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# The Pedestrianization of New York City: An Environmental History and Critique of Urban Motorization and A Look at New York City's New Era of Planning

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## **The Pedestrianization of New York City**

An Environmental History and Critique of Urban Motorization and  
a look at New York City's New Era of Planning

Anna Kobara

Abstract: Streets were once the foundation for urban life and provided intimacy for the community. The birth of the automobile and the age of motorization has drastically changed the outlook on urban development while it has also created public health problems. This topic involves everything from people's personal choices to city and federal government. In this paper, I will explore the history of motorization in New York City and critique it from an environmental and health perspective as well as provide answers to the problem of public health through design. I will look at present day projects that are incorporating smart growth design principles and land use strategies in New York City.

## **I. The Pedestrianization of New York City**

In a time of over population and limited space, cities are facing new issues of space, land use distribution, and public health issues. From these issues arises the question of where humans fit in all of this? What should our function be in city living? What techniques should planners use to make city living efficient, economical and healthy? The birth of the automobile drastically changed the outlook of the design of cities while it also changed the lifestyle of Americans. Before the birth of the automobile there were still city streets. Streets that functioned for the sole purpose of human interaction and commerce. Streets were the foundation for urban life and provided intimacy for the traditional city. Since the birth of the automobile, streets function mainly to pave a way for cars to travel. This function does not only neglect pedestrians almost entirely, but it changes the entire rhythm of the urban landscape. The age of motorization sparked the modernist movement in city planning, leading to the size of cities

increasing drastically in order to accommodate automobiles. New public health issues also started to arise when the automobile became a commodity. Car accidents, pollution, and other environment hazards were born into urban environments.

Like many other American cities, New York transformed during the age of motorization. It's city-planning initiatives transformed from dealing with public health issues to tending to the automobile and new infrastructure, making the city essentially endless. But in recent years, New York City has realized that there are many negative affects that come with the modern city. With a hope to revive the city's economical and social needs, New York has been at the forefront of many sustainability initiatives. The city is taking large steps to integrate new strategies into city planning that promotes human scale development that promotes pedestrian use. Mayor Bloomberg's PlaNYC, the High Line, Citi Bike, and the rezoning of midtown are just to name a few. The era of the automobile is coming to an end and New York City is at the forefront of its death.

Statement of Internship to Be Used as a Case Study:

My internship at the Department of City Planning NYC has involved working on a Brownfield Opportunity Area project conducted by the Housing, Economic and Infrastructure Planning Division. The BOA projects are a part of the larger *North Shore 2030: Improving and Reconnecting the North Shore's Unique and Historic Assets* plan that was released by the Department of City Planning in 2011. This report reached out to residents, local and state agencies,

and stakeholders and compiled a new vision for the North Shore. I am working on two of the smaller BOA sites within in the North Shore study, one in the neighborhood of Port Richmond and the other in West Brighton. The HEIP division is conducting research on these neighborhoods to produce an evaluation and proposal for each site's needs. They plan on applying for further funding to conduct more research on the area. Community outreach has been the foundation of the study and has allowed us to connect with the public and gather their feedback on what the neighborhoods want and need.

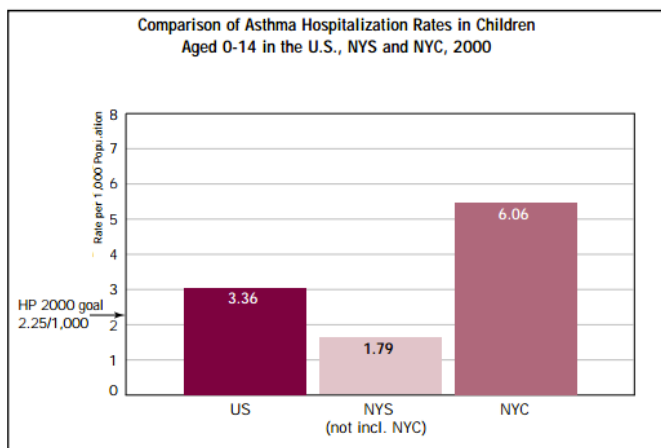
## **II. Urban Health**

When automobiles first became a commodity, automobile safety was a new concern. For example, smog became a part of urban life. In the mid 20<sup>th</sup> century, there was a large increase in lung diseases because of lead and other chemicals that were being released into the air but automobiles (Rosner, 2006). "Exposure to the host of toxins, most notably lead, in the burning of fuels, slowly poisoned the environment and led to generations of children whose blood lead levels were unnecessarily raised."(Rosner, 2006)

Although lead has been taken out of gasoline, pollution from automobile use and highways is still directly responsible for negative health effects in urban environments. "Nationwide, cars and trucks account for approximately 33% of NOx and 30% of human hydrocarbon emissions." (Rosner, 2006) Highways

especially have a large environmental impact on the neighborhoods near them. They are a major source of concentrated air pollution and people who live next to highways are more likely to get asthma, cardiovascular disease, and cancer. Housing near highways tends to be lower income neighborhoods where families are unable to move because of economic limitations and are left with the side effects of automobile pollution (Lopez, 2012).

In recent years, the South Bronx has received a lot of attention for their extremely high rates of asthma, especially among children. The South Bronx is a neighborhood that is isolated by several major highways, the 95, 87, 278, and 895. It also is the home to Hunts Point Market, the largest food distribution center in New York City. The New York City Department of Health and Metal Hygiene conducted a study in 2003, which looked at child asthma rates throughout the city. The study found that rates of asthma hospitalizations in children from 0-14 were twice as high in New York City than in the country. It makes sense that in a

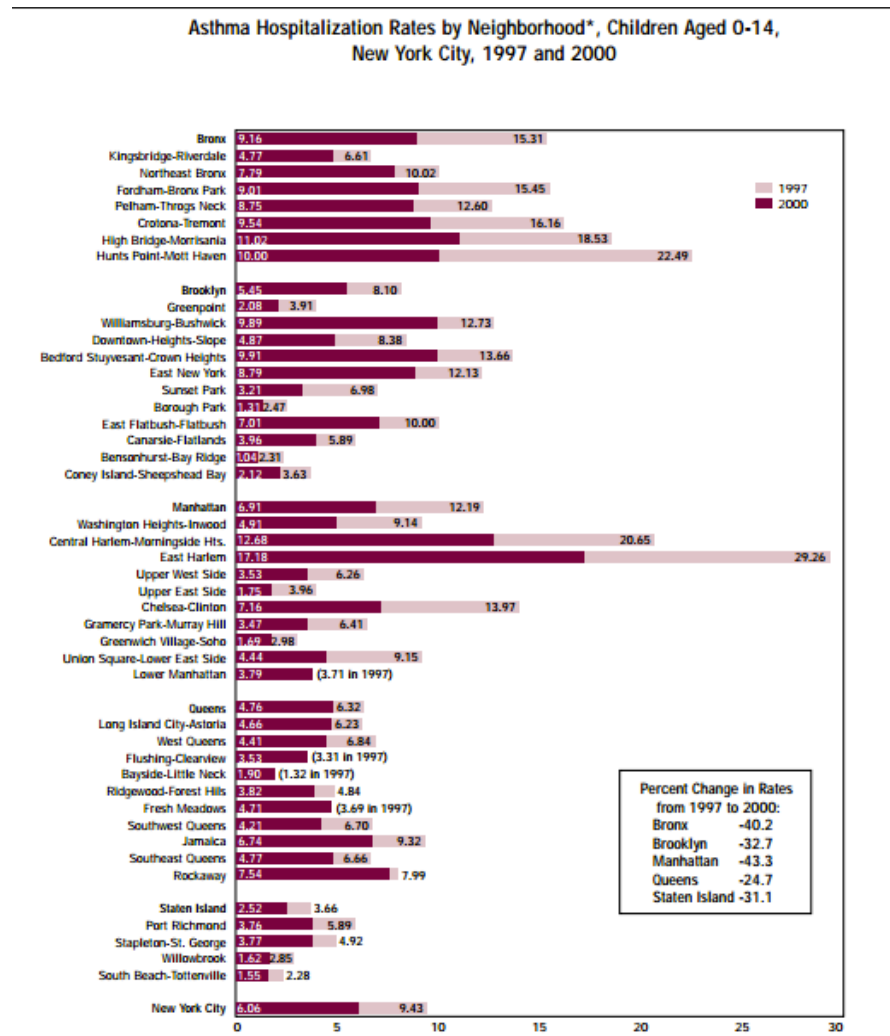


dense urban environment asthma rates would be higher because it is more likely that people live, work and go to school near a major highway.

The study also found that

hospitalization rates among New York City residents decreased by 17% between

1990 and 2000. But, asthma is still the number one cause of hospitalization in children aged 0-14.



When broken up by borough and neighborhood, asthma rates are highest in the Bronx and East Harlem. (Asthma Facts, 2003)

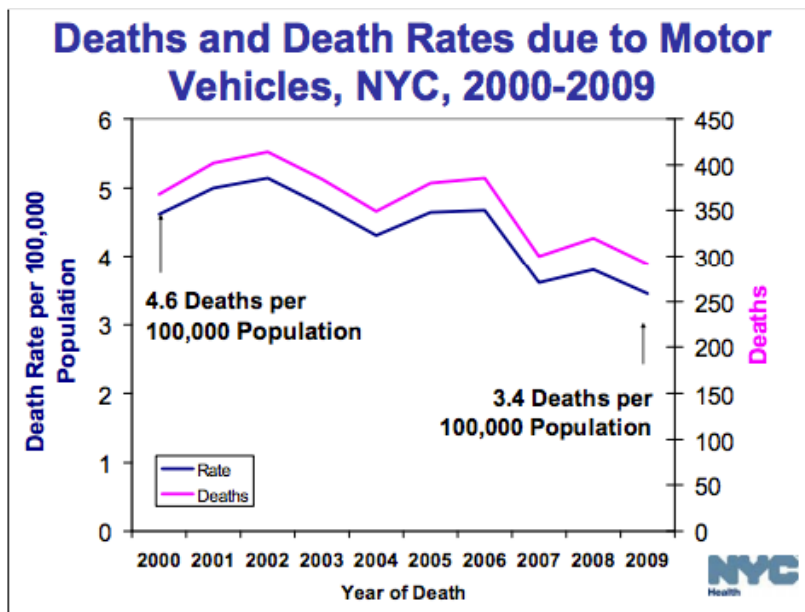
Geographically these neighborhoods sit right across the Harlem River from each other, putting East Harlem in the same position as the South Bronx, isolated and trapped in by highways. New York University's School of Medicine and the Robert F Wagner Graduate School of Public Service conducted a study in 2006

that looked the high rates of child asthma just in the South Bronx. The study found that on top of being isolated by several major highways, the reason why asthma rates are so high in this region is because of the Hunts Point district. Over 12,000 trucks come in and out of Hunts Point everyday. The study followed several children for a month. They found that children living in this neighborhood were being exposed to 30-50 micrograms per cubic meter of particulate matter that was smaller than 2.5 microns.(NYU Medical Center and School of Medicine, 2006) The Environmental Protection Agency's daily limit is 35 micrograms per cubic meter. Particles smaller than 2.5 microns have also been directly linked to causing heart disease and lung cancer. While measuring pollutants at ground level they found good amounts of elemental carbon that is the air pollutant most associated with asthma. Elemental carbon is also known as black soot. It is found in diesel exhaust and is particle that is smaller than 2.5 microns. During the age of motorization, New York City exhibited bad land-use strategies that isolated the South Bronx. A leading professor that helped conduct the research ended the study by saying, "If you live in the South Bronx, your child is twice as likely to attend a school near a highway as other children in the city." (NYU Medical Center and School of Medicine, 2006)

Such negative effects and disease have stemmed from our overuse of cars. "In the United States, a nation of drivers, 1% of trips are made on bicycles and 9% are on foot. Approximately 25% of all trips in the United States are less



than one mile, and of these, 75% are by car.” (Rosner, 2006) Americans have embedded the use of the car into their lifestyles and have lost touch with human transportation. Besides environmental issues caused by automobiles, there are also other public health concerns that come with car safety. A major concern in cities is automobile accidents. Deaths due to motor vehicles are a big public health concern in a society where the majority of people are using a car to get anywhere. In New York City, rates of death by automobiles have been steadily decreasing since 2000. The Bureau of Vital Statistics, a department that is a part of the New York City Department of Health produced a report that looked at automobile deaths in New York City in 2011. The graph below shows the Deaths and Death Rates due to Motor Vehicles from 2000-2009. In 2000, there were over 360 automobile deaths, a death rate of 4.6 deaths per 100,000 people.



Almost ten years later, automobile deaths had decreased to less than 300 deaths, lowering the death rate to 3.4 per 100,000. The death

rate from automobile accidents in New York City decreased a total of 26% from

2000-2009. (Motor Vehicle Deaths New York City, 2011) The decrease in automobile deaths may correlate with the decrease of car use in New York City. Tolls to enter the city have been steadily increasing in the hopes to keep cars out. Also, a denser environment where cars deal with narrower streets, more traffic, and pedestrians makes cars slow down which would also help decrease automobile accidents.

The dependency on the automobile has also severely lowered physical activity which has helped lead to another epidemic, obesity. "According to the Behavioral Risk Factor Surveillance System, more than half American adults are not physically active on a regular basis, and just over one in four reports no leisure-time physical activity at all."(Rosner, 2006) Although in dense urban areas other factors like food insecurity and food deserts are accountable for higher obesity rates, automobile use has also attributed to obesity, one of the country's biggest epidemics. Obesity related diseases like cardio vascular disease and diabetes "account for nearly two-thirds of all deaths in the United States and approximately \$700 billion in direct and indirect economic costs" (Katz & Yah, 2006) Returning the city to a livable environment of a human scale will come with great health benefits and help unnecessary deaths caused by accidents and poor air quality.

### **III. Falling for the Automobile**

Before the age of the automobile, New York City planned its streets according to commerce and the pedestrian. At the turn of the 20<sup>th</sup> century automobiles were still a luxury item and not widely used. At the same time the city was expanding and new infrastructure started to be built to accommodate a rising population. The New York City subway started its construction in 1898 and laid out its infrastructure far into Queens and Brooklyn before people lived there. Roads were also extended outward to make connections with other nearby cities and suburbs but for the most part roads were still geared toward the pedestrian and horse and carriage movement.

The Grand Concourse is an important precedent to look at when analyzing New York City's planning and land-use because it was built during a transition period right before the age of motorization. The design of the Grand Concourse came from the City Beautiful movement at the end of the 19<sup>th</sup> century and was modeled after the Champs-Elysees in Paris.(Chan, 2009) The Champs-Elysees received its reputation for being so wide and grand. The street itself was originally gardens and markets until it was lined with its famous avenue of trees. The roadbed is often blocked off for pedestrian use only. Parades, marches, races, and exhibits can take place on this road. The Grand Concourse was designed with grand proportions, three separated roadways, and stretches over 4

miles long. The roadbeds were separated by lined trees like the Champs Elysees but were used for horse and carriages. Although the street was supposed to promote beautification, civic virtue, and increase the quality of life, like the Champs Elysees, it failed to do so because soon after its construction, the role of roads changed. Because the Grand Concourse's roadbeds were so wide, it was quickly converted into a road for automobiles at the beginning of the 20<sup>th</sup> century. (Chan, 2009)

A few neighborhoods that are precedents for a pedestrian city that still thrive today are Greenwich Village, Little Italy, and Soho. These neighborhoods are some of the most walkable neighborhoods in the world. Because they were developed at a time with no cars, the streets are significantly smaller, usually laid with cobblestone and are not able to accommodate automobiles. These districts also contain many landmarked buildings and structures that have made it hard to apply any zoning changes that would allow the city to reconstruct the roads. They have been precedents that the city has looked at to model new roads. For example, the use of cobblestone on streets is very loud and disruptive to cars and when a car drives on cobblestone they are more likely to slow down because of the pattern change. The city has used this technique strategically in places where they want automobiles to slow down, like around Union Square. Although these neighborhoods have not eliminated automobile access, they have significantly reduced automobile use. When cars do drive through them they

drive slower and there is no significant parking on these streets either so it discourages cars from driving down them at all.

At the beginning of the twentieth century, the automobile, once a luxury good, was made into commodity. Henry Ford, the industrial boom, and post WWII benefits all attributed to the success of large-scale automobile use. It was because the advancements in the automobile industry occurred while the United States became a new political and industrial power that the automobile industry was able to make such a big impact. Automobiles had a direct relationship with the changes made to urban spaces. In 1930 the vice president of Studebaker Motors said, "The automobile industry is intensely interested in the progress of city planning- for the very sound reason that a continual increase in motor sales in the U.S.A. depends largely on developing more efficient traffic accommodation in metropolitan areas" (Foster) From this point on, the power of the motor and petrol industries gained sufficient political power and to this day dominate choices of our political systems. The 2010 American Community Survey indicated that from 2005 to 2009 over 95% of households had a least one car and 32.5% had three or more cars in the United States. The automobile industry was extremely successful in making the car a commodity.

Henry Ford founded Ford Motor Company in 1903 and in ten years, he owned forty five percent of the market and by the early 1920's he essentially had a monopoly on the automobile industry (Ingersoll, 2006). His success was due to

technological advancements in mass production and his technique of the assembly line in the building process. Combined, these two achievements meant a cheaper automobile. In 1910 a Ford Model T cost \$825 but by 1927 they sold for only \$290(Ingersoll, 2006). This extreme decrease in price birthed the “age of motorization”. With the birth of this new age came dramatic urban changes and would essentially make cities endless. The power of the motor industry instigated sprawl and the expansion of urban boundaries. “Already in the late 1920’s, one in five Americans owned a car, and eighty percent of the cars produced in the world were concentrated in the U.S.”(Ingersoll, 2006).

With the rise of automobiles came not only practical means of transportation but also a new form of freedom for the individual. The ownership of a car meant individual transportation, “free travel”, and a way to escape city life. At the beginning of the twentieth century, urban life was undergoing a few hardships. Cities were the bearers of poverty. In dense urban environments it was easy to observe poverty and slums. The 19<sup>th</sup> century city life had the reputation of being “dirty”. Non-existent land use policies and over-crowded tenements affected public health. New York’s Health Department conducted an annual report on street waste and urban health.

*“The Department of Health picked up over 20,000 dead horses, mules, donkeys, and cattle from the city’s streets during the year and recorded 343,000 complaints from citizens, inspectors, and officials about problems ranging from inadequate ventilation and leaking cesspools and water closets to unlicensed manure dumps*

*and animals kept with permits. It also removed nearly half a million smaller animals such as pigs, hogs, calves, and sheep”(Rosner, 2006).*

On top of the visually dirty city, citizens experienced an array of disease outbreaks. Small pox, typhoid fever and diphtheria were responsible for the deaths of thousands of city dwellers (Rosner, 2006) New York City’s health departments and medical knowledge was young and could not sufficiently control outbreaks of disease. By the end of the 19<sup>th</sup> century, cities had built a filthy reputation. Desires to move out of the city increased. The art at the time was named the romanticism period and reflected these feelings about the city. Painters like Sandford Gifford and Jasper Cropsey depicted paintings of landscapes of the Catskill Mountains. The romanticism movement portrayed a sense of nature as eternal, unchanging, all-powerful and worthy of being. The entire movement was in many ways a rejection of urban life. With the advancements of trolley cars and automobiles, this escape from urban life was made possible and many people did start to move out. Cities like Detroit experienced massive population losses and was left desolate and empty. “The 1920 census showed that only 46% of all American were homeowners, but by the end of the 1940’s home ownership had become the norm.” The single-family, suburban home was named the healthiest place to grow an American family. (Rosner, 2006)

In the early 20<sup>th</sup> century the automobile was a fascinating technological advancement. For years it was a luxury item. Post WWII, the United States experienced an industrial boom and the automobile industry was at the frontline and had the attention of the world. The modernist movement in architecture during this time reflects the fascination people had with the automobile and the freedom that it gave to the individual. Architects from all over the world started to incorporate space for cars in their designs. In fact, most of them made the car a key factor in their plans.

In 1924 the Swiss architect, Le Corbusier, released a design called “Radiant City”. This design was of his “ideal city”. The plans depicts an environment of tall, spread out buildings over a vast amount of land that are dictated by privileged roads and highways that connect them. The reason for



separating the skyscrapers was to maximize the light coming into the buildings. This technique was used to combat the dark reputation of city living because maximizing light and air was thought to increase the

health of residences. Spatially, his design is orderly and repetitive. (Ingersoll, 2006) This design was viewed as monumental and showcased manpower with



its bold, desolate features. Other architects and designers continued to follow in Le Corbusier's footsteps by creating grand designs like Ludwig Hilberseimer's Grosstadt in 1927 or G.S. Nassuth's Bijlmermeer in 1962. The modernist period lasted a long time and had a longing affect on architects and planners.



#### **IV. Section Title: Political Ties and a Community Voice**

Throughout the history of New York City, politics of city planning was loosely organized but always involved some aspect of the interest of public health. The history of the age of motorization aligns with New York City's structural changes in the early twentieth century. New York City is a unique case because most of the city sits on islands, intensifying the problem of limited space. City government and planners quickly embraced the age of motorization and transformed the city's spatial context for the automobile. Robert Moses was primarily responsible for this shift as he pushed for mass automobile infrastructure, promising a great economic return. He was successful because of

the unorganized and non-existent planning division of the city and the funding he received from the New Deal tax dollars.

Before the age of motorization, New York City did not have an established Planning department. The first major act of city planning was in 1881 with the Commissioners Plan. This plan is often regarded as the most important document of New York City's development because it laid down the famous "grid plan" across the island of Manhattan. The State Legislature assigned Governor Morris, John Rutherford, and Simeon De Witt to create the street plan and were granted "exclusive power to lay out streets, roads, and public squares."(Burrows & Wallace, 1999) The grid plan was chosen because it incorporated design aspects that addressed public health. "Laying out streets...in such a manner as to unite regularity and order with the public convenience and benefit and in particular to promote the health of the city... a free abundant circulation of air" (Burrows & Wallace, 1999) At this time, foul air was believed to be the variable responsible for the spread of disease (Katz & Yeh, 2006). Twenty years later, NYC addressed another public health issue with a planning initiative. The New York State Tenement Housing Act of 1901 was another political act to regulate public health through planning. The act established rules and regulations for the construction of tenement buildings, which were known for being poorly ventilated and unsafe. In 1916, New York City implemented the nation's first comprehensive zoning resolution. The resolution restricted building heights and

zoned the city into districts by land use. (Katz & Yeh, 2006) But again, the planning behind this was a public health concern. The zoning resolution limited building heights so that streets would not be blocked off from fresh air and sunlight. It was not until Mayor LaGuardia came into office in 1934 that a planning agency was established in city government. But by this time, Robert Moses had already gained political power and had successfully reconstructed New York City and its infrastructure.

Robert Moses is considered the “master builder” of modern New York City. He worked for the government of New York City under Governor Smith in the 1920s and became the president of the Long Island Park Commission as well as becoming the chairman of the State Parks Council in 1924. He is also responsible for the creation of many public authorities such as the Tri-borough Bridge Authority (Gutfreund, 2007). One of the main reasons why Robert Moses was so successful with his planning initiatives in the city was because of the New Deal post World War II. When the war ended and the federal government passed the New Deal, they were quickly receiving millions of tax dollars. Many U.S. cities were still recovering from the Great Depression and were not ready with projects to apply for federal funding. Moses on the other hand had several projects already ready to go and received federal funding from New Deal tax dollars. (Leonard, 1991) With his political authority in New York City, Moses was able to transform New York City’s urban fabric. Although Moses had his hands in almost

every urban planning project during his reign, his most significant projects included the creation of the city's major highways: Henry Hudson Parkway, FDR Drive, the Cross Bronx Expressway and the city's bridges and tunnels: Triborough Bridge, Battery Tunnel, Whitestone Bridge and Throgsneck Bridge. He became famous for his quick clearance of slums and construction of public housing, but more importantly he is responsible for glorifying the automobile as a commodity (Gutfreund, 2007). Moses was fixated with the economical opportunities that came with motorization of the city. He believed that by creating mass transportation outlets, it would bring more people into the city.

Moses's perspective leans heavily on the dependency of the automobile, glorifying it and making it the priority in his planning initiatives. He was powerful and devious. He took extreme measures to get his projects built. Two of his biggest projects, The Tri-borough Bridge and FDR Drive, were thought to be essential additions to New York City's infrastructure but seemed far-fetched. Manhattan's population was exploding in the early twentieth century and Manhattan was in serious demand for more transportation facilities. In 1929 the Regional Plan Association issued the Region Plan of New York and its Environments and it called for two major changes to the city. They wanted to construct an express highway called the Chrystie-Forsyth Parkway, which was never built. But in 1933 Moses pushed to build the Tri-Borough Bridge, a

replacement of the Chrystie-Forsyth Parkway, and proposed that it needed an extension into Manhattan to control congestion.

*“Let me approach this subject from the point of view of the Borough of Manhattan and its proper relation to the rest of the City and the whole metropolitan community. Obviously one of the things, which we need most, is provision for modern and efficient transportation of vehicles. The heart of the city would be inaccessible without bridges, tunnels, and highways. There facilities have never been properly correlated. We have built bridges and tunnels without proper approaches. We have made it practically impossible to go north and south or east and west through Manhattan...the approaches of the Tri-Borough Bridge in the Bronx and Queens are fairly adequate. The approaches in Manhattan are entirely inadequate. The new East Side Highway will take care of part of this problem.”(Moses to Hoey)*

During the construction of FDR Drive, the city had to deal with a well-developed coastline. A variety of pictures from the New York City Public Library,



the New York City municipal archives, and the Commissioners Proposal for the Tri-Borough Bridge show a number of stages that the eastern coastline experienced during the

construction of the southern part of the parkway. This first photo was taken in

1940 from the Queens borough bridge looking south. This part of the city is highly developed and not with slums. The land that slumps off into the water is the original Manhattan bedrock. In order to not clear buildings for the new highway, the city used rubble that was used from World War II. The rubble was taken from England to weigh down returning ships and was used to fill in a new coastline (East River Drive Construction).



The photo above is taken from the same exact place but just three years later. The same buildings stand but there is a new extended coastline that the East River Drive sits on. This is probably the only way he could have built this highway it besides putting the parkway underground. The creation of FDR Drive illustrates the great lengths that Moses went in order to accommodate the automobile into the limited space of Manhattan. During his reign he helped build hundreds of roads, bridges, and tunnels that made New York City into a rootless, sprawling

city and although the it experienced a great economic expansion, it diluted the city's center.

During the end of Moses' reign, a community voice sprouted from within the city. Jane Jacobs, a Washington Square Park resident, attacked city planners and their concept of the modern city. She argued against the standard Le Corbusier design technique that envisioned a tall apartment tower surround by a grass lawn that was suppose to increase public health. In 1961, she published *The Death and Life of Great American Cities*. This book was bold and aggressive. She writes, " The economic rationale of current city rebuilding is a hoax." Her argument was that economics was not all about getting rid of poverty and tending to new infrastructure. A measurement of the quality of life for residents was a more than money, that streets were the bearers of city life and that a healthy city depended on them. (Soderstrom, 2008)

On of her first battles was in her neighborhood of Washington Square Park where city planners decided to cut back sidewalks by ten feet to make room for more traffic lanes. Sidewalks provided space for children to play and room for adults to converse. She contended that pedestrian streets provided the true health for a neighborhood. Her further evaluation of city blocks confirms that urban infrastructure at a human scale has social and health benefits. Long bocks were inefficient and were not preferred by pedestrians. Shorter streets promoted people to move more, to walk more. (Soderstrom, 2008) The Jane Jacobs

ideology was essentially the first movement to go against the modernist point of view. She was powerful, educational, and from her efforts sprouted new questions about the quality of city life, public health, and new design techniques.

Jane Jacobs questioned the health benefits of the “modern city”. And she realized pedestrians should be in the spotlight of city planning and that the accommodation of cars in cities is responsible for the loss of the city center and the fall of public health. Now it is apparent that the freedom of individual transportation has not only caused psychological and lifestyle changes in urban life, but it has created new health hazards and diseases in cities. And because of our dependency on automobiles and the already established massive infrastructure of roads and highways, this issue is a difficult one to rid.

## **V. Green Urban Design**

From Jane Jacobs’ public voice came a new movement in urban design and architecture called New Urbanism. New Urbanism contains new planning techniques such as smart growth, which aims to build sustainable, cost-efficient, and community oriented living districts while protecting open space, parks and natural resources. Following smart growth design principles there are ways to design a sustainable, livable city, which is commonly known as sustainable design or green design. Green Urban Design involves a number of principles that serve to build and develop in a more sustainable way. It uses techniques like



low-impact, energy efficient materials, revitalization, and renewability. This design technique naturally helps solve issues of urban health by creating infrastructure and built environments that do not cater to sprawl and an automobile driven environment. Green urban design advocates high density and mixed use land policy, mass transit, and a pedestrian friendly, walkable land use.

For the past 70 years, New York City has grown and developed around the automobile, but now the city is realizing that automobile transportation is unfit, unnecessary and inefficient in a dense city like New York. In recent years there has been a movement to make the urban fabric of New York more pedestrian friendly. Visions of Jane Jacobs have come to life and are now used as planning tools to promote city health. Mayor Bloomberg has voiced this initiative further with his program, PlaNYC that provides an outline and checklist of projects that the city must fulfill in order to sustain the economy and the health of its citizens. City Planning has taken on multiple projects that propose more pedestrian land uses and are using community outreach techniques that help create a healthy dialogue between government and the individual.

In 2007 Mayor Bloomberg released his report PlaNYC 2030. The report addresses New York City's population growth and proposes several strategies to prepare for it. On top of adjusting to the population growth, the strategies intend to strengthen the city's economy while they also address the quality of life for city goers. PlanNYC is heavily based on sustainability efforts; it specifically

addresses a need for climate change prevention by 2030. The report is broken up into three smaller components that address these three issues. OpeNYC deals with New York City's population growth of one million more people by 2030. The main concerns include the lack of housing, the price of living, and aging infrastructure. MaintaiNYC continues on the thought of the city's aging infrastructure and what can be done with mass transit, building codes, and energy sources. The last component of the report is GreeNYC, which focuses on reducing New York City's carbon emissions by 30%. The plan is massive and touches on everything from Brownfields to food systems. Many of the sub-topics address pedestrian needs. PlaNYC's goal in regards to public space is that by 2030, every New Yorker will live within a ten-minute walk from a park. "They provide places for exercise and community forums. They serve important ecological function. They are also an important catalyst for economic development, raising property values and breathing life into neighborhoods." (PlaNYC, 2007) When it comes to transportation, PlaNYC has several initiatives they propose to change and enhance transportation options for New Yorkers. The largest initiative that will soon be open for use is the Citi Bike program. The Public Health chapter of PlaNYC ties the pedestrian and health issues together. It addresses land-use and rezoning of areas to separate people from industrial and noxious land uses. The plan's initiatives include improving air, water and building quality. It specifically addresses asthma rates and hospitalization rates.

“Particulate matter from dirty heating old combustion, vehicle engines, power plants, and other building sources contribute substantially to respiratory and cardiovascular illness and premature death each year.” (PlaNYC, 2007) The city’s goal is to reduce deaths by 700 and hospitalizations by 500. The chapter ends with emphasis on how people get around in the city. “By promoting public transportation, pedestrian plaza, safe walking routes, and calming and reducing vehicular traffic, we will encourage more and safer walking and physical activity.” (PlaNYC, 2007)

Transit fares and congestion is growing in New York City and many have been yearning for a cheaper mode of transportation. Several cities in Europe and Asia have implemented bike share programs and have been extremely successful. Paris, Barcelona, and Hangzhou all have had major success and most of these programs plan to expand even further. In a highly dense city like New York, a bike share program has the potential to be very successful and could offer a cheaper transportation for city goers. In the spring of 2009, the NYC Department of City Planning conducted a study on the opportunities a bike share program would offer to the city’s residents. Bike share programs provide a cheaper mode of transportation with widespread coverage while biking also produces health benefits for residents.

NYCDOT calculated that in 2008, 23,000 people commuted daily by bike. They expect these numbers to increase as more bike lanes are built. “12%

of the New York City workforce currently walks or bicycles to their place of work, 26% live within a 2.5 mile radius of their work and 45% live within a 5 mile radius of their work” (Bike Share Opportunities, 2007) Almost half of New Yorkers live 5 miles from their work place. This is a tremendous number of people who could feasibly use a bike share program.



This is NYCDOT's proposed map of new bike lanes that would be issued for the bike share program.

To start, Citi bike will program 10,000 bikes throughout the lower half of Manhattan and Brooklyn. (Bike Share Opportunities, 2007) The following two phases will cover uptown Manhattan and further into the Bronx, Queens, and Brooklyn. The

extensiveness of this project shows the committed effort to form a cheaper mode of transportation while battling carbon emissions in the city.

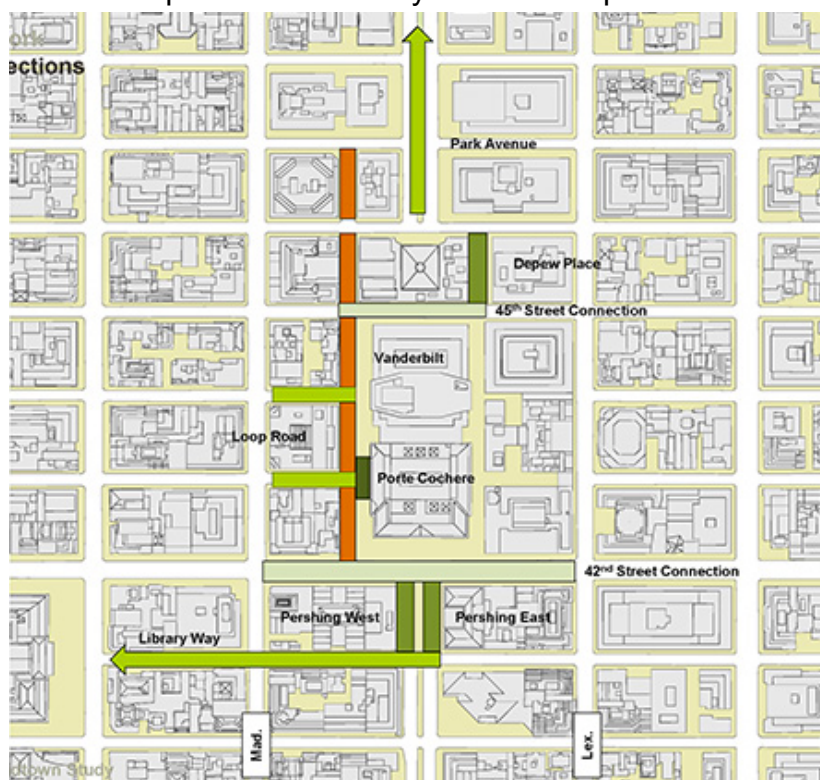
The High Line is an elevated park that runs up the lower west side of Manhattan. The infrastructure of the park is the revitalized New York Central Railroad's West Side Line(High Line History). The original use of the line was to transport Milk, meat, produce and manufactured goods up and down the west side of Manhattan in the 1930's. The train line was elevated due to freight train accidents that occurred at street level. By the 1980's demand for freight train transportation had fizzled out and the West Side Line went out of use (High Line History). In the late 1980's there was a push to demolish the structure because people who owned property under the vacant, rusted over High Line thought their property would be worth more without it. In 1999 Joshua David and Robert Hammond founded Friends of the High Line, an organization that pushed for the revitalization of the elevated structure. By 2006 the Friends of the Highline had successfully gotten permission to turn the structure into a linear park and started to build. The success of the High Line can be measured in various ways; it has stimulated real estate development and provides a pedestrian only highway that in some sense, escapes the motorized city below it (High Line History). People recognize the positive effects that come from the High Line. Because it is pedestrian oriented, the highway is a place for purely human interaction. It creates a social setting and more importantly it gets people out walking.

The High Line is a very important project to observe because the success caught the eyes of planners, residents, and political officials. It is also important to note that the High Line was a community project, a result of a community voice. Much like the one of Jane Jacobs. It may be because of projects like this one that the mood about city planning and the pedestrian's place in the city has changed. Post construction of the High Line, there have been many more proposals to give the city back to the people.

New York City's Department of City Planning is proposing a new zoning strategy for midtown development around Grand Central Terminal (East Midtown, NYCDCP, 2013). The rezoning would allow the midtown region to develop into a more competitive work district. The problem exists with the average building age in midtown being over 70 years old. Lower floor-to-ceiling heights and excessive interior columns are not desirable in this new market. The other problem midtown faces is the lack of pedestrian access and ease. The region is known for narrow sidewalks and pedestrian traffic jams into subway stations and entryways into Grand Central. The proposal's goals include strengthening pedestrian realms to make East Midtown a more accessible and enjoyable place to travel and visit. In the study and presentation done by the Department of City Planning, they offer solutions to this problem by transforming Vanderbilt Avenue into a pedestrian only street. The plans for Vanderbilt offer room for pedestrian foot traffic at the southwest entrance of Grand Central, one of the busiest street corners during

rush hour. It would open up the entrance to the Grand Central Terminal at 43<sup>rd</sup> street and Vanderbilt Avenue (East Midtown, NYCDPC, 2013).

Vanderbilt Avenue runs parallel to Madison Avenue and the west side of Grand Central Terminal. It only runs five blocks north before it comes to a dead end. The avenue is relatively small compared to its neighboring streets with sidewalks widths that cannot accommodate large amounts of people. Vanderbilt is not a through street which limits its uses. At any time of day it is primarily used for parking on both sides of the street. There is not a substantial amount of foot or car traffic running down Vanderbilt. Positioned right next to one of the biggest transportation hubs in the city, Vanderbilt Avenue's functional use should be active and alive. The importance of this project is the recognition of bad land use. There is not a lot of car traffic and the city recognizes that this space can be utilized in a better way. Pedestrianizing this street would also connect a broader network of pedestrian friendly streets and parks in the surrounding area.



This map is from the NYCDPC presentation on the rezoning of midtown and shows the connectivity between pedestrian pathways

that Vanderbilt will attach. Along 42<sup>nd</sup> street, one block west of Grand Central sits Bryant Park and the New York Public Library. And north of Vanderbilt Avenue is the beginning of Park Avenue, a wide street in the center of a financial hub with a lot of pedestrian traffic. The connectivity shows an overall acknowledgment that pedestrians in the city need and want pathways without cars and making this connection makes it easier for pedestrians to move throughout the city.



Another aspect of pedestrianization that PlaNYC discusses is land use other than streets. The need for public spaces and parks also promotes the



health the city and its people. The Housing, Economic, and Infrastructure Planning Division at the Department of City Planning has taken on a handful of BOA (Brownfield opportunity area) projects throughout the city and specifically on the North Shore of Staten Island. A Brownfield is vacant land that was once used to industrial purposes that may be contaminated or toxic. The Brownfield Opportunity Area Program is funded by the Superfund and is used to revitalize and clean up brown fields for better public health and future development. HEIP has taken on two BOA projects, one in Port Richmond, Staten Island and the other in the neighboring region of West Brighton, Staten Island. These two neighborhoods sit on the North Shore. They both were used primarily for shipping and maritime business but in the past 50 years this industry has declined, and so has the economic health of the neighborhoods. Our research at HEIP entails site analysis, community outreach, and other various urban planning strategies. With our research we hope to devise a proposal to get more federal funding to clean up and rezone both neighborhoods. The proposal requires a lot of community dialogue because this conversation is vital in order to address the wants and needs of the community. HEIP has held several different community meetings and has gathered sufficient data of their input. Just driving through the two neighborhoods, one would think they are very similar and share the same basic characteristics, but through our research we have found that they are quiet different in their characteristics and their needs. A key component that both

neighborhoods share is the lack of community collectiveness. There are not many existing parks, public transportation, or community cultural centers. The main road, Richmond Terrace, runs parallel to the waterfront and separates housing and commercial regions from the waterfront industry.

For Port Richmond, HEIP held several community outreach meetings to collect the desires and needs of the community. The community's response was clear; they wanted public spaces, community cultural centers, and connection to the waterfront. Whereas the neighborhood of West Brighton was concerned about cleaning up the waterfront and providing schools and community centers in the neighborhood. Both were concerned about their economic status and wanted to see higher scale retail in their respective neighborhoods. Our proposals for both of these neighborhoods are going to include some rezoning, especially at the waterfront. Because there are not many existing parks and public cultural centers in the area, revitalizing the waterfront into a public park or space could enhance community activity. Like Jane Jacobs and Mayor Bloomberg said before, parks and public spaces breathe life into a community and are "important economic catalysts".

The city of New York has started to use green urban design initiatives in their planning projects. They recognize the importance of pedestrian only features and the public voice has echoed it clearly in projects like the High Line and the BOAs.

## **VI. Conclusion**

New York City has shown to be very adaptable. In the early 20<sup>th</sup> century and post World War II, the city eagerly invited and implemented new ideas and technologies in order to be regarded as a modern city. Before the age of motorization, city planning for New York was primarily based on increasing public health. Laws and regulations aimed to make life healthier for the individual until Robert Moses and the age of motorization hit the city at the beginning of the 20<sup>th</sup> century. Robert Moses was responsible for New York's modern design, shaping the city around the automobile and its infrastructure. He made city planning about economic return and disregarded the pedestrian and public health. Although he had great political power, the community voice of a Washington Square Park local, Jane Jacobs, was birthed from Robert Moses' transformation of the city. Her voice was heard and created a new mindset for what planning should be; a mindset that catered to the human being and the health of the community rather than allocating most of the land for automobile transportation. The automobile diluted the city's center and Jacobs was right, it does not promote community life. Although existing infrastructure and our dependency on the automobile are barriers to new change, the city has made a clear turn in practice. Mayor Bloomberg's PlaNYC sends a bold, but realistic message to the city and its residence that it is time for a change. It is time to address issues of population

growth and sustainability while also nourishing the economy and health of the city. The Department of City Planning has seen the success of projects like the High Line and has started to use similar tools in their projects. As these new projects are built and the initiatives of PlaNYC are implemented, New York City will sustain their growth and reputation as one of the leading cities in the world.

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