 

The greatest disparities were observed for race/ethnicity, nativity, and language spoken at home; the populations with the highest estimated percentage living within 150 meters of a major highway included members of racial and ethnic minority communities, foreign-born persons, and persons who speak a language other than English at home…These conditions were selected to capture persons who are at the highest risk for exposure to traffic-related air pollution…This analysis suggests that social and demographic disparities exist with respect to residential proximity to major highways (Boehmer)

The report asserts previous claims of environmental injustice along the Interstate system, namely that populations most at risk of contracting serious health problems are minority and low-income groups. The report from the CDC went on to conclude that enough evidence exists to prove a causal relationship between exposure to the various air pollutants and particulate matter found in high deposits along Interstate roads and a number of severe health problems including asthma, impaired lung function, cardiovascular morbidity and cardiovascular mortality. The report went on to chillingly cite a relationship between the Interstate Highway system and the level of all-cause mortality, meaning that within populations in close proximity to the Interstate Highway System, mortality rates of any and all causes increased (Boehmer) (Leeds, Grenville & Lenark District Health Unit).

There is another variable to the public health equation that is completely separated from air particulates, carcinogens, and other vehicular emissions. It is a variable that, unfortunately is as omnipresent and endangering to the lives of those living along the Interstate Highway System, the issue of noise pollution. Due to their non-stop activity, urban expressways produce a constant stream of low- and high-pitched noise levels which in turn resonates throughout the neighborhoods and houses surrounding the Interstate System. This noise pollution represents a
hidden manifestation of environmental injustice along our nation’s roadways, especially within densely populated and highly congested urban areas. Elevated roadways, like the Cross Bronx Expressway, are the most degenerative because the potential for sound insulation is incredibly low. According to Russell Lopez “people who live near highways are exposed to higher levels of ambient noise and these increased exposures have been associated with stress and illnesses and may be a factor in cardiovascular disease and other health problems” (Lopez, 78). This represents a double jeopardy for the minority groups living along highways, especially within the non-insulated expressways of New York City. Not only are they surrounded by inescapable micro-particles emitted from vehicles, but they are also surrounded by an endless wave of penetrating sound, the latter of which can lead to depression, hypertension, high blood pressure, sleep apnea, and hormone imbalance. A report published by the Centre for Sustainable Transportation states children especially are at risk of a number of physical and developmental issues as a result of exposure to noise pollution along major roadways. According to the report, “low-level but chronic noise of moderate traffic can stress children and raise their blood pressure, heart rates and levels of stress hormones” (Child Friendly Transport Planning). Due to the high level of ambient noise resulting from heavily congested expressways, children living along the Interstate system find their physical and mental health threatened.

This causal link between race, the Interstate Highways System, and the incredible amount of public health hazards radiating from these major roadways, necessitates a response from state and federal governments to provide obtainable solutions from increasing environmental stability and the promotion of healthier neighborhoods. Clean air and a lifestyle unmoved by air and noise
pollution is a civil right, one that is threatened by the racially and socioeconomically discriminatory risks posed by the Interstate Highway System and other infrastructural giants.


The Interstate Highway System, a nationwide juggernaut in American travel required the carving out of massive and extensive areas of land to connect suburbs, cities, and other metropolitan areas with each other. As previously discussed, the Interstate System within New York City and other urban centers targeted minority and low-income areas, seizing the land from these communities and ultimately demolishing them to make room for the highways. In order to accomplish this, federal, state, and local governments exercised a policy of eminent domain over thousands of miles of private property to be used in promotion of public interest. This chapter discusses the inherent racism exercised by this process in order to create the Interstate Highway System as well as other manifestations of economic programs sponsored by governments which strengthen and enforce environmental injustice along the Interstate.

As Thomas Fitzpatrick states in his essay “Eminent Domain”, the eponymous process occurs when government officials condemn private property, seizing the land for the construction of a project to promote the betterment of the public. He states that “the U.S. Interstate Highway System, developed during the Eisenhower administration in the early 1950s, required the purchase-through eminent domain-of enough land to construct more than 42,000 miles of freeway” (Fitzpatrick). These properties, as described in Chapter 1, mainly belonged to racial minorities, immigrants, and populations of lower-socioeconomic ranking who were displaced to
unfit public housing or were forced to remain in close proximity to the devastation wrought by the construction of the Interstate system.

Increasingly used throughout mid 20th Century, eminent domain became a way of a partnership between public and private enterprise, allowing a small elite of real estate developers the key to earning unprecedented revenue through capital investment. This required the clearing out of neighborhoods within urban cities considered slums, neighborhoods that had deteriorated far beyond repair. In order to seize the land for the Interstate system and other projects of “urban renewal”, municipal governments targeted minority communities under the assumption that they were, in fact, slums. However, the makeup of the neighborhoods discussed in Chapter 1, were not slum-like, but rather were composed of a bustling and thriving minority economic base. As Wendell Pritchett states in his essay “The ‘Public Menace’ of Blight: Urban Renewal and the Private Uses of Eminent Domain”, private land that was not, in fact, in a state of decay, increasingly fell victim to government seizure. In discussing an instance of this, as a result of a project undertaken by the New York Life Insurance Company to seize land from an African-American community, Pritchett declares

Even redevelopment advocated acknowledged that the plan ignored ‘actual slum areas completely’, and planned the demolition of a ‘well-kept Negro area where the bulk of property is resident owned, its taxed paid, and its maintenance above par’. Residents argued that the area was not a slum and that they were being ‘wrongfully ousted from the land where they have invested thousands of dollars in upkeep and improvements’. Protestors asserted that the project was ‘Negro clearance rather than slum clearance’… these efforts ultimately did not stop the clearance of the area. (Pritchett 34).

Under the assumption that decaying private land would be turned into an invigorating and enhanced landscape for the betterment of the public, private and public investors were able to
decimate flourishing minority communities in order to serve their own agendas, such as the massive development of suburban real estate and capital investment that was aided by the construction of the Interstate Highway System. This represents yet another manifestation of the ways in which institutions, in this case governments and private real estate conglomerates, oppress minority groups through a manipulation of the environment.

In 2011, a briefing was presented to the United States Commission on Civil rights by four panelists, which included two professors of law, a United States Congressman, and Hilary Shelton, the director of the NAACP’s Washington D.C. Bureau. In their brief, the four panelists declared that eminent domain had, into many cases, been abused to target racial minorities and low-income communities. They declared that eminent domain had been used in violation of the civil rights granted to these populations as United States citizens. They claimed that policy makers and private enterprise had unlawfully used eminent domain as a method of promoting their own wealth and not the prosperity of the public. Eminent domain, they argued, was a method of environmental injustice, in which private land was seized unethically and millions of citizens were displaced illegally for the construction of projects like the Interstate Highway System. Within the brief, the panelists reference the construction of the Intestate system, a project which promised urban revitalization supposedly for all United States citizens. “Many of the most brutal condemnations in the urban renewal period were accomplished for highways… the government [had] the general incentive to seek less expensive or flourishing lands for condemnation” (Byrne, 51). While the hope would be that, through eminent domain, struggling environments would gain revitalization, ultimately making seized lands more promising for minority residents, the execution showed a much different result, highlighting the true intentions
of municipal government. J. Peter Byrne, a Georgetown Law professor, goes on to ask “If the
goal really is to protect minorities, why are the proponents not seeking to constrain the uses of
eminent domain that historically have been most harmful to minorities?” (Byrne, 51). The
answer to this question reveals the racist nature of eminent domain, which, when looked at
through the lens of the Interstate Highway System, served as a tool of environmental injustice, a
tool which resulted in the wrongful displacement of millions of low-income and minority
communities throughout the country.

Eminent domain provided governments with a method of obtaining private land that was
recognized by law. It became the weapon which decimated minority and low-income
communities, tearing them down and building the Interstate up. It also provided real estate and
capital investors what was essentially a subsidized method of obtaining newfound revenue and
profit from developing upon lands which had formally served as bustling economic centers and
homes for millions of racial minorities throughout the United States. Eminent domain set of a
series of events which allowed the environmental injustice created by the Interstate Highway
System to go unchecked and unnoticed, bargaining economic prosperity for the elite with the
livelihood of millions.
Environmental injustice is a systemic issue and therefore requires systemic change in order to dismantle the systems of oppression which place low-income and minority communities on the margins of American society. When the Environmental Justice Network formed at the People of Color Environmental Leadership Summit, they set forth a series of principles meant to set a framework for affecting change to build a more environmentally just United States. Amongst these principles was a demand for lawmakers to draft legislation which would ensure environmental injustice received a national platform. “Environmental justice demands that public policy be based on mutual respect and justice for all peoples, free of discrimination or bias…it calls for universal protection [from threats to] the fundamental right to clean air, land, water, and food” (Lopez, 254). The Interstate Highway System poses a clear and present threat to this fundamental right to the millions living alongside its path. It is a racial and socioeconomic issue that requires strong and well funded policies to address environmental inequality within our urban centers. This would involve a complete overhaul of the methods through with the United States government promotes and encourages passenger car travel with subsidies, incentives, and tax write offs for the automobile industry.

Figure 7 displays the transportation patterns of American commuters. Out of seven options, including carpooling, public transportation, and bicycling, over 75% of American workers commute by driving alone. This represents a massive trend in the United States, an obsession with vehicular transport; it is the proliferation of an environmentally harmful yet
extremely popular car culture. It is not simply that Americans enjoy driving to work more than they enjoy taking public transport, it's that the former is more accessible on a national scale and receives more funding in the form of subsidies and tax incentives, while the former is either non-efficient or non-existent in most American cities.

As a result of this, the entire automobile and complementary industries are presented at a subsidized discount for American consumers, meaning they do not adopt the full-cost of driving. This is what allows for gasoline prices to remain low in the United States, compared to countries in Europe, who do not subsidize their gasoline for citizens. As Russell Lopez puts it “the amount of subsidies matters…when a good or service is subsidized, people will consume more than if they are paying the full cost. This means people drive more, the negative effects on the
environment are greater, and the consumption of land use is greater” (Lopez, 76). It is a result of this federally endorsed system that automobile travel remains the dominant form of individual transport today and neighborhoods along Interstate roads remain in harms way of air pollution, noise pollution, and the myriad of public health issues resulting from them.

If alternative forms of transportation, massive systems like the New York City subway network, received the same subsidies and tax incentives granted to the automobile and related industries, it would pave the way for a more environmentally sustainable and less harmful method of mass transit. The redirection of subsidies and tax incentives away from automobiles and towards alternative transportation like commuter rail programs would have a dual impact. First, it would force car consumers to take on the full cost of driving, which would reduce interest in automobile commuting and second, if adopted on as massive a scale as the Interstate Highway System was fifty years ago, it would severely cut away at the amount of pollutants, carcinogens, PCBs, VOCs, and other emissions into neighborhoods surrounding highways, subsequently improving air quality and public health for the millions of minority and low-income groups inhabiting the area.

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) went into effect, providing direct federal funding towards alternative transportation systems for the first time. ISTEA represents a promising solution for promoting a cleaner, more sustainable transpiration network, but unfortunately “in comparison to funding for automobiles, the funding for alternative transportation is still relatively small” (Lopez, 79). A reformation of ISTEA, a law which provides the majority of its funding towards United States roads and automobiles, solely towards
alternative transportation would provide necessary funding towards the creation of large scale massive transit systems which promote environmental stability and sustainability.

There is a stark difference also in the way automobile transport receives funding and the way alternative transport receives funding. For the former, federal, state, and municipal governments calculate their annual budgets for their roadways and are then provided with the necessary funding to fully realize their request. The process is simple, easy, and direct. When compared to transit funding, the differences between the two become abundantly clear. “Mass transit is funded by a much more cumbersome process…local transportation authorities have to apply to the federal government in a competitive process…funding for mass transit in recent years has been set at no more than 20% of the federal transportation construction budget” (Lopez, 79). A comprehensive overhaul of the way in which transit funding is awarded to state and local governments is necessary to create long lasting, environmentally sustainable alternative infrastructure. Not only does the process need to be as smooth as the process to obtain funding for automobile transportation, but it also needs to be as, if not more, funded. This would require the federal government to exercise an intensive level of absolute authority and control over their transportation budget, a decision which would face heavy scrutiny from conservatives as well as those with a stake in both the automobile and oil industries.

With funding reform channeling spending towards mass transit systems, the potential for environmentally sustainable alternative transportation is incredibly large. It would create a whole new sleuth of projects dedicated towards linking cities with each other and with their suburban networks. One such project, the Hartford Line, proposes a mass transit train system that would link three major urban areas, New Haven, Hartford, and Springfield, Massachusetts. The
Hartford Line, formerly known as the New Haven-Hartford-Springfield Rail Program, is currently under construction, with hopes to begin service in 2016. According to the project’s website, the Hartford Line hopes to make a major environmental impact providing “over 100 million fewer vehicle miles driven each year by 2030, over 3.5 million gallons/year of fuel saved, and over 25,000 metric tons less carbon released per year” (Hartford Line). Figure 8 shows the proposal for the Hartford Line, which includes potential extensions linking even greater metropolitan areas.

![Figure 8. The Hartford Line Alternative Source: The Hartford Line Rail Project](image)

If granted the same level of funding as automobile transport, alternative massive transit systems like the proposed Hartford Rail, would have the potential to link even larger arteries of populations. With my proposed reform to ISTEA and to the logistical distribution of federal transportation funds, the Hartford Rail would have the ability to link Boston, Hartford, and New
York City, the three largest metropolitan areas in the Northeast with a fast, efficient, reliable, cost-effective, and environmentally friendly method of transportation.

The creation of massive transit systems is possible, and could potentially arise from the dismantling of Interstate Highways, which could be converted into public railways. This notion reflects an urban theory of New Urbanism, a school of thought which aligns heavily with Environmental Justice. A New York Times article entitled “Plan to Remove Bronx Expressway Gains Traction” describes the potential dismantling of the Sheridan Expressway, a roadway which continues to strain the health and wellbeing of Hunts Point residents in the Bronx. According to the article “Removing the Sheridan would open up 13 acres of open space along the river, land that advocates want to connect with some 15 other acres of service roads and riverfront property to create 1,200 affordable housing units” (Dolnick). Not only could the removal provide pristine environmental green space to Hunts Points residents, but it could serve as a beacon of creating a country in which alternative, environmentally conscious transportation becomes the norm. As our urban centers increase, the Interstate System becomes more and more an archaic symbol of racism and environmental fragmentation. The conversion of major roadways into massive transit railways could serve as the progenitor for a new era of environmentally and socially conscious urbanism.

Massive transit provides the hope through which environmental injustice along the Interstate Highway System can be eradicated. It requires a controversial and incredibly intrusive method of reform within the federal transportation budget, but its payoff is great. Large-scale, mass transit systems, alleviate the pressures placed upon the low-income and minority communities who live along the Interstate Highway System paving the way towards rectifying
their current suffering at the hands of numerous health and safety issues resulting from the 
dissemination of pollutants and noise from the Interstate System. Mass transit is simply one in a 
long list of environmentally sustainable, alternative forms of transportation which would pave 
the way for this dismantling of environmental injustice ingrained within the fabric of American 
urban communities.
Bibliography


Appendix

Figure 1. Asthma Rates and Race in Urban Communities Source: Metropolitan Area Planning Council

This chart from the Metropolitan Area Planning Council details the relationship between asthma hospitalization rates and race within four community environments.

Figure 2. The Failed Alternative  Source: The Power Broker

This diagram shows the proposed alternative route for the Cross Bronx Expressway ignored by Robert Moses. The proposed relocation route would have saved the East Tremont neighborhood from destruction.
Figure 3 shows the racial composition of the neighborhoods surrounding the Cross Bronx Expressway. Both show the same area, with the Cross Bronx Expressway highlighted by the black line. The blue arrow highlights the predominant Hispanic/Asian (orange and red) population that lives along the Interstate while the green arrow highlights the racial composition of the Pelham Parkway, a cars only road which is populated by a majority white population.
Figure 4. Racial Composition of Chicago Expressways
Figure 4 shows the racial composition of the Interstate system within Chicago. As you can see, the majority of the population along the intercity expressways are minority groups (black = green, Hispanic = orange).

Figure 5. Racial Composition of Houston Expressways

Figure 5 shows the racial composition of neighborhoods surrounding Houston expressways. As you can see, highlighted with black, the racial barrier effect shows that white communities along the interstate are separated from it by communities of color. Also, it shows the separation in racial makeup by the Interstate, as White communities, Hispanic communities, and black communities are all separated by expressways.
Figure 6. Asthma Rates and Race in New York City. Source: WE ACT

Figure 6 displays asthma rates and racial makeup in New York City as a result of the placement of bus depots, which radiate pollution exhaust. As seen in the WE ACT map, bus depot placement and asthma rates double about 96th street, a section of Manhattan that is predominately comprised of minority communities.
Figure 7. U.S. Transportation Trends Source: The Built Environment and Public Health

Figure 7 shows commuting trends in the U.S., showing that an overwhelming number of people travel by car compared to alternative, more environmentally friendly methods of transportation.

Figure 8. The Hartford Line Alternative Source: The Hartford Line Rail Project

Figure 8 displays the Hartford Line, a proposed massive transit system that links three major metropolitan areas, with the potential to extend to even larger urban centers, creating an alternative to Interstate travel.