



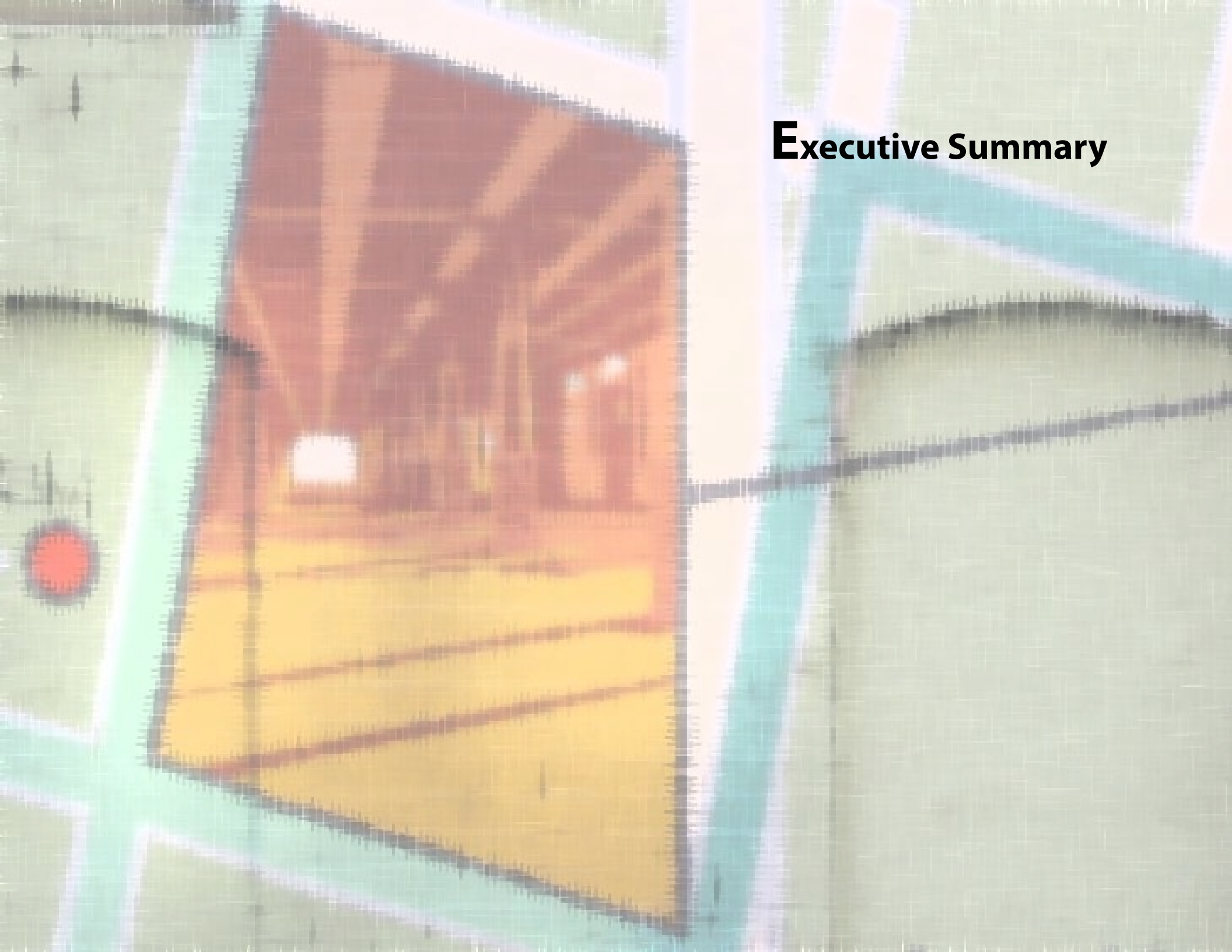
# **Girard Avenue Transit Oriented Development**

for Northern Liberties Neighbor's Association

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The background is an abstract composition of various geometric shapes and colors. A large, tilted rectangle with a brown and orange plaid pattern is the central focus. To its right is a large, light green triangle. Below these, there are horizontal bands of light green and yellow. A prominent red circle with a black outline is located on the left side. The overall style is reminiscent of mid-20th-century abstract art.

# **Executive Summary**

## Executive Summary

A transit-oriented development for the Girard Station would provide a node in North Philadelphia for the neighborhoods of Northern Liberties, South Kensington and the adjacent community of Fishtown. Although Northern Liberties industrial past continue to play a major part in the neighborhoods urban design, the neighborhood has most recently become a residential neighborhood. The community continues to work on the urban design and has a neighborhood plan. This plan laid out several goals for Northern Liberties. These goals emphasize long-range planning for the area to create a sustainable neighborhood through urban design. The area has many natural assets with a historic creek, and access to the Schuylkill riverfront. The demographics in the area demonstrate that the community is becoming younger and more family-based. The market shows a dramatic rise in proposed residential homes, and the current land use contrasts greatly with the zoned restrictions.

In the proposed transit-oriented development combines the needs and goals of the neighborhood with the ideals of transit-oriented development. Parks and open space connect the study area to the waterfront, but also have a connected network within the development as well. A ridership campaign and streetscaping network will make the station more accessible to residents and pedestrians. New combination live and work spaces will enhance the community's already thriving residential and commercial life, and the Schmidt Brewery site offers an opportunity to create a large space that complies with transit-oriented development standards. The new plan for 2030 can be implemented in several phases. These phases will allow the community to methodically shift Northern Liberties from the community is today from the community it can be in the future.



## **Purpose**

The University of Pennsylvania - School of Design, Department of City and Regional Planning provides its students with a first year workshop in order to get practical experience in the field or urban planning. The Girard Station was chosen for transit-oriented development because of its transit service, growing community and development capacity. Northern Liberties, and South Kensington, two neighborhoods that border the Girard Station are growing areas of the city of Philadelphia.

## Acknowledgements

Our client, the Northern Liberties Neighborhood Association, is dedicated to providing planned development with cohesive design to Northern Liberties. Our goal as a team was to channel these goals into the principles of transit-oriented development in order to create a livable neighborhood and community for the residents of Northern Liberties.

In completing this project, our team worked with several individuals and organizations that helped us retain information that informed our Plan 2030.

WRT Design	Richard Huffman
WRT Design	Kyle Gradinger
Philadelphia City Planning Commission	David Ortiz
NLNA President	Jeniffer Lewis
NLNA Board Member	Ira Upin
NLNA Board Member	Irene Lambrou
NLNA Board Member	Larry Freedman
NLNA Environmental Committee Chair	Hilary Regan
Interface Studio, Principal	Scott Page
Towers Investment, CEO	Bart Blatstein
SEPTA	Moreen Lichter
SEPTA	Steve D'Antonio
Philly Car Share	Clayton Lane
ERA Aarch Realty	Jin Gao

We have also worked in conjunction with members of another group of students from the University of Pennsylvania Urban Planning Program who are simultaneously designing a transit-oriented development for the Girard Station for a neighboring community, South Kensington. These group members include:

Sebastian Martin  
 Meghan Weir  
 James Young  
 David Yim  
 Michael Miller  
 Carolyn Johnson



*Georgia Petrich-WashingtonDC- Georgia-Petworth Station in Washington, DC has higher density development than Main Street in Brunswick, Maine.*



*Main Street Brunswick- Brunswick, Maine created a main street and town center for near their transit stop.*



*TOD Cohesive Design- Transit Oriented Development can enhance an area both physically and economically. They make neighborhoods into destinations.*

## What is Transit Oriented Development?

Transit-oriented development, known to many simply as TOD, is a pattern of development characterized by a mixture of uses near a transit station where streets have a high level of connectivity, and buildings and uses cater to the pedestrian. The purpose of transit-oriented development is to make the transit station accessible, walk-able and provide for a mixture of uses that facilitate transit ridership. A TOD can also make an area around the transit station accessible to others outside the community as well. (Victoria Transport Policy Institute)

There are several characteristics to a transit-oriented development. They include:

- Walk-able, tree-lined streets. The trees often serve to shade pedestrians to make streets more appealing to pedestrians.
- Buildings built up to the street. Buildings built up to the street make the entrances to residential and commercial developments easy.
- Buildings with frequent windows and doors. Doors and windows allow the pedestrian to have something to watch and look at while walking on the street.
- Diverse, complementary uses that encourage people to stroll, shop, meet, greet and eat. This can enhance the feeling of community and networks within the neighborhood.
- A variety of compact housing in an assortment of styles. A variety of housing can offer different living styles for all types of ages and families to be accommodated and have accessibility to public transit
- Strategic parking strategies (Reduced parking, shared parking, more land for development). In many transit-oriented developments pedestrians take precedent; yet it is often understood that cars are the primary mode of transportation for most Americans. With strategic parking strategies, transit-oriented development can accommodate most people in that intend on using the transit.

## Advantages

There are several benefits to transit-oriented development, which is why it has become a new staple in neighborhood planning.

- TODs provide improved accessibility to jobs;
- TODs create easier commutes for citizens who travel to other places outside their own neighborhood for work.
- TODs also provide improved foot traffic for retailers in the area since they are geared towards pedestrians.
- TODs can create a more cohesive plan for the community, and guide the community goals initiatives through encouraging or tapering development where needed.

## Examples

There are many different forms of transit-oriented development, because transit-oriented development often shapes itself to the personality and identity of the community. The examples of Dupont Circle in Washington DC and Beaverton Central in Portland, Oregon are examples of distinctly different forms of transit-oriented development.

### Dupont Circle, Washington, D.C.

Dupont Circle, in Washington D.C., is a very good example of a thriving transit-oriented development just outside a city center. It provides access to MetroBus & Rail, and also to a mix of pedestrian friendly commercial, residential, and office spaces. Dupont Circle is served by a station of the same name on the Washington Metro Red Line; the entrances are north and south of the circle. High density-development immediately surrounds the areas near the station, and there are several institutions in the area such as the Brookings Institution and Peterson Institute. (Dupont Circle Citizens Association) These serve as anchor organizations in the area, but the green spaces, lively shops, and restaurants attract families on the weekends, and make the Dupont Circle a sought after residential community.

### Girard Avenue Transit Oriented Development



*TOD- Destination- TOD can also offer a more cohesive design policy and vision for a neighborhood*



*Dupont Circle 1- Residents hold events near the station such as festivals and concerts.*



*Dupont Circle 2- Pedestrians and bikes take priority in the streets.*





*Dupont Circle 3- Dupont Circle uses mixed-use development throughout the area near he transit station.*

**Beaverton Central, Portland, Oregon**

The Beaverton Central MAX station shows an entirely different form of transit-oriented development. The Beaverton Central Station is a light rail station on the MAX Blue Line in Beaverton, Oregon outside of Portland. It is the seventh stop westbound on the West-side MAX. The station, located near Beaverton's downtown area, is surrounded by a mixed-use development, called The Round. Currently, The Round is the present location of the main offices of The Linux Foundation, and previously the Open Source Development Labs. This station also used art to create a cohesive design pattern throughout the development and has included parking garages near the station in order to encourage those that may not be serviced directly in their own neighborhoods by the public transit. (Marcus)



*Beaverton Central 1-Residential development near the station offer easy accessibility for commuters*



*Beaverton Central 2- Large sidewalks near the station offer safe walkways for pedestrians*



*Beaverton Central 3- Artwork in the station creates a distinct sense of place for the area.*

## Legislative Initiatives

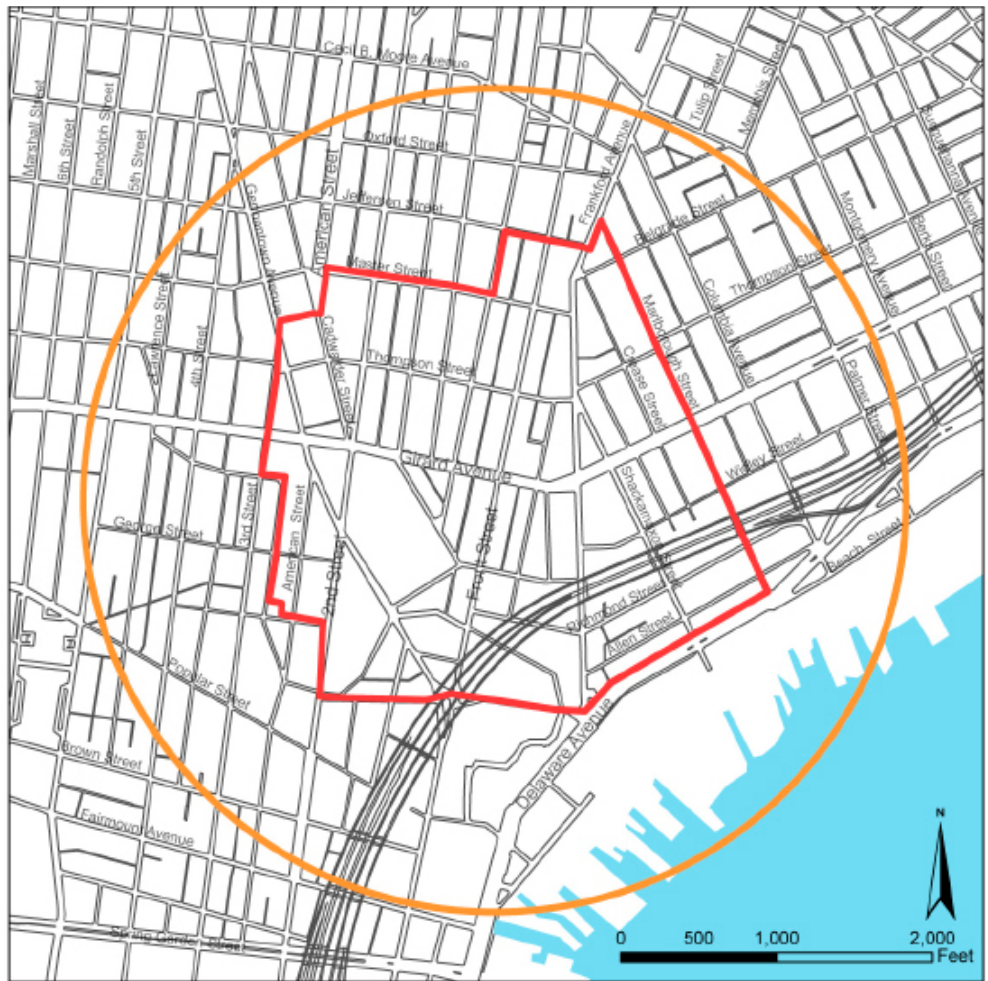
There are several initiatives throughout the State of Pennsylvania to create transit-oriented developments. The Delaware Valley Regional Planning Commission recently adopted the Transit Revitalization Investment District Act in February 2005, which enables communities to make transit-oriented developments through several pecuniary incentives by declaring an area a “Transit Revitalization Investment District” or TRID. A TRID offers transit agencies the opportunity to partner with local governments and developers to advance transit-oriented development, increase transit ridership, and share in real estate tax revenues to support capital projects and maintenance in TRID areas. (Delaware Valley Regional Planning Commission)

A TRID can create a fostering community and neighborhood, and supports local economic development. It also provides flexibility around the bus or rail facilities and encourages revitalization in the area. It improves the space inside the boundaries of the TRID and creates new tax revenues reinvested in area improvement. The act also calls for leveraging benefits by encouraging the use of existing supportive laws and programs for transit-oriented development. The Transit Revitalization Investment Act tries to foster multi-municipal partnerships, between counties, school districts, transit agencies, and the private sector, and also facilitates public involvement in the TRID Area Plan and Implementation Program.



*Girard Station- The Girard Station is widely used, but has not attracted the high-density development expected. An initiative to create a transit-oriented development could attract many developers and create pedestrian friendly area.*





**Study Area Description**

Our study area was chosen based off the principles that guide all transit-oriented development. There are two areas of interest around the Girard Avenue station a half mile radius which delineates a ten minute walk and a quarter mile radius delineating a five minute walk. These two radii are standard when developing a plan of this nature (Transit Cooperative Research Program, 2002)

The half-mile area around the Girard Avenue station is defined, for our purposes, as a radius. We used this research for initial conditions surrounding the area to understand the broad demographic profile and shifts of the area, the market for housing and in general the larger environmental, transportation and design factors within the area. The main geographic boundary extends as far south as Fairmount Avenue, just east of Palmer Street, north of Cecil B. Moore Avenue and slightly west of 5th Street. Major elements within this boundary are: Interstate 95, Penn Treaty Park and roughly 1500 feet of the Delaware Riverfront, most of the Second Street Historic District. Liberties Land Park and the entrance to the American Street Corridor to the north are all within a ten minute walk of the Girard Avenue Station.

Streets and blocks define the quarter-mile area around the Girard Avenue Station. Our methodology for this approach was to start with a quarter-mile radius or five-minute walk and then include the blocks that were mostly within the quarter mile radius under the assumption that pedestrians positioned at the end of these blocks would be just as willing to walk to the station as the people mid-block.

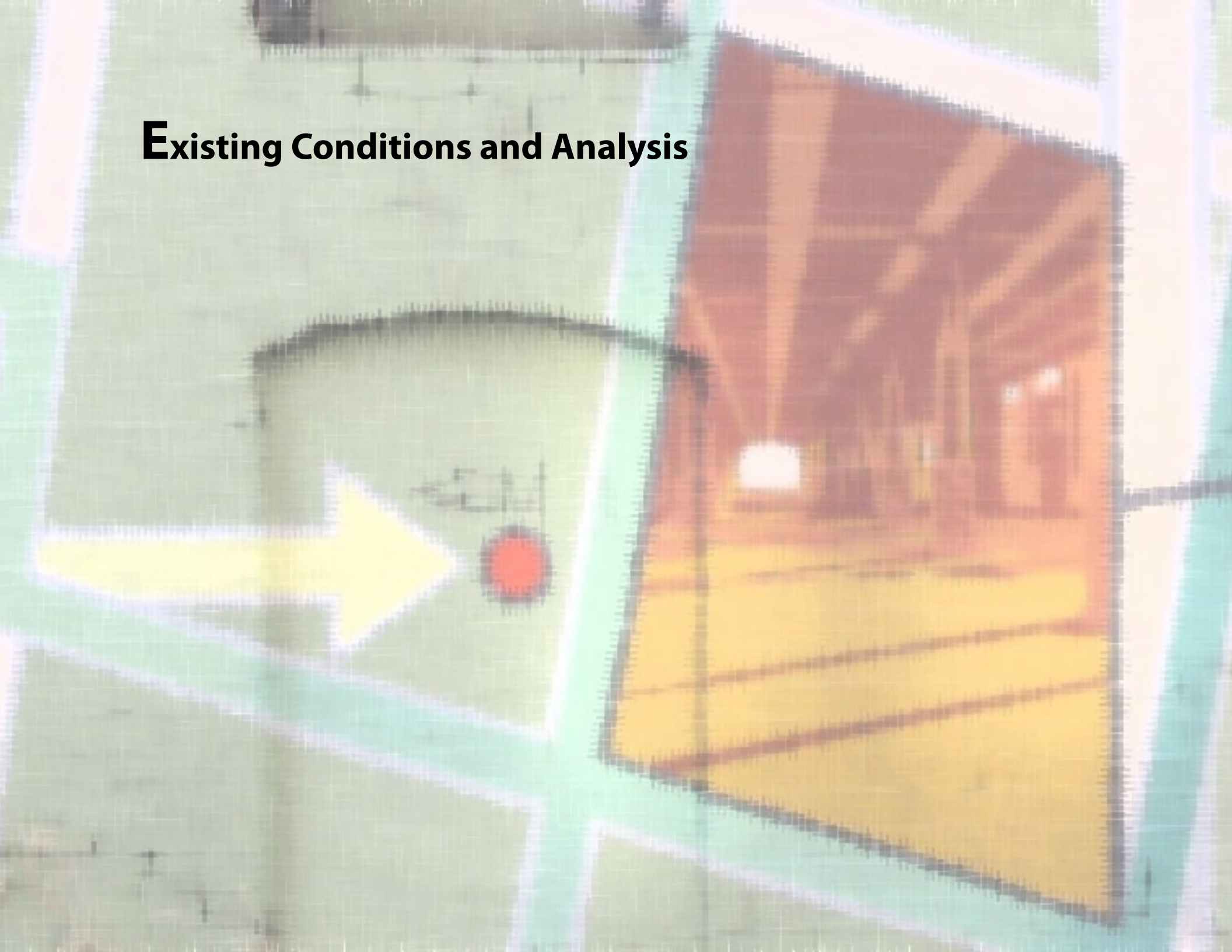
This method delineated the majority of the northern border of the study area, with the exception of the block between Thompson Street and American Street, west of Cadwalder Street. This block as well as the block with the second phase of Liberties Walk (south of George Street, west of American Street and the blocks south of Allen Street (east of Frankford Avenue were all chosen due to interesting factors.

In addition, our team collaborated with the other group of graduate students, working with Kensington South Neighborhood Advisory Council to define the quarter-mile study area boundary. Their team chose the site north of Thompson Street for potential development opportunity connecting in with the area east of American Street. Our team chose the block south of George Street to contain more of the Liberties Walk project and the area south of Allen Street in order to study and possibly recommend solutions for connecting the area to the waterfront. Both the half-mile and quarter-mile study areas contain portions of the Kensington, Northern Liberties and Fishtown neighborhoods.





# Existing Conditions and Analysis



## Existing Conditions and Analysis

### Historic District of Northern Liberties

Northern Liberties once had great cord-wood wharves and yards along the riverfront, and extensive lumber-yards. These wood-yards have disappeared and instead large markets for farm-produce, commercial warehouses, railroad landings, depots and shipping wharves cover the area. This district was also characterized, particularly along Second Street, by its farmers' market-yards for the wholesale trade in butter, eggs, poultry, meats, vegetables and other products of the farms of the adjacent country. Some of the fine old market-taverns and produce-yards still remain, but their characteristics have become obscured by the spread of the great city.

Long before the consolidation of the Northern Liberties into the city Second Street was famous for its fine retail shops, and Third Street was the site of a large wholesale trade in groceries, provisions and leather. Second Street is now lined by a double row of retail stores. "Pegg's Run and Conshohocken Creek, which flowed through the Northern Liberties, were the sites of numerous extensive tan-yards. One of the pioneer mills in Philadelphia's great industries, the Old Globe Mill, was near the line of the Northern Liberties, Germantown Avenue below Girard Avenue. The Northern Liberties embraced what are now the Eleventh, Twelfth and part of the Sixteenth Wards of the city." (USHistory.org)

Originally, a single district of Northern Liberties Township first gained limited autonomy by an Act of Assembly on March 9, 1771. The Act allowed for the designation of individuals to regulate streets, direction of buildings, etc. By March 30, 1791 a second Act enabled the residents of that particular portion of the Northern Liberties between Vine Street and Pegg's Run and the middle of Fourth Street and the Delaware River to elect three commissioners to lay taxes for the purpose of lighting, watching and establishing pumps within those bounds.

On March 28, 1803, the Legislature passed an act to incorporate that part of the township of the Northern Liberties lying between the west side of Sixth Street and the Delaware River and between Vine Street and Conshohocken Creek, thus creating the District of Northern Liberties. Under the Consolidation Law, the district ceased to exist in 1854 and became a part of Philadelphia.

### Girard Avenue Transit Oriented Development



*Second Street c. 1975*



*Today, Second Street is a much more revitalized area.*



*The Frankford Terminal in 1918*

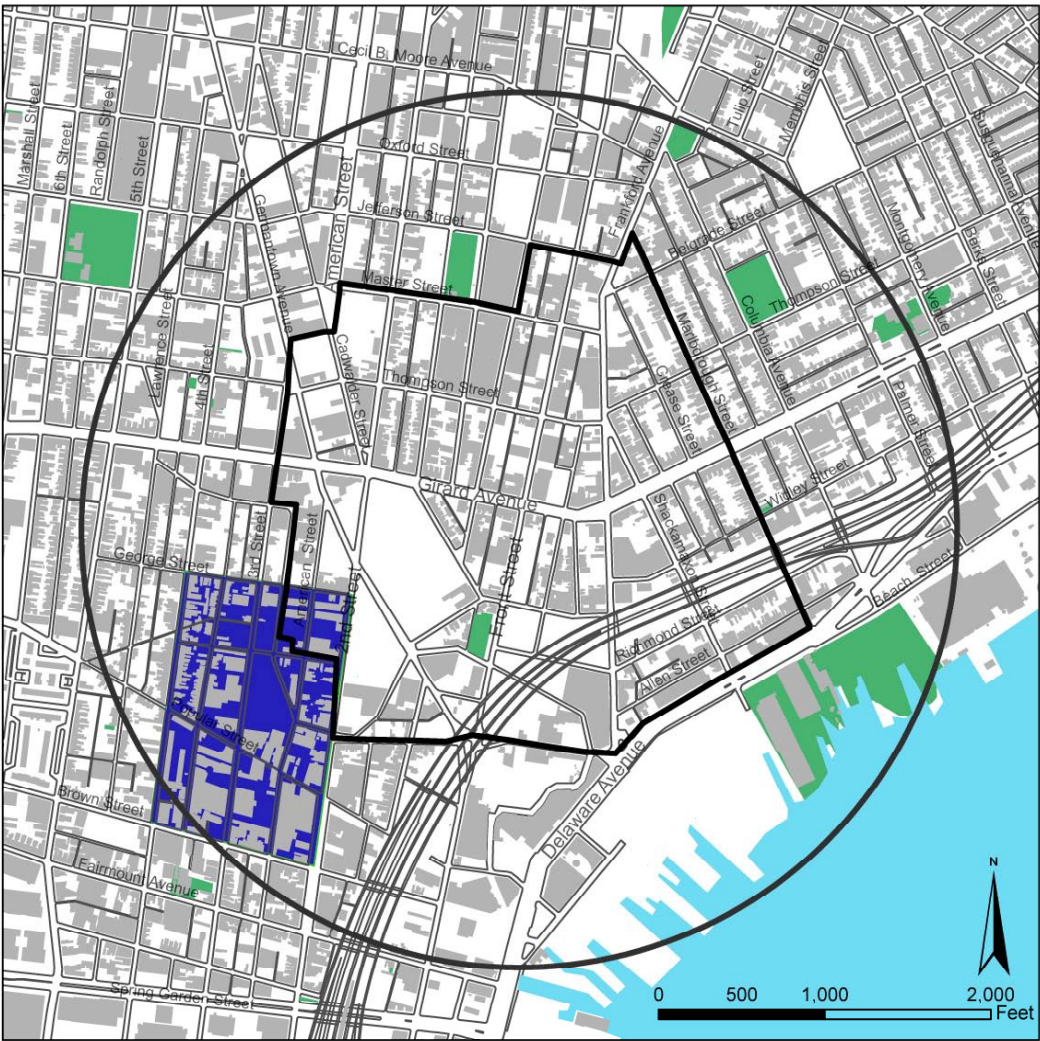




Construction of the EL



The community center site in 1955



Northern Liberties Historic District



At the time of its inclusion into the City of Philadelphia, Northern Liberties Township was the eleventh largest urban space in the United States with a population of 47,223. This annexation allowed Philadelphia to pass Baltimore as the nation's second largest city.

In 1985, the Northern Liberties Historic District was created, containing 209 Italianate architecture, Greek revival, and Federal style buildings. The historic district's boundaries are Brown, Boone and Galloway, Green and Wallace, and Fifth and Sixth Streets. (<http://www.ushistory.org/philadelphia/philadelphia.html>).

### **A Historical Timeline of Northern Liberties**

1687-1803

William Penn founded Northern Liberties for "free" land north of the city. Native inhabitants of the meadows and marshes were the Leni-Lenape Indians.

1803-1853

Incorporated in 1803, Northern Liberties was consolidated into the city of Philadelphia in 1854. In this dynamic period ethnic groups gathered from around the world in this rough and tumble district, sometimes with violent feuds. In addition to this, America's first lager beer was brewed here and Edgar Allen Poe lived on 7th Street.

1854-1920

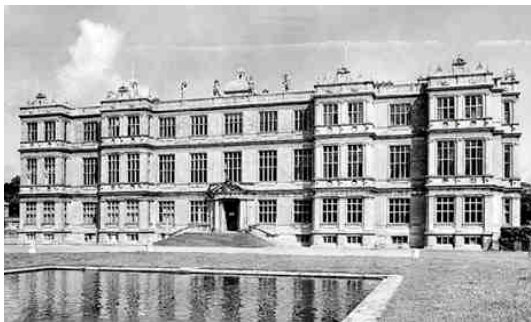
Northern Liberties was a central location for the industrial boom in Philadelphia. Skilled artisans and workers helped make Philadelphia the largest manufacturing center in the world. Their breweries, tanneries and ceramic plants still darken our landscape and the community remains artistic today.

1921-1975

As times changed, the community consolidated and withered. Old factories burned. An expressway sliced the neighborhood in two.

1975-1997

Three hundred years later, parts of Northern Liberties resemble the original meadows. These lands are now surrounded with rehabbed houses and new townhouses, converted factories, artist studios and lofts. And neighbors and artisans still work together for the community (<http://www.artyoueat.com/nlweb/History.html>).



*The above is an example of Renaissance architecture which is found within Northern Liberties.*



*The above is an example of Green Revival architecture which is found within Northern Liberties.*



*Federal architecture is found throughout Northern Liberties, especially on Second Street. It is the most widely used architecture throughout Philadelphia*

### Architectural Styles

There are several architectural styles incorporated within Northern Liberties including Renaissance architecture, Greek revival, Italianate and Federalist style.

Renaissance architecture is very symmetrical. Some key elements of such architecture are the following: symmetrical arrangement of windows and doors, extensive use columns and pilasters, triangular pediments, square lintels, arches, domes and niches with sculptures.

Greek Revival architecture usually includes columns or pilasters and is found in public buildings worldwide. Greek revival architecture has become a popular residential housing style in the United States. The front-gable design still influences architecture today in many residential homes.

Italianate architecture is very expressive and has low pitched roofs and angled bay windows. It was common in the Midwest and the developing cities in the northeast of the United States.

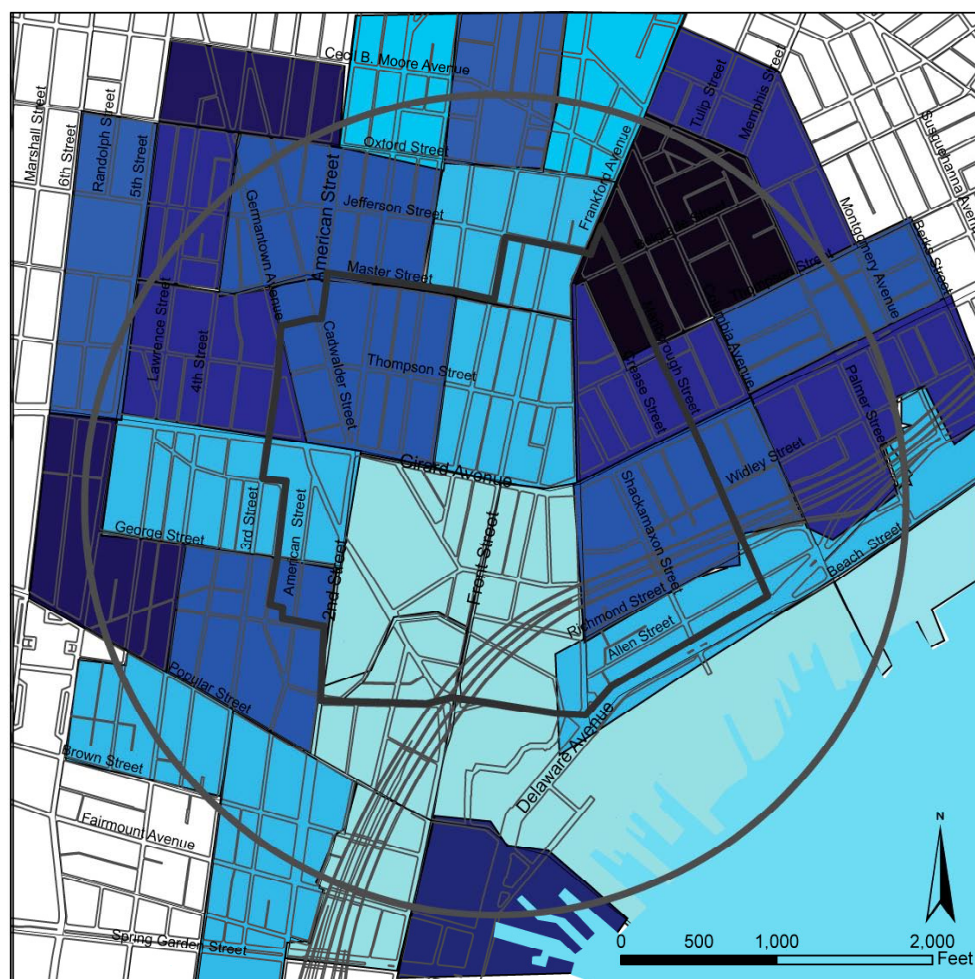
Federal architecture is the most common in the United States and most widely used throughout Northern Liberties. It is the architectural style that is most associated with prominent institutions through the country.

The importance of the historic district is that it serves as a major attraction for both tourists and residents. The historic district in Northern Liberties has the potential to be as strong economically and with tourism as areas in Philadelphia such as Society Hill and Old City.

## Demographics

The US Census was the source of all demographic information for the existing demographics for Northern Liberties. There are four different demographics chosen for analysis: population, age, household size/ composition and income. For population demographics, there are clusters of defined patterns. For example, the southern block groups in the study area have the smallest population. The eastern and western portions of the area are higher in population. The lightest blue color designates a population between 0-200, which is mainly in the southern portion of the study area. The darker the blue color, the higher the population range.

The median age for the study area is between thirty and forty years of age. This median age correlates with average household size. The increment with the highest population is thirty to forty-year olds (between 2.51 and 3.50). This age group is designated in the light purple. The youngest residents (twenty to thirty years of age) have the least people per household. The younger age group is located in the northern portion of the study area. This group's average household size is between 1.50 and 2.50. The majority of the study area is highlighted in the medium green color (2.51-3.50). The lighter green color designates an average household size between 1.50 and 2.50.



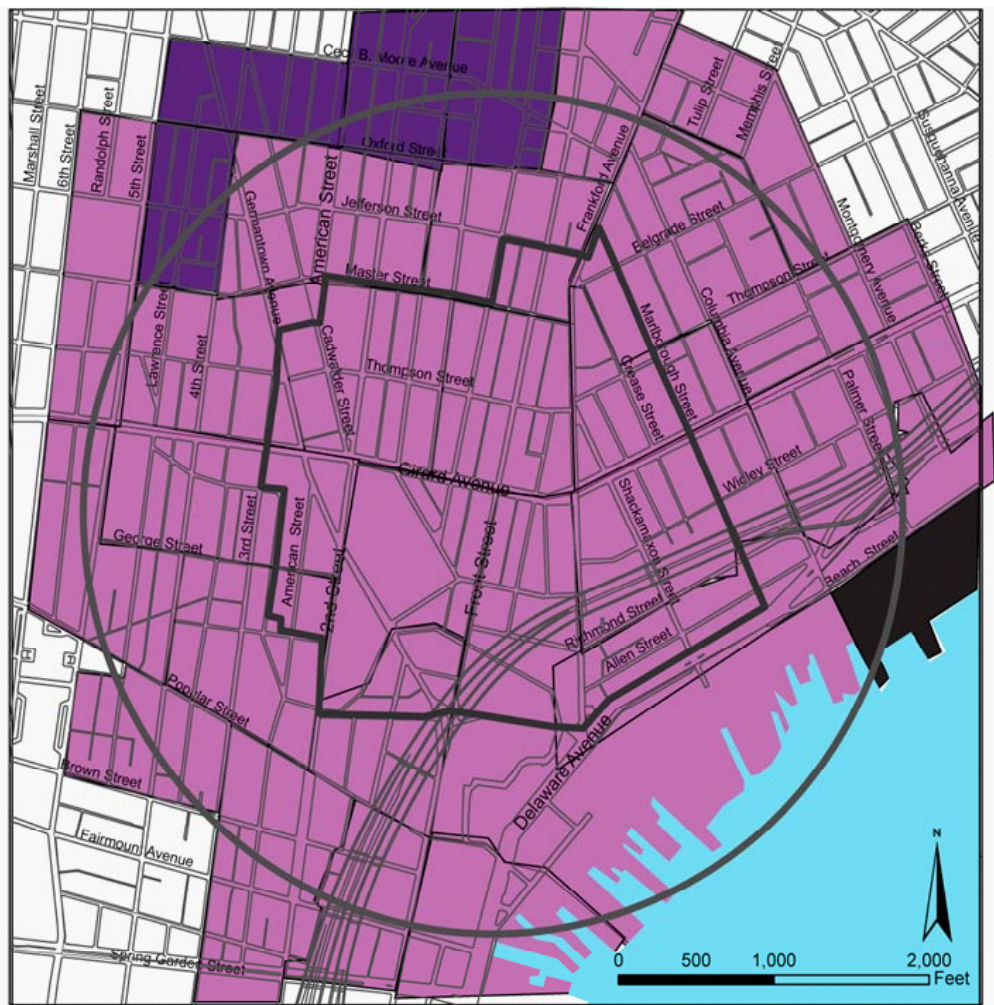
*Population Map of Study Area*

*The areas in darker blue show the more highly populated areas. The lighter areas show the lowest population. The higher populations are located on the eastern and western sections of the study area. The lowest population is closest to Center City and the middle of the study area.*

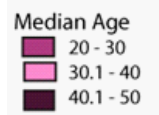
### Legend

Total Population	
0 - 200	Lightest Blue
201 - 400	Light Blue
401 - 600	Medium Blue
601 - 800	Dark Blue
801 - 1000	Very Dark Blue
1001 +	Darkest Blue





The median age is between 30-40 years of age in the study area with the youngest being between 20-30 years of age. The younger section is located in the northern part of the study area. This correlates with the smaller average household size also being located in the 20-30 years of age section.



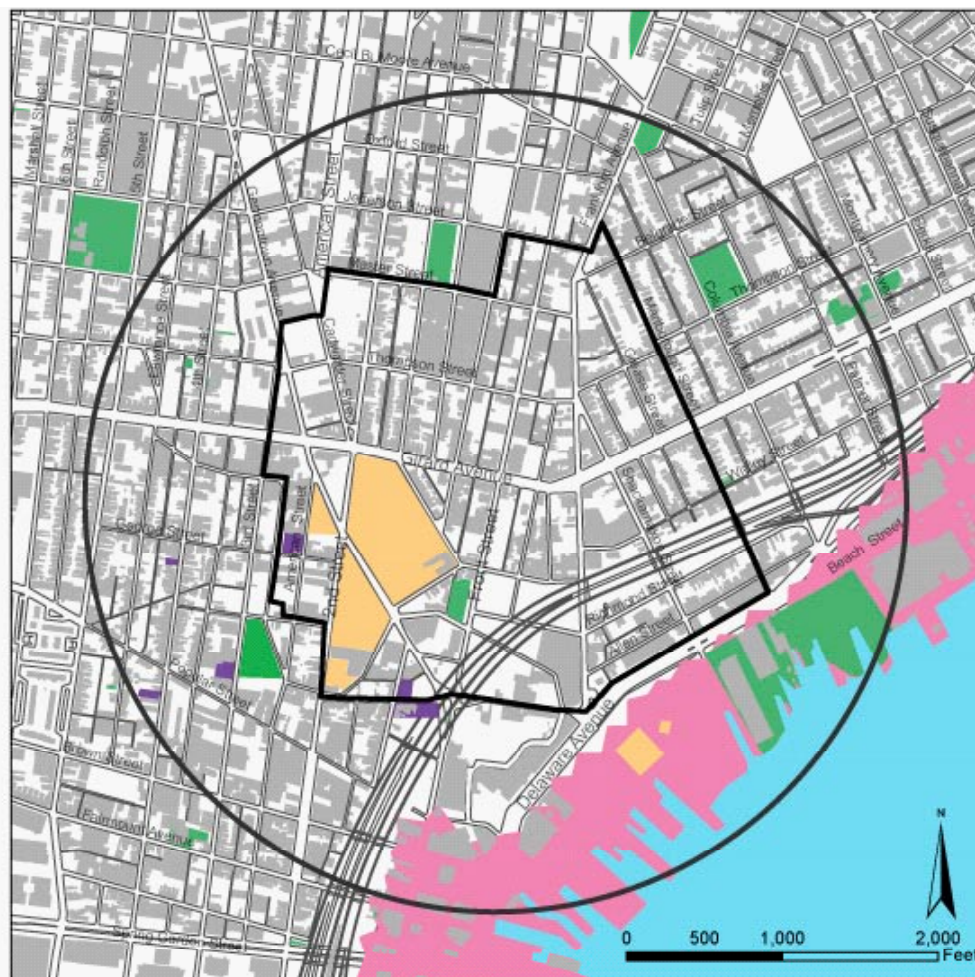
There are clusters of incomes throughout the study area as well. The incomes are higher closer to Center City and Fishtown. The higher median incomes are on the edges of the study area and the lower median incomes tend to be in the ¼ mile radius compared to the one-half mile radius.



## Environmental Analysis

Philadelphia is part of the Mid-Atlantic Region, which stretches from New York to Virginia. The climate of the Mid-Atlantic Region, known for cool winters and humid summers, boasts a wide variety of plants and vegetation that residents and organizations can grow in personal and community green space. These plants will flourish in streetscapes, community gardens and household green space. The region also has many water sources including the historic Conshohocken creek and the neighboring Schuylkill River. These play an intricate role in development and the natural elements of the area.

The historic industrial sites of Northern Liberties and the study area defined Northern Liberties as a business district. Now, however, with the shifting role of the area for residential purposes, the sites must also shift their uses. By shifting their uses, this creates many opportunities for Brownfield remediation and development. This change of function can serve to create a more sustainable neighborhood by encouraging green initiatives and providing green space, two important elements of transit-oriented Development and sustainable neighborhoods.



*Environmental Map of the Study Area*

- Flood Plain
- Historic Industrial Sites
- Green Space
- Green Building Developments



*This Sycamore tree would serve well on for streetscaping initiatives because it provides a lot of shade underneath.*



*The magnolia is a great choice to include in personal green space or streetscaping in the transit-oriented development.*

The whole of our study area, which includes Northern Liberties, South Kensington, and Fishtown, is in the Schuylkill River Basin. The floodplain of the river lies just outside the study area for the transit-oriented development.

The Conshohocken Creek ran through Northern Philadelphia during until the early twentieth century when the creek was covered and used to create a sewage line through north Philadelphia. (Levine) The foundation of this sewage line is now beginning to crumble, and has created problems for many in Northern Philadelphia including houses in our study area. Development along the sewage line and the floodplain is discouraged.

### Trees

The trees that are native to northern Philadelphia and continue to flourish in the areas arboretums are Dogwood, Holly, Sycamore, and Catalpa. The dogwoods are flowering trees that tend to grow along waterways. Many species have flower clusters and alternate leaves. Sycamores are native to Central Europe, but will grow in many kinds of soil, including that of North Philadelphia. They grow very rapidly and produce small green flowers. They also offer shade because of their dense leaves. Catalpa trees are deciduous trees that are characterized by heart-shaped leaves and flowers in broad panicles. Holly refers to a variety of plants that are more often evergreen, but sometimes deciduous. Holly trees are able to bloom year-round, and are often used in foundational plantings and screen hedges. (Tomlinson)

### Flowers

There also are several flowers that flourish in the region as well. These include the Franklinia Altamaha, Magnolia, Daffodil, and Azalea. The Franklinia Altamaha is a white flower with bright yellow stamens. These flowers bloom in the early summer. They characteristically have showy, fragrant flowers that are white, pink, purple, green, or yellow, and although can grow into trees, are not normally cultivated to do so in Northern Philadelphia. Daffodil flowers have a trumpet-shaped structure set against a star-shaped background and bloom in the early spring. Azaleas grow best in well-drained soil or in plant pots in a cool, shady position. (Tomlinson)

## Brownfield Remediation Opportunities

Northern Liberties and all areas included in the study are part of the north Philadelphia tumultuous past in industrial development. Much of the historical development was industrial development that now, as Northern Liberties becomes a more residential environment, must serve a new function. These historic industrial sites, in order to become ready for other development, must seek Brownfield remediation. These sites include the Burks Brothers and Company (919-961 N Third Street). The Burks Brothers was a tannery that began in 1855. Tanning on this site lasted until the mid-twentieth century. The Disston Saw of 67 Laurel Street also emitted waste into the area. Other industrial sites include, The Ortleib Brewery, Northern Liberties Gas, and Christian Schmidt and Sons Incorporated. Each of these sites is an example of the changing function of Northern Liberties. To continue to change and develop, each site must be made safe for residential and commercial development. (Craul)

Northern Liberties and the study area housed a diverse set of industries, each of which emits different substances into the air and soil. Heavy metals are present in most of these substances. Cadmium, Chromium, Copper, Lead, Mercury, Nickel, and Zinc all are common heavy metals found in post-industrial sites. (Craul).

<u>Heavy Metal</u>	<u>Sources</u>
Cadmium	Pesticides, coal, and petroleum Wastes, mine tailings
Chromium	Stainless steel, paints, fire brick
Copper	Mine tailings, copper dust, fertilizers
Lead	Industrial Residue (particularly from steel)
Mercury	Catalysts for Industrial processes
Nickel	Electroplating, Batteries
Zinc	Galvanized Metals, brass and rubber production



### **Open and Green Space**

There is very little designated green space in the study area. Although Northern Liberties is home to parks such as Liberties Land Park and Orianna Hill Dog Park, the study area remains without major designated green space for parks and recreation, a feature often attributed to pedestrian friendly environments—green space often attracts pedestrians—an important goal to transit-oriented development.

### **Green Development**

Northern Liberties is at the forefront of green development in the City of Philadelphia. Onionflats, a regional residential developer out of Philadelphia, spearheads much of the LEED Certified and green buildings in Northern Liberties. E Flats on Laurel Street, a residential building with four units and Capital Flats, also on Laurel Street in Northern Liberties, were meatpacking plants until Onionflats turned it in to an eight unit dwelling. Currently under construction is Thin Flats, the first LEED-H Multi-family residence in Pennsylvania. They are currently working to develop several other projects including 4th Flats on Fourth Street. This development will have five units. Other developments in the works include Duck Flats, Moss Flats, Capital II flats, and Stable Flats. All of these developments are to receive the LEED-H certification (Regan).

## Land Use and Zoning

### City Structure

There are several parties that make decisions regarding the land use and zoning of the study area. Philadelphia Planning Commission is responsible for guiding the orderly growth and development of the City of Philadelphia's comprehensive plan and its modifications, the capital program and budget, proposed zoning ordinances and amendments, regulations concerning the subdivision of land and views all development proposals for compliance with the city's Zoning Code, Land Subdivision Ordinance and, federal and state environmental regulations. It also reviews all Zoning Board of Adjustment agenda items and legislation to amend the Zoning Map or Zoning Code. ZBA is responsible for reviewing applications for zoning variances and can approve changes in use, height, or bulk.

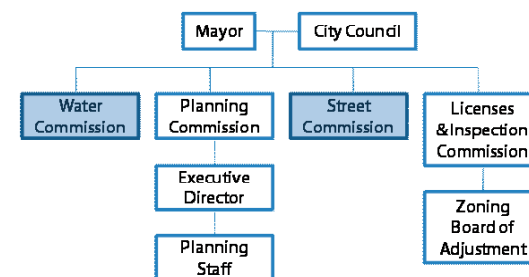
The City Council has the responsibilities of representation of all significant projects in their districts to the Planning Commission, especially projects that alter or close streets. They are also responsible for arranging public notifications and hearings within their districts for any projects of size or public interest. The functions of City Council influence a wide range of public affairs in Philadelphia and directly impact the quality of life for its citizenry.

### Roles of Zoning Committee in Each Neighborhood

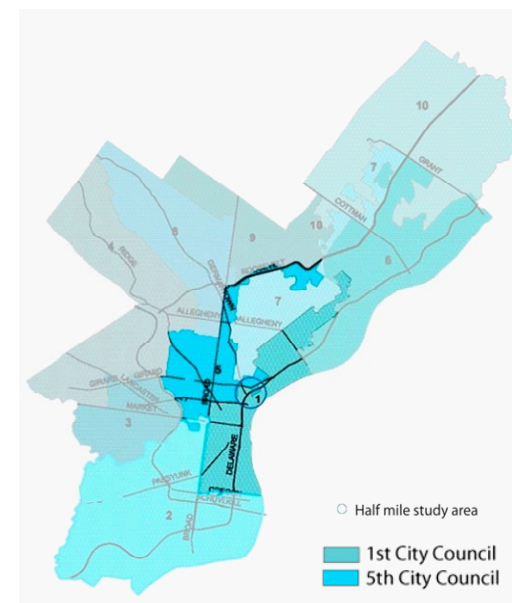
#### Northern Liberties

The Zoning Committee is the most active committee and represents the Northern Liberties Neighborhood Association's main source of local control. Developers must seek support and approval from neighborhood residents and leaders before submitting their plans to the City of Philadelphia's Zoning Board of Adjustment. The basic roles that NLNA Zoning Committee plays are:

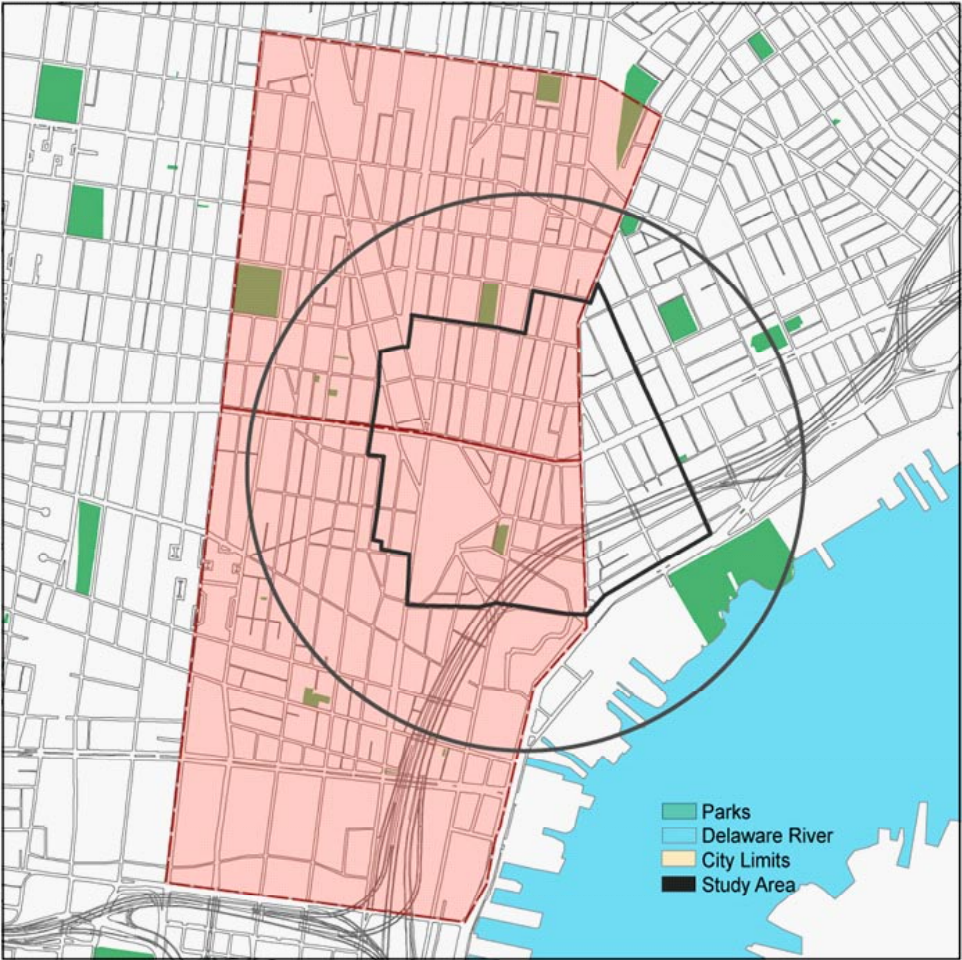
1. To review applications for zoning changes or variances, review liquor license approvals or transfers, and consider other development issues, and to recommend action to the NLNA Board of Directors.



The chart illustrates how the government works within its city planning subdivision. The most active departments relating to zoning are planning commission and Zoning Board of Adjustment (ZBA), whom the TOD plan will directly work with during the implementation phase.



There are two city council involved in the study area: 1st City Council and 5th City Council. Each dominated area is showed in the map.



*The two primary neighborhoods related to the TOD plan are Southern Kensington and Northern Liberties, which are located in the south and north of Girard Avenue respectively. The physical boundary of each is illustrated in the map.*

2. To hold public meetings and to act as a liaison among residents, developers, and the Board.
3. To review and improve neighborhood development guidelines.

Southern Kensington

The organization in South Kensington is called Kensington South Neighborhood Advisory Council. The main purpose for the KANAC Zoning Committee is to ensure:

1. All Zoning Meetings are open to the public. Neighbors within a 2 block radius of planned development receive a flier advertising Zoning Meetings.
2. Stay informed on zoning news in Kensington South, find out which properties are scheduled to present their plans to the community by calling or visiting the NAC.
3. All KSNAC Zoning Committee records are on file at the office. This includes fliers, schedules, plans, maps, minutes from meetings and vote tallies.



## Zoning Map

The current zoning map for the neighborhood is incongruent with reality, and is an unrealistic portrait of Northern Liberties' existing conditions. While the two maps illustrate the strong residential pocket in the northwest corner of the study area, the yellow areas in the land use map, representing parcels devoted to residential uses, appear to be spreading throughout the neighborhood, spilling into the large tracts of land that the zoning map still deems suitable for industry. This inconsistency stems from the dated Zoning Code of Philadelphia, which was created in 1960 and has not kept up with the changes that have taken place. The zoning code is also so convoluted that it is deters developers and planners and is currently being overhauled.

The majority of the study area is zoned for R10, R10A, C2, ASC, G2, L4 and L5 uses.

Residential uses in neighborhoods are primarily zoned R-10. This zoning classification is for single or multiple family row homes. Minimum lot area must be 1,440 square feet, with a width of 16 feet, and 30% of the area should not be taken up by buildings. Setbacks and side yards are not required. The maximum height requirement is 35 feet or three stories. Parking in R-10 requires one space for each family on the property.



*Zoning Map of the Study Area*



There are also small parcels in west side of the study area zoned R-10A. This zone allows semi-detached and attached single-family dwellings and some home offices are permitted as long as the primary use of the building is residential and only one individual that does not reside in the home is employed therein. On the northern side of the corridor, residential zones are designated R-10. All uses allowed in R-10A are permissible with the addition of duplex homes and detached, semi-detached, and attached multiple family homes. Allowable coverage in both zones is 70% and 80% on corner lots. Dwellings cannot exceed 35 feet or three stories.

The major commercial uses in the study area are zoned C-2 and ASC (Area Shopping Center). All uses directed towards the end consumer are permissible in C2. Off-street parking is permissible contiguous to any as-of-right-use. This has resulted in the auto-oriented development that has recently developed in various spots on the corridor. Maximum lot coverage is 70% with a maximum height of 60 feet. Large parcels in the central area of the study area are zoned ASC. This zone has the same permitted usage as zone C-2, but requires a minimum area of 80,000 square feet and a minimum frontage of 200 feet on a street.

This industrial area is zoned G-2 allowing any industrial use including those involving hazardous materials or heavy manufacturing. Presently, 100% coverage with a FAR of 5 is allowable with a bulk limit of 20 times the gross floor area. One off-street parking space is required for every 1,000 square feet of gross floor area.

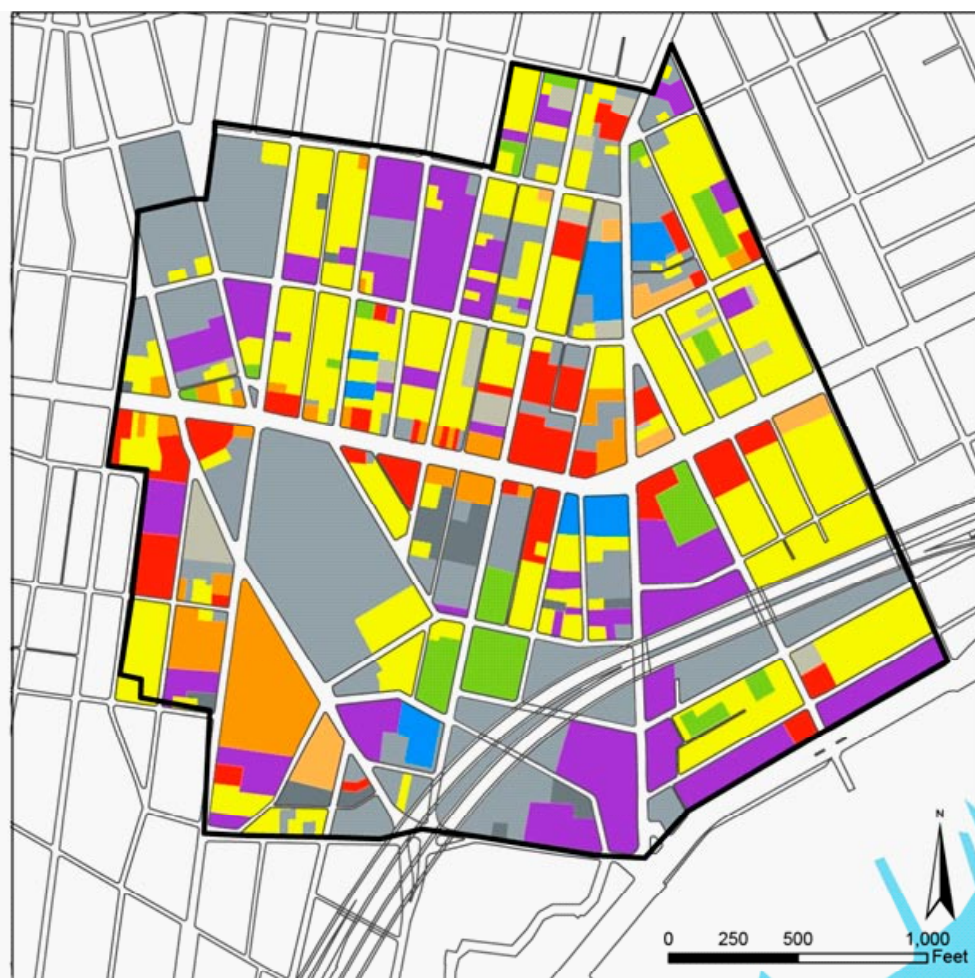
Small portions of the study area are zoned Limited Industrial (L-4), which is more restrictive than G-2 and does not allow heavy manufacturing. Allowed uses for L-3 include food preparation, warehousing, printing, and various commercial uses. Properties are required to be at least 50 feet from residential districts, and setbacks must be at least 12-feet on the sides and have a greenbelt of shrubbery and trees around the parcel perimeter. Similar to the G-2 zone, one off-street parking space is also required for every 3,000 square feet of warehouse storage space.



## Land use

There is a considerable difference between the zoning of the area and the current uses. The current land use map of Northern Liberties resembles a chaotic mosaic in which all but a handful of blocks contain some mix of residential, commercial, industrial, or open space. The existing mix of uses is evidence of the neighborhood's artisan and industrial past, when laborers lived and worked in close proximity. Compared to many of Philadelphia's primarily residential neighborhoods, the mix of uses distinguishes Northern Liberties and contributes to the live/work flexibility and varied streetscape valued by local residents and workers.

The current land uses in the study area include residential, commercial, mixed-use, industrial, institutional, open space as well as some vacant land and buildings. There is new mixed-use project going on Bart Blatsein's Schmidt Brewery site along Second Street. There is a recently built project called Liberties Walk, also by Bart Blatsein, on the other side of Second Street. It is an upscale artists' community with a mixed-use, pedestrian-oriented retail and residential corridor that would fit with the neighborhood's architecture.



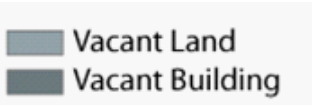
*Land Use Map of the Study Area*







*Vacancy Map of the Study Area*



The residential uses are located on the central and lower part of the study area and large parcels of industrial use buildings on the lower right corner. The park and green space are located in the center of the lower part closest to the highway for neighborhood recreation.

There is a large proportion of vacant land and buildings, which is also illustrated in the vacancy map of the study area. The existing vacant land and buildings in the study area create great opportunity for new development as well as revitalization or restoration.



*Newly Constructed Projects*



*Mixed-use Project*



*Residential Project*

*The mixed-use, pedestrian-oriented retail and residential buildings perfectly fit with the neighborhood's architecture, which also give the neighbors a better sense of place.*



*Girard Avenue South façade: Front Street – Second Street*



*Girard Avenue South façade: Second Street – Third Street*

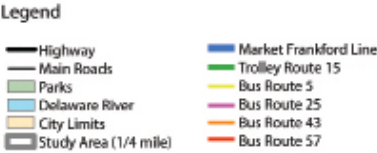
*The South façade of Girard Avenue clearly illustrates an continuous commercial uses along the avenue, except for the Schmidt Site owner by Bart Blastain, which is also dedicated for commercial use and is being built in the near future.*

## Girard Avenue Transit Oriented Development





Transit Map



**Transportation**

**Public Transit**

The public transportation system that runs throughout the study area and surrounding regions is operated by the quasi-governmental agency, named SEPTA. SEPTA services the Pennsylvania and Delaware portions of the Philadelphia metro region. According to DVRPC, 2006 estimates claim a service area population of about 3.9 million people, 2,200 square miles of land and in 2007 had 307 million average annual trips, up roughly 3.6% from 2006. The systems ran 118 bus routes, nine trolley or light rail routes, two subway or elevated lines and 13 regional rail lines in 2007 (SEPTA, 2007). SEPTA's funding comes from Revenues (\$445 million) and Subsidies (\$634 million) for a total of \$1.06 billion in fiscal year 2007, roughly equal to operating expense (SEPTA, 2007)s. SEPTA is considered by many to be stretched financially, the expenses totaled are solely operating expenses and do not include capital expenditures for major renovations or expanding service.

With a little knowledge about the agency in charge of operating the system we have determined that the study area has one subway line, the Market Frankford Line, which contains the station the Transit Oriented Development is centered around, the Route 15 trolley (aka Girard trolley) and four bus routes, number 5, 25, 43, 57.



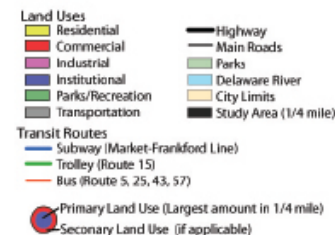
## The Market Frankford Line

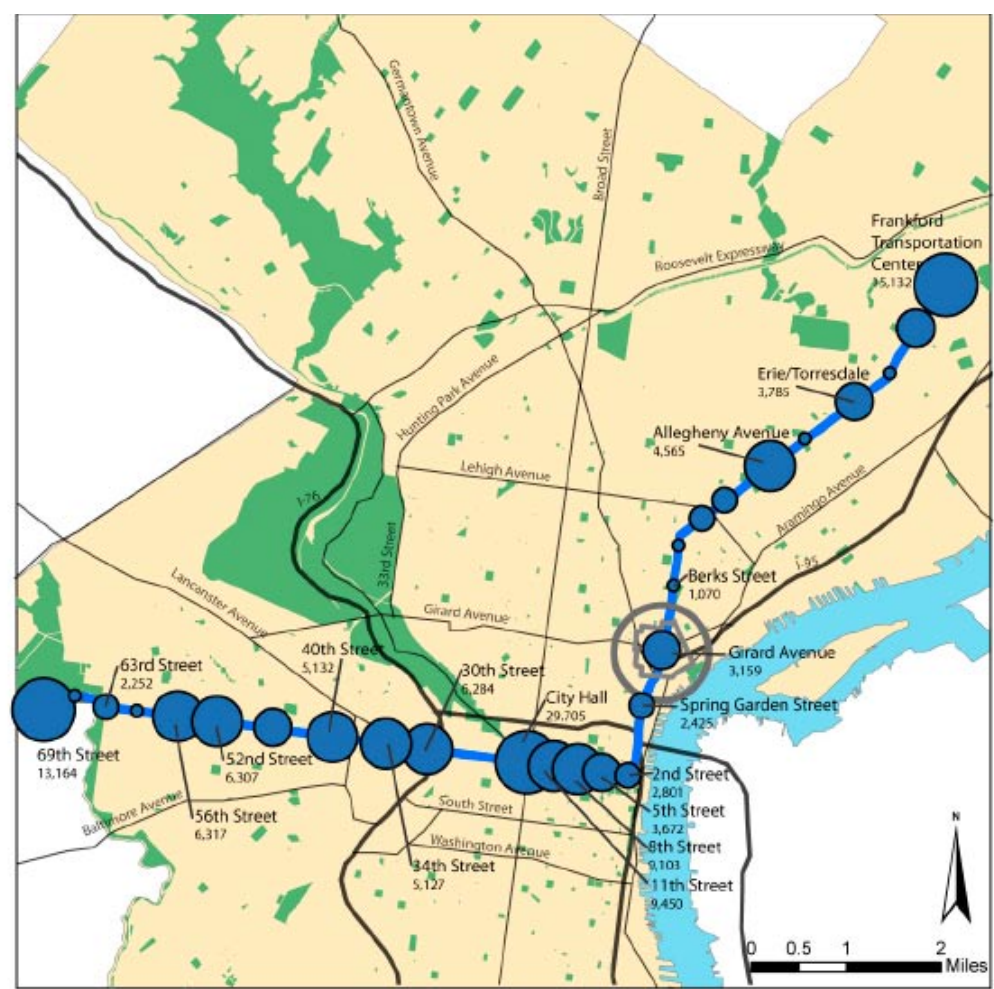
The Market Frankford line is the most imaginable line in the city's transit system and the oldest. The first section was created along Market Street from 15th Street at City Hall to the western boundary of the city at 69th Street in 1907. The line was continued to 2nd Street in 1908. In 1913 the Frankford Elevated Line, which is the portion running through the study area opened in 1922 (SEPTA). SEPTA recently has finished a renovation project within the past few years on the elevated section, including the Girard Station, to accommodate the station for handicap persons.

The line currently services the neighborhoods of Frankford, Port Richmond, Kensington, Northern Liberties, Fishtown, East Center City, University City, West Philadelphia and Upper Darby. It has several destinations along its route and heavily services the eastern portion of Center City. From west to east, Upper Darby, University of Pennsylvania, Drexel University, 30th Street Station, City Hall, Reading Terminal and Convention Center, Independence Mall, and Penn's Landing are all accessible by a short walk from the line. The line terminates at the Frankford Transportation Center to the east and 69th Street Terminal to the west. Both termini are multi-modal transportation centers that involve busses and light rail (at 69th Street).



*Transit Termini Map*





Market Frankford Ridership Map

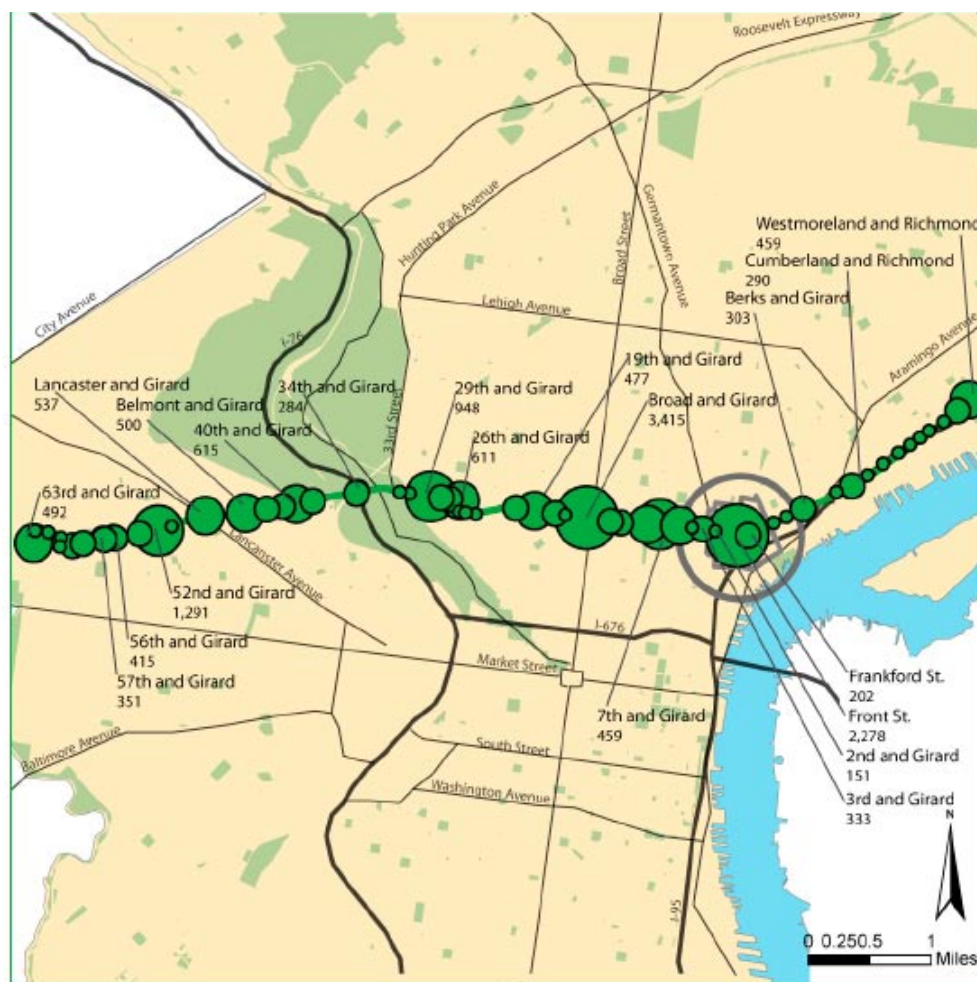
The historic business district of Upper Darby and portions of Cobb Creek Park are within a quarter mile of the station. The Frankford Terminal is mostly residential around the terminal with extensive bus and parking garages.

The Market Frankford line runs 24 hours a day, 7 days a week. From roughly 12am-5am on weekday and 12:30am-5am on weekends the line operates a night owl bus. This bus travels along Frankford Avenue north of Girard and Second Street south of Girard, instead of under the elevated rail along Front Street. During the week the train comes every six minutes between 8:00am and 6:00pm. During the weekend it comes every ten minutes and service drops roughly to every 15 minutes during off peak times. The line itself is the busiest line in the SEPTA system. As of 2007, it has about 144,000 daily riders and 52 million trips each year. The line has 27 stops along the way with an average daily ridership of around 5,300. The Girard Avenue station has an average daily ridership of roughly 3,100. However, it is the 16th busiest station and the most utilized between its neighboring stations of Berks Street (1,070), Spring Garden Street (2,425), and Second Street (2,801). Between 2005 and 2007 the entire lines ridership rose by roughly 1.8%. The Girard Avenue station rose 8.8% in comparison to Berks, (22.7%), Spring Garden (3.8% and 2nd Street (5.5%) (D'Antonio, 2007 and 2005).



### Route 15 Trolley (Girard Avenue Trolley)

The Girard Avenue Trolley dates back to 1859 when the line was a horse drawn car from Richmond to the Schuylkill River. The car was electrified in 1890 and ran up until 1992, when SEPTA temporarily replaced the trolley with bus service. After residents of the surrounding area fought with SEPTA and city council the trolley service was once again resumed in 2005 at a cost of roughly \$82 million (Szilagyi, 2005). There are several destinations along the trolley route that include 52nd Street, Fairmount Park, the Philadelphia Zoo, Girard College, Temple University, Port Richmond. The line terminates in the neighborhood of Port Richmond at the intersection of Richmond Street and Westmoreland Street in the east and 63rd Street and Haverford Avenue in the west. Both termini are considered to be in areas with neighborhood services, the west terminus does a loop around Girard, Haverford and 63rd which is predominately an entire residential section of Haddington. The eastern terminus stops along Richmond Street which is a commercial Corridor for the Port Richmond neighborhood but is promptly surrounded by residential uses or green space and I-95 to the south.

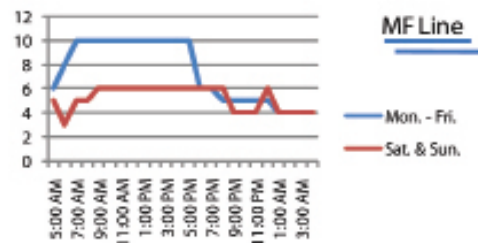


Route 15 Trolley Ridership Map

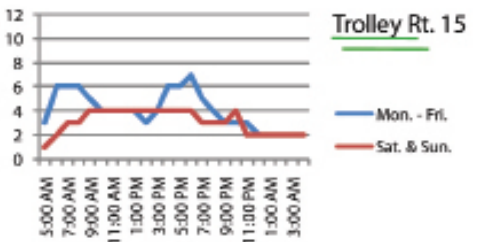
#### Legend



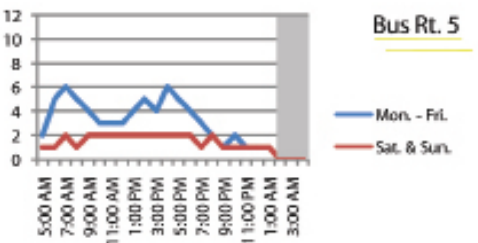




Market Frankford Line Frequency



Route 15 Frequency



Route 5 Frequency

The Route 15 trolley service runs 24 hours a day, 7 day a week as well, although it certainly does not run as frequently as the Market Frankford Line. On weekdays during rush hours, (6am – 8am and 4pm – 7pm), the service peaks at roughly one trolley every 10 minutes, during off peak time its roughly every 15 minute and late at night (12am – 5am) the trolley comes every 3 minutes. On the weekends, the service peaks between 9am and 5pm with a trolley arriving every 15 minutes. The trolley as of January 2008 had a weekday ridership of 22,700 and a weekend ridership of 14,300.

There are 51 designated stops along the trolley route, allowing the trolley to run more efficiently than the trolleys in West Philadelphia. The daily ridership per stop on a weekday is 384 and on a weekend 242. Front Street which is the stop underneath the Market Frankford line, as a ridership on a weekday of roughly 2,200 and on a weekend 1,200, which is roughly 10% of the lines share. This is in part due to the nature of the Market Frankford line’s location above. The busiest stop is along Broad Street where the Broad Street line is. The other stops within the quarter mile study area are Third Street, Second Street and Frankford Avenue, ranging in weekday ridership of 150-200 (D’Antonio, Girard Ave. Trolley Ridership Stats, 2008).

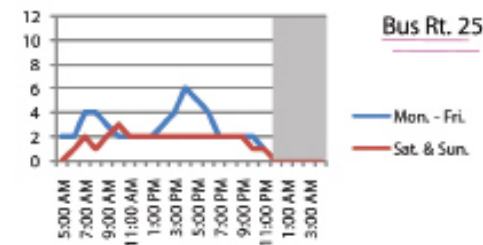
Bus Lines

Route 5

Route 5 travels from the Frankford Transportation Center along Frankford Avenue, under the Girard Avenue station, then north and south on 2nd and 3rd Streets to Penn’s Landing. This route terminates at the historic center of Philadelphia to the south and the transportation center, acting as a local bus service along the Frankford Elevated section of the market Frankford Line. The bus runs 20 hours out of the day roughly (5am – 1am) and has a peak frequency of a bus every six minutes at 7am and 5pm on weekends service tapers off to a bus every 20 minute during the day and a bus every hour after 9pm. On the weekend the bus runs once every 30 minutes. The Route 5 bus is one of the more inefficient buses for the study area population.

### Route 25

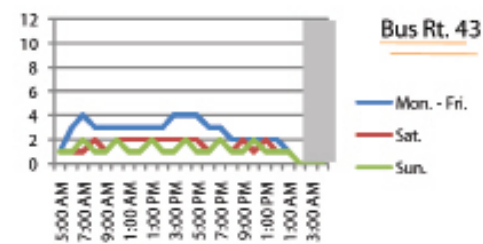
Route 25 travels from the Frankford Transportation Center in the north along streets south of the Route 5, along Frankford Avenue and Delaware Avenue in the study area, south to Pier 70 and the Columbus Commons Shopping Center. The terminus at Columbus Commons provides access to the bib-box retailer to the study area population. Although, people are not likely to take this trip for shopping, lower income populations could take it for jobs, as well as shopping for everyday necessities. The bus runs 18 hours out of the day (5am – 11pm) with weekday peaks frequency in the afternoon at 4m with a bus running every 10 minutes and in the morning at 7am with a bus running every 15 minutes. During the weekends buses run every 30 minutes.



Route 25 Frequency

### Route 43

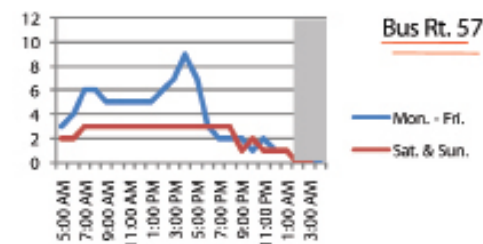
Route 43 travels Cumberland and Aramingo Avenues along Aramingo Avenue to Delaware Avenue, along Spring Garden Street, north on Lancaster and eventually terminates at Parkside Street and 49th Street. The eastern terminus of Aramingo Street and Cumberland Avenue is mostly comprised of commercial neighborhoods with some historic industries along the Delaware River. The western terminus includes almost all of the Fairmount Park facilities and destinations. The bus runs almost 20 hours a day (5am-1am) but the most inconsistently with a frequency of roughly a bus every 15 – 20 minutes on the weekdays and 30 – 45 minutes on the weekend, making the bus line extremely inconvenient to use.



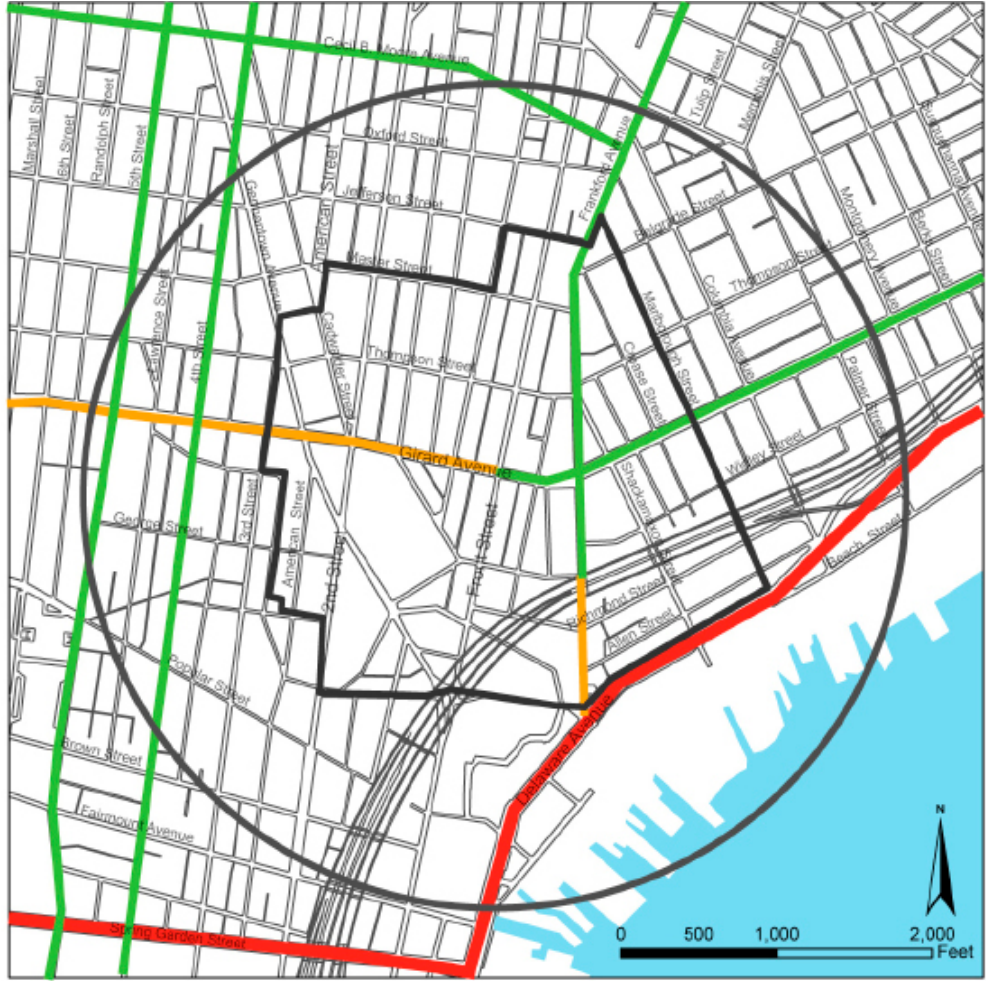
Route 43 Frequency

### Route 57

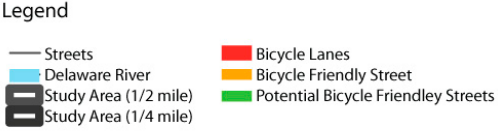
Route 57 travels from nearby the Fern Rock Transportation Center in the north down along several streets to 2nd and Girard in the study area then roughly north and south on 4th and 5th Streets to Oregon Street in South Philadelphia. The end of the line in the south is along the commercial strip corridor of Oregon Avenue part and the residential neighborhood fabric of South Philadelphia. This bus runs roughly 20.5 hours a day (5am to 1:30am). The evening rush-hour peak is the most frequent of any of the bus lines in the study area with a bus running every 7-8 minutes and 5pm. After rush-hour this rate drops dramatically, with a bus only running every 30 minutes by 9pm, the mornings and afternoons are roughly a bus every 10-13 minutes. Weekend service is roughly a bus every 20 minutes.



Route 57 Frequency



Bicycle Circulation Map



Bicycles

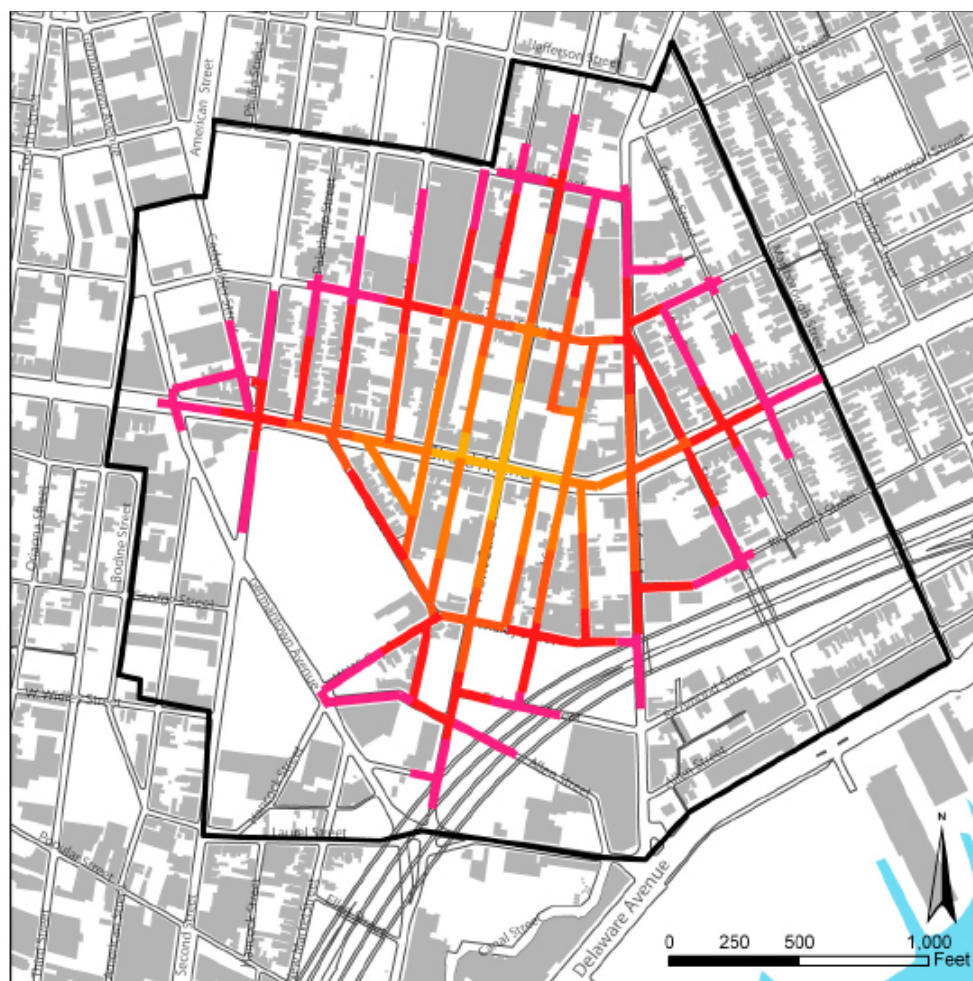
Bicycles are an important mode of transportation when studying an area for transit-oriented development. They can help to provide a choice on transportation encouraging the use of a diversity of modes. The bicycle network is maintained by the City of Philadelphia Streets Department, which has a division dedicated to bicycle services and facilities.

Currently, Delaware Avenue is the only street within the study area that has its own bicycle lane. The Streets Department deems Girard Avenue, between Front Street and Broad Street, as well as Frankford Avenue, between Delaware and Interstate 95, bicycle friendly. Bicycle friendly streets are those that throughout the city do not have designated bicycle lanes but were rated by the Streets Department as having an above average for bicycling. There is also an extensive network of street that the Streets Department has evaluated to be included into the category of bicycle friendly with minor improvements. These streets in our study area are all of Frankford Avenue and all of Girard Avenue (Philadelphia Street Department, 2006).



## Pedestrian

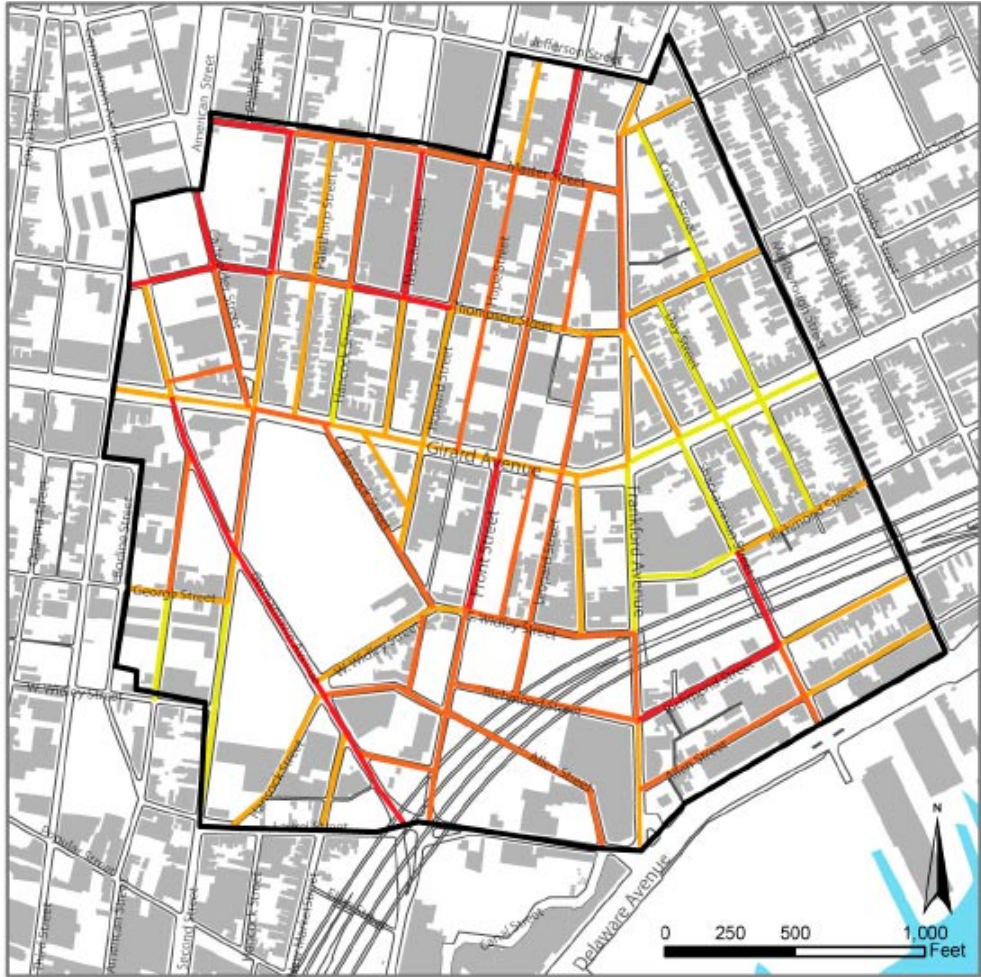
To analyze the pedestrian traffic flow, our team created a map that shows visually the distance traveled each minute of a walk for each minute up to five minutes for the quarter mile study area. The method we used for compiling this data was dividing 1,320 feet, a quarter mile, by five, 264 feet (which is how far someone would walk within one minutes time). After creating a gradient, we noticed many patterns within the street network of our study area. First, the streets to the northwest are a consistent grid and act as a permeable urban fabric for pedestrians because of the multitude of choices one can make walking to and from the station. Second, the southern section of the study area is blocked by several edges. Interstate 95 acts as a barrier to the waterfront because it only has four streets that permeate under the highway. There seems to be a possibility of six streets. North Lee Street and East Dunton Street look as if they used to connect further south and have been removed by the freeway. In addition to I-95, the current Schmidt Brewery site acts as an impenetrable edge to the Northern Liberties neighborhood. The large vacant lot allows for only one choice from 2nd Street to walk to the transit station, along Hancock Street.



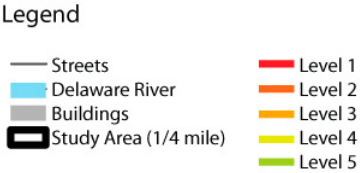
*Pedestrian Travel Time Map*

### Legend

- |                         |               |
|-------------------------|---------------|
| — Streets               | 1-minute Walk |
| — Delaware River        | 2-minute Walk |
| — Buildings             | 3-minute Walk |
| — Study Area (1/4 mile) | 4-minute Walk |
|                         | 5-minute Walk |



Street Safety Map



Urban Design

To understand the design and place qualities of the study area, our team walked the streets and analyzed the street character and street safety of each street. We came up with a ranking system based on a scale from one to five for each category we looked at. The ranking system is described below in more detail. Our team divided the quarter mile study area into quadrants (northeast, northwest, southwest and south east of the station) and surveyed the streets the week-end of February 22.

Street Safety Map

This map is used to analyze the degree of personal safety we felt in the study area, it is based on personal biases of people that do not live in the area. However, we felt that our biases or lack thereof, were helpful to have a more objective view of the safety conditions because we were able to view the area with a fresh pair of eyes. The ranking system was divided up into five level as mentioned before, level 1 being the least safe and level 5 being the safest. The definitions for each level are as follows.

- Level 1: Desolate area, has debris such as broken bottles and litter. Many open lots and vacant buildings. Complete sense of insecurity

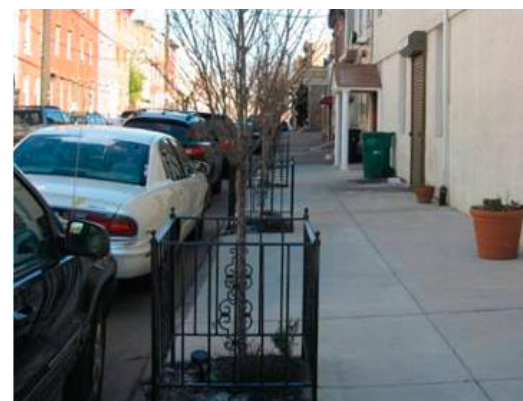


- Level 2: Desolate area, more occupied buildings or tighter urban fabric. Feel somewhat unsafe during daylight
- Level 3: Most buildings are occupied and have entrances along the street, however feel uncomfortable during the night.
- Level 4: A Busy street with a lot of pedestrian and vehicular traffic. Feels as though it would be unsafe late night or early morning.
- Level 5: You feel as though you can walk it day or night.

Our group came to several conclusions from analyzing the street safety map. First, Front Street, which runs the entire length of the study area, was ranked a level one or at most two due to the enormous elevated rail that is above the street. The rail has casted shadows on the street for nearly ninety years and the street life has suffered. There are many vacant buildings, most of which are dilapidated as well as huge swaths of vacant land. Also, litter is piled up along the posts of the rail line and throughout vacant sites. The lack of human presence on the street in addition to extremely loud sound overhead gives the perception that this street is extremely dangerous.

Second, the streets surrounding the Schmidt Brewery site as well as those in the northwest section are ranked low. Similar to Front Street Thompson Street in the north and Germantown Avenue, Hancock Street to the south suffers from a complete lack of people or activity on the street. Germantown and Hancock suffer from one or both sides of the street having more than 500 feet of vacant lot that are fenced off. Thompson Street to the north suffers from the short block and acting as an east/west collector street rather than a neighborhood street. Many of the buildings along the street face those that are perpendicular to Thompson.

Lastly, Girard Avenue, the eastern portion of Frankford Avenue and the perpendicular street, felt the safest and were given the highest level. Due to the sense of activity along these streets and the lack of vacant buildings along the streets, such streets feel safer. Also, the buildings are to scale and have more entrances facing the street. Along Girard Avenue, the storefronts are occupied and there are a few restaurants and cafes that provide a constant pair of eyes on the street. Even though Girard Avenue is the widest in this section the street has a safer feeling than the portion west of Front Street. It is important to note that Second Street and American Street, which encompass the Liberties Walk development, are ranked level five for the same reasons as east Girard.



*Palmer Street north of Girard Ave*

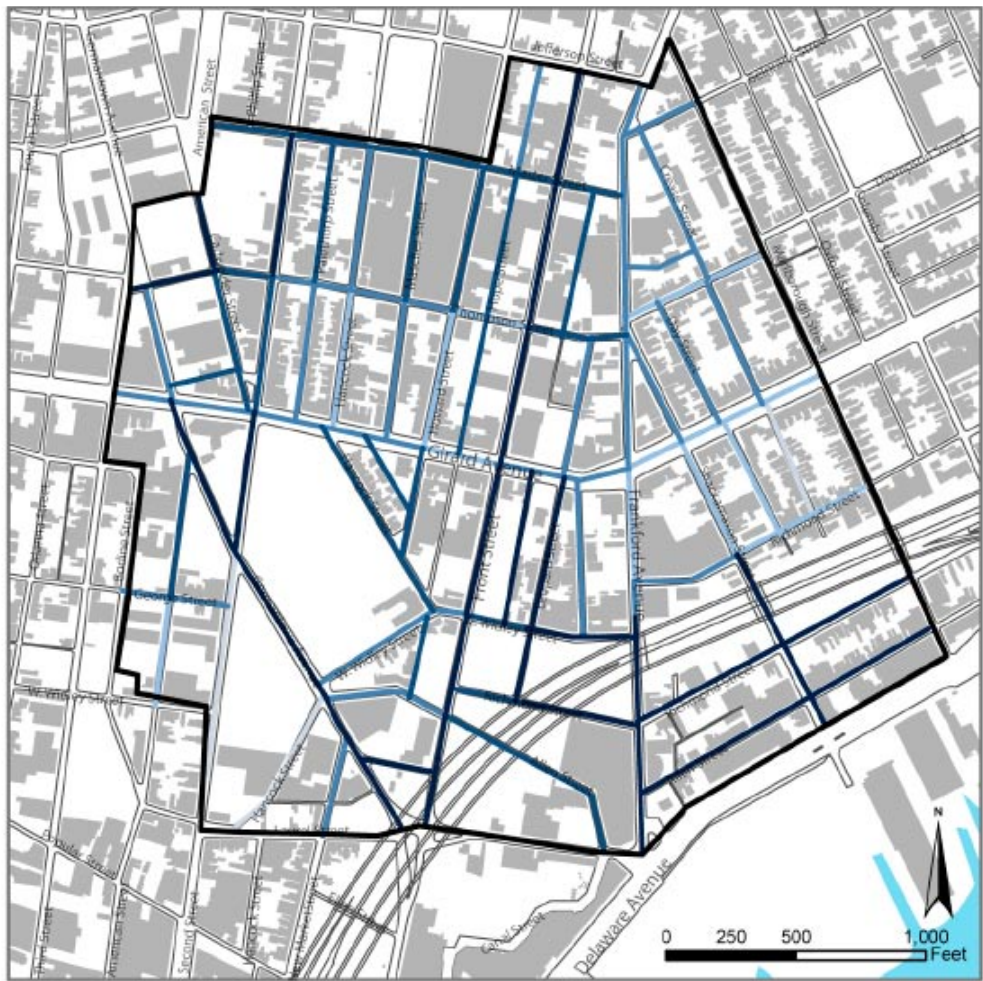


*E. Oxford Street north of Girard Ave.*



*Liberties Walk Streetscaping*





Street Character Map

Legend

- |                       |         |
|-----------------------|---------|
| — Streets             | Level 1 |
| Delaware River        | Level 2 |
| Buildings             | Level 3 |
| Study Area (1/4 mile) | Level 4 |
|                       | Level 5 |

Street Character Map

This map is used to analyze the degree of street character we felt as a team each street in the study area had. It is also based on personal biases of people that do not live in the area. Providing a fresh pair of eyes works well for the point of this surveying technique because residents, both short-term and long-term, have a bias to the place they live. By not living in the area, our team was able to pick up on elements that were taken for granted and provide a more objective ranking. The ranking system was divided up into five levels. Level 1 being the least safe and level 5 being the safest. The definitions for each level are as follows.

- Level 1: Deteriorated or missing buildings common, much litter and debris
- Level 2: No coherent streetscaping pattern but attempts at private or informal. Buildings begin to provide a visual focus boundary. Debris still present
- Level 3: Coherent streetscaping pattern is present however is in disrepair or outdated. No litter. Visual boundaries are strong.
- Level 4: Buildings are very well maintained and there is a coherent streetscaping pattern providing a sense of identity for the street.
- Level 5: New streetscaping along the street edge. There is a unique sense of place that ties in with the fabric of the neighborhood.

Conclusions that were drawn from the street character map vary widely. First, there is an inherent correlation that is assumed between street character and street safety. For example, the number of entrances on a street provides eyes and permeability to the street which in turn creates greater ownership of the street and more care into the maintenance and up keep. Second, Front Street received a level one for street character for many of the same reasons it received a level one in street safety. More specifically to the character of the street, the elevated rail blocks the views of the buildings and provides an awkward sense of enclosure. Lastly, those streets that received the highest level in street safety tended to receive the highest in street character.

### Design Elements

Northern Liberties has a unique design identity from many different elements that are consistent throughout the neighborhood. Many of these elements are potential design inspirations that can be encouraged in the new development and design of the study area as a whole. In order to further strengthen the connection of Northern Liberties with the study area, we have defined four elements. These elements are views, history, metal, and murals.

The views that are throughout the study area are consistently impressive. Along Girard Avenue, heading west from Port Richmond, there is a clear view of the skyline that is on an angle. Similar to crossing the South Street Bridge into Center City from University City, the view captures the buildings at an angle and shows an interesting and unique vision of the city. The elevated Rail and I-95 structure prove to be an interesting view throughout the study area since both are elevated fairly high off the ground. When I-95 turns eastward, the highway is raised a reasonable thirty feet from the ground. This allows for much of the study area to see the Ben Franklin Bridge towering behind the freeway. This creates a unique metaphor of different transportation modes. Along the Delaware River, the vast space allows one to view a good portion of the New Jersey Shore and the curving eastward Pennsylvania shore, with such vistas of the Camden Skyline, Petty's Island and the South Philadelphia piers.



*Ben Franklin Bridge*



*The National Shrine of Saint John Neumann*



*Historic cobblestone along Canal St.*





*Metal Artwork along Delaware Avenue*



*Liberties Land Mural*



*Cambridge Street Mural*

Northern Liberties has a rich and long history dating back more than 300 years. There have been many incremental changes and remnants of this past left behind. Most prominently is the street fabric of the study area. The incremental streets and juxtaposing grids provide many opportunities for the views in addition to a unique space in the city that allows for more surprises than in Center City. The streets create irregular lots which in turn form irregular shaped buildings unique to the study area. In addition to the historic nature of the street grid, there are also historic landmarks acting as nodes throughout the site, notably Saint John Neumann Shrine and First Presbyterian Church along Girard Avenue. These landmarks are grand within the site and provide orientation. The historic Philadelphia Electric Company Plant, Crane Company Building and Ortlieb's Brewery are also large structures that are indicative of the area's history that can be reused to provide character throughout the area.

The Northern Liberties, Kensington section is known in Philadelphia as the center of the historic industrial core of the city. Many of the buildings have metal fixtures around them as well as the metal elevated line running north on Front Street. Many of the artists in the area have used this element to create artwork that uses this element in street furniture and sculptures. Artists such as Leo Razzi have created many industrial art installations from the tree bollards along the Cambridge Street Live work spaces to the entrances gates of Shackamaxon Court (Razzi). Using these metal artwork has provided an artists identity for the area much like the identity created along South Street.

Murals are an identifying art installation that the City of Philadelphia encourages. There are currently several murals throughout the site and throughout Northern Liberties. The murals in the area all depict the historic, physical, social and cultural character of the area. They display an interconnectedness between the city fabric and human interaction. For example, the mural in Liberties Land Park, shows the earth as a whole in a droplet of water and then through six circles zooms into the site that Liberties Land is set within. Each frame shows manmade and natural features. Another example is the mural along Cambridge Street which shows a sporadic street grid on different angles. This represents the area's grid and then places landmarks between them painted in interesting views and in rust to represent the weathering the area has seen.



## Market Analysis

### Residential Total Sale

	1999	2000	2001	2002	2003	2004	2005	2006
<b>Quarter-Mile TOD Area</b>	112	124	157	183	175	234	201	153

Source: Philadelphia NeighborhoodBase Information System

From 1999 to 2004, there had been a steadfast trend of increasing home sales in our quarter-mile TOD study area. The amount of homes sold in the peak year of 2004 was more than double that of 1999. However, most recent available data shows that home sales dropped significantly in 2005 and 2006, with total home sales in 2006 approaching the level of home sales in 2001. This fact suggests a robust housing demand displayed in the quarter-mile TOD area's housing market; although this demand was overheated in 2004, it had begun to stabilize since 2005.



Year	1999	2000	2001	2002	2003	2004	2005
Avg. of Median	32,735	38,943	39,239	55,308	85,457	144,393	168,236
Median Sale Price	32,000	35,000	30,500	45,000	82,122	102,500	133,825
<b>Difference</b>	<b>735</b>	<b>3,943</b>	<b>8,739</b>	<b>10,308</b>	<b>3,335</b>	<b>41,893</b>	<b>34,411</b>

Source: Philadelphia NeighborhoodBase Information System

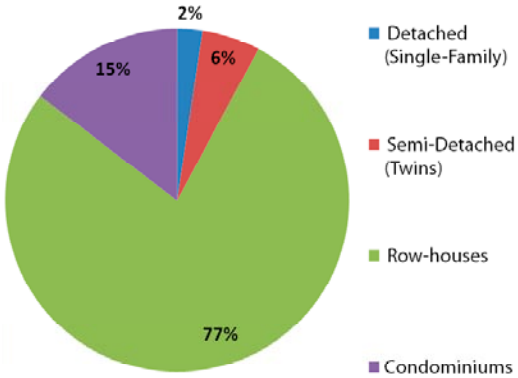
House Price Trend



In this market analysis, we employed two distinct methods of evaluating residential sale price. First, is calculating the average of all the median sale prices collected from various census block groups, which geographically constitute our quarter-mile TOD area. The second method takes median value, of all these census block groups' median sale prices. Then, we calculated the difference between these two figures for each year. Closely observing the trend of this difference offers a clue as to when the market became overpriced. This "difference" figure jumped from merely \$3,335 in 2003 to \$41,893 in 2004, suggesting that the top price range in the 2004 market skewed the average figure, making it much higher than the median of all the block groups' median sale prices. This was a convincing indicator that the market was overheated between 2003 and 2004, coinciding with our previous conclusion drawn from observing the total sales trend. The sale price figure collected for 2005 demonstrated that the market did cool off a little bit, compared to 2004, yet still remained relatively skewed to the top tier price range.

Residential Types

Residential Types



	Detached (Single-Family)	Semi-Detached (Twins)	Row-houses	Condos	Total Residential
1/4 Mile TOD Study Area	65	150	2119	401	2,735
Percentage	2.4%	5.5%	77.5%	14.7%	100%

Source: US Census 2000

According to the US Census 2000, out of a total of 2,735 housing units, the vast majority of homes in the quarter-mile study area were row houses (78%) and condos (15%). This confirms an untapped market for detached single-family homes (only 2%, as of 2000) and semi detached twin homes (6%).

### Renter vs. Owner

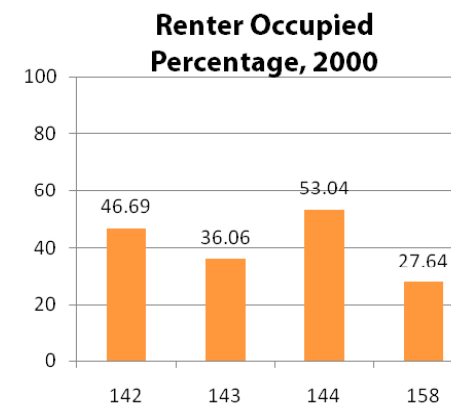
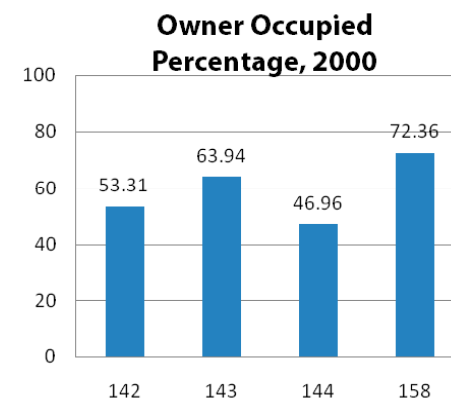
A higher rate of home ownership generally signifies a higher degree of stability in a housing market. In this quarter-mile TOD such stability measure varies across census tracts, from a very high home ownership rate of 72% in tract 158 (primarily Fishtown) to a medium-high rate of 64% in tract 143 (primarily Northern Liberties) to a lowest rate of approximately 50% in tracts 142 and 144 (Kensington). This broad range of home ownership reflects a high degree of diversity of our quarter-mile study area.

### Tax Delinquency Rate

Another indicator of higher level of stability in a housing market is its low rate of tax delinquent properties. While Northern Liberties enjoyed a significantly lower rate than the city-wide rate of tax-delinquency (18%), South Kensington maintained the city's average of 24%. A mixture of very stable and not so stable pockets of housing is found in our quarter-mile TOD area.

### Proposed Development

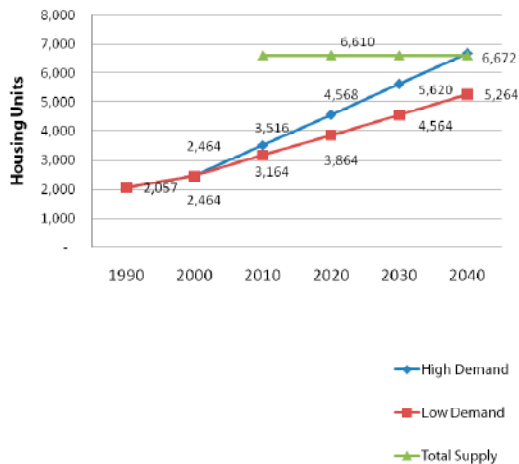
As of July 2007, a total of 3,875 additional residential units had been proposed in and surround our quarter-mile study area. After consultation with Ira Upin, chairman of NLNA Urban Design committee, our planning team confirmed that these projects have already secured development permits and will most likely come into completion within a period of ten years. In addition, there are also more than 2,000 housing units that have been proposed whose status had not been confirmed yet, and thus do not appear in our inventory. That said, a total of close to 6,000 additional housing units could potentially hit the market in and surrounding our quarter-mile TOD area in another 10 to 20 years.



Source: US Census 2000



**Future Projection of  
Housing Supply and Demand**



### Range Projection

A thirty-year projection produces both high-end and low-end estimates of housing demand in our quarter-mile TOD area for every decade, as shown in the table above. A constant total housing supply of 6,610 units, which will be coming into effect by 2010, is comprised of the existing housing stock (2,735 units) and a total of 3,875 potential units in proposed developments. Our graphic projection below indicates that it will take Northern Liberties over thirty years from now, until 2040, to have its high-estimate market demand catch up to the level of housing supply that is currently proposed. Obviously it will take much longer for the market to have its low-end demand match the currently proposed supply. This is a clear sign that the residents will have plenty of housing choice in and surrounding our TOD study area, perhaps even more so than they need. Housing supply apparently will remain ahead of housing demand in this market for decades to come.

Year	1990	2000	2010	2020	2030	2040
High-End Estimate of Housing Demand	2,057	2,464	3,516	4,568	5,620	6,672
Low-End Estimate of Housing Demand	2,057	2,464	3,164	3,864	4,564	5,264
Total Supply (Existing Stock plus New Proposals)			6,610	6,610	6,610	6,610

## **SWOT Analysis**

### **Strengths**

Within our SWOT analysis, there are several key strengths that stand out. First, the historic district in Northern Liberties has a strong sense of identity. This means visitors and residents alike will frequent the area. Secondly, the residents in the study area, especially those in Northern Liberties have an environmentally conscious mind-set. The residents believe in green buildings. This makes new construction and renovation of the old structures environmentally friendly. Thirdly, there are numerous modes of public transit in the area. These modes vary from bus, trolley, and subway. Another key strength of the area is the distinctive views, public art and landmarks that create potential design inspirations. Lastly, the robust housing market is reflected through a strong and increasing housing demand which makes the study area up and coming.

### **Weaknesses**

In addition to strengths, there are also several key weaknesses in the study area. Even though the residents embrace green development, the green spaces are very irregular through the site. In terms of development, several historic structures are deteriorating and zoning does not match the current land use. Also, very few pedestrian connections are incorporated within Northern Liberties and transportation infrastructure acts as an edge cutting off several locations within the study area. Lastly, another key weakness is that there are large vacant lots and buildings distributed throughout the area.

### **Opportunities**

A key opportunity is that vacant land can be converted to parks and green spaces. Another opportunity is that the Philadelphia Zoning Code is lenient, allowing for the NLNA to have a large stake in approving development. A major opportunity in the area is the Schmidt Brewery site which is currently undeveloped. This creates possibilities for more connections throughout the neighborhood and could become an anchor development. What also makes the site prime for development is that there has been a strong interest by developers. With the Schmidt Brewery site developed, large sidewalks could be constructed along Girard Avenue providing opportunities for enhancing street life.

### Threats

There are also many key threats to the area. First, new developments are priced higher than existing projects and this provides for less affordable housing in the area. Secondly, many buildings are deteriorating past the point of salvaging. Thirdly, the large scale highway construction threatens any improvements that could take place under the elevated highway. SEPTA has also contributed to issues within the development of the area. SEPTA's non-commitment to the maintenance and continuation of the Girard Trolley has limited the area's connectivity. Also, the elevated rail may be a deterrent to developing around Front Street since it creates poorly lighted and unsafe areas under the rail. Lastly, there is a potential over-supply of housing due to many development proposals around the study area.

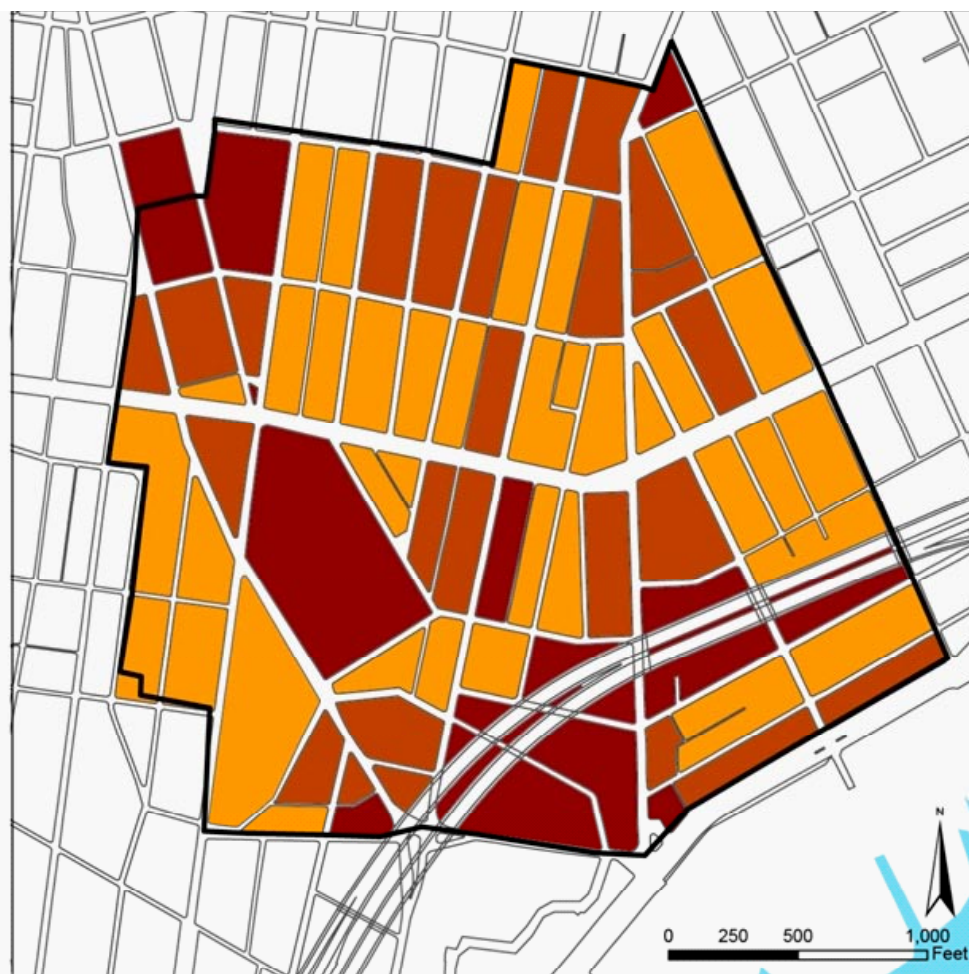


## Susceptibility to Change

The susceptibility to change map illustrates the potential and feasibility of specific block's ability to change. To simplify the work procedural and reduce job amount, the method the team determined the overall quality of the parcels of each block in the study area instead of close observation of each parcel respectively. The standards used to determine whether or not the parcels of a certain block are susceptible to change are:

- **Stability of Use:** How stable are the overall buildings of the block according to their uses and to the fitness of their location?
- **Vacancy:** What percentage of the block area is vacant? How many buildings in the block are vacant?
- **Building Condition:** What is the condition of the structure on the property?

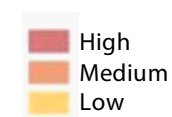
The conclusion is based on the knowledge gained on the site observation, current zoning and land use analysis as well as the market study. In particular, the large proportion of vacancy in the study area is the major impetus for the team's project proposals. Businesses have been prosperous for a long time on the study area especially in Northern Liberties.



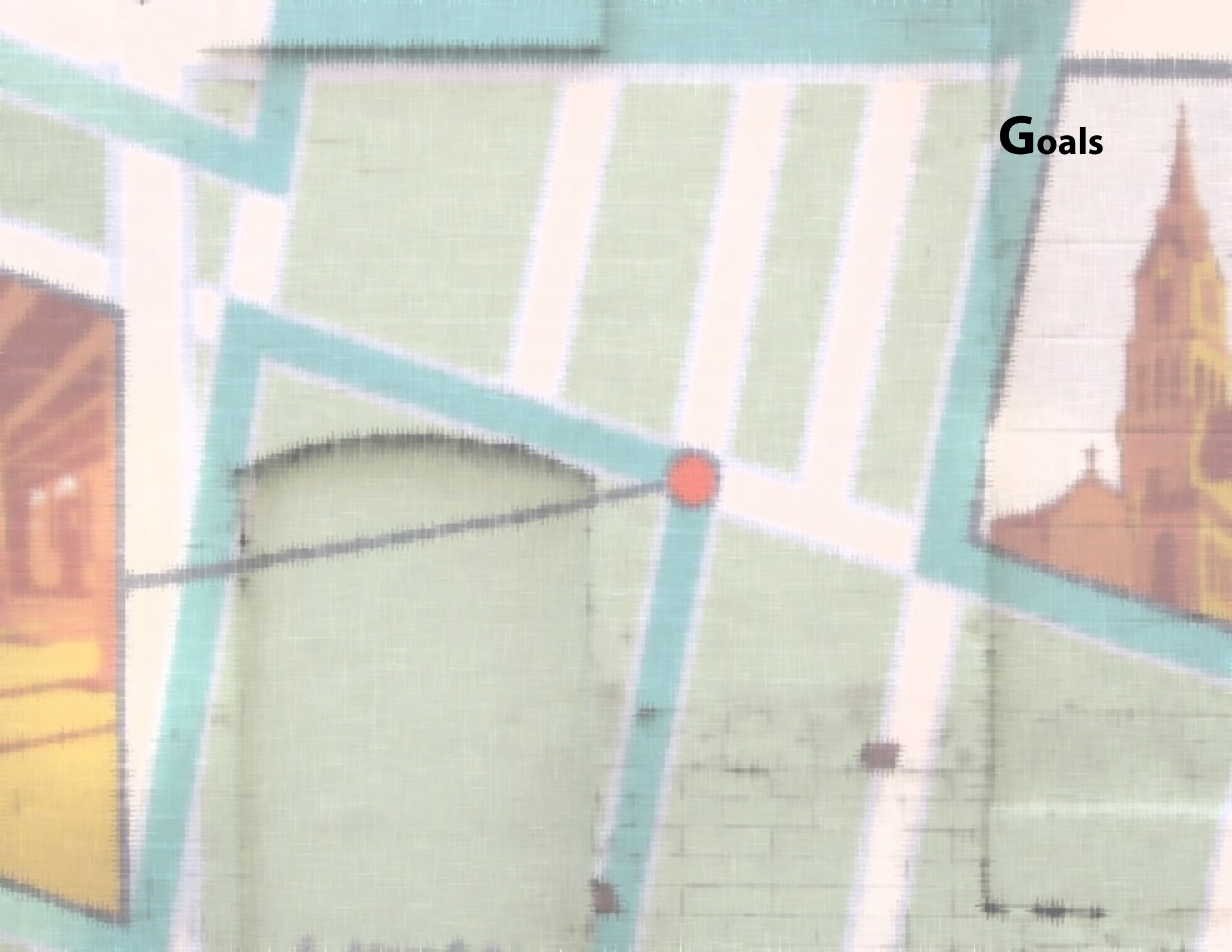
### *Susceptibility to Change Map*

*A breakdown of the methods used to rate susceptibility to change. Each block in the study area was evaluated on the four criteria, using a three-range scale as having a low, medium or high susceptibility to change.*

### Legend



# Goals





## Goals

### Introduction

In creating Plan 2030 for Northern Liberties, we used our existing conditions analysis, the goals of the neighborhood, as stated in their neighborhood plan, and the principles of transit-oriented development.

The overall key thoughts from our SWOT analysis were determined from our existing conditions. These features of the neighborhood informed our design.

- The historic district in Northern Liberties can be used as a tourist destination.
- In terms of demographics, there are a lot of demographic ranges within the study area which means different areas could be built around certain conveniences
  - Environmentally, there are numerous green spaces throughout the existing study area. Such green spaces are those such as in the picture.
  - The zoning of the area is a mixed use, collage mosaic.
  - Numerous modes of public transit throughout the study area.
  - In terms of urban design, there is a strong, historic artist culture in the area provides for unique element of design throughout the space.
- Robust market reflected through strong and increasing housing demand
- Key weaknesses found within the study area were the following:
  - The heart of the historic district is not located within our study area.
  - There is no real defined demographic pattern within the study area.
  - Green spaces are not evenly spread out throughout the neighborhood.
  - Zoning is irregular.
- Many vacant lots and buildings provide an inherent sense of insecurity in the area such as those shown in the picture.
  - Apparent discrepancy between Northern Liberties and Kensington within the quarter-mile study area, particularly in terms of the rate of tax-delinquent and foreclosed properties.



Even though there are several weaknesses, there are also many key opportunities for Northern Liberties. These opportunities are:

- The historic preservation tax credit allows deteriorating buildings to be preserved.
  - There are clusters of particular incomes within the study area.
  - Vacant land parcels provide room for more green space.
  - Leniency of the Philadelphia Zoning Code
  - Schmidt site is undeveloped, so pedestrian connection can be made.
  - Large street along Girard allow for the possibility of promenading.
  - Strong supply will likely outpace strong demand in the area, therefore future home prices will tend to be brought down to a more stabilized level, which can avoid overheated market.
- In addition to opportunities, there are also threats within the area; yet we do not foresee these threats as a hindrance upon development. They are:
- The new historic district could bring too many people to the area
  - Higher median incomes are on the edges of the study area but we need to make this more even through the entire area.
  - Developers may continue to want to use the vacant land for residential development.
  - SEPTA's non-commitment to the maintenance and the continuation of the Girard Trolley threatens Front and Girard acting as a strong hub.
  - Large development proposals are not in context with the neighborhood.
  - Potential over-supply of housing due to inundated development proposals in and around the quarter-mile study area,

## Original Recommendations

The group's original recommendations were based on the following factors for seven areas of analysis.

- Historic: continue architectural styles throughout new construction in the historic district
- Demographics: population, age, household size/composition and income
- Environmental: greenspace and Brownfield development
- Zoning: Look at the current day zoning, and reassign different zones based on the needs of the neighborhood.
- Transportation: analysis of transportation modes throughout the area (bicycle, automobile, mass transit)
- Urban Design: street analysis and looking at current conditions
- Market Analysis: oversupply, affordability and housing characteristics

In the historic section, we wanted to maintain the architectural styles that are found in the area. The architectural styles that dominate the area are Italianate, Federal and Greek revival. The demographics that we focused on were population, age, household size/composition and income. These were determined using the US Census (2000) for the entire half-mile study area.

Environmentally, we focused on greenspace and Brownfield development and looked at current day zoning to see what areas were zoned for what and how we could implement new plans on particular sites. In transportation, we looked at several different types of transportation methods (bicycles, automobile, mass transit and pedestrian) and determined which ones were used most and what routes held the most riders.

The urban design analysis focused on the streets to determine what each street's current condition was. We asked ourselves questions such as whether or not it was safe and what the current streetscaping conditions were. In the market analysis, we used a quantitative analysis to determine if there was an oversupply of housing, if that housing was affordable and what the particular housing conditions were in the study area.

### **Goals of the Northern Liberties Neighbor's Association (NLNA)**

The following seven goals come directly from the NLNA. These are the goals in which we focused when completing our initial analysis and final plan.

- Reinforce diversity and identity within the community
- Preserve mosaic of land uses
- Re-establish 2nd Street as the heart of the neighborhood
- Adopt "Green Philosophies" and demand low impact development
- Create a seamless transition between the traditional neighborhood and the water front
- Ensure livability through optimized mobility
- Build capacity within the NLNA; generate desirable change

These seven factors have been implemented throughout our team's plan. Our goal was not to create a plan that was not realistic but could easily be implemented by those living in the study area.



### **Goals of TOD (Transit Oriented Development)**

- Enhance transit ridership
- Create greater mobility with different transit options
- Create interesting and active places to live, work and play
- Improve the design quality of the built environment
- Foster economic development
- Increase the predictability and consistency of the development process

By improving TOD, more visitors will be able to come to the area and residents will become more mobile. Mass transit should be used when traveling throughout the city but if another form of transportation is necessary, partnering with companies such as Philly Car Share will give residents another form of transportation without them having to have their own vehicle.

Live/work units have been placed throughout the study area, especially near Girard Station. The overall design of the area calls for cohesive and uniform streetscaping. More green spaces have been implemented and extensive streetscaping measures have been suggested. With the overall look of the area improving and becoming safer, economic development will gradually occur.

## **PLAN 2030 GOALS**

### **Utilize the transit station as an accessibility point for the surrounding area**

The Front-and-Girard Station will be the center of the transit-oriented development. It will work to optimize mobility as per the goals of the NLNA. The Front-and-Girard station will serve as a transit hub that can offer Northern Liberties residents a variety of mobility options, including subway, bus, as well as car sharing services in their commute to destinations that are located outside of Northern Liberties. Such improved mobility and access will not only help enhance NLNA's goal of creating a seamless transition between the traditional neighborhood with the waterfront, but also attract residents from other parts of Philadelphia to come shop and dine in Northern Liberties, which will ultimately contribute to the neighborhood's vitality and economic development through increased tax revenues and heightened standards of living.

### **Connect Northern Liberties with the Study Area**

Transit-oriented development works to create a much stronger connection between the neighborhood residents and the features around it. It fits perfectly, also, with NLNA's stated goal of creating a seamless connection between the traditional neighborhood and the waterfront, our plan also focuses on engaging our study area with the larger Northern Liberties neighborhood. The many different urban amenities that our plan features will also attract and welcome the enjoyment of residents from across the entire neighborhood that may not reside within the quarter-mile TOD area.

### **Make a more walkable, pedestrian-friendly environment**

In the spirit of the seventh goal set out by the Northern Liberties Neighborhood Association, which is "to ensure livability [for Northern Liberties residents] through optimized mobility", plan 2030 will commit to creating an enjoyable urban environment that does not only serve vehicular users, but also provides comfort to pedestrians. In order to create places that carry the unique diversity and identities embodied by the Northern Liberties neighborhood, at the same time encouraging and facilitating enhanced pedestrian activities, we recommend the following three fundamental elements:

There are destinations effectively drawing people which are also highly accessible, interconnected by means of a continuous network of safe, convenient, comfortable, and interesting sidewalks and paths

The community will be built at a pedestrian scale, with short enough distance to walk and buildings close enough to the sidewalk.

Pedestrians must feel safe from crime, traffic, and weather conditions; such enhanced safety will require careful design, including “eyes on the street”, traffic calming devices, and shelters at frequent intervals.

### **Encourage Low-Impact Development in the TOD quarter-mile area**

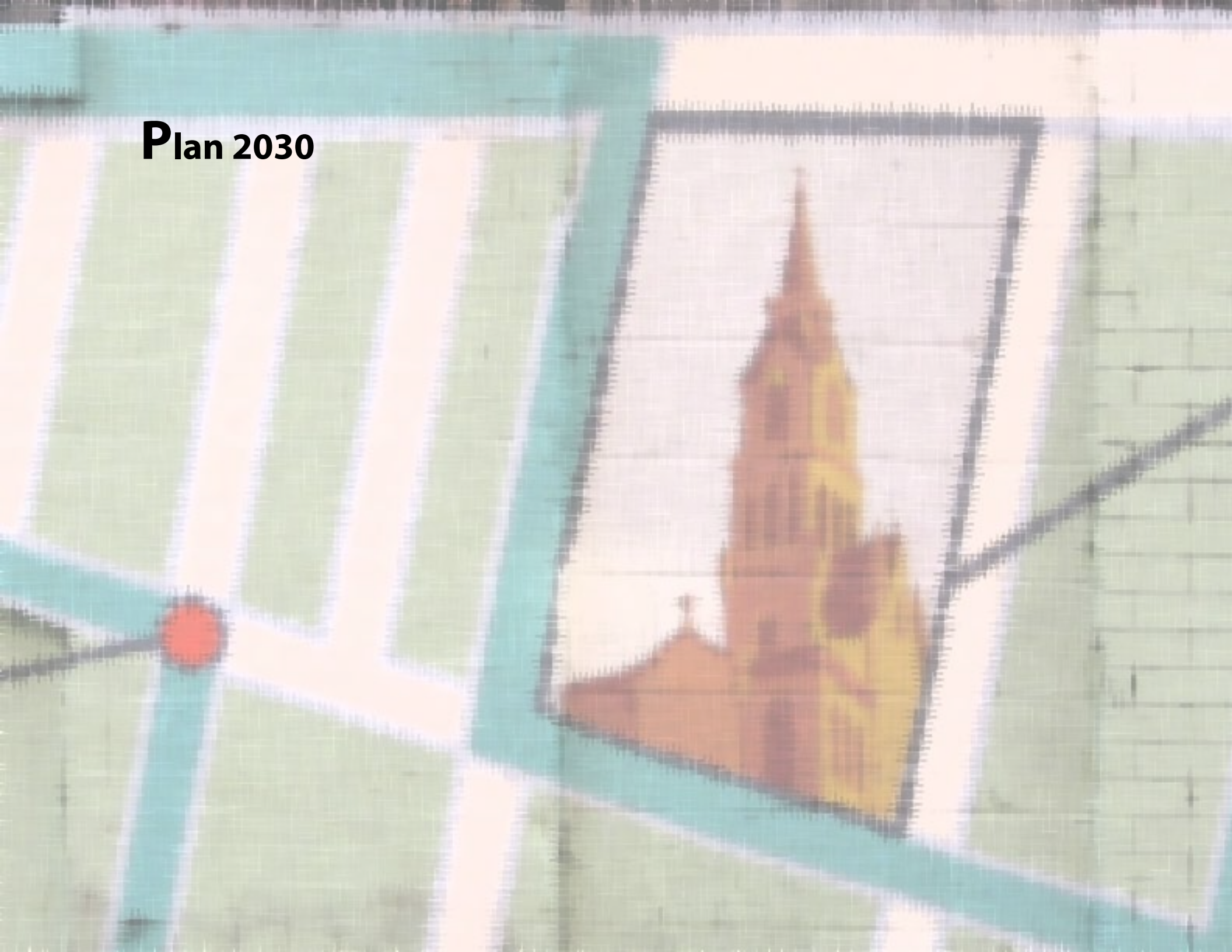
Low impact development (LID) is a cost-effective and visually appealing approach to site design that involves innovative land planning practices and technologies for managing storm-water and wastewater. LID techniques are designed to protect watersheds, lower installation and infrastructure maintenance costs, as well as adding aesthetic value. The primary goal of this approach is to protect Northern Liberties’s natural environment through pockets of greenspaces and a large park to connect the study area with another important natural resource for the area- the riverfront.



*Outdoor cafes and restaurants add vibrancy to the streets  
Delmar Loop – University City and St Louis, Missouri*



# Plan 2030



## **Plan 2030**

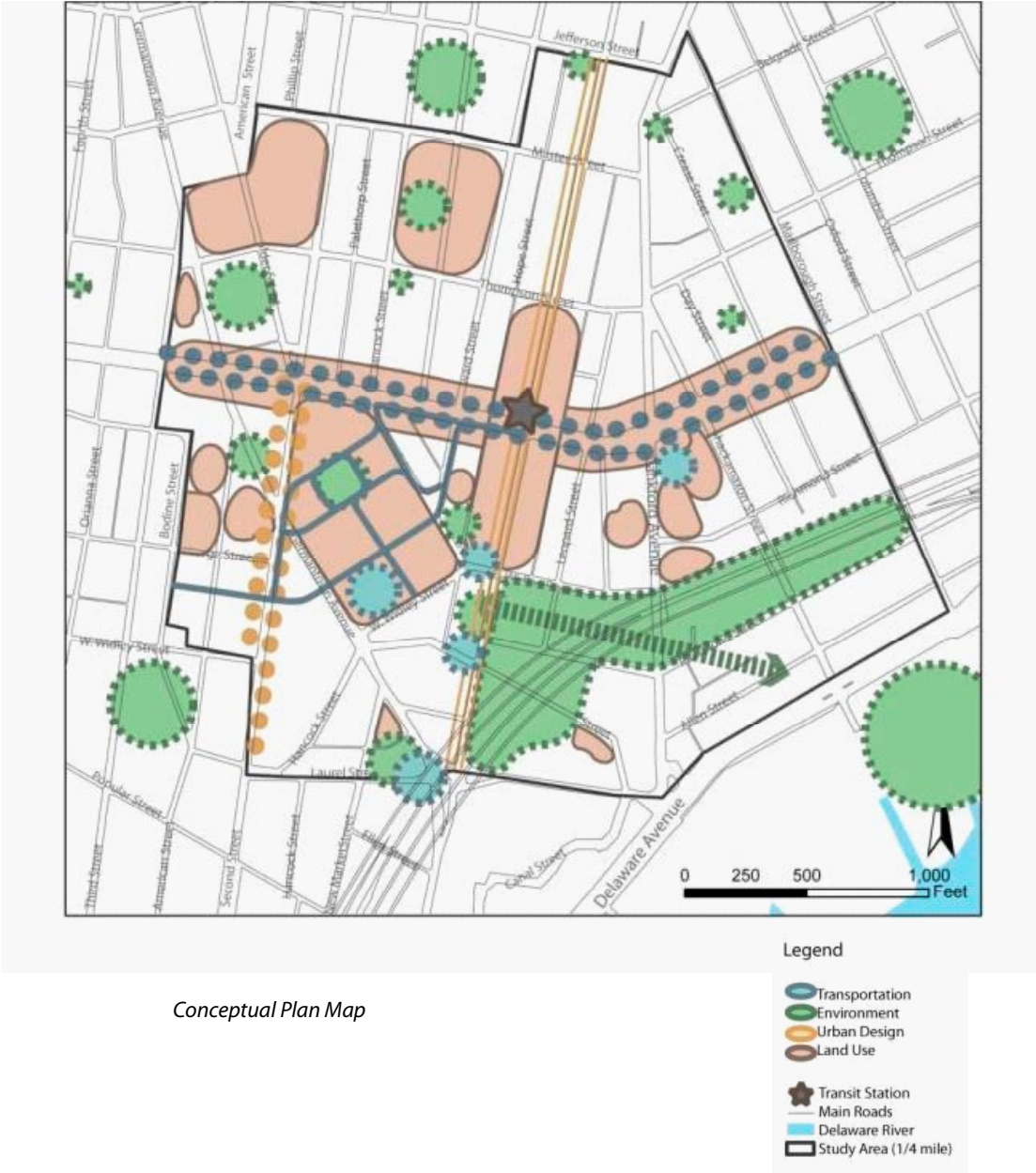
### **Introduction**

#### **Demographic Trends (age, income and housing size) for 2030**

After completing an original demographic analysis, the next step was to predict demographic trends for year 2030. It was determined that the median age of the population will decrease since younger singles and couples will be moving to the area due to its trendy and young lifestyle. There will also be more residents in the area between 20-30 years of age. Instead of the greatest population numbers being on the fringe of the study area, the center of the study area will increase in population due to slated development.

The median income of the study area will rise as Northern Liberties becomes a highly sought after location. More professionals from Center City will move into the area due to the amount of new development and the area's proximity to mass transit. Also, the median income will be more evenly distributed throughout the community instead of just near Fishtown and Center City since new development will be happening in all areas of the study area.

The housing size will significantly decrease due to more couples (without children) and singles moving into the area. With more condos and town homes being built, fewer families will be residing in the area. The area will become more welcoming to singles and those without children.



Conceptual Plan Map



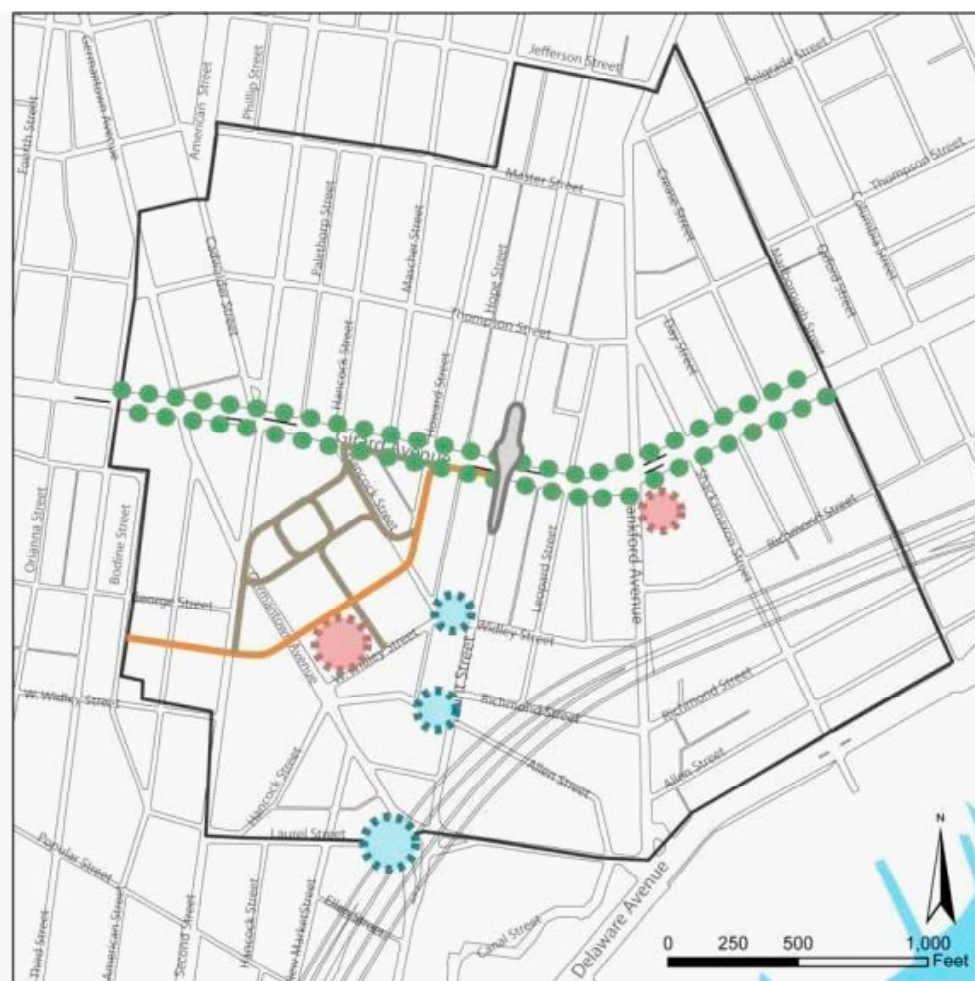
## Elements

### Transportation

Transportation is one of the most important elements of this plan. It combines the underpinning goals of transit oriented development, the neighborhood and the first goal of this plan. As stated before by providing transportation options the community is a more livable and sustainable place not dependent on solely automobiles and the whims of oil prices, car manufactures and auto-centric infrastructure. We recommend, in accordance with the 2005 Northern Liberties Neighborhood Plan in order to ensure the livability of the neighborhood and the study area to increase the mobility potential for the resident (Interface Studio, 2005). We recommend the neighborhood:

- Promote a ridership campaign
- Encourage car sharing
- Create more pedestrian connections to northern liberties
  - Open the station level to the new development around the station
  - Enhance streetscaping along Girard Avenue

We will describe each recommendation in a little more detail adding in why and how this increase transportation options in the area.

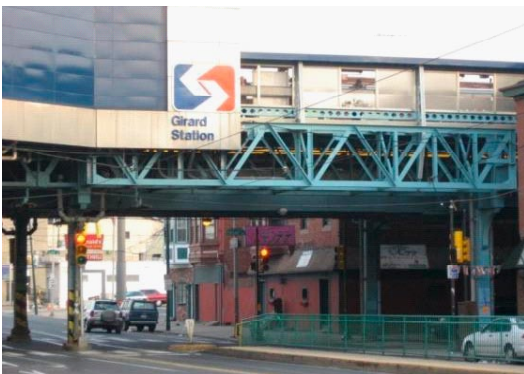


*Transportation Recommendation Map*





*PassPerk signs advertising programs in stations*



*Girard Station with a trolley stop in foreground provides an opportunity for easily accessible amenities*

### Promote a ridership campaign and transit awareness

#### Support SEPTA's Current Campaigns

SEPTA has recently created two new campaigns, the PassPerks program and a campaign called "Go Green, Go SEPTA" which touts the environmental benefits of riding transit. Go Green, Go SEPTA is an initiative that was announced in February 2008, and aims "to educate and encourage residents of Greater Philadelphia to live green and ride SEPTA" (SEPTA-Watch, 2007). This campaign can be extended to Northern Liberties via their website by posting the benefits to riding SEPTA and how it creates a "green" lifestyle as well as providing transit route direction to and from other regional destinations, such as the Zoo, Art Museum, universities, etc.

In addition, Northern Liberties can participate in the PassPerks program by encouraging local businesses to offer discounts for those people that hold a SEPTA pass, to encourage the benefits of buying a pass. Adding a link to the NLNA website to the program would help. For more information on the Pass Perks programs go to [www.septapassperk.org](http://www.septapassperk.org).

#### NLNA Initiatives

The NLNA Community Center would provide the transit schedules that run through the neighborhood and the study area for easy community accessibility. In addition, to providing transit schedules the NLNA should create a sub-committee to focus on transportation options throughout the neighborhood and the study area including: the Market Frankford Line, Trolley Route 15, bus routes, bicycles, automobiles and pedestrians. Focus the Intersection of Girard and Front as a Community Hub

By creating a community hub at Girard and Front, the NLNA is promoting the intersection as a hub for transit. Our group recommends the transit routes be clearly marked where the stops are in the area. It also would be helpful to give a directory of destinations that can be reached via the routes, around each stop/station, this provides a way finding service for those that are visiting the area as well as clearly identify the area as a transportation space. Lastly, a clear identifying design theme should be around the station, to provide a sense of cohesion around the area.

## Participate in awareness campaigns

Many transportation associations have awareness campaigns ranging from the benefits of transit on the environment to the real price of oil. The NLNA may choose to partner with some of the organizations to support awareness campaigns via publications or websites. An example of said campaigns is the Dump the Pump Day, organized by the American Transportation Association. This is a day usually in mid June (June 19, 2008) that encourages people nationally to get out of their cars and take public transportation to work (American Public Transportation Association, 2008)

## Encourage Car Sharing

### Support Developers Using Car Share as an Incentive to Reduce Parking

Encouraging developers to include car sharing pods in their plans, allows for a multitude of locations for the programs to enhance their services in the area. Developers are continually seeking new ways to reduce parking costs. According to e-mail correspondence with Philly Car Share, nearly half of all car sharing member reduce their automobile ownership. The typical reduction of parking spaces is 15 fewer spot per 100 for residential developments (Lane, 2008).

### Partner with Philly Car Share/Zip Car to Sponsor/Host Community Events

Many of the non-profit's marketing teams use community events to increase their memberships and encourage their own services. Supporting car sharing programs to attend event or even sponsor event within Northern Liberties is a great way to encourage car sharing for residents and for the programs to advertise.

### Create Car Sharing Hubs Throughout the Area.

The existence of car-sharing hubs in the area will allow area non-profit organizations to advertise and have a large presence in the neighborhood. There are many sites that have potential for car sharing hubs, our team recommends two. The new parking garage on the Schmidt Brewery Site as well as an open lot along Frankford Avenue, just south of Girard Avenue. This site has a great potential because of the visibility it will have from a improved commercial corridor along Girard and Food and Entertainment District along Frankford.

## Girard Avenue Transit Oriented Development



*Philly Car Share hub near Rittenhouse Square*



*A Zip Car*





*Continuation with Liberties Walk is a great way to reinforce identity between new development and Northern Liberties*



*Photo for station, proposed change would covering part of the stairwell to make a walkway to the building's second floor*

**Create Pedestrian Connections to Northern Liberties**

Focusing on pedestrian connections from the transit station to Northern Liberties is an important factor in promoting the livability and sustainability of the area and the neighborhood. Creating permeable blocks throughout the Schmidt Brewery Site, and reinforcing connections along Front Street to connect with the proposed park is important.

Permeable blocks through the Schmidt site reinforces Northern Liberties as a walkable community. The blocks should be roughly a Philadelphia city block size (400 feet by 400 feet), and have several options to encourage choice. A mixture of modes should be in the site, along with a strong continuation of the pedestrian street Towers Investments created in Liberties Walk.

The plan also will enhance access to Front Street, and will incorporate legible entrances to the neighborhood including Widley Street, and Laurel Street. To increase the walkability of the area there will also be flowering trees and historic lamps throughout the area. This will make the sidewalks more aesthetically pleasing. Benches commissioned by local artists will enliven the sidewalks to define the identity of the area. There will also be wider sidewalks to allow for two lanes of pedestrian traffic, and lower density buildings will keep the neighborhood at a human scale. The buildings will not have the daunting monumentality of downtown.

**Open the Station to the Second Floor of Adjacent Buildings**

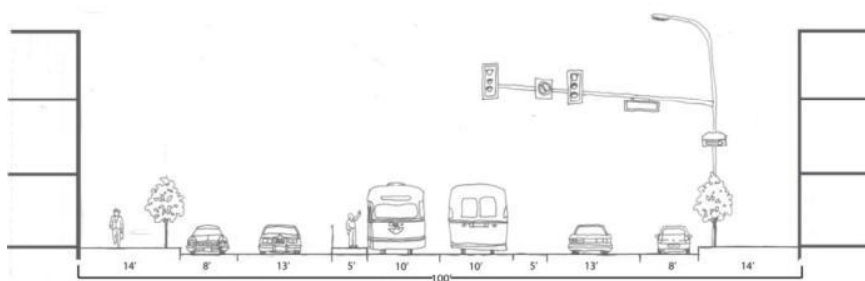
Opening the upper level of the station will make the station more accessible and inviting to those riding public transportation. Connecting to the adjacent buildings via the stations platform provides more accessibility to the area. People can meander down a stores steps or quickly grab a bit to eat while waiting for the train. This has already been done successfully at the Merchandise Mart Station in Chicago and it should be used as a precedent. Although it was built decades ago, the concept is still the same, to use an entrance via the station to improve sales of the area (in the Merchandise Mart case one store), but also create a place that is unique that will draw on a market and not only will make people want to visit but create a place unique to live and work.

The new station can use the site where the Old World Thrift Building is, and when developed connect via a two-story gallery. The gallery, along with other in the area, will provide outlets for local artisans and artist. These spaces will also act as an outlet for the Northern Liberties Arts Association. This new floor will also create an identifying feature for the Girard Station, encouraging ridership to the station and people to live near the station. The station's new entrances will activate the retail along Girard Avenue and Front Street. The light rail has previously hindered the street life. The plan will extend the space over the steps along the building. This, again, will make the station more accessible, and will improve its ridership.

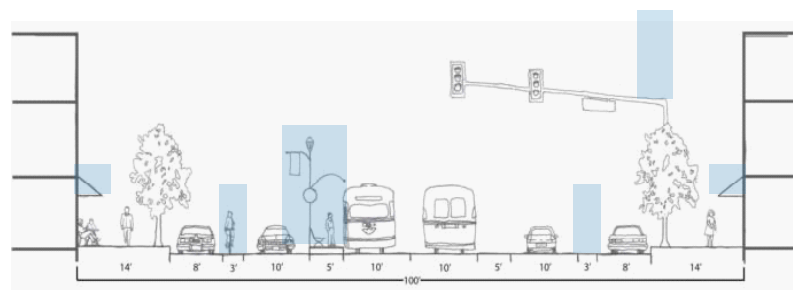
### Enhance Streetscaping Along Girard Avenue

Along Girard Avenue there is currently few streetscaping techniques. There are several trees, but little cohesive streetscaping design. Girard Avenue has, unfortunately, many elements that make it difficult to be a pedestrian friendly street. There are large lanes, exposed trolley stops, and little sidewalk activity. These problems can, however, be muted to create much friendlier environment for residents.

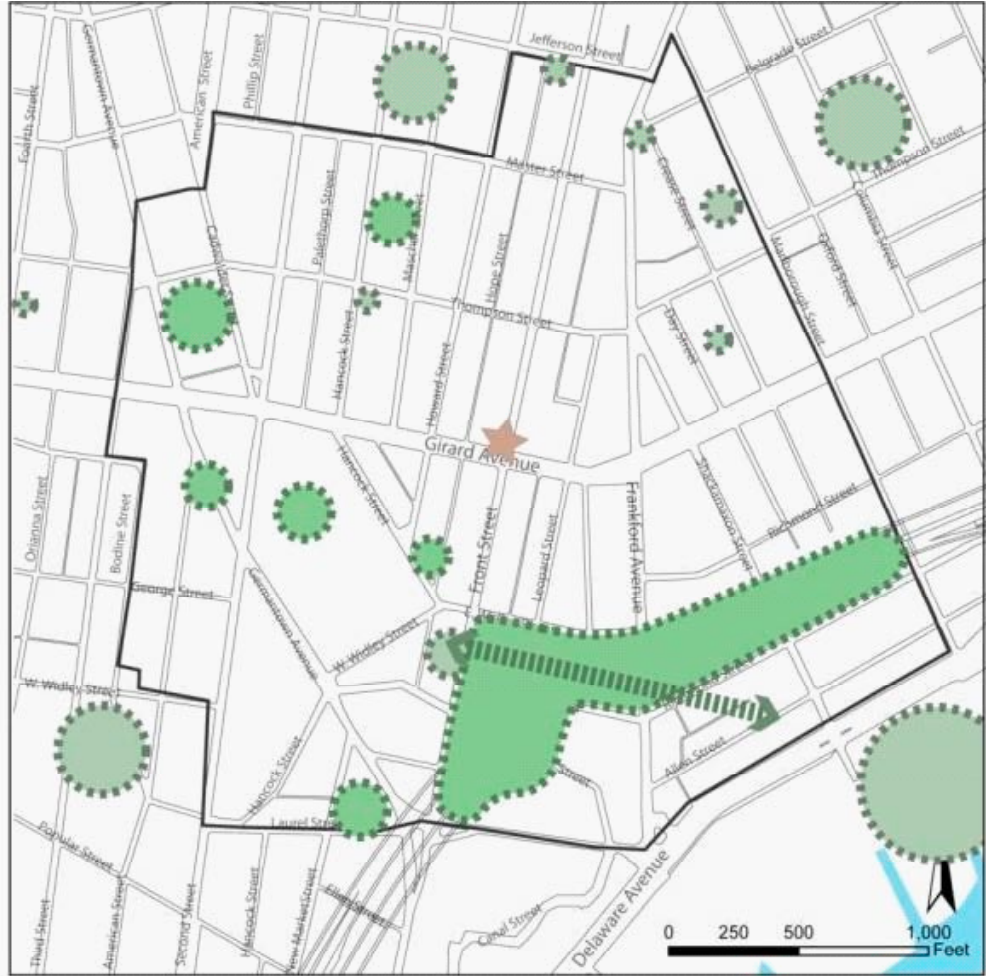
The plan calls for several changes in streetscaping along Girard. There will be more outdoor seating on the street. It is important outdoor seating, and awnings will shade the benches. The trees will be replaced along the street with trees that provide some shade. The plan will add bike lane on Girard Avenue. This will promote many types of modes of transportation. Removing all overhead lights to replace them with more pedestrian-scaled Lights similar to those found on the streetscaping plans for Second Street. Finally, there will be transit shelters. These shelters will also have clearly identified and uniform signs designating what public route and mode of transportation stops at each of the shelters.



*Present Day*



*After Future Improvements*



Environmental Recommendation Map



**Environmental Vision for 2030**

The transit-oriented development designed for the Girard Station is 'green' both literally and figuratively. The proposed greenbelt for Northern Liberties provides available greenspace for the community.

Transit-oriented development traditionally encourages sustainable building techniques. There are several different steps in which to provide the community with sustainable development: choose a sustainable site, maximize water efficiency, save energy, make smart use of materials and resources, safeguard indoor environmental quality (NDRC).

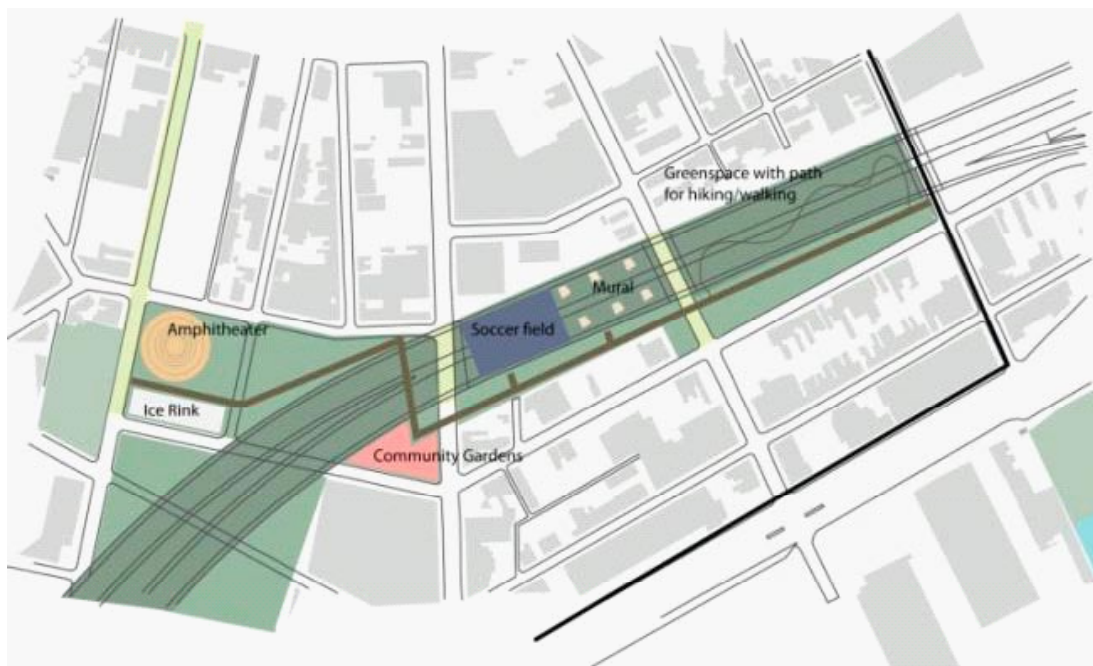
These steps are important to insure that the development that occurs in effort to create the transit-development for the Girard Station, which also abides by the goals of the neighborhood, set aside in the neighborhood plan. Some of many green initiatives encouraged include the green-roof techniques provide the area with direction for future developments



## Green Space

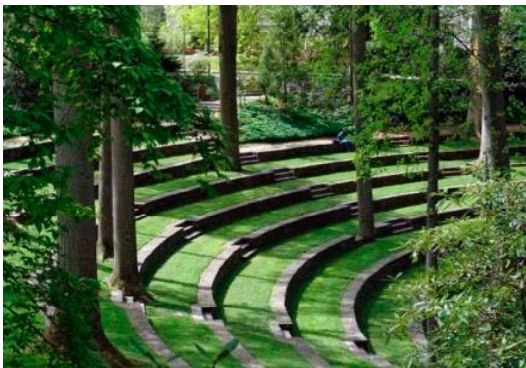
The Plan for 2030 creates a renaissance of greenspace in Northern Liberties. There are pockets of greenspace throughout the area. These greenspaces will allow the community to do with what they wish. There is a large plot of greenspace on the southeast corner of the study area. The small parks will help create more personal greenspace throughout the study area. These small parks include the park on the corner of Thompson Street and Johnson Street and along Germantown and Second Street. These two spaces provide smaller areas throughout the study area for those that are interested in open greenspace. There is also a designated greenbelt beginning east of the Schmidt Brewery Site and continuing along the highway. Much of this land currently lies vacant. Northern Liberties can utilize this space by making much of it into a pedestrian friendly park with not traditionally found in and underneath modal transport systems.

Much of the designated greenspace is under I-95. This then does not create a traditional sense of green space. Instead, there are other ways to use this open space under the highway to generate places for activity. The features chosen for the park include: outdoor amphitheater, community gardens, open greenspace, ice rink, playground, bike path, athletic fields, places for murals.



*Proposed Green Space Map*  
Create Park that Extends Under the Freeway





*Swarthmore College, in Swarthmore, PA, uses their outdoor amphitheater as a performance space.*



*Wisconsin provide great opportunities year-round outdoor activities.*



*Quebec placed murals underneath the expressway in order to make the pedestrian experience*

An outdoor amphitheater provides an outlet for performance art in Northern Liberties. At Swarthmore College in Swarthmore, Pennsylvania, an outdoor amphitheater in a grove of trees inside Morris Arboretum is a performance space for students. For Northern Liberties, an outdoor amphitheater could provide a unique performance space for its residents, and for community events. It will measure approximately 562 geet square.

Another outlet for art includes the greenspace that can be used as mural space throgh the Philadelphia Mural Arts program. The murals create pride in the community, and, in Northern Liberties, can create a more aesthetically pleasing pedestrian experience underneath I-95. With such a large local push for murals, the space under the highway could provide the Philadelphia Mural Arts Program with a unique space, and would enhance the pedestrian experience in the area.

A community garden would add more personal greenspace for the residents of the community in Northern Liberties. The new garden, approximately 14,137.5 square feet could serve as an extension or expansion of Liberties Land. Philadelphia Green’s active campaign for more community gardens in the city makes a community garden a wonderful option for greenspace within the study area.

An Ice Rink would provide a year-round use for the green space. Already the Rizzo Skating rink provides a place for many to skate in South Philadelphia. Northern Liberties can create a space for year-round activity—a skating rink.

A playground would provide a place for chidren to play. Due to the growing community within Northern Liberties, could be an useful addition to the greenspace.

Underneath the highway can also be used for fitness and athletic pursuits. Four soccer fields underneath the highway will provide opportunities to workout with other community members on the soccer fields, or with your own friends.

A bike and pedestrian path will connect all of these different activities throughout the Greenbelt. This path also ends at the study area, near Penn Treaty Park. This will encourage a stronger pedestrial connecction to the waterfront

These elements of the Greenbelt provide different kinds of amenities in a unique greenbelt system. This park provides many activities for the community to pursue athletic, art, performance art, personal greenspace, and year-round acitivities.

## Encouraging Green Developments

There are many different opportunities for neighborhoods to now engage in green initiatives. Already, Northern Liberties has an existing community garden. They also have several slated residential projects that will be LEED Certified. Their Environmental Committee is very active in providing other outlets, and hoping to provide more personal greenspace for the area. There are several ways in which to continue to keep Northern Liberties on the forefront of Green Development.

The first is the encouragement of greenroofs on many new developments. Greenroofs can provide more personal greenspace for each resident in the community. Greenroofs need little tending, and create a healthier and more aesthetic design for the neighborhood. There are many historic buildings in Northern Liberties that would not be able to have greenroofs, but new development certainly can, and should include this feature.

Many highways can be an eyesore in urban communities, but several neighborhoods are harvesting the sunlight that the pavement attracts into solar energy. By attaching solar panels to the highway, the community creates a new source of energy to use as they wish.



*Green roofs can provide water retention and aesthetically pleasing views, and personal green space for members of the community.*



*Sustainable development, such as this one by Onion Flats is a wonderful initiative to keep Northern Liberties an environmentally friendly neighborhood.*





Urban Design Recommendation Map



Urban Design

Urban design throughout the plan focuses on four factors. It is important that guidelines are written to help guide development in the study area. Also, by using historic preservation tax credits, historic structures will be able to be preserved and adaptively reused. Innovative approaches should be taken to make the area under the EL on Front Street more appealing. Lastly, streetscaping must be encouraged along Second Street in order to connect the historic district to Girard Avenue.

Guideline Recommendations

The design recommendations that we are proposing reflect the overall appearance of the area and evaluate the surrounds of the area. Also, guidelines must be set in order to determine what needs maintenance and a maintenance schedule must be developed. Neutral facades must be maintained for particular areas. For example, the historic district, especially on Second Street, should remain in tune with historic architecture. Guidelines should be set so that modern buildings cannot be built in such locations. Also, local artists should be commissioned to create artwork for the area.

Some design inspirations for the area are to create spaces with views. Cobblestone, such as on Canal Street, can be used instead of concrete sidewalks, especially in historic areas. Metal artwork, such as that seen near Delaware Avenue, can be placed throughout the study area and local artists can be commissioned to complete this artwork. Plazas, such as those in Hancock Square, can be created and green space can be incorporated within them. These plazas will provide residents with a place to gather, especially during the summer months. Lastly, historic landmarks should stand out and draw visitors to the area. Placing signs with arrows leading people to such landmarks is important to both tourism and the culture of the neighborhood.

### Historic Tax Credits

The rehabilitation credit applies to costs that are incurred during the rehabilitation and reconstruction of certain buildings. Rehabilitation includes renovation, restoration, and reconstruction. It does not include enlargement or new construction. Generally, the percentage of costs you can take as a credit is: 10% for buildings placed in service before 1936 and 20% for certified historic structures.

The entire historic district in Northern Liberties is currently being placed on the National Registry of Historic Places. This means that most of the buildings located in this district qualify for the historic tax credit. By taking advantage of this credit, more historic buildings will be able to be revitalized and preserved. Such preservation will only add to the value and character of the neighborhood.

### Under the EL Innovative Approaches

There are several ways to make the area under the EL on Girard Avenue more appealing. A major goal is to hide the beams from the EL structure with colorful mosaic tiles. This will liven up an area, which is currently dull and dangerous. Since the study area contains several local artists, these artists should be commissioned to create reflective artwork that will allow light to enter into the area. In addition to natural lighting, string lighting should be implemented to allow more light for pedestrians, especially during the evening hours. Again, the use of murals and mosaics should be used for an additional design aesthetic. This not only ties in the artistic culture of the neighborhood but it is murals are also an important part of Philadelphia's culture.

### Girard Avenue Transit Oriented Development



*Northern Liberties Lofts is a good example of adaptive reuse*



*Decorative tiles can be used to liven up space, like in the subway in New York City*



*Examples of bollards, facades and pavement already existing in Northern Liberties that should be extended*



*A street light found in London which is appropriate*

**Streetscaping along Second Street**

There are many streetscaping elements that can be implemented along Second Street. Some suggestions are to use flags on buildings/lampposts in order to draw visitors from Girard Station to the historic district in Northern Liberties. Historic lampposts should line the streets to create more lighting and a safer environment. Also, brick sidewalks and alleyways should be placed throughout the area for added character. This is especially important in the historic district. This look will give it more of a feeling such as that in Old City and Society Hill in Philadelphia.

The main goal of streetscaping along Second Street is to provide a designation for the heart of the historic district and Northern Liberties. When visitors get off at Girard Station, it is important that they know where they are walking in order to reach such a destination. In addition to these streetscaping measures, curb cuts should continue to be used throughout the area in order to slow down automobile traffic. The goal is to make Second Street as safe as possible for pedestrians and this means slowing down auto traffic at all costs.

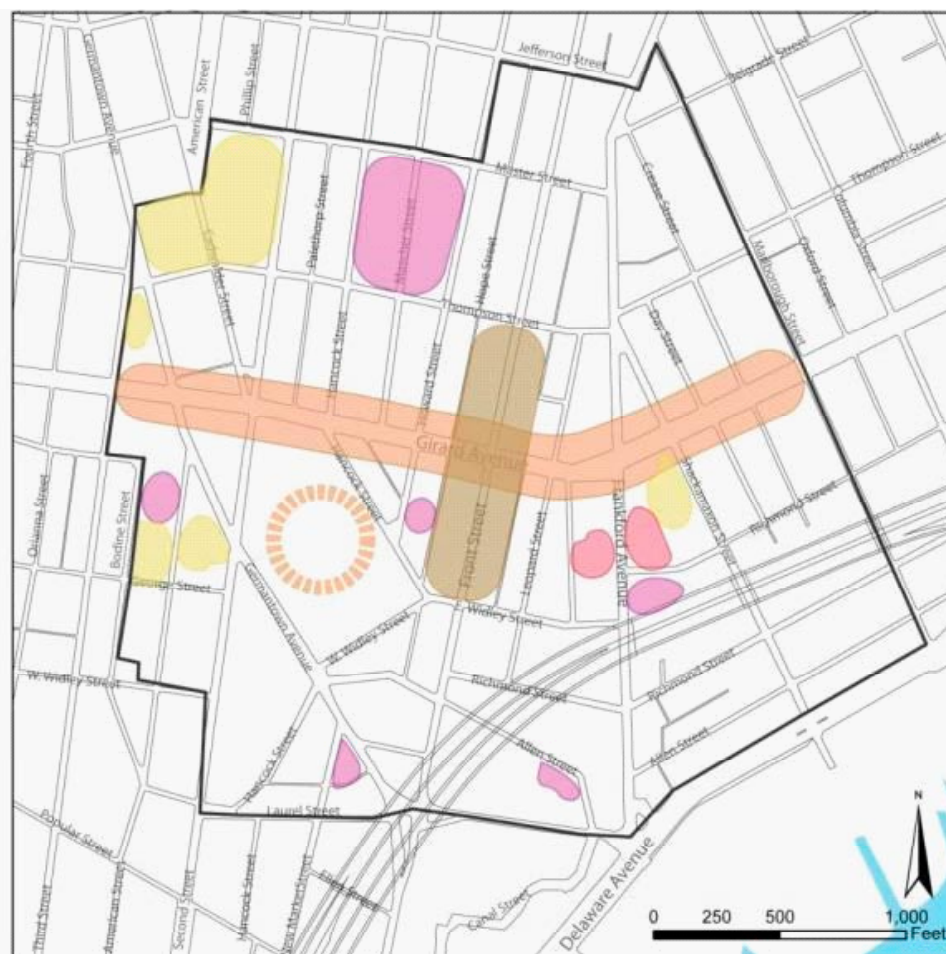


## Land Use for Plan 2030

### Encourage Live-Work spaces

In recent years, Northern Liberties has become a center for local artists and musicians, who had originally fled the rising rents and property prices of Center City and relocated in a nearby neighborhood where they could still afford to live. Such a talented artist community gives Northern Liberties its distinct character, and a pride that local residents possess. In preserving this unique identity for the neighborhood, our land use plan will encourage innovative and sustainable re-adaptation of many vacant spots currently existing in Northern Liberties, which are to be transformed into mixed-use arts hubs where artists can showcase their works to the public on the ground floor, and generate a sustaining income that can also afford them an enjoyable living space upstairs above where they work.

This close proximity between living and working space will not only enhance creativity and productivity for the artists; it will also give the community a better chance to improve a more intimate contact with their local artists and foster a mutual relationship that will help preserve the “artsy” identity of Northern Liberties.



#### Land Use Recommendation Map

This conceptual map illustrates each strategy of the land use elements including live/work spaces, high density residential/office around the EL stop, mixed uses along Girard Avenue, a Frankford restaurant and entertainment zone, residential row homes in small vacant spaces.

#### Legend

- Schmidt Brewery Site
- High Density "EL" Zone
- Mixed Use Corridor
- Residential Zone
- Live Work Space Zone
- Food and Entertainment District



*High density can co-exist effectively around transit hubs  
Boulder, CO*



*Sidewalk cafés coupled with mom-and-pop retail stores offer a lively streetscape  
Santa Fe, New Mexico*

### **Encourage high density residential / office around the EI stop (recommended 7-9 stories, maximum of 12 stories)**

Density is a key criterion in implementing a successful TOD plan. Density is partly a matter of geometry. All else being equal, the more housing and jobs within a short walk of a transit station, the greater the ridership. According to a 1996 report published by the National Transit Cooperative Research Program, a 10 percent increase in population density has been shown to correspond to a five percent increase in public transit usage, while doubling density can reduce vehicle travel by 20 percent.

Density also has even farther-reaching implications. Residents of denser communities are more likely to be able to walk to shops and services and thus to be able to live with just one car — or with none. According to research conducted for Fannie Mae's Location Efficient Mortgage program, vehicle ownership falls rapidly as density increases, reducing to an average of just one car per household when density reaches 20 to 30 housing units per acre. Our land use plan will encourage a high, yet manageable, level of density around the Front and Girard transit hub, in order to capture fully the valuable benefits entailed in a TOD plan.

### **Mixed-Use Along Girard Ave**

Not all land uses are equal when it comes to generating transit ridership. Office or retail development tends to employ more workers and thus produce more riders than industrial uses. Mixed use is where the real payoff in reduced vehicle trips exists, as it allows Northern Liberties residents to walk to shops and services, at the same time encouraging employees to take transit to work, since they can really do without a car during the day. A variety of uses also help to avoid a dull monoculture and dead empty space at night and on the weekends. Girard Avenue truly has strong potentials in becoming a wonderfully diverse corridor where residents can all enjoy simultaneously working, playing, shopping, and living.

### Frankford Food and Entertainment District

Recognizing the demand for well-regulated yet vibrant food and entertainment venues in Northern Liberties, our plan also encourages a district along the Frankford Avenue that will be reserved for such purposes. Successful implementation of this land use element will require security controls provided by the city and the neighborhood, which will limit nuisance and enhance public safety in and around these venues. If successful, these venues will avoid the threats of empty streets at night, while offering quite a satisfying urban amenity for the neighborhood, at the same time adding the tax base and improve the already strong potentials for economic development in Northern Liberties.

### Encourage Residential Row Houses in Small Vacant Spaces

Our housing market analysis indicates a strong preference for row houses that has long existed in Northern Liberties, as well as in Philadelphia in general. In order to preserve and strength this unique urban fabric that has given our neighborhood its identity, our land use plan will encourage the smart design and development of residential row houses located on the numerous vacant spaces currently existing in our quarter-mile study area. Such large number of row houses will be excellent study cases for adopting green sustainable construction technologies that will capture the desire of residents in going “green” as well as successfully implementing low impact developments across our TOD area.



*Safe, well-lit, and lively streetscapes that attract clients to bars in Dublin, Ireland*



*Existing row house designs and patterns uniquely identifiable to Philadelphia*





*Schmidt Brewery Site, GoogleEarth Image*

## Schmidt Site

Our team chose to do a site plan and build our model for the Schmidt Brewery site for many reasons. We wanted to show the possibilities of how our goals can be instilled into development and the site is a large tract that is a large opportunity or threat to the possibility of transit oriented development in the study area. Tower Investments bought the site at a discounted rate from the city, circa 2000, as a potential Brownfield development site.

Tower Investments has owned the site for several years originally planning on building a neighborhood commercial center, consisting of a large big box retailer and out parcels, similar to that seen at the Columbus Commons shopping center. Having trouble finding a retailer he started buying up land around the site and began construction on Hancock Square, which is a mixed use development south of Schmidt Brewery Site, in 2005. He also developed Liberties Walk, which first and second phases are now open and construction on the third has started.

Tower Investment began developing the northeast corner of Northern Liberties to build up some market value for the large development on the Schmidt Brewery Site (Blatstien, 2008). There is a large opportunity to encourage Tower Investment to mold the Schmidt Brewery site into a more pedestrian and neighborhood scaled development, as opposed to a large auto-centric development. In an interview with Bart Blatstein, the CEO and founder of Tower Investment, his plans have changed slightly from the original plan in 2000. Currently the company is hypothetically proposing: 150,000 square feet of new retail, 90,000 square feet of which would be one store, 250 housing units and an 846 car garage along E. Widley Street (Blatstien, 2008).

We used these numbers as a guideline for developing alternatives for the site, along with the idea of creating permeable block to promote pedestrian connection to the station, mixed-use areas distributed across the site, and providing greenspace for residents of the project and in the neighborhood.

### Alternative One

The first alternative we focused on the design on the entrance(s) of the 90,000 square foot store. We began by creating a pedestrian connection along the southern part of the site, similar to that in Liberties Walk. Then place the 90,000 square foot store at the corner of Second and Girard. To accommodate the needs of automobile users in anticipation of the space being used as a Target or large big box retailer there is a auto drive at the main entrance of the stores that is demarcated by ballards in a plaza dedicated to pedestrians. There is a walk from the garage leading right to the store, with retail along to walk as an extension of Liberties Walk. There is also an entrance to the two story store on the corner of Girard and Second to maximize the legibility of the store from the main arterial. Large courtyard housing provides for greenspace for the residents to share in a dense development, this space is private and used only for the residents of each building. The buildings are three stories tall at max because to provide sunlight into the courtyard and to protect the views of the city skyline and river from different vantage points throughout the study area. Ground floor retail along Girard and Second Streets act to break up the large façade of the 90,000 square foot retail space and allows to the street to remain lively.

Our group felt that the site was not permeable enough and did not allow for auto user to be able to use the site. Although, the development is oriented to transit usage, auto users are an important factor in supporting such a large retail space.

### Alternative Two

This design create many more blocks and uses the same guiding principles as before. The design changed by incorporating auto mobile street to cut through the site northeast - southwest and pedestrian street to cut the site north west to south east. Also a town square was added to create a greener and more permeable space to open up to. The courtyard houses we felt were too small, and the separation of mode paths did not seem to encourage the pedestrian and rather regulated them to certain spaces.



Alternative 1



Alternative 2



Schmidt Brewery Site – Site Plan



**Final Site Plan**

In the final site plan, the retail space has been broken up into more manageable and leasable spaces. The parking in the garage has been reduced and more has been added to the streets incorporated within the project. This is due to the proximity the development to the transit station and a proposed car sharing hub in the parking garage of the development. It also includes a pedestrian connection will have three new “streets running northeast-southwest. One of these is solely a pedestrian street, such as found in Liberties Walk, another development in Northern Liberties by Bart Blatstein. Another of these streets is a new one-way auto street. This will serve to channel traffic to the stores in the development. The third street is a pedestrian cut through to the new retail center. These three new streets allow the pedestrian to use the site for shopping, but also accommodates the many other patrons that will be traveling by car.

There will also be a main street through the site, with large 15-inch sidewalks open up onto the town square. The street is one way and channels the traffic into the parking garage. Trees and outdoor seating, along with benches and streetlights will be adjacent to the sidewalk to shield the pedestrian from traffic. The retail along Girard Avenue and Second Street will allow for a pedestrian scale to break up large building frontage, because there is a large concentration of commercial business in the area.



The housing within the development will surround a courtyard as many residential developments do in Europe including. The courtyards are roughly 10,000 square feet, but are significantly smaller in the northern buildings (3,000-5,000 square feet) The town square is roughly a half acre of passive green space. Inspired by original town squares in Philadelphia, the town square will feature an arc that is enclosed by the large retail space.

Throughout the site, parking and circulation is crucial to the sites success. There is one way traffic onto Schmidt St. entering off of Hancock Street exiting onto German-town Ave. One way traffic enter the south oval to allow for traffic to flow down Main St. Main St. has main parking garage access, and also exits onto Widley Street. This way, the parking and the driving will channeled directly through these streets.



*Schmidt Brewery Site - Elements*

#### Legend

##### Land Uses

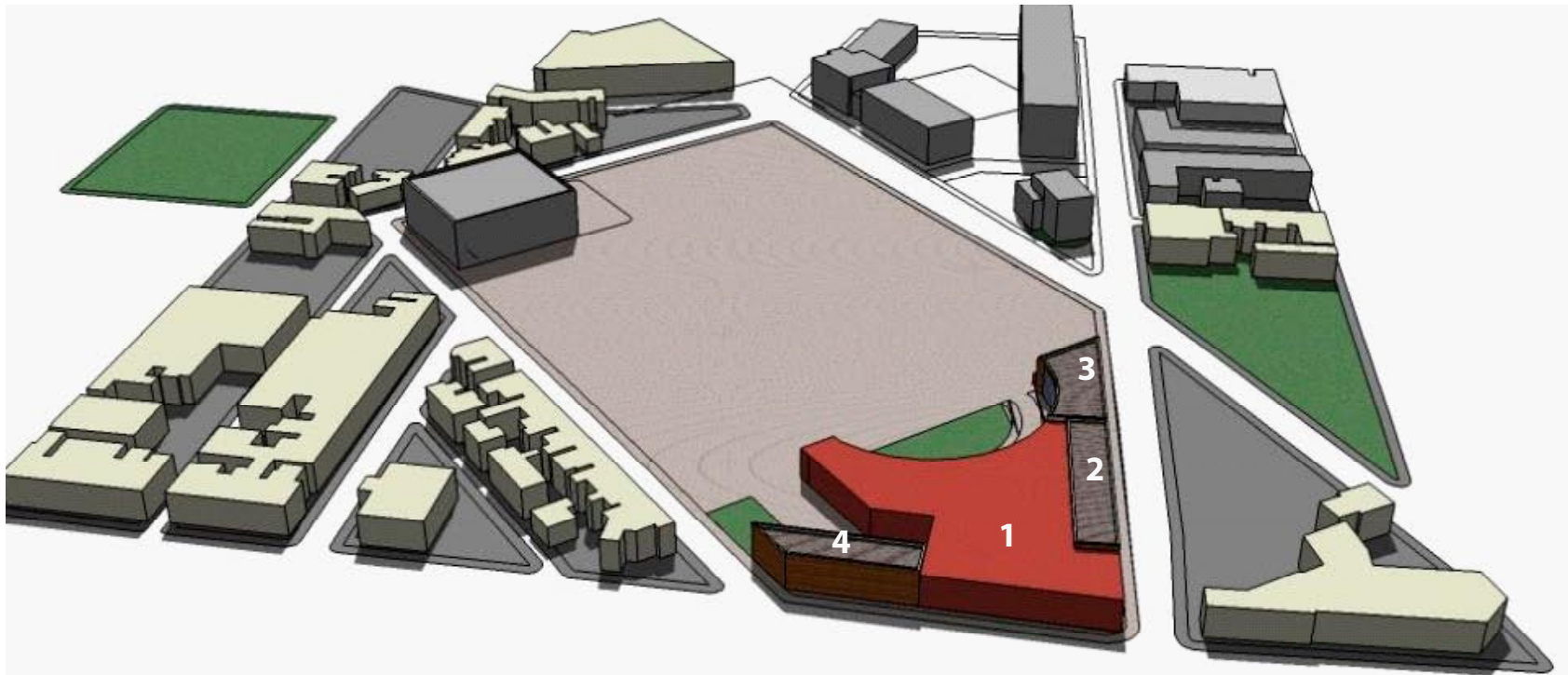
- New Buildings
- Existing Buildings
- New Parking Garage
- Green Space (outside of site)
- New Green Space
- Streets
- Liberties Walk Connection
- Towers Investments Properties

Phasing

The entire Schmidt's site will be built out in a period of ten years between 2010 and 2019.

Phase 1

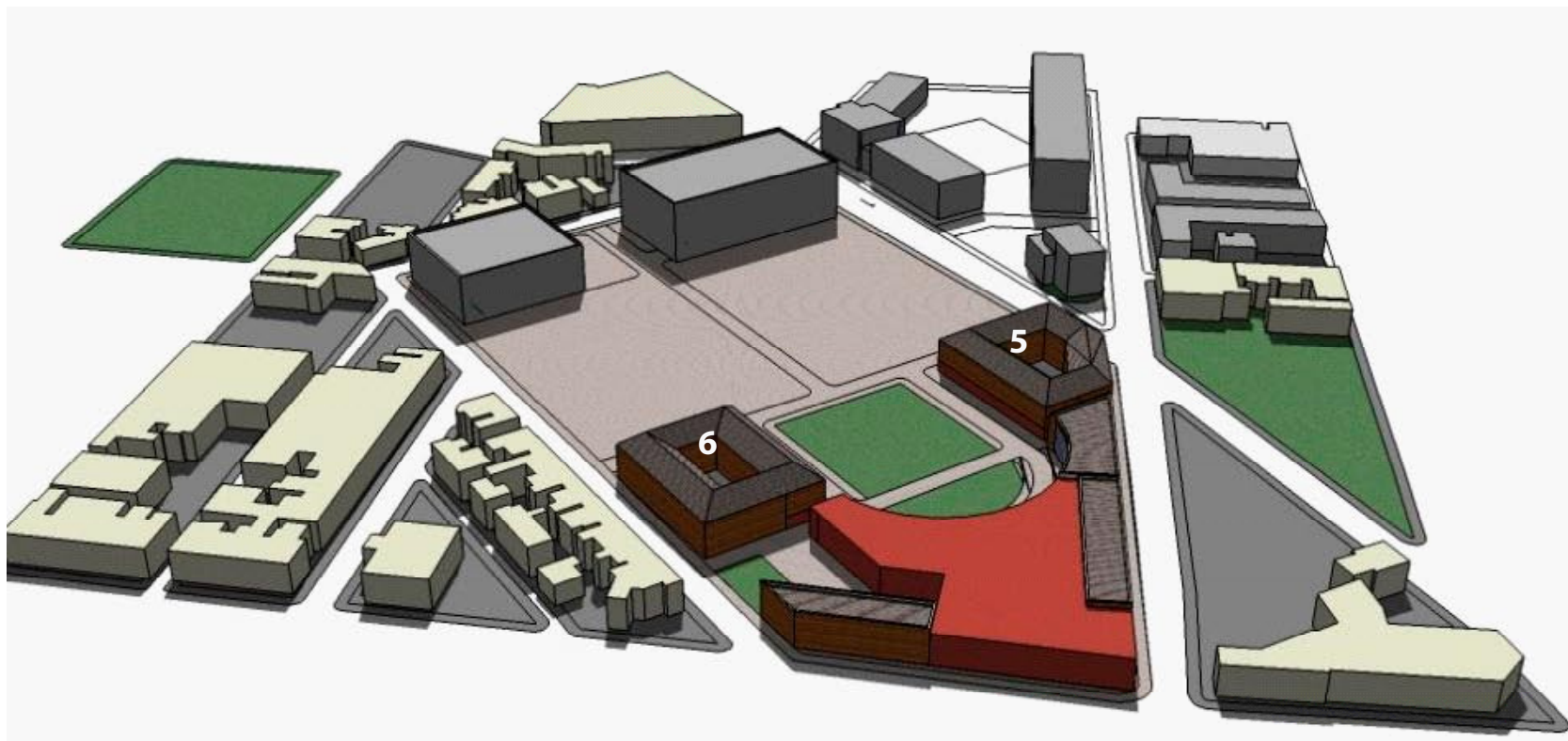
In the first phase from 2010 to 2012, the development program will focus on completing site 1, site 2, site 3, site 4, and a total of 113 surface parking spaces. Specifically, in year 2010, site 1 will be built, which will stand as a two-story retail complex, featuring approximately 30,000 square feet of retail on each floor. In addition, a total of 56 surface parking spaces will be completed. In year 2011, site 2 will be built, which will be a mixed-use complex with 12 residential rental units and a total of 5,600 square feet of retail on the retail. Also in 2011, site 3 will be built, which will stand as a mixed use complex of 8 rental units and 5,000 square feet of ground floor retail. In year 2012, site 4 will be added, which will be a mixed-use complex with 8 upper rental units and 3,225 square feet of ground floor retail.



Girard Avenue Transit Oriented Development

## Phase 2

In phase 2, spanning from 2013 to 2015, the Schmidt site's development plan will continue to implement site 5, site 6, and a parking garage located at the Southern most corner of the site. By the end of year 2013, a six-story parking structure will be completed which will host a total of 504 parking spaces. Beginning from 2014, site 5 will be built, which will be mixed-use complex of 18 rental units and 19 for sale units, as well as a total of 6,400 square feet of ground floor retail. Site 6 will be built in 2014, which will be a mixed use complex of 18 rental units and 18 for sale units, as well as 6,000 square feet of ground floor retail.

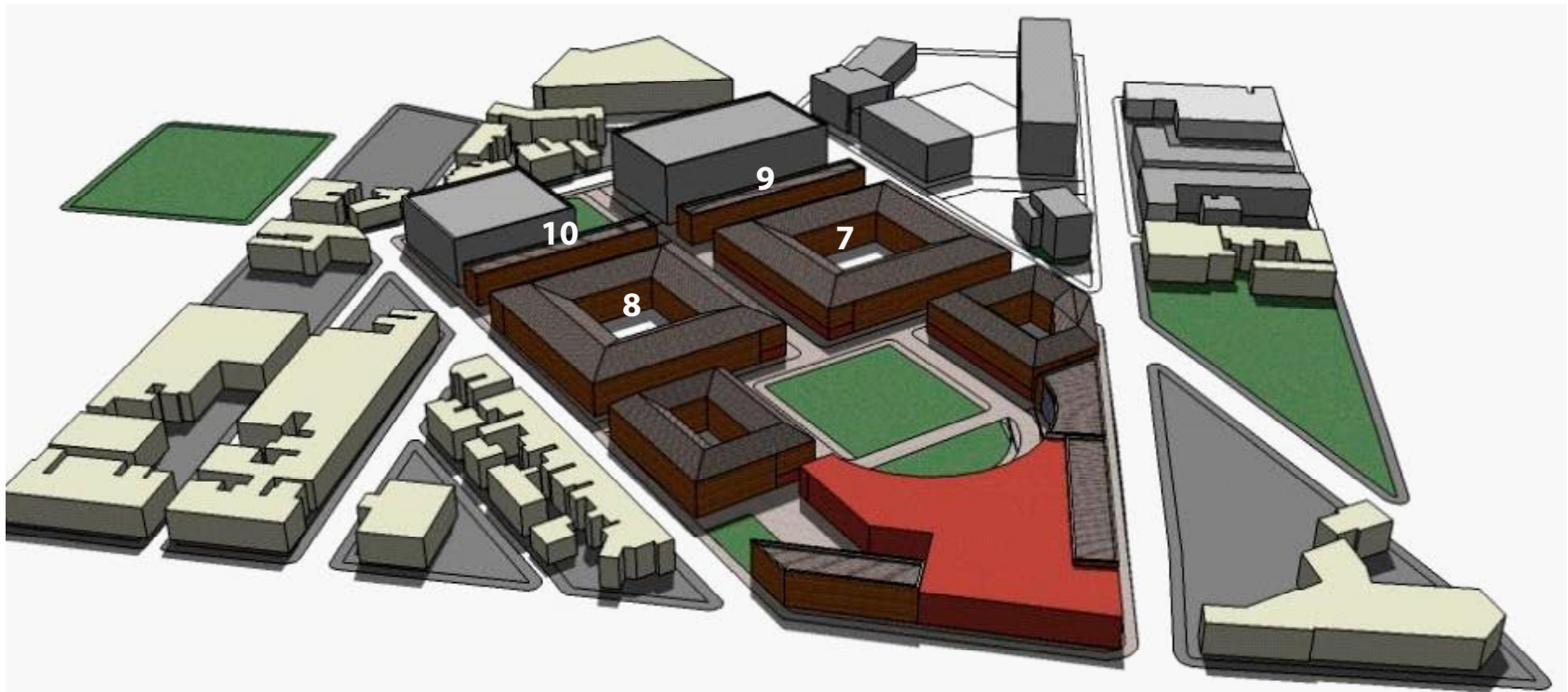


Girard Avenue Transit Oriented Development



Phase 3

During the final phase, spanning from 2016 to 2019, site 7, site 8, site 9, and site 10 will be finished. In year 2016, site 7 will be built, which will combine 80 rental units and 40 for sale units, along with a total of approximately 12,000 square feet of ground floor retail. Site 8 will be finished by the end of year 2017, which will be a mix of 60 rental units and 56 for sale units, as well as a total of 12,000 square feet of ground floor retail. In year 2018, site 9 will be built which will stand as mixed-use complex of 14 rental units and a total of 6,900 square feet of ground floor retail. Finally for year 2019, site 10 will be built, which will combine 14 rental housing units and 6,300 square feet of ground floor retail.



Girard Avenue Transit Oriented Development

## Pro forma

All ten projects of the Schmidt Brewery site will have a total development cost of just over \$72 million.

The construction of all developments in phase 1 will be completed by 2012, and we have conducted a projection of the net cash flow resulted from the projects in this first phase, which is as following:

Phase 1's total Net Cash Flow will be negative only during the first two years, 2010 and 2011, when major constructions took place. Beginning from year 2012, net cash flow will remain positive, averaging approximately \$2.3 million each year. Assuming that all projects in phase 1 will be sold by the end of year 2019, such sale will generate in year 2019 a total net cash flow of approximately \$41.6 million. The net present value of the entire phase 1, effective by 2010, will be approximately \$13.2 million. With an accumulative interest factor of 12.5%, the internal rate of return for all projects in phase 1 will be 28.2%, which is a viable rate of return for a large-scale urban development project.

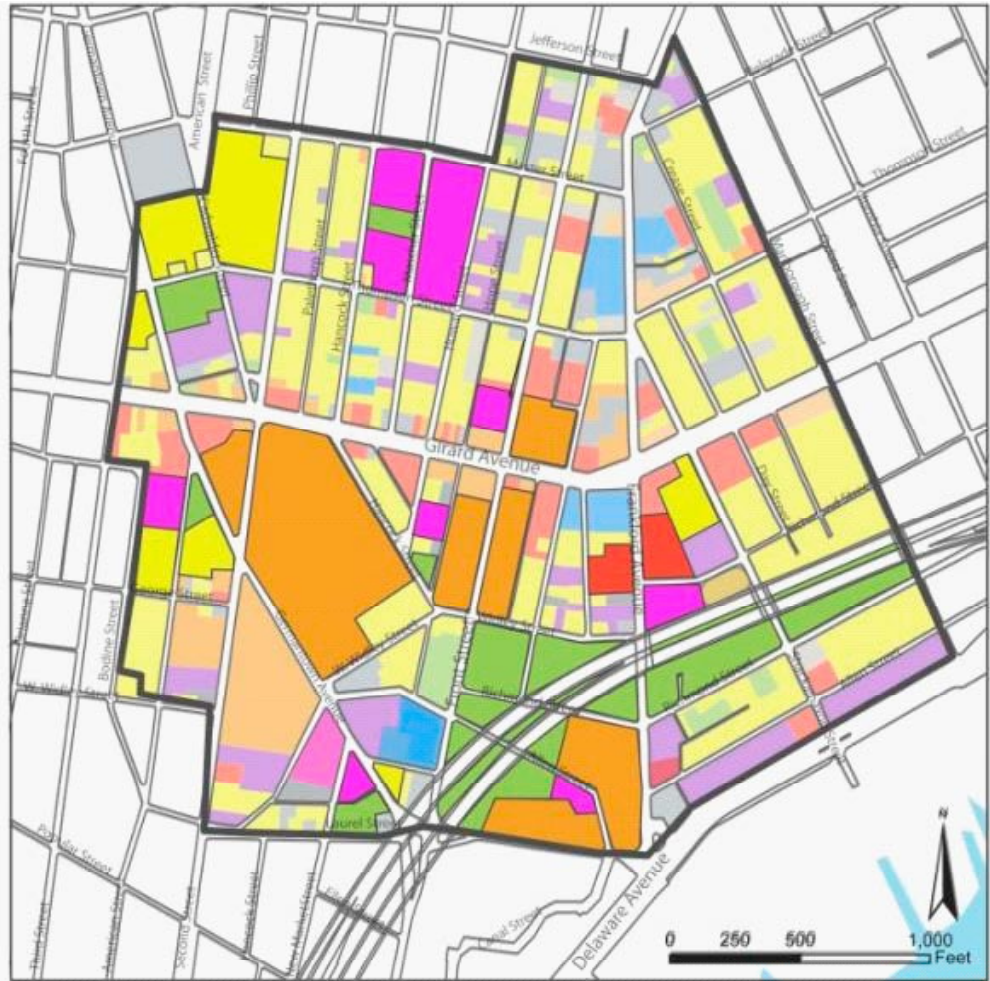
	Unit Count	Cost
Structured Parking	504 spaces	\$7,318,080
Surface Parking	113 spaces	\$478,555
Market-rate Rental Housing	232 units	\$30,358,900
Market-rate For Sale Housing	133 units	\$18,900,805
Retail	123,795 s.f.	\$14,979,195
<b>Total</b>		<b>\$72,035,535</b>

### Phase 1 Proforma Summary

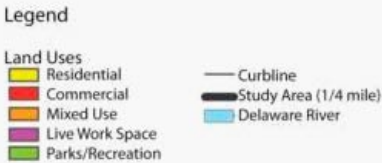
**Net Present Value** **\$13,207,960**

**Internal Rate of Return (IRR)** **28.2%**

	Factor	Phase 1			Phase 2			Phase 3			
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Phase 1 TOTAL Net Operating Income		\$0	\$1,508,206	\$2,186,910	\$2,470,733	\$2,578,413	\$2,664,232	\$2,745,460	\$2,829,126	\$2,915,301	\$3,004,062
TOTAL Retail Asset Value	0.1										\$40,615,576
TOTAL Costs of Sale	0.05										(\$2,030,779)
Phase 1 TOTAL Development Cost		(\$1,880,340)	(\$11,264,495)	(\$1,176,725)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Cash Flow		(\$1,880,340)	(\$9,756,289)	\$1,010,185	\$2,470,733	\$2,578,413	\$2,664,232	\$2,745,460	\$2,829,126	\$2,915,301	\$41,588,859



Proposed Land Use Map



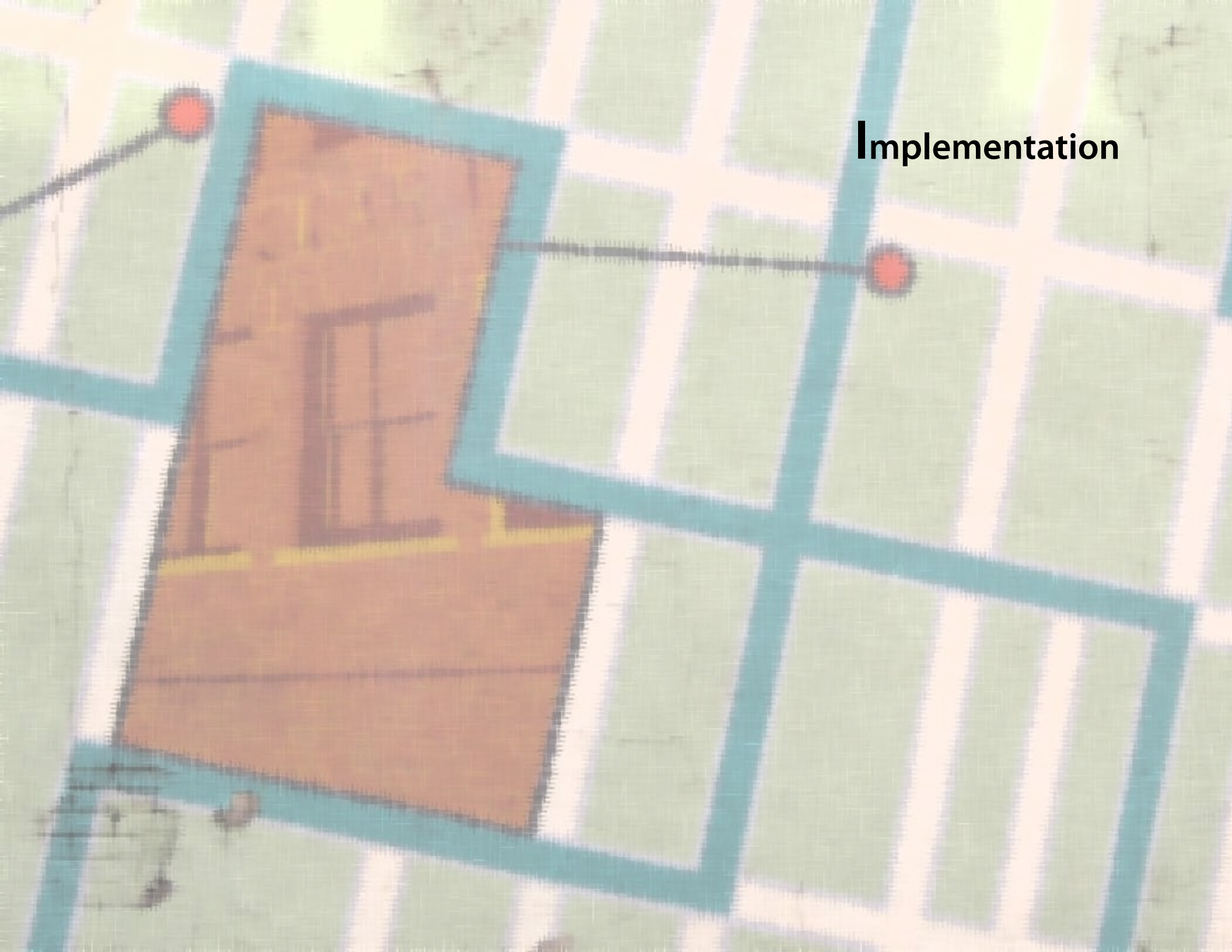
**Developed Plan**

In developing our Plan 2030 for Northern Liberties, our team made several assumptions. These assumptions helped inform the plan based on the existing conditions analysis and the normal development protocol for residential development. We assumed that a multi family unit is 1,000 square feet, and the average live/work space is 2,000 square feet. The choices for retail on the development is best guess, but a conservative estimate on what kind of store would most likely anchor the commercial development for the site. The Floor plates are roughly 50-70% of the lot coverage, depending on the their adjacency to the el.

We also projected what we believed to be what Northern Liberties demographic and market make-up would be in the future. This information gives us a specific idea as to the needs of the community as it looks towards the future, and as 2030 approaches. The 2008 Population is approximately 7,595. The 2030 Population will be in between 9,100-11,250. Our plan adds 1,480 – 1,600 new housing units, approximately 150-160 new live work units, 275,000-300,000 sq. ft. of new retail, 105,000 sq. ft. of new office space, and 658,000 sq. ft. of new parks.



# Implementation



## Implementation

### Phasing Implementations

Our team devised several phases of the plan. These phases will work with the study area through all aspects of the plan from 2010 until 2030 when it is completed. The phases are divided by section of the plan: transportation, urban design, green development and land use. There are then also three phases of implementations. Phase one will be from 2010 until 2015. Phase two will be from 2016 until 2021. Phase three will be from 2022 until 2030. There are also some implementations that will span throughout some of these phases. These tasks were designated as ongoing implementations.

### Visioning for the year 2030

As Northern Liberties looks to the future, it's changing face, and untapped development capacity could help redefine the neighborhood as a transit-oriented development to create a more sustainable Northern Liberties, for something that could last much longer than 2030. With the eventual completion of the transit-oriented development, Northern Liberties will become a self-sufficient, inter-modal transport neighborhood. Connected green spaces will allow pedestrians a pleasant walk to and from the transit station as well as other hotspots in the neighborhood including the restored 2nd street Corridor, the new shopping opportunities on the Schmidt Brewery Site, and Penn Treaty Park. Northern Liberties continues to work towards green development, and has now become a hub multifunctional live and work spaces—Northern Liberties is not only a place to live, a place to work, and a place of innovation.



*Granville Street, Toronto*



*Santana Row, San Jose, California*

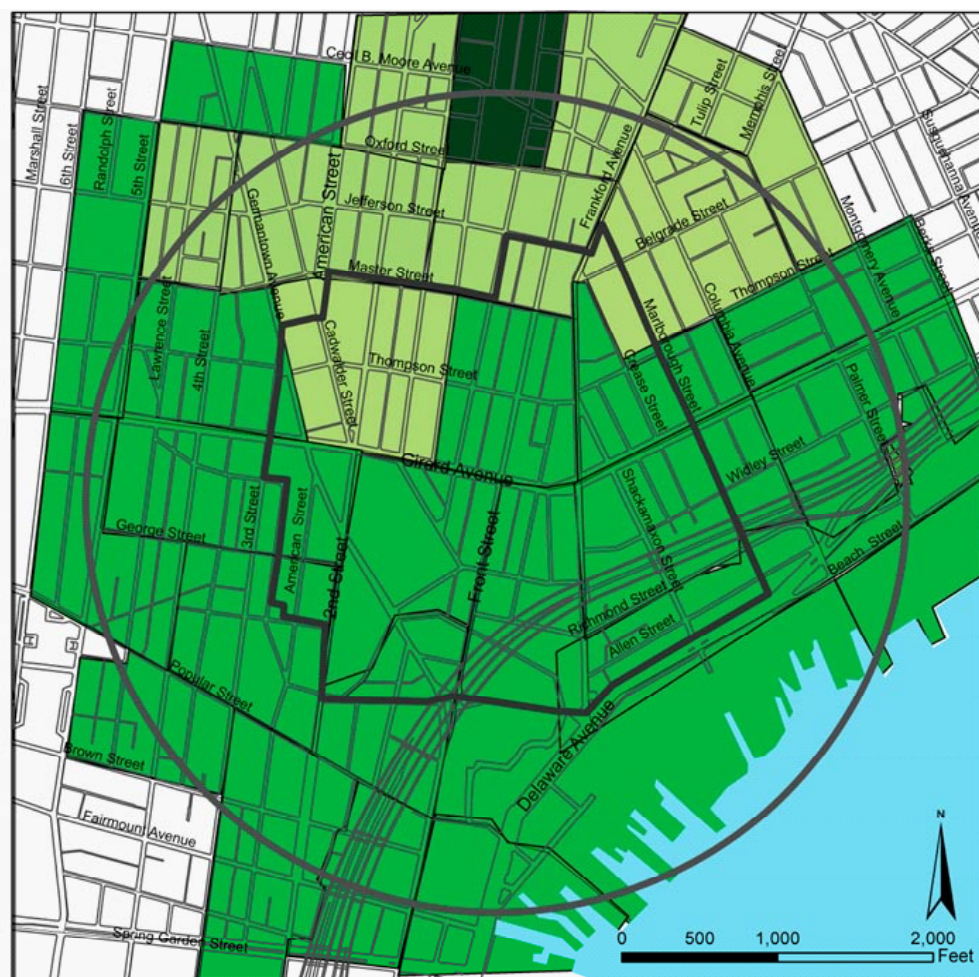


## Appendix

### Demographic Analysis

#### Average Household Size in Study Area

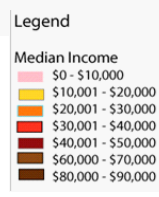
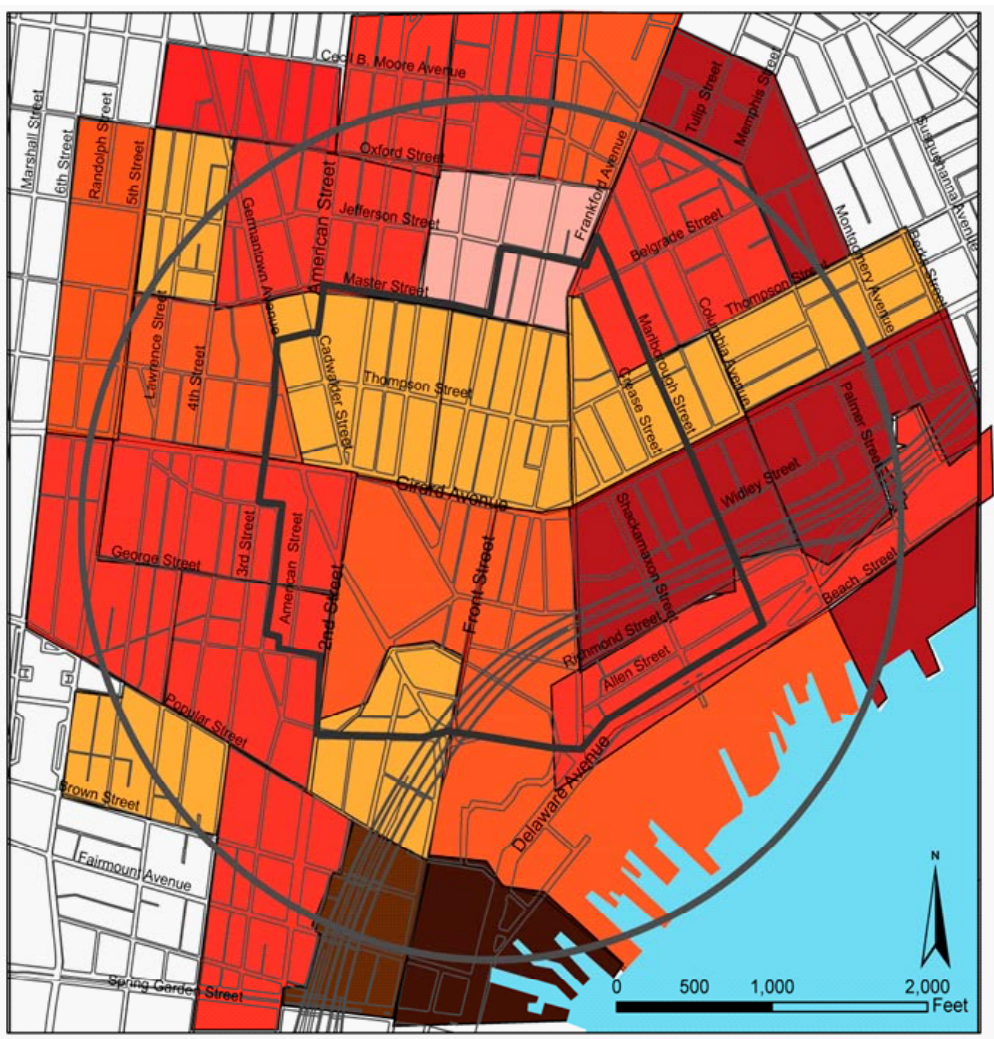
The map shows the average household size which is mainly composed of 2.5-3.5 people per a household. The areas towards the northern part of the study area have the lowest amount of people per household with 1.5-2.5 people.



#### Legend

Household Size	
1.50 - 2.50	Light Green
2.51 - 3.50	Medium Green
3.51 - 4.00	Dark Green





**Median Income for Study Area**

The median income of the study area is in clusters. The areas with the highest income are located closer to Fishtown and Center City. The areas of lower income are in the center of the study area.

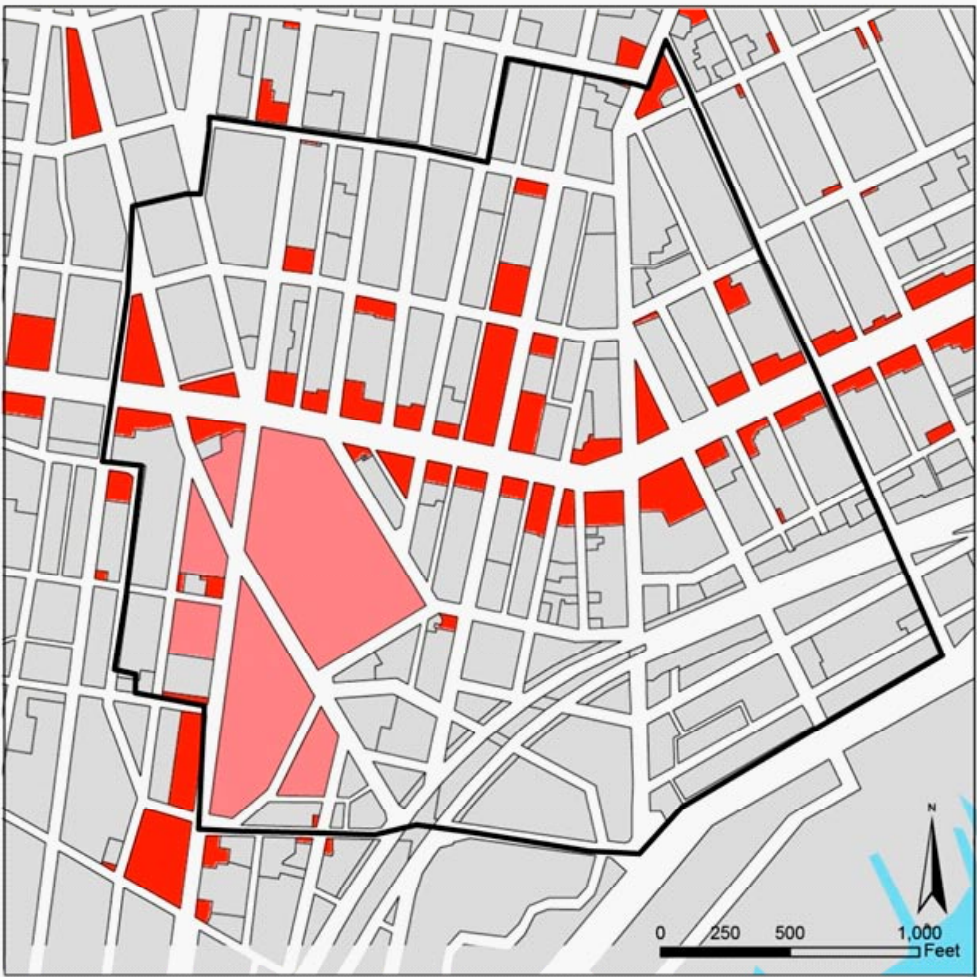
## Zoning Analysis

### Residential Uses Map

There are two types of residential uses in the study area. The gold areas are zoned as R10 and yellow ones are R10A.







**Commercial Uses Map**

The commercial uses in the study area include C2, which is illustrated in red on the map; and ASC, which is a shopping center and illustrated in pink on the map.



### Industrial Uses Map

There are industrial uses zoned for G2, L4 and L5 in the study area. The general industrial use, G2, is in purple as showed on the map. The light industrial uses, L4 and L5, are highlighted in light and medium purple.



Click on individual stations  
for address, zone, fares, sales  
hours and parking information



## Transportation Analysis

SEPTA Regional Map

## Transportation Analysis

### Regional Destination Map



#### Legend

- |  |                       |
|--|-----------------------|
| <b>Land Uses</b>   | Highway               |
| Landmarks  | Main Roads            |
| Shopping   | Parks                 |
| Institutions   | Delaware River        |
|  | City Limits           |
|  | Study Area (1/4 mile) |
| <b>Transit Routes</b>  |                       |
| Subway (Market-Frankford Line)   |                       |
| Trolley (Route 15)   |                       |
| Bus (Route 5, 25, 43, 57)  |                       |
| Lighter Shading denotes within a 1/4 mile of transit routes that go through study area |                       |
| Darker Shading denote inaccessible from transit routes going through study area        |                       |



<i>Non-government Owned Single-Family Properties</i>	<b>All Tax Delinquents</b>	<b>% of All Properties</b>	<b>% Making No Tax Payment in 2005</b>
<b>Kensington/  Fishtown</b>	3,811	24%	81%
<b>Northern Liberties/  West Poplar</b>	398	18%	76%
<b>Philadelphia</b>	105,129	24%	80%

**Market Analysis**

Tax Delinquents Chart  
Owner vs. Renter Chart

Source: U. S. Census 2000

<b>Census Tracts</b>	<b>Owner Occupied Percent</b>	<b>Renter Occupied Percent</b>
<b>142</b>	53.31	46.69
<b>143</b>	63.94	36.06
<b>144</b>	46.96	53.04
<b>158</b>	72.36	27.64

## Market Analysis

### Existing development Proposals

	Status	Residential Units	Hotel?	Floors
<b>Waterfront Square</b>	1	936		5 towers: 21,25,29, 33,37 floors 2 towers finished
<b>Bridgeman's View</b>	1	352	177 rooms	70 2nd tallest
<b>Trump Tower</b>	1	263	Possibly 5 floors	45
<b>Penn Treaty Tower</b>	1	166		22
<b>412 Front Street</b>	1	236		33
<b>Pier 40</b>	1	266		44
<b>American Loft</b>	1	40		11
<b>444 Lofts</b>	1	100		8
<b>Tower Investment Schmidt's site</b>	1	250		
<b>Tower Investment Piazza (or Hancock Square)</b>	1	500		6 or 7
<b>Tower Investment Liberties Walk</b>	1	72		3
<b>Ort Liebs old Brewing house</b>	1	59		6-7 stories
<b>TOTAL PROPOSED</b>		<b>3,875</b>	<b>177 +</b>	
<b>EXISTING STOCK July 2007</b>		<b>2,735</b>		

## SWOT Analysis

### STRENGTHS

#### Historic

- There are many historic structures within the area
- Historic buildings allow for a more aesthetically pleasing location for visitors and residents alike.
- The historic district acts as a node for Northern Liberties and near the Girard Station.
- The streets in the historic district well maintained and streetscaped

#### Demographics

- There is a diversity within the study area providing a sustainable base for the community

#### Environmental

- Numerous green spaces throughout the existing study area
- Presence of a community garden, Liberties Land park, a place that already exists for Northern Liberties
- An active Environmental Committee devoted to keeping Northern Liberties on the forefront of green initiatives and development.
- Existence of many natural resources in the area including the Delaware River and the historic Conshohocken Creek.
- Many green developments including those developed by Onion flats have set a precedent in the community for sustainable housing options.

#### Zoning and Land Use

- Mixed used, collage mosaic.
- Commercial use along Girard Ave and Second Street.
- Housing market is prosperous for filling the vacancies and converting vacant buildings.
- Employment is increasing.
- Plentiful public parks and green space.



### Transportation

- Numerous modes of public transit throughout the study area.
- Trolley along Girard acts as more permanent fixture along Girard Avenue
- Very fast and reliable access to Center City and University City via the Market Frankford Line.
- Two lines run twenty-four hours per day.
- MFL acts as a shuttle during the weekdays.
- The MFL station's ridership is growing much faster than the average for the line.
- Front street is the 2nd busiest stop along the trolley with roughly 10% of the line's share
- Extensive bikeway network is planned by the streets department.
- Parking around the station is limited to curb park-and-ride drivers.
- Girard Station was recently renovated.
- The trolley doesn't stop every block along it to become more of an efficient route than a traditional bus or West Philadelphia trolley

### Urban Design

- Strong, historic artist culture in the area provides for unique element of design throughout the space.
- There is a mix of building typologies throughout the area providing a distinctive identity for the study area.
- Many of the smaller developments in the area respect the pedestrian scale of the street either by the size of building or mixing uses.
- Murals are interpretive of the areas historic industry and sense of place
- Many of the streets create great vistas of Center City, Ben Franklin Bridge and large industrial and institutional structures.
- Many buildings provide a building wall along the street.
- On-street parking creates a buffer between the pedestrian and vehicle.
- NLNA has an urban design committee to oversee a cohesive and appropriate design of the neighborhood.

#### Market Analysis

- Robust market reflected through strong and increasing housing demand.
- Stable market with relatively fewer percentage of properties as tax-delinquents and foreclosures than city-wide average.
- A diverse mixture of residential types, i.e. single-family detached, semi-detached twins, row-homes, and condominiums.

### **WEAKNESSES**

#### Historic

- The residents of Northern Liberties do not want the location to become too tailored towards tourism.
- The historic district is closer to the Spring Garden station than Girard Station so there is a slight disconnection between the two.
- Many historic buildings show neglect and disrepair

#### Demographics

- The youngest group (20-30 years of age) has the least people per household and this could mean that the area will only be tailored towards one age group.
- Lower median incomes tend to be in the ¼ mile radius compared to the ½ mile radius.

#### Environmental

- Green spaces are not evenly spread out throughout the neighborhood.
- There is little connectivity between the green spaces in the study area.
- The waterfront is not easily connected to the study area.
- The landscaping and plants in the area are not cohesive.
- Space under the highway is not utilized.

#### Zoning and Land Use

- Zoning is irregular.
- There is a lot of vacant land
- Various industrial uses and less residential uses
- The Schmidt Brewery site is a large chunk of the vacant land
- Few attractive destination buildings

### Transportation

- Many of the bus lines terminate at the Frankford Terminal and don't go any farther.
- Many of the terminals for the bus and trolley services end in neighborhoods that don't have much around them.
- Many large employment centers (excluding Center City) are not easily accessible with one trip.
- Only 1 bus and the trolley ever have headways of above 10 minutes, meaning there are very few spontaneous trips and people are forced to use a schedule for many of the routes.
- Routes are very infrequent on the weekend.
- Pedestrian connection to Northern Liberties is severely blocked by large Schmidt Brewery tract.
- There are no designated bike lanes within the study area. .
- Trolley platforms are very unappealing and unsafe for encouraging ridership.

### Urban Design

- Many vacant lots and buildings provide an inherent sense of insecurity in the area.
- Many of the streets have hap-hazard attempts at street design that are not well maintained.
- Much of the transportation infrastructure acts as very large edges.
- The elevated rail along Front Street creates a dead street where there is no street life.

### Market Analysis

- Apparent discrepancy between Northern Liberties and Kensington within the quarter-mile study area, particularly in terms of the rate of tax-delinquent and fore-closed properties.
- Overheated market reflected through recent trend of overtly increasing home price.



## OPPORTUNITIES

### History

- Extensive streetscaping can be done
- The historic district would draw tourists to the area
- The historic preservation tax credit allows deteriorating buildings to be preserved
- Walkways and alleyways can be redone in brick or pavers in order to create a more historic look
- The Neighbors and the NLNA are excited to preserve the historic district

### Environmental

- Vacant land parcels provide room for more green space
- Land under highway can be utilized to provide more open space for residents
- Dedication to provide more green space from neighborhood organizations
- Vacant land can be used for more community gardens. There will then be more personal green space for the residents of northern liberties
- Green space can be used for different functions in the neighborhood including community activities, sports fields,

### Zoning and Land Use

- Leniency of the Philadelphia Zoning Code
- Public space and green
- Converting industrial site
- Potential new retail space

### Transportation

- Schmidt Brewery site is undeveloped, so pedestrian connection can be made
- There is a plan to designate streets throughout the area more bicycle friendly
- Street width on Girard allows for several alternative to make more pedestrian friendly
- There is dedication from residents to advocate installation of different transit options as seen by the Girard Trolley
- There are routes already set up to go to regional destinations, Old City, University City, Philadelphia Zoo, Mann Concert Center
- The historic street network provides direction, more or less too Front and Girard.

### Urban Design

- Large sidewalk along Girard allow for the possibility of promenading.
- The metal artwork throughout the area is a very common element that could be incorporated into the design of streets and buildings.
- Many of the streets are in disrepair providing an opportunity for redesign.
- The NLNA could expand it urban design committee recommendations for the study area.
- Large vacant lots around the EI and freeway can preserve many of the vistas throughout the area.

### Market Analysis

- Strong supply will likely outpace strong demand in the area, therefore future home prices will tend to be brought down to a more stabilized level, which can avoid overheated market.
- Single-family detached homes and semi-detached twins only currently represent a total of 8% of the housing stock and therefore remain untapped potentials in this market that can be satisfied by new developments.

## THREATS

### History

- The new historic district could bring too many people to the area.
- The NLNA do not want a lot of bars coming into the area, especially in the historic district.
- Many of the historic industrial structures are deteriorating past the point of salvaging for conversion.
- Litter around the area is rampant and can discourage walking and more disinvestment
- The question is if people will travel to see the historic district in Northern Liberties, which is located outside of the general center city area.

### Demographics

- Incomes are higher the closer to Center City, Philadelphia and Fishtown that one travels.
- Higher median incomes are on the edges of the study area but we need to make this more even through the entire area.
- Expected highway construction threatens property around the highway and any permanent reclamations of land underneath the highway.

### Environmental

- Developers may continue to want to use the vacant land for residential development.
- Reworking of the highway may impede the different kinds of green spaces that the neighborhood can create for the area.

### Zoning and Land Use

- Leniency of the Philadelphia Zoning Code
- Use under I-95 and the aisle
- Public revitalization and gentrification
- Building characteristic
- Too many restaurants

### Transportation

- SEPTA's non-commitment to the maintenance and the continuation of the Girard Trolley threatens Front and Girard acting as a strong hub.
- The lack of parking in the area poses a threat to require parking on site for development and creating a non pedestrian friendly environments.
- Expected highway construction threatens property around the highway and any permanent reclamations of land underneath the highway.



#### Urban Design

- Large development proposals are not in context with the neighborhood
- There is no consensus on the density that is appropriate for the area allowing for more piecemeal projects and inappropriate scaled projects to be built
- Many of the historic industrial structures are deteriorating past the point of salvaging for conversion.
- Litter around the area is rampant and can discourage walking and more disinvestment
- The elevated rail threatens many projects from happening around it.

#### Market Analysis

- Potential over-supply of housing due to inundated development proposals in and around the quarter-mile study area

The overall goal of the plan is to make the study area more attractive through streetscaping and greenspaces. The area should be more accessible so that it can be assessed not only by those living in the vicinity of the area but also by those in Center City and surrounding areas. The study area has many opportunities and the goal of our plan is to take advantage of such opportunities.

2030 Plan

Pro forma

Cost sources

Commercial Development Unit Costs	Hard Cost	Soft Costs @ 10.0% of Hard Costs	Contingency @ 10% of HC+SC	Total	Source:
Rental Housing (per s.f.)	\$ 130	13	\$ 14	\$ 157	Source: R.S. Means
For-Sale Housing (per s.f.)	\$ 140	14	\$ 15	\$ 169	Source: R.S. Means
Retail (\$ psf)	\$ 100	10	\$ 11	\$ 121	Retail land acquisition included as part of residential acquisition since retail is ground-floor
Structured Parking (per space)	\$ 12,000	1,200	\$ 1,320	\$ 14,520	ULI Shared Parking: Second Edition
Surface Parking (per space)	\$ 3,500	350	\$ 385	\$ 4,235	ULI Shared Parking: Second Edition
	Total				
Land Acquisition	\$ 2,000,000				

*Note: Land Acquisition cost is based on the assumption that Tower Investment already purchased the whole Schimdt's Site via Sheriff Sale at \$2 Million*

## 2030 Plan

### Pro forma

Phase 1 Pro forma Summary

Site 1 Pro forma

Site 1 Pro forma

Site 1 Pro forma

Site 1 Pro forma

Surface Parking Pro forma

### PHASE 1 PROFORMA SUMMARY

Net Present Value \$ 13,207,960

Internal Rate of Return (IRR) 28.2%

		Phase 1			Phase 2			Phase 3			
	Factor	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Phase 1 TOTAL											
Net Operating Income		\$0	\$1,508,206	\$2,186,910	\$2,470,733	\$2,578,413	\$2,664,232	\$2,745,460	\$2,829,126	\$2,915,301	\$3,004,062
TOTAL Retail											
Asset Value	0.1										\$40,615,576
TOTAL Costs of Sale	0.05										(\$2,030,779)
Phase 1 TOTAL											
Development Cost		(\$1,880,340)	(\$11,264,495)	(\$1,176,725)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Cash Flow		(\$1,880,340)	(\$9,756,289)	\$1,010,185	\$2,470,733	\$2,578,413	\$2,664,232	\$2,745,460	\$2,829,126	\$2,915,301	\$41,588,859



Year	Phase 1			Phase 2			Phase 3			Sale Year	
	Construction	Operation	Operation	Operation	Operation	Operation	Operation	Operation	Operation	Used for Terminal Value Calculations	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Revenue Assumptions</b>											
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34
GLA Absorbed		70,670	70,670	70,670	70,670	70,670	70,670	70,670	70,670	70,670	70,670
Net Rentable Area (1)	90%	63,603	63,603	63,603	63,603	63,603	63,603	63,603	63,603	63,603	63,603
Net Lease Revenue per s.f (2)	\$25.84	\$ 27.41	\$ 28.24	\$ 29.08	\$ 29.96	\$ 30.85	\$ 31.78	\$ 32.73	\$ 33.72	\$ 34.73	
Stabilized Vacancy Factor	7%	10%	7%	7%	7%	7%	7%	7%	7%	7%	
<b>Net Operating Income</b>											
Gross Leasing Revenues		\$1,743,591	\$ 1,855,762	\$ 1,911,435	\$ 1,968,778	\$ 2,027,841	\$ 2,088,676	\$ 2,151,337	\$ 2,215,877	\$ 2,282,353	
Operations and Maintenance Expense	\$ 3.88	(235,385)	(250,528)	(258,044)	(265,785)	(273,759)	(281,971)	(290,430)	(299,143)	(308,118)	
Net Operating Income		1,508,206	1,605,234	1,653,391	1,702,993	1,754,082	1,806,705	1,860,906	1,916,733	1,974,235	\$ 2,033,462
<b>Capital Expenses</b>											
Capital Reserves (\$/sf)	\$ 0.10	(7,067)	(7,067)	(7,067)	(7,067)	(7,067)	(7,067)	(7,067)	(7,067)	(7,067)	
tenant Improvements & Legal Costs (\$/sf)	\$ 2.58	(164,350)	(164,350)	(164,350)	(164,350)	(164,350)	(164,350)	(164,350)	(164,350)	(164,350)	
Total Capital Expenses		(171,417)	(171,417)	(171,417)	(171,417)	(171,417)	(171,417)	(171,417)	(171,417)	(171,417)	
Unlevered Free Cash Flow		1,336,789	1,433,817	1,481,974	1,531,576	1,582,665	1,635,288	1,689,489	1,745,316	1,802,818	
<b>Development Costs</b>											
Cumulative Percent Built by Year		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Development Costs		(8,551,070)	0	0	0	0	0	0	0	0	
<b>Annual Cash Flow</b>											
Net Operating Income		1,508,206	1,605,234	1,653,391	1,702,993	1,754,082	1,806,705	1,860,906	1,916,733	1,974,235	\$ 2,033,462
Retail Asset Value	10%									20,334,623	
Costs of Sale	5%									(1,016,731)	
al Retail Development Costs each year		(8,551,070)	0	0	0	0	0	0	0	0	
Net Cash Flow		0	(7,042,864)	1,605,234	1,653,391	1,702,993	1,754,082	1,806,705	1,860,906	1,916,733	\$ 21,292,127
Net Present Value	12.5%	8,036,399									
Internal Rate of Return (IRR)		31.3%									

1. Net rentable area reflects a two-year construction period; analysis assumes certain Phase I space is available for occupancy after the first year

2. Source: Assumes NNN rents of \$15 to \$20, which is based on discounted Jones Lang Lasalle data on downtown retail market; adjusted downward to reflect the risk associated with Phase I program elements

3. All operating expenses, maintenance costs and T.I. are assumed to be 15% of Gross Lease

		Phase 1			Phase 2			Phase 3				Used for Terminal Value Calculations
		Non-existing	Construction	Operation	Operation	Operation	Operation	Operation	Operation	Operation	Operation	
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
factors		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ground Retail Revenue Assumptions												
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
GLA Absorbed				5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,600	
Net Rentable Area (1)	90%			5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	
Net Lease Revenue per s.f. (2)	\$23.25			\$ 25.41	\$ 26.17	\$ 26.95	\$ 27.76	\$ 28.59	\$ 29.45	\$ 30.34	\$ 31.25	
Stabilized Vacancy Factor	7%			10%	7%	7%	7%	7%	7%	7%	7%	
Market Rate Rental Revenue Assumptions												
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
Projected Unit by year				12	12	12	12	12	12	12	12	
Average Unit Size				825	825	825	825	825	825	825	825	
Net Rentable Area (cumulative)				9,900	9,900	9,900	9,900	9,900	9,900	9,900	9,900	
Monthly Rent per s.f. (1)	\$ 2.00			\$ 2.19	\$ 2.25	\$ 2.32	\$ 2.39	\$ 2.46	\$ 2.53	\$ 2.61	\$ 2.69	
Yearly Rent per s.f.	\$ 24.00			\$ 26.23	\$ 27.01	\$ 27.82	\$ 28.66	\$ 29.52	\$ 30.40	\$ 31.31	\$ 32.25	
Occupancy Factor (2)				75%	85%	90%	90%	90%	90%	90%	90%	
Retail Net Operating Income												
Gross Leasing Revenues				\$ 115,241	\$ 122,655	\$ 126,335	\$ 130,125	\$ 134,028	\$ 138,049	\$ 142,191	\$ 146,457	
Operations and Maintenance Expense per s.f.	\$ 3.49			(17,577)	(17,577)	(17,577)	(17,577)	(17,577)	(17,577)	(17,577)	(17,577)	
Retail Net Operating Income				97,664	105,078	108,758	112,548	116,451	120,472	124,614	128,880	
Market Rate Rental Net Operating Income												
Gross Lease Revenue				\$ 194,723.95	\$ 227,307.76	\$ 247,899.17	\$ 255,336.14	\$ 262,996.23	\$ 270,886.11	\$ 279,012.70	\$ 287,383.08	
Annual Operating Expenses per s.f. (3)	\$ 0.20			\$ 0.22	\$ 0.23	\$ 0.23	\$ 0.24	\$ 0.25	\$ 0.25	\$ 0.26	\$ 0.27	
Operating Expenses				\$ (2,163.60)	\$ (2,228.51)	\$ (2,295.36)	\$ (2,364.22)	\$ (2,435.15)	\$ (2,508.20)	\$ (2,583.45)	\$ (2,660.95)	
Rental Net Operating Income				192,560	225,079	245,604	252,972	260,561	268,378	276,429	284,722	
TOTAL NET OPERATING INCOME				290,225	330,157	354,361	365,520	377,013	388,850	401,043	413,602	\$ 426,571
Capital Expenses												
Capital Reserves (\$/sf)	\$ 0.10			\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.13	\$ 0.13	
Total Capital Reserves				\$ 1,583.64	\$ 1,631.15	\$ 1,680.08	\$ 1,730.49	\$ 1,782.40	\$ 1,835.87	\$ 1,890.95	\$ 1,947.68	
Ti's & LC's (\$/sf)	\$ 0.10			\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.13	\$ 0.13	
Total Ti's & LC's				\$ 1,583.64	\$ 1,631.15	\$ 1,680.08	\$ 1,730.49	\$ 1,782.40	\$ 1,835.87	\$ 1,890.95	\$ 1,947.68	
Total Capital Expenses (accumulative)	\$ -			\$ 3,167.28	\$ 3,262.30	\$ 3,360.17	\$ 3,460.97	\$ 3,564.80	\$ 3,671.75	\$ 3,781.90	\$ 3,895.35	
Unlevered Free Cash Flow				293,392	333,420	357,722	368,981	380,577	392,522	404,825	417,497	
Development Costs												
Retail Cumulative Percent Built by Year			100%									
Rental Cumulative Percent Built by Year			100%									
Total Retail Development Costs by Year			(677,600)									
Rental Housing Development Costs by year			(1,557,270)									
TDC			(2,234,870)									
Total Annual Cash Flow												
Total Net Operating Income		0	0	290,225	330,157	354,361	365,520	377,013	388,850	401,043	413,602	\$ 426,571
Total Capital Expenses		0	0	3,167	3,262	3,360	3,461	3,565	3,672	3,782	3,895	
Asset Value	10%											8,531,415
Costs of Sale	5%											(426,571)
Total Development Costs			(2,234,870)	0	0	0	0	0	0	0	0	
Net Cash Flow		0	(2,234,870)	293,392	333,420	357,722	368,981	380,577	392,522	404,825	\$ 8,522,341	
Net Present Value	12.5%		\$2,674,805									
Internal Rate of Return (IRR)			27.6%									

1. Broker estimates

2. Stabilization period based on performance of comparable projects and assumes pre-leasing/pre-marketing occurs during construction period in 2011

3. Expenses assumed to equal 10% of Net Rent and includes a 5% mgmt fee based on occupied rentable area; other expenses (i.e. utilities) are passed-through to tenant; property tax is applied on the property as a whole



factors	Phase 1			Phase 2			Phase 3			
	Non-existing	Construction	Operation	Operation	Operation	Operation	Operation	Operation	Operation	Operation
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Ground Retail Revenue Assumptions</b>										
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30
GLA Absorbed		0	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Net Rentable Area (1)	90%	-	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500
Net Lease Revenue per sq ft (2)	\$23.25	\$ -	\$ 24.67	\$ 25.41	\$ 26.17	\$ 26.95	\$ 27.76	\$ 28.59	\$ 29.45	\$ 30.34
Stabilized Vacancy Factor	7%	0%	15%	10%	7%	7%	7%	7%	7%	7%
<b>Market Rate Rental Revenue Assumptions</b>										
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30
Projected Unit by year		8	8	8	8	8	8	8	8	8
Average Unit Size			825	825	825	825	825	825	825	825
Net Rentable Area (cumulative)			6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600
Monthly Rent per sq ft (1)	\$ 2.00		\$ 2.19	\$ 2.25	\$ 2.32	\$ 2.39	\$ 2.46	\$ 2.53	\$ 2.61	\$ 2.69
Yearly Rent per sq ft	\$ 24.00	\$ -	\$ 26.23	\$ 27.01	\$ 27.82	\$ 28.66	\$ 29.52	\$ 30.40	\$ 31.31	\$ 32.25
Occupancy Factor (2)			75%	85%	90%	90%	90%	90%	90%	90%
<b>Retail Net Operating Income</b>										
Gross Leasing Revenues		\$ -	\$ 102,894	\$ 109,513	\$ 112,799	\$ 116,183	\$ 119,668	\$ 123,258	\$ 126,956	\$ 130,765
Operations and Maintenance Expense per sq ft	\$ 3.49		(15,694)	(15,694)	(15,694)	(15,694)	(15,694)	(15,694)	(15,694)	(15,694)
<b>Retail Net Operating Income</b>			87,200	93,820	97,105	100,489	103,975	107,565	111,262	115,071
<b>Market Rate Rental Net Operating Income</b>										
Gross Lease Revenue		\$ -	\$ 129,815.97	\$ 151,538.51	\$ 165,266.11	\$ 170,224.10	\$ 175,330.82	\$ 180,590.74	\$ 186,008.47	\$ 191,588.72
Annual Operating Expenses per sq ft (3)	\$ 0.20		\$ 0.22	\$ 0.23	\$ 0.23	\$ 0.24	\$ 0.25	\$ 0.25	\$ 0.26	\$ 0.27
Operating Expenses		\$ -	\$ (1,442.40)	\$ (1,485.67)	\$ (1,530.24)	\$ (1,576.15)	\$ (1,623.43)	\$ (1,672.14)	\$ (1,722.30)	\$ (1,773.97)
<b>Rental Net Operating Income</b>			128,374	150,053	163,736	168,648	173,707	178,919	184,286	189,815
<b>TOTAL NET OPERATING INCOME</b>			215,574	243,872	260,841	269,137	277,682	286,483	295,548	304,886
<b>Capital Expenses</b>										
Capital Reserves (\$/sq ft)	\$ 0.10		\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.13
Total Capital Reserves		\$ -	\$ (1,143.30)	\$ (1,177.60)	\$ (1,212.93)	\$ (1,249.31)	\$ (1,286.79)	\$ (1,325.40)	\$ (1,365.16)	\$ (1,406.11)
Ti's & LC's (\$/sq ft)	\$ 0.10		\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.13
Total Ti's & LC's		\$ -	\$ (1,143.30)	\$ (1,177.60)	\$ (1,212.93)	\$ (1,249.31)	\$ (1,286.79)	\$ (1,325.40)	\$ (1,365.16)	\$ (1,406.11)
<b>Total Capital Expenses (accumulative)</b>	\$ -	\$ -	\$ (2,286.60)	\$ (2,355.20)	\$ (2,425.85)	\$ (2,498.63)	\$ (2,573.59)	\$ (2,650.80)	\$ (2,730.32)	\$ (2,812.23)
<b>Unlevered Free Cash Flow</b>			213,287	241,517	258,415	266,638	275,108	283,832	292,818	302,074
<b>Development Costs</b>										
Retail Cumulative Percent Built by Year			100%							
Rental Cumulative Percent Built by Year			100%							
<b>Total Retail Development Costs by Year</b>			(605,000)							
<b>Rental Housing Development Costs by Year</b>			(1,038,180)							
<b>IDC</b>			(1,643,180)							
<b>Total Annual Cash Flow</b>										
Total Net Operating Income		0	0	215,574	243,872	260,841	269,137	277,682	286,483	304,886
Total Capital Expenses		0	0	(2,287)	(2,355)	(2,426)	(2,499)	(2,574)	(2,651)	(2,730)
Asset Value	10%									6,290,671
Costs of Sale	5%									(314,534)
<b>Total Development Costs</b>		0	(1,643,180)	0	0	0	0	0	0	0
<b>Net Cash Flow</b>		0	(1,643,180)	213,287	241,517	258,415	266,638	275,108	283,832	292,818
<b>Net Present Value</b>	12.5%	\$1,953,150								
<b>Internal Rate of Return (IRR)</b>		27.5%								

Used for Terminal  
Value Calculations  
2020

\$ 314,534

\$ 314,534

1. Broker estimates  
2. Stabilization period based on performance of comparable projects and assumes pre-leasing/pre-marketing occurs during construction period in 2011  
3. Expenses assumed to equal 10% of Net Rent and includes a 5% maint fee based on occupied rentable area; other expenses (i.e. utilities) are passed-through to tenant; property tax is applied on the property as a whole



factors	Phase 1			Phase 2			Phase 3				Used for Terminal 2020
	Non-existing 2010	Non-existing 2011	Construction 2012	Operation 2013	Operation 2014	Operation 2015	Operation 2016	Operation 2017	Operation 2018	Operation 2019	
Ground Retail Revenue Assumptions											
Inflation Factor 3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
GLA Absorbed				3,225	3,225	3,225	3,225	3,225	3,225	3,225	
Net Rentable Area (1) 90%				2,903	2,903	2,903	2,903	2,903	2,903	2,903	
Net Lease Revenue per sf (2) \$23.25				\$ 26.17	\$ 26.95	\$ 27.76	\$ 28.59	\$ 29.45	\$ 30.34	\$ 31.25	
Stabilized Vacancy Factor 7%				10%	7%	7%	7%	7%	7%	7%	
Market Rate Rental Revenue Assumptions											
Inflation Factor 3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
Projected Unit Development by year				8	8	8	8	8	8	8	
Average Unit Size				625	625	625	625	625	625	625	
Net Rentable Area (cumulative)			5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	
Monthly Rent per sf. (1) \$ 2.00				\$ 2.25	\$ 2.32	\$ 2.39	\$ 2.46	\$ 2.53	\$ 2.61	\$ 2.69	
Yearly Rent per sf. \$ 24.00			\$ -	\$ 27.01	\$ 27.82	\$ 28.66	\$ 29.52	\$ 30.40	\$ 31.31	\$ 32.25	
Occupancy Factor (2)			0%	80%	85%	90%	90%	90%	90%	90%	
Retail Net Operating Income											
Gross Leasing Revenues				\$ 68,358	\$ 72,755	\$ 74,938	\$ 77,186	\$ 79,502	\$ 81,887	\$ 84,343	
Operations and Maintenance Expense per sf \$ 3.49				(10,122)	(10,122)	(10,122)	(10,122)	(10,122)	(10,122)	(10,122)	
Retail Net Operating Income			0	58,235	62,633	64,815	67,064	69,379	71,764	74,221	
Market Rate Rental Net Operating Income											
Gross Lease Revenue			\$ -	\$ 108,048.85	\$ 118,245.96	\$ 128,957.65	\$ 132,826.38	\$ 136,811.17	\$ 140,915.50	\$ 145,142.97	
Annual Operating Expenses per sf. (3) \$ 0.20				\$ 0.23	\$ 0.23	\$ 0.24	\$ 0.25	\$ 0.25	\$ 0.26	\$ 0.27	
Operating Expenses				\$ (1,125.51)	\$ (1,159.27)	\$ (1,194.05)	\$ (1,229.87)	\$ (1,266.77)	\$ (1,304.77)	\$ (1,343.92)	
Rental Net Operating Income				106,923	117,087	127,764	131,597	135,544	139,611	143,799	
TOTAL NET OPERATING INCOME			0	165,158	179,719	192,579	198,660	204,924	211,375	218,020	\$ 224,884
Capital Expenses											
Capital Reserves (\$/sf) \$ 0.10	\$ (0.10)	\$ (0.11)		\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	
Total Capital Reserves				\$ 813.96	\$ 838.38	\$ 863.53	\$ 889.43	\$ 916.12	\$ 943.60	\$ 971.91	
TIs & LCs (\$/sf) \$ 0.10	\$ (0.10)	\$ (0.11)		\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	
Total TIs & LCs				\$ 813.96	\$ 838.38	\$ 863.53	\$ 889.43	\$ 916.12	\$ 943.60	\$ 971.91	
Total Capital Expenses (accumulative) \$ -				\$ 1,627.92	\$ 1,676.75	\$ 1,727.06	\$ 1,778.87	\$ 1,832.23	\$ 1,887.20	\$ 1,943.82	
Unlevered Free Cash Flow				166,786	181,396	194,306	200,439	206,756	213,262	219,964	
Development Costs											
Retail Cumulative Percent Built by Year			100%								
Rental Cumulative Percent Built by Year			100%								
Total Retail Development Costs by Year			(390,225)								
Rental Housing Development Costs by year			(786,500)								
TDC			(1,176,725)								
Total Annual Cash Flow											
Total Net Operating Income			0	165,158	179,719	192,579	198,660	204,924	211,375	218,020	\$ 224,884
Total Capital Expenses			0	1,628	1,677	1,727	1,779	1,832	1,887	1,944	
Asset Value 10%										4,497,673	
Costs of Sale 5%										(224,884)	
Total Development Costs			(786,500)	0	0	0	0	0	0	0	
Net Cash Flow			(786,500)	166,786	181,396	194,306	200,439	206,756	213,262	\$ 4,492,753	
Net Present Value 12.5%	\$4,869,198										
Internal Rate of Return (IRR)	41.5%										

1. Broker estimates

2. Stabilization period based on performance of comparable projects and assumes pre-leasing/pre-marketing occurs during construction period in 2011

3. Expenses assumed to equal 10% of Net Rent and includes a 5% mgmt fee based on occupied rentable area; other expenses (i.e. utilities) are passed-through to tenant; property tax is applied on the property as a whole

	factors	Phase 1			Phase 2			Phase 3				Used for Terminal Value Calculations		
		Construction	Construction	Operation	Operation	Operation	Operation	Operation	Operation	Operation				
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
Assumptions														
Inflation Factor	3%	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34			
Surface Parking Spaces		56	113	113	113	113	113	113	113	113	113			
Hourly Metered Fees (1)														
Number of Spaces		56	113	113	113	113	113	113	113	113	113			
Nonwork Days	104	104	104	104	104	104	104	104	104	104	104			
Daily Parking Hours	12	12	12	12	12	12	12	12	12	12	12			
Percent Utilization	80%	0%	0%	80%	80%	80%	80%	80%	80%	80%	80%			
Work Days	260	260	260	260	260	260	260	260	260	260	260			
Daily Parking Hours	14	14	14	14	14	14	14	14	14	14	14			
Percent Utilization	80%	0%	0%	80%	80%	80%	80%	80%	80%	80%	80%			
Hourly Parking Rate	\$ 1.00	\$ 1.03	\$ 1.06	\$ 1.09	\$ 1.13	\$ 1.16	\$ 1.19	\$ 1.23	\$ 1.27	\$ 1.30	\$ 1.34			
Expenses (2)	40%	\$ 0.41	\$ 0.42	\$ 0.44	\$ 0.45	\$ 0.46	\$ 0.48	\$ 0.49	\$ 0.51	\$ 0.52	\$ 0.54			
Operating Expenses (Percent of Gross	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%			
Net Operating Income												\$ 96,119		
Total Parking Revenue		0	0	126,463	130,256	134,164	138,189	142,335	146,605	151,003	155,533			
Expenses		0	0	(50,585)	(52,103)	(53,666)	(55,276)	(56,934)	(58,642)	(60,401)	(62,213)			
Net Operating Income		0	0	75,878	78,154	80,499	82,913	85,401	87,963	90,602	93,320			
Development Costs													\$ 96,119	
Percent Built by Year		50%	100%											
Development Costs		(237,160)	(478,555)											
Infrastructure Costs														
Total Development Costs		(237,160)	(478,555)											
Annual Cash Flow														\$ 96,119
Net Operating Income		0	0	75,878	78,154	80,499	82,913	85,401	87,963	90,602	93,320			
Asset Value	10%										961,194			
Costs of Sale	5%										(48,060)			
Total Non-Infrastructure Development Costs		(237,160)	(241,395)	478,555										
Net Cash Flow		(237,160)	(241,395)	554,433	78,154	80,499	82,913	85,401	87,963	90,602	1,006,454			
Net Present Value	12.5%	\$944,251												
Internal Rate of Return		41.5%												

1. Source: Jones Lang Lasalle  
2. Parking is assumed to be street level metered parking; Source: Shared Space (ULI); Economics Research Associates

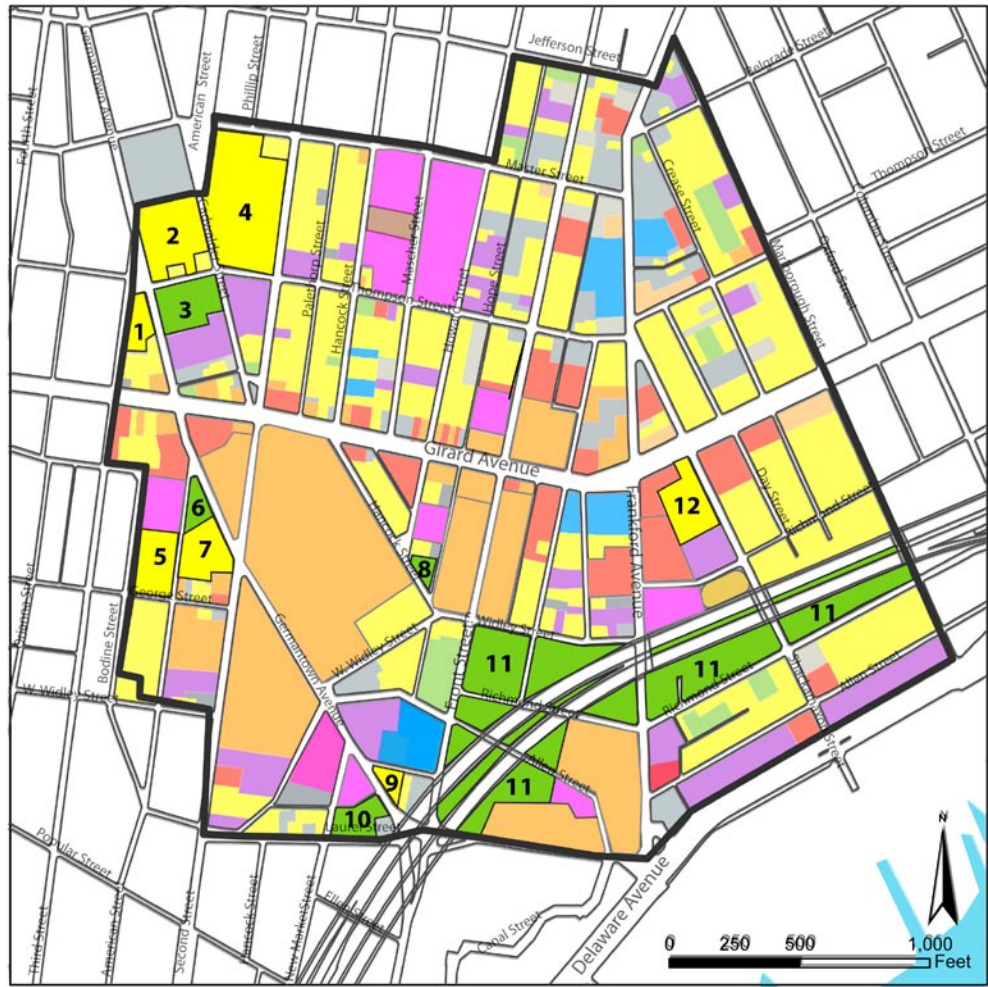


## Implementaion

### Phasing Implementation

	PHASE ONE (2010-2015)	PHASE TWO (2016-2021)	PHASE THREE (2022-2030)	ONGOING
<b>T R A N S P O R T A T I O N</b>	Begin Ride is hip Campaign, (i.e. place SEPTA schedules in community center.)	Complete implementation of the link between 2nd Street and Girard	Implement gateway feature around E. Widley Street.	Maintain a relationship with SPETA to encourage or participate in future ridership campaigns.
	Create transportation sub-committee	Create car sharing hubs, when Schmidt Brewer Site is finished construction and at Frankford and Girard.	Create a unifying identity around the station area.	Encourage car sharing companies to sponsor community events.
	Advocate benefits of car sharing to citizens and developers in the area	When reviewing mixed use tower on the northeast site work with developer to include 2-story gallery/ retail space	Replace tall overhead lighting with more pedestrian scaled lighting	Maintain existing connection to the area such as the one along Second Street.
	Work with SEPTA to create an opportunity to re-design the station when new development emerges around it.	Implement Laurel Street improvements	Work with Streets department to add bike lanes to Girard.	
	Advocate Towers Investments to allow for connections between Northern Liberties and the station.	Installation of trolley stops, and awnings complete		
	Create guidelines for streetscaping improvements.			
<b>U R B A N</b>	Begin replacing trees, and design covers for the trolley stations along Girard			
	Begin creating a link between Second Street and Girard Avenue	Complete implementation of the link between Second Street and Girard Avenue	Phase three of streetscaping (brick walkways and alleyways)	Maintain streetscaping
	Phase one of streetscaping (trees, curb setbacks, flags)	Phase two of streetscaping (public art)	Continue building renovation	Ongoing building renovation under the historic preservation tax credit
	Begin clean up of the areas under the EL and create design plans	Complete design elements under the EL	Continue to stick to strict guidelines for development (facade design)	Continue development guidelines
<b>G R E E N</b>	Determine which structures qualify for the historic preservation tax credit	Begin renovation of buildings that qualify for the historic preservation tax credit		
	Hold community meetings to set guidelines for development	Begin implementation of guidelines for development		
	Acquire all land needed in designated greenspace areas	Complete soccer field and mural under highway	Complete amphitheater	Maintain existing and new park spaces
<b>L A N D</b>	Commission the Philadelphia Mural Arts Program to design mural for lot under highway	Complete pedestrian path to connect area with waterfront	Finish landscaping pedestrian path	
	Open Community Garden to Residents			
<b>L A N D U S E</b>	Review Zoning for Schmidt Site and Approve Zoning Concept for Site	Review Zoning for Early Action Sites, Approve Zoning Concept	Review Zoning for Late Action Sites, Approve Zoning Concept for those	Update and continue reviewing zoning for large sites as necessary
		Mixed Use along Girard Avenue High Density around EI	Create Live Work Space Zoning Frankford Food and Entertainment District	





Proposed Residential and Park Map

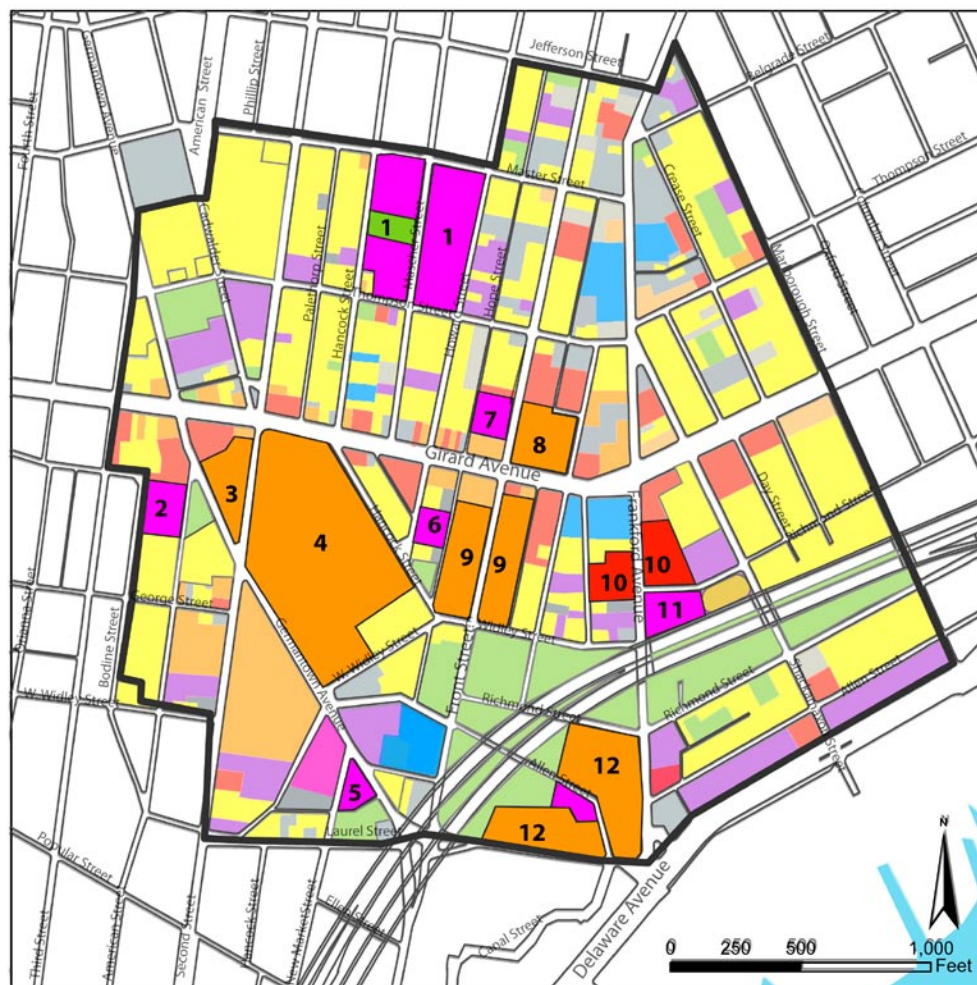
Legend

Residential	Curbline
Commercial	Study Area (1/4 mile)
Mixed Use	Delaware River
Live Work Space	
Parks/Recreation	

Development Plan

- 1. Rowhouses  
2 stories  
10 Units
- 2. Apartment Building  
3 stories  
75 units
- 3. The Viridian  
160-7 stories  
160 units  
16 live work units
- 4. Park  
35,000 sq.ft.
- 5. Stables Flats  
? stories  
70 units
- 6. Park  
10,000 sq.ft.
- 7. Condo Building  
4 stories  
40 units
- 8. Park  
8,000 sq.ft
- 9. Rowhouses  
2 stories
- 10. Park  
25,000 sq.ft.
- 11. Park  
538,000 sq.ft.  
12 acres
- 12. 7 units Rowhouse  
2 stories  
3 units

1. Live Work Units  
1-2 stories (rehab)  
50-60 units
2. Live Work Rehab  
2-4 stories  
40 units
3. Mixed Use  
4 stories  
54 units  
15,000 sq. ft. retail
4. Schmidt Brewery Development  
2-3 stories  
369 units  
125,000 sq. ft. retail  
27,500 sq. ft. park
5. Live Work  
1 story  
7 units
6. Flex Office Space  
2-3 stories  
30,000 sq. ft. office
7. Live Work Units  
7 stories  
37 units
8. Mixed Use Tower  
9 stories  
175 units  
45,000 sq. ft. retail
9. "El" Development  
8 stories  
220-240 units  
5,000 - 10,000 sq. ft. retail  
95,000 office
10. Food and Entertainment Overlay  
25,000 - 50,000 sq. ft. of food/entertainment
11. Live Work Building  
5 stories  
32 units
12. Allen Street Development  
6-7 stories  
300-400 units  
8 live work units  
60,000 sq. ft. retail  
15,000 sq. ft. park



*Proposed Mixed-use Map*

#### Legend

Land Uses	
Residential	— Curbline
Commercial	— Study Area (1/4 mile)
Mixed Use	— Delaware River
Live Work Space	
Parks/Recreation	

## Sources

Craul, Phillip J. Urban Soil. New York: John Wiley and Sons Inc. 1992.

D'Antonio, S. (2008). Girard Ave. Trolley Ridership Stats. Saturday (1/13/08) and Tuesday (1/8/08). SEPTA. Philadelphia.

D'Antonio, S. (2007 and 2005). Market Frankford Ridership Statistics. Philadelphia: SEPTA.

Delaware Valley Regional Planning Commission. Implementing Transit-Oriented Development in Pennsylvania. Online. Retrieved April 18, 2008.  
[www.10000friends.org/downloads/TRIDAct.ppt](http://www.10000friends.org/downloads/TRIDAct.ppt)

Dupont Circle Citizens Association. Dupont Circle. Online Retrieved March 3, 2008.  
<http://www.dupont-circle.com/>

Marcus, Henry Stephan. TOD Case Study: Portland. Online. Retrieved March 3, 2008.  
<http://www.todadvocate.com/pdxcasestudy.htm>

Levine, Adam. Hidden Streams 1889. PhillyH2O. Online. Retrieved February 16, 2008.  
[http://www.phillyh2o.org/backpages/Maps/A\\_HistoricStreams.jpg](http://www.phillyh2o.org/backpages/Maps/A_HistoricStreams.jpg)

Philadelphia Street Department. (2006). Philadelphia Bike Map. (T. B. Network, Producer) Retrieved February 23, 2008, from City of Philadelphia: <http://www.phila.gov/streets/Philabik.pdf>

Razzi, L. (n.d.). Retrieved April 23, 2008, from Leo Razzi: Industrial Artists and Installations: <http://www.leorazzi.com/InstallArt/ViewCategories.asp>

Regan, Hilary. Interview. February 26, 2008. Personal Contact.

SEPTA. (2007). FY 2009 Operating Budget. Philadelphia: SEPTA.

SEPTA. (n.d.). Market-Frankford Subway-Elevated Line. Retrieved April 22, 2008, from



SEPTA: <http://septa.org/inside/history/mfse.html>

SEPTA. (2007). SEPTA Operating Facts . Philadelphia: SEPTA.

Szilagyi, M. (2005). Route 15/Girard Avenue Trolley . Retrieved April 23, 2008,  
from Philadelphia Trolley Tracks : <http://www.phillytrolley.org/>

Transit Cooperative Research Program. (2002). Transit Oriented Development and Joint  
Development in the United States: A Literature Review. Washington DC: Federal  
Transit Administration.

Tomlinson, Tomothy R. Et. Al. Paradise Presented: Beautiful Gardens in Philadelphia and  
the Delaware Valley. Philadelphia: University of Pennsylvania Press, 1996.

Victoria Transport Policy Institute. "Transit Oriented Development."  
Online. Retrieved: February 16, 2008. <http://www.vtpi.org/tdm/tdm45.htm>.  
<http://www.ushistory.org/philadelphia/philadelphia.html>

<http://www.artyoueat.com/nlweb/History.html>

[www.about.com](http://www.about.com)

[www.phmc.state.pa.us](http://www.phmc.state.pa.us)

US Census