

Robin Elliott

**Creating a Greener Bronx: Amidst polluting factors, creating more green space may cause an improvement in the respiratory health of its residents.**

*I want to tear myself from this place, from this reality, rise up like a cloud and float away, melt into this humid summer night and dissolve somewhere far, over the hills. But I am here, my legs blocks of concrete, my lungs empty of air, my throat burning. There will be no floating away.*

*~ The Kite Runner, Khaled Hosseini*

As kids growing up in a home with only one black and white TV and no cable, our favorite thing to do, my siblings and I, was to play outside. We lived on a hill - our building lay atop four storefronts equally separated by a small concrete courtyard - those were our boundaries. Every imaginative childhood game was played there. We didn't care, the thrill of being outside was priceless, or so we thought. Playing in a park would have seemed like a better option, but there were no safe functioning parks in our neighborhood that my mother cared for us to be in, supervised or not.

The lack of tress was not a concern to us. The black smoke billowing from building rooftops created a game for us, 'guess what was burning in the incinerator'. Our makeshift concrete playground served its purpose as we ran around endlessly filling our lungs with the air completely unaware of what we may have been breathing in. Really, who thinks about that as a child?

*In an underdeveloped county, don't drink the water: in a developd county, don't breathe the air.*

*~ Changing Times Magazine*

## Introduction

According to statistics, my siblings and I were becoming a part of an increasingly shrinking percentage of kids in the Bronx who did not have a problem enjoying the simple pleasure of being a kid. Running, bike riding, playing sports. Respiratory illnesses were on the rise. Air pollution was on the rise. Both due to toxins from various sources being released into the atmosphere. The only natural combatant to help balance out the quality of the air is the only factor that was not on the rise – green space.

Seeing and smelling the fumes from the exhaust of the cars lined up one after the other; viewing the smoke being released from buildings; never-ending construction – there is no shortage of point pollution sources.

Through research I have isolated some of the factors that contribute to the rise of respiratory illnesses in Bronx residents due to air pollution. Many of these factors do not come with immediate or easy solutions. However, that does not mean there aren't other options available to us to help combat the problem. The earth has made up with plenty of natural resources that were put in place to evolutionary sustains life. It's no surprise that man's inventions are taking its toll on these natural resources.

*Treat the earth well: it was not given to you by your parents, it was loaned to you by your children”*  
~ **An ancient Indian proverb**

## **Part I: Part of the Problem:**

When choosing where we want to live with our families, we are usually more concerned with the size of the space, proximity to transportation, parks and schools. Who knew that if you choose to live in the Bronx, you might also want to add an air quality test to that list?

*“People often ask, “What is the single most important environmental population problem facing the world today?” A flip answer would be, “The single most important problem is our misguided focus on identifying the single most important problem!”*

*~ Jared Diamond, Collapse: How Societies Choose to Fail or Succeed*

A. Exploring the hazards that contribute to air pollution

1. Highways

There are 5 major highways that make their way around the Bronx.



As you can see in the above pictures these highways cut right through residential neighborhoods. Most tractor-trailers run off diesel fuel which contains high levels of sulfur and once emitted can be harmful to the environment through combustion and fuel evaporation.

“Diesel fuel is a complex mixture of chemicals produced by crude oil distillation. Sometimes the fuel can contain small amounts of cancer causing chemicals such as benzene. Often producers often mix in additives to help engine performance Diesel exhaust particles and gases are suspended in the air, so exposure to this pollutant occurs whenever a person breathes air that contains these substances. The prevalence of diesel-powered engines makes it almost impossible to avoid exposure to diesel exhaust or its byproducts, regardless of whether you live in a rural or urban setting. However, people living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery or working near diesel

equipment face exposure to higher levels of diesel exhaust and face higher health risks.”

- *Office of Environmental Health Hazard Assessment*

One of these roadways, the Cross Bronx Expressway, is a main artery - part of Interstate 95, which carries heavy tractor-trailer traffic. Every day there are traffic jams on this highway and these tractor-trailers are left with their engines idling. I once was a daily driver and can attest to constant delays among these highways. From my car I could smell the fumes emitted by the engines of the trucks and cars around you.

Traffic jams are not exclusive to the highways, like most boroughs, the Bronx has major roadways like the Grand Concourse, Tremont Avenue and others that serve as alternate roads to the highways. Traffic on these streets during rush hours can make them look like highways. So why should there be such concern placed on the Bronx? Mainly because we are inundated with some of the heaviest traffic truck routes in NYC.

“About one-fifth of all students from prekindergarten to eighth grade go to schools located within 500 feet, or about two blocks of the major highways”. (Fernandez, Manny)

## 2. Waste and Sewage Plants

(The red dots on the Map below represent the Waste Management Plants in the South Bronx)



The Bronx houses more than a dozen waste-transfer stations and a sewage treatment facility. Waste transfer stations are hubs where solid waste, garbage collected from the surrounding areas, is stored until it can be transferred to

landfills or other disposal facilities. Sewage treatment facilities treat the liquid human and household waste, transforming it into an environmentally safe liquid suitable for disposal or reuse. This would be anything from your toilets, baths, showers and sinks. Foul smelling gases are released into the atmosphere while this process is taking place. On a normal day you can smell the faint odor coming from these plants. On a windy day, you have to cover your nose to try to block the smell and probably out of habit your mouth as well. Afraid of what you may be breathing in. The only other place that comes in mind for me to compare the smell to is driving along the very beginning of the New Jersey Turnpike. The smell produced from this mainly industrial area is enough to make you roll your windows even if your car has no AC. The Bronx is 7% of the cities population so why does it house almost 45% of the cities waste management stations. Community activists have gone through great efforts to have land used for waste facilities equally distributed around the city so that no neighborhood bears more than its "fair share" of the burdens.

In 2006, the mayor approved a plan that included four new marine transfer stations, which would spread the trash-processing burden more evenly around the city and allow for nearly 90 percent of residential waste to be shipped out by barge or rail, rather than air-polluting trucks. Six years later, the city has yet to open its new barge loading stations, meaning the South Bronx continues to collect far more than its fair share of trash

- *By Patrick Wall, South Bronx Still Fuming Over City's Garbage Plan*

3. Heating Oils: Targeting the most pollutant causing oils and developing a plan to faze them out.

Oil. Although it has many uses, one of them that contribute to harmful chemicals being released into the air is when it is used to heat buildings. Amongst the five boroughs, only one percent of building burn heating oils, but those buildings send more toxic particles into the air than all of the city's cars and trucks combined (Scientific America).

There were specific types of oils named in this plan, two as contributors to pollution and one possibly being beneficial. Oils such as #4 & #6, mainly

used in large older buildings throughout NYC, emit black smoke full of particles and sulfur dioxide. According to PlaNYC the safest oils to use would be Oil #2, which is an ultra-low sulfur fuel, as well as natural and biodiesel oils.

Most of the buildings that use oil for heating purposes were built before natural gas was widely available; therefore PlaNYC has made strategic provisions. In 2011 #4 & 6 oil was still being used in over 10000 buildings in NYC. The plan was to phase out #6 oil by 2015 and have all buildings using #2 oil or natural gas by 2030.

Living inside your apartment you may not see the residual effects of the oil burning in your building, but how many times have you walked the streets of NYC only to see clouds of thick white, grey or black smoke being released into the air. Don't you ever wonder where that smoke is going? When it snows in the winter and you see fine black particles atop the snow do you not consider how it got there?

4. Indoor Air Pollutants can be just as harmful, if not more, than outdoor air pollutants.

*In an underdeveloped county, don't drink the water: in a developed county, don't breathe the air. – Changing Times Magazine*

Outdoor air pollution is not all that is affecting the residents of NYC. For some of us the exposure is coming from the very place we call home, the place we work, or send our kids to school.

Indoor Air Pollution can be caused by many factors such as pesticides, mold, heating equipment, infestations of roaches and mice and fumes from old boilers. These pollutants can cause more harm than pollutants found in the outdoor air because they are confined.

“Certain molds are toxigenic, meaning they can produce toxins, but the molds themselves are not toxic or poisonous “. (cdc)



These molds can be hidden inside of walls and grow due to excessive moisture from leaks. Pesticides used on plants and animals contain chemicals. Heating Equipment like gas stoves, fireplaces and heaters can produce carbon monoxide, and also release nitrogen dioxide and particulates if not used properly or vented well. Roach and mice infestations can spread disease and trigger symptoms of respiratory illnesses. All of these contributors can have a negative affect on your health leading to display symptoms of ‘Sick Building Syndrome’ (SBS) and ‘Building Related Illnesses’ (BRI).

“Sick Building Syndrome is used to describe situation in which building occupants experience acute health and comfort effects that appear to be linked to time spend in a building, but no specific illness or cause can be identified.” (EPA).

## **Part II. Air Pollutant toxins: Case studies have since proven definitive links as to how airborne toxins have harmful effects on your health**

### **A. Health effects of Ambient Air particulates**

1. Respiratory Symptoms: stuffy or runny nose, sinusitis, sore throat, wet or dry cough, fever, burning or red eyes, wheezing, abundant amounts of phlegm, shortness of breath and chest discomfort.

### **2. Related Illnesses: Asthma, Bronchitis, and Cancer**

The Bronx ranks 8<sup>th</sup> in having the highest cancer risk caused by airborne chemicals in the US, it’s the borough with the highest rates of asthma hospitalizations and deaths. Studies have since proven the link between airborne toxins and respiratory illness. As per data recorded for the 2000

census, Medicaid – a government funded health insurance- spent over \$119 million dollars in asthma hospitalizations alone. However, because the health effects associated with the pollutants in the air vary, it's hard to narrow it down to just one cause.

According to studies conducted by the Lehman College Geographic Information Sciences research team and researchers at NYU, the answer is Yes. The Lehman study found that “there is a definite link between asthma hospitalization and air pollution in the Bronx.

The NYU Study found that school children were exposed to high levels of air pollutants in their neighborhoods, causing them respiratory problems. (Diaz, Andrea).

In short, both teams seem to conclude that respiratory illnesses, such as asthma, are due to the high levels of air pollutants in the Bronx.

I interviewed a woman from my job that lives in a house in the Hunts Point Section of the Bronx. Two of her three kids have asthma. We discussed the previous waste management companies that once occupied the Hunts Point Section of the Bronx, I asked her if she believed the quality of air played a part in her children's health issues. She informed me that her family did not have a history of asthma related illnesses. Although her kids do not have sever cases of asthma having it makes even a simple cold worse than what it would usually be. When her kids are taken out of the environment, like when they go away to summer camp, the symptoms do not disappear but the children rely less on the medication they usually take. According to her she began to think that perhaps the mediation was only treating the symptoms of her children's asthma and not the reason they had asthma in the first place.

Scientist reviewed hundreds of studies completed around the world that viewed the health effects of air pollution, their results were published in a review by The Health Effects Institute:

They concluded that traffic pollution causes asthma attacks in children, and may cause a wide range of other effects including: the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. The area most affected, they concluded, was roughly 0.2 mile to 0.3 mile (300 to 500 meters) from the highway.

- (State of the Air.org)



**Part III. Not the complete answer, but definitely part of the solution: Trying to offset the Effects of Air Pollutants effecting Bronx Residents by creating more Green Spaces**

*“At the end of the day, no amount of investing, no amount of clean electrons, no amount of energy efficiency will save the natural world if we are not paying attention to it – if we are not paying attention to all the things that nature gives us for free: clean air, clean water breathtaking vistas, mountains for skiing, rivers for fishing, oceans for sailing, sunsets for poets, and landscapes for painters. What good it to have wind-powered lights to brighten the night if you can’t see anything green during the day”*

*~ Thomas L. Friedman, **Hot, Flat, and Crowded: Why We Need a Green Revolution—and How It Can Renew America***

NYC can be an example for all major U.S. cities by leading the way for its residents to breathe cleaner air. The Government does and should not have the final say as to how the future will play out - as history has proven, i.e.: Civil Rights, Women’s Rights Movement and the newly adapted Gay Rights Movement. All of those acts and amendments were put into place by the overwhelming outcry of the people. Environmental issues have led individuals to raise awareness as to what we can do independently to help slow down and reverse the effects the human footprint is having on this earth. Composting, bike sharing, planting trees are some of the latest efforts launched in NYC.

Students have turned ‘green clubs’ at schools and universities into more than just the ‘Reduce, Reuse, Recycle’ slogan it used to be. Their voices are forcing the institutions to acknowledge what is happening to the environment and make better decisions.

Although at a profit, companies have realized the growth in the environmental friendly market and seem to work that aspect into their marketing in an effort to attract more customers. There are businesses built around the whole environmentally friendly boom.

*“I seem to be allergic to whatever that terrible smell is, “ said Gateman when the urge to sneeze had finally subsided.  
“What terrible smell?”*

*“The air, “ said Gateman. “It smells...different.”  
That’s called oxygen, ‘ said Professor Boxley. “Fresh air. No cars, no  
buses, no factories: just pure, clean oxygen.”  
~ Dr. Cuthbert Soup, Another Whole Nother Story*

Almost 4 years ago, under the direction of Mayor Michael Bloomberg, an initiative for Air Quality was released through PlaNYC. It’s goal, to achieve the cleanest air quality of any big U.S. city. Studies show the harmful effects polluted air has on the cities population, and Mayor Bloomberg teamed up with a few partners who decided it was time to do something about it. Supporters for better air quality have since fought for tougher legislations against companies who continue to pollute the air. PlaNYC was implanted as a way to provide clean air to all in NYC, not to debate the health effects of air pollution. A plan was developed to show the residents of NYC how this goal was going to be accomplished.

1. Is Plan NYC creating enough green space in the Bronx to promote a healthier lifestyle?

Every Sunday, through the spring and summer season, my siblings and I were able to choose whether we wanted to take our bikes, roller-skate or scooters out for a day in Central Park. For my mom, Sundays in Central Park served a few purposes: Free Outing (besides transportation), exercise for us and the ability to exhaust our energy insuring her a peaceful afternoon. Of course I had no idea about all of this back then. Central Park to me seemed like an endless Oasis. I never tired of going, nor did I wish we could go somewhere else.

Thinking about it now, I wonder why if we lived in the Bronx did my mother faithfully make the trip via train, lugging whichever recreational item we choose, into Manhattan to enjoy a park. Surely there must have been somewhere much closer and convenient for her to take us. We lived half a block from Joyce Kilmer Park. A park, back then, famous for the mini-concerts. When I asked my mother about this she simply stated, “There was no place like Central Park”. A few years back, I may have been inclined to agree with her. The she continued to inform me that while I remember Joyce Kilmer Park for the mini-concerts, back then that was al we went there for. That park isn’t the cleanest or the safest. As for parks like Pelham Bay or Van Courtland, there were too inconvenient to get to. Living near Yankee Stadium allowed us to get to the heart of Central Park in only 4 train stops.

Upon research of the park space I was shocked to find that while the Bronx has the most, parkland of any NYC borough, the South Bronx has the smallest ratio of parks to people. According to an article in the Urban Habitat Website, the South Bronx is saddled with more environmental burdens and less environmental benefits. This is mainly due to such indicators as race and class that has developers trading parks and trees for power plants and waste facilities. Why would anyone want to take a walk, run or bike ride in a toxic environment. This frame of thinking along with the chemical particles in the air contributes to such health risk as obesity and asthma.

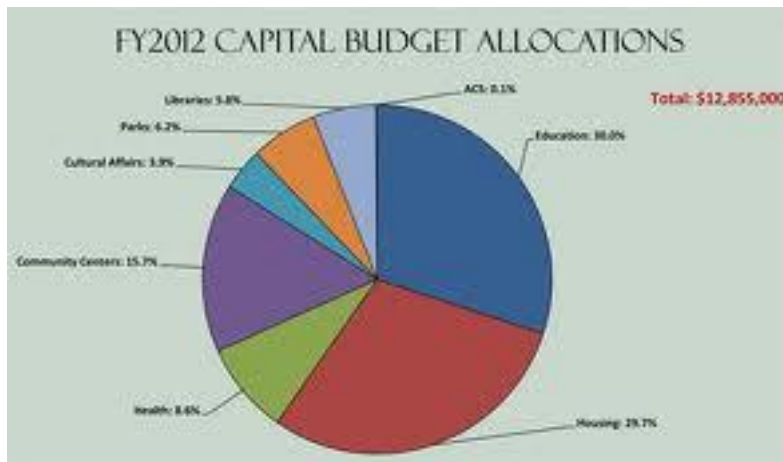
I choose one of my neighbors, Ms Johnson, to speak to in regards to some of these issues. We don't usually speak outside of greetings but like me she has kids and every morning I see her piling everyone up in her car to begin their day. I began to wonder if she, like I once did, drove everywhere she needed to go, but more importantly whether or not she made use of the neighborhood parks for her children or traveled outside of the area for her kids to enjoy a day out at the park.

Ms. Johnson informed me that she does not make use of the local neighborhood parks but does on occasion frequent a community garden 2 blocks from our building. She is friends with one of the members and only uses it because it is kept clean and closely monitored. According to Ms. Johnson, although the garden is open to the community, it's usually only frequented by friends and family of the community board members.

Other than the community garden Ms Johnson prefers to take her kids to parks outside of the neighborhood. I reminded Ms. Johnson that there was a newly built park only a block away from us and inquired as to why she didn't use it. She stated, "I do not want my kids to be in a park that has trash, people using foul language, animals running around and people smoking". I admitted to Ms. Johnson that I had never been in the park but did pass it on occasion and hadn't immediately noticed all the things she'd mentioned. I then asked her with whom did she think the fault lied when it came to the condition of the park. She responded "50 percent on the people who use it because they should know they have to take better care of their neighborhood. And 50 percent on the parks department for not keeping a better eye on the facility"

The New York Parks Department maintains 30,000 acres of city parkland. The agency uses a few methods such as biweekly inspections and semi-

annual audits to track park conditions. These inspections help the agency to determine how much money each facility needs to maintain its grounds. However since the parks department does not have its own discretionary capital budget, it relies on borough presidents and City Council members to set aside funds for park related capital projects. This year the NYC parks department budget was around \$337 million, a drop from 2008 when the budget was estimated to be around 367 million.



The Bronx spends a little over 6% of its capital budget on parks. According to the NYC Independent Budget Office, from 2000 – 2004 the Bronx received more than 13% of mayoral funding for city parks. During 2005 – 2011 it took under 10%.

Zachary Feder, a spokesperson from the parks department, says, “The NYC Parks Department strives to maintain city parks to the same uniformly high standard”. But how could this be? Should parks that have huge private funding still be given an equal amount of money from NYC parks departments as compared to those parks who receive no private funding at all? The Local Law 28 of 2008 was passed to force the commissioner of the parks department to create and Annual report on non-governmental funding allocated to NYC parks. Due to lack of consistency and miss-information the report fell short of reporting accurate information

## II. Creating something from nothing

They are hard to miss, fenced off vacant lots sometimes filled with garbage, occasionally being cleaned up but otherwise left undeveloped for years. You can find them in-between buildings, homes and business causing an eyesore to the neighborhood. Every time you walk by you think of something new this vacant lot can be cleaned up and used for. But it may not be as simple as you think. Some of these vacant lots are Brownfield’s. Brownfield’s are vacant or underutilized sites that are likely contaminated with toxic chemicals

Brownfield's have been undesirable to developers due to prior environmental contamination, clean-up obligations as well as the cost and lengthy process associated with the revitalization of the land. Faced with those challenges developers choose less cumbersome properties leaving these eyesores neglected. These properties are rarely maintained and attract vandalism and illegal dumping which degrades the environment and can put our health at risk.



The lot in this picture is around the corner from where I live and has been vacant since I moved in about 6 years ago. The fence serves little purpose, although it was cleaned up about a month ago, the weeds are usually shoulder high, and there is always some type of old furniture

and bags of garbage. There is often a foul odor coming out of it and at night I am not bold enough to walk by it for fear of the vermin that may crawl out. Every time they would come and clean up the land I had hopes that re-building would begin. Occasionally you can see people come by and look at the property, they seem like potential developers wearing their hard hats and writing down information, but nothing ever comes after their visit but more garbage and weeds.

I spoke with a neighbor whom has lived in the neighborhood for over 25 years and she said there were small run-down buildings there. One of the buildings had a storefront, a cleaners. I don't think she caught the significance of the cleaners being part of land that has yet to be rebuilt on, but in doing this research I learned that toxic chemicals are used in cleaners and it could potentially be a reason developers are constantly overlooking this property.

The picture posted is only one of the vacant lots in my neighborhood. On the same block there is another vacant lot subjected to the same illegal dumping as the one displayed. However, I must say that there has been a significant improvement on the vacant lots throughout the Bronx from when I grew up, even from when I moved back 6 years ago. Within a 5-block radius I counted 5 new buildings that have been built on empty lots. In my immediate area there are more residential developments being built, it makes me wonder where are all the schools and parks. Mayor Bloomberg made a

statement in a press conference stating that every New Yorker should live with-in 5 blocks of a park, while that may be true, if you keep building more residential buildings than public space, how will we all fit in it.

*We cannot change the cards we are dealt, just how we play the hand.*  
*~ The Last Lecture, Randy Pausch*

The Brownfield's program through PlaNYC has developed a NYC Pocket Parks program that will convert small Brownfield's to community parkland neighborhoods that are underserved by open space. In 2009 the New York City Brownfield and Community Revitalization was created. The city planned to distribute \$10 million dollars over the next few years to help developers pay for Brownfield redevelopment, especially in low-income areas. The financial incentive would offset some of the cost of cleaning up properties, would speed up the cleaning process and put an end to self directed clean-ups managed by the developers without any government oversight. There are many organizations that do not believe Brownfield's should be used for public use due to unknown potential health risk. However, since most of the development projects are fairly new on Brownfield sites, studies are still being conducted to determine the long-term health risk posed to the public. However, Brownfield's are not the only spaces being converted to open area for Bronx residents to enjoy.

The site of the New Fulton Fish Market was formerly a manufactured gas plant.

Barreto Point Park is a park revitalization story in the Bronx. In 2011 a Pelham Bay Landfill, formerly used as a city dump and also home to illegal dumping of hazardous materials, has been cleared for use of recreational purposes. According to Jesslyn Moser, a parks department spokeswoman, the land has already been planted with grasses and trees that are attractive to wildlife. She goes on to say that it has the potential to be a terrific attribute to the neighborhood. However, due to numerous lawsuits over the illegal toxic dumping, construction has yet to begin at this site. Stephanie Kearns from the Department of Environmental Conservation states "The DEC removed Pelham Bay Landfill from its list of toxic sites and believes that there are many things that can be done with the site". The pictures below represent Barreto point Park

Before:



After:



Steven Smith, an engineer and power plant developer, took a huge financial risk on one of the most underdeveloped private properties in the Bronx, Oak Point. A site with failed plans on becoming a jail or Power Plant, it was vacant and quickly became a dumping ground. Through the influence of local leaders, the Bronx Congressman and a 6 million dollar environmental cleanup, Steve has led Oak Point “On the verge of becoming a fresh food distribution hub with the potential to bringing hundreds of jobs to the South Bronx.

Even Donald Trump has a stake in the building a Golf Course in Ferry Point Park, a former garbage dump. This project, although recently completed, has been the center of major controversy. Residents are worried that although this will be listed as a public course, the fees will be exuberant making it unaffordable to the local residents. To this debate I believe that NYC is filled with a mix of income classes. You cannot only create opportunities for those less fortunate.

I find it quite amazing that I didn't know about any of the aforementioned projects before I began my research. Following the lead of my mother have often travels into Manhattan with my daughter to enjoy the likes of Central Park and Governors Island to enjoy the Green Space.

Joyce Kilmer Park, a park I only enjoyed as a kid for its concerts, and as a shortcut to the train station has also enjoyed a revitalization with the remodeling of the entire area due to the newly build Yankee Stadium Project.

Thanks to the Municipal Water Finance authority and it's Department of Environmental Protection, which is building a filtration plant along the Bronx waterfront, a \$200 million dollar fund was set up to rehabilitate Bronx parks. The money will go to improving neighborhood parks, renovating regional recreation facilities, developing Bronx Greenway, improving and expanding access to the Bronx waterfront and greening the Bronx. So far the fund has allowed 4 Bronx parks to open.

III. More green space will help promote a healthier lifestyle.

Neighborhood parks allow social interaction and physical activity. Trees planted in the parks can help improve air quality by removing pollutants from the atmosphere. Although I didn't grow up in the neighborhood I now reside in, I did pass through it quite often. Where there once were empty lots are not buildings. With the abundance of residents now being added to a small area, the more open space where trees can be planted, and the healthier the air we breathe could be. Neighborhood Park space also provides an opportunity for residents to workout close to home. A group of studies reviewed in the American Journal of preventative medicine showed that easy access to places for physical activity results in aerobic activity, which can lead to weight loss, and an increase in perceived energy.

*“Bicycling is a big part of the future. It has to be. There's something wrong with a society that drives a car to work out in a gym.”*

*~ Bill Nye*

A. From 2006 – 2012 the city installed 59 bike lanes, 88.5 miles, in the Bronx. Most of those lanes ran through parks, on roads in the North Bronx and over the Harlem River Bridge Crossings.





Out of those 59 bike lanes, only one is actually a protected bike lane. Manhattan has 19 protected bike lanes and Brooklyn has 16. If you ride in the street you risk the chance of getting hit by a car, if you ride on the sidewalk you risk the change of getting a ticket. Due to the lack of infrastructure you can possibly understand why the biking community in The Bronx is so small and people would rather stay in their cars. That is not necessarily the case though; a June 2011 poll showed that 63% of Bronx residents support bike lanes.

Biking is not only an alternate way of getting around, but it is great way to add exercise into your day. Using biking as an exercise regime can help you loose weight and improve your overall health. Cycling is ranked among the top three exercises for improving cardiovascular fitness, and can get you into shape without putting to much stress on your joints. A study found that bike riding improved energy levels by 20 percent and decreased fatigue by 65 percent. (*Mathels*) It is also known to improve respiratory function and strengthen the immune system.

There have been plenty of initiatives advertised to shine light on the Bronx. Million Tress NYC (an initiative with an ambitious goal to plant one million trees throughout NYC in a decade) helped to organize days where volunteers could help plant trees in parks, held tree planting workshops which donated trees and showed residents how plant trees themselves. There is no shortage of studies to explain the health benefits of having more trees, from clean air, to the absorption of carbon dioxide & providing oxygen. As of now nearly 500,00 trees have been planed to be planted with the Bronx getting 135,626.

A 2008 report in the Journal of Epidemiology and Community Health found that children who live on tree-lined streets have lower rates of asthma and fewer hospital admissions.

In New York City, where asthma is the leading cause of admission to hospitals among children under the age of 15, asthma rates fell by almost 25 percent for every 343 trees planted per square kilometer. This was true even after accounting for sources of pollution, levels of affluence, and population density. (*Graham Ray – Marin News*)

IV. Becoming an involved in your neighborhood is a good way to create a better living environment

Walking down a NYC street I came across a poster at a bus stop that asked ‘What can one person do’. Attached to the slogan was a picture of Nelson Mandela and the words ‘Inspiration, pass it on’. The ad was courtesy of a website named Values.com – The Foundation for a Better Living. It made me stop to think that change often comes by the strength of one person having an idea for a better tomorrow.

*“The most common way people give up their power is by thinking they don’t have any”*

*~Alice Walker*

That optimism has not been lost on the residents of Bronx.

*“Here’s to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They’re not fond of rules. And they have no respect for the status quo. You can quote them, disagree with them, glorify or vilify them. About the only things you can’t do is ignore them. Because they change things. They push the human race forward. And while some may see them as the crazy ones, we see genius. Because the people who are crazy enough to think they can change the world, are the one who do”.*

*~ Apple Inc.*

In June of 1997, public activist with the South Bronx Clean Air Coalition helped to organize Bronx residents close the Browning-Ferris Industries/Bronx Lebanon Hospital Center Regional Medical Waste Incinerator. The incinerator burned 48 tons of medical waste from three states every day. Bronx residents participated in protest, signed petitions, created highway blockades and boycotts campaigns. It was through these efforts that they got the attention of politicians whom helped them bring attention to their cause and later close the plant. Martian Feinberg from of the South Bronx Clean Air Coalition wrote an article about this battle that was published in the Everyone’s Backyard, a magazine depicting how communities across the world are winning fights against toxic polluters. In the article she states, “The most important thing was to get the word out in the community and bring people together. No expert in the world can win your struggle for you if the community is not coming together to speak out”.

Like many other initiatives that are developed, educating the people that will benefit from it is key. According to Marian Feinberg there are four steps that can help get you started. Get the community involved, Be Clear About your Message, Choose your Targets and be Persistent.

*Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did.*

*~ H. Jackson Brown Jr.*

Conclusion:

There are an endless number of organizations aimed at sustaining the environment. They range in what we eat, how we live, modes of transportation, the destruction of earth's natural resources and many more. What intrigues me the most is that while all these organizations may have a different theme, their common thread is in the betterment of our lives and planet? My intentions in writing this paper were to share with you why we should be paying more attention to these topics. To show it doesn't necessarily take a huge effort to make a difference, merely a change in one's everyday life.

Although it is a work in progress, having to fight against all the toxins that can plague its residents, The Bronx seems to be coming along by providing its residents with outdoor space that will help them lead healthy active lifestyles.

There is no shortage of studies to explain the health benefits of having more trees, from clean air, to the absorption of carbon dioxide & providing oxygen. Benefits that are exceptional in a borough like the Bronx that is already ridden with high rates of respiratory illness and asthma.

There are more benefits to bike riding than just your personal health. Bike riding is obviously one way to make a dent on the carbon footprint. It is one of the most environmentally efficient modes of transportation. Bronx residents, who are not in cars, help reduce the amount of carbon monoxide released into the atmosphere because biking contributes zero pollutants.

Although it may seem a bit overwhelming, all the information being thrown at you in regards to saving the environment, it may be in our best interest to stop, listen and educate ourselves in this matter. After all, it is our planet and civilization that is at stake.

*“Thomas Edison’s last words were ‘It’s very beautiful over there’. I don’t know where there is, but I believe it’s somewhere, and I hope it’s beautiful.”*

*~ John Green, Looking for Alaska*

## BIBLIOGRAPY

"Bicycle Network Development." Nyc.gov. N.p., 2013. Web.

Brown, Lester R. *World on the Edge: How to Prevent Environmental and Economic Collapse*. New York: W.W. Norton, 2011. Print.

Burgess, Edward, Melissa Peffers, and Isabelle Silverman. "IDLING GETS YOU NOWHERE." EDF.ORG. N.p., Feb. 2009. Web.

Chan, Sewell. "Amit Troubles, 4 Bronx Parks Reopen." *NY Times City Room Blogs* 14 Aug. 2008: n. pag. Print.

Chiwaya, Nigel. "Cycling Renaissance Pedals Slowly to the Bronx." *The Bronx Ink*. N.p., 08 Nov. 2011. Web.

Curbed Staff. "Exploring the Bronx's Post-Industrial Concrete Plant Park." *Ny.curbed.com*. N.p., 26 July 2012.

Diaz, Andrea, and Coralia Barrios. "The Bronx: In Search Of a Breath of Fresh Air." *The Bronx Journal* (2007): 1-3. Web.

"Disparities in the Impact of Air Pollution." *American Lung Association State of the Air 2013*. N.p., 2013. Web.

Do the Math. Perf. Bill McKibben, Naomi Klein, Kumi Naidoo, Archbishop Desmond Tutu, Josh Fox, Rev. Lennox Yearwood + More. Math.350.org. Math.350.org, n.d. Web.

Eckerd, Adam, and Andrew G. Keeler. "Going Green Together? Brownfield Remediation and Environmental Justice." *Policy Sciences* 45.4 (2012): 293-314.

Evans, Marni. "Indoor Environmental Quality: Building Related Illnesses, Sick Building Syndrome and What to Do about It." *Sustainability*. About.com, n.d. Web.

Fernandez, Manny. "A Study Links Trucks' Exhaust to Bronx Schoolchildren's Asthma." *The New York Times*. N.p., 29 Oct. 2006.

Foderaro, Lisa W. "As City Plants Trees, Some Say a Million Are Too Many." *The New York Times* 10 Oct. 2011: A23. Print.

Furman, Phyllis. "South Bronx Real Estate Developer Turning Notorious Illegal Garbage." *New York Daily News* 9 July 2012: n. pag. Print.

GALLUZZO, GARY. "Mena-Carrasco Helps Clear the Air." *Iowa Now*. N.p., 7 Nov. 2013. Web.

Gonzalez, David. "A Bronx Oasis With a Gritty, Industrial Past." *The New York Times* 15 July 2011: n. pag. Print.

Hodes, Jacob. "A Law to Expose City Parks' Inequalities Is Neglected." *The New York Times* 26 Aug. 2012: n. pag. Print.

Mathels, Christine. "7 Reasons to Start Bike Riding." *Women's Health*. N.p., n.d. Web.

"New York City (NYC) Brownfields." *The Weissman Center for International Business*. Baruch College/ CUNY, 2013.

South Bronx Environmental Health and Policy Study. [Www.icisnyu.org](http://www.icisnyu.org). Institute for Civil Infrastructure System, Apr. 2009.

SMITH, PETER A., and MAYETA CLARK. "MICROSAMPLING AIR POLLUTION." *NEW YORK TIMES* [NEW YORK] 4 June 2013: D4. Print.

TAYLOR, KATE. "New York's Air Is Cleanest in 50 Years, Survey Finds." *NEW YORK TIMES* [NEW YORK] 26 Sept. 2013: A18. Print.

"US Environmental Protection Agency." *EPA*. Environmental Protection Agency, n.d. Web.

Wall, Patrick. "South Bronx Still Fuming Over City's Garbage Plan." *DNAinfo of New York*. N.p., 15 June 2012. Web.

"2000 U.S. Census." N.p., 2000. Web.

"2010 U.S. Census." N.p., 2000. Web.