

Design to Connect:

Complete Connectivity in the Ironbound

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A thesis submitted to the

School of Graduate Studies

Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Master of Landscape Architecture

Graduate Program in Landscape Architecture

Written under the direction of

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And approved by

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New Brunswick, New Jersey

May 2018

## ABSTRACT OF THE THESIS

Design to Connect:

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Connection, the joining of two things, often refers to an emotional state. Communities that connect with one another and their landscape become functional and strong, enabling them to act together to achieve common goals. This paper explores how landscape design can reinforce this type of connectivity in the Ironbound neighborhood of Newark, NJ. While the neighborhood is home to a vibrant community, its physical landscape is averse to pedestrian use and occupation. Additionally, dense development leaves few opportunities for design intervention. A survey of the neighborhood found opportunities to improve the landscape in streets and underutilized sites throughout the neighborhood. This project's design proposals bind select sites and streets into themed networks designed specifically to enhance the activities already occurring in some locations or to allow the community to define how other spaces are used. The result is a system that weaves the neighborhood together, creating greater connectivity and legibility within the Ironbound.

## ACKNOWLEDGEMENTS

Many people have helped me on this intellectually and emotionally challenging journey, and I greatly appreciate each contribution. First, I would like to thank my advisor, Kathleen John-Alder. Her sharp intellect, vast knowledge and great design instinct shaped this project into what it is. She has the innate ability to understand a student's design intent and to guide that student towards their goals. She also has a great ability to motivate, and her high expectations helped me to complete this project on time. I also want to thank my committee members, Richard Alomar and Laura Lawson. They both guided me to resources that proved to be fundamental to this paper and their comments helped me to add in the missing pieces that rounded off this paper. Additionally, I need to thank my studio cohort, Kari Williams, Sanja Martec, Nikola Simovski, Jun Wang and Ying Huang. No matter how busy they themselves were, they were always willing there to listen and provided excellent feedback.

I would also like to give a special thanks to Annie Hindenlang. She guided my explorations of urbanity, shared her knowledge of cities and opened my mind to the great interest and potential that they hold. Finally, I need to thank all my family and friends, who have all been understanding of my complete lack of free time and supportive of me in focusing on my academic goals.

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**Connectivity:** *noun*.

1. The quality, state, or capability of being connective or connected.

Connectivity of a surface. Electronics: the ability to connect to or communicate with another computer or computer system (Connectivity).

**Connected:** *adjective*.

1. joined or linked together
2. Having parts of elements logically linked together- presented a thoroughly connected view of the problem
3. Related by blood or marriage
4. Having social, professional, or commercial relationships- a well-connected lawyer
5. *Of a set*: having the property that any two of its points can be joined by a line completely contained in the set; also: incapable of being separated into two or more closed disjoint subsets.

**Connect:** *transitive verb*.

1. To become joined. The two rooms connect by a hallway. Ideas that connect easily to form a theory
2.
  - a. To meet for the transference of passengers- connecting flights
  - b. To transfer (as from one plane to another) as a step in traveling to a final destination- passengers connecting with international flights

3. To make a successful hit, shot, or throw- connected for a home run- he connected on 60 percent of his shots
4. To have or establish a rapport- tried to connect with the younger generation
5. To establish a communications connection- connect to the internet (Connected).

**Connect:** *intransitive verb.*

To join or fasten together usually by something intervening- a highway connects the two towns

To place or establish in a relationship- Police were unable to connect her to the crime (Connect).

## Question:

How can design create connections?

### Connections

A connection is, most simply, when two separate things become joined. While this can literally mean physically joining two things together, the term is often used metaphorically to indicate an emotional, spiritual, or social connection. The second type of connection can bind people together as strongly as a fastener joins sheeting to a girder.

Just as fasteners bind together the parts of a building, so too do interpersonal connections bind neighborhoods. In her book *The Death and Life of Great American Cities*, Jane Jacobs discusses how neighborhoods allow for interpersonal contact that enables people to become acquainted. She posits that when people know each other, they are better able to work together. These relationships compound to create a web of interconnectivity that enables individuals living near each other to function and act as a neighborhood (Jacobs). A neighborhood that helps people know and support each other is a strong neighborhood.

People need connections to nature as well as to each other. Human biophilia is a proven concept, wherein plants and animals provide many psychological and physical benefits (Browning, Ryan and Clancy). Simply observing nature has been linked with enhanced performance in school, improved medical recovery, reduced heart rate and lower levels of stress. More interactive activities, such as gardening or birdwatching, have been linked

with recovery from depression, reduced stress, and increased self-confidence. The availability of natural surroundings has also been linked with increased physical activity and exercise in the surrounding communities. (Caroline)

In addition to health and wellness benefits, plants add new depth to the neighborhood experience. Planting a neighborhood encourages more birds, animals, and insects to move in, and more opportunity for the humans living there to interact with them. The plants themselves add their texture, color, sounds and smells to the environment. They attract insects, animals and birds that then add their own sounds, textures and colors to the neighborhood. All these added experiences increase the tangibility of the presence of nature in the neighborhood and further enhance a neighborhood's connectivity.

People can better connect with more robust and visible natural surroundings. The sights, smells, sounds and experiences of natural processes interwoven into their daily lives will soon become a positive part of their lives. They will develop an emotional attachment to the ecosystem functioning around them. If the neighbors are connected to nature, they will take care of it, ensure that it prospers, and even fight for its preservation.

Neighbors and neighborhoods with strong ecological and social connections gain something more: they develop an identity. In *A Theory of Good City Form*, Kevin Lynch discusses how this identity is tied to and defined by the physical, social, and ecological elements of a place. These elements define a place as someplace, instead of no-place. That is, for a neighborhood to connect, it needs to be recognizable as a place. A place is coherent and identifiable: it has elements that engage all the sense, and it is memorable,



recognizable, and describable (Lynch, A Theory of Good City Form). People connect with places where they connect with people or nature. The positive emotions from positive experiences that occur in these places create connections with the spaces themselves. People who care about their communities create positive associations with a place and take care of it.

In summary, connection is also an emotional state. It begins with positive experiences associated with a person, plant, animal, or place. Then it builds to a desire to care for and ensure the healthy continuance of that thing. While a single connection is meaningful, a network of connections is even more powerful. It holds together communities and enables them to act together. Connection is one of the most important elements that makes a neighborhood functional and strong, and every good design should enable those connections to occur.

## Design

While connection brings two or more things together, design is how things come into being. It is the process through which an idea is conceived, developed, documented, and executed. It affects where things are and how they interact with each other. In landscape architecture, the final product of design is a network of outdoor public spaces, defined by earth, plants, and structures, that people occupy (Hester). In a neighborhood, public space includes publicly owned space such as streets, paths, sidewalks, and parks, as well as privately owned spaces such as stoops, backyards, stores, and parking lots. The goal

of good neighborhood design is to create spaces that are not only positive amenities and spaces for leisure and recreation, but also connective spaces.

### How Can Design Create Connections?

This project explores how can the arrangement of spaces, edges, paths, and nodes can create an environment that facilitates people's connections to the space, plants and animals, and to each other. What strategies should designers use to accomplish this? What spaces can be used to implement these strategies? Through the processes of research and design, I aim to develop a plan for a neighborhood that creates connections.

### The Site

In order to better understand the way design can enhance connection in a neighborhood, I chose to focus on a neighborhood with great connective potential. A complex and vibrant neighborhood with constant activity in its public spaces will provide discernable patterns that can be used to inform design. It should be dense, diverse, yet lacking in public space that supports interpersonal interactions and the formation of connections within the community. It might not have enough parks, street trees, or public spaces. It may have vacant lots, large empty parking lots, or other land uses that are inappropriate for its density. I chose to look for a neighborhood with about 20 households per acre or greater based on a comparative review of typical neighborhood characteristics at different density levels. The physical characteristics of 20 households per acre are town houses 3-4 stories tall with small yards. This is the density where a neighborhood looks, feels, and is "urban". This urbanity is accompanied by a

concentration of shopping and dining, good public transit, walkability, and often by a vibrant culture and an interesting history. Creating a connective design in this environment necessitates a design that is robust, creative, and engages with the community living in the neighborhood.

The Ironbound neighborhood of Newark, NJ fits these criteria, and is an excellent neighborhood for a design study. It is known for its vibrant Portuguese culture that sets it apart from the many interesting neighborhoods throughout New Jersey. This culture occurs with a density which supports several commercial strips and many renowned restaurants. In fact, Portuguese food is what the neighborhood is the most widely known for. The combination of density and shopping allows walking to be the primary mode of transportation within the neighborhood.

While this community is dense, walkable, and vibrant, the design of the neighborhood does not reflect that. Instead of people, parking is given primacy everywhere. In place of a safe pedestrian experience, roads prioritize the fast movement of traffic and very few streets have traffic calming measures to make them more crossable. The negative pedestrian experience is compounded by the fact that there are many empty tree pits: a summer walk through the neighborhood features mostly sun, concrete, and asphalt. There are a few parks that offer a reprieve from the concretized environment; they are hugely popular and always crowded. While well-used parks are a good thing, there simply isn't enough park space to serve the population. The disconnect between the vibrant culture and the bleak physical landscape calls for a design solution that could

imagine a way to augment the neighborhood to reflect and amplify the great social and cultural structures already present.

## Methods

To learn more about the neighborhood, I conducted a street by street survey of the entire Ironbound. This survey focused on both finding spaces that could be repurposed as public places and observing the neighborhood. I chose this method because in previous experiences in the Ironbound, I had noticed many vacant lots and parking lots, which was surprising given the density of the neighborhood. Surveying, mapping and observing allowed me to create an inventory of spaces for potential design intervention while learning about the physical and social structure of the neighborhood.

First, I decided what type of site to collect in this survey. I defined potentially underutilized sites as any unbuilt site that is not an open public park. This is not to say that every site collected in the survey is truly underused, but rather that each site's current use should be questioned in the context of its potential use as a place that benefits the community at large.

To locate these sites, I walked each street in the neighborhood, looking for unbuilt sites and photographing them. I photographed them in a way in which their location and other pertinent information, such as use or impermeability, could be derived from the images. For my walks, I divided the neighborhood into sections based on changes in the street grid. I then walked all the streets that are parallel in one direction, followed by all the cross streets perpendicular to the first streets surveyed. After all the sites were

collected, I mapped them using ArcMap and the neighborhood's parcel dataset retrieved from Newark Open Data. This created a data set of sites with locations, serial numbers, site uses, site permeability, and any notes about the site. I then created a photo catalog with photos of each site cataloged by the serial numbers. This collection of sites became one of my tools to re-envision the Ironbound.

While I was collecting sites, I was also making observations. I found the ideas put forward by Kevin Lynch in *The Image of a City* to be useful in understanding this neighborhood. I followed his ideas of edges, entrances, and nodes and noted these locations in this Ironbound. I also observed usage patterns in different parts of the neighborhood. I saw where people gathered, what places were empty, which streets were busy, and which were quiet. I recorded these observations using sketch maps and by taking notes. These observations, notes and maps helped me to learn about the neighborhood.

My goal in this stage of the project was to gain a good understanding of the Ironbound which would inform my designs. I did this through locating sites that could be used for a design intervention and by observing the neighborhood. This helped me to gain a first person understanding of how the neighborhood functions. It also produced an inventory of sites to design with. This combination of inventory and analysis gave me a knowledge of the neighborhood that would become a good starting point for my design proposals.

## History- Newark, NJ and The Ironbound

### Industrial History and Toxic Legacy

The physical and social elements that I observed in the Ironbound are the result of long and interesting local and regional histories. In his history of Newark, Brad Tuttle uses stories from pivotal moments to detail Newark's history. Newark was founded by in 1666 Puritans seeking to establish an isolated and autonomous religious community. This community's location at the mouth of the Passaic River in close proximity to developing transportation networks, spurred the development of industry. Newark's many factories created a need for labor that attracted multiple waves of immigrants. This combination of immigration and industrialization created the cultural identity of Newark and the post-industrial legacy that persists today (Tuttle).

*Figure 1: The Landing at Newark*



(The Landing

at Newark, May, 1666)

For nearly a century after its establishment as a religious enclave, Newark was able to remain true to its founding mission. The isolated community grew slowly and concentrated on farming and adherence to a strict religious lifestyle. The village was centered on the high ground, and Down Neck, which would later become the Ironbound, was mainly used for harvesting salt hay. While at its founding Newark was isolated, its location at a key point between the major cities of New York and Philadelphia destined this isolation to be temporary (Tuttle).

*Figure 2: Newark Hay Market*



*This was Newark's hay market at south end of Military Park in 1870.* (Newark

Hay Market)



In 1765, a combination of ferries and roads was built to connect the Delaware and Hudson Rivers. The village of Newark became a main stop over on this thoroughfare. Businesses were opened, markets were established, and a stage wagon service emerged to carry travelers through town. By 1795 the village had transformed into a bustling town with a growing population, taverns, established markets, multiple churches, and a budding shoemaking industry (Tuttle).

*Figure 3: Morris Canal in 1880*



(Morris Canal- Inclined

Plane)



*Figure 4: Leather Manufacturers in 1838*



(Group of Leather Manufacturers)

The quality of the shoes made here soon became well known, which led to robust sales, export to markets in the American South, industrial innovations, and expansion into other industries. In 1819 Newark became the birthplace of patent leather, and later it became the home of other industrial innovations in metallurgy and steam engines. The city also became the center of large infrastructure projects, such as the Morris Canal and the Morris and Essex Railroad. The availability of employment in industry and infrastructure made Newark a very attractive destination to new immigrants looking for work.

*Figure 5: Kalb Sheet Metal in 1938*



(Kalb Sheet Metal)

The growing population and industry of Newark needed more land, and settlement began to expand into the salt meadow, then called Down Neck. This inexpensive and poorly drained land became the home to an expanding neighborhood of factories and tenements. The area was prone to flooding and had inadequate sewage disposal, malaria was a constant threat. Additionally, the tanneries, foundries, and other factories all used harsh chemicals and coal-fired furnaces. Toxic fumes and smoke continuously blanketed the tenements in which new immigrants first settled (Tuttle).



*Figure 6: Passaic River, Ironbound in the background*



(Passaic River)

This poisonous environment was caused by many interdependent industries that rose up in response to economic demand. The dominant industries of shoemaking and metal working both required highly toxic chemicals for their production processes. For example, the process of patent leather required that the leather be treated with several layers of varnish before it was patented (heated) in an oven. This led to the establishment of local varnish industry, and eventually one varnish maker —Murphy's Varnish Company— gained international prominence (Newark Public Library). Newark

became a prominent chemical manufacturing city, with most of the manufacturing occurring in the Ironbound. As a rule, these manufacturers disposed of their waste products by dumping them into the river, dumping them in the salt meadow, letting them seep into the ground, or burying them (McGurty). One of the most contaminated sites is the Diamond-Alkali site on the banks of the Passaic River. In the 1940's the chemical plant here produced DDT. The Diamond-Alkali company took over in the 1950's and began disposing of its manufacturing byproducts into the river. From 1969 to 1983 the site was used to manufacture Agent Orange, which created an extremely toxic byproduct called dioxin. Because this toxin was dumped into the Passaic River and onto the site, the site has now been designated as an EPA Superfund site. Even with government oversight and funding, there is no way to permanently dispose of this chemical. To reduce the risk of exposure 932 cargo containers have been filled with contaminated soil and equipment from the site and housed in a 6-acre containment structure until a feasible way of disposing of the chemical is found. Thirteen miles of the Passaic river remain contaminated today (Immergut and Kearns 180).

Historic contamination and continued industrial pollution remain an issue throughout the Ironbound. The neighborhood has a high number of sites on the Known Contaminated Sites List (KCSL) and has had to close several parks due to the discovery of contamination. Much of the site near the Ironbound Recreation Center remains off limits, and Hayes Park remains completely fenced off. Efforts to fund and execute the process of remediation are ongoing. Historic pollution remains a serious issue in this neighborhood.

While some of the most toxic contamination is historic, the Ironbound still remains plagued by modern industry. As a result of this contemporary pollution, asthma has become a leading health issue. The nearby port, airport, highways, and garbage incinerator all emit huge amounts of particulate matter, causing the high rate of childhood asthma. While the relationship between asthma, particulates, and their local industrial sources has been well established, a lack of action to curtail this problem remains an ongoing issue.

### Immigration and Community

The industries that caused the pollution also attracted the people who gave The Ironbound its vibrant character. The expansion of Newark into Down Neck and the development of industry there also attracted successive waves of immigrants. These people established their own ethnic enclaves within the neighborhood; with bakeries, restaurants, and other businesses catering to each group's specific needs and tastes. These immigrants, like the Puritans who founded the city, were very religious, and churches formed the heart of each immigrant community. Here, all the important occasions could be celebrated in the language and tradition of the mother country. Each wave of immigration into the Ironbound created its own community, church, and helped to form the neighborhood into what it is today.

Figure 7: A Shop on Ferry Street in the Ironbound



(Kiel Louis Stands

Outside His Shop at 491 Ferry Street)

Figure 8: Old World Traditions Celebrated in Newark



(Some Newark

Poles in Costumes of the Old Country)



The first wave of immigration in the Ironbound began in the 1820's with the Irish fleeing failing crops and poverty. Another group of Irish immigrants came again in the 1840's followed shortly by Germans in the 1850's. Irish immigrants tended to live near St. John's Catholic church on Mulberry Street, while the Germans established St. Stephen's Lutheran Church on Ferry Street. The next wave of immigration began around 1900 and was dominated by Italians and Eastern Europeans. Our Lady of Mount Carmel, converted to a Catholic church from a Protestant church, became the center of the new Italian community that settled in Down Neck. St. Casimir's Catholic Church provided the same function for the Polish Community, and Lithuanians founded the Holy Trinity Church (Cummings, *The Ironbound Early History: Part 1- Immigrants, Industry Remake a Once-Bucolic Down Neck*). The 1920's saw the beginning of Portuguese and Spanish immigration. The Portuguese community first founded the Sport Club Portuguese, an athletics and social club, in 1922 and later established Our Lady of Fatima Church in 1955. An African-American community established itself in the neighborhood in the 1930's, in conjunction with the construction of Newark Penn Station. The Portuguese have become the dominant ethnicity in this neighborhood, as is shown by the many Portuguese restaurants, bakeries, and other businesses. Today, Brazilians and Spanish-speaking immigrants are joining the Portuguese in the neighborhood, adding their own cultural identity and religious establishments to the mix. While the modern relationship between religion and country of origin has become more complicated, church still plays a strong role in this neighborhood's life. The older churches founded by earlier immigrant groups are now shared with congregations of more recent arrivals. Well

attended Catholic, Protestant, and Evangelical churches are scattered throughout the neighborhood.

## Religion and Community

Religious institutions are not only important cultural centers, but also important centers for grassroots political and social activism. In the Ironbound especially, churches and religious leaders have repeatedly spearheaded community efforts seeking environmental justice. In the 1980's the United Christ Church sponsored educational outreach efforts to raise awareness of the environmental problems in the Ironbound. In the 1990's the Trinity Presbyterian Church led the battle to stop a minor league baseball stadium from being built on one of the neighborhoods few parks. While their efforts managed to stop the project, contamination was found in the initial site investigation, and so Trinity Presbyterian also led the push to quickly clean up the park after contamination was discovered. Riverbank Park is the only park in the Ironbound whose contamination has been completely remediated. Another powerful movement was led by Our Lady of Fatima, which forced an open-door public meeting with Essex County officials about building a garbage incinerator in the neighborhood. While they were unable to stop the construction of the incinerator, they were able to organize a large amount of support from within the neighborhood and beyond, including the continuing participation of GreenFaith. This interfaith organization continues to work with the Ironbound Community Corporation to address environmental justice issues throughout the neighborhood. Thus, religious institutions continue to be cultural and social centers in this neighborhood. (Immergut and Kearns)



*Figure 9: Environmental Protest led by St. Stephen's Church*



(A March Against the Garbage Incinerator)

## Newark in the 20<sup>th</sup> Century

Ethnic communities centered on shared religion, food, and culture not only characterized the Ironbound, but also the whole of Newark. German, Italian, Jewish, Polish and many other groups established communities throughout the city. African-Americans, migrating from the South for jobs, established a significant community in the Central Ward and beyond. By 1940 the city was an intricate patchwork of ethnic communities, mostly living in closely packed tenement houses on winding and intricate streets. Federal policies favoring suburbanization and urban renewal sought to remedy the cramped, outdated housing and irrational street patterns that characterized Newark and most American

cities at the time. And Newark became the most prolific builder of urban renewal projects.

*Figure 10: Christopher Columbus Homes, a housing project that replaced a middle class Italian neighborhood*



(Christopher Columbus Homes)

These policies and projects wreaked havoc in Newark. Established neighborhoods were declared slums and razed. The city adopted practices that silenced public opposition and sought to complete as many urban renewal projects as possible. To maximize federal support, the city developed projects in middle-class neighborhoods instead of neighborhoods with actual slum conditions. Many of the residents displaced by these projects were too high income to qualify to live in them once built. They were forced to relocate, and the once close-knit communities dissipated. Newark was so successful in securing federal support for urban renewal that it built more housing projects per capita

than any other American city at the time. These projects displaced thousands, destroyed the social and cultural fabric of established neighborhoods, and encouraged those who could to relocate to the suburbs.

In contrast, while most of the Newark was being uprooted, the Ironbound remained relatively intact. The neighborhood was listed as a target for urban renewal; however, few public housing projects were built here in this era. Avoiding the draconian housing policies that characterized Newark in the 1940's-1950's ultimately contributed to the Ironbound retaining its character as a strong and established community.

*Figure 11: Ferry Street in 1995*



(Ferry Street)

For the rest of Newark, the housing policies resulted in the migration of (mostly white) middle class from the city to the surrounding suburbs. By the 1960's, the businesses owners, police officers, and firefighters were mostly white and lived outside of the city, while Newark residents were mostly low income African-Americans. In the Ironbound, the Portuguese community largely remained in place, as did remnants of earlier immigrant groups. Racial tensions due to police brutality, poverty, and numerous other grievances —completely ignored by the city administration— came to a head in the riots of 1967. While large portions of Newark were subject to burning, looting, and police shootings, the Ironbound, just across the rail line, remained out of the action.

In the decades after the riots, the city faced some of the hardest challenges of any city in America. The 1970's and 1980's in Newark were characterized by financial difficulties in the city government, high property taxes, closing businesses, and high unemployment. While most of the city was struggling, Portuguese immigrants continued to move into the Ironbound, invigorating it with restored buildings, new businesses, and new restaurants. As industry receded in the neighborhood, new residences were built. Unlike the public housing towers built in the rest of Newark, these residences were privately developed, low-rise buildings that could be single family or have up to 4 apartments. This development pattern, closer to the historic tenements than the Modernist urban renewal projects, was far more supportive of this growing community's social structure, allowing it to maintain a tight knit and strong presence in the neighborhood. Additionally, remaining industry and new businesses provided employment in this area, creating a neighborhood where people both lived and worked. The Ironbound's

unemployment rate remained lower than the rest of the city, and median incomes higher. The neighborhood continued to be a bright spot for a city often in trouble, and it was often advertised as a tourist destination (Cummings, The Ironbound Part 2- Industry, Commerce Sustain Vibrant Soul in Midst of Change).

### Ironbound Today

Today, the Ironbound retains its character as an immigrant neighborhood. While it is still considered low income, its employment rates and median incomes exceed the rest of Newark, with the exception of Forest Hills. The housing that Ironbound residents live in is well maintained and in good repair; much of it is of newer construction. Small businesses dot the neighborhood, including restaurants, travel agencies, grocery stores, construction companies, contractors, and cigar shops. A large portion of businesses are locally owned and operated, and cater to a local ethnic group. The Portuguese community remains strong and well established, even as they are joined by Brazilians and Spanish-speaking immigrants. Churches remain important community centers, with Catholic, Protestant, and evangelical congregations throughout the neighborhood. This neighborhood is also very young, with 22% of the community under the age of 18 (U.S Census Bureau). With so many young people, schools are central to neighborhood activity, and the area surrounding schools can be expected to be busy both during and after school hours. The Ironbound, in short, is characterized by a strong and visible presence of a vibrant community.

This sense of community wellbeing pervades the neighborhood. Restaurants are always crowded with local and out-of-town patrons. Groups of people gather outside of bars, coffee shops, and barber shops to chat and watch the street life. Every Seabra, the local Portuguese grocery store chain, is constantly busy with customers who walk in, drive, or get delivery. Ferry Street is also always packed with people constantly moving between the different parts of their lives. Parents are often seen walking with children, many times heading in the direction of a school or park. Parks are continuously crowded, with most people either watching or playing one of a variety of sports that the community engages in.

This community has grown to have its unique character in a situation of relatively little outside influence. However, this condition is rapidly changing as Newark is facing an incoming wave of gentrification. The city has been declared the “Next Brooklyn” and is experiencing a rising demand for luxury apartments in both new and historic buildings. In the Ironbound, Murphy’s Varnish works is being repurposed as apartments, and several of the surface parking lots near Newark Penn Station are in the permitting process for high rise residential buildings.

The Ironbound is well situated to adapt to these changes and to resist the mass displacement that gentrification can cause. The neighborhood is composed of a mix of low, medium, and a few high-income residents. Many households are of the income level where they could move elsewhere if they wish, yet they still live in the Ironbound. Additionally, a large percentage of the property is owned by Ironbound residents, giving a level of local control to the neighborhood (U.S Census Bureau). As discussed earlier, the

neighborhood is very capable of organizing around local issues. Community groups are committed to preserving the existing character of the Ironbound as they fight proposed high-rise development that requires zoning changes. Finally, most of the businesses in the neighborhood are locally owned. If they are able to market to the new residents, the influx of higher income people will be able to benefit existing owners and their employees. Gentrification will undoubtedly change this neighborhood; however, it can benefit from these changes. Considering this, I did not propose any additional housing in my design. Instead, I focused on design strategies that would allow the current community to have a greater presence in the neighborhood.

Today, while the neighborhood remains a successful and vibrant area neighborhood, uninviting traces of its past remain in the landscape. Much of the greenspace near the Newark Penn is fenced off, denying its use to anyone. Iron fences and gates, topped with sharp points, characterize much of the neighborhood. Parking lots, backyards, schools, churches, and libraries all are surrounded by fences and other security measures. The streetscape itself is also designed to discourage loitering, with narrow sidewalks, and absolutely no benches or other places to sit along the street. Even Ferry Street, recently redesigned by MKW + Associates with wider sidewalks, planters, and bump outs to protect pedestrians, still has no benches or other places to sit. Almost every piece of this neighborhood is built with security, safety, and control in mind.

The neighborhood has been built not only to increase the feeling of security, but also to optimize the use of automobiles. Most streets are straight with no traffic calming or other pedestrian safety measures. Instead, priority is given to auto traffic, making major



streets dangerous to cross. Automobiles also have priority off the street. Almost every space that can accommodate a car has been paved and used for parking. Not only does parking line both sides of the street, but also many homes have their all their outdoor space paved for parking as well. Businesses also follow this pattern. Suburban-style strip malls, complete with ample and underused parking lots, dot the neighborhood. For example, a large shopping center on the east side of the neighborhood boasts a desolate, 7.5-acre parking lot. Churches, schools, banks, and restaurants all follow this pattern by providing excessively large parking lots for their patrons.

*Figure 12: The Ironbound Today*



The Ironbound's physical structure is dominated by roads, parking lots, and fences. Despite this, the neighborhood is characterized by vibrancy, liveliness, and activity that retains the marks of earlier immigrant communities. This vibrant culture has produced a strong community, replete with local businesses, churches, and community



organizations. All this community and culture is happening in a neighborhood with a physical structure that is in many ways hostile to people. The people living in this neighborhood would benefit greatly from increased public space and improved streetscapes that are designed to augment their community and lifestyle.

## Ironbound: Analysis and Opportunities

### Design Opportunities

The Ironbound has an intensity and liveliness that is not reflected in its physical form and structure. A design intervention could remedy this; however, there is little space to work with. A large portion of the land is built up and tightly packed with houses, businesses, warehouses, and other buildings. However, not all the land here is developed. Vacant properties are scattered throughout the neighborhood, and there are many properties which are used in a way that seems inappropriate for the density of this neighborhood. To understand what opportunities for design exist within this neighborhood, I set out to find and document underutilized sites.

An underutilized site can mean many different things based on the context and the goals of the study. This study and design is focused on community, so I based my assessment on a site's utility to people. An underutilized site is a site with a current use that provides little or no benefit or utility to the surrounding community, or a site where a different use would be much more beneficial than its current use. Buildings were excluded because

they are very rarely vacant in this neighborhood; most vacant buildings are in the process of being remodeled or replaced. Given the density of the neighborhood, I included I considered all unbuilt sites that are not open public parks to be underutilized. While the sites I documented do not greatly benefit Ironbound residents currently, they have the potential to be used in a way that enhances the community.

With this definition in mind, I began the process of locating every underutilized site in the Ironbound. Over the course of three months, I walked every street and photographed every site that fit the definition of an underutilized site. I then mapped these sites using ArcGIS, categorized them according to use, and gathered satellite images of each site from Google Earth. During the photography process I also had the opportunity to get to know the neighborhood. I photographed during weekdays and weekends, at all times of the day. I was able to observe patterns in pedestrian and automobile traffic, including which streets were busy and when. I also was able to observe where people tended to gather in the neighborhood, and places that always tended to be empty. These observations would help me later decide how to use and connect the underutilized sites that I found. These sites tended to fall into several categories. (Figure 19-Figure 23)

**Vacant sites** were the most obvious target: they are often fenced off, poorly cared for, and interrupt the flow of the neighborhood. These sites also drive down land values by making the neighborhood seem unattractive and even dangerous. Empty plots of land in a dense neighborhood therefore need to be changed into something that benefits the community. (Figure 28: Vacant sites)

*Figure 13: A Vacant Site*



**Parking** is another land use that could be changed for the better. While people do need space to park their cars, dense neighborhoods such as the Ironbound should prioritize social space over parking. The parking lots in the Ironbound include public lots, small private lots, parking lots for businesses such as restaurants, banks, and retail stores, institutional parking (churches, schools, government), and commercial parking that is used for company vehicle parking, employee parking, and equipment and material storage. The high number of these sites, combined with the fact that many are often more than half empty, indicates that these spaces could better serve the community if they were used in a different way. (Figure 29: Parking sites, Figure 30: Area comparison: parkland vs. parking)

*Figure 14: A Mostly Empty Parking Lot*



**Automotive businesses** such as auto shops, gas stations, and car dealerships may also be sub-optimal land uses in dense neighborhoods. While these sites provide a necessary service for the community, their position in the densest parts of the neighborhood, near parks and on streets with heavy pedestrian traffic, is less than ideal. It makes more sense to locate these types of businesses on the outskirts of the neighborhood, where they have more space and fewer conflicts with pedestrians.

*Figure 15: An Auto Shop, with a truck parked on the sidewalk*



Another type of site that may be sub-optimal in a residential area are **industrial** sites.

These sites are part of the area's legacy and still part of its economy; however, it is still important to call into question whether their existence at a certain location continues to make sense. They are often contaminated and release toxic chemicals and particulates into the neighborhood. Moving people away from these sites, remediating them, and replacing them with a different use would benefit the community, but is extremely costly.



Figure 16: An industrial chemical storage site behind a U-Haul facility.



In contrast to industrial sites, there are some spaces that are almost parks, but whose access is restricted. These **semi-private open spaces** are usually open, grassy areas around churches, schools, and government buildings. While accessible to at least some of the public, these spaces are usually fenced to restrict access. These spaces could, with minimal cost, be opened to the entire neighborhood. They have the potential to be great public spaces that everyone can enjoy.

Figure 17: A small garden behind a Van Buren Public Library



While most of the sites I documented are sites that have the potential to change, it is also important to understand sites that are changing. Active **construction sites** change the nature of the area around them. I included them to better understand how they fit in with the rest of the neighborhood. These sites are all residential construction of five stories or less. One is the Murphy's Varnish Works building, which is being repurposed into apartments. The rest are new construction. Most of these projects are being built near McWhorter street, with the exceptions being a large building at the end of Wilson Avenue and another near Magazine and Ferry Streets. This indicates that there is a demand for additional housing, especially on the west side of the neighborhood. (Figure 26: Study Sites: categorized, Figure 27: An area comparison of study site types)

Figure 18: Murphy's Varnish Works, under construction



Figure 19: Underused sites identified in this study

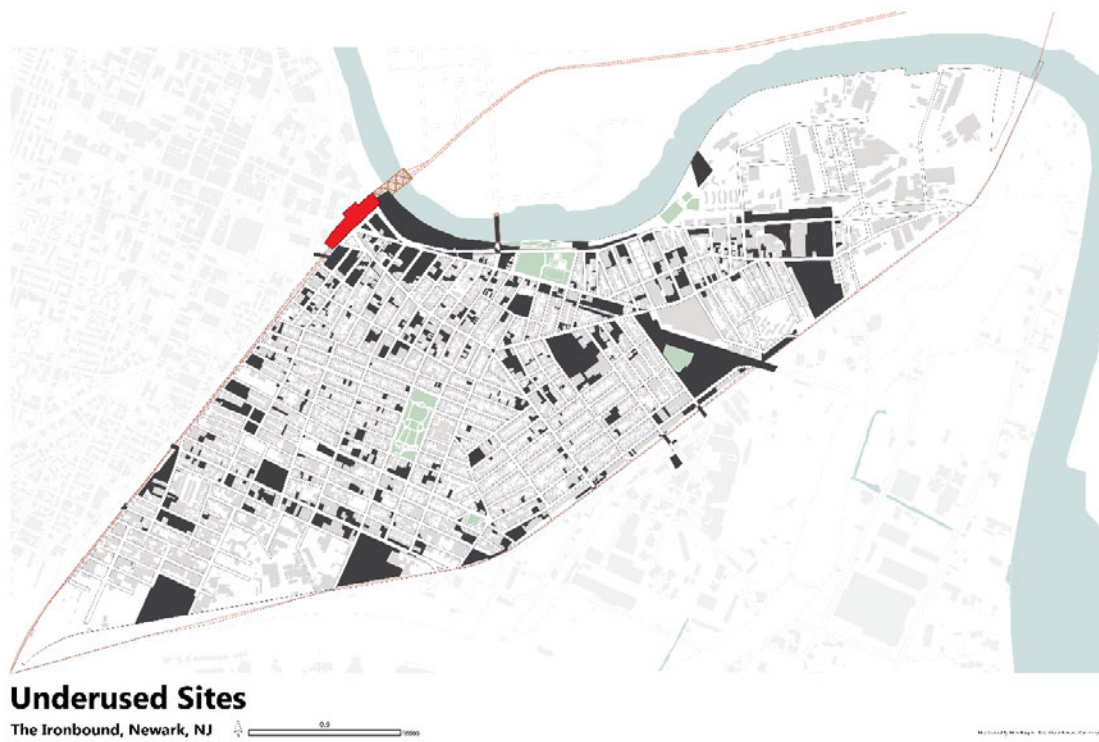




Figure 20: Underused sites: Photo Key

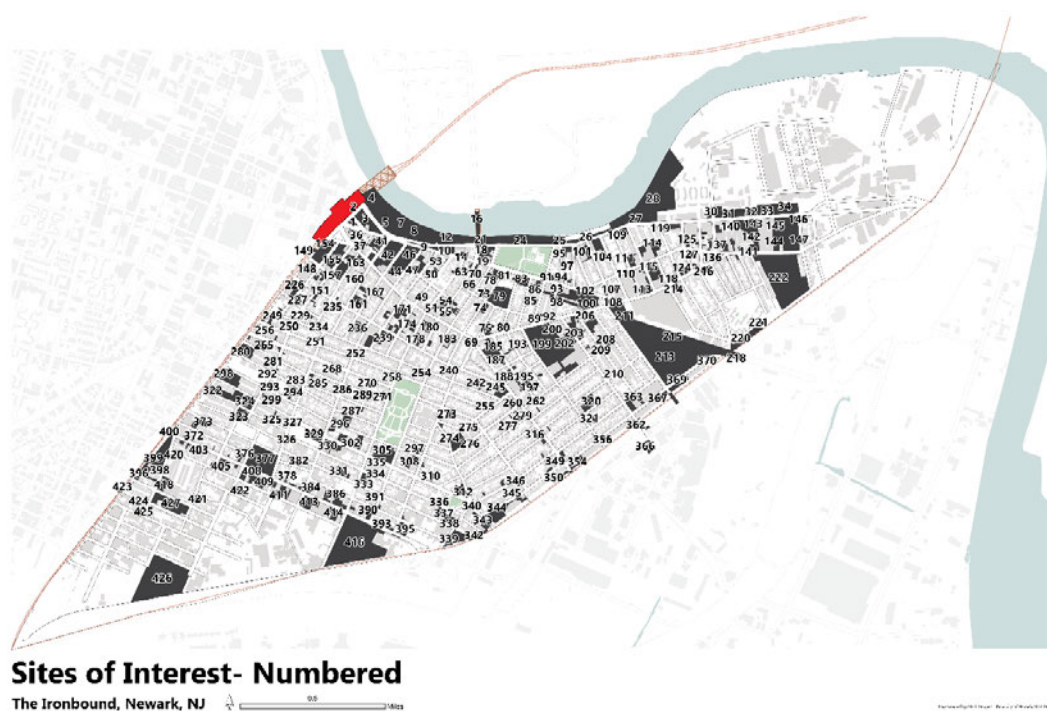




Figure 21: Underused Sites: aerial images

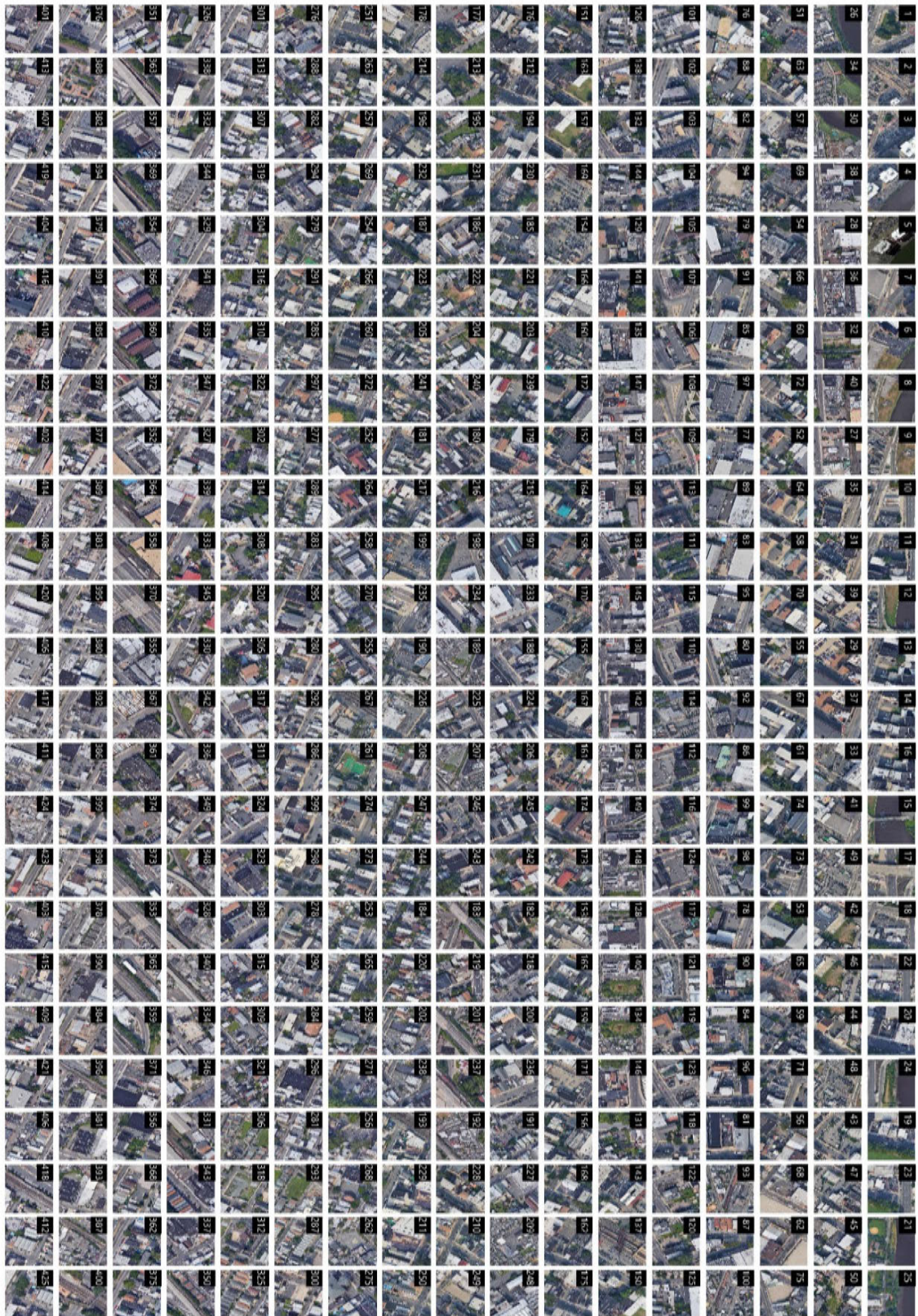




Figure 22: Underused Sites: street level photographs

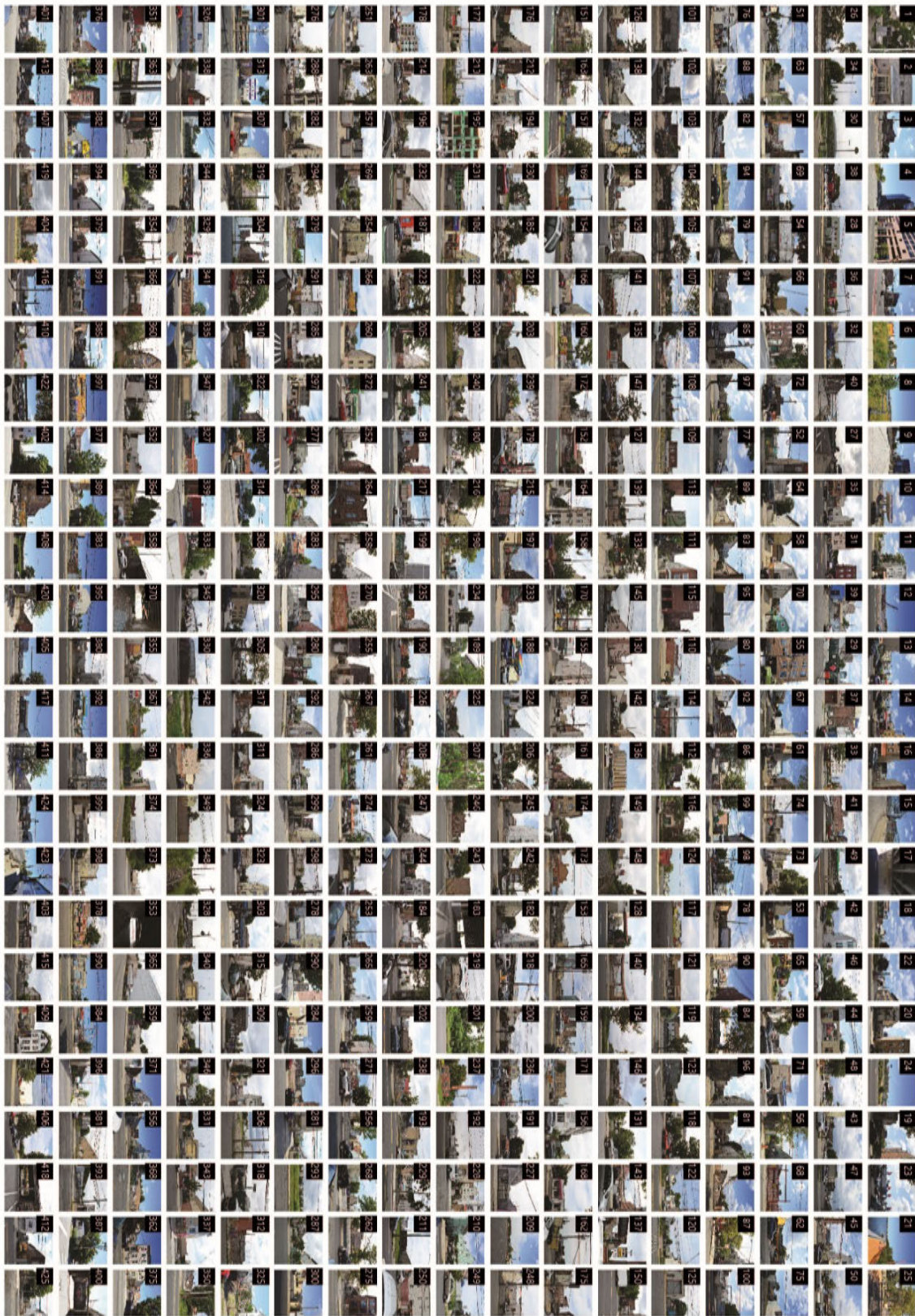


Figure 23: Underused Sites: area compared to area of the Ironbound

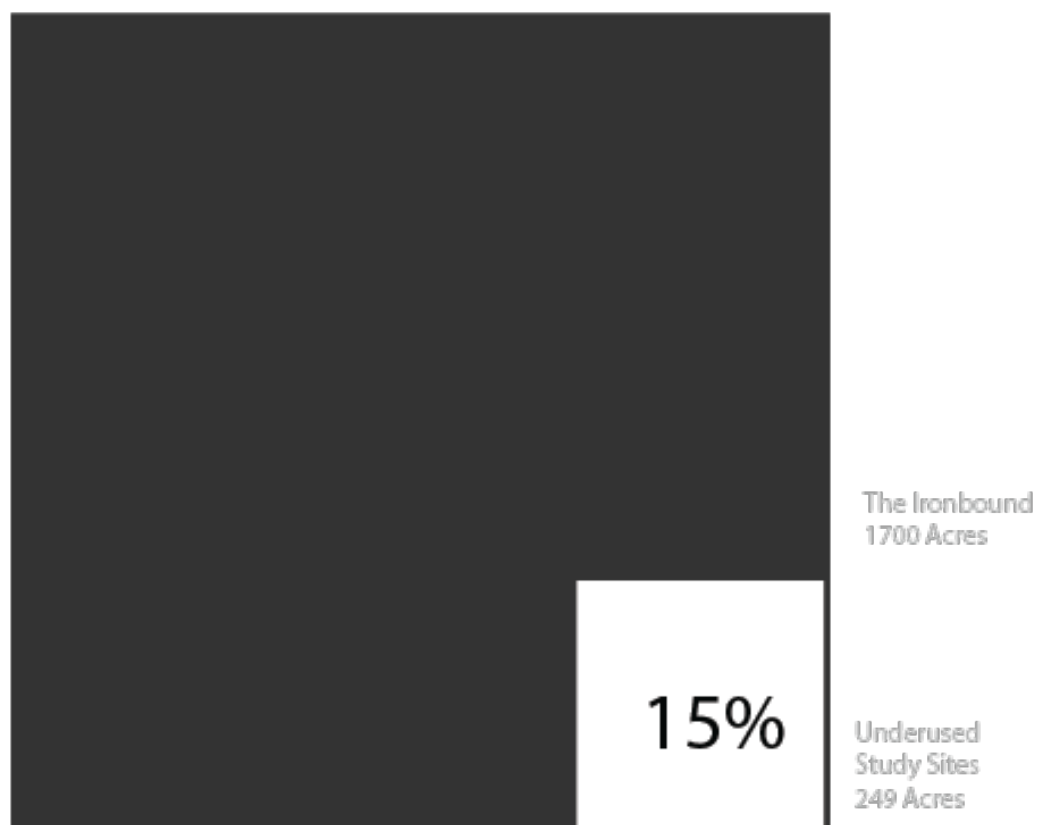




Figure 24: Study sites excluded

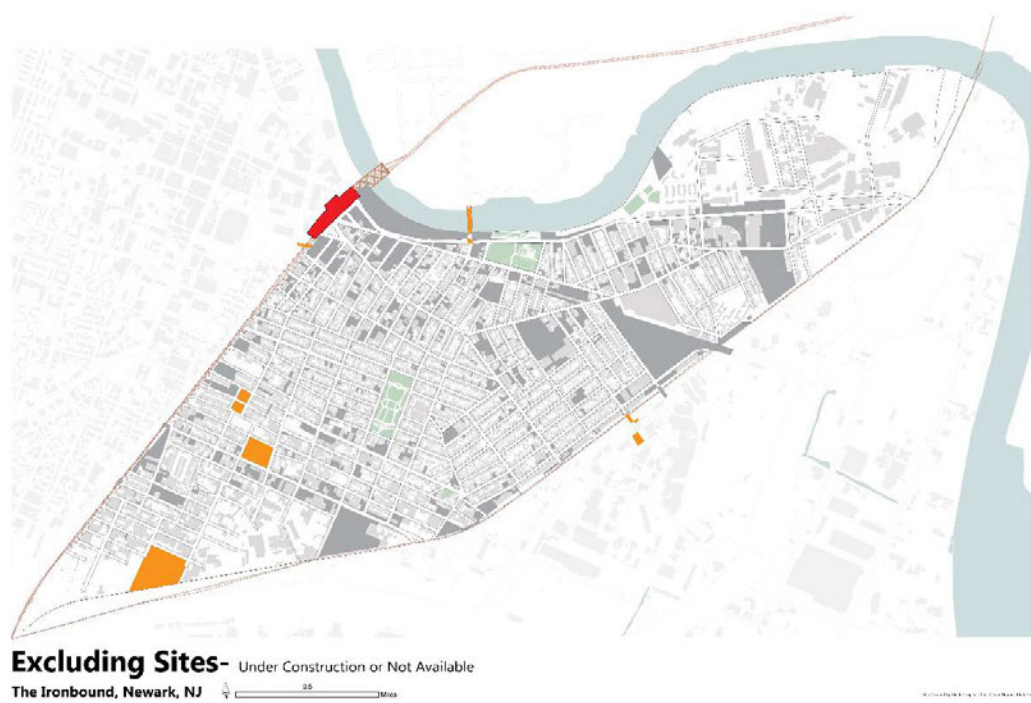


Figure 25: Revised site map after excluded sites were removed

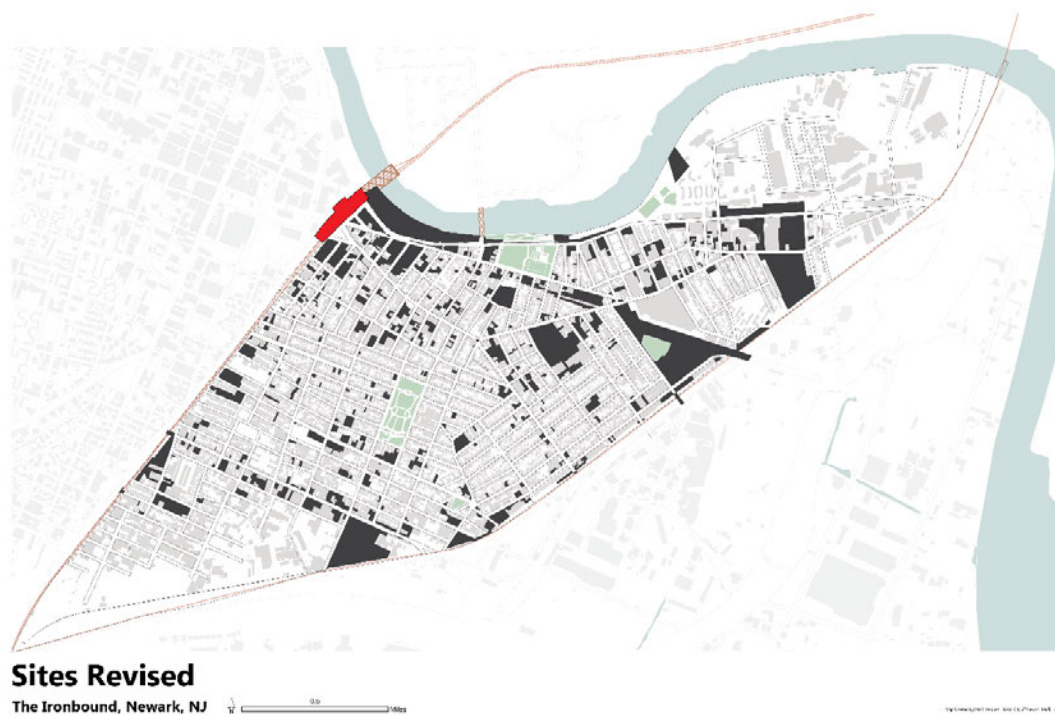


Figure 26: Study Sites: catagorized

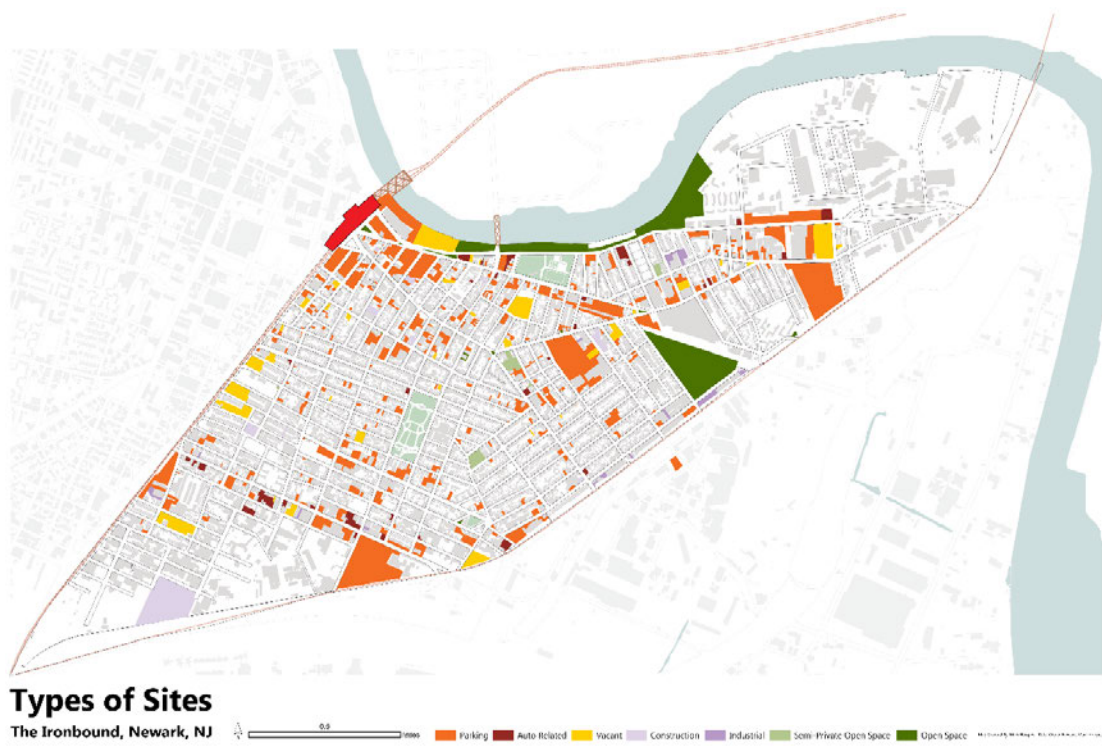


Figure 27: An area comparison of study site types

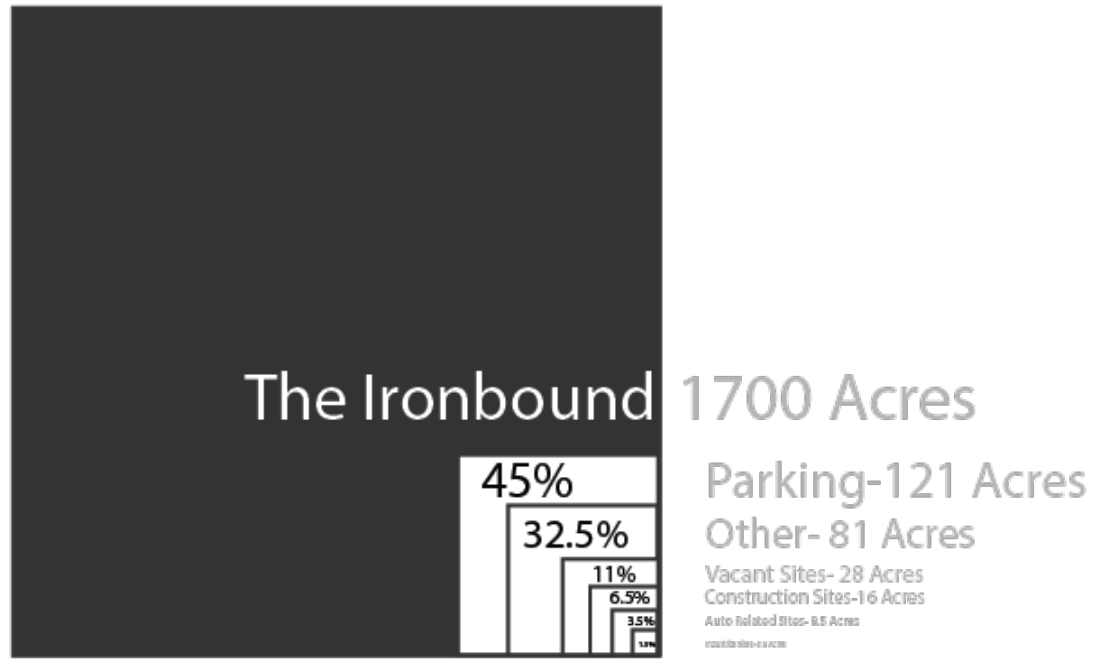


Figure 28: Vacant sites



Figure 29: Parking sites

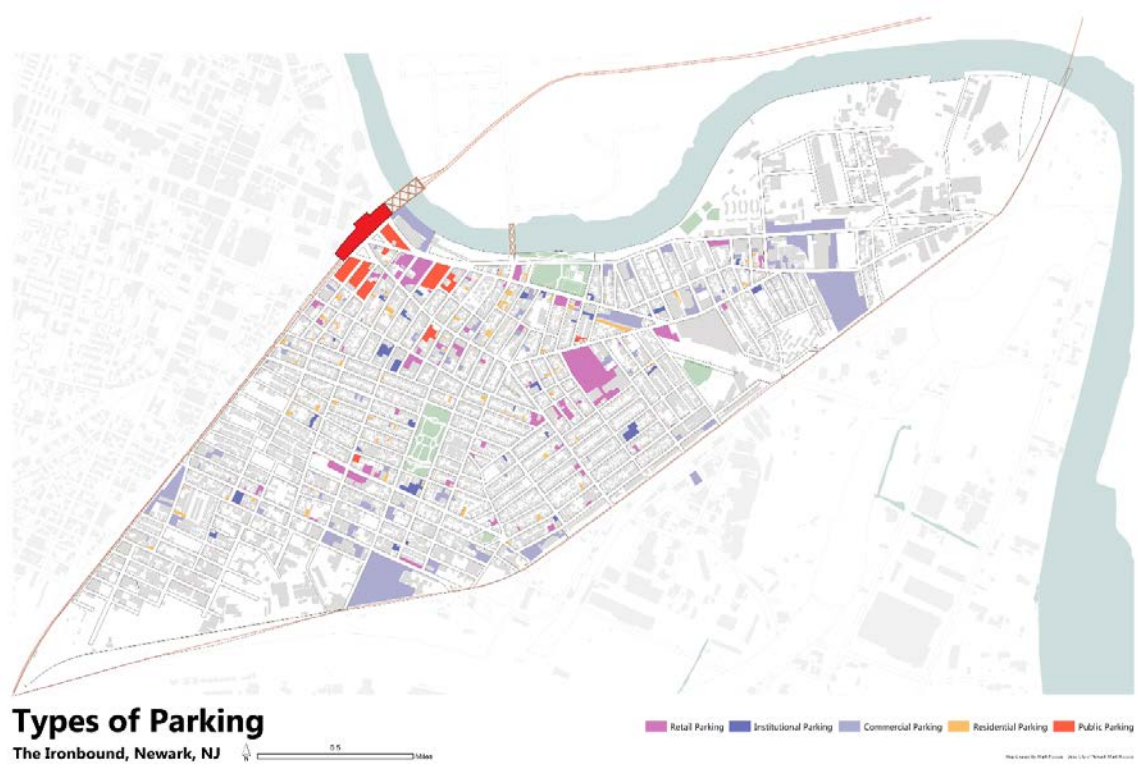
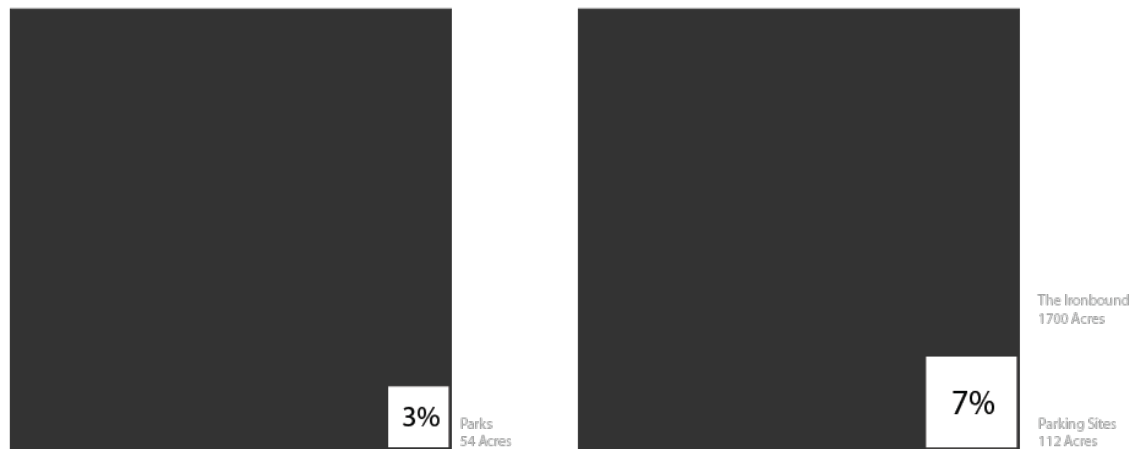




Figure 30: Area comparison: parkland vs. parking



## Edges, Entrances, and Nodes

Documenting these sites helped me to understand the potential that exists in the Ironbound. I also sought to gain a broad sense of how the neighborhood functions within its physical environment. To accomplish this, I observed the physical features of the neighborhood and how they affected the movement and presence of people. From these observations I discerned the locations of entrances, edges, and nodes in the neighborhood (Lynch, *The Image of the City*). Edges are barriers that demarcate the boundaries of the neighborhood. They can be solid or permeable, and either marked by a specific barrier or a change in land use that marks transition from neighborhood to industry. Additionally, edges are often characterized by a sharp drop in pedestrian traffic. True to its name, The Ironbound's edges on the west and southern sides are marked by railroads. The western edge is an embankment for the New Jersey Railroad and Amtrak. It is punctured by many underpasses that allow access into the neighborhood. While

these entrances are often dark and dirty, the ironwork here is quite beautiful. Heavily trafficked roads going under the railroad are the main entrances, and smaller, less busy roads are the minor entrances. These underpasses are mainly entrances for auto traffic, though there is some pedestrian usage too. Newark Penn station is the main entrance for automobile traffic, for pedestrians walking in from downtown, and for people accessing the neighborhood using the trains.

*Figure 31: Underpass under the railroad embankment*



The neighborhood's southern edge is marked by a freight line and a highway. Part of this edge is a soft edge, where the neighborhood changes from residential to industrial. While there is no actual physical barrier, the streets here have heavy truck traffic and no pedestrian space, creating a dangerous and unpleasant pedestrian experience. This edge

has a few minor entrances, which are used for truck and vehicle access and lead to Newark's largest industrial zone.

The western side of the neighborhood has edges that progressively constrict the neighborhood until it finally ends in an industrial area. These edges are created by commercial, industrial, and contaminated sites. The neighborhood ends as it approaches a garbage incinerator. Raymond Boulevard is the only entrance here, providing access from other cities to the east.

*Figure 32: A land use change marks an edge on the eastern side of the Ironbound*



The Northern edge of the Ironbound is the Passaic River. While the water may be contaminated and dangerous to touch, it is still a beautiful river, especially on sunny days. The only entrance here is a busy bridge to Harrison. Auto traffic is often congested

here, as the bridge constricts multilane traffic from Harrison down to two lanes on the bridge. This bridge is also a pedestrian entrance, but using it is difficult. Accessing the bridge requires dangerous unprotected street crossings and traversing heaved sidewalks. Once pedestrians walk into Harrison, there is a long, unsheltered walk through a mostly empty redevelopment zone. The bridge, however, does reward crossers with a wonderful view. Newark's downtown is visible to the west, and Manhattan to the east, both reflected in the river's mirror like waters. While the Ironbound's edges are not always beautiful, they are quite distinct and help to give this neighborhood its distinct character.

*Figure 33: Passaic River from Riverfront Park*



In contrast to edges, nodes are major destinations or gathering places marked by an increase in people and activity (Lynch, *The Image of the City*). Newark Penn Station is



New Jersey's busiest rail station, and a major destination on the edge of the neighborhood. The other largest nodes are the parks, which is not surprising in a neighborhood that lacks public space. These parks are consistently in use and crowded, especially the playgrounds and soccer fields. Pedestrian traffic is often oriented in the direction of the parks, and greatly increases within two blocks of a park. Ferry Street is another major center of activity. It is a hub for shopping, restaurants, and gyms, and is well used by pedestrians. (Figure 36: Ironbound: entrances, edges, and major nodes)

*Figure 34: Independence Park- a major node*



In addition to these highly trafficked neighborhood-wide nodes, there are smaller neighborhood centers that are important nodes for the part of the Ironbound in their vicinity. These centers are important local points that are likely to be visited by someone nearby, but unlikely to be visited by someone from the other side of the Ironbound. Most of these areas are schools. The Ironbound has a very high proportion of school-

aged children, and schools are often accessed by walking. Schools are centers of activity year-round and even have people around even when class is not in session. Churches are another set of community centers. The neighborhood remains strongly religious, making churches important gathering points. They are often positioned at central points within neighborhoods and have ample buildings and space to sponsor community events.

(Figure 37: Ironbound: local nodes)

*Figure 35: Students and parents gathered around Ann Street School, a local node*



The Ironbound is home to an active community with a highly visible public life. Through observation, I was able to learn about the physical and social structure of the neighborhood. I found the nodes, edges, and entrances and noted the characteristics of

the streets. I was also able to find and map 427 sites that have the potential to become spaces that further support the vibrant community life. (Figure 19- Figure 22) I learned much about the Ironbound through spending a significant amount of time there, documenting sites, and noting physical and social patterns.

*Figure 36: Ironbound: entrances, edges, and major nodes*

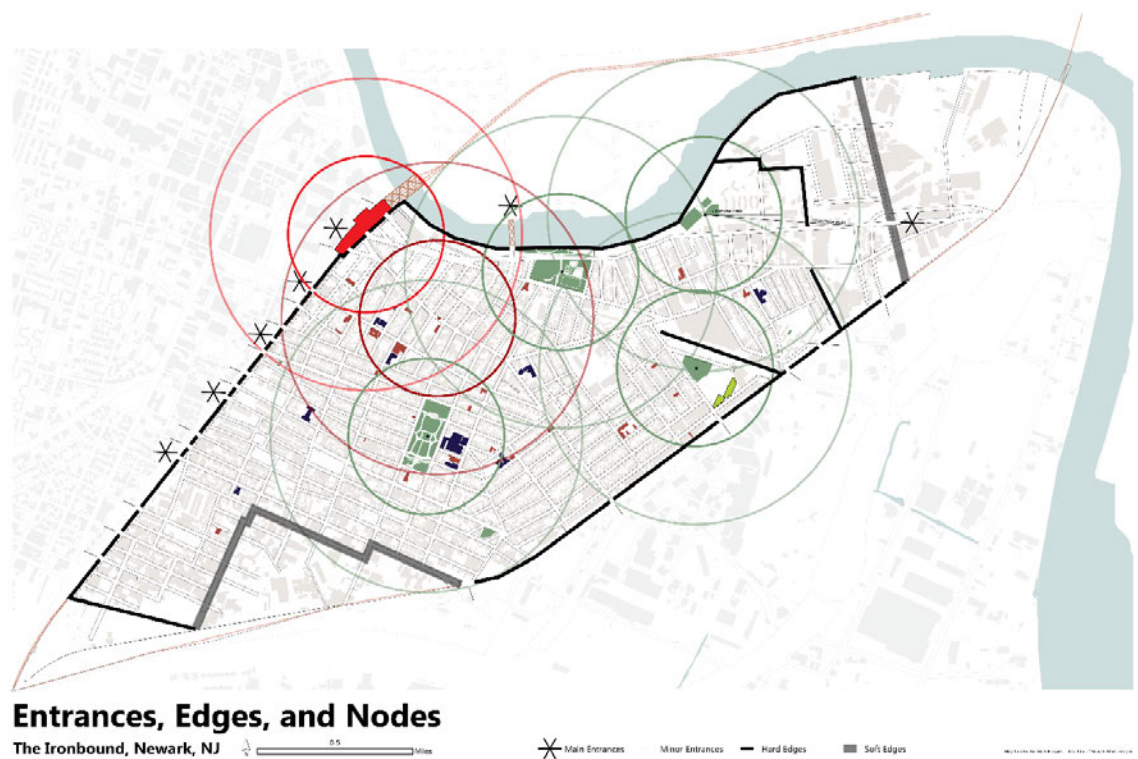
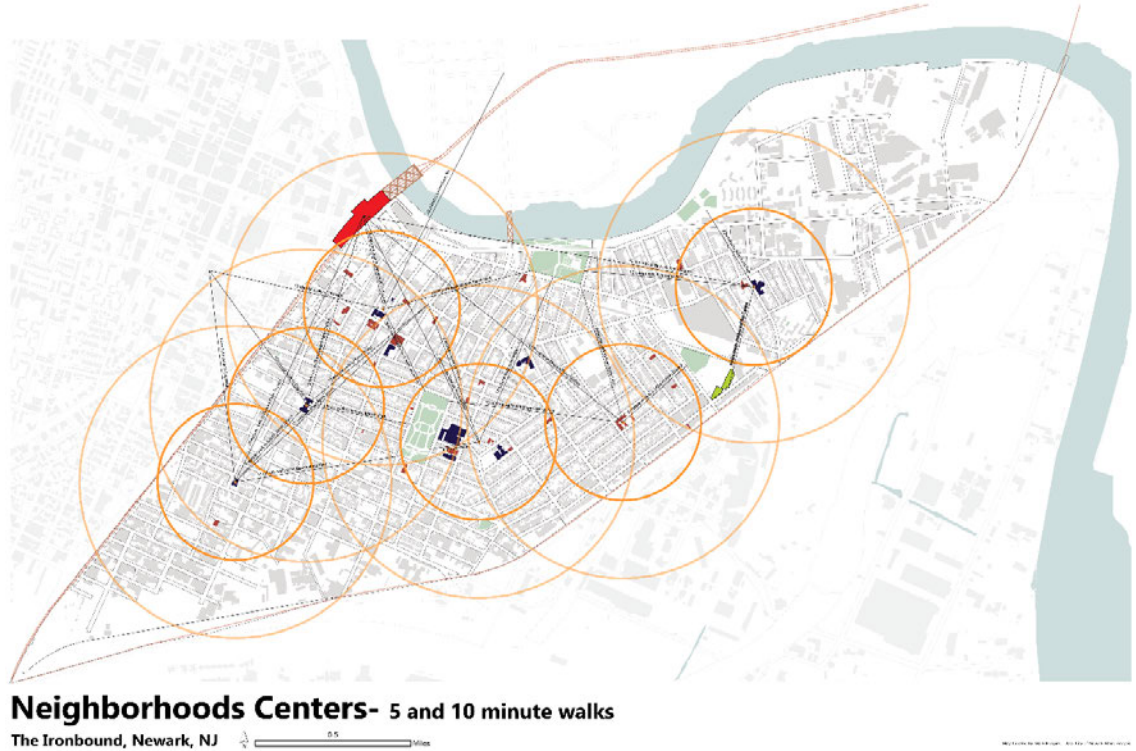




Figure 37: Ironbound: local nodes



## Analysis

The next phase of learning about this neighborhood involved finding, mapping, and analyzing geospatial data on demographic, political, and physical aspects of the neighborhood. This data provides additional information and insight to what community patterns are important, what problems might need to be addressed, and what opportunities or constraints might exist for design. This analysis includes information on contamination, site coverage, hydrology, population density, and zoning, all of which have important impacts on the both the neighborhood and potential designs. (Figure 41-Figure 49)

## Contamination

Contamination is a legacy that continues to impact this neighborhood. I used the New Jersey Department of Environmental Protection's (NJDEP) Known Contaminated Sites List (KCSL) and EPA data on Superfund Sites to locate the contaminated sites in this neighborhood. These sites are scattered throughout the neighborhood, no one area being completely free of them. The most toxic site is the Diamond-Alkali Superfund Site in the northeastern corner of the neighborhood. This site contains the entombed dioxin left over from the production of Agent Orange. Additionally, this area of the neighborhood has a high concentration of other contaminated sites surrounding it. Another high concentration of contaminated sites lays in the southwestern corner of the Ironbound. Both areas remain in industrial use on the periphery of the neighborhood and are unfriendly to pedestrian traffic. (Figure 41: Contamination, Figure 49: Zoning)

*Figure 38: A sign in Riverfront Park warning visitors of the hazards of eating fish caught here*



Unfortunately, contamination is also present under most of the parks in the Ironbound. All the parks, except for Independence Park, are contaminated sites in various stages of remediation. Independence Park, however, was built on undeveloped land, and as a result has no contamination. The rest of the parks were built on former industrial sites. While many of these large sites were perfectly located for parks, they were also later found to be contaminated. The Ironbound Recreation Center is built on a contaminated plastics production site. While parts of it have been remediated and reopened to the public, a large portion of the site has remained contaminated, unmaintained, and nominally closed since the 1980's. Riverbank Park had to be closed for a period after contamination was discovered. The contaminated area was capped before the park was reopened for use. Riverfront Park is partially built on top of a remediated site. Contaminated soils near the river and in the western end of the park were removed, while several areas on the eastern end were capped. Hayes Park, the only park in the far eastern section of the neighborhood, remains entirely closed due to contamination. Remediation continues here as it remains tightly fenced and resembles a construction site more than a park. Contamination is a formidable financial barrier to park construction; however, Riverbank and Riverfront Parks show that it is one that can be overcome.



Figure 39: A sign backed by dense overgrowth declares this part of the Ironbound Recreation Center closed



Figure 40: A sign at the Ironbound Recreation Center references the ongoing environmental cleanup efforts

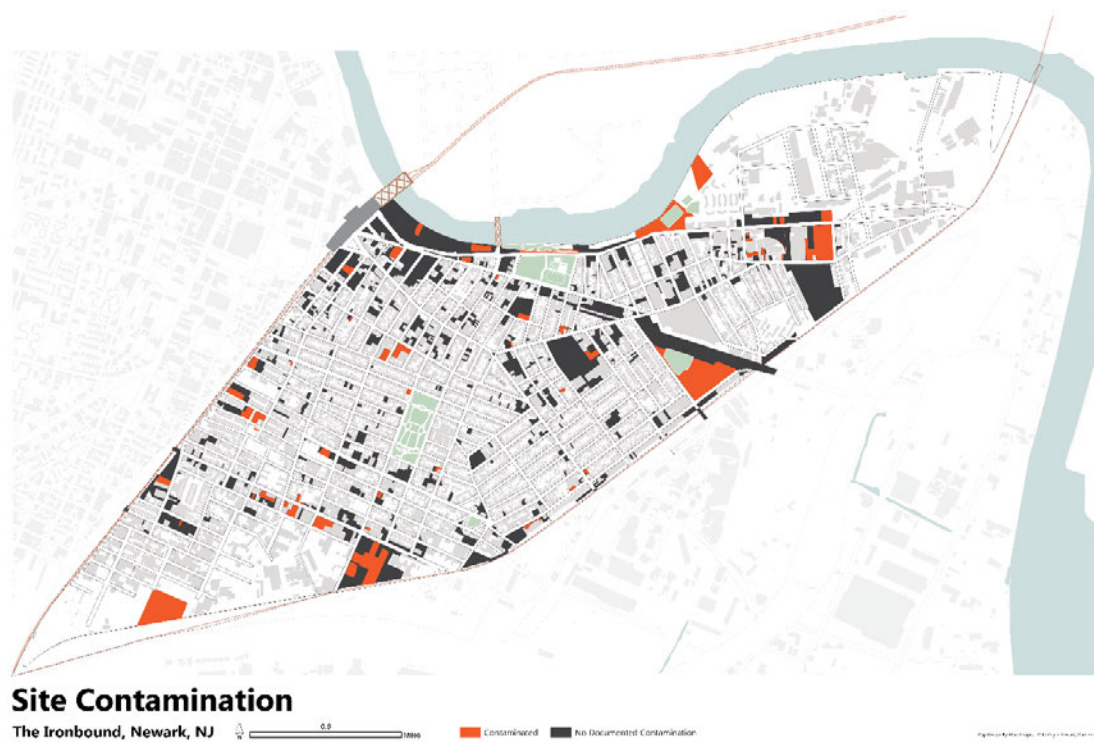


In my designs, I avoided the most contaminated areas in the southwestern and northeastern parts of the neighborhood. This was difficult because these are residential areas that would benefit from parks. My proposals provide connections that link these communities to the rest of the neighborhood and connect them with the less contaminated parts of the Ironbound.

Figure 41: Contamination



Figure 42: Underutilized sites with contamination



## Impervious Surface

In addition to contamination, impervious surface coverage is also an important environmental issue. Pervious surfaces, such as lawns, meadows, and gardens allow water to infiltrate into the ground, recharging the water table and cleaning the water. Impervious sites, including buildings, patios, parking lots, roads and other paved areas prevent this from happening. Instead, they direct water into the sewer. In Newark, as in many older cities, this is a combined sewer system that mixes storm water and raw sewage. The mixture is sent to the nearby treatment plant to be cleaned. When it rains heavily, this system is overwhelmed, and the mixture of rain and raw sewage is overflows into the Passaic River. In the Ironbound, 85% of the surface is covered with impermeable materials. (Figure 45: Area comparison: impervious surfaces) This means that most of the rain that falls on the neighborhood will have to be treated at the water treatment plant. This also means that there is a high chance of a combined sewer overflow during heavy rain events. (Figure 46: Hydrology)

Additionally, 85% of the area of the sites that I identified as possible locations for parks is impermeable. This is to be expected, considering a large portion of the sites are parking lots. Most of the permeable surfaces are in the vacant lots and park space in need of remediation. Building enough raingardens to infiltrate the water from the entire neighborhood would take more space than the combined area of all the 427 sites, there is the potential to reduce the amount of stormwater that goes into the sewer. (Figure 42: Underutilized sites with contamination)



In some cases, impervious surfaces are desirable. Contaminated sites are often remediated with an impermeable cap that will keep the toxic compounds locked under the surface and prevent water from seeping in and spreading the contamination away from the site. The Ironbound may have many sites like these, but there are still many more areas that are not contaminated. Some of these clean sites may be reconfigured to provide for water infiltration via bioswales or raingardens.

*Figure 43: Impervious surfaces in the Ironbound*



Figure 44: Impervious underutilized sites

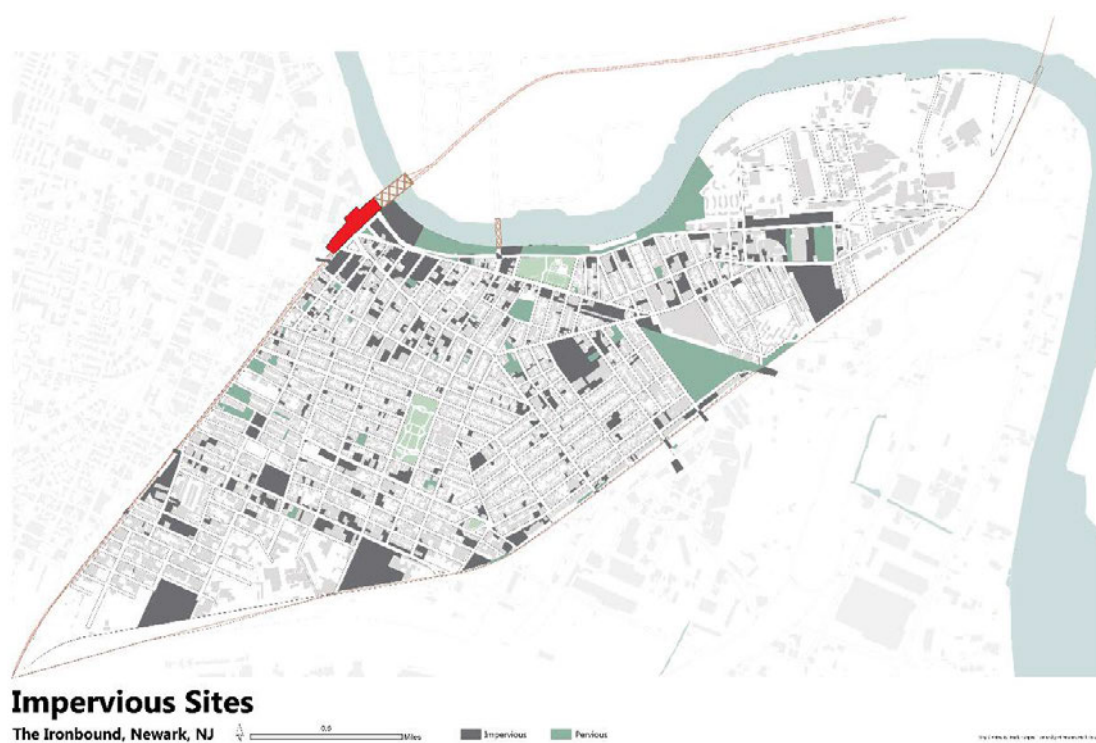
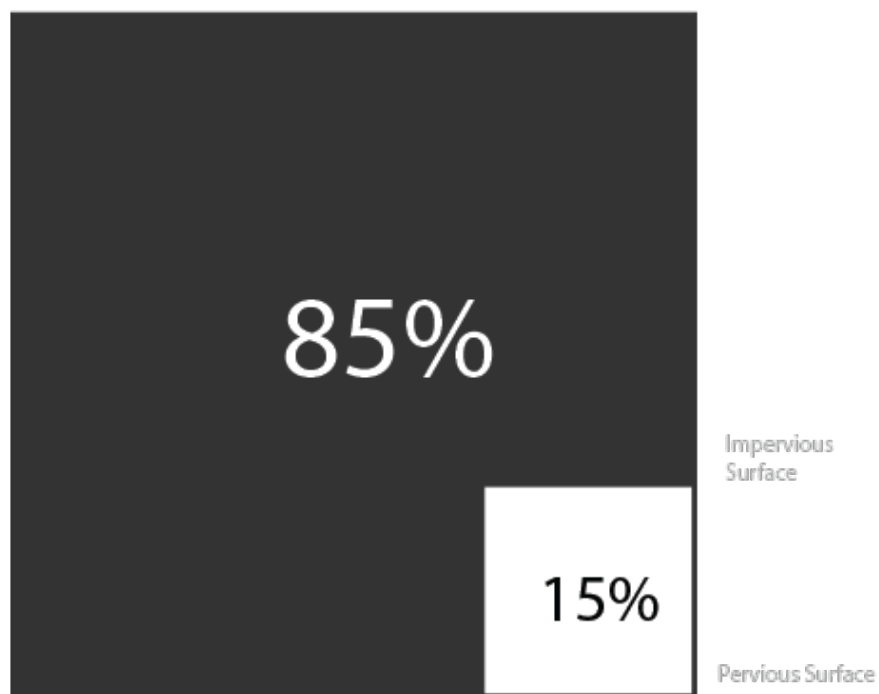


Figure 45: Area comparison: impervious surfaces



## Hydrology

To properly manage water in a neighborhood, its hydrology needs to be understood.

This includes how and where the water flows and gathers on a site. The hydrology determines where water can flow, areas that will be wetter or dryer, and limits where water can be channeled. It also shows where there are opportunities to reveal the movement of water through a landscape. A good understanding of the behavior of water is an important part of any landscape design.

The most basic rule of hydrology is that water flows downhill, so an examination of the topography of the neighborhood is key to understanding the water. The elevation varies from a maximum of 13 feet in the northwestern part of the Ironbound to a low point at sea level by the river. The neighborhood mostly ranges between 4'-6' above sea level and is essentially flat. The steepest elevations are the rail embankments and the river's bank. The industrial areas in the northeastern and south western sections of town have the lowest elevations. There is also a low lying area stretching from Independence Park to the bridge crossing the Passaic into Harrison. This is surrounded by three areas of higher elevation. One on the western half of Ferry Street, one on the eastern branch of the road, and one in the area halfway between Independence Park and the Ironbound Recreation Center. While the Ironbound is a very flat neighborhood, there is enough elevation change to for water to flow through the neighborhood. (Figure 47: Topography)

Along with the neighborhoods low elevation comes the risk of flood. Most of the flooding is in the low lying industrial areas, leaving much of the neighborhood out of the flood zone. The exception is the area of lower elevation in the center of the neighborhood and an area near the Ironbound Recreation Center. While these areas may be prone to flooding, they may also be targets for gathering water from normal rain events and infiltrating it using rain gardens. (Figure 48)

In a completely engineered landscape, the major elements that directs the flow of water are the streets and the sewer system. Nearly all the water that falls onto a surface in the Ironbound will flow onto the street and into the sewer. Most of the water flow in the neighborhood is currently determined by the pitch of the sewer pipe, rather than the pitch of the street. Often, these are one in the same, so the direction of flow if the sewer can be used to determine the direction of flow of surface water, but this should be verified by a topological map. In addition to water flow, the sewer map shows which parts of the sewer are combined or separated. Most of the neighborhood has a combined sewer, but a large portion of the southern part of the neighborhood does have a separated system. (Figure 46: Hydrology)

Water movement in the Ironbound is complicated and highly engineered. While fully mitigating the effects of the impervious surface runoff, eliminating the dangers of combined sewer overflow, or entirely protecting the neighborhood from flooding would take large interventions, there are other less intrusive opportunities to work with water in this neighborhood. Instead of directing water immediately into the sewers, there is the possibility to let some of it playfully flow through the neighborhood in an expressive way

and be infiltrated at key points. Certain streets could shallowly flood during heavy rains, allowing weather to temporarily change the terrain. While this wouldn't have a huge impact on the overall hydrologic situation of the neighborhood, it would allow people to see water in a positive and beautiful way, instead of treating it like something dirty that needs to be directed into the sewer as quickly as possible.

Figure 46: Hydrology

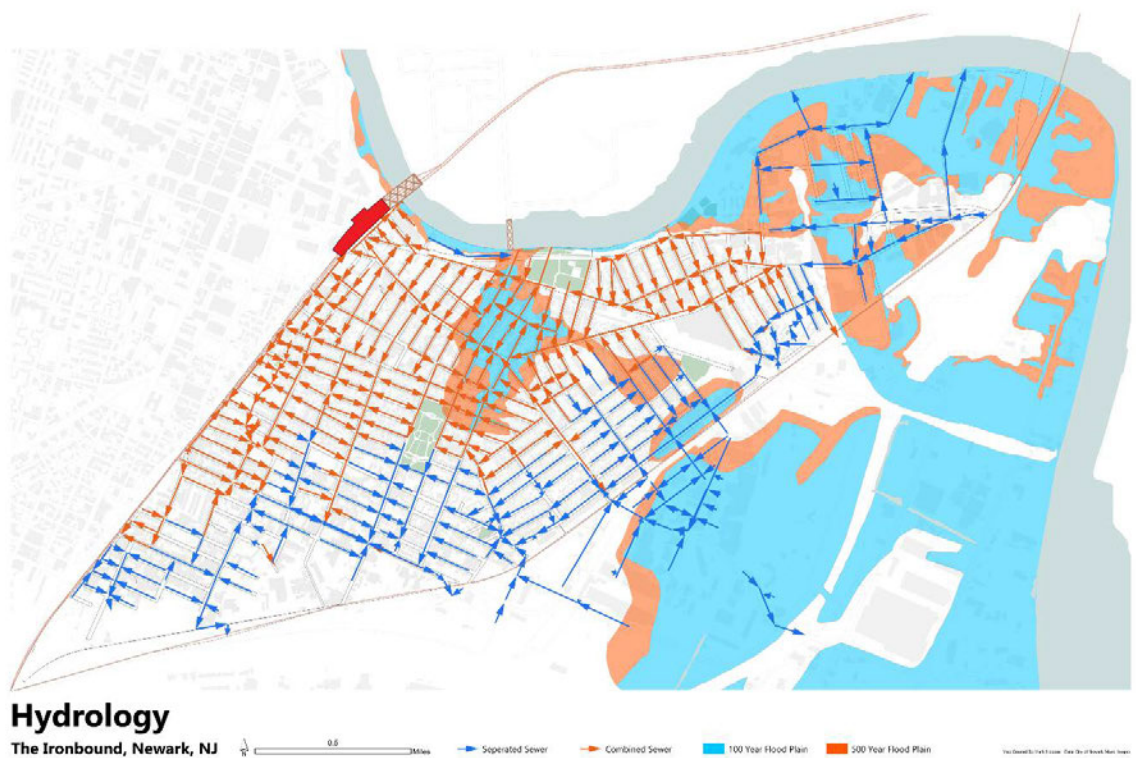
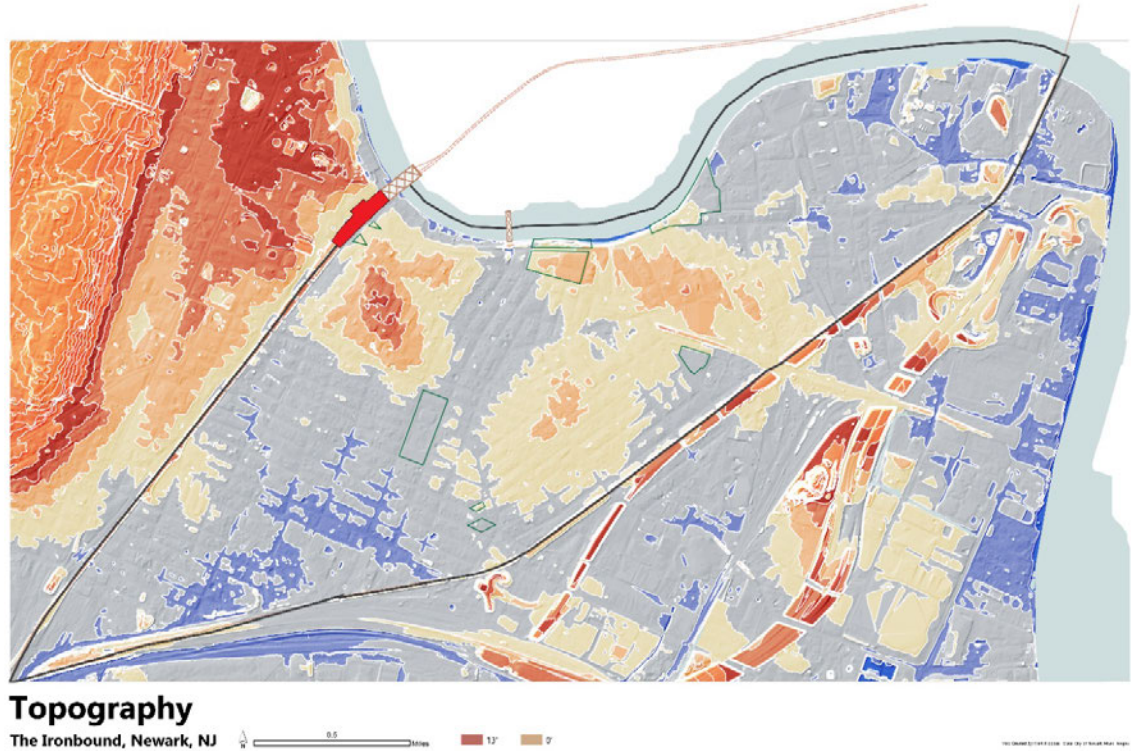


Figure 47: Topography



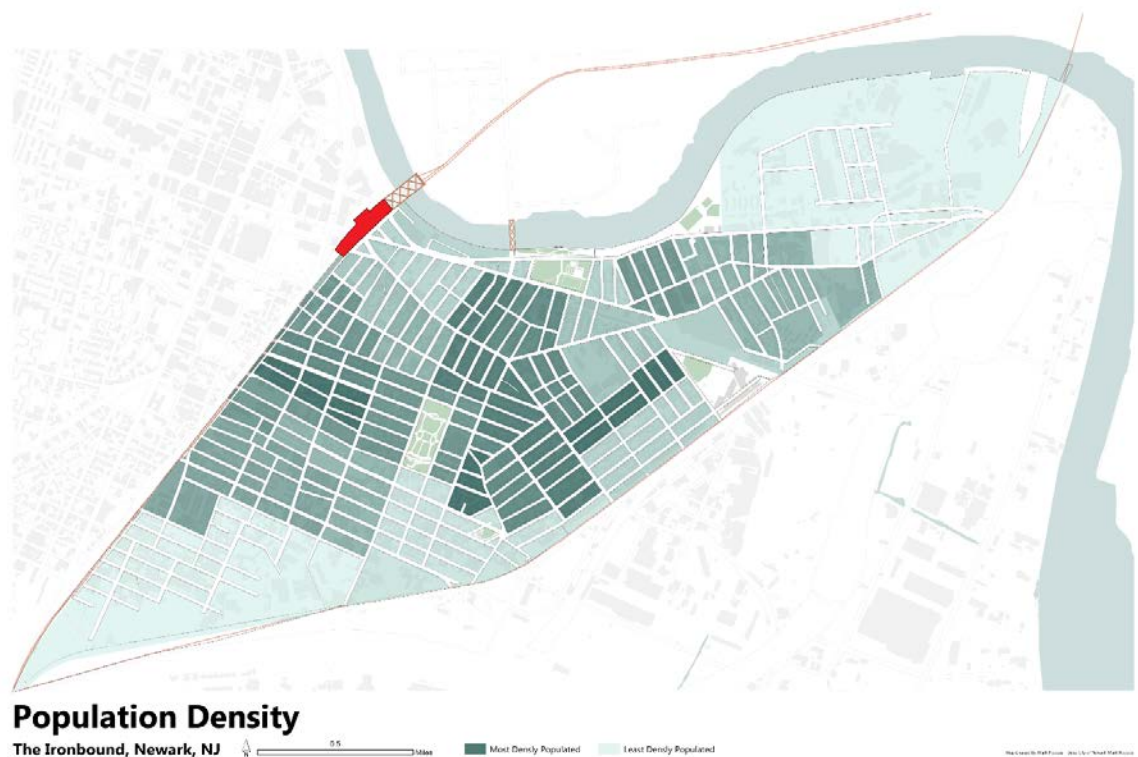
### Population Density

To create a beautiful design that people connect to, an understanding of where the people are needs to be developed. A look at the census data can show where the densest parts of the neighborhood are. To examine this data, I took the total population by census block and normalized it by the area of the census block. This allowed me to visualize the data as people per unit of area. The least dense areas are the two industrial areas, where both census blocks have a small portion of the inhabited neighborhood on its periphery. Additionally, the area closest to the train station is also of a relatively low density. This is likely due to the inclusion of several block-sized surface parking lots in this census block's area. The densest areas are north, west, and east of Independence Park. These areas are characterized by small lots and closely packed buildings with three



to four apartments each. There is also very little open space in these areas. Because of this, any intervention in or near these areas will have a large impact on the greatest number of people. Any design focusing on socialization should be sure to take these areas into account.

*Figure 48: Population Density*



## Zoning

Zoning regulates the structure of a neighborhood and decides where commercial and residential areas are located. As discussed in previous sections, industrial areas are relegated to the northeast and southwest of the Ironbound, and a narrow strip along the railroad on the neighborhoods southern border.



Commercial zones include the vibrant Ferry Street and Wilson Street, and portions of the busy Pacific, Pulaski, and Adams Streets. These areas contain stores, travel agencies, and many restaurants. The streets are always busy here with both pedestrian and vehicle traffic. These corridors are some of the most visible gathering places on the street. While they are hugely busy, there really isn't any place for people to gather in the public realm. Adding a little more space for people could change that.

A large portion of the neighborhood is zoned as mixed use. This means that often there is a business on the ground floor with apartments above. Small shops, corner stores, barber shops, doctor's offices and other places of business are scattered throughout the mixed-use section of the neighborhood. Each of these businesses adds vibrancy, character, and activity to the neighborhood. Mixed use areas also have a high level of activity and are important neighborhood gathering areas.

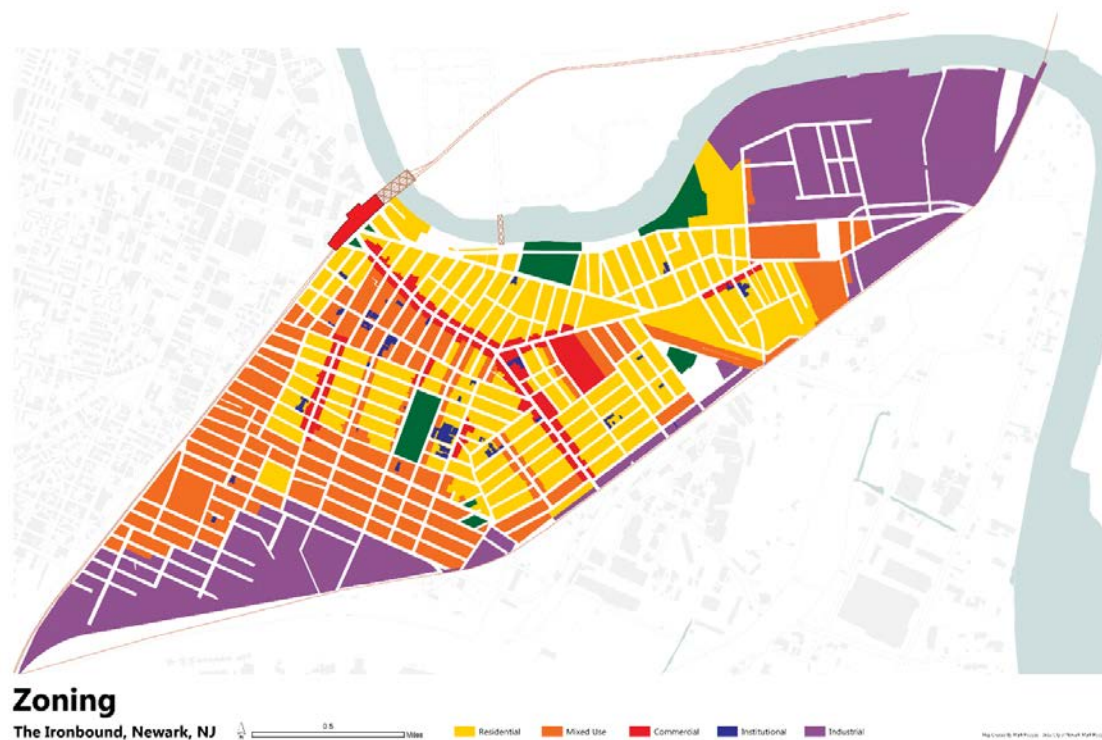
Another large portion of the neighborhood is simply zoned residential. This vary from single family home to five-story apartment buildings. Often, the interior of blocks is zoned residential and the exterior, along a main road, is zoned commercial or mixed use. Residential blocks tend to have a quieter character. They have narrower streets and sidewalks, and a steady stream of people walking places, either alone or in small groups. These quiet areas seem like a good place for smaller, quiet spaces focused on serving the needs of those living closest to them.

A final land use that defines the community is institutional, including churches and schools. Both are important destinations within the community. Because they are highly

trafficked destinations, their location within the context of their local neighborhoods and the entire Ironbound is important to note. Additionally, they often have large parking lots attached that are not always used. These locations can become anchoring points for design focusing on a community's local area. (Figure 37: Ironbound: local nodes)

An in-depth look at data describing a neighborhood combined with observations on the ground can be a powerful design tool. This analysis has helped me to gain a greater understanding of the Ironbound by providing additional information and insight to the patterns I observed in the neighborhood. The patterns, observations, and data can be combined to create inputs that can form a neighborhood design that is tailored to enhance this community's already vibrant character.

*Figure 49: Zoning*



## Design

Gathering the inputs of available space, conditions on the ground, and geospatial data about the neighborhood, I began to design. The sites I had collected are dispersed throughout the neighborhood to ensure the maximum number of people had access to open space. To bring them together into a cohesive pattern, I explored how to connect the Ironbound's neighborhoods via types of network typologies- bike trails, streets, agriculture, planting design, and food. This design process went through several iterations, until I reduced it to several themes.

The themes consist of networks that spread across the entire neighborhood. The first of these is an active link around the entire neighborhood. There are many linear spaces on the periphery of the Ironbound, these can be used to create a **rails to trails** loop that creates greater connectivity within the neighborhood.

The second is **water**. A network of streets and sites will express the flow of water through the neighborhood, transforming water from a nuisance into a beautiful part of the neighborhood. Sites and streets in this network will express the flow of water, its effect on vegetation and ecology, and help infiltrate some of it into the ground.

The next theme is **cuisine**. Restaurants permeate the neighborhood, and they are always full of residents and visitors alike. A design supporting the restaurants and the socialization associated with food and drink would support a great part of this neighborhood's character.

The fourth theme is **urban agriculture**. While I was walking through the neighborhood, I noticed numerous peach trees, grape vines and garden plots. While these occur all over the neighborhood, many residents do not have access to an open area of ground to garden in. A network of urban agriculture sites would change that.

The final theme is a series of streets that demarcate the neighborhood into different **sub-neighborhoods**. This is done to more accurately reflect the true social situation of a neighborhood. The Ironbound is defined as a 1700-acre area, but people are far more likely to have connections to others who live close to them. These smaller “true neighborhoods” are intended to reflect that and to give more definition to the Ironbound as a whole. They are centered around churches and schools, and the design focuses on smaller neighborhood streets and sites along those streets.

While these streets and sites have different themes, they all have similar goals. They are, foremost, to be gathering places for people. These sites will all have social spaces where people can sit, socialize, and mingle. The intent is that the community will use these spaces for everyday socialization. These social spaces will be surrounded by vigorous plantings. Biophilia is a universal human trait, and the gardens and patio plantings throughout the neighborhood indicate that the love of green things is strong in the Ironbound. The spaces and streets should be lined with plantings that make these places more comfortable, more beautiful, and even more interesting. The plantings will add bright colors, appealing textures, engaging smells, and host interesting insects and animals. Finally, the design needs to respond to existing conditions. It is not intended to change the neighborhood, but rather to enhance it. The activities occurring on these

streets and sites now should continue to occur with the new design, with greater comfort and support from the space. The intent of this design is to create spaces for people that are surrounded by plants and support the existing activity of the neighborhood.

Together these design interventions propose changes that are intended to enhance daily life in the Ironbound. They seek to better connect people with each other, with the neighborhood, and with the nature that still exists in the neighborhood. These designs should create a system that enhances the already vibrant neighborhood that is the Ironbound.

### Rails to Trails

The Ironbound is a neighborhood with edges that are strongly defined by railroads. In principle, these are inaccessible and dangerous barriers that can only be crossed through an underpass or an overpass. They also present an opportunity. While I was walking through the neighborhood, I noticed many overgrown spaces on the edges created by these rail lines. These spaces are abandoned sections of rail line or space that is part of an active railway's right of way but below the embankment. Additionally, they all had worn trails and other signs of human occupation, such as makeshift benches, art, and litter. After I mapped these spaces, I realized their potential. Their linear nature created a trail that ran around and through a large portion of the neighborhood.

*Figure 50: An informal trail by a freight railway*



Using these sites, streets, and existing park space, I created a loop around the neighborhood. The rail sites create a nearly unbroken path from the where South Street exits the neighborhood, following the rail line northeast to the Ironbound Recreation Center, behind the Center and nearly to Ferry Street, before emerging from an abandoned rail line just behind Down Bottom Farms. Mott Street can connect the trail to Riverfront Park, after which one can use the park to travel over to Newark Penn Station. New Jersey Rail Road Avenue can be used to connect the trail to South Street, and South Street to connect it back to the rail portion of the trail. (Figure 52: Rails to Trails)

New Jersey Rail Road avenue is a one-way street running next to the New Jersey Transit/Amtrak. While it is poorly maintained presently, it is one way and does not get much traffic. Including a bike lane on this road would increase its usefulness to the neighborhood. South Street is a wide and busy road. It has ample shoulders that are



sparsely used for parking. This parking lane could instead be used as a bike lane, creating an active connection through the southern part of the neighborhood.

While this part of the design focuses on linear connections, there is one site associated with this trail. It is a mostly empty and unmaintained paved area. There is some skate equipment in one corner. This use should be confirmed through the construction of a skate park here. Corners of neighborhoods like this one tend to be forgotten areas that are often perceived as dangerous. A skate park in this location will instead increase its use and allow a segment of the community to take ownership of the space, ensuring it remains safe and well maintained. (Figure 53: Existing Conditions at Wheeler Point Road and Delancy Street, Figure 54: Proposed Skate Park)

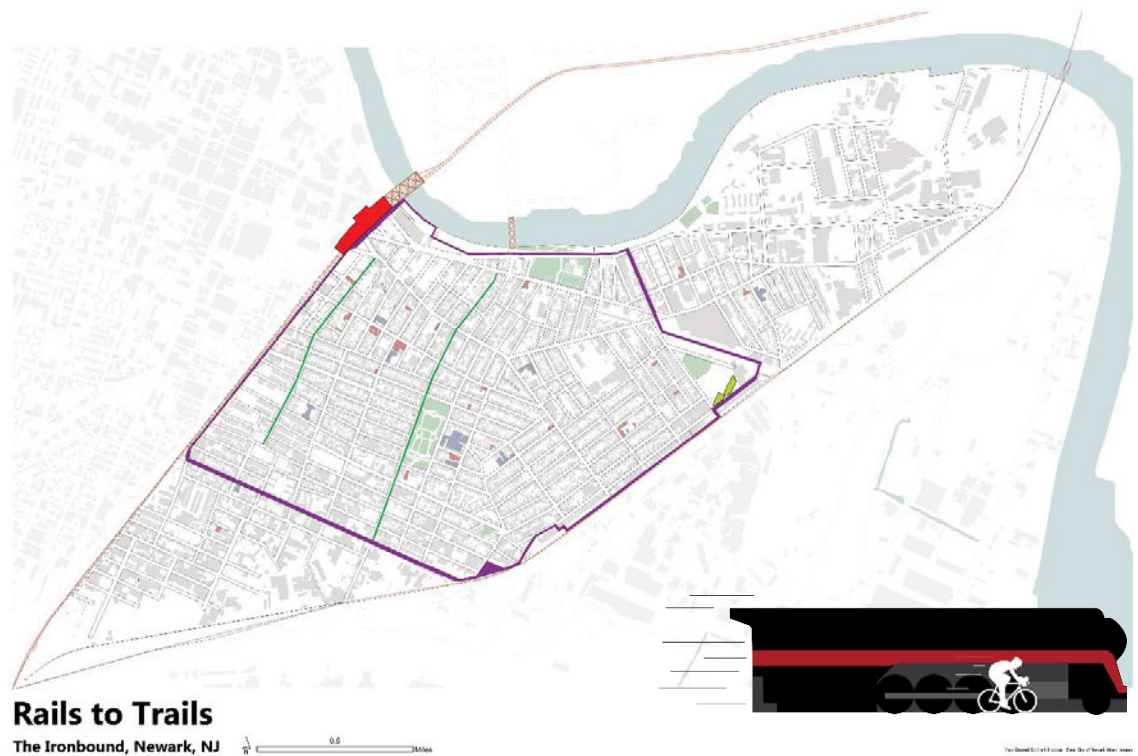
*Figure 51: Site showing signs of being used to skate*



This connection covers a lot of distance. Like most rails to trails routes, it should focus on active movement, such as biking, running, walking, and skating. It creates a safe loop through the neighborhood that connects to Newark Penn, the Ironbound Recreation Center, and both existing bike lanes. The connections will increase movement and

accessibility throughout the neighborhood. Additionally, officially condoning the already existing trails along the rails will increase their safety and allow more people to access and use this space.

*Figure 52: Rails to Trails*



*Figure 53: Existing Conditions at Wheeler Point Road and Delancy Street*



*Figure 54: Proposed Skate Park*



## Water

Almost as important as the movement of people through the neighborhood is the movement of water. The water design focuses on the expression of water moving through the neighborhood in a way that is beautiful and visible. The sites in this part of the design not only infiltrate water, but they also express its flow and how water effects plant communities and habitat.

The water flow begins at one of the highest points of the neighborhood, the intersection of Congress and Lafayette Streets. On these streets, water will not be directed immediately into the sewer; instead, it will flow down the street and be expressed in various ways. In some locations it will flow through a beautiful channel, swirling playfully as it moves down the street. The channel shouldn't be separated from the sidewalk with a curb, giving people a better chance to see and interact with the water. At some places

this channel will overflow into a rain garden, watering the plants and allowing water to infiltrate into the ground. In the segment along Kossuth Street, one of the lowest points, heavy rainstorms will cause the street to shallowly flood. The water will drain out slowly into a nearby infiltration basin.

The water flow will end in two locations, the Ironbound Recreation Center and Riverfront Park. Each of these locations will include a large rain garden that can handle most of the water that flows into them and show how a wet site changes the plant communities living there. Additionally, the site in Riverfront Park can have an overflow that creates a small waterfall into the Passaic River. (Figure 55-Figure 57)

*Figure 55: Water*

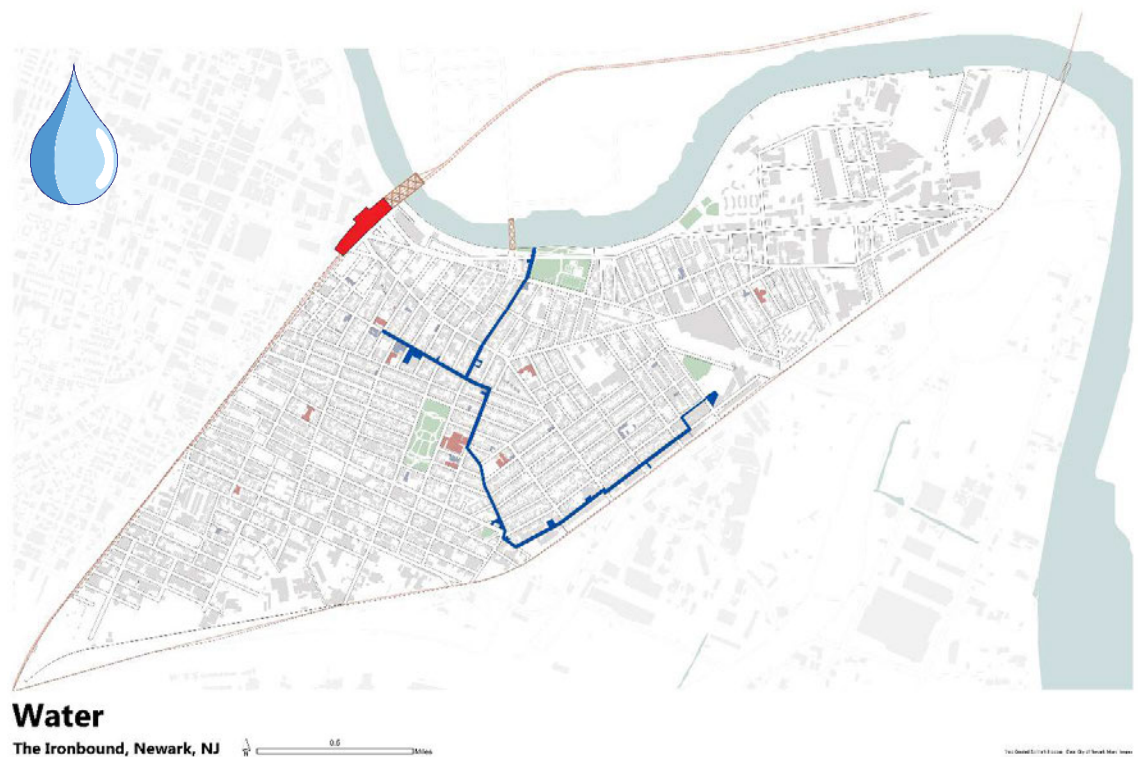




Figure 56: Existing Conditions at 131 Kossuth Street

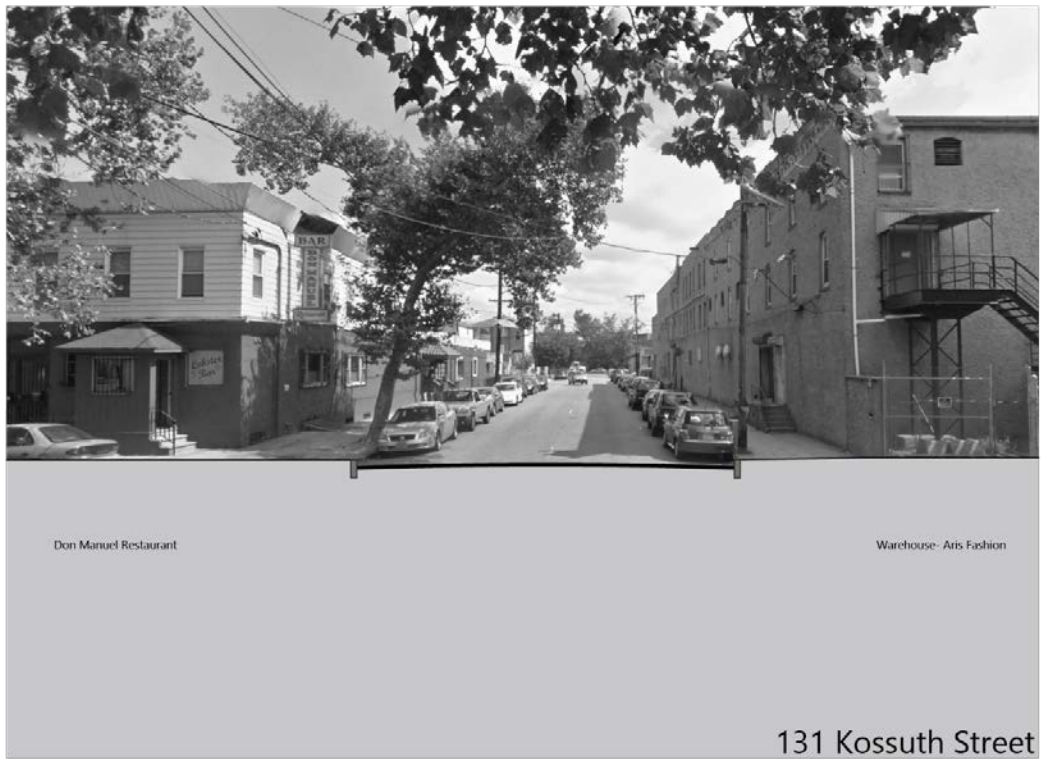


Figure 57: Proposed floodable street





## Cuisine

While the presence of water needs design to be expressed, the presence of food in the community is already greatly apparent. Instead, what needs to be done here is to create a streetscape that supports and enhances the vibrancy that already exists around food in the Ironbound. There should be space for people to gather, eat, socialize, and enjoy each other's company. This space needs to give a high priority to people to provide a social and dynamic atmosphere.

The streets I have selected for this part of the design are already the busiest and most social streets in the neighborhood. They are also the main commercial streets. On these streets are numerous restaurants retail stores, gyms, and other business types. As a result, there is always heavy pedestrian traffic. These streets include Ferry Street from Newark Penn Station to Fillmore Street, Pacific Street from Ferry south to South Street, and Wilson Street, from Ferry until it exits the Ironbound.

To make these streets more social and people-oriented, there needs to be more space for people. The sidewalks need to be widened at the expense of a lane of traffic.

Fortunately, all these streets already have slow moving traffic, and reciprocal streets nearby that do a much better job moving traffic through. (Figure 58: Cuisine)

Expanding the sidewalk will allow people to slow down and enjoy themselves. These sidewalks need to have three zones to support a vibrant food and shopping scene. The first is space for people to walk through. Ferry street is very crowded and a main pedestrian corridor; people need the space to walk. The second is space for people to sit,

converse, rest, and enjoy each other's company. This space should have ample benches, arranged in small groupings to allow groups of people to socialize here. It should also be planted with trees and ample gardens, making the space as comfortable and as possible, creating some separation between the walking part and the sitting part, and to encourage interaction with the plantings. The third zone is specifically to support the businesses. This is space where stores and restaurants can spill out onto the sidewalk, adding their own layer of activity to the scene. On a beautiful day, restaurant patrons can enjoy their food and wine outside, watching others socialize and people of all types make their way up and down the street. (Figure 59: Existing Conditions at 73 Ferry Street, Figure 60: Proposed cuisine streetscape)

*Figure 58: Cuisine*

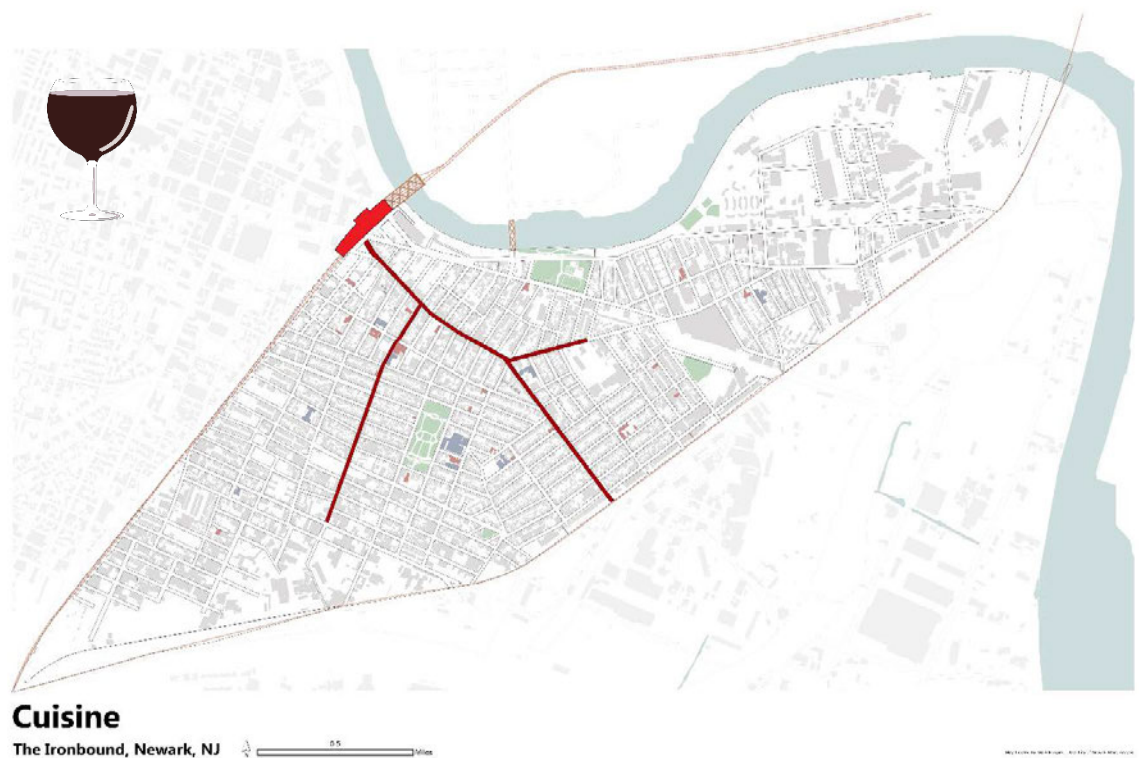


Figure 59: Existing Conditions at 73 Ferry Street



Figure 60: Proposed cuisine streetscape



## Urban Agriculture

In addition to food being eaten socially, a surprising amount of it is grown in the Ironbound. In my time in the city, I noticed grapes trained to grow over patios and driveways, peaches in front and back yards, and vegetable gardens wherever there was space. However, with so much of the neighborhood paved, and so many people living in apartments that do not have access to garden space, there could be much more space used for gardening. Food is even produced commercially; Down Bottom Farms is a local urban farm just south of the junction of Market and Ferry Streets. It grows its produce in raised beds and a small high tunnel, and also hosts a weekly farmers market. Additionally, there is a micro greens production facility next to the swimming facilities at the Ironbound Recreation Center. This facility, called Aerofarms, resembles a factory more than a farm, as it produces its crops indoors in a completely controlled environment. Its market includes large grocery store chains in the area, such as Whole Foods.



*Figure 61: A backyard garden*



*Figure 62: A Nectarine tree arches over the sidewalk from a front garden*





Considering all the food production happening in this neighborhood, I created a link through the neighborhood that would connect the neighborhood with the food production already occurring here and allow for additional urban agricultural opportunities. This link uses existing opportunities to create an urban agriculture corridor, while avoiding contaminated sites.

At one time there was a Lackawana Railway line ran from what is today the site of the Ironbound Recreation Center to Newark Penn Station. The legacy of that rail line is visible in the bit of abandoned rail running behind the Ironbound Recreation Center. It is also visible in a series of strangely shaped and aligned lots that run through the neighborhood. While some of these lots have been developed, many of them are parking lots or vacant. Additionally, very few of these sites are on the Known Contaminated Sites List (KCSL). This series of sites provides a great opportunity to create a neighborhood link running from Newark Penn Station all the way to Aerofarms.

Even though these sites are not on the KCSL, there is still a very good chance that they are contaminated. Urban sites are often contaminated by lead dust, other heavy metals, and polycyclic aromatic hydrocarbons (PAH) (Kessler). These hazardous materials can either have been deposited on the site historically or be moved into the site via wind or water. While the contamination is likely present in these sites, measures can be taken to reduce exposure. Best management practices have been researched and are available in publications by the EPA and The National Institute of Health, and experts are available to assist with implementation through the Rutgers Extension Office in Newark. These practices include testing sites for high level of contamination, growing plants in raised

beds, covering growing plots in the winter, and adding soil amendments, such as compost, that reduce the bioavailability of contaminants (EPA). While the urban environment is contaminated, safely growing food on these sites is possible with the right practices.

This series of Urban Ag sites will consist of orchards, permaculture plantings, and community garden plots. It will not be only focused on production, but be more park like, providing space for people to enjoy the space created by the food producing plantings. The street trees on the streets that connect the sites can also be lined with fruiting trees, continuing the food theme throughout the entire path.

The intention is, with the exception of the community garden plots, that the fruit these plants produce is for anyone who wants it. Both the plots and the public gardens should be developed with the cooperation of already existing local community group with an interest in urban agriculture. There are several in Newark, including the Newark Community Food System, The Greater Newark Conservancy, and The Ironbound Community Corporation. These groups would be able to coordinate community members to care for the plants, educate the public about urban food safety and the proper time and methods to harvest the fruit, and to harvest any excess fruit themselves. This kind of community involvement would allow community members to participate in the space as much as they were inclined to while giving everyone the chance to experience the food being produced in the neighborhood. (Figure 63-Figure 65)

Figure 63: Urban Agriculture

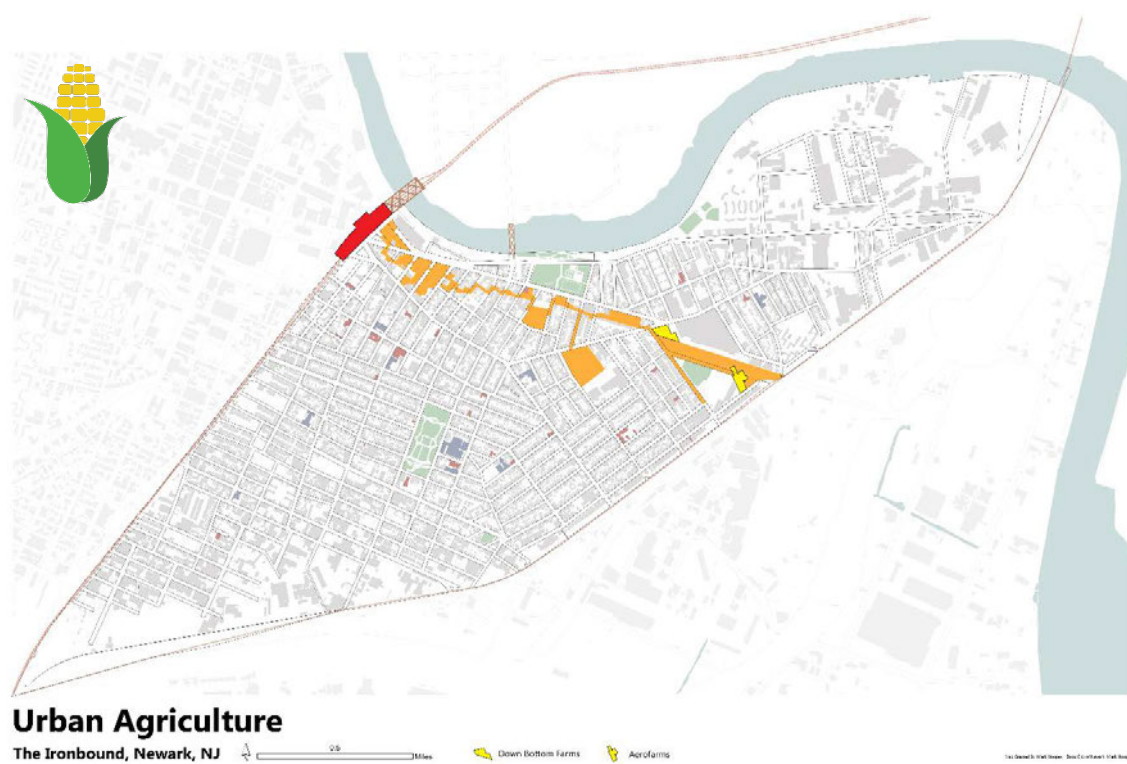
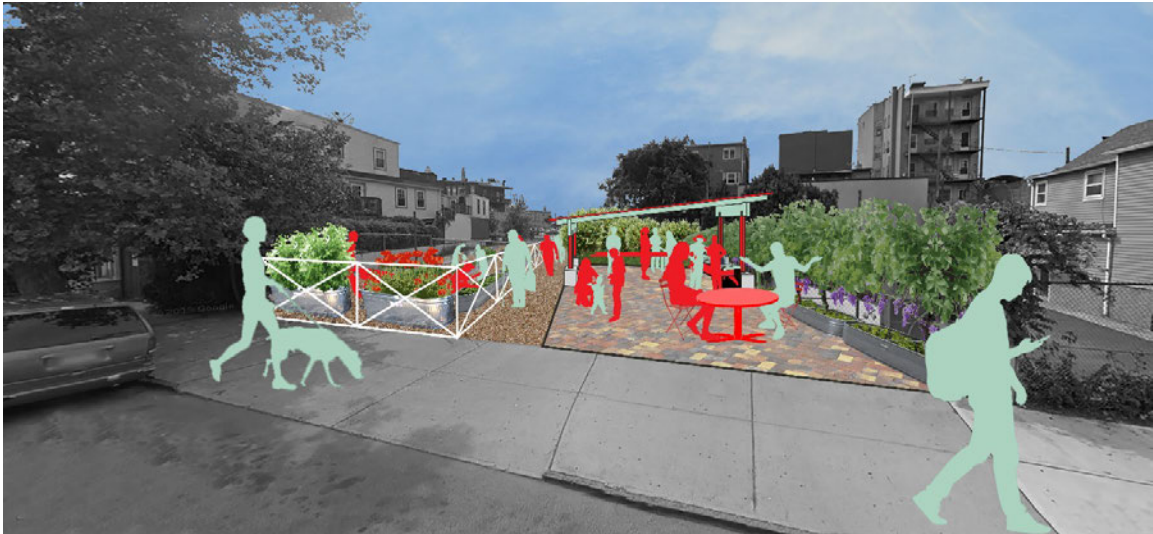


Figure 64: Existing conditions at 28 Monroe Street



Figure 65: Proposed Urban Farm



## Tree Neighborhoods

The word “neighborhood” has many meanings. It is used to describe an informal sense of place, which can change over time and can be hotly debated among residents.

Neighborhood can also be an area legally defined by a municipality. Often, both types of neighborhoods are quite large. The Ironbound itself is about four square miles in area.

People living in the Ironbound are more likely to know someone living on the same block or a block over than someone living a mile away. While both a person on the same block and the person a mile away are in the Ironbound, they are not part of the same social unit.

Kevin Lynch defines a true neighborhood as a smaller area with a cohesive social structure. People in this area are likely to know each other, interact on a regular basis, and have similar concerns and issues when it comes to where they live. A true

neighborhood can be as small as several blocks. Lynch finds this area to be the most important when working with urban form (Lynch, *A Theory of Good City Form*).

With this definition in mind I faced the challenge of trying to discern the deeper social patterns occurring in the Ironbound. I needed to determine where these smaller neighborhood units could be centered, and where the boundaries separating them should be. From my observations of the neighborhood I knew that schools and churches were important places that are often busy. They are also centrally located on the smaller neighborhood streets, instead of the larger auto-oriented streets. Statistically, the Ironbound has a high number of school-age children who walk to school. In my observations, I saw the children were usually walking with at least one caretaker, and often both parents. Schools are important social centers well-positioned to be centers of the smaller true neighborhoods.

Churches are also important in this highly religious community. As detailed in an earlier section, they are not just places of worship, but cultural and community centers that can even be organizing centers for environmental action. Churches make up another set of potential community centers.

Using all the information and observations available to me from this project, I began to decide where the true neighborhoods would be. I first chose centers, which were the local nodes I had observed in the neighborhood. These were mainly schools, with one exception. Schools are very important to the social function of the neighborhood, constantly busy, and visited by many community members several times a day. The one



true neighborhood that is centered around a church is centered there because the school is positioned on the outside of that neighborhood, while the church is situated centrally, and has ample underutilized spaces nearby.

The edges of these true neighborhoods were determined by observed patterns of pedestrian street usage, physical boundaries, and the potential for a street to demarcate a change in neighborhood. Busy or commercial streets were used where appropriate because they can also act as a gateway and can demarcate a change in neighborhood. Parks also served as potential boundaries. They serve the entire Ironbound, and easily mark a change in neighborhood. (Figure 66: Existing Conditions at 226 Adams Street, Figure 67: Proposed protected bike lane and pedestrian crossing)

While edges and centers are important to defining true neighborhoods, my goal was to create streets that helped these neighborhoods to become better connected. This can be done by creating networks of streets within each true neighborhood that are visibly different from the other neighborhoods and by creating space that is focused on community use. Additionally, select underutilized sites in these areas will be used to create spaces that are specifically tailored to each community's needs. These needs would need to be determined through conversations with the community. Some of these sites, especially the sites closest to the neighborhood centers, can also become flexible spaces. These spaces will not be programed, but instead designed to allow a variety of uses to occur depending on the needs of the community at that moment. These spaces could be used for festivals, sports games, picnicking, and dog walking all in the same

week. The goal is that these spaces are designed to be useable open space for whatever the neighborhood needs.

The true neighborhood networks would be physically defined through color and street trees. Each proposed neighborhood has a different kind of street tree that defines it. Additionally, site furnishings in these neighborhoods would be a color representative of that neighborhood's tree and identify the neighborhood year-round.

Not every street in each true neighborhood needs this treatment. I created two rankings of streets to use to define the neighborhoods. Primary neighborhood streets would be totally pedestrian and community focused. Car traffic would still be allowed, but it would be secondary. There will be no curb, and all traffic should proceed at walking pace. The street will be designed to keep cars moving at a slow pace, and to allow pedestrians free use of the entire street. These streets are designed to be used like yards. They are spaces for play and socialization. The intention is to create a social space that allows neighbors to better connect with each other and enjoy living in their neighborhood. (Figure 72)

The secondary neighborhood streets are still focused on supporting the neighborhood experience, but in a subtler way. They still have the trees and the colored site furnishings. While they are focused on providing a good pedestrian experience and community space, they function more like typical streets and allow auto traffic to pass normally. The streets I selected for these are streets that provide a cross connection between the primary community streets, creating the link that brings these true neighborhood streets together into one system.

Figure 66: Existing Conditions at 226 Adams Street



Figure 67: Proposed protected bike lane and pedestrian crossing

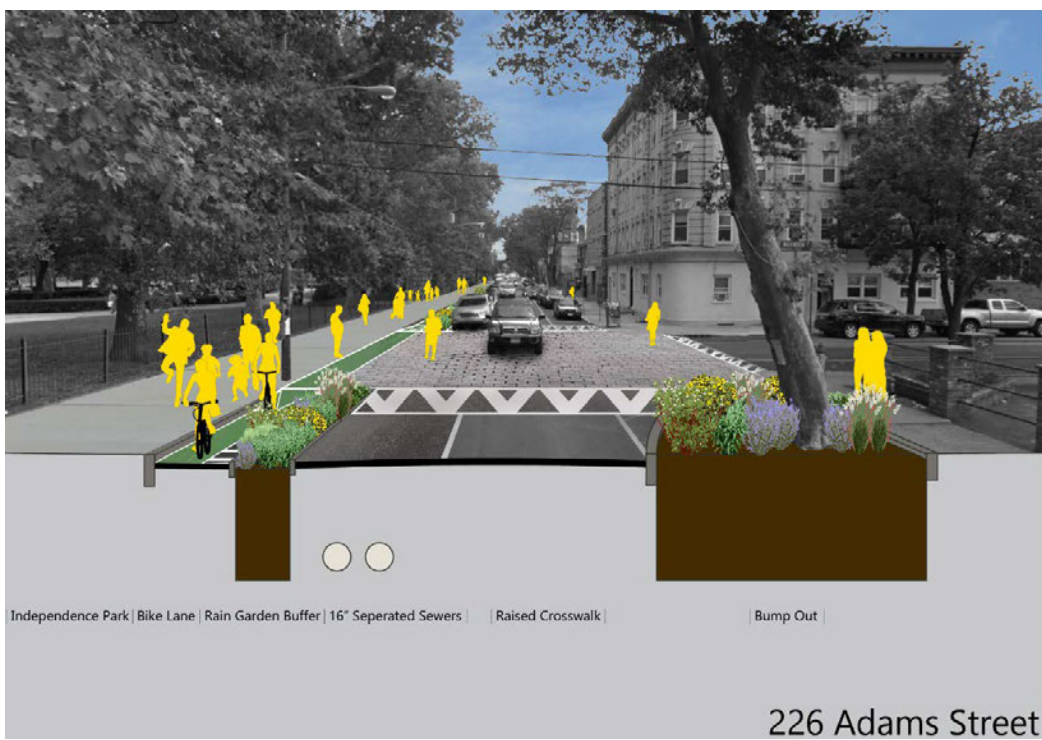


Figure 68: Tree Neighborhoods



## The Ironbound's Neighborhoods

### Peach

The Peach neighborhood is in the northwest part of the Ironbound. It is the area where I observed the most peach trees already growing and the area that will have the most urban agriculture. This neighborhood is centered around Lafayette Street Elementary School and its most important street is Lafayette Street. Ferry Street is in this area, but its focus is food and shopping, in contrast to the neighborhood streets which focus on community. The edges of this neighborhood are Elm Street, Ferry Street East of Wilson, Filmore Street, Riverfront Park in the north and the railroad embankment in the west. McWhorter, Union, Prospect, Adams, Ferguson, and Somme Streets make up the secondary neighborhood streets. These streets will create connections through the

neighborhood, linking with Lafayette Street, Ferry Street, and the urban agriculture corridor.

*Figure 69: Peach*



## Red Maple

South of the Peach Neighborhood is the Red Maple Neighborhood. This neighborhood is centered around South Street School. The primary neighborhood streets are Chestnut Street, East Kinney Street, and New York Avenue. The secondary streets are McWhorter from Ferry to its terminus on Johnson Street, and Hermon and Dawson to South Street. The edges of this neighborhood are Lafayette Street to the north, Independence park and Adams Street to the east, the rail road embankment to the west, and South Street on the southern end.



While in this part of the Ironbound, I noticed that there were several red maples already planted here and doing nicely. Expanding the success of this tree to define this space as a neighborhood and adding red site furnishings is a great way to define this neighborhood.

*Figure 70: Red Maple*

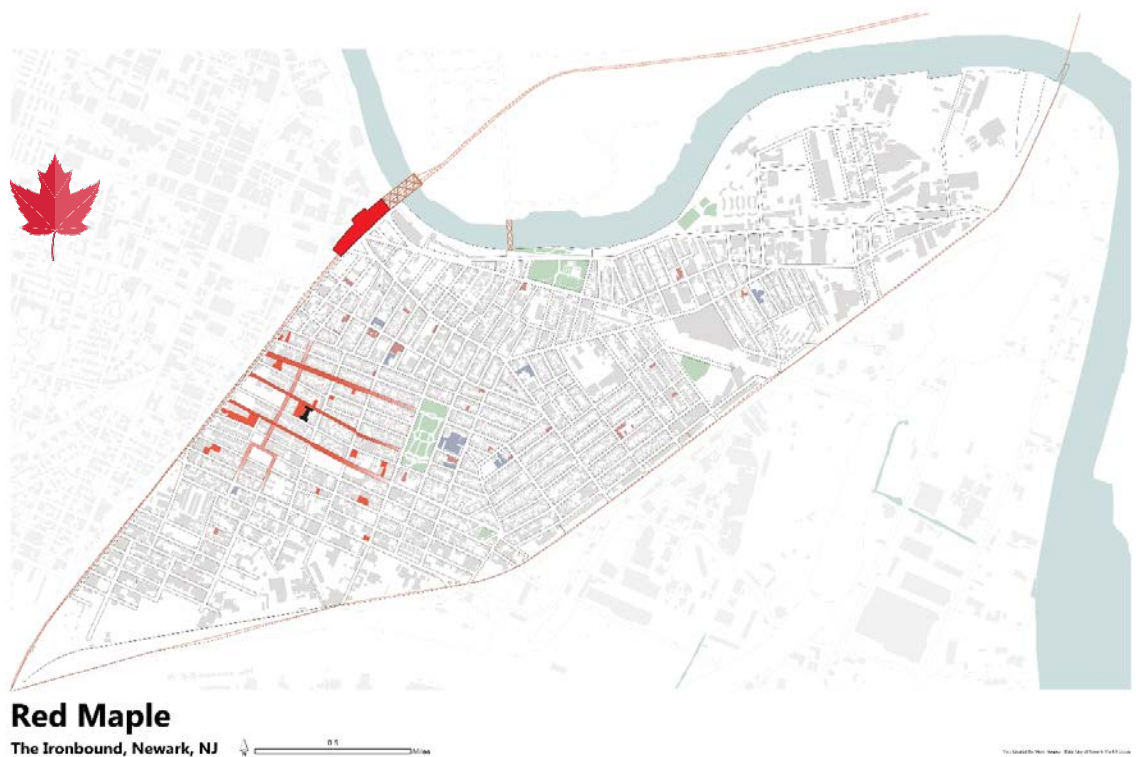
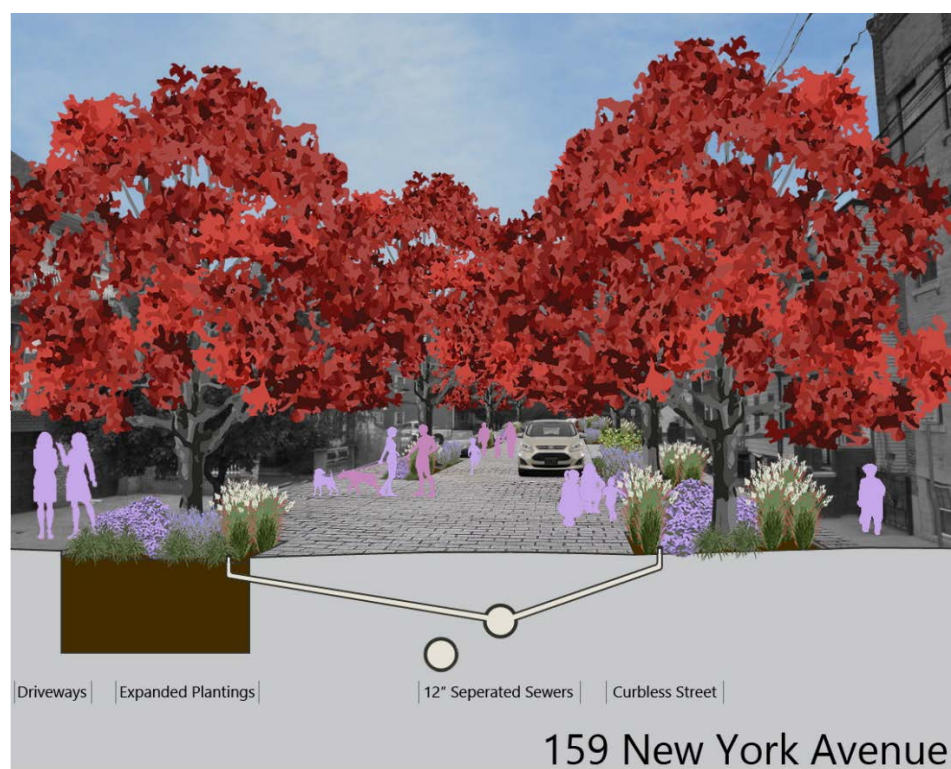


Figure 71: Existing Conditions at 159 New York Ave



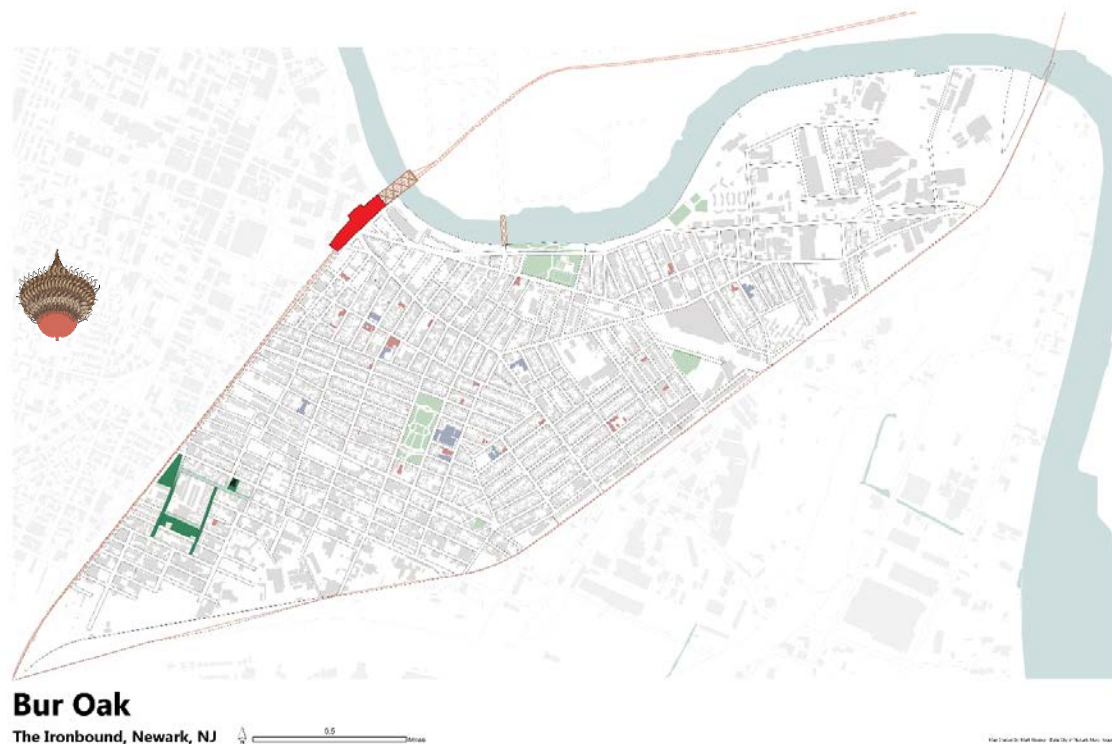
Figure 72: Proposed primary neighborhood street



## Bur Oak

This small residential area is bounded by the railroad on one side, South street to the north, and industrial areas on the other sides. It is centered around the South Street Academy, and the primary streets are Mulberry and Goble streets, the most residential streets in this area. Thomas and Murray connect these two streets with the rest of the residential part of this area. This neighborhood lies in one of the Ironbound's industrial areas, so a tough tree that thrives in compacted urban soils seemed ideal. The bur oak is that tree and will be able to define this neighborhood.

*Figure 73: Bur Oak*



## Flowering Cherry

This neighborhood is centered around the East Side High School and the nearby Ann Street School. It is bounded by South Street, Wilson Street, Lafayette Street,

Independence park, and Adams Street. New York Avenue, East Kinney Street, Chestnut Street and Garrison Street form the primary neighborhood streets. The secondary streets are Pulaski Street, Delancy Street, Oliver Street east of Pulaski, Napoleon Street, and Lang Street. The flowering cherry is a beautiful tree that never fails to stand out in a neighborhood. This neighborhood's irregular street pattern, high density, and close connection made it the perfect place to use a stand out tree.

*Figure 74: Flowering Cherry*

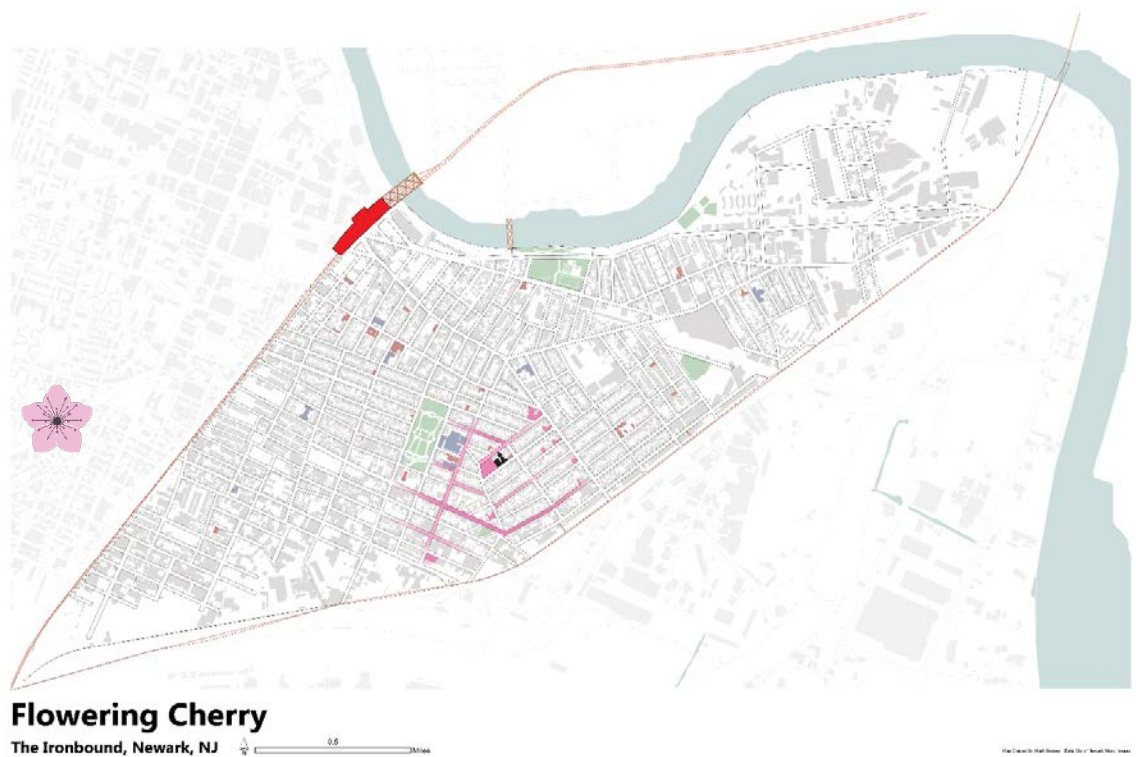




Figure 75: Existing Conditions at 68 Pulaski Street



Figure 76: Proposed secondary community street and community park



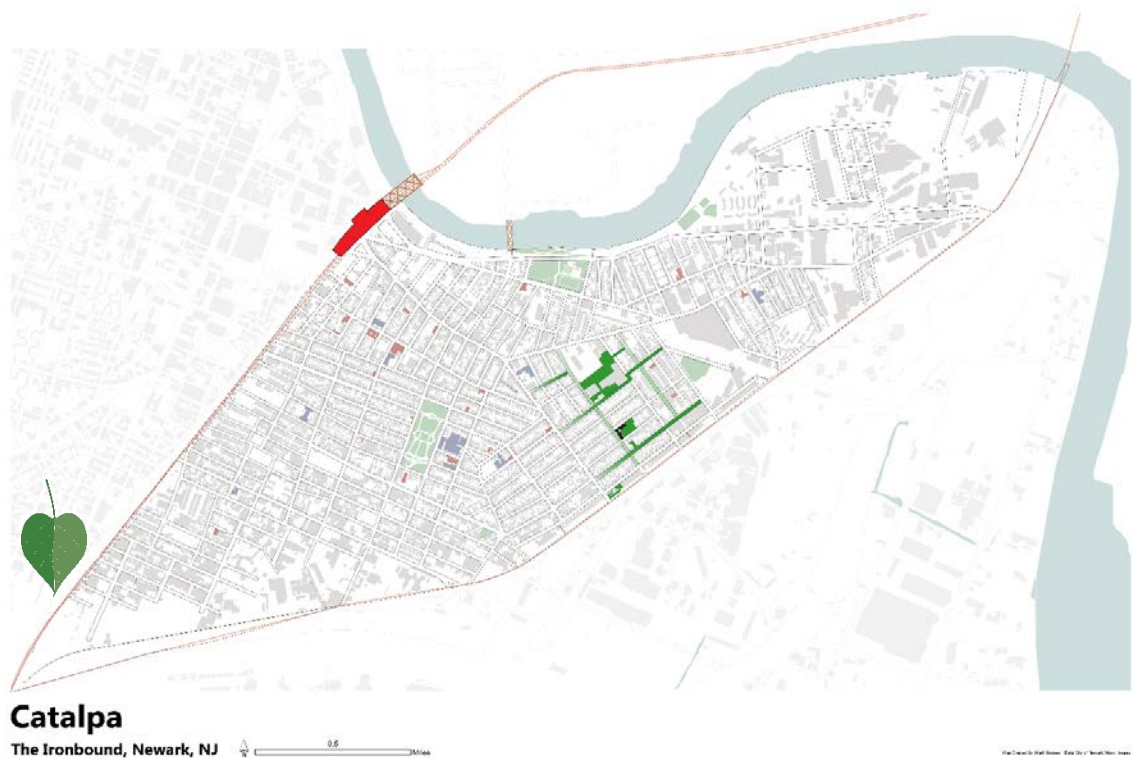
## Catalpa

This neighborhood is the area south of Ferry, east of Wilson, continuing to the Ironbound Recreation Center and the southern edge of the Ironbound. While it is one of



the most densely developed parts of the Ironbound, it also has a large shopping center parking lot, and several other parking lots throughout the neighborhood that could become public space. The primary neighborhood streets here are Darcy, Kossuth, and Patterson, with Patterson extending through the proposed new park space in what is now an empty parking lot. This will create a corridor through this space and change a division in the neighborhood into a connection. Niagara and Magazine Streets will act as the secondary streets, connecting to the primary neighborhood streets. Catalpas are beautiful, interesting, native trees that do well in urban areas. Their distinctive shape, broad leaves, white flowers and bean pod fruit all make them good for differentiating a neighborhood.

*Figure 77: Catalpa*



## Tulip Poplar

The easternmost neighborhood is the last neighborhood. It is bordered by the Passaic River and by the Ironbound's northeastern industrial area. Its eastern edge is defined by Filmore Street, Market Street, and the Ironbound Recreation Center. It is centered around the Hawkins Street Elementary School. The primary streets are Lexington Street, Brill Street, and a loop consisting of Chapel, Lentz, Vincent, traveling through a new park connection, through Hayes Park, and reconnecting via Raymond Boulevard. The secondary streets are Cortland, Ferry from Christie to Lentz, Fleming, and Freeman.

This neighborhood borders the most contaminated part of the Ironbound. It is also physically isolated from the rest of the neighborhoods. My plan addresses those issues by focusing on linking the residential areas here back with the other neighborhoods. I want to create movement away from the contaminated areas and connections with the rest of the Ironbound.

Tulip poplars are large, beautiful trees with subtle flowers. I chose these for this neighborhood because of its separation from the rest of the Ironbound. These big trees create a visual link to this neighborhood, even from a distance. They also have the presence to transform conditions on the street. The deep shade cast by their tall canopies can change these streets into a place that is an enjoyable place to be.

Figure 78: Tulip Poplar



### The Neighborhood System

Together, these six neighborhoods will create greater identity, legibility, and community unity in the Ironbound. They focus on supporting the existing social structure of the neighborhoods and enhancing the experience of being in that neighborhood. This design will transform streets from a utilitarian form that is simply for transportation to a place that is supportive of a vibrant, active, and connected community. (Figure 79)

Figure 79: Tree Neighborhood: Streets and Sites



Figure 80: Local nodes as neighborhood centers

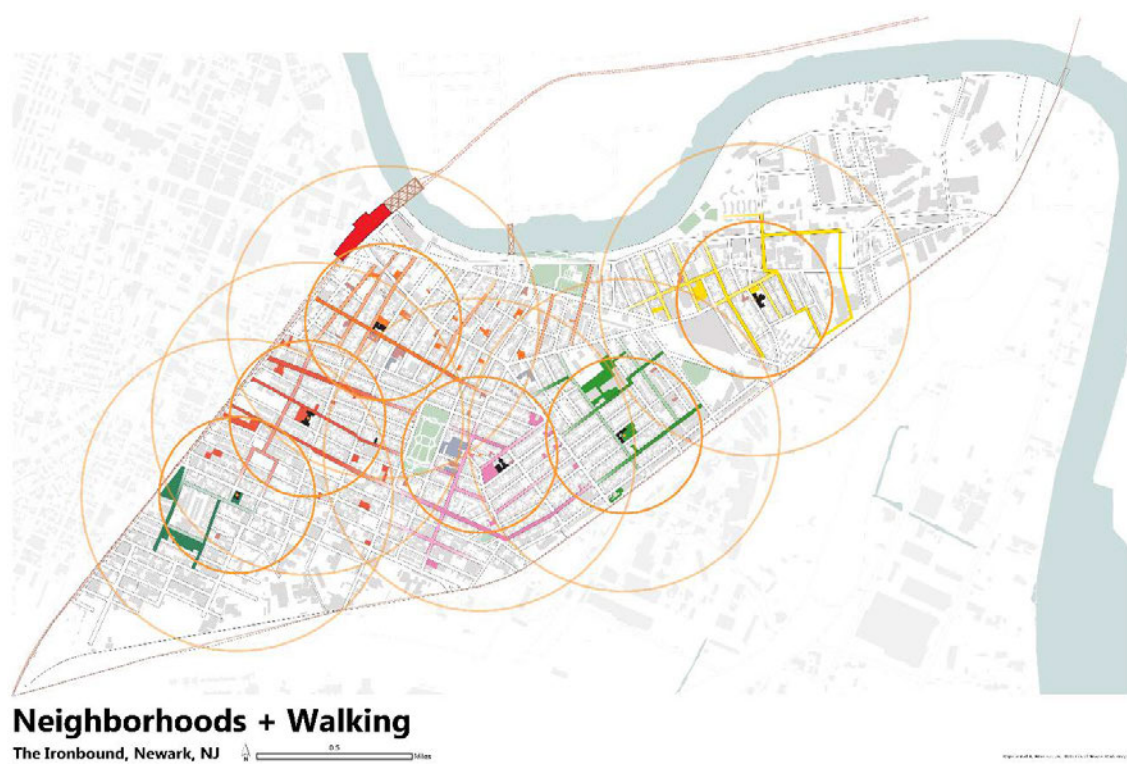
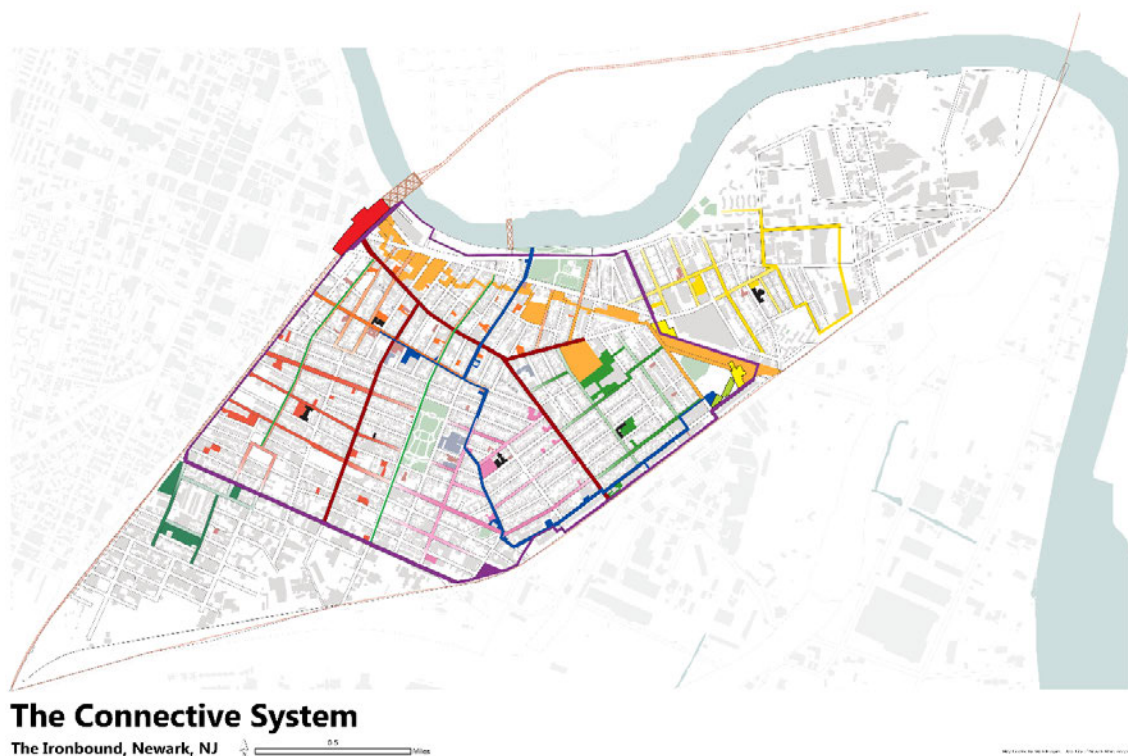




Figure 81: The Connective System



### Proposed Additions to Existing Park System

The final piece of this design is to add additional parkland at key locations to both increase the amount of park space and to complete the connections created by these design interventions. The first location is near Newark Penn Station, directly behind the New Jersey Transit and BlueCross office tower. Here a surface parking lot sits on one of the most beautiful river views in the neighborhood, with views of the train bridge reflecting in the water and views into Newark's downtown. When the park along the river to the east is completed, this additional link will complete the Ironbound's riverfront park system linking it to both the train station and back into the neighborhood.



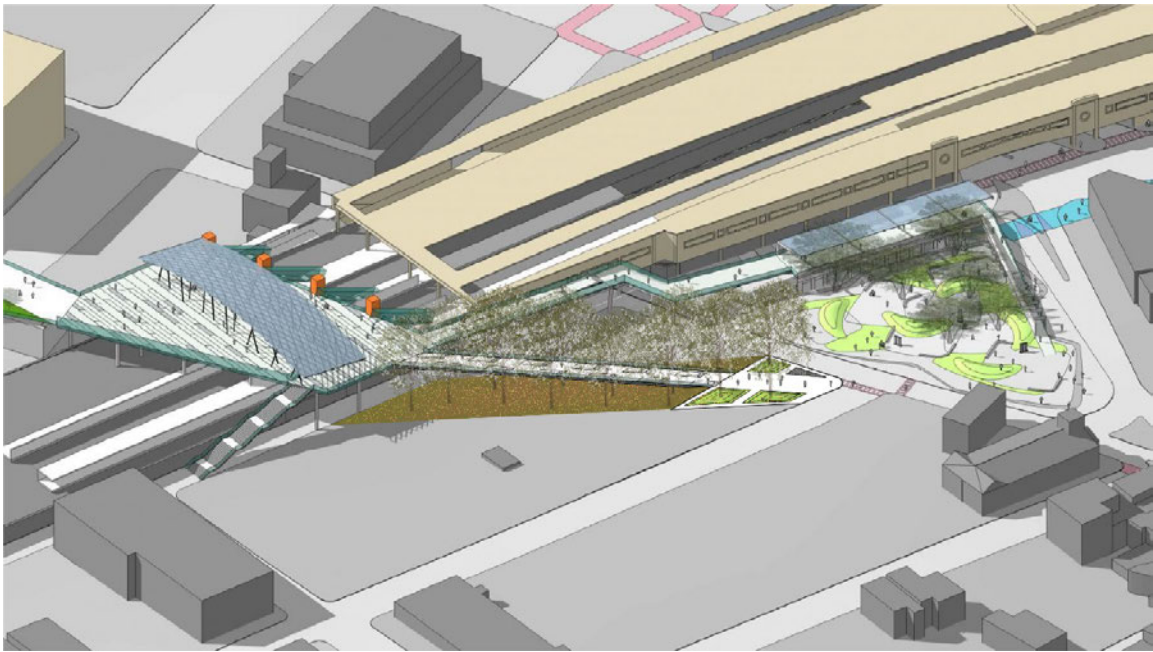
The second addition, moving counter clockwise, is a park that responds to a park designed by Supermass Studio called Mulberry Commons, which is now under construction. This proposed park creates an open plaza in what is now surface parking across from the Prudential center. The parking lot ramps up and passes over the railroad and into the Ironbound. In the design by Supermass, the raised structure returns to the ground in the Ironbound by a set of stairs that hugs the train station (Newark Downtown District). My proposed design ramps the overpass back down into the Ironbound, using the surface parking lots here as a place for the ramp to land and better to connect this overpass to Ferry Street and the rest of the Ironbound.

*Figure 82: Mulberry Commons as proposed by Supermass Studio*



(Supermass Studio)

*Figure 83: Mulberry Commons with author's proposed enhanced link to the Ironbound*



My next proposed expansion is a large commercial lot in the southern part of the Ironbound, at the intersection of Adams and South Street. This large property will add parkland to a section of the neighborhood that has none. It is large enough to also allow the addition of more active recreation space and sports fields, and to be an important park to the entire Ironbound.

The fourth expansion is on the east end of the neighborhood. It uses what is now commercial surface parking and storage to create park space that connects the isolated blocks near Hayes Park with the rest of the neighborhood. The addition of this space will allow this section of Raymond Boulevard to be a community connection as well as carry the heavy amount of traffic that it currently does.

The final expansion is along the riverfront. Adjacent to Riverfront Park is a parcel of unused and unmaintained land. It would be an excellent addition to the already existing

park that borders it. Being on the waterfront, it has the potential to finish off the waterfront park system nicely and provide additional park space for the neighborhood.

All these proposed park expansions serve to complete and complement the connective system that I have proposed. They add additional park space that can serve the entire Ironbound and even the larger city. They transform the neighborhood from one where park space is rare to one where it is common. These park expansions, together with the connective system, create a design that will enhance the life and vibrancy in the Ironbound. (Figure 84, Figure 85, Figure 86)

*Figure 84: Existing Parks*

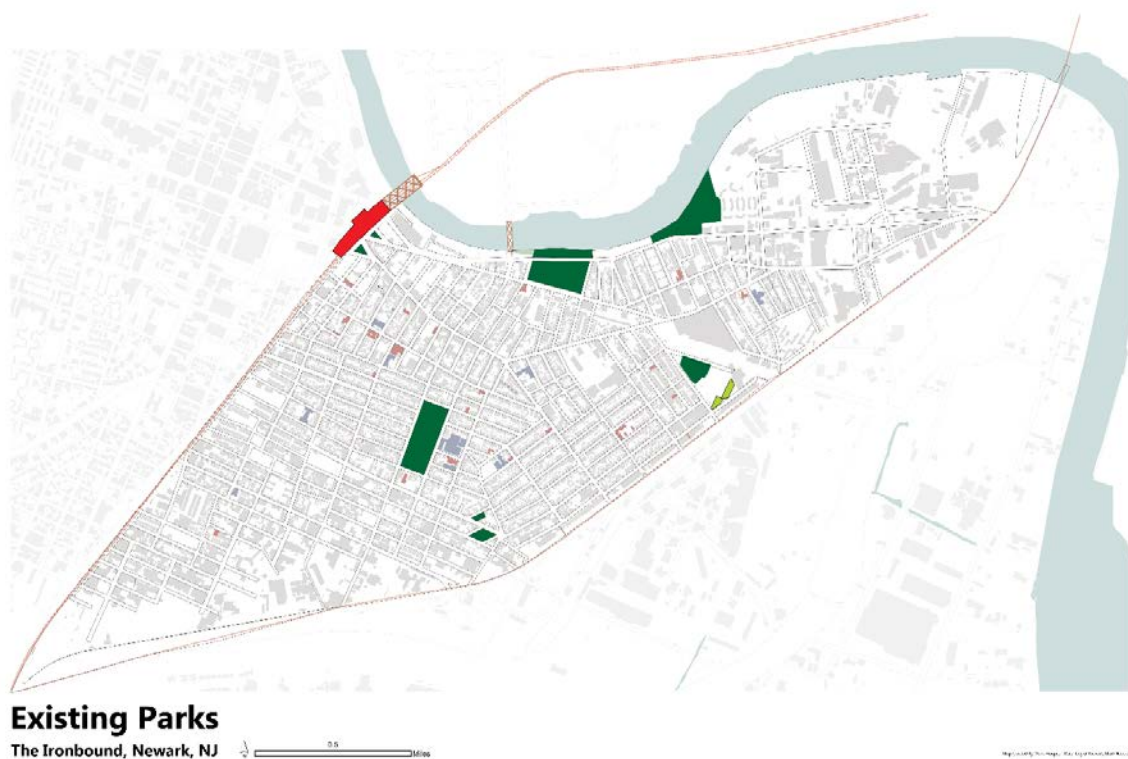


Figure 85: Parks Under Construction

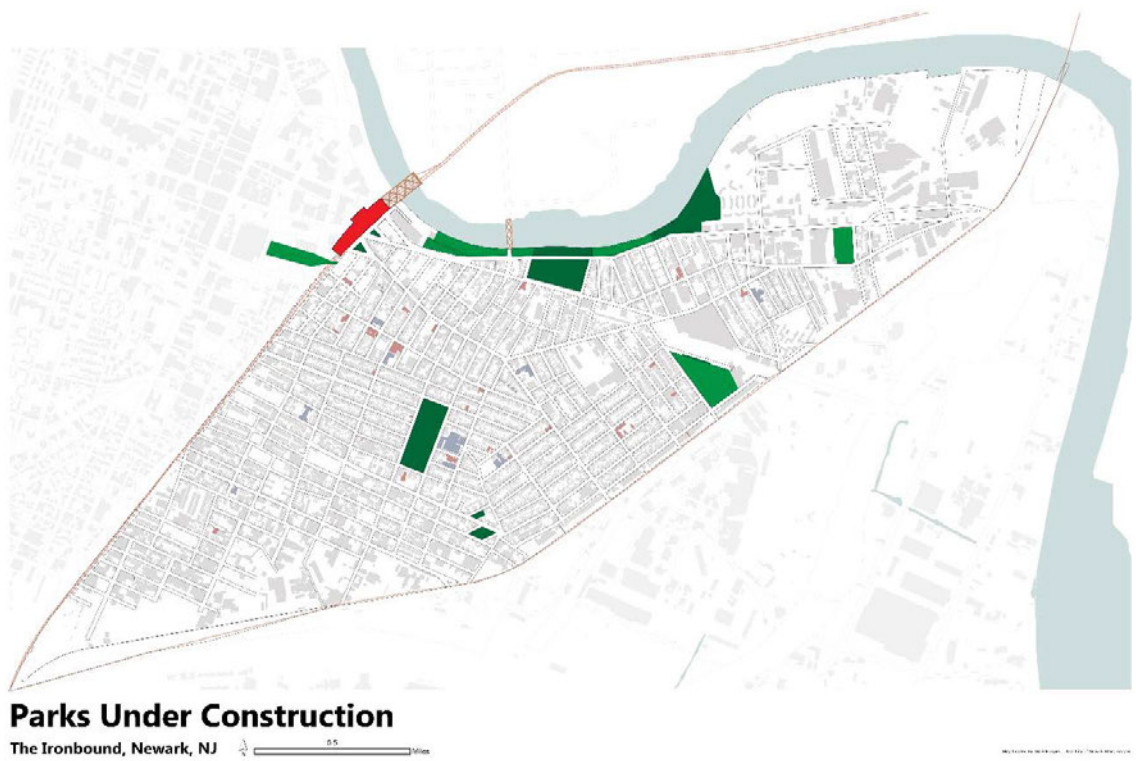


Figure 86: Author's proposed additions to the existing park system

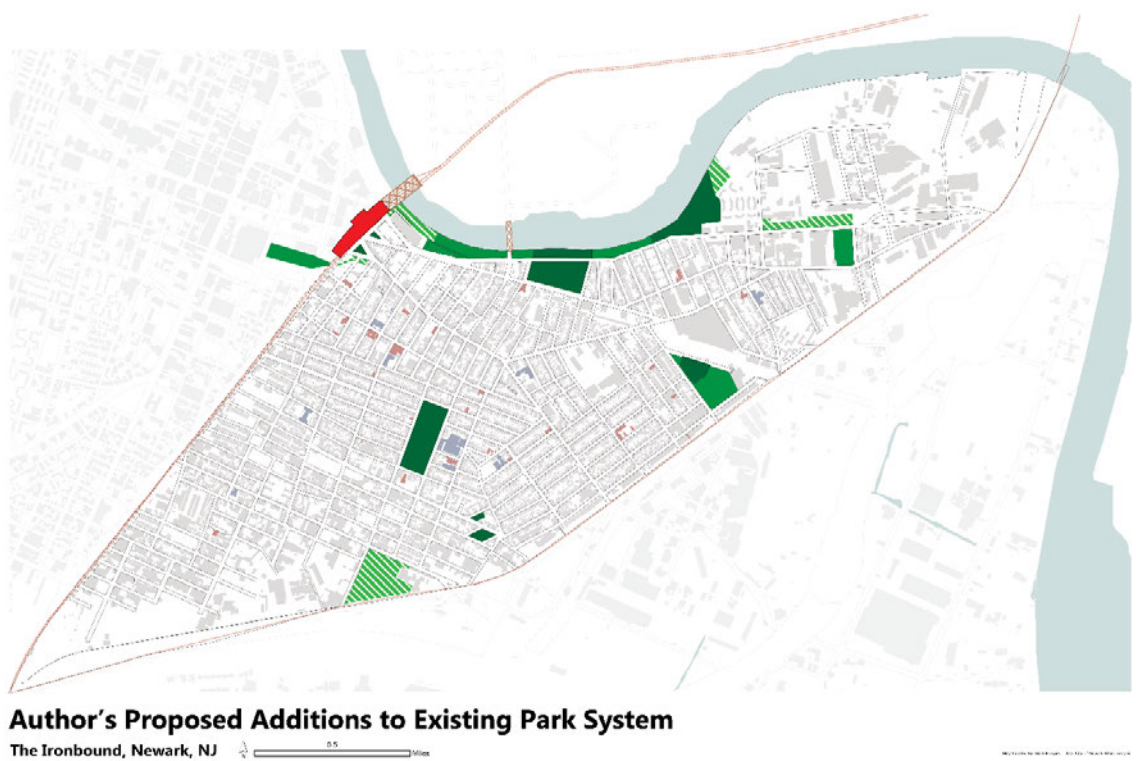




Figure 87: Complete Connectivity

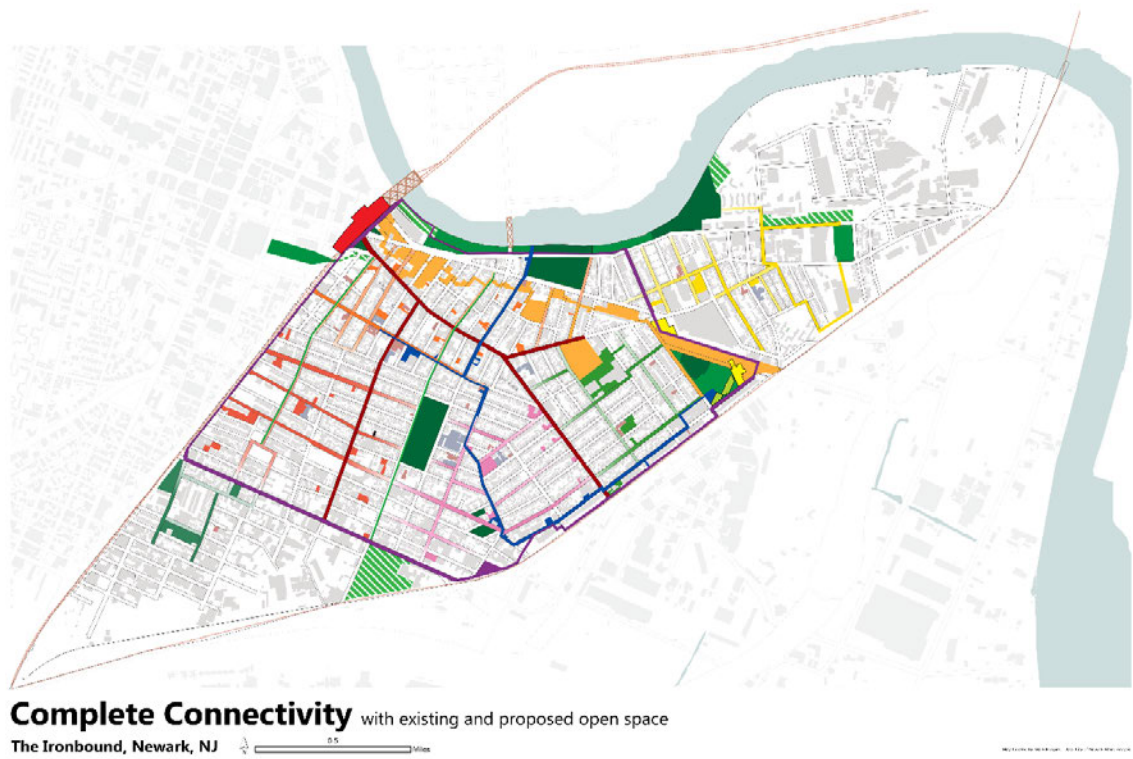


Figure 88: Complete Connectivity with walking distances

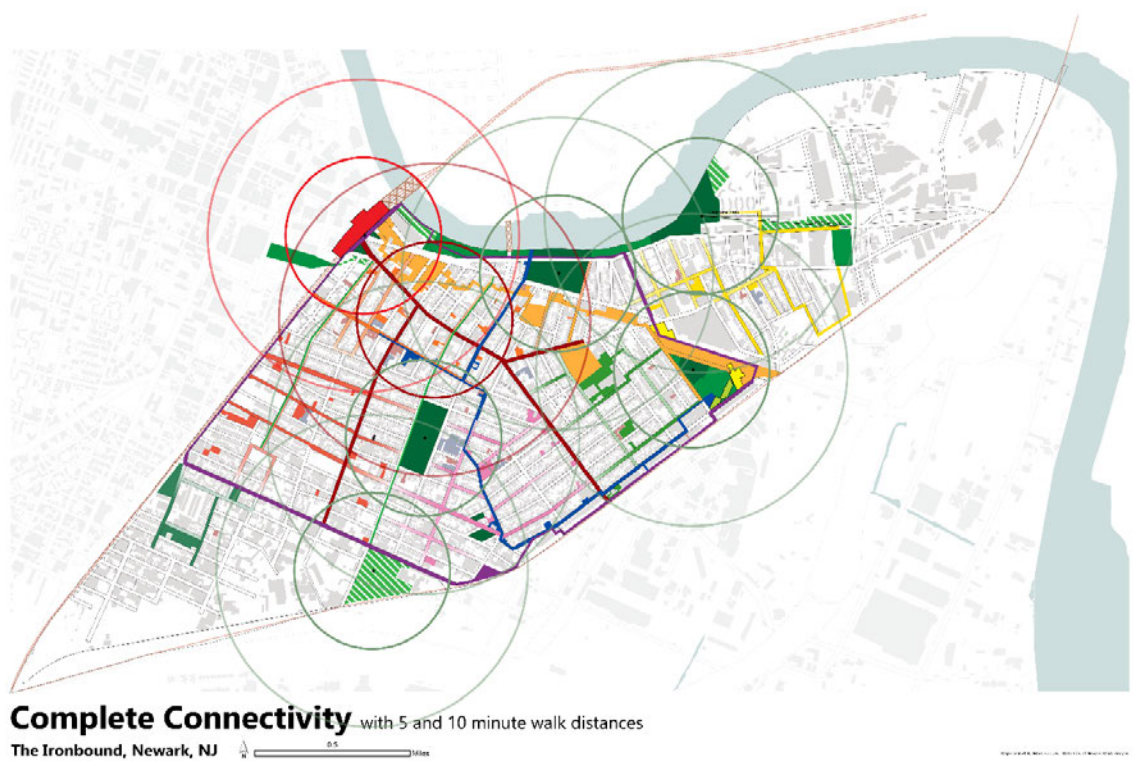
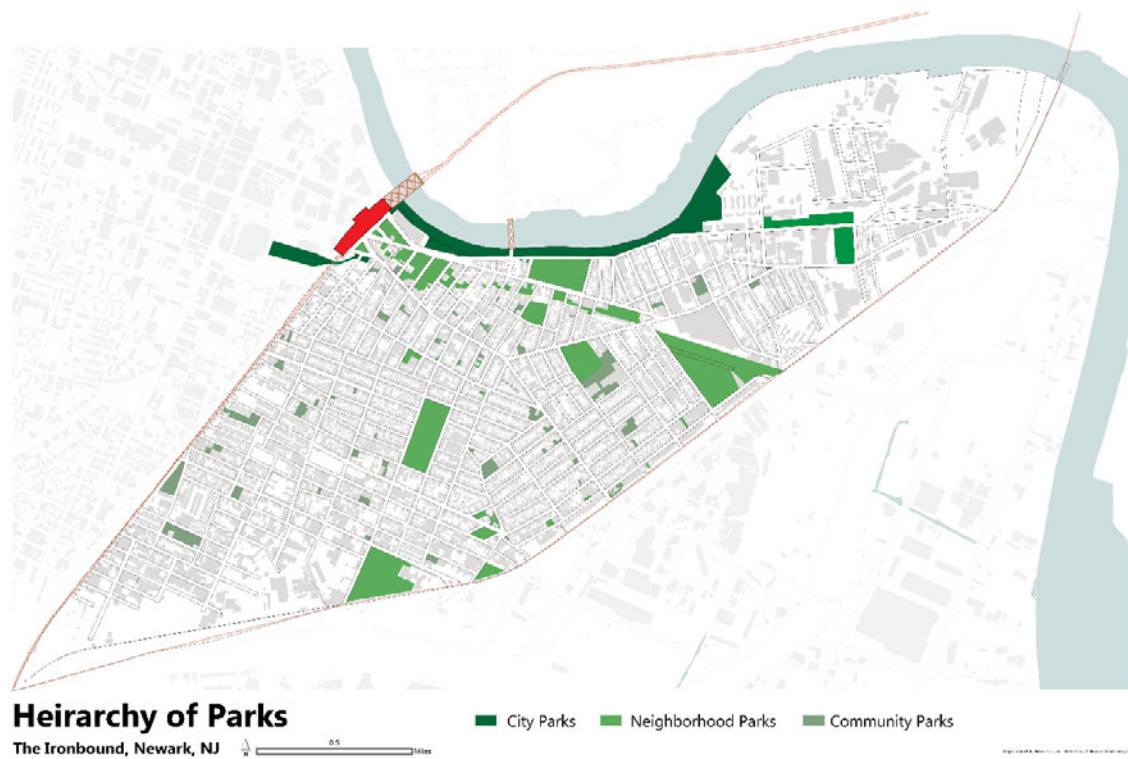




Figure 89: City, neighborhood, and community parks



## Conclusion

This design is not intended as a tabula rasa intervention that changes the nature of the Ironbound, but rather is seen as a means to enhance its already distinctive character. The Ironbound is a neighborhood with a vibrant and active culture, set amongst streets that are designed for the efficient movement of motor vehicles. This disconnect between the social and physical environment begs for a change.

The most obvious method of learning what needs to change would have been to engage with the community. People living in a neighborhood have extensive first-hand knowledge that is an invaluable source of information. However, engaging with the community members also takes a significant amount of time. While this approach would

have been the most direct way to learn about the neighborhood, I had to be realistic about the amount of time I had to complete the project and about my research goals. My goal was to develop a design proposal that would enhance and support the already vibrant experience of the Ironbound. While adding community outreach would have given a richer understanding of the neighborhood, it would have also precluded the development of a robust design.

Instead, I used site analysis and historical information to drive my design ideas. This gave me the ability to focus more on the physical neighborhood and the movement patterns of people. It also allowed me to look at the neighborhood with the intent of finding its potential, in addition to observing existing conditions. Often, daily users of a space have difficulty imagining it changing. Instead, I formed my impressions of the Ironbound while attempting to find potential for improvement. Finally, this approach allowed me to develop my design concepts for this urban space. My design breaks from preconceptions of what streets and parks are and expresses how they can become a connective system of urban spaces. Using analysis and history as a starting point allowed me to emphasize my design development in later stages.

This approach does have disadvantages. Most notably, I only know what I saw. A site could have been deserted every time that I observed it, yet still be very well used during times that I was not in the neighborhood. Additionally, I am unaware of how the community perceives their space. I generally assumed that crowded places are positive, and empty ones are negative or simply out of the way. While my evaluation of neighborhood spaces was based largely on usage patterns, this does not mean that they

are correct. A well-used space could be one that also needs to be improved. Additionally, in my design I make decisions about where certain elements of the neighborhood are. I decided which streets are important commercial streets, where community centers are, where the boundaries between these communities are and which streets are important. These decisions could be wrong. Were this project to be presented to the public, I would expect that they would point out my mistakes. The larger purpose of this project is to explore how the urban landscape can be redesigned to improve the experience of people living in the neighborhood. While certain locations or site treatments may be wrong, the strategy of using streets and sites to create themed networks and making places for people and plants throughout those networks will still hold true.

Through the process of exploring the Ironbound and creating its networks, I discovered that designing in neighborhoods is exceedingly complex. Creating a design that responded to all the information that I collected was a difficult task. The proposed networks needed to be continuously tested against conditions on the ground and revised accordingly. Simply getting the proposed networks to the point where they worked with my observations was a trying task. I also learned that streets are the most important element in an urban design. While parks provide for recreation and other activities, streets bind these spaces and everything else in the neighborhood together. They also define the experience of a neighborhood, since movement between different places entails using them.

Not only did the task of creating this design teach me about urbanity's complexity, it also raised some interesting questions. In a dense urban neighborhood like the Ironbound,

space is at a premium. I defined underutilized spaces as any open space that is not a park, and this broad definition was good for creating an inventory. However, it is almost certain to include unbuilt lots that are still very well used. I would like to gain a deeper understanding of how “underused sites” can be defined or measured. This insight could give a clearer picture of where opportunities for design intervention exist in a city. I am also interested in learning how streets can be designed to be effective as spaces for people. The nature of streets is linear, and they are characterized by movement. While my designs propose creating spaces for people on the street, I believe that this idea deserves more development to truly create spaces in the streets.

Furthermore, I am interested in looking at street designs not only from the street section, but also from the “front door view.” If streets are to be designed more for people, then efficient movement of vehicles in a straight line becomes less necessary. Finding a way to effectively design a street that is oriented to its sides instead of its center would be an interesting way to focus the streetscape on the residents.

I would also like to explore in more detail how a space can be a connective space at the site scale. While I have broad concepts that the space must encourage socialization and have interesting plantings, I would like to explore these ideas on the site scale. How can a space’s design encourage strangers to interact? What kind of plantings would be interesting enough to grab people’s attention and encourage them to care about the garden. I would like to further develop strategies for creating connective spaces.

As it stands, my design explores how the Ironbound could look if its design reflected its culture. Streets would be for people, more beautiful, more active, and have more trees and plantings. Neighborhoods would be more interconnected. Fruit would grow in public space on trees, vines, and bushes. Walking through the Ironbound, a resident would pass through community streets that are for people more than cars, streets full of dining and shopping, seeing water running playfully down a street and into a rain garden, and parks that are still full of activity.

This is not entirely different from how the neighborhood is now. The main difference is the physical neighborhood would fully support the vibrancy of activity that occurs in the Ironbound every day. It would enhance people's ability to connect with each other and the activity in their neighborhood. This design creates a complete connective system that would truly enhance the amazing neighborhood that is the Ironbound. (Figure 87)

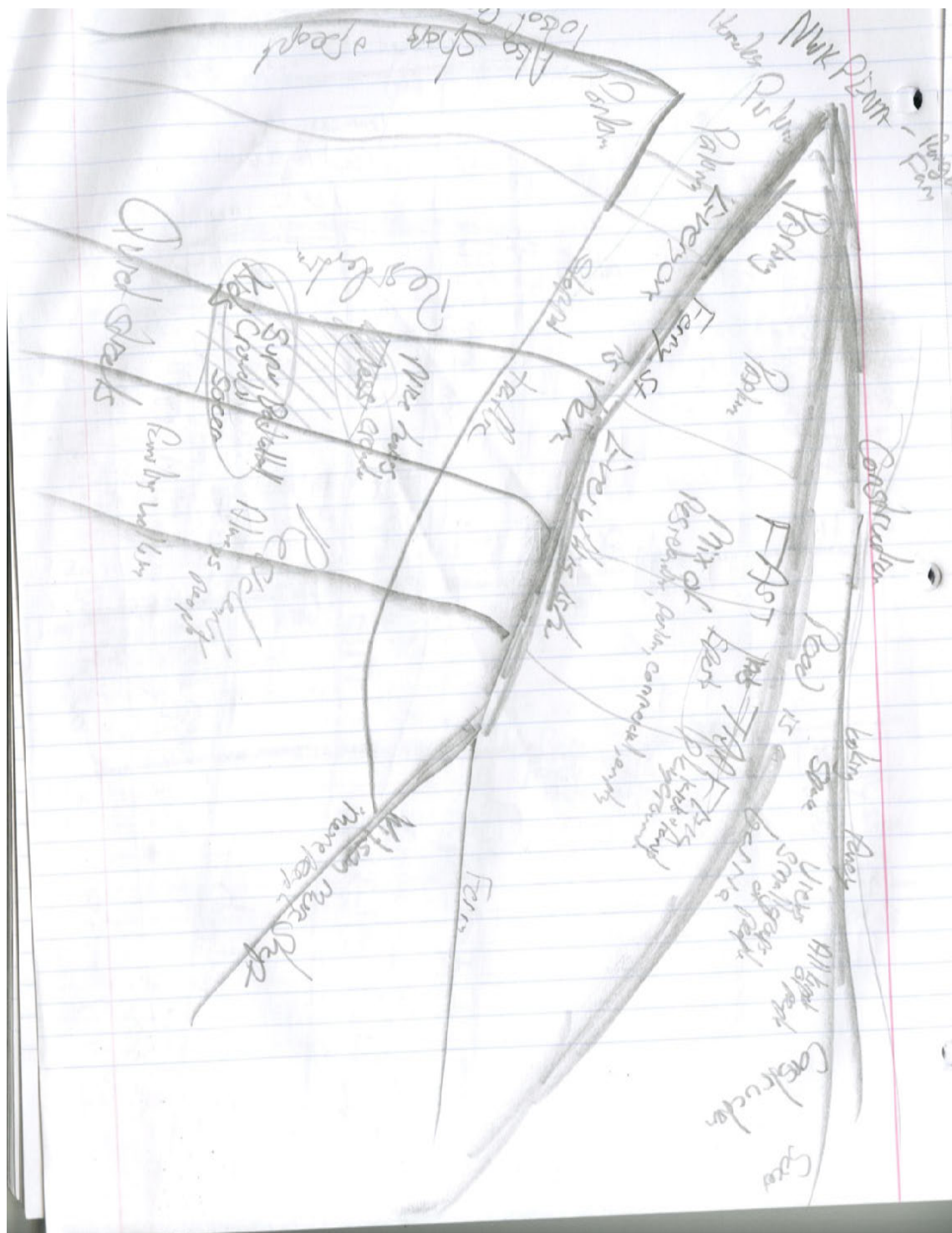
*Figure 90: People in the Ironbound*



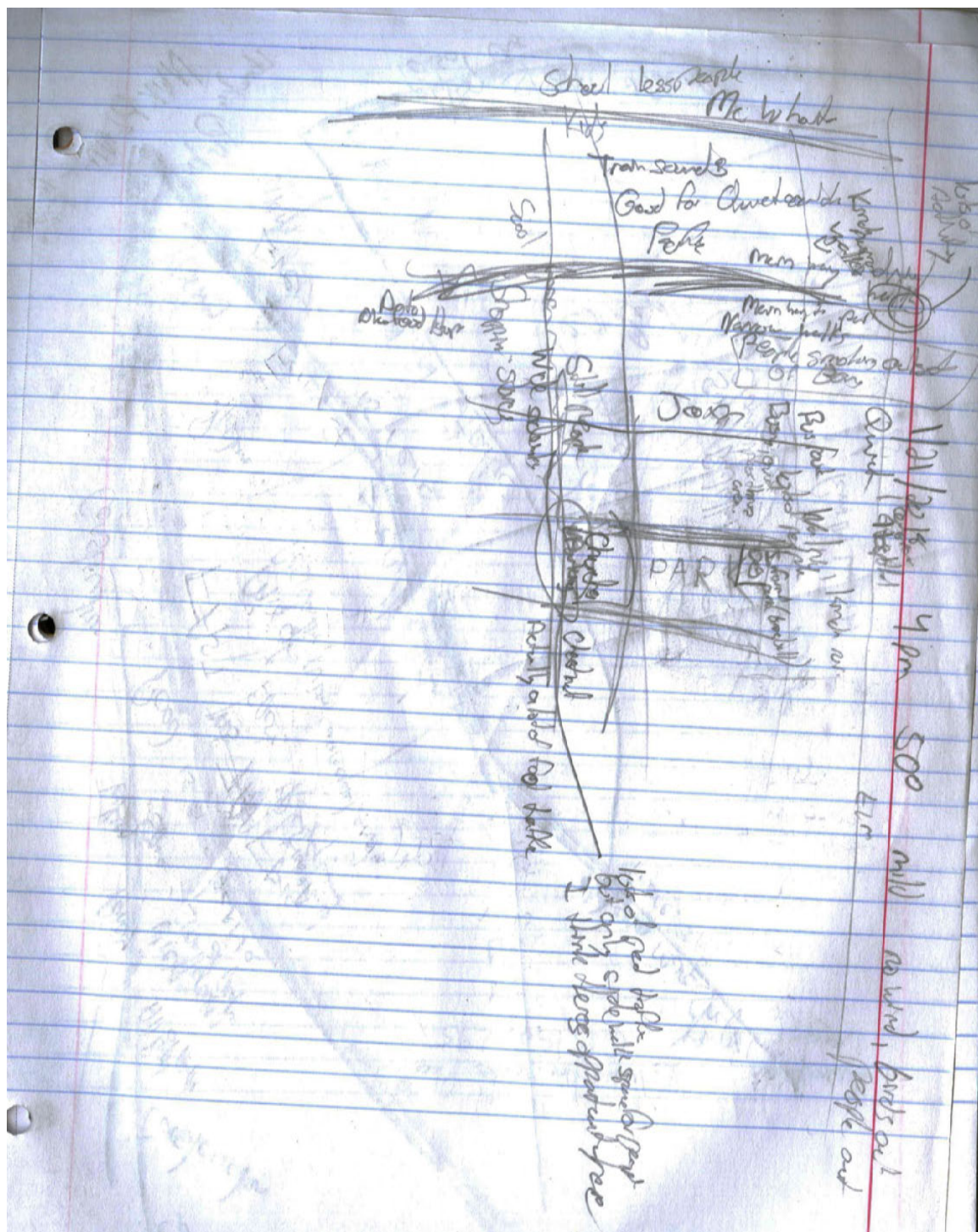
(Williams)

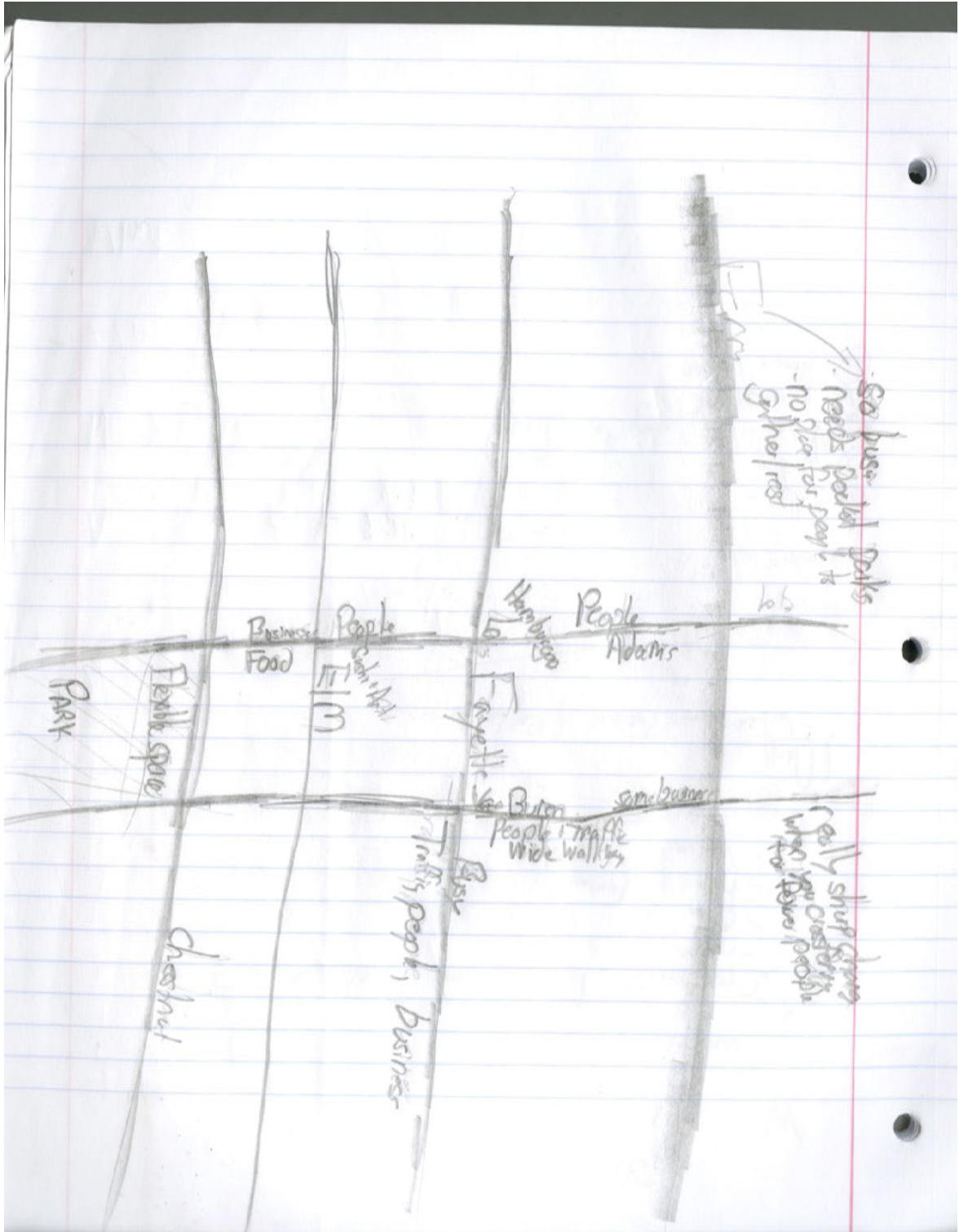










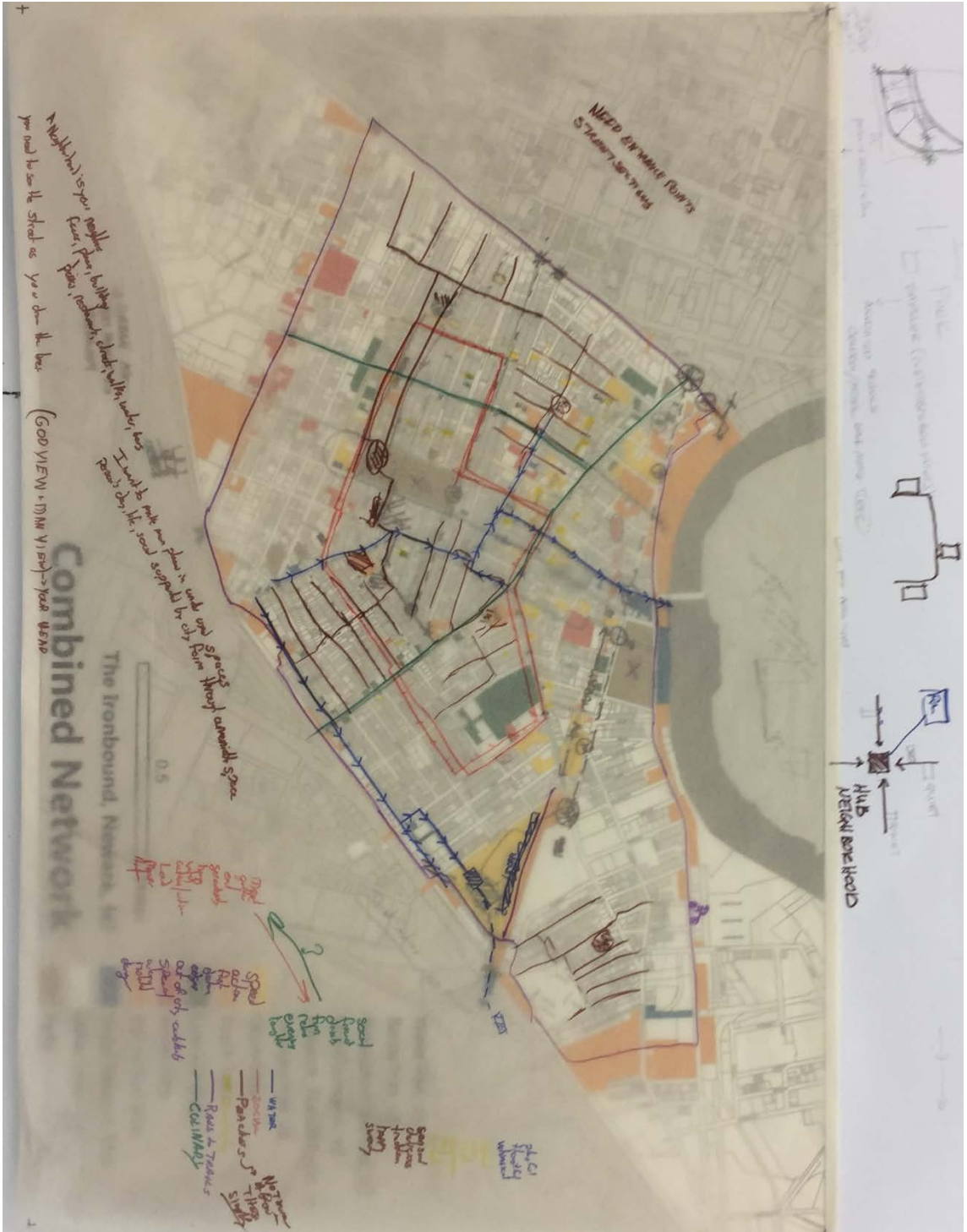












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