

# Port Morris Eco-district: *A Path to Environmental Justice in the South Bronx*



**A Capstone Project Submitted in Partial Fulfillment of the  
Requirements For the  
Masters of Design Studies  
In  
Sustainable Design  
School of Design Studies  
Boston Architectural College**

**May 13, 2016**

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**Fernando Ortiz**

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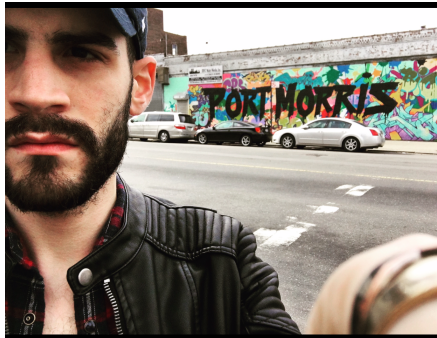


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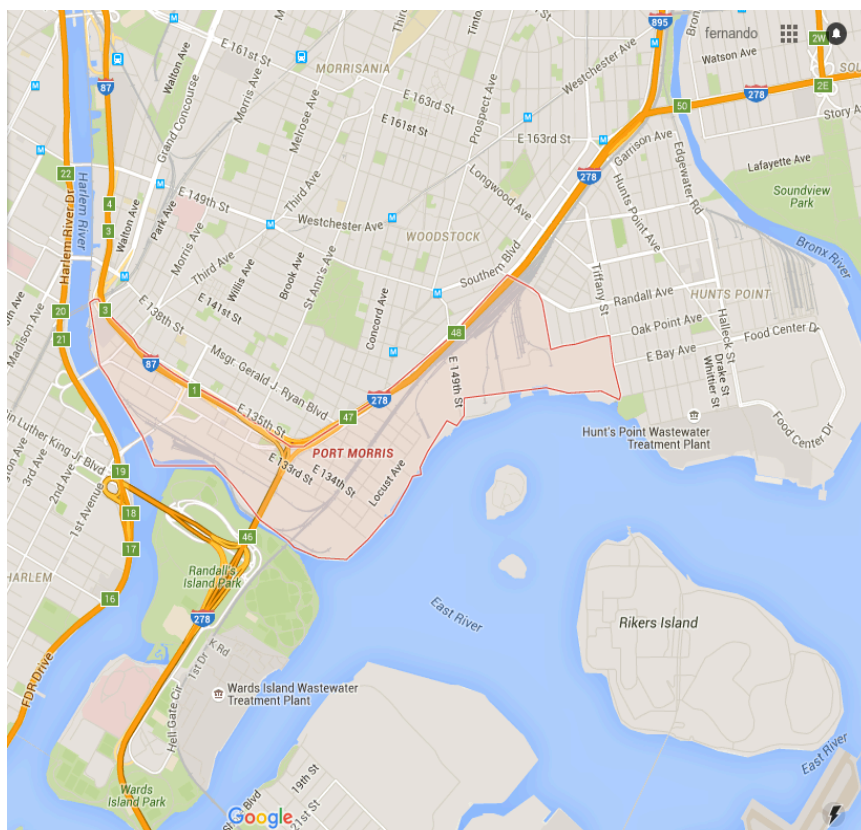
Fernando Ortiz is a Dominican-American student born in Brooklyn but raised in the South Bronx. Considering himself a native Bronxite, Ortiz attained his Bachelors of Arts in Critical and Visual Studies with a minor in Sustainability Studies from the Pratt Institute in 2014. Ortiz is also a LEED Green Associate and Green Classroom Professional and pursuing his LEED Accredited Professional certification in Building Design and Construction. The author has interned at the New York City Department of Parks and Recreation as a Freshkills Park Development Intern and has studied in Malta and the Dominican Republic. Ortiz is completing a Masters of Design Studies in Sustainable Design at the Boston Architectural College. On his free time he loves to travel, write, read and spend time with his dogs; Blacky and Helios and currently resides in Yonkers, New York.

## Conclusions:

*Port Morris Eco-district: A Path to Environmental Justice in the South Bronx* is a capstone project that focuses on the industrial-residential waterfront community of Port Morris in the South Bronx. This thesis aims to describe and analyze the potential of an eco-district in the Port Morris community in order to alleviate this neighborhood of issues concerning environmental justice. The Port Morris community is explored in terms of its history, geology, ecology and culture as well as the framework behind the eco-district certification. Then, Port Morris is analyzed in terms of its strengths, weakness, opportunities, threats, ecological stresses and potential eco-district projects.

This capstone project has demonstrated the difficulties in urban planning and in community development within existing communities such as Port Morris that face many concerns around environmental justice. Public space, social equity, resiliency and accessibility have been reoccurring themes throughout the thesis and have greatly made me think in terms of how development occurs and how it affects these areas of society. Certifications and rating systems such as Eco-districts, LEED and others help to establish standards for sustainable development in both existing and new communities in order to guide environmental, social and economic prosperity.





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## **Part I: the Port Morris Community**



(Sign located adjacent to the Tri-Borough or RFK Bridge- the main entrance to the Bronx. The sign is located atop the building of a tee-shirt factory on Bruckner Boulevard in Port Morris.)<sup>1</sup>

Port Morris is an urban, industrial and residential community within the South Bronx, New York. Most of the land where Port Morris today exists is landfill created from dredging to expand the waterways that connect the Bronx to Manhattan. The total land area of Port Morris is about 475 acres and could be considered a peninsula since it is surrounded by water on three sides.<sup>2</sup> To the west, Port Morris is bordered by the Harlem River that separates the Bronx from Manhattan and the community of Harlem. The Willis Avenue Bridge, the Third Avenue Bridge and the Madison Bridge connect Port Morris to Harlem across the Harlem River. To the east, Port Morris is bordered by the East River that separates the Bronx from the borough of Queens. To the south of Port Morris lies the Bronx Kill, a narrow waterway that connects the East and Harlem Rivers and separates the Bronx from Randall's Island. The Tri-Borough or RFK Bridge and

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<sup>1</sup> Patrick Rocchio. "Bronx Welcome sign an eyesore" *Bronx Times*, 8 October 2013, URL. [http://www.bxtimes.com/stories/2013/40/40\\_sign\\_2013\\_10\\_04\\_bx.html](http://www.bxtimes.com/stories/2013/40/40_sign_2013_10_04_bx.html)

<sup>2</sup> "Port Morris Rezoning" NYC Dept. of City Planning, 12 August 2015, URL.

the Hell Gate Bridge connect the Bronx to Randall's Island and Queens. Finally, to the north, the Port Morris community is bordered by the Bruckner Expressway established in the 1960's by Robert Moses that acts as a virtual wall to the northern boundary of Port Morris.

Today, the Port Morris community is part of the Bronx Community Board 1 District, which is the poorest district in the United States. Port Morris has an estimated population of about 3,520 people with a demographic make-up of about 73% Latinos (largely Puerto Ricans and Dominicans), 23% Afro-American, 2% White and 2% considered Other.<sup>3</sup> Thirty percent of the overall population reports being born outside the United States. The community of Port Morris is one that speaks largely Spanish, with 57% of the population reporting Spanish to be their first-language.<sup>4</sup> The Port Morris neighborhood and all of the Bronx is under the jurisdiction of the Bronx Borough President; Ruben Diaz Jr. and the New York City Mayor; Bill de Blasio.

### **Ranaqu'a: Native American Settlement:**



(Map depicting the area known as Ranachqua to the indigenous Lenape in present-day Port Morris. The red lines on the map represent traditional Native American trail-ways across the islands.)

<sup>3</sup> "Port Morris Neighborhood in the Bronx" *City-Data*, 15 January 2016, URL. <http://www.city-data.com/neighborhood/Port-Morris-Bronx-NY.html>

<sup>4</sup> Ibid.

<sup>5</sup> Paul DeRienzo. "Native Americans and the Bronx" (Presentation, New York, 12 January 2016).



Prior to European colonization, the indigenous Native Americans who settled here known as the Lenni Lenape Indians, or simply the Lenape, knew the area of Port Morris and most of the South Bronx as Rananchqua or Ranaqua meaning “the end place” in their native tongue.<sup>6</sup> The settlement of Rananchqua was bordered by the Harlem River to the west then known as Muscooten and the Bronx River to the east known by the Lenape as Aquahung meaning “river of high places”.<sup>7</sup> The settlement of Rananchqua was to the Lenape an area of virgin forest and salt marshes as well as of harvest and harmony where they lived mostly in peace with other indigenous tribes in the area. Rananchqua was also an area highly populated by wildlife such as deer and the famous beavers that would later underwrite European colonization. Besides being bordered on the western, southern and eastern sides by water, the settlement of Rananchqua had two rivers or streams that ran from north to south within its territory - the Acrahung, later known as the Mill Brook, and Bungalow Creek.<sup>8</sup>



(Map depicting the native waterways that existed in Port Morris such as the Mill Brook, Bungalow Creek and Leggett’s Creek. Also shows the area prior to the construction of the expressways.)<sup>9</sup>

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<sup>6</sup> Paul DeRienzo. “Native Americans and the Bronx” (Presentation, New York, 12 January 2016).

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> “Brook Wetland Restoration” *Friends of Brook Park*, 12 February 2016, URL. <http://friendsofbrookpark.org/brook-park/brook-daylighting/>

### **The South Bronx- Colonial development:**

It wasn't until 1639 that European colonization in the Bronx and in Port Morris began with the arrival of the Dutch immigrant Jonas Bronck. Jonas Bronck arrived on behalf of the Dutch West India Company and bought 500 acres from the Lenape in an area described as "between the Harlem and Aquahung Rivers".<sup>10</sup> The Jonas Bronck farmstead became known as Bronck's Land or simply Bronck's, which later gave birth to the modern day name of the borough - the Bronx. The Bronck farmstead used virgin forest to establish a small paper mill and undertook traditional farming of livestock and crops. Jonas Bronck died in 1643 after which his farm landed in the hands of several Dutch traders until 1664 when it came into possession of a man named Samuel Edsall who sold the land in 1670 to Colonel Lewis Morris.<sup>11</sup>

The Morris family established the estate known as the Manor of Morrisania in the area with the property being inherited by Lewis Morris. Governor Lewis Morris Jr. who was born and died on Morrisania and who is one of the signers of the United States Declaration of Independence established a port in the area in 1842 that became known as Port Morris.<sup>12</sup> The port was established in order to compete with the Dutch settlement of Manhattan or New York's port and so Governor Morris built a two-mile railroad from his family's house to the waterfront later known as the Spuyten Duyvil and Port Morris Railroad. This railroad system was used to transport goods brought into the port to other areas of the Bronx only to be abandoned 100 years later. Beginning with

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<sup>10</sup> Dr. G. Hermalyn. "The Story of the Bronx." *Bronx Historical Society*, 12 February 2106, URL. <http://bronxhistoricalsociety.org/bronx-history/the-story-of-the-bronx/>

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

the Governor Morris port and railroad system, the Bronx expanded more railroads heading into upstate New York in order to transport goods and the port's role began to diminish.

Due to the Bronx railroad system, the area of Port Morris in the 19<sup>th</sup> century became an industrial area of warehouses and factories. From the 19<sup>th</sup> century onward, Port Morris established itself as an industrial neighborhood of manufacturing and warehouses with many businesses establishing themselves in the area, including Consolidated Edison, Cutler and Hammer Tool Works and 63 piano factories such as Estey Piano Company.<sup>13</sup> The late 1900's were a critical time for the Port Morris community as well as the whole Bronx area, developments such as the Bruckner Expressway and the Major Deegan isolated Port Morris from the rest of the Bronx. The establishment of the Harlem River Yards along the Harlem River and the Oak Point Station along the East River greatly increased vehicular traffic in this community. The arson that plagued the Bronx in the 1970's also affected Port Morris with many land owners setting fire to their property in order to claim insurance money, leading to abandonments, a declining economy and high crime.<sup>14</sup>

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<sup>13</sup> "Port Morris & the 134<sup>th</sup> Street Ferry Bridges." *Historic Districts Council*, 20 February 2016, p.3. PDF, <http://www.6tocelebrate.org/wp-content/uploads/2013/09/HDC-SixtoCelebGuide-PORT-MORRIS-12pg.pdf>

<sup>14</sup> Ibid.





existing rail road tracks

(Existing railroad tracks are depicted demonstrating how the tracks penetrate into the Port Morris community.)<sup>15</sup>

### **Port Morris- Environmental Justice:**

In the last few years the community of Port Morris has started to become gentrified with young professionals moving into the area because of its proximity to Manhattan and its low rents compared to the rest of New York City. Abandoned warehouses and factories have been converted into apartments and lofts and rented out to young professionals willing to pay higher rents. The New York City Department of City Planning has rezoned the area in order to accommodate a more mixed-use community. Developers Somerset Partners and the Chetrit Group have purchased 2-acres along the Harlem River and with plans to build condominium buildings of about 25 stories; re-branding the community as the “Piano District” in order to attract buyers.<sup>16</sup>

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<sup>15</sup> Celine Armstrong. “On Track to Sustainability.” Columbia University: 22 September 2012, URL. <http://www.msaudcolumbia.org/summer/?p=1688>

<sup>16</sup> Zoe Rosenberg. “Developer Want to Rename the South Bronx as Piano District.” Curbed NY: 25 June 2015, URL. <http://ny.curbed.com/2015/6/25/9946254/developer-wants-to-rename-south-bronx-the-piano-district>

Remnants of the history of Port Morris can still be seen within the community. Although the two smaller rivers no longer run within the community and have long been buried underground and confined into pipes, basements in the area occasionally flood during heavy storms. Although ships no longer arrive at Port Morris, the Port Morris Gantries located at the end of 134<sup>th</sup> Street still stand decaying on the waterfront. Railroads no longer transport goods into the rest of the Bronx or Upstate New York but rather transport all of New York City's, including the Bronx's, waste and trash. Port Morris is home to two power plants and 2 waste management facilities. Abandoned railroad tunnels still exist in the form of urban decay such as the infamous "Bronx Swamp".



(The so-called Brown Swamp is about 1.5 miles of abandoned railway that connects Port Morris to Mott Haven and Morrisania.)<sup>17</sup>

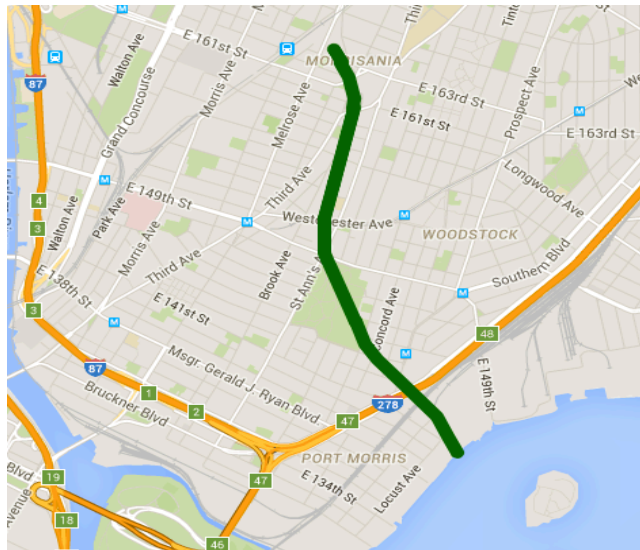
The Bronx Swamp gained attention in the media in 2009 when the-then Mayor of New York City Bloomberg ordered that the tunnels be cleared of debris, stagnant water and the homeless. An estimated 625,000 gallons of stagnant water were removed at a cost of \$350,000 to the city.<sup>18</sup> The communities around the "Bronx Swamp" have greatly expressed the desire to see this abandoned

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<sup>17</sup> Lindsay Lazarski. "Bronx Swamp endangers health." *Mott Haven Herald*: 14 April 2010. URL. [www.motthavenherald.com/2009/04/14/bronx-swamp-endangers-health/](http://www.motthavenherald.com/2009/04/14/bronx-swamp-endangers-health/)

<sup>18</sup> Ibid.

railroad track stretching 2 miles, transformed into an urban park or corridor such as was done with the Highline in Manhattan; however no action has been taken to date.<sup>19</sup> Lack of open space is a big problem in the Port Morris community. According to the city of New York guidelines, all residents should have access to open space within a 5-10 minute walk from their homes. In Port Morris however only 65% of the population is within a 5 minute walk to a park, and the parks in the community are highly neglected. Only recently has the Port Morris community been granted access to Randall's Island with the opening of the Randall's Island Connector in November 2015.



(The green line marks the path of the abandoned Port Morris branch of the New York and Harlem Railroad line. Known as the “Bronx Swamp” because of the trash and stagnant water that plagues the pathway, residents have called for a greenway along the tracks in a so-called “Bronx Low-Line” project. Stretching a distance of 2-miles, the tracks are owned mostly by CSX and other companies such as Pinnacle Real Estate Ventures.)<sup>20</sup>

Port Morris along with other communities of the South Bronx has been labeled “Asthma Alley” because of the extreme high rates of asthma in the area. The main causes of asthma are the exposure to hazardous fumes and poor air quality from garbage incineration, high truck traffic in the area and lack of park

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<sup>19</sup> Eric Cuello. “High Hopes for Lowline.” The Bronx Freepress: 21 October 2015, URL. <http://thebronxfreepress.com/high-hopes-for-a-lowline-high-hopes-for-a-lowline/>

<sup>20</sup> Ibid.

space and vegetation.<sup>21</sup> The area of Port Morris and the South Bronx handles 70% of all NYC's sludge, 100% of the Bronx's waste. About 5000 tons of trash is handled in the area daily. Other human health concerns in the area are obesity, with 71% of adults in the area considered obese, and food insecurity. The area of Port Morris also has many acres of brownfield sites within its community.<sup>22</sup>

Port Morris is geographically very close to some interesting natural areas in New York City such as Randall's Island, the Bronx River, and North and South Brother Islands. Randall's Island is about 520 acres of park space under the jurisdiction of the borough of Manhattan. The park is managed by the Randall's Island Park Alliance, a public-private partnership. Within Randall's Island are several recreational facilities such as baseball fields and soccer fields, a wetland restoration project and an urban agriculture project. Prior to the fall of 2015, Port Morris residents who wanted to visit the park had to cross over into Harlem and then cross over to Randall's Island or drive to the park.



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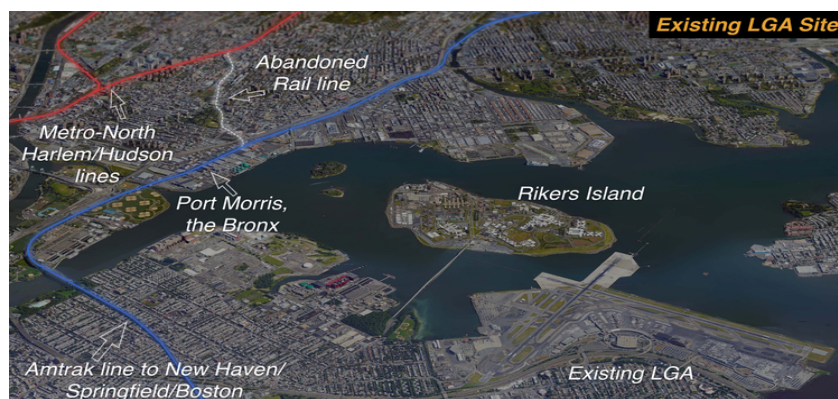
<sup>21</sup> Jennifer Rutledge. "The Fight for Change in Asthma Alley." Sustainability & Environmental Justice: 26 February 2016. URL. <http://sustainabilityjjay.org/2016/02/the-fight-for-change-in-asthma-alley/>

<sup>22</sup> "The South Bronx Greenway." (Presentation: NYC Greenway Summit Sustainable South Bronx: 31 May 2006.)



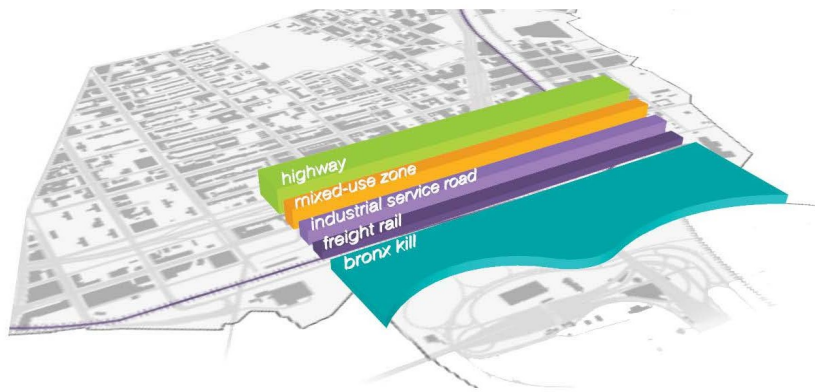
(To the left is the Harlem River Yards and the FedEx distribution center, in the middle is the Bronx Kill and to the right is Randall's Island. The bridge seen in the background is the Hell Gate Bridge and underneath the concrete arch is the located on the new Randall's Island Connector.)

The Bronx River is the only fresh water river in New York City. It is located in the adjacent neighborhood of Hunt's Point. The Bronx River was heavily polluted and in recent years a major effort has been made to improve its water quality. The river is now safe for recreational activities and wildlife such as beavers (two to be exact) have slowly made their way back into the river because of its improved conditions. North Brother and South Brother Islands are designated as bird sanctuaries and managed by the NYC Parks department. Plans have been discussed of opening North Brother Island seasonally to the public.



(Satellite image of Port Morris depicting the existing railways that are located in the community as seen from Queens.)

Despite issues of environmental injustice such as urban decay, high exposure to hazardous toxins, pollution and poor human health in the area; the Port Morris community is a vibrant-neighborhood on the rise. Once dim and largely neglected, the neighborhood has been re-zoned and is beginning to change. The neighborhood's proximity to Manhattan and Queens is a major draw for people moving to the area, in but the area's large Latino population has also maintained the area flourishing.



existing barriers

(The image depicts the existing barriers in Port Morris; the expressways the mark the northern boundary of the community, the mixed-use zone areas, the industrial and freight rail roads and the Bronx Kill that marks the southern boundary of the community.)<sup>23</sup>

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<sup>23</sup> Celine Armstrong. "On Track to Sustainability." Columbia University: 22 September 2012, URL. <http://www.msaudcolumbia.org/summer/?p=1688>

## **Part II: Eco-District Framework**

### **The Eco-district Protocol:**

In 2010, the Portland Oregon Sustainability Institute created and organized the idea of an “eco-district” - eco being the abbreviation of ecological. Simply defined, an eco-district is an urban planning framework aiming to integrate objectives of sustainable development and to reduce the ecological footprint of communities. A longer definition of an eco-district is:

“Neighborhood commitment to accelerate neighborhood-scale sustainability, achieving ambitious sustainability performance goals, guiding district investments and community action and tracking results over time while at the same time empowering communities and people.”<sup>24</sup>

All Eco-Districts share a common vision, mission and values-although these are applied and implemented differently in every community. The Eco-District vision statement is for “Just, resilient and sustainable cities from the neighborhood up.” This vision statement lays out the fundamental principles of Eco-Districts and the shared vision of all eco-districts. On the Eco-District website is found the following mission statement:

“At Eco-Districts, we’re advancing a new model of urban regeneration and community development rooted in a relentless commitment to authentic collaboration and social, economic and ecological innovation. Our work is powered by the growing number of inspired urban change makers that are re-imagining the future of our cities.”<sup>25</sup>

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<sup>24</sup> “Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016.p.5 PDF.

<sup>25</sup> Ibid.



The Eco-District model is based on the three pillars of sustainability; social equity, economy and environment as defined by the Brundtland Report of 1987, but add two very interesting concepts- collaboration and urban regeneration. The values of Eco-Districts are as follows:

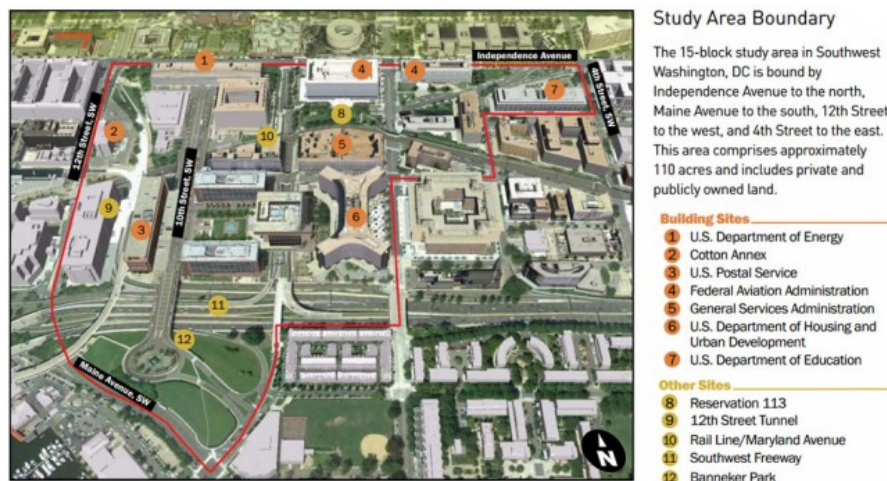
- Neighborhoods and districts are the building blocks of sustainable cities.
- Everybody- regardless of class, race, age, religion, gender identity and/or sexual orientation deserves to live in a healthy, safe, connected and vibrant neighborhood.
- Economic opportunity, community well being, and ecological health are fundamental ingredients of sustainable neighborhoods and cities.
- Neighborhood sustainability requires a new model for action- rooted in collaboration and greater inclusion- to co-create innovative district-scale projects.
- Rigorous, consistent and transparent reporting in the areas of governance, environment and social performance is fundamental to effectively promote and manage long-term sustainability.<sup>26</sup>

The Eco-District framework has slowly become a popular framework and certification process across the United States and in some other countries like Canada. Since it took off in 2007 there are about 10 Eco-Districts worldwide and many other slowly taking the pledge and initiating the certification process. A lot of the setback has been the continuous organization and development of an official certification process and framework, which since it began has continued to grow and adapt according to pilot projects and feedback. Some popular Eco-

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<sup>26</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016.p.5 PDF.

Districts are Little Tokyo District in Los Angeles, California, Kendall Square in Cambridge, Massachusetts, Seaholm District in Austin, Texas and the Zibi Neighborhood in Ottawa, Canada.<sup>27</sup>



(Example of an eco-district proposal for a community in Washington, DC.)<sup>28</sup>

The Eco-District Protocol, as it has come to be called, focuses greatly on the concept of collaboration. Collaboration is emphasized as being part of the fundamental ingredients of sustainable neighborhoods because everyone within the community needs to share common goals, values and behaviors and must be included in order to promote sustainable communities effectively. The concept of “Civic ecology” is key to the framework of Eco-Districts. Civic ecology is defined as “ the integrated web of energy, nutrients, resources, financial, information and cultural flows and interactions that are envisioned, created and managed by citizens acting for the common good within a geographically-defined community and its city-region. It is a human ecology of place intimately integrating both natural and social/cultural systems.”<sup>29</sup>

<sup>27</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016.p.5 PDF.

<sup>28</sup> “SW Eco-district.” *Washington D.C.: National Capital Planning Commissions*, 13 March 2016. URL. <http://www.ncpc.gov/swecodistrict/>

<sup>29</sup> Marianne E. Krasny. “*Civic Ecology: Adaptation and Transformation from the Ground Up.*” New York: Cornell University Press, 12 January 2016. Print.

Civic ecology is the idea that everyone should be involved in the community and that the flow of nutrients, information, energy, etc. is fundamental to the success of a community. The five benefits emphasized by civic ecology are that it is locally controlled, has real and enduring value, is resilient, creates a stronger community and is a “living culture”.<sup>30</sup>

Another important concept emphasized by Eco-Districts and at the core of its mission and values is urban regeneration. Urban regeneration is the concern with regenerating cities facing periods of decline due to compounding and intersecting pressures and seeks to build new knowledge and shape policy around urban concerns such as employment, demographic changes, physical deterioration, racial-social tensions, etc.<sup>31</sup> Simply put, urban regeneration is the renewal of urban areas. Eco-Districts attempt to restore communities to become more sustainable and increase their civic ecology in a positive way.



(Bruckner Boulevard- a major avenue in the Port Morris community)

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<sup>30</sup> Marianne E. Krasny. *Civic Ecology: Adaptation and Transformation from the Ground Up.* New York: Cornell University Press, 12 January 2016. Print.

<sup>31</sup> Sasha Tsenkova. “Urban Regeneration.” Canada: University of Calgary Press, 12 January 2016. PDF.[https://www.ucalgary.ca/ev/designresearch/projects/2001/Urban\\_Regeneration/introduction.pdf](https://www.ucalgary.ca/ev/designresearch/projects/2001/Urban_Regeneration/introduction.pdf)

Behind the Eco-District Protocol are Three Imperatives that guide projects and communities to become sustainable. The Three Imperatives are: Equity, Resilience and Climate Protection. Equity is the imperative that emphasizes the need for projects and communities to recognize groups within the community that are most vulnerable to investment and development. The idea is that an equitable society is one where everyone has the opportunity to participate, reach his or her full potential and prosper.<sup>32</sup> Resilience is the capacity for cities and neighborhoods to function so that people may thrive. It encourages communities to consider all types of disruptions; social, technological, economic, environmental and/or political so and address solutions to these kinds of disruptions in ways that maintain a growing and moving community.<sup>33</sup> The last imperative, Climate Protection emphasizes the need for neighborhoods and cities to reduce their ecological footprint minimize energy and water resource demands and reaches carbon neutrality.<sup>34</sup>

### **The Formation of an Eco-district:**

The first step to establishing an Eco-District is to register your project and create an Eco-District Manifesto, which is a document that describes your goals, mission statement and values as well as your commitment to the project. An implementation plan is required for the formation of an Eco-District, which is called the Roadmap and has different phases.<sup>35</sup> Phase 1 is focused on getting the project ready such as assessing strengths and weakness of your project,

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<sup>32</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016.p.11 PDF.

<sup>33</sup> Ibid, p.11

<sup>34</sup> Ibid, p.11

<sup>35</sup> Ibid, p.13

establishing government, civic and leadership organizations and collaborations to launch the project. In this phase, stakeholder analyses are carried out as well as assessment of the resources and assets of the community.<sup>36</sup>

Phase 2 requires the project to provide information about relevant contextual issues and opportunities in the community as well as set reliable targets and strategies for the community and implementation steps. Also in this phase, funding is discussed as well as organizing strategies by performance areas. The last phase, Phase 3 is the phase in which strategies are implemented, measure and reported and continual work is carried out to improve the social, economic and environmental conditions of the community.<sup>37</sup>

In order for a project to become certified, numerous templates and documents must be submitted by the projects such as the Context, Data Plan and Target Setting Templates, the Eco-District Roadmap and the Annual Sustainability Report. Eco-Districts can be carried out by several types of audiences such as Government, Civic-led Organizations or the Private Sector such as developers or property owners. Once a project is officially registered, the project will have access to the numerous templates provided by the Eco-District official organization in order to guide projects in becoming certified and recognized. The responsibility of completing the Eco-District certification process can be carried out by one individual from one of these audiences or split into several individuals within a project.<sup>38</sup>

The formation of an eco-district could be of great benefit to the community of Port Morris for several reasons. The community of Port Morris is

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<sup>36</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016.p.13 PDF.

<sup>37</sup> Ibid, p.13

<sup>38</sup> ibid, p.13

one that lies within the poorest district in the United States, which is the South Bronx- an area characterized for its poverty, poor human health and physical urban deterioration. Despite these negative characteristics, Port Morris has a rich history and potential future to it because of its proximity to Manhattan, its rich culture and its underdeveloped areas. Creating an equitable, resilient and sustainable community at Port Morris could greatly help the neighborhood alleviate many of the negative traits that have for a long time characterized the community.

Eco-districts are a framework for working to fight environmental injustice. Waste management facilities and other large sources of pollution have regularly found their way into the community, few resources and few initiatives until recently have attempted to combat poor human health, urban decay, pollution control or other economic, environmental and/or social challenges faced by the vulnerable inhabitants of Port Morris. Port Morris is an example of a low-income community of color with limited access to parks and the waterfront and with an unfair proportion of toxic facilities.



(One of two power plants owned by the New York Power Authority in the Port Morris area along the waterfront facing the East River and Randall's Island, source of contamination and poor air quality in the community.)<sup>39</sup>

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<sup>39</sup> Eddie Small. "South Bronx Residents Frustrated Over Lack of Hearing on Power Plants." DNA-Info. 24 Sept. 2015. URL. <https://www.dnainfo.com/new-york/20150924/port-morris/south-bronx-residents-frustrated-over-lack-of-hearing-on-power-plants>

## **Part III: Eco-District Imperatives**

### **Imperative-Place:**

Within the Eco-District framework there are 6 imperatives or performance areas that have been laid out to guide projects in establishing more sustainable communities. These six imperatives address different issues within a community and each has stated goals, objectives and metrics to help projects achieve sustainability goals. The first imperative is Place. The goal of this imperative is to create “engaged, inclusive, culturally-rich and vibrant communities.” This imperative is split into three categories: Engagement and Inclusion, Culture and Identity and Public Spaces. The main goals of Place is to create communities that engage and include all stakeholders and the local community, to provide public spaces for activities and engagement and to celebrate culture and identity within the community.<sup>40</sup>

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<sup>40</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.40 PDF.



The objectives and metrics laid out for the imperative of Place are as follows:

1	PLACE	
	Goal: Engaged, inclusive, culturally rich, and vibrant communities	
ENGAGEMENT & INCLUSION	OBJECTIVES	METRICS
	ENGAGEMENT PROCESSES ARE INCLUSIVE AND REPRESENTATIVE	Number of people engaged in public engagement processes (by race, ethnicity, and income)
		Number of opportunities provided for engagement (by type, duration, and location)
	CIVIC ENGAGEMENT IN THE DISTRICT IS STRONG	Number of hours volunteered annually by residents and businesses (by race, ethnicity, and income)
		Percentage of eligible residents voting in most recent local election, broken down by demographics
	DISTRICT IS INCLUSIVE OF HOUSEHOLDS OF DIFFERENT AGES, INCOMES, SIZES AND TYPES	Household composition of the district in comparison to City or County/State (by income, age, race, household size)
		Rent affordability gap (number of minimum wage jobs needed to afford fair market rent)
	POWER IS SHARED THROUGH DECISION-MAKING AND ACCOUNTABILITY	Number of collaborative governance-led planning and development processes used to advance projects and initiatives
		Level of transparency in monitoring and reporting project progress and performance
CULTURE & IDENTITY	STRONG PARTICIPATION IN CULTURAL EVENTS	Percentage of district population participating in key cultural events on an annual basis as a proportion of district population
		Number of spaces and places reserved for culture and art activities that are free to access
	HISTORICALLY AND CULTURALLY SIGNIFICANT PLACES ARE PRESERVED AND CELEBRATED	Percentage of population within the district that live within one mile of a cultural or historic venue
		Number of public art and/or cultural interpretive elements found throughout the district
	CULTURAL CAPITAL AS AN ASSET	Number of opportunities for participation in cultural leisure activities within the district
		Level of attendance at key cultural facilities within the district (e.g., cinema/theatres, libraries, museums/galleries).
PUBLIC SPACES	PUBLIC SPACES ARE ACCESSIBLE TO THE DISTRICT POPULATION	Percent of population within a 0.25 mile (0.4 kilometers) of a safe and accessible public space (e.g. key park or plaza)
		Diverse representation of population participating in the life of public spaces, broken down by demographics
	PUBLIC SPACES WITHIN THE DISTRICT ARE ENGAGING AND ACTIVE	Number of uses and activities provided within key public spaces
		Presence of opportunities for people to rest and socialize in key public spaces

41

The Port Morris community is a community that has strengthens but also weaknesses. Port Morris has a population of about 3,500 people and is close to Manhattan and Randall’s Island, which provide easy access to jobs and

<sup>41</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.40 PDF.

recreational amenities. Port Morris also has a long history and is culturally diverse in its population. Some of the weaknesses that Port Morris face are the lack of public spaces. Port Morris has one park and one playground in its neighborhood that is in need of repair and maintenance and located adjacent to the expressways. Port Morris is surrounded by water and yet its residents have no access to the waterfront. Historic places or landmarks are in urban decay and neglected such as the Port Morris gantries.

Several initiatives have been discussed in Port Morris to improve its sense of Place. The revitalization of the waterfront is one of these projects. The Haven Project, an initiative by the New York Restoration Project has presented a plan for transforming the waterfront into open, public space with bike paths and recreational amenities that are accessible to the community.<sup>42</sup> Such a project would allow the community to finally have access to its waterfront with beautiful views across the Harlem and East River as well as provide a space for people to leisure, run, bike and so forth.



(Abandoned waterfront area at 134<sup>th</sup> Street in Port Morris that is gated away from pedestrians. The natural shoreline of the area was once tidal salt marsh wetlands. Better resiliency against flooding is needed by the Port Morris community due to rising sea levels.)<sup>43</sup>

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<sup>42</sup> Deborah Marten, Casey Peterson. *"The Haven Project."* New York: New York Restoration Project, 12 January 2016. P.6 PDF.

<sup>43</sup> Ibid, p.6

Art murals have been painted along some walls in the Port Morris community as art installations - not only as artistic or political statements but also to beautify the community with color and shape. These art murals engage the community and commuters as well as help reflect the values and interest of the community. The west side of Port Morris has also experienced some re-branding and is being called by many the “Piano District” because of the areas long history of piano manufacturing. Old piano factories have been transformed into lofts and apartments with restaurants at street level such as the Clock-tower Building. Developers have led taken on this idea of the Piano District and apartment towers are being planned along Lincoln Avenue in Port Morris adjacent to the waterfront by the Chetrit Group and Somerset Partners.



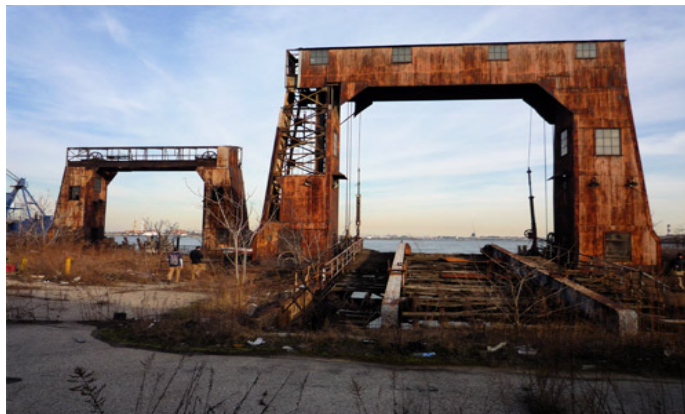
(The Clock Tower- old Estey Piano factory building that was renovated and turned into loft apartments located at the corner of Lincoln Avenue and Bruckner Boulevard in the so-called Piano District, houses Charlie’s Bar and Grill at the ground-level.)<sup>44</sup>

The Port Morris Gantries is one project that could be used to strengthen the Port Morris community in terms of Place. The Port Morris Gantries have historical and cultural value in the community as they represent the areas

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<sup>44</sup> “Port Morris & the 134<sup>th</sup> Street Ferry Bridges.” *Historic Districts Council*, 20 February 2016, p.3. PDF, <http://www.6tocelebrate.org/wp-content/uploads/2013/09/HDC-SixtoCelebGuide-PORT-MORRIS-12pg.pdf>

colonial, nautical and manufacturing history. The Gantries are located along the waterfront at 134<sup>th</sup> Street and are closed off by metal gates to the public. The Gantries once served to carry ferryboats across the East River to Queens and to North Brother Island. These large structures are now in deterioration and neglected yet much can be done with these Gantries.<sup>45</sup> The Gantries can not only be used as a historic landmark in the community but also can be restored and used as an art installation. The location of the Gantries along the waterfront can be transformed into a public space to host cultural events and to provide some recreational space for the community. Such a strategy helps to improve civic engagement, helps to create public space and also helps to celebrate the communities' culture and history.



(The deteriorating Gantries located at 134<sup>th</sup> Street in Port Morris along the east side of the neighborhood adjacent to Oak Point. The gantries served to load and unload ships and to carry passengers across to North Brother Island.)<sup>46</sup>

### **Imperative-Prosperity:**

The second Imperative of the Eco-District framework is Prosperity. The goal of this Imperative is to “prioritize education, employment and economic opportunities that build prosperity and accelerate innovation.” Prosperity deals

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<sup>45</sup> “Port Morris & the 134<sup>th</sup> Street Ferry Bridges.” *Historic Districts Council*, 20 February 2016, p.3. PDF, <http://www.6tocelebrate.org/wp-content/uploads/2013/09/HDC-SixtoCelebGuide-PORT-MORRIS-12pg.pdf>

<sup>46</sup> *ibid*, p.5

with all the factors in the community that aid in self-improvement and self-empowerment in a neighborhood. Education, employment and economic opportunities allow the community to have access to a better living standard and to become more independent as individuals but also to help improve the community by helping to maintain a circulation of people, goods, services and resources in the area. This Imperative of Prosperity is split into three sections; Access to Opportunity, Economic Development and Innovation.<sup>47</sup>

The objectives and metrics of Prosperity are as follows:

2	<b>PROSPERITY</b> <b>Goal: Prioritize education, employment, and economic opportunities that build prosperity and accelerate innovation.</b>	
ACCESS TO OPPORTUNITY	<b>OBJECTIVES</b>	<b>METRICS</b>
	<b>LOW LEVELS OF INCOME INEQUALITY</b>	Household income and education level within the district by race and ethnicity
		Poverty rate by demographics.
	<b>QUALITY EDUCATION WITHIN THE DISTRICT (PRE-K AND K-12)</b>	Neighborhood school performance within the district
		Percentage of students advancing from one level of education to the next
	<b>LOW HOUSING AND TRANSPORTATION BURDEN</b>	Cost of transportation, utilities and housing as a percentage of average income, by demographics
		Average transit commute time in minutes
	<b>CAREER PATHWAYS AND TRAINING ACCESSIBLE TO DISTRICT POPULATION</b>	Presence of education and training programs matched to job opportunities
		Participation in education and training programs by demographics

<sup>47</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016. p.41 PDF.

<b>ECONOMIC DEVELOPMENT</b>	<b>ENHANCE EMPLOYMENT OPPORTUNITIES WITHIN THE DISTRICT</b>	Jobs created or retained by employment sector within the district
		Employment levels within the district by race and ethnicity
	<b>ENHANCE JOB QUALITY WITHIN THE DISTRICT</b>	Median per capita income by race and ethnicity
		Percentage of self-employed jobs within the district
	<b>ENCOURAGE LOCAL ECONOMIC DEVELOPMENT</b>	Level of business retention and expansion
		Number and rate of new community owned/controlled business formations
<b>INNOVATION</b>	<b>FOSTER INTERACTION BETWEEN ENTREPRENEURS IN THE DISTRICT</b>	Number of incubators, accelerators, maker spaces, co-working spaces within the district
		Presence of programs to support and cultivate innovation-rich activities within the district
	<b>ENCOURAGE JOB CREATION AND GROWTH IN EMERGING SECTORS</b>	Number of start-ups in the business sector, universities, and/or government agencies
		Presence of programs to support participation in the innovation economy

48

The Port Morris community has historically been a poor neighborhood within the South Bronx. Major industries in the area such as waste management facilities and power plants do not provide local employment and significantly compromise the local environment for residents. Such industries are located mostly along the waterfront and keep these areas from being accessed by local residents as well as contaminate the air, water and land in the Port Morris community. However, there is a small-scale local entrepreneurship in the area that has the potential to accelerate the local economy and provide employment and better opportunities for local residents.

Local entrepreneurs who have established well-known business in the area include businesses like the Bronx Brewery, the Port Morris Distillery and Jetro Whole-Sales. The nearby community of Hunts Point is one of the largest food distribution areas in New York City. The city has invested funds there to improve the area and create more jobs. Prioritizing employment for local residents in Hunts Point and Port Morris is important for the community. Along with economic development in the area there needs to be access to economic

<sup>48</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016. p.41 PDF.



opportunities for the local existing communities rather than bringing in outsiders in order to increase the circulation of resources and people in the area. Along the west-side of Port Morris, the city has made public plans to expand the so-called “Antiquity Row” a couple of blocks of antique shops in the area and to rezone the area to include more residential and economic development.<sup>49</sup>



(Map of development projects in the “Piano District” area of Port Morris along the Harlem River.)<sup>50</sup>

### **Imperative- Health + Well-Being:**

The third Imperative in the Eco-District framework is Health + Well-Being. The goal of this Imperative is “to create communities that nurture peoples health and happiness.” The Imperative is split into four sections: Active Living, Safety, Health and Food Systems. Health + Well-Being involves all that things that make not just the community but also its inhabitants healthy. Active Living

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<sup>49</sup> “Port Morris/ Bruckner Boulevard Rezoning.” New York: NYC Dept. of City Planning, 12 February 2016, p. 3. URL.

<sup>50</sup> Ibid, p.3.



involves access to open spaces and recreational facilities to keep the community both engaged and active. Health deals with improving the environment such as the air quality, providing access to healthcare and other health related concerns. The section of Safety deals with the perceived feeling of safety in the community and the design of the public spaces so that they foster safer communities while Food Systems encourages local food production and access to healthy, affordable fresh food. <sup>51</sup>

The objectives and metrics of Health + Well-Being are as follows:

3

HEALTH AND WELLBEING

Goal: Create communities that nurture peoples health and happiness.

	OBJECTIVES	METRICS
ACTIVE LIVING	ACCESS TO OUTDOOR SPACE AND RECREATIONAL FACILITIES	Percentage of district population within 0.25 miles (0.4 kilometers) walk to a recreational space/park
		Levels of physical activity of the district population (sedentary, moderate, active)
	ENHANCED WALKABILITY WITHIN THE DISTRICT	Percentage of streets with sidewalks on both sides
		Number of uses within a 0.25 miles (0.4 kilometers) walk of 50% of the district population
HEALTH	HEALTH OUTCOMES AND LIFE EXPECTANCY ARE NOT DISPARATE BY RACE AND NEIGHBORHOOD	Average life expectancy by race and ethnicity
		Percentage with self-reported diabetes
	ACCESS TO AFFORDABLE, HIGH QUALITY HEALTHCARE	Percentage of district population with health insurance coverage
		Percentage of health facilities with "good" and "very good" transit scores
	NON-TOXIC ENVIRONMENTS	Number of days air quality emission levels exceeded
		Percentage of district population living near EPA listed properties

<sup>51</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016. p.42 PDF.

SAFETY	SAFETY AND PERCEIVED SAFETY OF DISTRICT PARTICIPANTS	Annual composite index score of crimes against persons and property
		Percentage of residents who feel safe walking alone at night in the district
	DESIGN FOR SAFETY WITHIN THE BUILT ENVIRONMENT	Percentage of playgrounds, food gardens, and other public areas visible from at least one street
		Exposure to toxic chemicals: The impact of industry on human health in a geographic area
FOOD SYSTEMS	ACCESS TO HEALTHY, AFFORDABLE, AND FRESH FOOD	Percentage of dwelling units within 0.25 miles (0.4 kilometers) walk of a fresh food outlet
		Consumption of recommended fruits and vegetables daily
	ENCOURAGE FOOD PRODUCTION WITHIN THE DISTRICT	Acreage of land being used for food production within the district
		Percentage of residents with a garden (home or community plot)

52

Port Morris is one of the communities with the highest poverty rates nationally and with high human health concerns such as asthma, obesity and food insecurity. The community of Port Morris and other neighborhoods in the South Bronx are known as “Asthma Alley” because they have the highest asthma rates in the country due to the many waste management facilities in the area and the high truck and vehicular traffic because of the expressways in the community.<sup>53</sup> Improving the air quality of Port Morris is a big concern in the area and one that has propelled the community to protest not only waste management facilities, but also companies such as Fresh Direct from establishing headquarters in the area because of increased truck traffic despite the economic opportunities it could bring the community.

<sup>52</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.42 PDF.

<sup>53</sup> Jennifer Rutledge. “The Fight for Change in Asthma Alley.” Sustainability & Environmental Justice: 26 February 2016. URL. <http://sustainabilityjjay.org/2016/02/the-fight-for-change-in-asthma-alley/>



(Protestor against the establishment of Fresh-Direct distribution center at the Harlem River Yards due to increase truck traffic and poor air quality for local residents.)<sup>54</sup>

The lack of open spaces and recreational facilities is evident in the Port Morris community that only has one park- Pulaski Park and one playground, Playground One Thirty Four, in its neighborhood. Pulaski Park is located at Bruckner Boulevard and Willis Avenue and hosts a playground, exercise equipment, handball, and volleyball and basketball courts. The park is 1.45 acres on the west side of Port Morris, whereas the east side of the neighborhood, where most of the residents reside, has no park space.<sup>55</sup> The community of Port Morris is very close to Randall’s Island which host many recreational facilities and open spaces but only until recently has the community been provided with direct access to the island without having to go through Manhattan.

The following image depicts the crime statistics of Port Morris in 2015, showing that the community is significantly safe as compared to neighboring communities like Mott Haven and East Harlem. One observation from the map is that the area with the highest crime rates is also the area with a high concentration of public housing projects. Possibly one of the reasons why Port

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<sup>54</sup> Emily Holznecht. “City’s sale of Port Morris building sparks protest.” New York: Mott Haven Herald, 6 November 2015. URL.

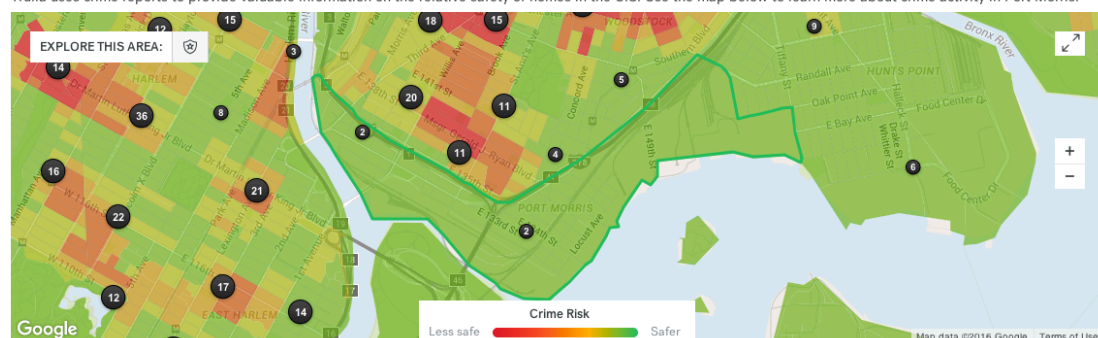
<sup>55</sup> “Pulaski Park.” NYC Dept. of Parks and Recreation, 12 February 2016. URL. <http://www.nycgovparks.org/parks/pulaski-park>

Morris is so safe in terms of crime is because of the area's zoning as an industrial neighborhood, therefore less people transit the area on foot.

Urban agriculture barely exists in the community of Port Morris other than some green roofs projects in renovated apartment buildings. Despite the community of Port Morris being adjacent to Hunts Point, New York City's largest food distribution community, the community of Port Morris suffers from large food insecurity and high obesity rates. Establishing community gardens, improving access to healthier, fresh food and increasing local food production are important initiatives for improving the health and well being of Port Morris residents.

### Crime Data in Port Morris

Trulia uses crime reports to provide valuable information on the relative safety of homes in the U.S. Use the map below to learn more about crime activity in Port Morris.



<sup>56</sup>(Crime Data for Port Morris- safe community as compared to Mott Haven and East Harlem

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<sup>56</sup> "Crime Data Map for Port Morris." City Living, 15 March 2016.  
URL: <http://www.amny.com/city-living-port-morris-1.6842049>



(Pulaski Park- the only park in Port Morris next to the Bruckner Expressway located at Bruckner Boulevard and 132<sup>nd</sup> Street. Park has several recreational amenities but is covered in asphalt.)<sup>57</sup>

### **Imperative- Connectivity:**

Connectivity is the fourth Imperative of the Eco-District framework and is split into two sections: Street Networks and Digital Networks. The goal of Connectivity is to “build the most equitable and efficient physical and digital connections between people and place”. Street Networks involves effective and efficient transportation modes, equitable transportation methods and enhanced connectivity between people and place. Digital Networks involves the connectivity with people and the modern work such as Internet and Wi-Fi access and the amount of public information available to the community and outsiders about their community.<sup>58</sup>

The objectives and metrics of Connectivity are as follows:

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<sup>57</sup> “Pulaski Park.” NYC Dept. of Parks and Recreation, 12 February 2016. URL. <http://www.nycgovparks.org/parks/pulaski-park>

<sup>58</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.43 PDF.



# 4

## CONNECTIVITY

**Goal: Build the most equitable and efficient physical and digital connections between people and place.**

### STREET NETWORK

OBJECTIVES	METRICS
STREET NETWORK PROVIDES EFFECTIVE TRANSPORTATION CHOICES	Percentage of total street centerline distance carrying three or more modes of transportation
	Multi-modal travel behavior; home-based vehicle miles traveled daily per capita
STREET NETWORK ACCOMMODATES DIVERSE AGES AND ABILITIES	Percentage of children walking and bicycling to school
	Percentage of continuous sidewalks provided along both sides of the street
ENHANCED CONNECTIVITY WITHIN THE DISTRICT	Number of intersections per square mile
	Crashes by mode and type (resulting in serious injury or fatality)
EFFECTIVE PUBLIC TRANSPORTATION CHOICES	Percentage of commercial and residential users with internet download speeds of at least 1 gigabyte (by demographics)
INCREASE SHARED USE MOBILITY OPTIONS	Number of free Wi-Fi hotspots per square mile
	Percentage of government services that can be accessed by citizens via web or mobile phone
	Number of technology hubs available where low-income residents can access technology

### DIGITAL NETWORK

QUALITY WIRED AND WIRELESS CONNECTIVITY AVAILABLE THROUGHOUT THE DISTRICT	Percentage of commercial and residential users with internet download speeds of at least 1 gigabyte (by demographics)
	Number of free Wi-Fi hotspots per square mile
OPEN ACCESS TO AND INTEGRATION OF DATA FOR PUBLIC CONSUMPTION	Percentage of government services that can be accessed by citizens via web or mobile phone
	Number of technology hubs available where low-income residents can access technology

59

Port Morris has become popular recently in the media and gained the City's attention not only because of its environmental and social issues but also because of its valuable real estate. Port Morris is one of the few existing waterfront communities in New York City that has not been exploited and gentrified. Other examples of thriving waterfront communities in New York City include Battery Park, Chelsea, Brooklyn Heights, Williamsburg and Astoria. The

<sup>59</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016. p.43 PDF.

community of Port Morris has about 1.5 miles of waterfront to it and almost all of it is inaccessible. However, the community of Port Morris has easy access to the rest of New York City. The 2,4,5 and 6 lines of the subway system access the community at the 138<sup>th</sup> Street and Grand Concourse station and the Cypress Avenue station. The BX15, BX17 and BX33 bus line service all access Port Morris as well. According to statistics, Port Morris is considered 75% walkable and 60% of its residents commute while 64% do not own cars in the community.<sup>60</sup> Also, residents are walking distance from Randall's Island and East Harlem.



(Existing street conditions in area near 132<sup>nd</sup> Street where the Randall's Island Connector is built. Need for more tree canopy, cleaner and safer streets in area.)<sup>61</sup>

Improved transportation methods are needed in Port Morris including increased walkability, increased bike amenities and better traffic calming strategies to improve safety for resident and commuters. Because of the Major Deegan and the Bruckner Expressways, a lot of vehicular and truck traffic crosses the area of Port Morris and so the streets are large. The neighborhood also suffers from poor signage in the area and high-speed rates. Traffic calming

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<sup>60</sup> "Statistics for Port Morris." City Living, 15 March 2016. URL.<http://www.amny.com/city-living-port-morris-1.6842049>

<sup>61</sup> Deborah Marten, Casey Peterson. *"The Haven Project."* New York: New York Restoration Project, 12 January 2016. P.6 PDF.

strategies such as traffic islands can greatly make the streets safer for residents. Increased bike and pedestrian paths could also greatly improve the connectivity of the neighborhood, especially along the waterfront so that residents and commuters can avoid the expressway routes.<sup>62</sup>

### **Imperative- Ecosystem Health:**

Ecosystem Health is the fourth imperative of the Eco-District framework and is split into four sections: Natural Features, Ecosystem Health, Connection with Nature and Natural Processes. Natural Features focuses on the habitats that exist within the community such as wetlands, woodlands, etc and improving their well-being. Ecosystem Health focuses on maintaining healthy natural features such as water and soil quality whereas Connection with Nature involves the access to Nature and incorporation of Nature into the built environment. The last section, Natural Processes deals with improving the air quality and reducing urban heat island effect in the community. The goal of Ecosystem Health is to “build communities with flourishing ecosystems”.<sup>63</sup>

The following are the objectives and metrics of Ecosystem Health:

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<sup>62</sup> Deborah Marten, Casey Peterson. *“The Haven Project.”* New York: New York Restoration Project, 12 January 2016. P.8 PDF.

<sup>63</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.44 PDF.

# 5

## ECOSYSTEM HEALTH

Goal: Build communities with flourishing ecosystems.

NATURAL FEATURES	OBJECTIVES	METRICS
	ENHANCE THE QUALITY AND FUNCTION OF HABITAT WITHIN THE DISTRICT	Area (acres) of functional habitat within the district
		Area (acres) of native vegetation planted annually within the district
	INCREASE URBAN FORESTRY WITHIN THE DISTRICT	Urban tree canopy coverage (acres) within the district
ECOSYSTEM HEALTH		Area (acres) of trees planted annually within the district
	CAPTURE, TREAT, AND REUSE WATER WITHIN THE DISTRICT	Gallons of storm water retained and reused within the district
		Ratio of pervious to impervious surfaces within the district
	INCREASE THE SUPPLY OF HEALTHY SOIL WITHIN THE DISTRICT	Number of acres of contaminated land area remediated for reuse annually
CONNECTION WITH NATURE	MAINTAIN AND IMPROVE WATER QUALITY	Annual water quality composite index score
NATURAL PROCESSES	MAINTAIN AND IMPROVE ACCESS TO NATURE	Percentage of residents within access to natural open space within the district
	INTEGRATE NATURAL PROCESSES IN THE BUILT ENVIRONMENT	Number of biophilic buildings and infrastructure projects within the district
NATURAL PROCESSES	MITIGATE THE IMPACT OF URBAN HEAT ISLAND EFFECT	Average Solar Reflective Index of the district
	PROTECT AIR QUALITY FROM POLLUTANT EMISSIONS	Air Quality index score within the district

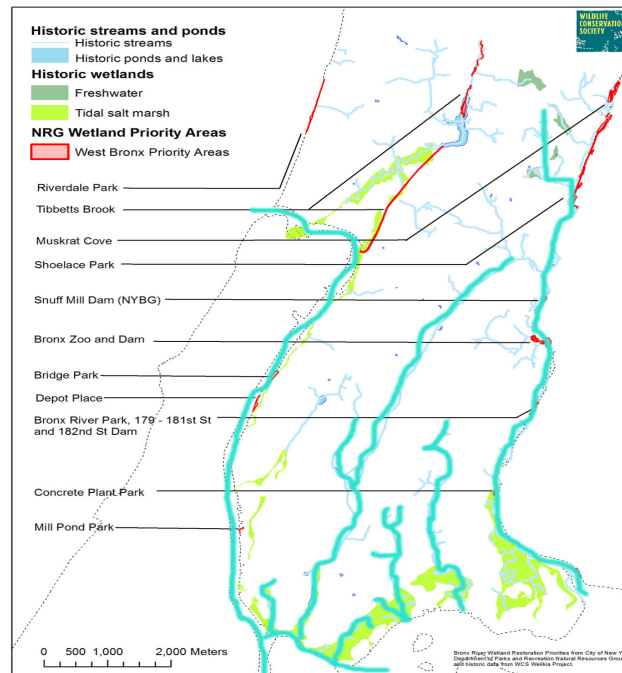
64

Port Morris suffers greatly from poorly functioning ecosystems. The area of Port Morris once had two rivers following through it: Mill Brook and Leggets Creek that have both been buried underground and incorporated into the sewer system.<sup>65</sup> Tree canopy within Port Morris is very small and the natural wetlands that once existed all around the waterfront are non-existing today. Storm water is not captured in the community and the local soil is greatly contaminated as

<sup>64</sup> Eco-Districts Protocol Version 1.0." Portland: Eco-districts, January 2016. p.44 PDF.

<sup>65</sup> Eric Sanderson. "Welikia West Bronx." New York: Wildlife Conservation Society, 10 January 2014.PDF. <https://welikia.org/wp-content/uploads/WCS-final-report-West-Bronx-historical-ecology-1-10-2014.pdf>

can be seen by the large amounts of acres of brownfield sites in the Port Morris community. Also, the local residents of Port Morris have minimal connection to open park space and the air quality in Port Morris is heavily contaminated as indicated by the high rates of asthma in the community.

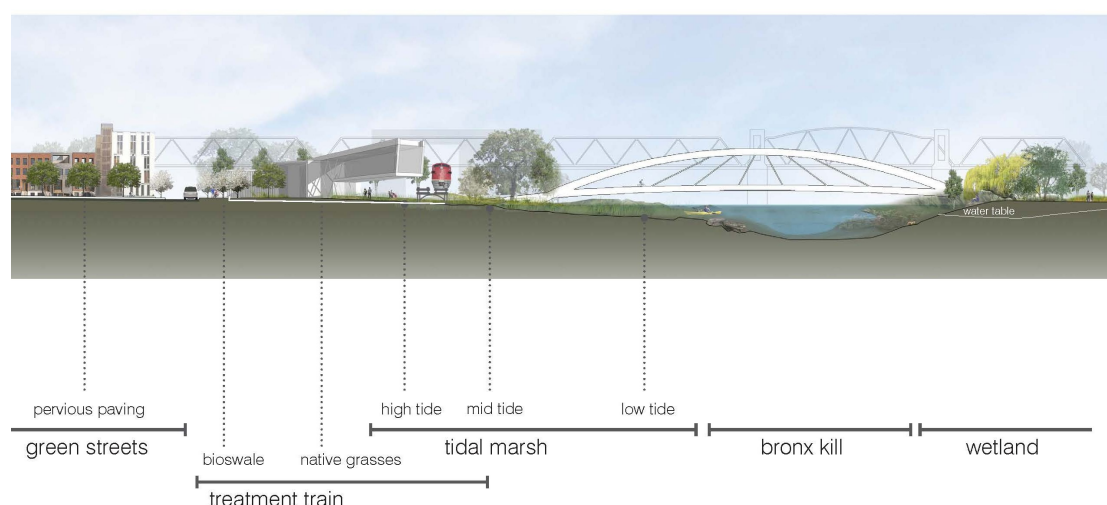


(The aqua-blue colored lines represent natural waterways in the Bronx such as the Bronx River and Mill Brook, the light green shades represent the natural tidal salt marshes in the area. Map gives good example of areas along the shoreline that are landfilled.)<sup>66</sup>

Improving the ecosystem health of Port Morris should be a priority for the community because it will improve human health but also increase real estate value, create safer and nicer communities, improve the air, soil and water quality and help to restore the overall health of the natural environment. Extending the South Bronx Greenway into Port Morris and further into Randall's Island can greatly increase open space acreage in the area as well as increase tree canopy, which helps capture pollutants and reduce greenhouse gas emissions in the area. Restoring the wetlands along the shoreline can create

<sup>66</sup> Eric Sanderson. "Welikia West Bronx." New York: Wildlife Conservation Society, 10 January 2014.PDF. <https://welikia.org/wp-content/uploads/WCS-final-report-West-Bronx-historical-ecology-1-10-2014.pdf>

public space as well as help to improve the water quality of the community as can river day-lighting.<sup>67</sup> Another way to improve the ecosystem health within the community of Port Morris and helping to incorporate Nature into the built environment is by incentivizing the community to adapt and request green infrastructures such as bio-swales, green roofs and permeable pavements.



#### activate the waterfront

(Image represents examples of how to activate the waterfront in Port Morris according to existing conditions.)<sup>68</sup>

### **Imperative- Resource Protection:**

The last Imperative of the Eco-District framework is Resource Protection. This Imperative is split into three sections: Greenhouse Gas Emissions Reduction, Water Efficiency and Waste Management. Greenhouse Gas Emissions Reduction focuses on reducing emissions in the community and the generation of renewable energy as well. Water Efficiency deals with water usage and alternative sources of water such as gray-water. The last section, Waste

<sup>67</sup> "The South Bronx Greenway." (Presentation: NYC Greenway Summit Sustainable South Bronx: 31 May 2006.)

<sup>68</sup> Celine Armstrong. "On Track to Sustainability." Columbia University: 22 September 2012, URL. <http://www.msaudcolumbia.org/summer/?p=1688>



Management, focuses on capturing organic waste and reducing the production of waste in a community. The overall goal of Resource Protection is to “create communities that eliminate pollution and restore natural capital”.<sup>69</sup>

The objectives and metrics of this Imperative are:

6	RESOURCE PROTECTION	
	Goal: Create communities that eliminate pollution and restore natural capital.	
GREENHOUSE GAS EMISSIONS REDUCTION	OBJECTIVES	METRICS
	GREENHOUSE GAS EMISSIONS REDUCED WITHIN THE DISTRICT	Annual tons of greenhouse gas emissions emitted per capita within the district
		Annual tons of greenhouse gas emissions emitted from buildings, infrastructure, transportation, and water consumption
	GENERATION OF DISTRICT-SCALE RENEWABLE ENERGY	Percentage of total energy derived from decentralized renewable sources, as a percentage of the city's total energy consumption
Percentage of electrical and thermal energy generation provided by renewables		
WATER EFFICIENCY	EFFICIENT USE OF POTABLE WATER THROUGHOUT THE DISTRICT	Annual gallons of water used per capita annually
		Annual gallons of water used per square feet annually
	ALTERNATIVE WATER SOURCES FOR NON-POTABLE USES	Number of buildings within the district have access to alternative (non potable) water sources
WASTE MANAGEMENT	MINIMAL GENERATION OF WASTE	Percentage of per capita waste diverted from landfill
	CAPTURE THE RESIDUAL VALUE OF ORGANIC WASTES	Percentage of organic waste that is diverted from landfill for energy recovery or composting

70

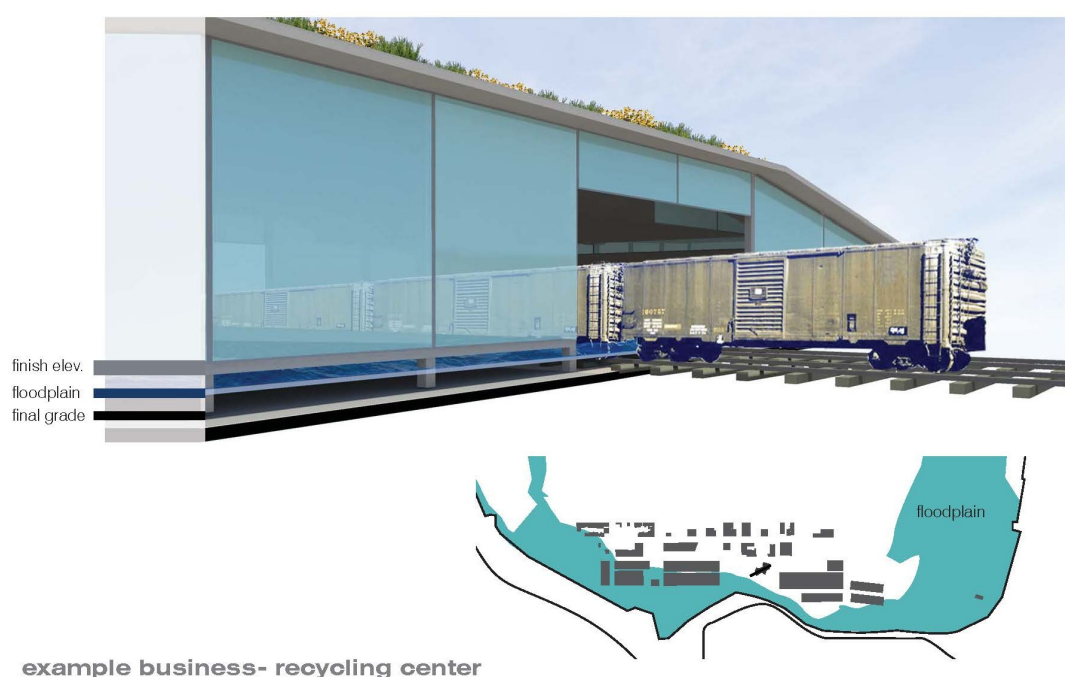
The community of Port Morris has for many years been forced to cope waste management for the larger New York region. It hosts 4 waste management facilities within its small community such as the Harlem River Yards, the CSX Oak Point Yards and others like Stericycle, Bronx Recycling and All-City Recycling. Port Morris handles 5,000 tons per day of waste as it is transferred among waste management stations. Water surrounds the community but alternative sources of water consumption are not available to the community. Rather than reduce greenhouse gas emissions, the community, because of its large vehicular traffic

<sup>69</sup> Eco-Districts Protocol Version 1.0.” Portland: Eco-districts, January 2016. p.45 PDF.

<sup>70</sup> Ibid, p.45.

and waste management and power plant facilities produces large amounts of emissions.

River day-lighting (the uncovering and restoring of buried waterways) in the Port Morris area can not only improve the water quality of the community but also help to manage storm water, reduce polluted runoff, reduce flood risk and improve biodiversity among other benefits. Incentivizing the community to recycle and compost and creating markets for recycled products and compost can greatly help reduce waste production in the area as well as create economic opportunities for many.<sup>71</sup> Renewable energy production is also important to improve resource protection in Port Morris such as adapting solar power in local residences and on local infrastructure such as street lamppost.



(Image depicts the Port Morris shoreline and areas that are most vulnerable to rising sea levels and flooding. The image also depicts examples of recycling facilities in the area that can improve the site conditions and create a market of recycled goods as well as improve waste management.)<sup>72</sup>

<sup>71</sup> "Brook Wetland Restoration" *Friends of Brook Park*, 12 February 2016, URL. <http://friendsofbrookpark.org/brook-park/brook-daylighting/>

<sup>72</sup> Celine Armstrong. "On Track to Sustainability." Columbia University: 22 September 2012, URL. <http://www.msaudcolumbia.org/summer/?p=1688>

## **Part IV: Eco-District Proposal Port Morris**

In order to successfully propose an eco-district in the community of Port Morris, the community as a whole needs to be analyzed in terms of strengths, weaknesses, opportunities, threats, stakeholders, ecological stresses and existing and potential strategies and projects. The first step in proposing an eco-district is the engagement of the community. The community must be gathered and asked what they think of their community, what they wish to see and how they envisage moving forward. A commitment by all stakeholders must be obtained in order for a successful eco-district to be formed.

### **Port Morris Strengths:**

An important strength of Port Morris is that the area has experienced re-zoning and an expansion of the commercial and residential space available in the community. The real-estate value of the community has risen as middle-income young professionals have moved into the area and as developers have renovated and restored abandoned factories into lofts and apartments. The proximity to Manhattan and Queens has attracted new residents to the community seeking to escape rising rents in other areas of New York City. The proximity of Port Morris to other areas in New York City is also an asset in terms of connectivity and access for the community. The remediation of brownfield sites in the community is increasing property values and improving the environmental health of the area. Because the community is mostly zoned as industrial, there is a lot of flow of resources within the community and keeps the community vibrant throughout the day.

The diverse demographic of Port Morris is also an asset to the community. Puerto Ricans, Dominicans, Mexicans and African-Americans make

up most of the population with young White and Asian professionals moving into the community. The diverse demographics of Port Morris help to increase economic development in the area and to diversify the kinds of businesses in the area.

**Port Morris Weakness:**

High human health issues plagues the community of Port Morris such as high asthma, diabetes and obesity rates and food insecurity. Environmental concerns such as air pollution, noise pollution, poor water quality, and vulnerability to flooding and urban heat island effect also create ecological stresses in the community. Poverty levels are still high in the community and the lack of open spaces continues to be an issue. High truck traffic and traffic from the expressways create the feeling of unsafe streets for commuting pedestrians and reduces the feeling of accessibility in the area.

**Port Morris Opportunities:**

The revitalization of the waterfront and remediation of brownfield sites are two large opportunities in the area. The revitalization of the waterfront can provide access to the community to the waterfront and the creation of much needed open space and recreational facilities in the community. It can also work to improve the water and air quality of the community as well as improve the streetscape of the area with repaired streets, more lighting and more pleasant urban spaces.

The remediation of brownfield sites in Port Morris like the revitalization of its waterfront can both increase real estate values in the area, which attracts economic development and more diverse residents. Brownfield remediation also helps to improve the air quality of the area and reduce urban heat island effect

and like the revitalization of the waterfront creates more pleasant urban spaces. Some local, more doable projects that can benefit the community include increasing tree canopy on streetscapes so to provide more vegetation to reduce urban heat island effect and capture pollutants as well as create more pleasant environments, repair damaged sidewalks and potholes, improve street signage, and install more benches and trash bins in the area. All these small-scale projects help to make the community a more pleasant and cleaner space to live in.

**Port Morris Threats:**

The gentrification going on mostly on the west side of Port Morris has slowly begun to split the community of Port Morris into two halves- with the Nouveau New Yorkers to the west along the Harlem River in the so-called Piano District and with the mostly Latino population on the east in what some call “Little Borinken” (Borinken is the indigenous name of the island of Puerto Rico, which references the large population of Puerto Ricans in the community).

Port Morris is a community that has heavy manufacturing industries and commercial traffic from facilities like FedEx, Jetro, New York Post and other large commercial industries in the area which occupies most of the land on the waterfront, blocking pedestrian access to the area. There is a high volume of diesel truck traffic in the area due to the large amount of waste management and waste transfer stations located within the area which plague the community with air and noise pollution and unsafe pedestrian streets. Land use in the area is estimated to be about 15% dedicated to the waste management facilities and power plants along with other related industries like scrap metal yards and junkyards in the area. The high volume of traffic and the industrial setting of the community leave many of the streets in disrepair and neglected. Vacant lots,

abandoned housing and poor pest control create eyesores for pedestrians and are unsafe conditions for residents.

Port Morris is located along the waterfront making the community vulnerable to rising sea levels and flooding, especially during heavy storms such as Hurricane Sandy. Shoreline protection and better resiliency for the community is important in the future development plans in this area. The renovation of old factories into lofts and the construction of new apartment buildings in the area is slowly causing gentrification in Port Morris and possibly threatens existing residents with displacement due to increasing rents and real estate values.

The community of Port Morris is a “Significant Maritime Industrial Area” or SMIA also known as a “working waterfront” meaning that the waterfront has been designated by the city as an area of maritime industrial activity such as shipping or other related industries.<sup>73</sup> To be exact, within Port Morris there are 4 power plants, 4 wastes transfer stations and other waste facilities as well as a nearby wastewater treatment plant, however there is no maritime industrial activity in the area. Because of the area’s zoning, the city has unfairly allowed several waste management facilities to establish in the area and other large commercial industries. The issue of land use in Port Morris has created a growing concern in the community for environmental justice. Residents of Port Morris and other similar communities in New York City are advocating for more equitable legislation such as the Solid Waste Management Plan (SWMP) proposed in 2006 under the Bloomberg administration. SWMP would decrease

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<sup>73</sup> “Port Morris/ Bruckner Boulevard Rezoning.” New York: NYC Dept. of City Planning, 12 February 2016, p. 3. URL.



permitted capacity for waste processing in overburdened communities like Port Morris and create a capping permitted capacity for each district that does not surpass 5% of the city's total waste. Currently Port Morris alone is handling about 30% of the city's total waste. Some strategies within the bill are the increase in marine and rail transfer stations to reduce diesel truck traffic and using more advanced technology to reduce and handle waste.<sup>74</sup>

The Port Morris scenario emphasizes a much larger issue at play. Port Morris is a small community of predominately color in the Bronx yet handles most of New York City's waste. The issue of "waste equity" and the continuous war against poor communities that handle waste and the city of New York is one that is still being battled, as many stakeholders are involved. Also, the general issue of waste is highly emphasized- waste production, management and distribution is a very large challenge in modern societies.



(Mural painted along the streets of Port Morris at Alexander Avenue and Bruckner Boulevard. The woman resembling a Latina is wearing a dress that portrays the Puerto Rican flag-referencing the large population of Puerto Ricans in the community.)

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<sup>74</sup> "Port Morris/ Bruckner Boulevard Rezoning." New York: NYC Dept. of City Planning, 12 February 2016, p. 3. URL.

### **Port Morris Stakeholder Analysis:**

For the formation of an Eco-District in the Port Morris community there are various stakeholders involved that in one way or another affect the proposal. The key identified stakeholders are: Residents, Community Organizations/Non-Profits, Employers/Business, Government, Institutions, Property Owners, Developers, Spiritual and Other. Residents are the local people in a community who live and work there. Residents have many concerns including environmental health, human health, and safe and connected street networks, public transit efficiency and education among others; they have a lot of power in terms of advocacy and the capacity to initiate change. Residents have the power to influence other stakeholders such as institutions, employers and community organizations that depend on these residents for their functioning. The residents in Port Morris are 22% Puerto Rican, 13% Dominican and 20% Mexican, with 55% of the community speaking Spanish- making Port Morris a largely Latino residential neighborhood.<sup>75</sup>



(The Harlem River Yards is a 96-acre waterfront land owned by the Harlem River Yard Ventures, part of the Galesi Group, which has a 99-year lease with the city of New York signed in 1991. Currently only 28-acres is used as a freight rail yard mostly for municipal solid waste shipment

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<sup>75</sup> "Demographics of South Bronx." *South Bronx Environmental Health & Policy Study*. New York: New York University, 2009. URL. [http://www.icisnyu.org/south\\_bronx/wastetransferstations\\_000.html](http://www.icisnyu.org/south_bronx/wastetransferstations_000.html)

and some other portions of the land has been used for commercial development such as the New York Post office and a FedEx distribution center.)<sup>76</sup>

Community Organizations and Non-profits usually have limited ambitions depending on the goals and objectives of each organization. They do have a lot of resources and influence such as getting federal and state funding and in gathering people together. They advocate community concerns and have the resources to initiate change in a community if they have proper support from the public or local residents. Sustainable South Bronx is a non-profit organization founded in 2001 with the mission to “address economic and environmental issues in the South Bronx through a combination of green job training, community green programs and social enterprise.” This non-profit organization has gained national attention in helping to expand the South Bronx Greenway into the Hunts Point community and in advocating for environmental justice and more park spaces as well as reducing truck traffic in the area.<sup>77</sup>

SoBro founded in 1972 seeks to “enhance the quality of life in the South Bronx by strengthening businesses and creating innovative economic, housing, educational and career development programs for youth and adults.” SoBro is mostly concerned with the economic and social well-being of the South Bronx by helping to offer affordable housing, train residents for jobs and helping to make available more commercial spaces in the area.<sup>78</sup> South Bronx Unite founded in 2012 is a non-profit community advocacy group made up of “a coalition of residents, organizations and allies working together to improve the social,

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<sup>76</sup> David F. Halbfinger. “20 Years in the Making, Rail Freight link opens in Bronx.” New York: New York Times, 12 March 2016. URL. <http://www.nytimes.com/1998/10/12/nyregion/20-years-in-the-making-rail-freight-link-opens-in-bronx.html?pagewanted=all>

<sup>77</sup> Sustainable South Bronx. “Our Mission.” New York: 15 March 2016. URL. <http://www.ssbx.org/our-mission/>

<sup>78</sup> Michael C. Brady. “Port Morris-Harlem River Brownfield Opportunity Area.” Community Vision Session, 5 May 2015. PDF.

economic and environmental future of the South Bronx.” This organization has been a strong opponent of establishing Fresh Direct in the community because of the increase truck traffic that will come with the company.<sup>79</sup>

Non-profits and residents are key components in the formation of an eco-district in Port Morris. Residents and non-profits provide the resources, human capital, funding and advocacy needed to support change in the community. A coalition of non-profits, residents, developers and all stakeholders needs to come together in order for an eco-district to be successful in Port Morris. Many of the existing non-profits focus on social and economic development and some have recently begun to promote environmental concerns in the area.

Employers such as local businesses are important stakeholders because they have a lot of influence and power over the economy of a community. They create jobs and supply resources to the local residents. Employers can be either large commercial industries such as distribution centers or waste management facilities or local entrepreneurs such as the Port Morris Distillery and the Bronx Brewery. Local entrepreneurs help to diversify the economy of the community and help to create more vibrant and active streetscapes.

Government agencies such as community boards and city agencies that run local facilities such as police departments and have a lot of power and influence in a community because they have strong ties to the government. They are usually the ones that pass and enforce laws and oversee safety and the flow of resources and people in communities. Institutions such as schools, hospitals and the like have less power but strong influence because they provide essential resources for the community and act as places where the community comes

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<sup>79</sup> South Bronx Unite. “About Us.” New York: 15 March 2016. URL. <http://southbronxunite.org/>

together as well. These places and stakeholders are good advocates of several issues such as health, education and proper behaviors.

Property Owners are stakeholders who own property in communities as homeowners or landowners. Some homeowners do not live within the community and have little concern other than property value and economic interest in the area and will support some initiatives that would increase their property values. The same can be said of landowners, although many landowners own vacant and abandoned properties and do nothing with them because they lack incentive. Developers are usually outsiders who possess some interest in developing the area, usually for economic purposes. They have a lot of power and influence because they usually have funding to carry out projects but are reliant on government often to get the green light on projects. Developers and local residents sometimes have conflicting roles because some residents fear that development brings gentrification and displacement. The last stakeholder is Spiritual entities such as churches and other religious organizations and depending on the community can have a strong influence on the community.



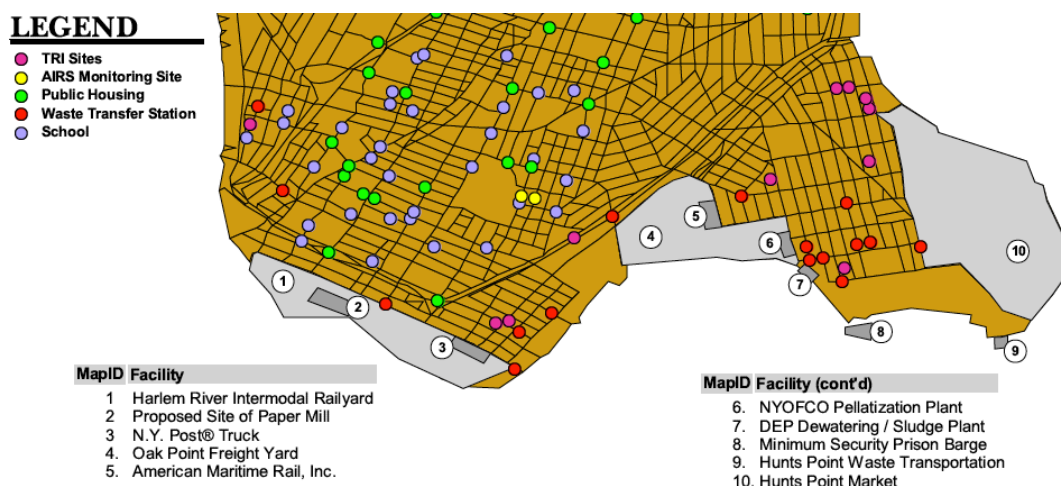
(Somerset Partners and the Chetrit Group are developers who have purchased 1.5 acres along the Harlem River in Port Morris “Piano District” for the development of two residential 25-story



condominiums located at 101 Lincoln Avenue and 2401 Third Avenue. The image is a rendering of the developers plan for the site.)<sup>80</sup>

### **Port Morris Ecological Stresses:**

Poor air quality is among the highest environmental and social concern in Port Morris due to the high truck traffic in the area because of the expressways that connect New York City to Upstate and from air pollution from waste management and power plant facilities. An estimated 15,000 trucks pass every day through Port Morris.<sup>81</sup> Poor air quality has caused the South Bronx to be the community with the highest asthma rates in the country. Even though middle-income professionals are moving into the area and developers have gained a new interest in the area, poor air quality can greatly threaten the success of Port Morris development if not addressed. Other ecological stresses in Port Morris include brownfield sites contaminated from previous industrial activities, poor water quality, flooding, urban heat island effect and lack of biodiversity and open spaces.



<sup>80</sup>Zoe Rosenberg. "Developer Want to Rename the South Bronx as Piano District." Curbed NY: 25 June 2015, URL. <http://ny.curbed.com/2015/6/25/9946254/developer-wants-to-rename-south-bronx-the-piano-district>

<sup>81</sup> "Asthma and Air Pollution." *South Bronx Environmental Health & Policy Study*. New York: New York University, 2009. URL. [http://www.icsnyu.org/south\\_bronx/wastetransferstations\\_000.html](http://www.icsnyu.org/south_bronx/wastetransferstations_000.html)



(The red dots on this map represent the waste transfer stations in Port Morris and the green dots represent the public housing.)<sup>82</sup>

### **Funding Sources:**

Funding is an important aspect in any project or proposal and many funds are available for environmental, economic and social initiatives. In early 2015, the State of New York granted federal funds for brownfield remediation and development in the Port Morris-Harlem River district under the Brownfield Opportunity Area program. These federal funds will help clean up about 200 acres of brownfield sites (10 vacant lots to be exact) in Port Morris, help to develop 1.4 miles of shoreline and give the community further access to resources.<sup>83</sup>

Other sources of funding can come from organizations that have an interest or concern in the development and remediation of the area such as the Bronx Borough President Office, the New York City Dept. of Parks and Recreation, the New York City Dept. of Long-Term Planning and Sustainability, the New York City Dept. of City Planning and the New York City Dept. of Environmental Remediation among other city departments. Federal funds can also be allocated from state and federal grants such as the case of the Brownfield Opportunity Area program.

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<sup>82</sup> "Waste Transfer Stations in the South Bronx." *South Bronx Environmental Health & Policy Study*. New York: New York University, 2009. URL. [http://www.icisnyu.org/south\\_bronx/wastetransferstations\\_000.html](http://www.icisnyu.org/south_bronx/wastetransferstations_000.html)

<sup>83</sup> Michael Brady. "Port Morris-Harlem River Brownfield Opportunity Area." Community Vision Session, 5 May 2015. PDF.

## **Port Morris Eco-district Projects:**



(Part of Port Morris “Antique Row” along Bruckner Boulevard and Alexander Avenue.)

In the Port Morris community strategies or projects must be developed and implemented to help alleviate the neighborhood of environmental, social and economic stresses that fall under one or more of the eco-district performance areas. Several examples of existing or completed projects that support the establishment of an eco-district in Port Morris already exist. In 1997, the City Planning Commission established a mixed-use district along a 5-block area in Port Morris and expanded that mixed-use district in 2011 to an 11-block area. The mixed-use Port Morris district re-zoning would fall under the performance area of Prosperity. This strategy brings new uses to underutilized lands and buildings, furthers housing initiatives, improves waterfront access, encourages economic development and helps establish a 24/7 vibrant neighborhood in Port Morris.<sup>84</sup>

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<sup>84</sup> “Port Morris/ Bruckner Boulevard Rezoning.” New York: NYC Dept. of City Planning, 12 February 2016, p. 3. URL.



(Port Morris-Harlem River mixed-use district re-zoning expansion highlights the new commercial development in the area mostly along the Piano District side of Port Morris. The dotted black lines represent the 5-block zone known as the Antique Row)<sup>85</sup>

The Randall's Island Connector completed in 2015 is a 0.25-mile pathway from 132<sup>nd</sup> Street in the Bronx to Randall's Island. The pathway runs below the historic Hell Gate Bridge, across the Bronx Kill and has a pedestrian walkway and bikeway with new lighting and amenities.<sup>86</sup> The Randall's Island Connector is a project under the Connectivity performance area because it provides residents of Port Morris and the Bronx with access to over 400-acres of open space on Randall's Island, provides an alternative form of transportation to and from the island versus the traditional dependency on automobiles and helps support safer connections.

The project led by SoBro of remediating 10 brownfield sites under the Brownfield Opportunity Area program is another strategy that benefits the

<sup>85</sup> "Port Morris/ Bruckner Boulevard Rezoning." New York: NYC Dept. of City Planning, 12 February 2016, p. 3. URL.

<sup>86</sup> "Randall's Island Connector Project." NYC Economic Development Corporation. New York: 18 December 2013. URL. <http://www.nycedc.com/press-release/nycedc-announces-launch-construction-randalls-island-connector-project>

formation of an eco-district at Port Morris because it helps to restore the natural environment of the site, helps alleviate human health concerns in the community, brings use to underutilized land, improves access to the waterfront and helps expand economic development in the area.<sup>87</sup> This project would best fit under the performance area of Ecosystem Health.



(Randall's Island Connector located under the Hell Gate Bridge at 132<sup>nd</sup> Street)<sup>88</sup>

The formation of an eco-district in the Port Morris community would require strategies and projects in all of the performance areas to be successful. The historic preservation and rehabilitation of the 134<sup>th</sup> Street Gantries in Port Morris and the re-branding of the west side of the community as the “Piano District” are good projects under the imperative of Place. Both strategies help to enhance the sense of place and cultural assets of Port Morris, which is one of the key objectives of Place. Another project that could fall under the Place category is the use of art installations around the community such as painted murals and/or

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<sup>87</sup> Michael Brady. “Port Morris-Harlem River Brownfield Opportunity Area.” Community Vision Session, 5 May 2015. PDF.

<sup>88</sup> “Randall's Island Connector Project.” NYC Economic Development Corporation. New York: 18 December 2013. URL. <http://www.nycedc.com/press-release/nycedc-announces-launch-construction-randalls-island-connector-project>



sculptures and other art installations that not only enhance the cultural quality of the community but also engage pedestrians and enhance the sense of place.



(Rendering of potential Port Morris Gantries Rehabilitation)<sup>89</sup>

With the real-estate value around the Piano District rising, avoiding displacement of existing residents is an important strategy to consider under the performance area of Prosperity. Re-zoning the area and offering more educational and economic opportunities that create employment are important strategies for this category. Health + Well-Being is another important performance area. Some projects that fall under this category are the creation of more open spaces for recreational amenities, establishing urban agriculture projects such as community gardens and green roofs, and improving the air and water quality of the community.

The Randall's Island Connector is a good example of a project under the performance area of Connectivity. Other projects that fall under this category include increasing bus service into the area, increasing pedestrian and bike

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<sup>89</sup> Deborah Marten, Casey Peterson. *"The Haven Project."* New York: New York Restoration Project, 12 January 2016. P.12 PDF.

pathways to offer other modes of transportation, establishing traffic islands along big and busy streets to offer a better sense of safety and access to pedestrians and the formation of a corridor along the Bronx Swamp called by the some the desired “Bronx Low-Line”. The Bronx Swamp is a nickname for an abandoned railroad corridor in the Port Morris community that connects it to Mott Haven and Morrisania. This corridor can be transformed into a green corridor offering pedestrian walkways and bikeways for commuters to safely commute between neighborhoods. The space can also function as park space or open space very similar to the High Line in Chelsea. All these projects help to build safer and stronger connections between people and places.



(Underpass beneath the Bruckner Expressway in Port Morris near Bruckner Boulevard and 138<sup>th</sup> Street. This area is underutilized in terms of space and has the potential to create more pleasant urban spaces and safer connections.)

Ecosystem Health encompasses a large number of projects that could be supported by the creation of an eco-district in Port Morris. The largest of these is waterfront revitalization. With more than 1.5 miles of waterfront, the Port Morris community can greatly benefit from improved access to the waterfront for recreational and connectivity purposes. One project that could be used to revitalize the waterfront is the restoration of wetlands. The waterfront area in



Port Morris use to be tidal salt marshes so the restoration of wetlands in the community can help alleviate flooding, improve the water quality of the area and help to reduce urban heat island and increase biodiversity in the area. On Randall's Island, directly across the Bronx Kill, a wetland restoration project already exist so this can become a joint effort and project between the two communities to increase local resiliency and sustainability in the area.



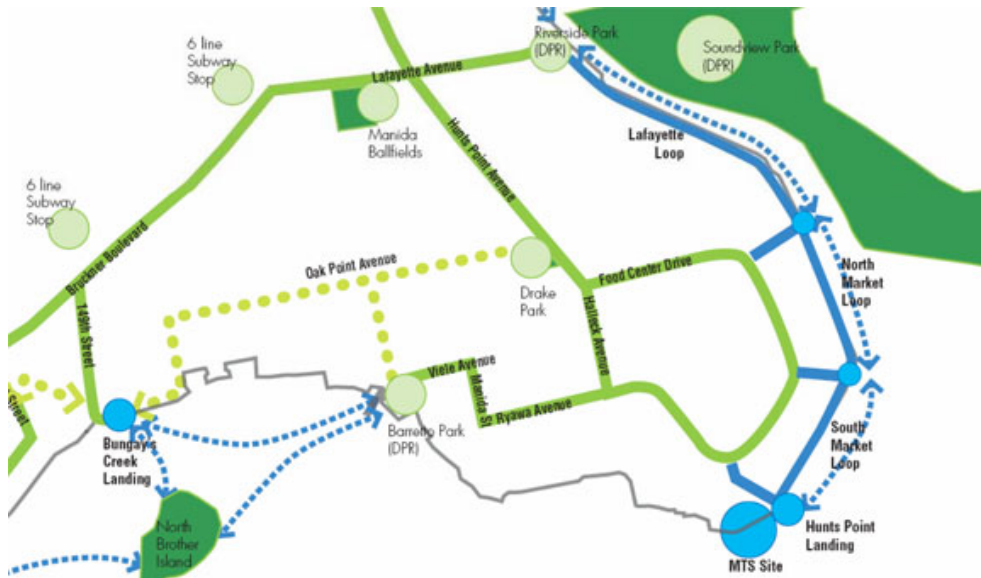
(Potential wetland restoration along the Port Morris waterfront. The emphasized area use to be tidal salt marsh wetlands before being landfilled to expand the land area and close off the Bronx Kill.)<sup>90</sup>

Another potential project under the Ecosystem Health is the expansion of the South Bronx Greenway to include all of the Port Morris community all the way up to the Harlem River and to include the nearby North Brother Island. The greenway would promote urban health, improve the environmental quality of the area, and establish safer connections. Along with the greenway would be smaller strategies like increasing the tree canopy in the area to capture

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<sup>90</sup> Celine Armstrong. "On Track to Sustainability." Columbia University: 22 September 2012, URL. <http://www.msaudcolumbia.org/summer/?p=1688>

pollutants and improve air quality as well as improve the landscape, encourage green roofs and blue roofs and increase the amount of permeable pavement in the community.<sup>91</sup>



(Potential South Bronx Greenway that will connect the Bronx River, Hunts Points and Port Morris neighborhood and North Brother Island all along the 1.5 mile shoreline)<sup>92</sup>

The last performance area is Resource Protection under the eco-district framework. A potential strategy under this category could be “day-lighting” of the buried Mill Brook or the Acrahung. River day-lighting has several benefits such as improves water quality, reduces flooding, manages storm water, alleviates stress on sewer systems and wastewater treatment plants, creates open space, reduces urban heat island effect and improves habitat and biodiversity in an area. Other projects in this performance area could be encouraging use of renewable energy such as solar power and encouraging compost and recycling programs and initiatives to eliminate and manage waste.

<sup>91</sup> The South Bronx Greenway.” (Presentation: NYC Greenway Summit Sustainable South Bronx: 31 May 2006.)

<sup>92</sup> *ibid.*



(Illustrated path of the Mill Brook known as the Acrahung by the indigenous Lenape, the Mill Brook is buried below Brook Avenue in the Bronx confined into the city's sewer system and often causing flooding issues during heavy rainfalls.)<sup>93</sup>

## **Port Morris Eco-District Conclusions:**

### **Potential of a Port Morris Eco-district:**

Eco-districts accelerate urban sustainability and resiliency at district levels. The eco-district framework provides a model based upon strong stakeholder engagement and governance and the creation of projects that reduce the ecological footprint of communities and promotes community action and civic entrepreneurship, generates green jobs, promotes equity and identity and embraces place-making. Eco-districts focus on existing neighborhoods and revitalizing communities and brownfield redevelopment unlike other similar certifications and frameworks like LEED Neighborhood Development that focuses mostly on developing new communities. Also, eco-districts have a strong emphasis on engagement with community-based organization and residents among other stakeholders so that the potential projects address real concerns in the community and create a more equitable decision-making process.

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<sup>93</sup> "Brook Wetland Restoration" *Friends of Brook Park*, 12 February 2016, URL. <http://friendsofbrookpark.org/brook-park/brook-daylighting/>

An eco-district at Port Morris would be an ecological restorative initiative for the community, would improve the health and well-being of the residents and would increase economic development in the area offering more opportunities for all. Taking a community like Port Morris that faces many issues around environmental justice and transforming it into an eco-district could be an inspiring example of how to deal with such issues and turn waste into energy. Port Morris would benefit from an eco-district through an increase in renovated buildings and infrastructure, the implementation of more green infrastructure, the improvement of the urban landscape with tree planting and better lighting fixtures and an overall improved streetscape that connects people and places in a safer way.

#### **Some Local Perspectives:**

The community of Port Morris is a diverse neighborhood with all kinds of people- Latinos selling fruits on the corner, young middle-class professionals walking their dogs and even construction workers looking for place to have lunch throughout the day. Walking around the neighborhood and speaking to different people provided a lot of input as to what the community thinks about itself in terms of identity, what the community wants and what the community fears.

One woman, middle-aged of Puerto Rican decent was very straightforward about her perspective, she said “Port Morris is thought of as a dump where everyone’s trash comes and where no one lives, but if you look around people are walking around here day and night.” This woman stated that she would like to see a Port Morris with better streets and local businesses

instead of industrial waste management and that her biggest fear is being displaced by the “dog-walkers.”<sup>94</sup>

A local development firm JCAL Developers, who are constructing three buildings in the area with ground-level commercial space told me that what attracted them into Port Morris was its proximity to Manhattan and its waterfront. “This is the next Dumbo or Williamsburg, its great real estate and there is nothing here so we aren’t displacing anyone rather we are bringing more people into the Piano District.” These developers expressed their desire to see more local entrepreneurs and small businesses in the area to provide amenities for the residents seeking to move in.<sup>95</sup>

Right next door to the developers office a local fashion boutique just opened named 9JBX with both women and men fashion items. The owner; Jerome Lamar a Black native Bronxite said that he has been surprised at how great business has been for him. “Opening day we had a full house and a great venue, I didn’t think so many people would show up- all kinds of people walked in and were happy to see my business in the area, this is what the area needs more small businesses and food- we need more food.”<sup>96</sup>

Frank Torres, owner of the residential building on the corner of 133<sup>rd</sup> Street and Lincoln Avenue talked about gentrification and made a very interesting point about community development.

“The commercial space on ground level use to be a restaurant; Calientitos, a Latino place- but I had to evict the owners because they weren’t paying

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<sup>94</sup> Angela Cruz (Latino resident of Port Morris) in discussion with the author, March 2016.

<sup>95</sup> JCAL Development Group, LLC. ( Local developers in Port Morris) in discussion with author, March 2016.

<sup>96</sup> Jerome Lamar (Black fashion designer, business owner) in discussion with author, April 2016.

rent and claimed that I was cutting their water supply and refusing to fix their plumbing in order to sabotage their business and be able to sell my property to interested developers. They claimed to be the first victims of gentrification in the area- got a lot of publicity for it too. Yet, here I am still here. I attend my community meetings and know what's going on in the neighborhood, I been here for 30 years in this corner- I own this whole block, that's why when a Jewish developer came and offered me \$26 million for all my property I told him no- I know this is going to be worth double or even triple in 5 years and why have some outside guy come in and develop the area when we can develop it from the inside right?"<sup>97</sup>

A local community-based organization called South Bronx Unite, who has been very active against the establishment of the company Fresh Direct in the Harlem River Yards, provided very insightful comments. The organization pointed out that the company's location is not along the Harlem River where the new development is planned but along the East River side where all the waste activity continues to happen. "Developers and city planners aren't very caring about this side of Port Morris because all the attention is going to developing the area around the Harlem River because of its re-zoning and proximity to Harlem. It seems almost like the developers are trying to split the so-called Piano District from Port Morris." <sup>98</sup>

The organization went on further to discuss their desire to see more green open spaces in the area especially along the waterfront and to discuss how through green initiatives, environmental injustice can be greatly reduced. "We

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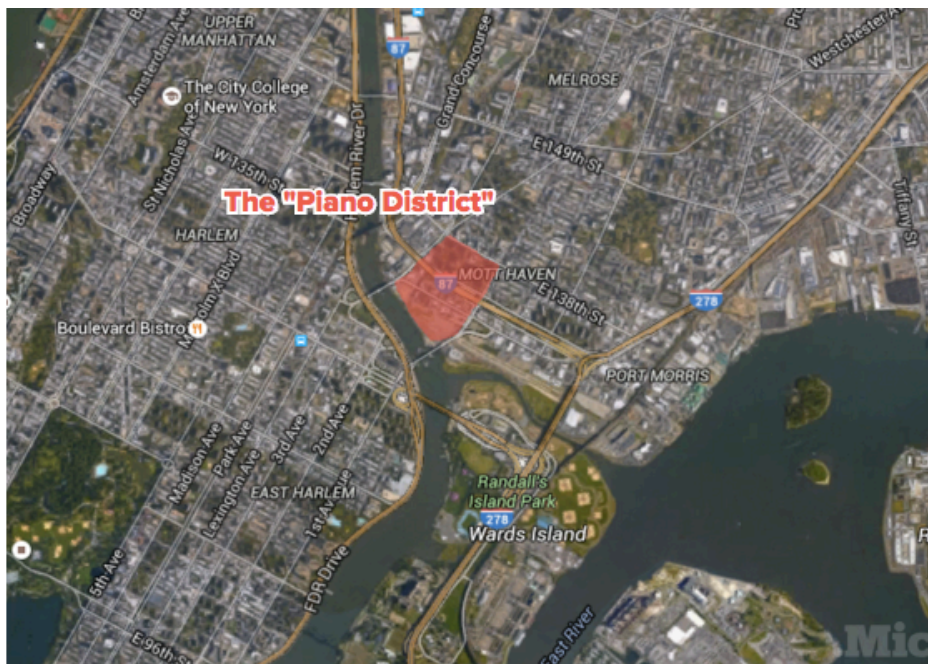
<sup>97</sup> Frank Torres (local landowner in Port Morris) in discussion with author, April 2016.

<sup>98</sup> South Bronx Unite (local community organization) in discussion with author, April 2016.



deserve the same nice parks, playgrounds and gardens that people in Lower Manhattan and Brooklyn have, we deserve the same businesses and prosperity that they have and we deserve the same safety that they have- at the end the Bronx is part of New York City too.”<sup>99</sup>

### **Boundaries of Port Morris Eco-district:**



(The shaded red area represents the so-called Piano District on the west side of Port Morris where developers are seeking to re-brand and transform the area basing off the neighborhoods history of being the “piano capitol of the U.S.”)<sup>100</sup>

One point to consider in the formation of an eco-district at Port Morris is the delineation of such a district. Port Morris on the west side is being called the “Piano District” and experiencing economic development such as the re-zoning area and brownfield remediation along with development of luxury condominiums along the Harlem River. The east side of Port Morris, where most

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<sup>99</sup> South Bronx Unite (local community organization) in discussion with author, April 2016.

<sup>100</sup> Zoe Rosenberg. “Developer Want to Rename the South Bronx as Piano District.” Curbed NY: 25 June 2015, URL. <http://ny.curbed.com/2015/6/25/9946254/developer-wants-to-rename-south-bronx-the-piano-district>

of the current residents live is experiencing much less development and continues to be exposed to toxic facilities and environmental challenges. Would making the Piano District the first phase of the Port Morris Eco-district be a good way to start such an initiative?

Whereas residents are joining environmental justice alliances and advocating for more fair legislation at the city level on the east side of Port Morris, developers behind the Piano District have already reached out to the community and began to collaborate and acknowledge community concerns such as access to the waterfront, more open space, more educational opportunities and economic development. The area around the Piano District has been designated as the Port Morris-Harlem River Special Waterfront District by the city to increase development along the Harlem River. The city has already re-zoned the area to include more residential and commercial facilities and spaces as well as granted funds to community-based organizations for green initiatives like the remediation of 10 brownfield sites. The Piano District will also have a more diverse housing dynamic with public housing, 2-3 stories redbrick renovated middle-income houses and luxury condominiums all within the same community.

The east side of Port Morris (the area east of the RFK Bridge entrance or Willis Avenue) also known as Little Borinken could be another potential site within Port Morris for the creation of an eco-district. This section of Port Morris is where most of the existing residential spaces are and has a higher population than the west side of Port Morris. This side of Port Morris is also exposed to greater environmental and social concerns with large waste management facilities and power plants along its waterfront access to the East River. This

concern would be a good reason to establish an eco-district in the area in order to promote the communities concern with environmental justice. Little Borinken has a more diverse community background with a large Latino population and some new middle-income professionals having moved into this side of the community. Forming an eco-district on the east side of Port Morris versus the Piano District could potentially have higher acceptance by the community because of the environmental and social concerns that plague the area. This section of Port Morris has more community-based organization then the west side where developers have a stronger influence that could make the formation of an eco-district more feasible.



(This map represents the land/building use of the east side of Port Morris. The purple represents the land area and buildings of industrial use whereas the yellow represents the residential spaces in the area.)<sup>101</sup>

The formation of an eco-district in the whole Port Morris community would be an ideal scenario. Port Morris as a whole suffers from several environmental, social and economic concerns that could be addressed through

<sup>101</sup> "Waste Transfer Stations in the South Bronx." *South Bronx Environmental Health & Policy Study*. New York: New York University, 2009. URL.

the implementation of strategies from an eco-district. The community as a whole would be more diverse in both demographic and social classes as well as could have the support from both community-based organizations and developers, expanding the potential funding sources for eco-district projects. Also, the eco-district would be overall more inclusive and profitable to the Port Morris community as a whole. Ultimately, the decision of where to establish an eco-district at Port Morris; in the Piano District area, in Little Borinken or in the entire community is a decision up to the communities of Port Morris.

The first step for the formation of such an eco-district in any scenario is to seek out and collaborate with all stakeholders and sign an Eco-district Manifesto. The second step is to create a roadmap that emphasizes leadership, collaborative and governance conditions and aligns interest and investments among all the stakeholders. In order to create a successful roadmap, the team must identify local assets, resources and develop sustainable strategies for each performance area as well as understand the issues, opportunities and individuals that make up part of the community. In order to acquire certification in this phase, the team will need to register their project and complete the following templates; a Community-based Asset Map, a Collaborative-Governance Readiness Assessment, a signed Declaration of Cooperation and a short report detailing the activities and outcomes for each proposed action and strategy.

#### **Factors that Favor & Disfavor the Port Morris Eco-district:**

Some factors that influence the success of an eco-district at Port Morris are; the large community activism in the area, the re-zoning of the neighborhood, the large amount of socio-environmental challenges in the community, the effort

to re-brand parts of the community as the Piano District, the communities clearly defined geographic boundaries, the communities success in organizing around environmental concerns and the political attention that the community has gained recently.

The large community activism in the area has helped the community of Port Morris improve over the years with the establishment of new zoning codes and in bringing in support from outside organizations such as the New York Restoration Project. This same factor can greatly help the community achieve the status of an eco-district because community engagement is fundamental for the eco-district success. The re-zoning of the neighborhood is an important factor in the success of an eco-district here because it increases the economic opportunities in the area by increasing access to commercial and residential spaces and helps to attract developers into the community, which is favorable for the formation of an eco-district. The large amounts of socio-environmental challenges in the area such as poor air quality and brownfield remediation helps to bring in state and federal funds to the site as well as is a driving force in organizing the community because it presents the community with concerns that directly affect their health and well-being.

The effort to re-brand parts of the community of Port Morris as the Piano District can favor the formation of an eco-district because it presents the community with a kind of clean slate to work on in re-developing their neighborhood and in helping to attract new residents and attention to an area infamously known for their waste and arson. The clearly defined geographic boundaries of Port Morris- the Harlem and East River, the Bruckner Expressway and the Bronx Kill are all very visible and easy to remember boundaries for the

community. Such boundaries are favorable for an eco-district because they clearly define the area and eliminate any ambiguity in terms of the eco-district limits.

The communities success in organizing around environmental issues such as the communities fight for more open green spaces and to have access to the waterfront are all concerns that directly involve and benefit the formation of an eco-district. The same concerns that the community is already fighting for can become projects within the eco-district framework and implementation in the community. The political attention that the area has gained from Bronx, City and State government agencies has brought in federal funds for brownfield remediation, the installation of the Randall's Island Connector, the rezoning of parts of the community and local publicity. This same political attention can become favorable to attracting more federal funds, more publicity and more local projects such as the South Bronx Greenway.

Factors that make the formation of an eco-district at Port Morris difficult include: the frequent community opposition and distrust to development, the two distinctive areas within Port Morris and some of the developers not being aligned or concerned with the green building market and environmental initiatives. The community has been very vocal about their concern and mistrust for the development of the Piano District area because of the fear of displacement. The eco-district proposal may be faced with the same kind of mistrust from the community if not addressed and presented to the local community correctly and if it does not seek to engage them in the planning and implementation efforts.



Port Morris is now being faced with two distinctive areas within its boundaries- the east side with the larger amount of residents of Latino origin and the newly developed, hip side on the west being branded as the Piano District. This difference in culture can become a difficulty in establishing an eco-district for the entire Port Morris community because it can overtime split Port Morris into two different neighborhoods. Another difficulty in the formation of an eco-district is that some of the developers may not be aligned with environmental initiatives and the green building market. There is a large misunderstanding that building green is more expensive than traditional construction and still today many developers do not have green building processes or environmental initiatives among their priorities. This could make the formation of an eco-district difficult because developers might not be as supportive of many projects as hoped for.

**The Vision:**

Eco-districts focus on equity, resilience and climate protection- imperatives that encompass the key challenges of Port Morris: environmental justice and unfair waste management, vulnerability to displacement and poor human and environmental health and risk of flooding and contamination. The vision of an eco-district at Port Morris is to be:

- Livable- by creating engaged vibrant and culturally rich places and spaces
- Prosperous- by lifting up opportunity for all people
- Healthy- by promoting wellness and happiness
- Connected- by promoting physical and digital accessibility
- Bio-diverse- by promoting ecosystem health and function
- Restorative- by reducing polluting activities and restoring natural capital.

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