



## ABSTRACT

Title of Thesis: RE-WEAVING THE URBAN FABRIC : A NEW MIDTOWN  
RESIDENTIAL NEIGHBORHOOD IN NEWPORT NEWS, VIRGINIA

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American cities have been struggling with suburban sprawl and urban flight for the last fifty years. With rising costs, lengthening commutes, limited resources and shrinking open land, many residents are reconsidering life outside the city. If communities are to reevaluate their settlement patterns and look to new life in the urban center, to what extent can urban design and architecture re-weave and revive a once thriving district on the verge of collapse?

Downtown Newport News has witnessed an urban flight, leaving the city abandoned and deteriorating. This thesis will propose to reconnect midtown with the Parkside community to provide public amenity, increased access, and future growth potential, serving as a prototype for development within Newport News and beyond. A variety of housing options will be explored, with the premise that instead of providing only parking for the shipyard, the city should provide housing options, close to work and other amenities that can result from a dynamic urban waterfront community

RE-WEAVING THE URBAN FABRIC : A NEW MIDTOWN RESIDENTIAL  
NEIGHBORHOOD IN NEWPORT NEWS, VIRGINIA

by

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To my family and friends,  
without your love, support, and inspiration  
this would never have been possible



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## Chapter 1: Introduction and Theory

Weaving defined

Translation to Urbanism

“Re-weaving”

Suburb vs. City

Suburban Sprawl, Urban Flight

Neighborhoods: Definitions and Limitations

Transit-Oriented Design (TOD)



## **Weaving Defined<sup>1</sup>**

1. Interlacing (threads, yarns, strips, fibrous materials, etc.) so as to form a fabric or material.
2. The act of one who, or that which, weaves; the act or art of forming cloth in a loom by the union or intertexture of threads
3. To interweave or combine (elements) into a complex whole

## **Translation to Urbanism**

This analogy is very applicable to thinking about the city, commonly referred to as the “urban fabric.” This analogy speaks closely to the act of forming cloth by interlacing threads or pieces of material. The threads represent the essential “parts” of urbanism including: streets, blocks, buildings, and landmarks. These fundamental elements of the city result in a “woven” fabric that is ultimately greater than the sum its original parts. In this way a dynamic urban “textile” is formed.

In his book The Image of the City, Lynch argues that the above-mentioned threads of urbanism are used to create paths, districts, nodes, and edges. These elements of urban form are what create the complex whole<sup>2</sup>.

## **“Re-weaving”**

This thesis is entitled “Re-weaving the Urban Fabric of a Waterfront Community,” with the premise that Midtown Newport News has the essential threads of urban form, but over time these pieces of material have become tattered and torn. Due to neglect and disrepair the urban fabric has become frayed and worn. This thesis intends to re-weave the elements of urban form to make a viable and successful community, building on the established threads of the city. Within this complexity of interconnections, dwellings form the finest fibers of urbanism. Ultimately the interlacing of urban materials of all scales creates an even stronger and durable city fabric.

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<sup>1</sup> [www.thefreedictionary.com/weaving](http://www.thefreedictionary.com/weaving)

<sup>2</sup> Kevin Lynch, Image of the City (Cambridge: MIT Press, 1960) 47.

## **Suburban Sprawl, Urban Flight**

The phenomenon of suburban sprawl in the US is most notably associated with the economic boom following WWII. The introduction of the interstate highway system, mass production of the automobile, GI Bill, FHA and the baby boom all contributed to the tendency of urban flight to the suburbs. As families became more mobile the idea of raising a family in the countryside becomes an ideal goal. The “American Dream” began to be shift from the idea of living in an urban environment composed of immigrants from all over the world to the idealized goal of owning a single-family house on a quarter-acre lot with a white picket fence in the suburbs. Families began leaving their multifamily urban dwelling and traveling to the untouched periphery of the city to live in freestanding houses, which somehow were perceived as a higher status of living. The commute to work was seen as a fair tradeoff for evenings and weekends in the country. Consequently the urban landscape gradually became neglected as the majority of families were living outside the urban center.

Since the baby boom, Americans have been growing up with this biased impression of the ideal lifestyle. As a consequence of further expansion into the countryside and increasing desires for more land and more roads to get you where you need to go, the natural landscape has become minimized.

In his book The Geography of Nowhere, James Kunstler argues that flaws of today’s suburbs involve two elements: extreme separation of uses due to the need to keep industry away from residential creating “income pods,” and vast distances between these elements.<sup>3</sup> This separation is most notable linked to the reliance on the automobile. In

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<sup>3</sup> James Howard Kunstler, The Geography of Nowhere, (New York: Simon & Schuster, 1993) 114.

the majority of suburbs today a car is almost a requirement for transit to work, local amenities, retail and cultural centers.

Most of the suburban landscape is not designed for the pedestrian and mass transit is most often linked to collector roads, not local residential streets. Additionally Kunstler raises the point that instead of the traditional convention of shared public spaces that encourage chance meetings and communal gatherings, roads solely define our current public realm, where people are usually alone in their cars.<sup>4</sup> He asserts, “Meeting people is the quintessential urban pleasure.”<sup>5</sup> If we are to reclaim the urban tradition of community we must look to design public spaces, which are used by the community for fellowship.

Kunstler also suggests “there is little sense of having arrived anywhere because everyplace looks like no place in particular.”<sup>6</sup> This is a sad commentary on contemporary American architecture and urban design. Instead of creating places, the suburbs are acting as single-use, sprawling developments.

Fortunately this trend is beginning to be questioned by groups such as the coalition for Smart Growth which strives to “promote a better way to grow: one that protects farmland and open space, revitalizes neighborhoods, keeps housing affordable, and provides more transportation choices.”<sup>7</sup> Their goals sponsor: neighborhood livability; better access, less traffic; thriving cities, suburbs and towns; shared benefits; lower costs, lower taxes; keeping open space open.<sup>8</sup>

This thesis is intended to address the issues of suburban sprawl and urban flight by promoting smart growth tactics that encourage a sense of place and a commitment to

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<sup>4</sup> Kunstler 119.

<sup>5</sup> Kunstler 127.

<sup>6</sup> Kunstler 147.

<sup>7</sup> [www.smartgrowthamerica.com](http://www.smartgrowthamerica.com)

<sup>8</sup> [www.smartgrowthamerica.com](http://www.smartgrowthamerica.com)

community and pedestrian access in a more responsible way. By learning from historical mistakes and current advancements, the goal is to find a balance between the perceived benefits of suburban living in a more compact and sustainable environment. By using the Smart Growth goals as a framework for design, the design for Newport News will act as an example of a “better way to grow.”

### **Suburb vs. City**

Although where one chooses to live is a personal decision, there is much debate about which settlement type is “better”: suburb vs. city. Those who are in favor of the suburbs attest to the more conducive environment for raising a family due to the perceived level of safety, the abundance of recreational space, and network of families within the community. Those advocating city living are drawn to the diversity and cultural outlets afforded by the density of community.

Before a discussion can be furthered about the competing interests of the city and suburb, a general definition of each must be presented as groundwork.

Suburb:<sup>9</sup>

1. The usually **residential** region around a major city; the environs.
2. An outlying part of a city or town; a smaller place immediately adjacent to a city; in the plural, the region which is on the confines of any city or large town; as, a house stands in the suburbs; a garden situated in the suburbs of Paris. “In the suburbs of a town.” --Chaucer.

City:<sup>10</sup>

1. A center of population, commerce, and **culture**; a town of significant size and importance.
2. City is a community of substantial size and population density that shelters a variety of non-agricultural specialists including literate elite. – Sjoberg

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<sup>9</sup> dictionary.reference.com

<sup>10</sup> dictionary.reference.com

The benefits and drawbacks of both suburb and city are depicted in Ebenezer Howard's Garden Cities of To-Morrow, published in 1902. This revolutionary book describes the country as “yesterday,” the town as “today” and the garden city as “tomorrow.”<sup>11</sup> His premise was that both town and country had strengths and weaknesses, but in combination the “garden city” would be the vision of the future. The description of the contrasts of the two settlement types is very relevant even today in discussion of our settlement patterns. The resounding message is that we must reach a balance between “town” and “country” in order to create viable communities.

Howard sees the balance in the fact that “each inhabitant of the whole group, though in one sense living in a town of small size, would be in reality living in, and would enjoy all the advantages of, a great and most beautiful city; and yet all the fresh delights of the country...would be within a very few minutes’ ride or walk.”<sup>12</sup>

The described beauty of the city resides in the fact that “within the city there would be both quiet residential neighborhoods and facilities for a full range of commercial, industrial, and cultural activities.”<sup>13</sup> This diversity of use speaks to the desire of residents to have their entire daily needs met locally. This diversification is lacking in most modern suburbs, which are “bedroom communities,” lacking commercial and cultural facilities to sustain independence.

While Howard’s text was written at the turn of the century, its message still resounds today. His ultimate conclusion was that “town and country *must be married*, and out of this joyous union will spring a new hope, a new life, a new civilization.”<sup>14</sup>

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<sup>11</sup> Robert Fishman, Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier, (New York: Basic Books, 1977)

<sup>12</sup> Fishman 50.

<sup>13</sup> Fishman 40.

<sup>14</sup> Fishman 23.

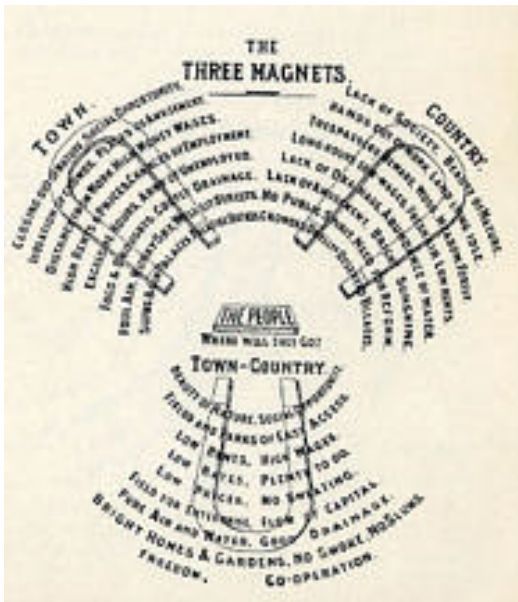


Figure 1: Howard's Town-Country Model<sup>15</sup>

In our current culture defined by suburban settlement patterns and shrinking urban populations, Howard's question is still viable: "Where will the people go?"

### Neighborhoods: Definitions and Limitations

With suburbs sprawling out of control, many are beginning to reevaluate the fundamental unit of a city, that of the neighborhood. Theoreticians and practitioners at the forefront of this investigation include: Andres Duany, Leon Krier, Tony Garnier, Milton Keens, Clarence Perry, Jane Jacobs and Ebenezer Howard.

What is a Neighborhood?

Some definitions include:<sup>16</sup>

1. A separately identifiable area within a community retaining some quality or character, which distinguishes it from other areas.
2. A district or locality characterized by similar or compatible land uses. Neighborhoods are often identified by a place name and have boundaries composed of major streets, barriers, or abrupt changes in land use.

Duany and other New Urbanists define a neighborhood as:<sup>17</sup>

1. The neighborhood has a center and an edge
2. The optimal size of a neighborhood is a quarter-mile from center to edge.

<sup>15</sup> Image source:

<sup>16</sup> dictionary.reference.com

<sup>17</sup> Peter Katz, The New Urbanism, (New York: McGraw-Hill, 1994) xvii.

3. The neighborhood as a balanced mix of activities- dwelling, shopping, working, schooling, worshipping, and recreating
4. The neighborhood structures building sites and traffic on a fine network of interconnecting streets
5. The neighborhood gives priority to public space and to the appropriate location of civic buildings.

The New Urbanism movement sponsors “principles about building communities that have been virtually ignored for half a century: Public spaces like streets, squares, and parks should be a setting for the conduct of daily life; a neighborhood should accommodate diverse types of people and activities; it should be possible to get to work, accomplish everyday tasks and travel to surrounding communities without a car.”<sup>18</sup>

Andres Duany, one of the founders of New Urbanism, describes a neighborhood as a “model of urbanism that is limited in area and structured around a center.”<sup>19</sup> He also claims that it is essential that “each model offer a balanced mix of dwellings, workplaces, shops, civic buildings and parks.”<sup>20</sup>

Leon Krier defines an “urban village” in a similar way, describing it as “a human-scale, compact, mixed land use, mixed tenure neighborhood within a wider urban area, with diverse open spaces, minimal car dependency, and relative self sufficiency in terms of residents’ needs for employment, shopping, recreation and community activity.”<sup>21</sup> The size of Krier’s urban village is limited to no more than 800 households. Once a community grows beyond this critical mass, multiple urban quarters will evolve into “polynodal cities.”<sup>22</sup>

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<sup>18</sup> Katz xxv.

<sup>19</sup> Katz xvii.

<sup>20</sup> Katz xvii.

<sup>21</sup> Michelle Thompson-Fawcett, Michell, “Leon Krier and the organic revival within urban policy and practice,” Planning Perspectives 13 (1998) 178.

<sup>22</sup> Thompson 177.

Krier's philosophies are most likely an extension of Ebenezer Howard's "Garden City" model with "town clusters, each town in the cluster being of different design from the others, yet the whole forming one large and well-thought-out plan."<sup>23</sup> Howard also prescribed "a tightly organized urban center for 30,000 inhabitants."<sup>24</sup>

All of these descriptions of neighborhoods identify the need for identifiable neighborhood centers defined by a critical mass and walkable both within and between adjacent neighborhoods. The overarching principle is that successful neighborhoods design is on relatively small scale. Instead of sprawling subdivisions, responsible neighborhoods are predominately self-sustainable and pedestrian dependant. This strategy conforms to the principles of smart growth and compact urban communities.

### **Transit Oriented Development**

In order to alleviate the dependence on auto transportation that has developed as a result of suburbanization and mass production, transit-oriented development looks at improving mass transit options to decrease congestion and increase access for all. This public strategy helps to improve transportation and advocates communal solutions as opposed to individual alternatives.

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<sup>23</sup> Fishman 50.

<sup>24</sup> Fishman 40.



The Transit Oriented Development Organization's goals include:<sup>25</sup>

1. Better places to live, work, and play
2. Greater mobility with ease of moving around
3. Increased transit ridership
4. Reduced traffic congestion and driving
5. Reduced household spending on transportation, resulting in more affordable housing
6. Healthier lifestyle with more walking, and less stress
7. Higher, more stable property values
8. Increased foot traffic and customers for area businesses
9. Greatly reduced pollution and environmental destruction
10. Reduced incentive to sprawl, increased incentive for compact development

In order to realize these goals, TOD's strive to create:<sup>26</sup>

1. Walkable design with pedestrian as the highest priority
2. Train station as prominent feature of town center
3. A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses
4. High density, high-quality development within 10-minute walk circle surrounding train station
5. Collector support transit systems including trolleys, streetcars, light rail, and buses, etc
6. Designed to include the easy use of bicycles, scooters, and roller blades as daily support transportation systems
7. Reduced and managed parking inside 10-minute walk circle around town center/ train station

By implementing these strategies in current urban interventions the tendencies toward automobile-dominant design may begin to be reversed. There will have to be a change of social consciousness for the shift to be truly successful.

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<sup>25</sup> <http://www.transitorienteddevelopment.org/pages/1/index.htm>

<sup>26</sup> <http://www.transitorienteddevelopment.org/pages/1/index.htm>

## Chapter 2: Site

Site History

Site Description

Site Selection

Site Challenges

City Challenges

## Site History

Early in the 17<sup>th</sup> Century Christopher Newport founded Newport News as a British port and farming center. It was not until after the Civil war that Newport News realized its commercial and industrial potential in Hampton Roads. At the terminus of the C&O Railroad, Collis Huntington, both a visionary and an entrepreneur, helped bring Newport News from an agricultural village to an industrial maritime center. His primary focus was on the railroad, port, and the development of a shipyard, opened in 1886 as the Chesapeake Dry Dock & Construction Company, and later renamed Newport News Shipbuilding.<sup>27</sup> (Quarstein)

Newport News became a company town, and as such experienced both a boom and bust economy and population. With a fluctuating economy, the city struggled to find stability in terms of government, housing, utilities, and public safety. When there was not a large demand for manpower the city would become desolate and dangerous, while in times of prosperity the city would resemble an emerging metropolis.<sup>28</sup>

Following World War II, the peninsula experienced a great movement from the city to the suburbs, fueled mainly by the advent of the highway system and the constrained site boundaries, causing the city again to become underused and rundown. The city began to look to tourism and other means of commerce to compliment the shipbuilding industry. Additionally, in the 1970's, the city began to realize that it was critical to develop a city plan that would address the needs of housing, culture, commerce and parking if the city of Newport News was to survive.<sup>29</sup>

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<sup>27</sup> John Quarstein and Parke S. Rouse, Newport News: A Centennial History, (Newport News: City of Newport News, 1996)

<sup>28</sup> Quarstein

<sup>29</sup> Quarstein

These same issues are still being dealt with today. Since the time of industrialization the city has been caught in a cycle of growth and recession without the stability of a resident population to be the cornerstone of the community.<sup>30</sup>

### Site Description

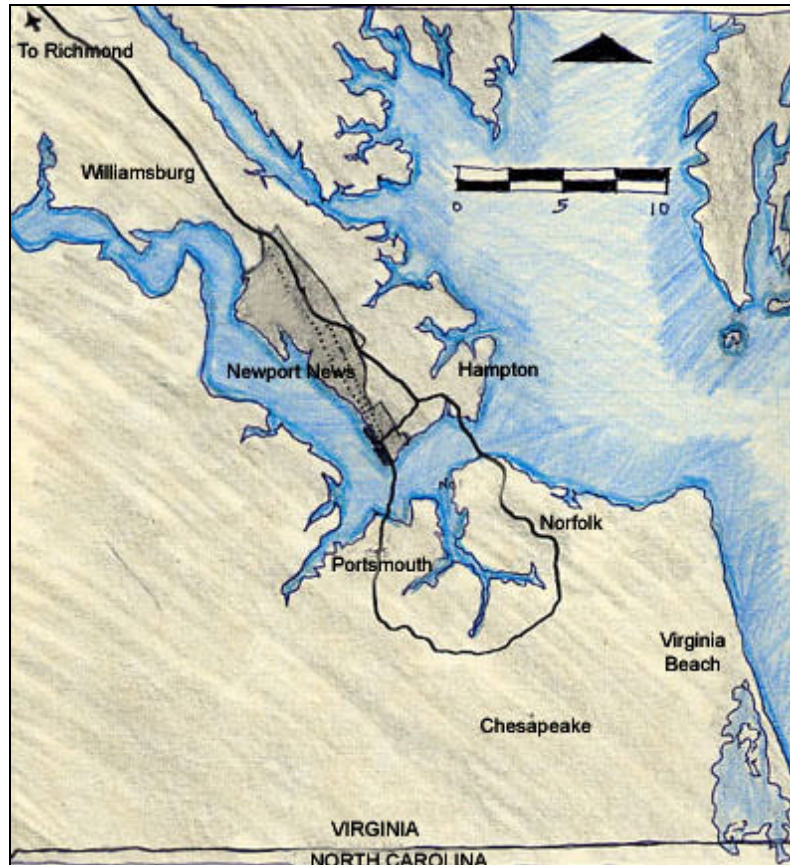


Figure 2: Newport News within regional context (black area enlarged in fig. 3)<sup>31</sup>

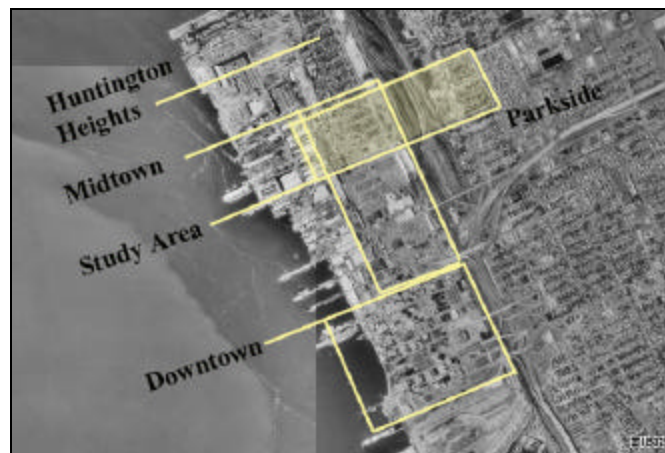
Newport News occupies a sliver of land between the James River and the C&O railroad on the Hampton Roads Peninsula. The James River and Newport News Shipbuilding bound the city to the west, train tracks to the east with residential districts beyond, port authority to the south and Mercury Boulevard to the North.

<sup>30</sup> Quarstein

<sup>31</sup> Image source: Author's diagram



**Figure 3: City Constraints, Midtown shaded black (Left)**<sup>32</sup>



**Figure 4: Aerial Photo with districts and study area (Right)**<sup>33</sup>

Within these confines, the city can be divided into three distinct districts: Downtown, Midtown, and Huntington Heights. Government office buildings and related commercial uses characterize Downtown. Civic structures also populate this district including: City Hall, Post Office, Court House, Municipal Library, Law Library, and Victory Arch.

<sup>32</sup> Image source: Author's diagram

<sup>33</sup> Image source: USGS aerial photo with Author's overlay



**Figure 5: Downtown- Image of City Hall<sup>34</sup>**

**Figure 6: Downtown- Image of government office building<sup>35</sup>**

Huntington Heights is a historic neighborhood developed for wealthy families during the early 1900's. Although there is a collage of styles, the typology is consistently large single-family residences on generous lots. The neighborhood always experienced pressure to increase density or convert to other uses, but has been preserved as a single-family community. In 1999, it was declared a historic district.<sup>36</sup>



**Figure 7: Huntington Heights- typical corner lot (left)<sup>37</sup>**

**Figure 8: Huntington Heights- housing example (right)<sup>38</sup>**

<sup>34</sup> Image source: Author's photo

<sup>35</sup> Image source: Author's photo

<sup>36</sup> "Northend Huntington Heights Neighborhood," Hampton Roads History Tours, (Internet: 19 September 2004).

<sup>37</sup> Image source: Author's photo

<sup>38</sup> Image source: Author's photo



The Parkside community lies adjacent to Midtown on the other side of the CSX train tracks. It is a large community, which intends to strike a balance between urban and suburban character. It is composed of single-family homes on narrow lots. Community interaction was a goal when this neighborhood was developed, including porches and corner markets. Many of the homes in this community are run down and in disrepair. This community also houses the largest concentration of public housing in Newport News.<sup>39</sup>



**Figure 9: Parkside retail, along Jefferson (upper left)<sup>40</sup>**

**Figure 10: Typical Parkside residential street (upper right)<sup>41</sup>**

**Figure 11: Typical Parkside street (lower left)<sup>42</sup>**

**Figure 12: Parkside public housing (lower right)<sup>43</sup>**

<sup>39</sup> "District I Plan," Framework for the Future, (Newport News: Chapter 14, 2000).

<sup>40</sup> Author's photo

<sup>41</sup> Author's photo

<sup>42</sup> Author's photo

<sup>43</sup> Author's photo



**Figure 13: Midtown in Context**<sup>44</sup>

**Figure 14: Midtown and Study Area**<sup>45</sup>

Midtown, the focus district of this thesis, covers 114 acres of Newport News and is defined between 35<sup>th</sup> and 50<sup>th</sup> streets, framed by the I-664 exit ramp to the south, and historic Huntington Heights to the North. Midtown has been seen as a buffer or transitional zone between Downtown and Huntington Heights for most of its history. It was the sight of many temporary company-housing buildings, erected by the shipyard in times of high demand. With a fluctuating economy, most of the housing and support structures were temporary and are no longer part of the Midtown fabric.

With no major structures remaining in Midtown, the district has become mostly a parking district for shipyard employees. Of the thirty blocks that make up Midtown, nineteen are used for surface parking. Most of the existing structures are corner shops; both in-use and abandoned, as well as shed buildings for shipyard storage adjacent to the

<sup>44</sup> Image source: Author's diagram

<sup>45</sup> Image source: USGS aerial with Author's overlay



rail. The only civic structure in Midtown is the Calvary Baptist Church, on Huntington between 48<sup>th</sup> and 47<sup>th</sup>.



**Figure 15: Midtown parking (Upper left)**<sup>46</sup>

**Figure 16: Abundance of surface parking for shipyard (Upper right)**<sup>47</sup>

**Figure 17: Typical corner store example in Midtown (Lower left)**<sup>48</sup>

**Figure 18: Calvary Baptist Church (Lower right)**<sup>49</sup>

This lack of fabric leads to a loss of identity. Although once an urban center within the city of Newport News, today Midtown is perceived as unsafe and valueless. Many in the community have accepted the problems of Midtown as irreversible.

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<sup>46</sup> Image source: Author's photo

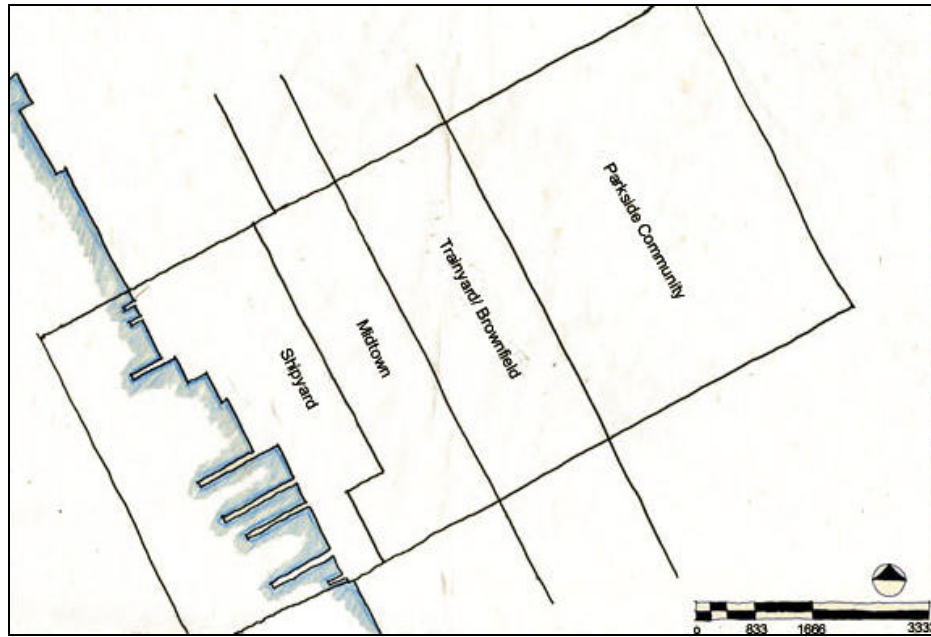
<sup>47</sup> Image source: Author's photo

<sup>48</sup> Image source: Author's photo

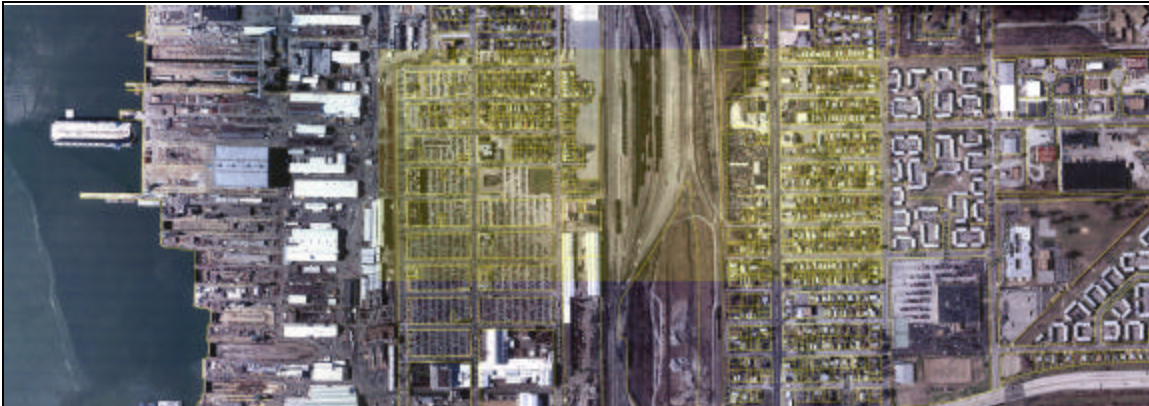
<sup>49</sup> Image source: Author's photo

## Site Selection

### Study Area Selection



**Figure 19: Generalized land use divisions<sup>50</sup>**



**Figure 20: Aerial photo of Midtown and Parkside blocks selected for study area<sup>51</sup>**

After understanding how the city developed and how its has struggled to grow within its limited area, the logical proposal is to find a way to connect the city to the adjacent Parkside community in order to offer growth potential as well unite the two neighborhoods that have be divided so long. Since the CSX rail line is underused at this

<sup>50</sup> Image source: Author's diagram

<sup>51</sup> Image source: Newport News City Planning Office, Author's overlay

time, it is feasible to conclude that the rail can be retrofitted with a light-rail system and the abundance of land can be given back to the city as a redevelopment zone.

Instead of accepting the current condition of the city, the planning office needs to look at the problem more broadly and find ways to solve the overarching problems and challenges, as opposed to the specific and idiosyncratic troubles that are currently being addressed. Although all improvements must start off on a small scale, a broader vision is required to find permanent solutions to the existing challenges faced by the city.

This thesis will serve as a case study for the City Planning Office of Newport News. The goal is to illustrate strategies for extending the city across the former rail yard. The prototype developed will offer an alternative to the existing “Framework for the Future” master plan.

### Study Area Description



**Figure 21: Study Area Districts**<sup>52</sup>

The master plan area covers 170 acres of the city; a composite of 55 acres of Midtown, 75 acres of rail yard, and 40 acres of Parkside. The dimension of the total area is 1,800 feet (0.36 mile) on the north-south side and 4,400 feet (0.84 mile) on the east-

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<sup>52</sup> Image source: Newport News City Planning Office, Author's overlay



west side. The site is one that runs transverse to the city fabric, making the connection between the low-density Parkside community, train yard, Midtown, and Shipyard. The James River and the Shipyard bound the site to the west, Marshall Ave to the east, 50<sup>th</sup> Street to the north and 35<sup>th</sup> Street to the south. Within this cross-section, there are industrial, commercial and residential uses. The site is approximately a 7-minute walk from north to south and a 20-minute walk east to west, based on the assumption at ¼ mile translates to a 5-minute walk.



**Figure 22: Midtown Master Plan Area<sup>53</sup>**

The section of Midtown chosen is composed of 14 blocks, 11 of which are predominantly shipyard surface parking. The dimension of the Midtown portion of the study area is 1,800 feet on the north-south side and 1,370 feet on the east-west side. The

<sup>53</sup> Image source: Newport News City Planning Office, Author's overlay

typical block measures 630 feet by 225 feet. The long side of the block runs east-west. Warwick Blvd runs north-south along the eastern edge of Midtown. This street serves a major street for shipyard employees exiting Midtown and continuing north to the greater Newport News area. Further North this street becomes a major thoroughfare for strip mall shopping. Huntington Ave. is the other major artery running through Midtown, serving as the primary entry street from the North. There is no strong east-east artery.



**Figure 23: CSX Rail Master Plan Area<sup>54</sup>**

The CSX rail yard included for development is 1,800 feet on the north-south side and 1,700 feet on the east-west side. Currently there are two active rail lines running through this area, one to the far west forming the boundary between the rail yard and Midtown and one to the far east creating the barrier between the rail yard and Parkside.

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<sup>54</sup> Image source: Newport News City Planning Office, Author's overlay



The center portion of the yard serves as a storage area for CSX, housing empty railcars and other related materials.



**Figure 24: Parkside Master Plan Area**<sup>55</sup>

The area of Parkside included with the boundaries of the master plan is composed of 7 blocks of low-income, single-family detached houses. Further to the east of the single-family homes, begins a section of Parkside which is devoted to garden-style public housing. The planning strategies are very distinct between these two sections. The single family homes are sited on long narrow blocks measuring approximately 860 feet by 220 feet, while the garden-style public housing is located on super-blocks with cul-de-sac access. Jefferson Ave is the primary north-south arterial road running through Parkside,

<sup>55</sup> Image source: Newport News City Planning Office, Author's overlay

serving as the commercial spine of Newport News. Similar to Midtown there is no strong east-west thoroughfare.

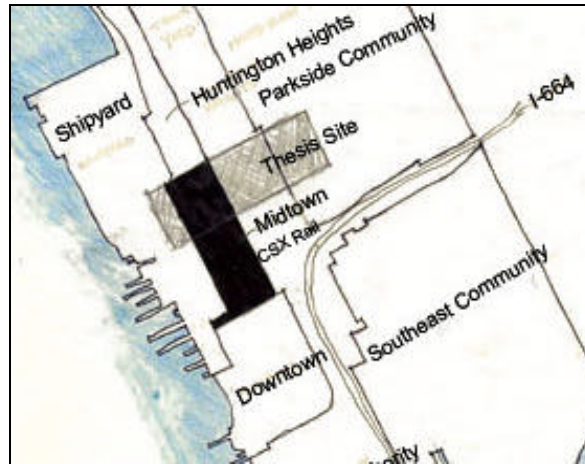
This area was chosen as a prototypical zone that spans across the railroad “divide.” The premise here is that by choosing several blocks on either side of the rail yard, it is possible to hypothesize how connections and re-weaving could unite the two isolated communities. Although all of Midtown is suffering from disconnection from the adjacent Parkside community, the above-mentioned site will serve as a study area. Once the principles of reweaving have been defined, the city can apply them to the remainder of Midtown as well as areas of Downtown and Huntington Heights.

### Housing Site Selection

Within this study area, there are a variety of housing prototypes that also serve as examples of the principles of smart growth within the region. This thesis intends to explore how a range of housing and mixed-use typologies can unite to strengthen the urban neighborhood. Issues of density, street edge, amenity, and ownership type will be addressed. Additionally the needs of the target audience will be explored in relation to the biases toward suburban versus urban settlement patterns. Building on the master plan, several blocks within will be developed in further detail in order to serve as a case study for the City Planning Office. The housing site will offer a model of how to implement the principles of low-rise, high-density housing in the remainder of Midtown and Downtown to create a dynamic and activated urban community.

## Site Challenges

*“People do not stay away from downtown because they are afraid to walk the streets. They stay away because there is nothing to walk to.”* – Observation made about Newport News in 1972<sup>56</sup>



**Figure 25: Midtown and its borders<sup>57</sup>**

### Limitations for Growth

Midtown Newport News is constrained on all sides by Newport News

Shipbuilding to the West, Downtown to the South, CSX railroad tracks to the east and Historic Huntington Heights to the North. With these constraints, development needs to build on the existing fabric and consider ways to increase density within the limited area.



**Figure 26: Shipyard edge<sup>58</sup>**



**Figure 27: CSX Rail edge<sup>59</sup>**

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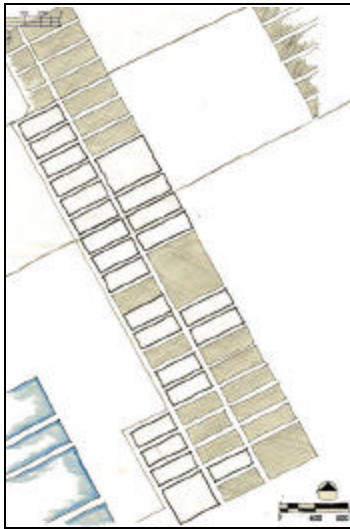
<sup>56</sup> Quarstein

<sup>57</sup> Image source: Author's diagram

<sup>58</sup> Image source: Author's photo

<sup>59</sup> Image source: Author's photo





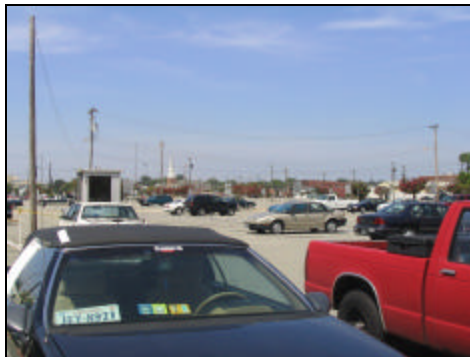
**Figure 28: Surface-parking blocks (white) within Midtown (Left)<sup>60</sup>**



**Figure 29: Aerial Photo of Midtown Parking Blocks (Right)<sup>61</sup>**

### Abundance of Surface Parking

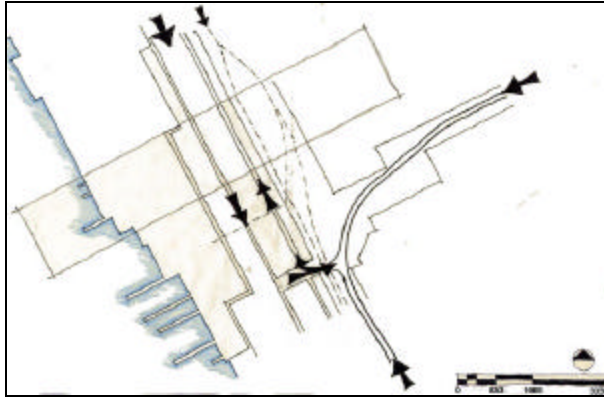
Newport News Shipbuilding is the primary employer in the region; over 21,000 employees commute to Midtown Newport News daily for work. Over the past 30 years, Midtown has been designated as the parking district for the shipyard with nearly 100-acres of surface parking. Consequently, Midtown has lost all urban definition. While there is a strong street grid in place, there are few buildings that create edges or define space. During the workweek Midtown is overpopulated with cars, but on the weekend it is deserted, leading to perception of decreased security.



**Figure 30: Photo of Midtown parking for shipyard employees, lack of structures**

<sup>60</sup> Image source: Author's diagram

<sup>61</sup> Image source: Newport News City Planning Office



**Figure 31: Points of access to Midtown<sup>62</sup>**

### Lack of Access

Currently the only ways to access Midtown are from the north and south by way of Warwick running north and Huntington running south. This becomes problematic during the workweek for shipyard employees. The two access roads get very congested and employees experience major delays. Additionally, Downtown is accessed via I-664, a highway that links to I-64, the main North-South highway of Hampton Roads. To access Midtown from I-664, visitors must enter thorough Downtown and use Warwick running north. In both cases there is not enough access running north-south due to the configuration of one-way streets. Access from the East is nonexistent due to the train tracks that disconnect Midtown from the adjacent Parkside Community.



**Figure 32: Image of CSX rail yard looking north from 39th street overpass<sup>63</sup>**

<sup>62</sup> Image source: Author's diagram

<sup>63</sup> Image source: Author's photo

## City Challenges



**Figure 33: Framework Plan, Maritime Center (selected Midtown blocks gray)<sup>64</sup>**

<sup>64</sup> Newport News Maritime Center 19.

### Existing Master plan

Created by the City Planning Office in 2000, the “Framework for the Future” is a 25-year proposal for improving the City of Newport News. The proposal focuses on improving downtown by adding parks, civic buildings, and offices to create a “maritime center” and tourist destination. To accomplish this goal, the city proposed strengthening the cities connection to the waterfront by creating a waterfront promenade. The addition of a maritime museum will build on the heritage of the city and the “shipyard gateway” will serve as the “formal entryway to Newport News.”<sup>65</sup> Overall the city intends to improve the perception of downtown from one of a rundown and unsecured district, to a maritime center with commercial and civic potential for employees and visitors alike.

The proposal for Midtown is far less ambitious and forward thinking. The Planning office proposes that Midtown will remain “service areas for the Shipyard and a transition between North End/Huntington Heights.”<sup>66</sup> This is essentially the current condition of the area. The only addition that the city suggests is a landscaping strategy to buffer the streets that run along the shipyard parking lots. This proposal neglects to consider the fact that without a substantial residential base the city will remain a workday city, which is not attractive in the evenings or weekends.

Additionally some of the City’s zoning and land-use premises are not supportive of compact urban development. For example District I: 2000 Land Use Plan claims that “The practice of buildings single family detached residential development on 25 foot wide lots was eliminated; and the minimum lot width for single family detached residential construction was changed to 50 feet.”<sup>67</sup> This is based on the philosophy that

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<sup>65</sup> Newport News Maritime Center 28.

<sup>66</sup> Newport News Maritime Center 30.

<sup>67</sup> District I Plan 23.

compact development on 25 foot lots “created overcrowded conditions and blight.”<sup>68</sup>

This is followed by the generalization that “deteriorated multi-family housing should be replaced with low density single family development to increase neighborhood stability and attract middle-income families back to the Parkside Community.”<sup>69</sup> This statement assumes that multifamily housing is not an appropriate typology to create stability. Additionally it is a statement revealing the bias that the city hopes to attract middle-income families back to downtown without also addressing the needs of the lower-income families that currently reside there.

For any master plan to be successful it must consider a variety of housing typologies, tenures, incomes, and family organizations. Generalizing that multifamily housing is not a stable typology goes against the history of urban housing. Instead of generalizing about typology, the zoning should propose guidelines and mandate housing variety that promote health and security and strive to enhance the public realm of the street.

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<sup>68</sup> District I Plan 23.

<sup>69</sup> District I Plan 23-24.

## Chapter 3: Site Investigation

### Site Analysis

Before a proposal can be formulated for improving midtown, a thorough study must be made about the current state of the area. Although it seems that the plethora of parking is the main shortcoming of the area, there are various other factors that work in tandem to separate Midtown from its surrounding.

### Site Analysis

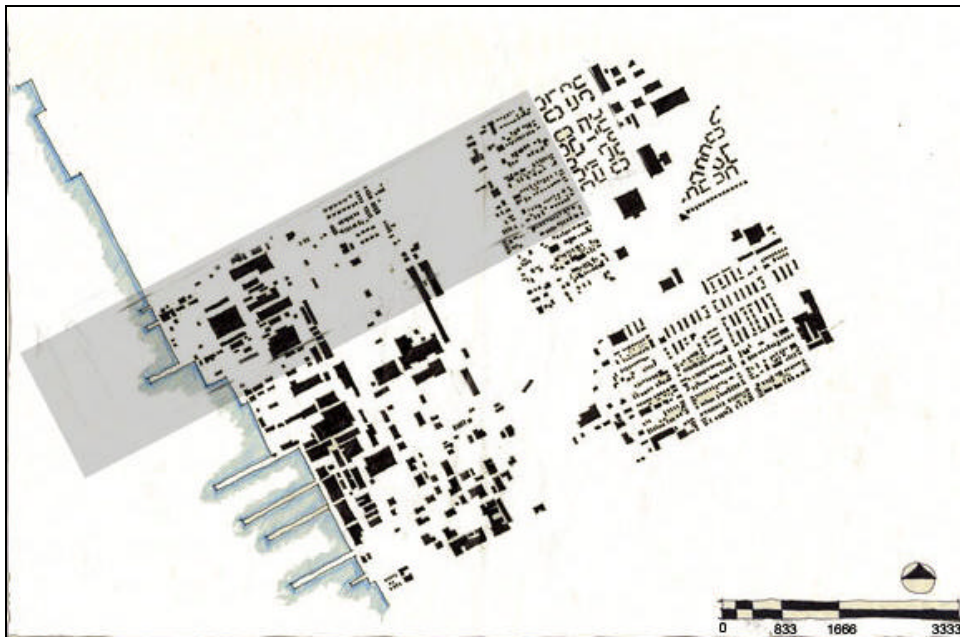


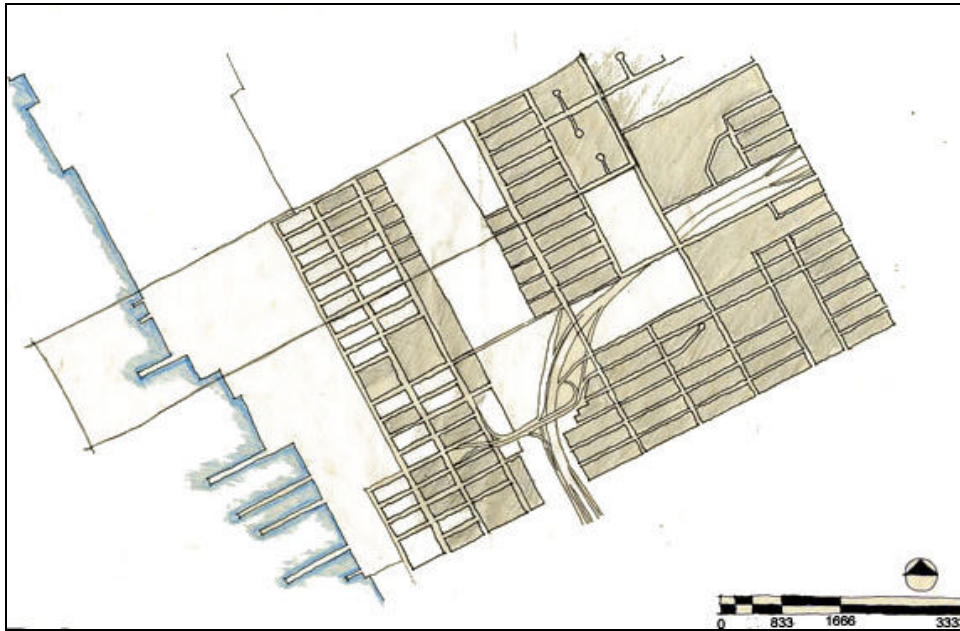
Figure 34: Figure ground of Midtown<sup>70</sup>

The range in the scales of the buildings is the first clue that there is a problem of zoning in the area. The buildings along the waters edge belong to the shipyard. These large industrial shed buildings are in sharp contrast to the fine grain of the surrounding residential neighborhoods.

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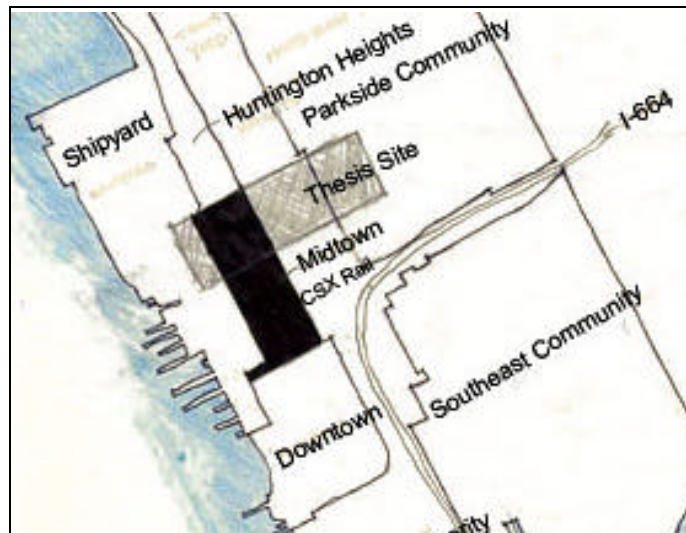
<sup>70</sup> Image source: Author's diagram





**Figure 35: Block Organization of Midtown and Parkside<sup>71</sup>**

This entire area was designed with the gridiron. The significant break in the grid occurs at the CSX rail line. The blocks in midtown are approximately 200ft x 600ft. Those in Parkside are approximately 200ft x 800ft. Toward the north the grid begins to break down and more suburban block configurations develop, namely super-blocks with cul-de-sacs.



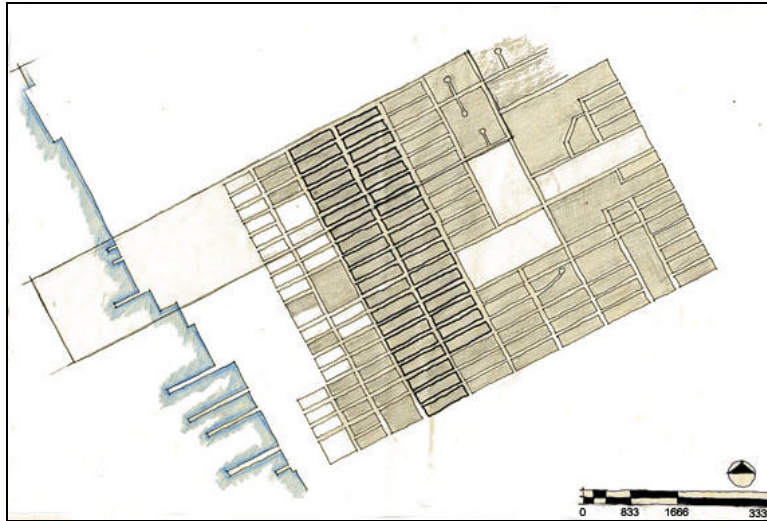
**Figure 36: Site Location<sup>72</sup>**

Within the fabric of midtown, a 6-block-wide zone was chosen for investigation. It is bordered by historic Huntington Heights to the north and connects between Parkside, CSX rail yard, Midtown, and Newport News Shipbuilding.

<sup>71</sup> Image source: Author's diagram

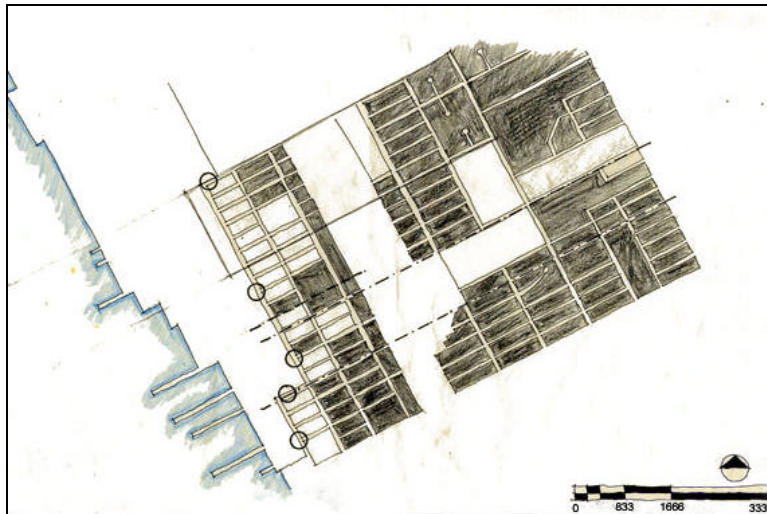
<sup>72</sup> Image source: Author's diagram





**Figure 37: Extension of Midtown Grid<sup>73</sup>**

The extension of the Midtown grid illustrates that by extending the city fabric across the train yard, the area becomes more connected to neighboring Parkside. This expansion also provides for a substantial area for new development. This is especially significant for a district that has a history of constrained growth potential. In this example the I-664 spur, as it is a major cause for the existing isolation.

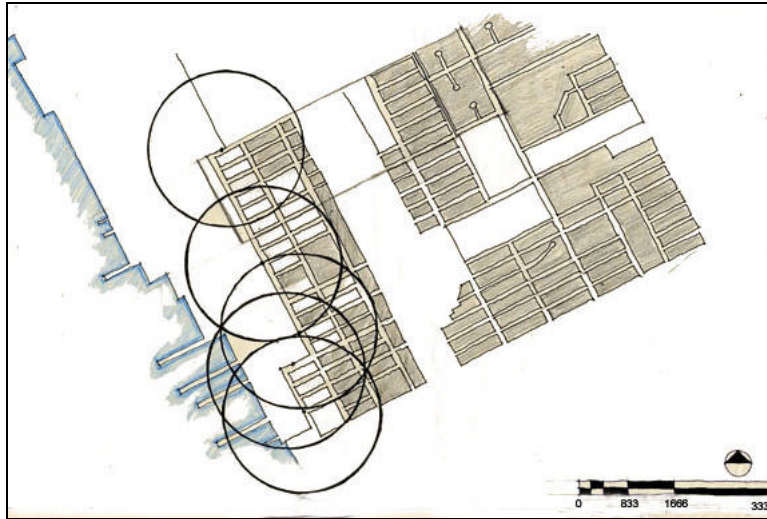


**Figure 38: East-West Connections<sup>74</sup>**

39<sup>th</sup> street and 35<sup>th</sup> street are the only points of connection between Midtown and Parkside. There is a rail line that connects between the train yard and the shipyard at 40<sup>th</sup> street. Between Midtown and the Shipyard the points of connection occur at the entry gates located at 50<sup>th</sup>, 42<sup>nd</sup>, 37<sup>th</sup>, 35<sup>th</sup>, and 32<sup>nd</sup> streets. In the selected design area there are no street, rail, or gate connections.

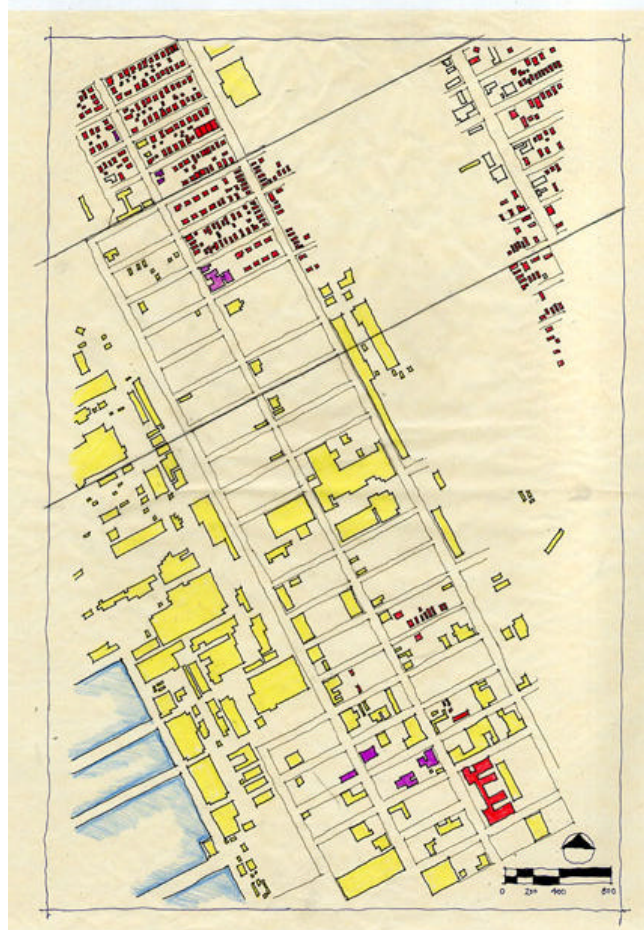
<sup>73</sup> Image source: Author's diagram

<sup>74</sup> Image source: Author's diagram



**Figure 39: 5-minute walks from shipyard gates<sup>75</sup>**

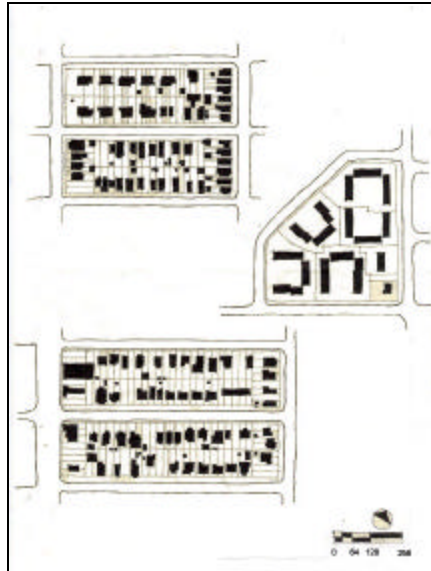
The majority of Midtown is within a short walk from the shipyard. Employees can park in the surface parking that midtown supplies and be to the gate within 5 minutes. This proximity must be preserved by the proposed intervention.



<sup>75</sup> Image source: Author's diagram

**Figure 40: Land-use in Midtown<sup>76</sup>**

There is a clear separation between uses in Midtown. The commercial shipyard uses are far removed from the residential used of Huntington Heights and Parkside. The majority of Midtown is vacant of structures, but instead used for surface parking.



**Figure 41: Block Comparison<sup>77</sup>**

From analyzing blocks in Huntington Heights, Parkside, and beyond, it can be illustrated how upon moving away from Midtown the housing lots become bigger and the setbacks increase, weakening the feeling of a defined street edge.

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<sup>76</sup> Image source: Author's diagram

<sup>77</sup> Image source: Author's diagram



**Figure 42: Topography of Midtown (Left)**<sup>78</sup>



**Figure 43: Photo of fence separating of shipyard and city (Upper Right)**<sup>79</sup>

**Figure 44: Photo of shipyard at lower grade than city (Lower right)**<sup>80</sup>

The majority of Midtown and the chosen site are relatively flat. The change in topography occurs at the edge of Midtown and the shipyard. The level of the shipyard is between 10 and 15 feet below that of Midtown.

In order to secure the shipyard and clearly separate it from the adjacent urban fabric, a tall fence has been erected. This in combination with the topography change serves to separate the two functions, which are inevitably reliant on one another.

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<sup>78</sup> Image source: Author's diagram

<sup>79</sup> Image source: Author's photo

<sup>80</sup> Image source: Author's photo



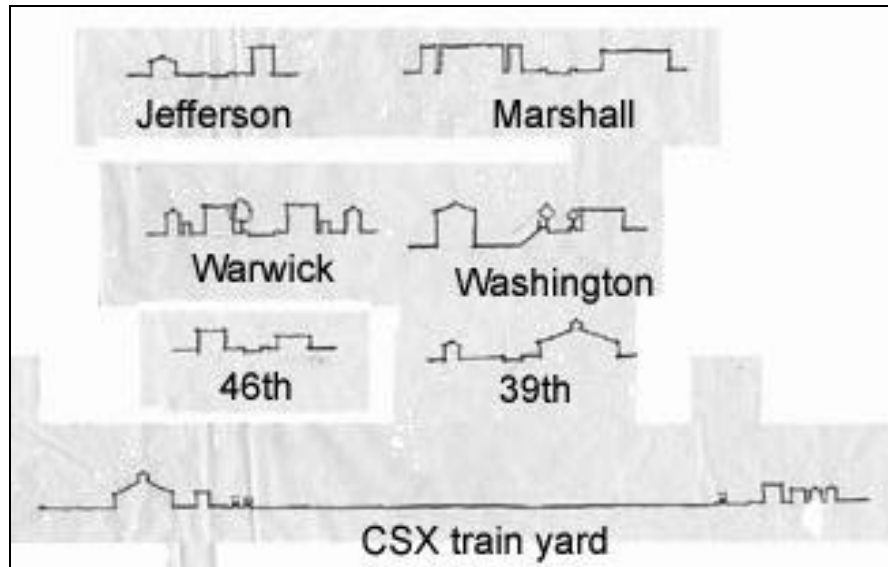


**Figure 45: Image of rail on grade with Midtown<sup>81</sup>**



**Figure 46: Termination of street at railroad tracks, rundown sheds form edge<sup>82</sup>**

The rail yard is at the same grade with Midtown. Some shed structures line the edge of the rail yard and serve as storage facilities for the shipyard. Streets tend to terminate at the rail yard, further emphasizing the barrier the rail yard serves between Midtown and Parkside.

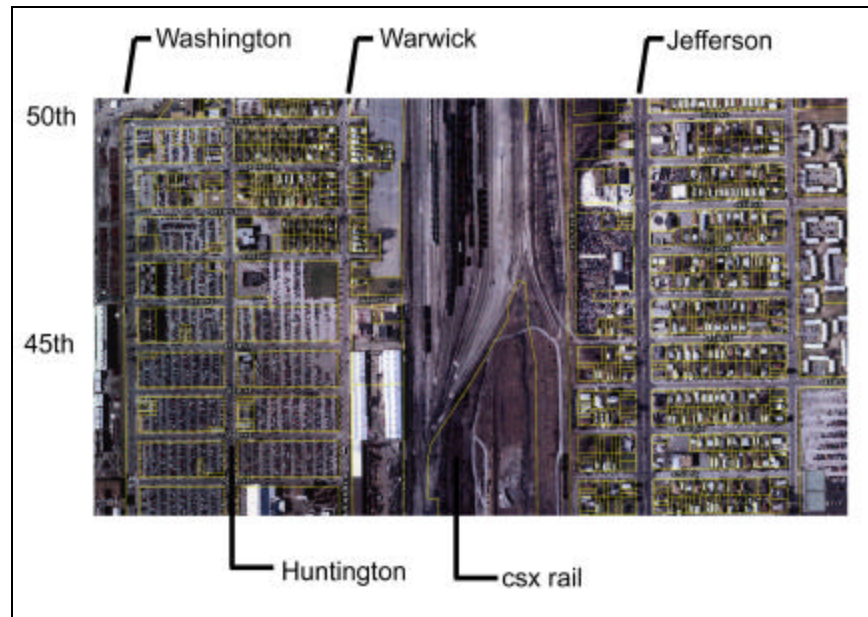


**Figure 47: Midtown Street Sections<sup>83</sup>**

<sup>81</sup> Image source: Author's photo

<sup>82</sup> Image source: Author's photo

<sup>83</sup> Image source: Author's diagram



**Figure 48: Aerial indicating street names<sup>84</sup>**

The street sections also speak to the loss of street definition and enclosure. Those streets close to Midtown include Warwick, and Washington. Jefferson, Marshall, and the Train yard follow the tendency of suburban development, with buildings sitting back away from the street, and the lack of street trees as liners.

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<sup>84</sup> Image source: Newport News City Planning Office

## Chapter 4: Site Intervention

Regional Interventions

Existing Disconnect

Neighborhood Centers

North-South Corridors

Linear Green

Parkway

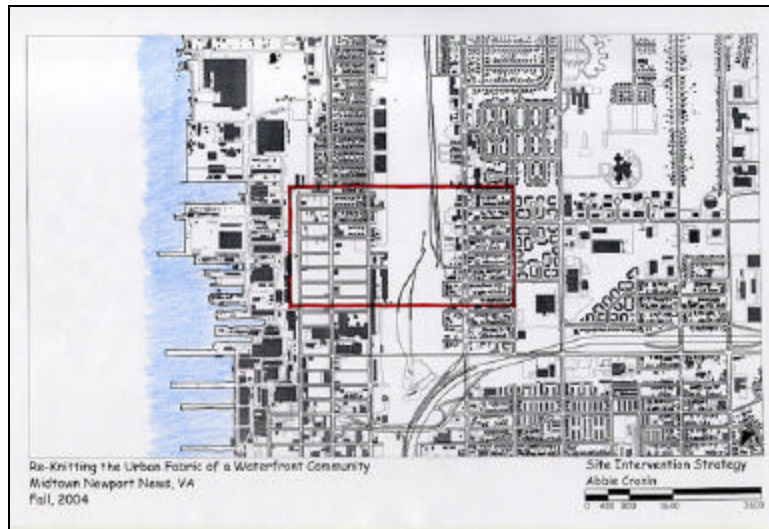
Civic Anchors

Based on the understanding of the current site condition and challenges, several strategies can be developed, regardless of specific program. While the problems cover the urban area of the site, they begin to shape questions about the larger regional context, as well as question of a more local scale. Should the proposed community be similar to Parkside? How are the needs of the shipyard workers and new residents balanced? Is the site to be conceived as one neighborhood or a series of neighborhood clusters? What is the treatment of the proposed light-rail? How should the new urban neighborhood meet the existing communities of Huntington Heights and Parkside? These problems serve as probes to determine what the specific problems are in Midtown Newport News and what avenues should be pursued to reach the ultimate goal of reweaving the community.

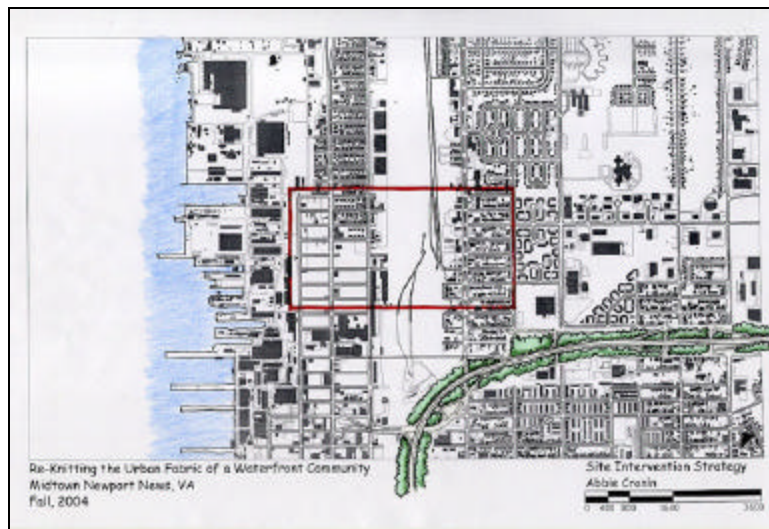


## Regional Interventions

### Transformation of Interstate Spur to Parkway



**Figure 49: Existing condition of Midtown<sup>85</sup>**



**Figure 50: Parkway as landscaped buffer between neighborhoods<sup>86</sup>**

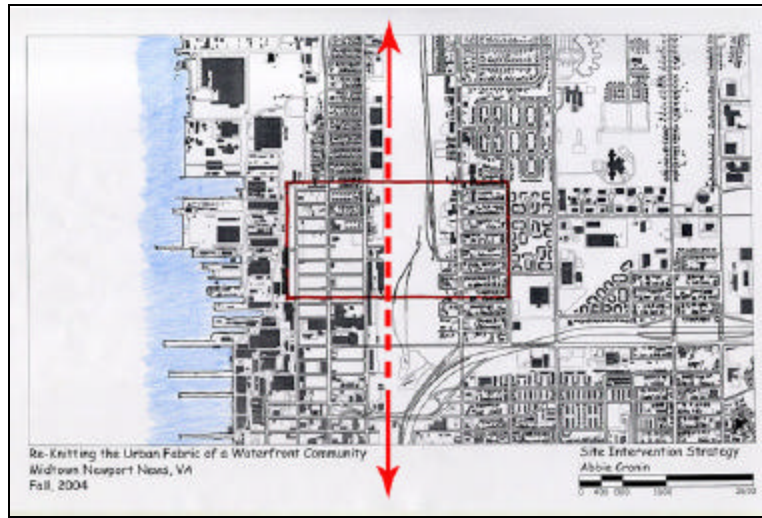
The intention of this regional intervention was to transform I-664, which currently function as a highway spur from I-64, to a parkway system. By the introduction of landscape as a liner to the roadway, the parkway would serve as more of a buffer to the flanking neighborhood as opposed to its current condition as a highway system that

<sup>85</sup> Image source: Author's diagram

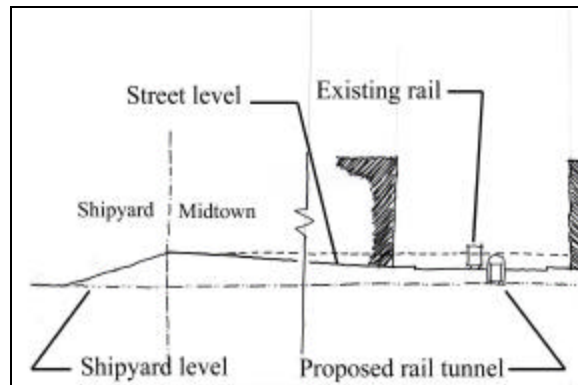
<sup>86</sup> Image source: Author's diagram

severs the adjacent urban fabric. This parkway system would narrow the roadway from three-lanes to two-lanes in each direction in an effort to calm the traffic. Additionally more exits would be provided to encourage transit within the neighborhoods. This parkway would link I-64 to the Monitor-Merrimack Bridge, which connects to Portsmouth and offers an alternative to the highly congested I-64 tunnel connecting to Norfolk.

### Burying the CSX to reclaim rail yard



**Figure 51: Location of submerged rail, along existing rail path**



**Figure 52: Sectional Relationship between rail, city, and shipyard**

The city currently proposes to retrofit the CSX rail with a light rail system, due to the fact that the yard is currently underused. While this thesis supports the notion of introducing light rail to Midtown and the Hampton Roads peninsula, the issue of industrial rail access to the shipyard needs to be addressed. The rail and the shipyard are currently in a symbiotic relationship; one cannot exist without the other. For the shipyard

to continue to produce aircraft carriers and the like, it must be able to receive shipments of industrial materials via rail.

This thesis proposes that since the rail line is underused relative to its land holdings, the railroad tracks should be lowered to the level of the shipyard, to provide more direct access to the shipyard and allow the Brownfield to be reclaimed for development.

The topography exists such that the shipyard is located fifteen feet below the street level of Midtown. If the rail were lowered to the grade of the shipyard, the ground level of Midtown would need to rise approximately ten feet to accommodate the right of way of the rail below ground.

## Existing Disconnect

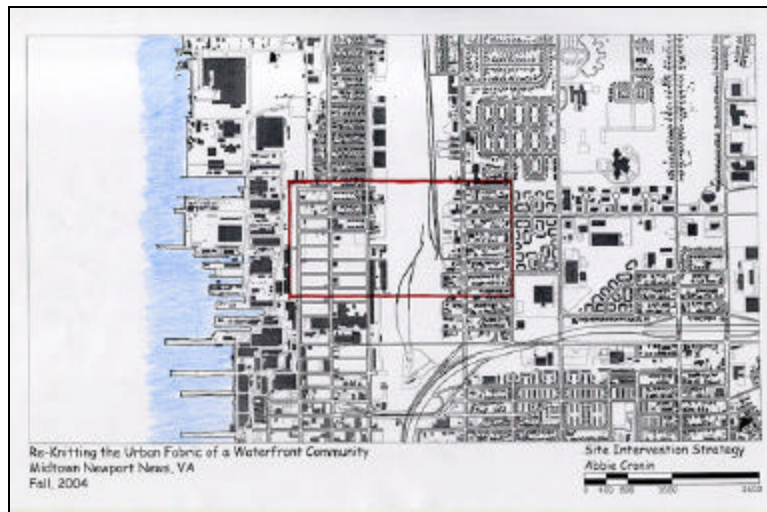


Figure 53: Site Selection in context<sup>87</sup>

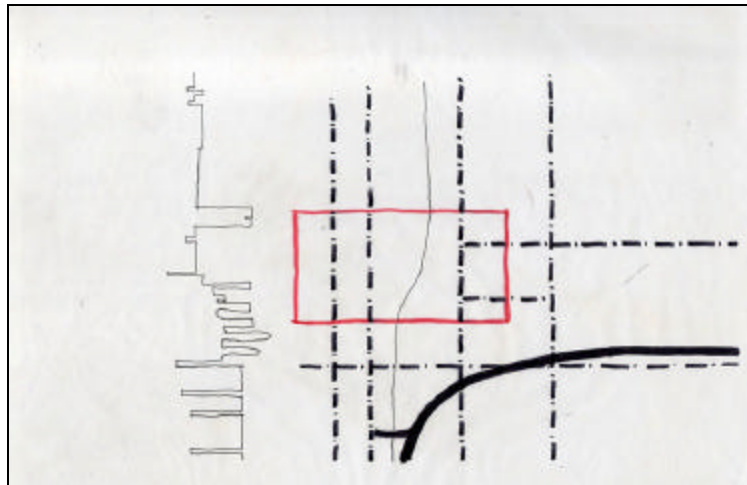


Figure 54: Lack of East-West connections across CSX rail<sup>88</sup>

<sup>87</sup> Image source: Author's drawing

<sup>88</sup> Image source: Author's diagram



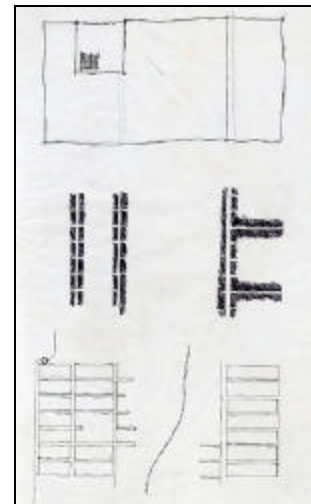
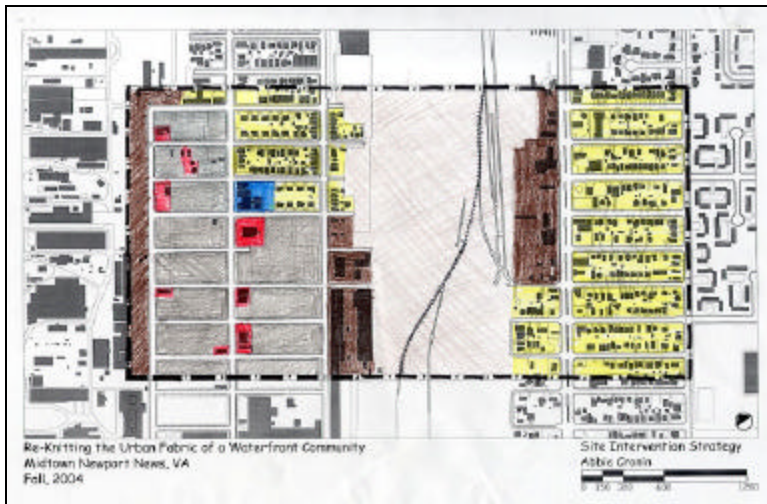


Figure 55: Existing site condition showing the separation impact of the rail (Left) <sup>89</sup>

Figure 56: Existing diagrams - parti, corridors, walking distances (Right) <sup>90</sup>

## Neighborhood Centers

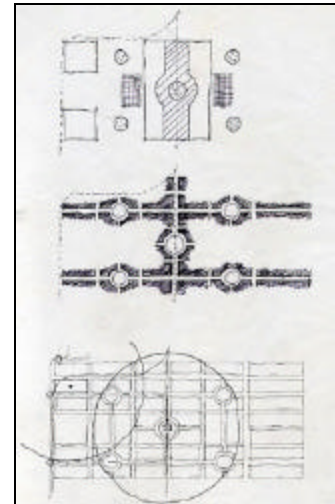
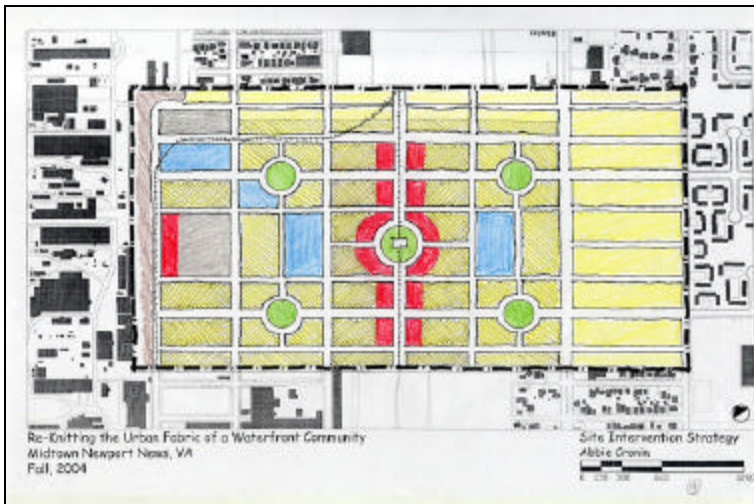


Figure 57: Neighborhood Greens strategy #1 (Left) <sup>91</sup>

Figure 58: Diagrams - parti, corridors, walking distances (Right) <sup>92</sup>

<sup>89</sup> Image source: Author's drawing

<sup>90</sup> Image source: Author's diagram

<sup>91</sup> Image source: Author's drawing

<sup>92</sup> Image source: Author's diagram

## North-South Corridors

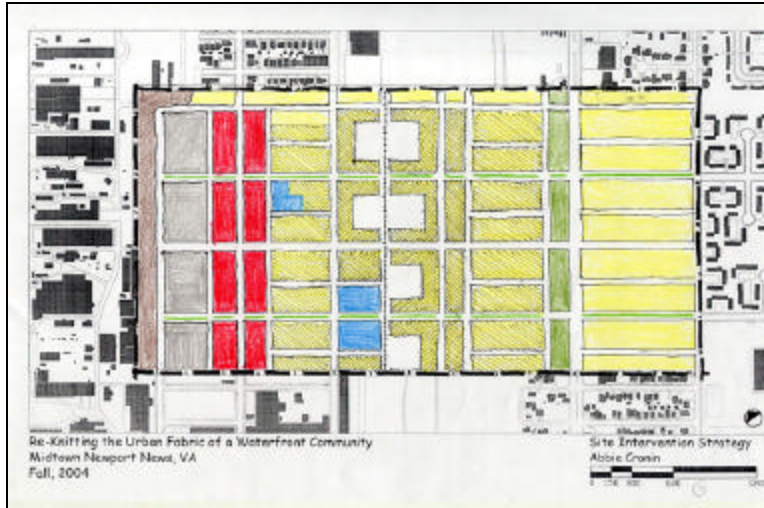


Figure 59: Tripartite Strategy #2 (Left)<sup>93</sup>

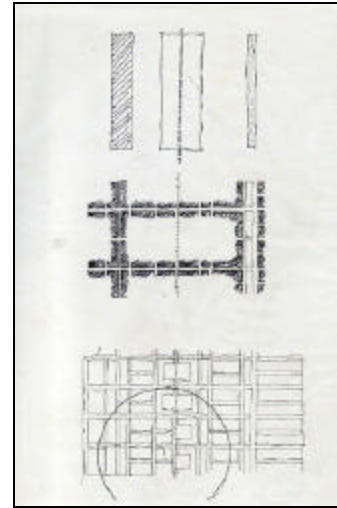


Figure 60: Diagrams - parti, corridors, walking distances (Right)<sup>94</sup>

## Linear Green

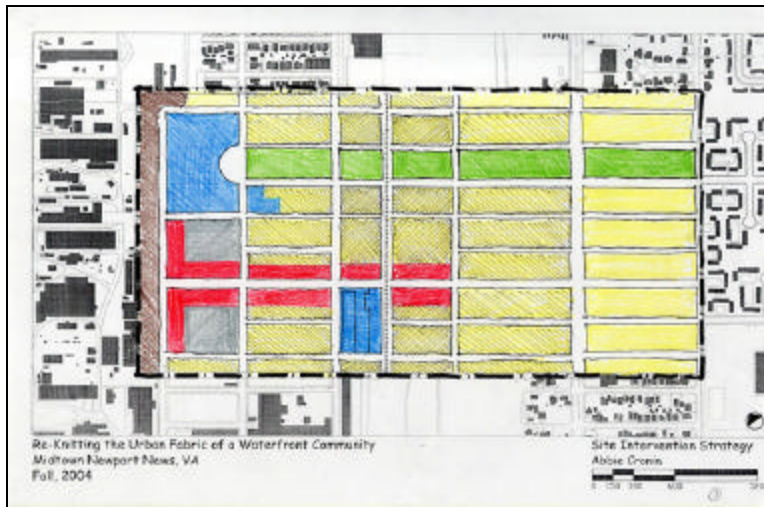


Figure 61: Boulevard Connection strategy #3 (Left)<sup>95</sup>

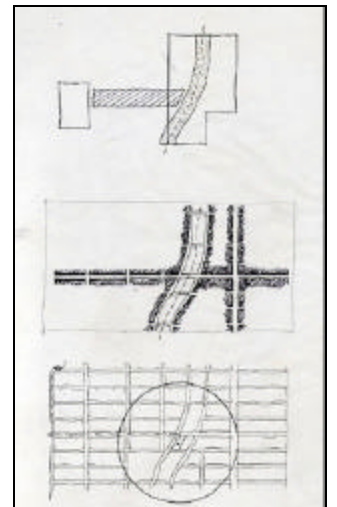


Figure 62: Diagrams - parti, corridors, walking distances (Right)<sup>96</sup>

<sup>93</sup> Image source: Author's drawing

<sup>94</sup> Image source: Author's diagram

<sup>95</sup> Image source: Author's drawing

<sup>96</sup> Image source: Author's diagram



## Parkway

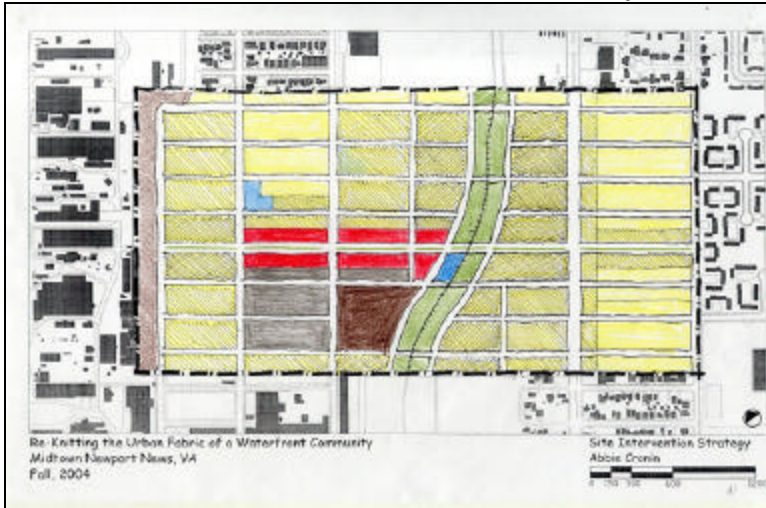


Figure 63: Transit Greenway strategy #4 (Left)<sup>97</sup>

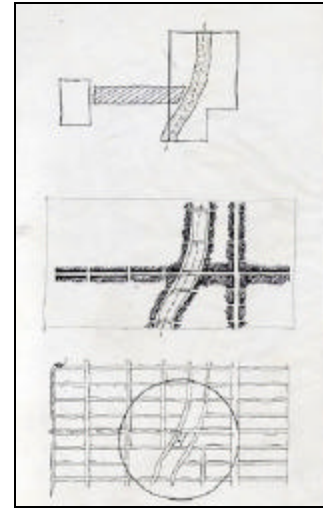


Figure 64: Diagrams - parti, corridors, walking distances (Right)<sup>98</sup>

## Civic Anchors

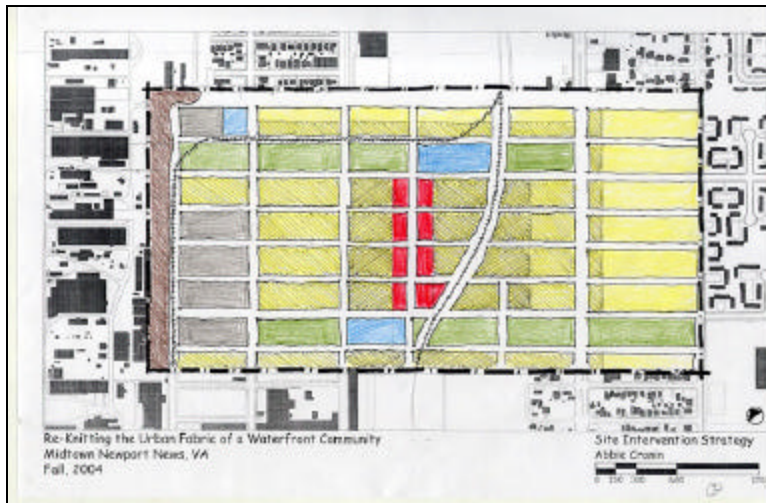


Figure 65: Dual Boulevard strategy #5 (Left)<sup>99</sup>

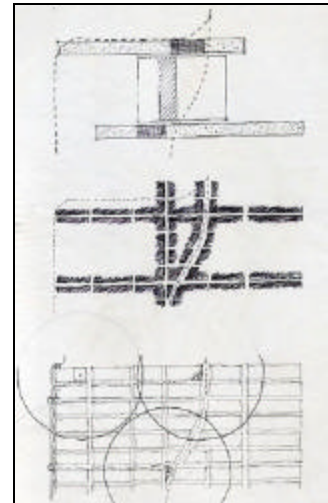


Figure 66: Diagrams - parti, corridors, walking distances (Right)<sup>100</sup>

The intention of this series of investigations is to form a starting point for exploration of the relationship between site, typology, program, and the ultimate impact on the community.

<sup>97</sup> Image source: Author's drawing

<sup>98</sup> Image source: Author's diagram

<sup>99</sup> Image source: Author's drawing

<sup>100</sup> Image source: Author's diagram



## Chapter 5: Precedent Analysis

### Smart Growth Examples:

Jackson-Taylor  
Georgetown  
University Park  
Storrow Terrace  
Pascagoula

### Urban Housing Typologies:

Jackson-Taylor  
Matsusaka Townhomes  
Langham Court

### Local Housing Developments:

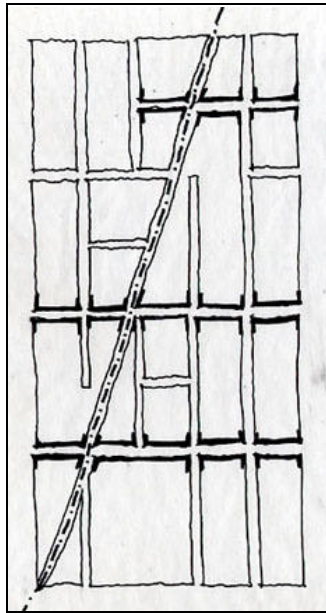
Hilton Village  
Ghent Historic District  
Kiln Creek  
Port Warwick

## Smart Growth Examples

### Jackson-Taylor: San Jose, CA

Calthrope Associates were commissioned in 1991 to redevelop a 15-block area in San Jose, which was originally a food-processing center. The goal was transition of the area from an industrial site with an underused rail line to a mixed-use community that connected the adjacent Hispanic and Japanese neighborhoods historically divided by the rail.

The 75-acre area accommodated 1,600 residential units and 550,000 square feet of retail, office, and industrial space.<sup>101</sup>



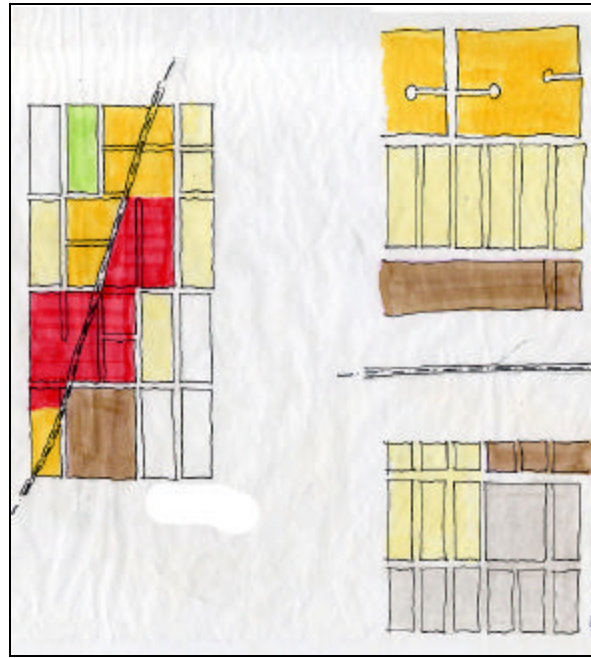
**Figure 67: Jackson Taylor, Connection across rail to unite neighborhoods**<sup>102</sup>

The design for Jackson-Taylor centered on connecting community across the rail, which was retrofitted with a light-rail system. In addition to the mass transit corridor, several cross streets were carried across the rail line to make connections between the Hispanic and Japanese neighborhoods.

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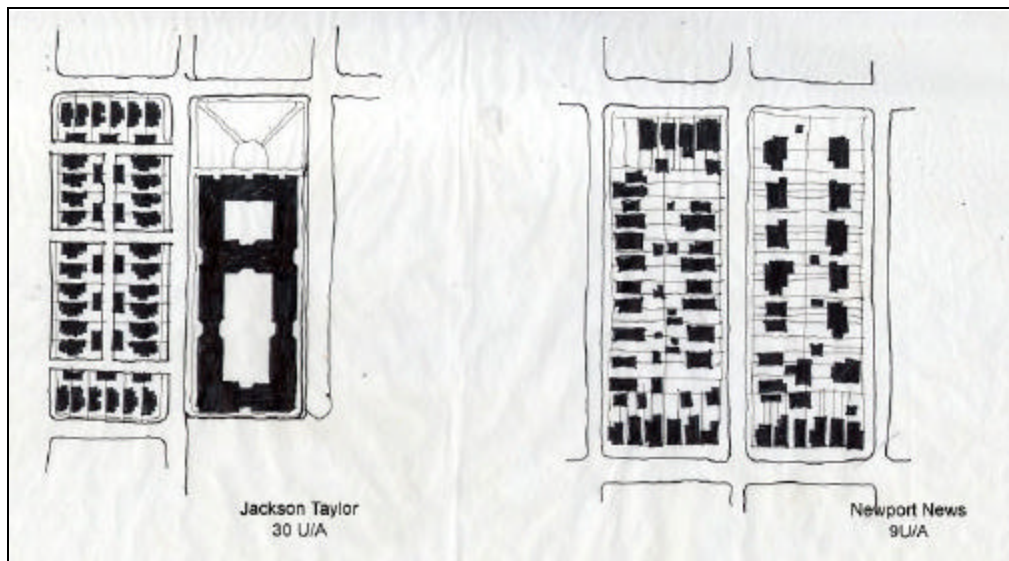
<sup>101</sup> Peter Katz, The New Urbanism, (New York: McGraw-Hill, 1994) 193-7.

<sup>102</sup> Image source: Author's diagram



**Figure 68: Jackson Taylor, Land use comparison<sup>103</sup>**

By spanning used across the light-rail, the rail became a corridor as opposed to an edge. Higher densities were clustered around the mass transit and the density transitioned to lower densities as it moved closer to the existing single-family homes at the perimeter. When compared to Jackson-Taylor, the segregation of land use in Newport News becomes clear.



**Figure 69: Jackson Taylor, Block Comparison<sup>104</sup>**

The integration of single-family structures and multifamily structures in the Jackson-Taylor project contrasts with the single dwelling type tendency of Newport

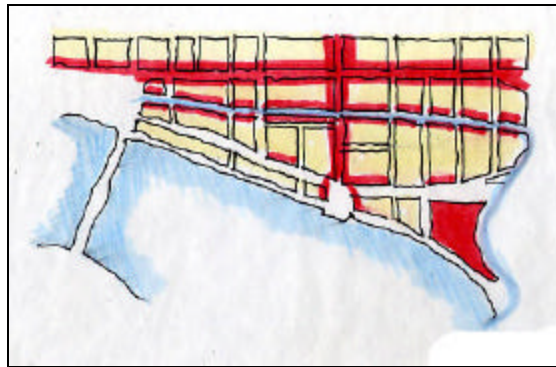
<sup>103</sup> Image source: Author's diagram

<sup>104</sup> Image source: Author's diagram

News. Although the blocks are of a similar size the density of the Jackson-Taylor blocks shown is about 30 units/acre, versus 9 units/acre in Newport News.

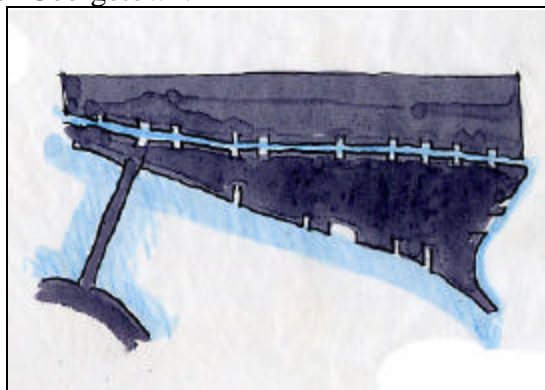
#### Georgetown: Washington, DC

Georgetown developed out of an industrial waterfront tradition. As the need for industry diminished the warehouses along the waterfront were abandoned or demolished. Over time an elevated highway was introduced in the former industrial zone. More recently there has been a movement to reintroduce housing and commercial functions at the waters edge in combination with a public park.<sup>105</sup>



**Figure 70: Georgetown, Land use<sup>106</sup>**

M street and Wisconsin have been the historic commercial and retail corridors of Georgetown. More recently housing has been introduced along the waters edge. The Georgetown canal also offers a retail zone within the city. The historic fine-grain urban fabric is characteristic of Georgetown.



**Figure 71: Georgetown, Water frontage<sup>107</sup>**

<sup>105</sup> Georgetown Planning Group, Georgetown Waterfront Area Study, (Washington: Georgetown Planning Group, 1972.)

<sup>106</sup> Image source: Author's diagram

<sup>107</sup> Image source: Author's diagram

Georgetown has the unique condition of being sited on the waterfront and also having canal access further inland. There seem to be more frontages along the waterfront with fewer through-streets to the water's edge.

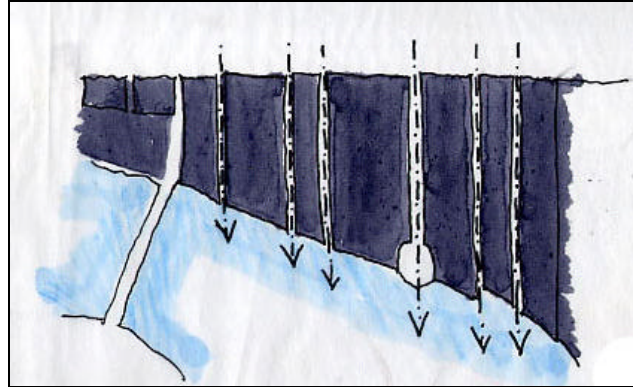


Figure 72: Georgetown, Views<sup>108</sup>

M Street sits along a ridge above the waterfront. As a result, all streets running perpendicular between M Street and the waterfront act as view corridors.

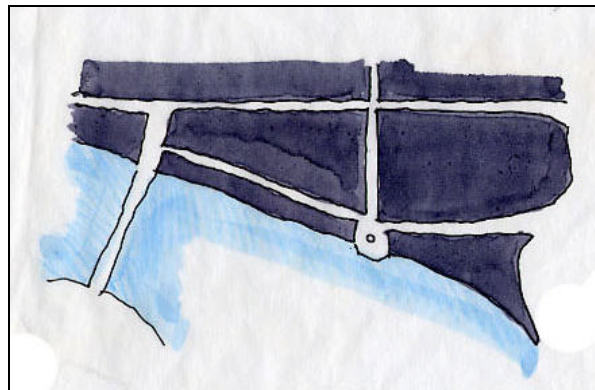


Figure 73: Georgetown, Access<sup>109</sup>

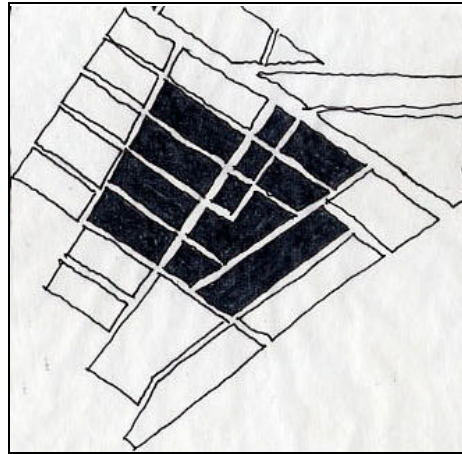
The main access roads of Georgetown are M St. and Wisconsin Ave., the elevated highway at the waterfront, and Key Bridge that links Georgetown to Roslyn, VA.

<sup>108</sup> Image source: Author's diagram

<sup>109</sup> Image source: Author's diagram

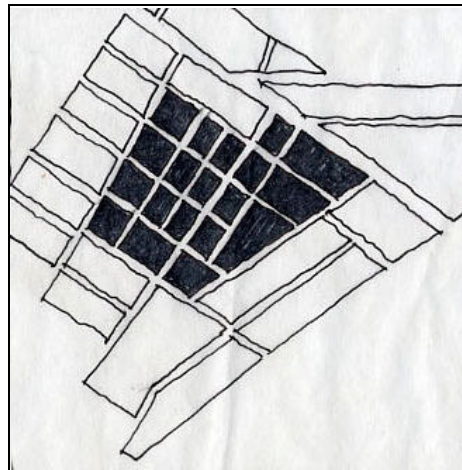
## University Park: Cambridge, MA

Koetter, Kim Architects were responsible for reconnecting this former industrial site with its surrounding context. Using 27 acres, the firm extended the existing grid of the city and introduced industrial loft buildings, which speaks to the heritage of the site.<sup>110</sup>



**Figure 74: University Park, Existing Site<sup>111</sup>**

The large building blocks of the site interrupted the city grid and provided no open space.



**Figure 75: University Park, Transition<sup>112</sup>**

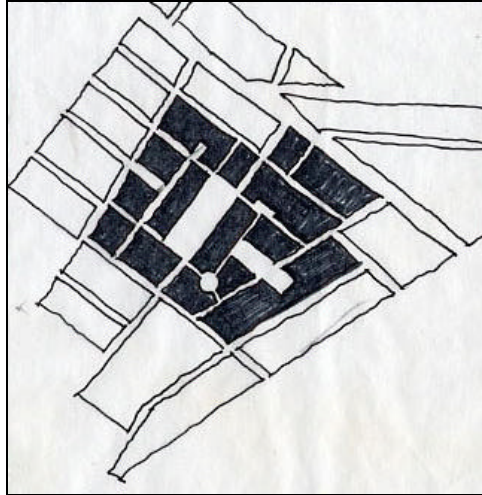
The hypothetical transitional diagram tries to communicate the result of simply extending the city grid to break the industrial site into smaller parcels.

<sup>110</sup> Koetter Kim & Associates. (New York: Rizzoli, 1997) 34-7.

<sup>111</sup> Image source: Author's diagram

<sup>112</sup> Image source: Author's diagram





**Figure 76: University Park, Proposed Intervention<sup>113</sup>**

The proposed scheme achieves connectivity with the surrounding city fabric and introduces public open space to encourage gathering and public interaction.

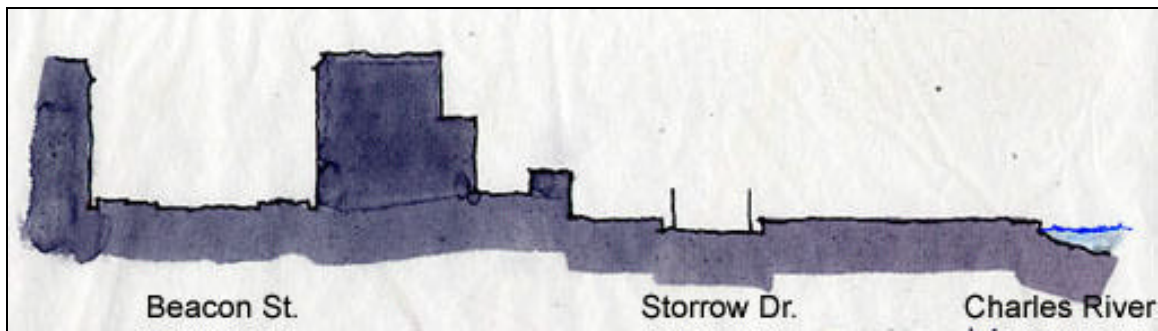
#### Storrow Terrace: Boston, MA

The Back Bay of Boston is a unique type of urban intervention, being created solely from the filled edge of the Charles River. For a long time this waterfront was not considered a prime front of the city. Rather than an amenity, the city more typically turned its back to the river and placed Storrow Drive in this undesirable location.

Once the landscape of the waterfront was improved the issue of how to readdress this edge arose. Koetter, Kim Architects proposed extending the urban fabric above the boulevard to reclaim the waterfront as a public amenity.<sup>114</sup>

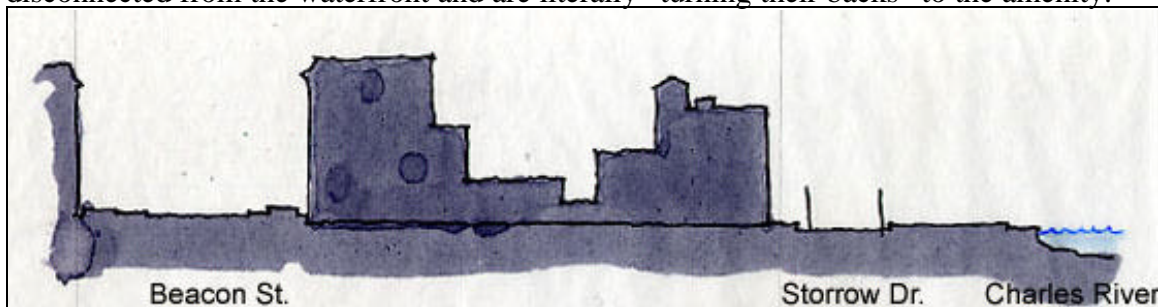
<sup>113</sup> Image source: Author's diagram

<sup>114</sup> Koetter Kim & Associates. (New York: Rizzoli, 1997) 32-3.



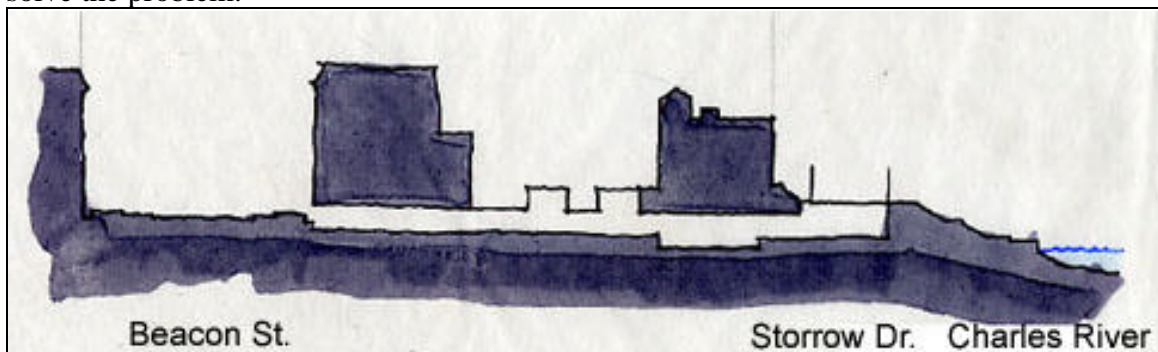
**Figure 77: Storror Terrace, Existing condition<sup>115</sup>**

The existing section illustrates how the houses along Storror drive are disconnected from the waterfront and are literally “turning their backs” to the amenity.



**Figure 78: Storror Terrace, Extension without terrace<sup>116</sup>**

This hypothetical intervention illustrates that simply moving the street closer to the water’s edge and introducing new structures facing the water does not completely solve the problem.



**Figure 79: Storror Terrace, Terrace extension<sup>117</sup>**

By introducing a new zone of housing above Storror Drive the city is reconnected directly to the waterfront and the vehicular traffic is free to move beneath the terrace. The ingenuity of the scheme lies in the fact that houses are entered at different levels but are perceived as unified in terms of massing and scale.

<sup>115</sup> Image source: Author’s diagram

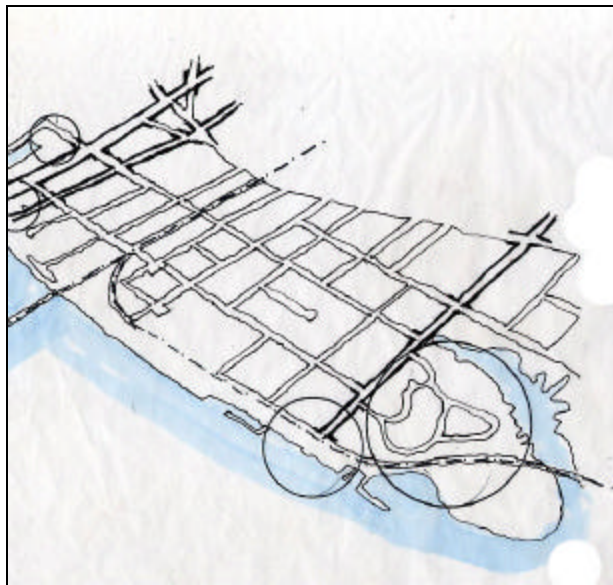
<sup>116</sup> Image source: Author’s diagram

<sup>117</sup> Image source: Author’s diagram



## Pascagoula Waterfront: Pascagoula, MS

Pascagoula is the site of a shipbuilding company along Mississippi's Pascagoula River. The project is an investigation into how to regain public access of the waterfront after it has been claimed by industry. Although the shipbuilding industry is still active, the design finds ways to begin reclaiming public land at the edges of the shipyard and developing nodes of recreational access. In this way the waterfront is reactivated with a renewed sense of identity.<sup>118</sup>



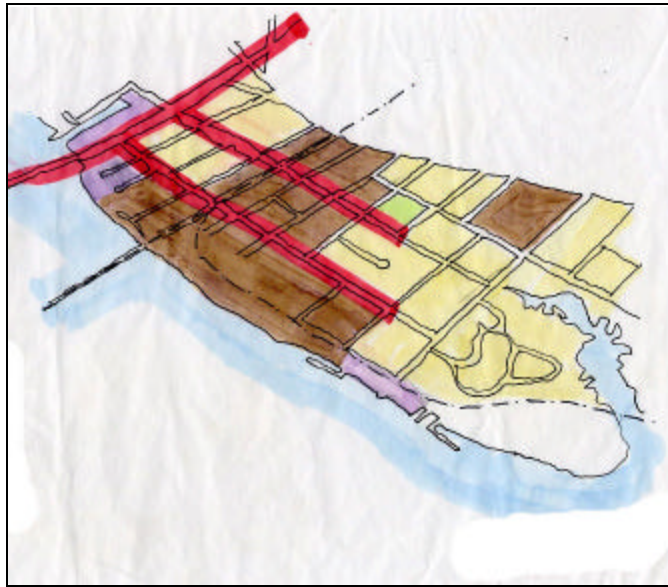
**Figure 80: Pascagoula, Recreational node<sup>119</sup>**

The design targets specific areas at the periphery of the shipyard and creates a variety of public nodes including the Bayou Community Center, Historic District Waterfront Village, Festival Marketplace and Maritime Center. In this way, each node has a district character that speaks to the history and identity of the place.

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<sup>118</sup> Azeo Torre, Waterfront Development, (New York: Van Nostrand Reinhold, 1989) 84-91.

<sup>119</sup> Image Source: Author's diagram



**Figure 81: Pascagoula, Land use<sup>120</sup>**

By framing the industrial zone with dwelling units the neighborhoods at the perimeter are activated. Retail corridors link the waterfront to inland communities as well as span across the industrial zone to unite the flanking neighborhoods.

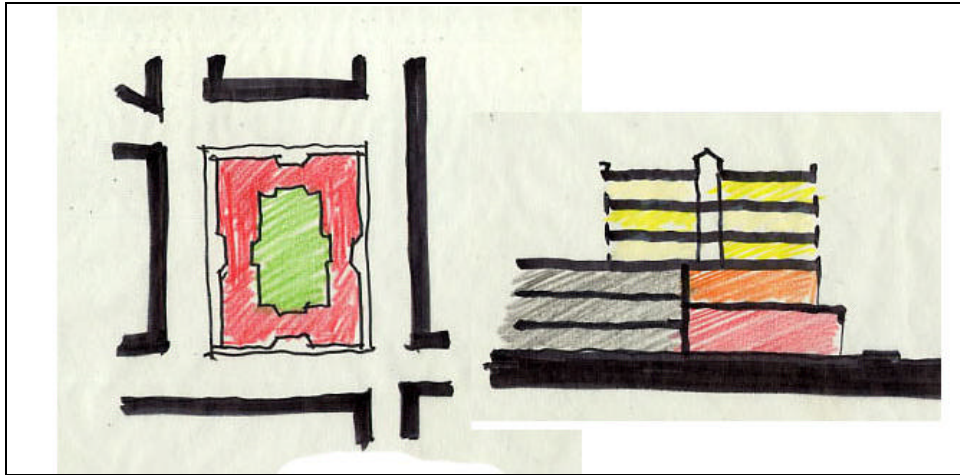
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<sup>120</sup> Image source: Author's diagram

## Urban Housing Typologies

### Jackson Taylor: San Jose, CA

The master plan by Calthrope Associates for Jackson-Taylor illustrates the strategy of having a mix of housing types and densities in one community in order to sustain a diversity of residents.<sup>121</sup> (Katz, 193-7)

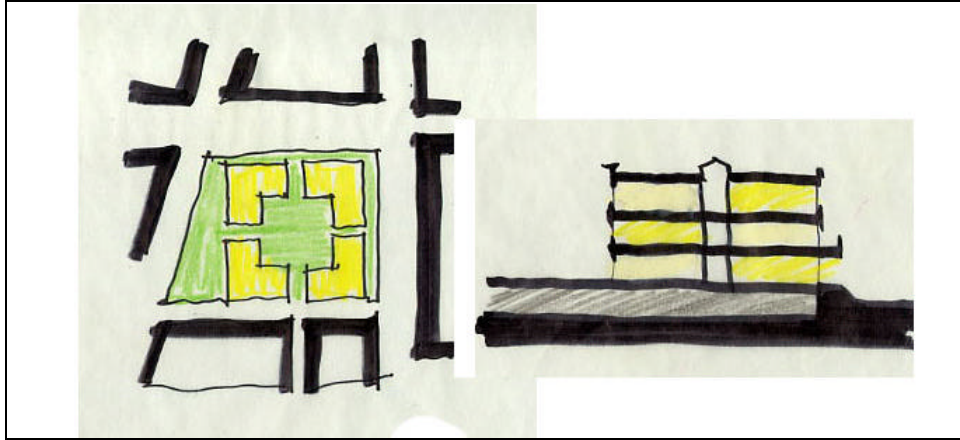


**Figure 82: Jackson Taylor, Mixed Use Typology<sup>122</sup>**

In the mixed-use type retail, office, residential, and parking are combined into a single structure, yielding 40-50 units/acre. The courtyard typology is used with a level of retail and level of offices as a base for residential flats. Parking is located under the residential courtyard.

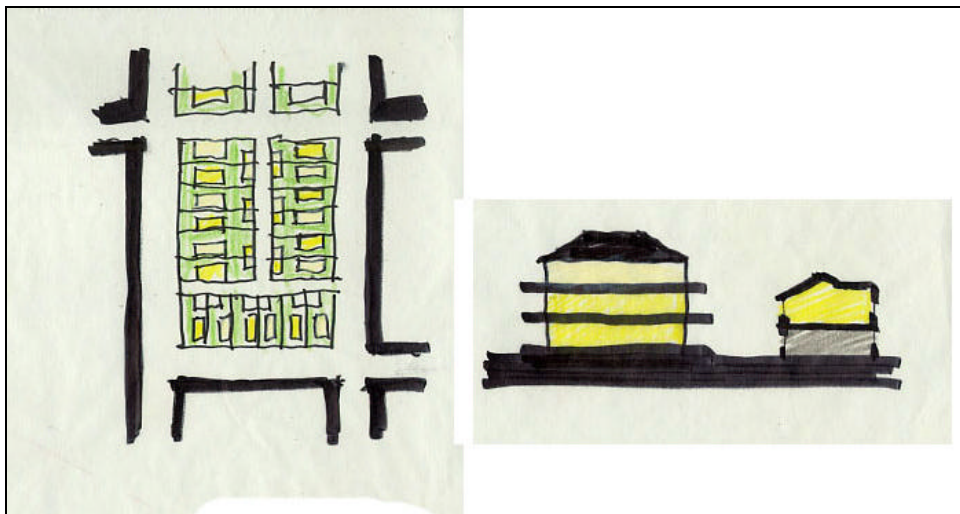
<sup>121</sup> Peter Katz, The New Urbanism (New York: McGraw-Hill, 1994) 193-7.

<sup>122</sup> Image source: Author's diagram



**Figure 83: Jackson Taylor, High Density Residential Typology<sup>123</sup>**

The high-density residential type consists of flats on a parking podium. Again the courtyard sits above the parking, raised a half-level off the street. The unit count in this typology is 40-50 units/acre.



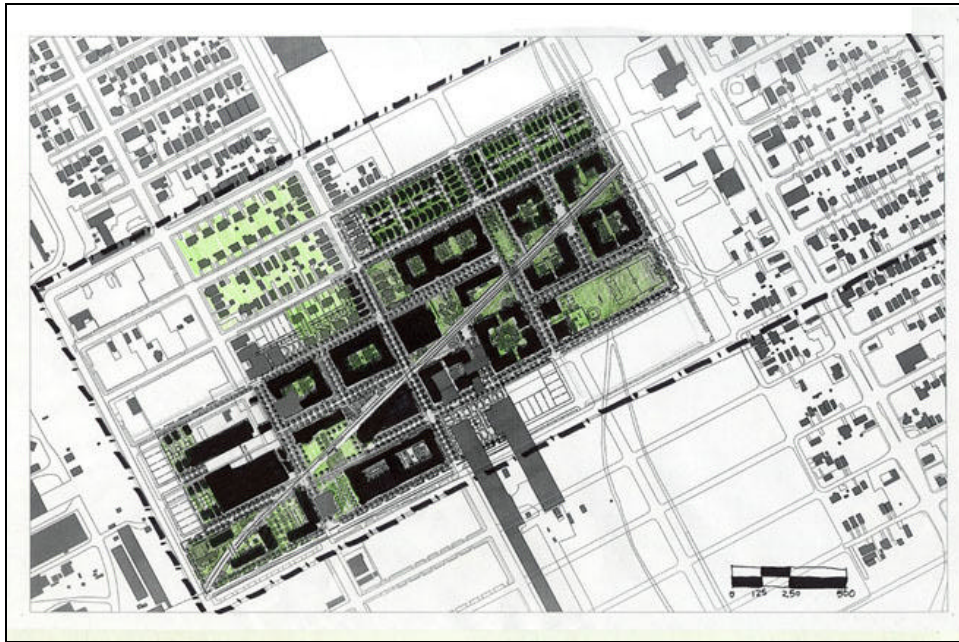
**Figure 84: Jackson Taylor, Single-Family Typology<sup>124</sup>**

In order to relate to the context of single-family housing, the architect devised a typology that resembled a single-family house with service alley, however the result was actually a multifamily typology. The two-story “house” was divided into single-story flats with a third unit above the garage yielding a density of 12-25 units/acre.

<sup>123</sup> Image source: Author’s diagram

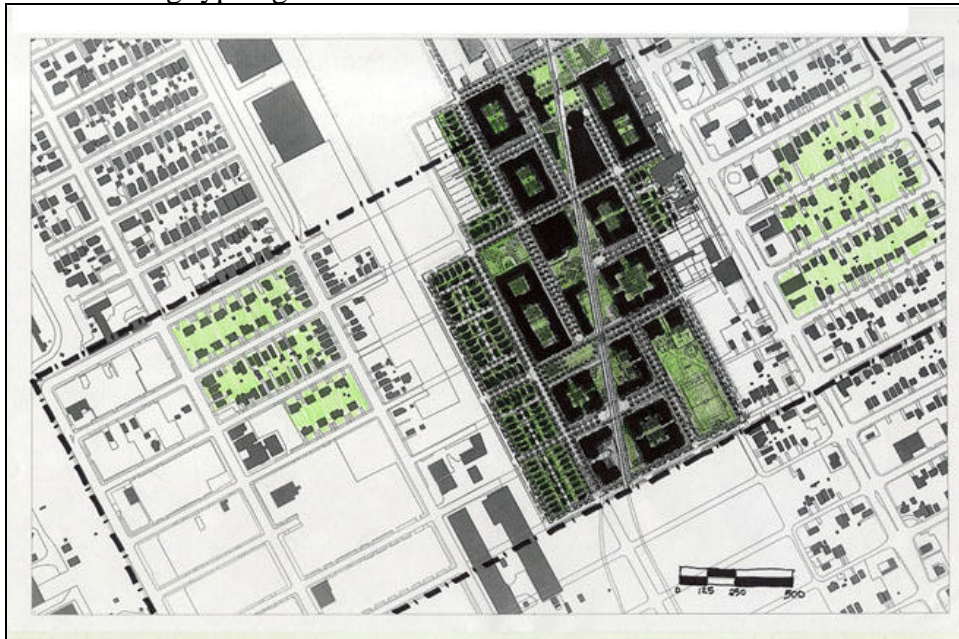
<sup>124</sup> Image source: Author’s diagram





**Figure 85: Jackson Taylor, Block Application**<sup>125</sup>

This diagram illustrates the Jackson-Taylor neighborhood overlaid at the same scale on the Newport News midtown site to show the similarity in block size, but the difference in housing typologies.



**Figure 86: Jackson Taylor, Rail Application**<sup>126</sup>

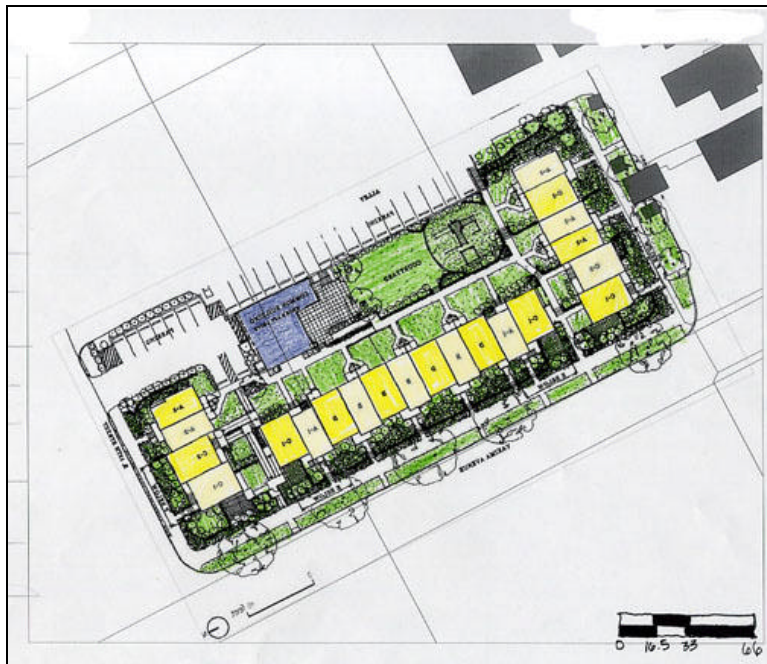
This diagram aligns the rail line of the Jackson-Taylor project with CSX tracks in Newport News. Here the blocks are rotated 90-degrees to the orientation in Newport News to maximize frontage on the rail line.

<sup>125</sup> Image source: Author's diagram

<sup>126</sup> Image source: Author's diagram

### Matsusaka Townhomes: Tacoma, WA

This project was developed for very low-income families in Tacoma, Washington. The typology is essentially townhouses above rental flats. The resulting density is 29 units/acre with 27% two-bedroom townhouses, 15% two-bedroom flats, 42% three-bedroom townhouses, and 27% four-bedroom townhouses. In addition to dwelling units the program incorporates 27 parking spaces, a community center of 750 square-feet, and a community courtyard of 6,400 square feet.<sup>127</sup>

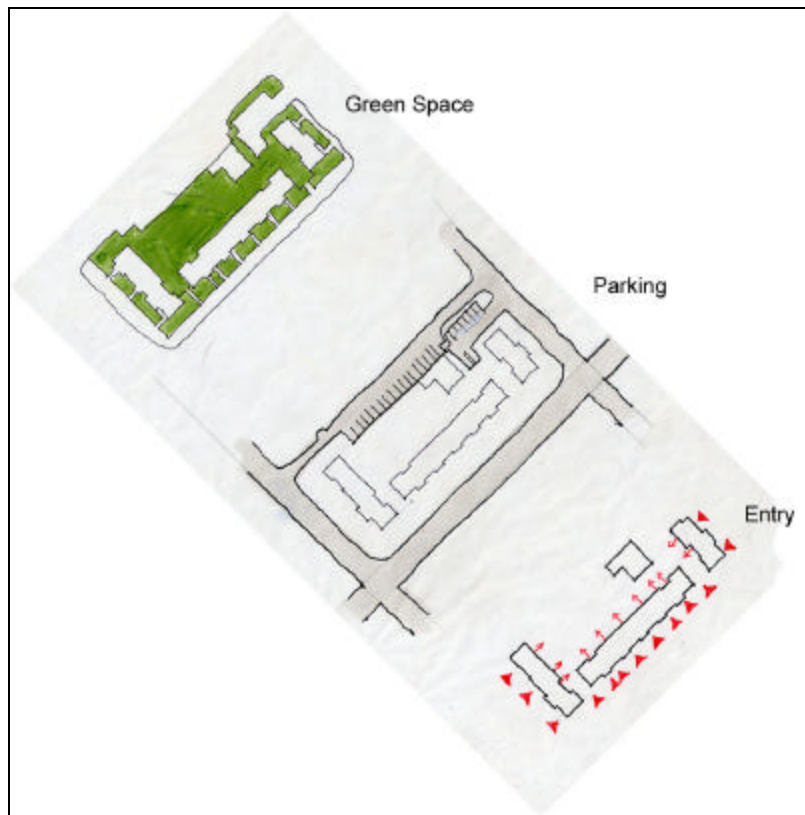


**Figure 87: Site Plan**<sup>128</sup>

The units are arranged in such a way that each unit pushes or pulls out from the neighboring unit to give it a sense of identity. Additionally the courtyard is shared by all units and can also be accessed from the street.

<sup>127</sup> Tom Jones, *Design for Living, Good Neighbors: Affordable Family Housing* (New York: McGraw-Hill, 1997) 92-3.

<sup>128</sup> Image source: Author's Diagram



**Figure 88: Site diagrams** <sup>129</sup>

The project strongly integrates landscaping on all sides of the townhouses.

The 27 parking spaces provided by the project are tucked off the street behind the courtyard with access to both side streets.

With a composition of townhouses, the project strongly activates the street, since each unit has its own street entrance. Each unit also has a private entrance to the courtyard. Both give residents a sense of ownership of the public space.

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<sup>129</sup> Image source: Author's diagram





**Figure 89: Application in Midtown<sup>130</sup>**

Although Matsusaka Townhomes only occupies a 0.89-acre site, it can be imagined as an increment of building for Newport News. When mirrored the project offers an appropriate low-rise courtyard scheme with parking on the interior of the block.

#### Langham Court: Boston, MA

This mixed typology project produces a high density on a tight site. The design aims to be contextual with the surrounding traditional rowhouse neighborhood. The result is 81.5 units/acre on a 1.03-acre site. It is mixed income development with an elevator mid-rise apartment building and stacked townhouses. 54 parking spaces are accommodated under the courtyard. The unit breakdown includes 18% studios, 35% one-bedrooms, 32% two-bedrooms, and 15 % three-bedrooms. A community facility of 1,253 square-feet and a courtyard of 8,800 square-feet complete the design.<sup>131</sup>

<sup>130</sup> Image source: Author's diagram

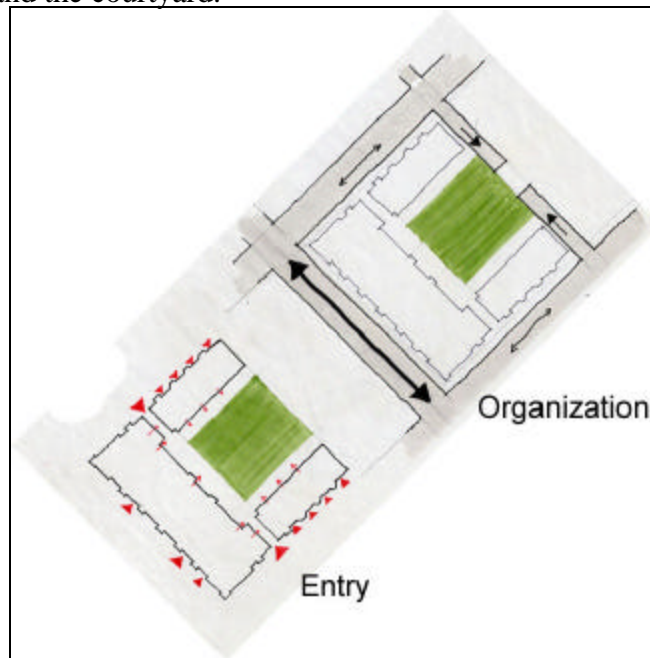
<sup>131</sup> Tom Jones, Design for Living, Good Neighbors: Affordable Family Housing (New York: McGraw-Hill, 1997) 198-9.





**Figure 90: Site plan**<sup>132</sup>

The apartment block occupies the full width of the block. Apartments front the street while community rooms front the courtyard. Each townhouse has a defined yard on both the street and the courtyard.



**Figure 91: Site diagrams**<sup>133</sup>

The apartment building is located on the primary street with shared street entrances to the ground-floor units. The main entrances to the apartments are located in

<sup>132</sup> Image source: Author's diagram

<sup>133</sup> Image source: Author's diagram

the secondary streets at the links between the apartment building and adjacent townhouses. Each stacked townhouse shares an entrance from both the street and courtyard.

The U-shape of the design defines the street edge and creates a common courtyard for residents on the interior of the block. Under-courtyard parking is accessed via ramps from the side streets.



**Figure 92: Application in Midtown<sup>134</sup>**

Langham Court serves as a good edge to the short side of the Newport News block. The diversity of typologies relates to the needed transition to the single-family context.

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<sup>134</sup> Image source: Author's diagram

## Local Housing Developments: Historic

### Hilton Village, Newport News



**Figure 93: Hilton Village, Main Street (Left)**<sup>135</sup>



**Figure 94: Hilton Village, Village Theater (Right)**<sup>136</sup>

In 1917 Henry Hubbard designed Hilton Village on a site outside of the city of Newport News as a result of the emergency housing program. It served as a community for shipyard workers during World War 1. It was composed of 500 “English village-style homes.”<sup>137</sup>

Today a series of homes remain along Warwick and serve as a historic main street with shops and a movie theater along the collector road as it links suburbs and downtown.<sup>138</sup>

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<sup>135</sup> Image source: Author’s photo

<sup>136</sup> Image source: Author’s photo

<sup>137</sup> Hampton Roads History Tours

<sup>138</sup> Hampton Roads History Tours

## Ghent Historic District, Norfolk



**Figure 95: Ghent District, housing typology** <sup>139</sup>



**Figure 96: Ghent District, streetscape** <sup>140</sup>

Adjacent to Norfolk's commercial center, this residential neighborhood was formed on approximately 80-acres between the late 19<sup>th</sup> century and early 20<sup>th</sup> century. This single-family development centered on lush landscaping and brick construction. <sup>141</sup>

Today Ghent is a conservation area with code enforcement. Many of the homes have been subdivided into duplexes or small apartment buildings. The district boasts that it “retains its original street fabric and its cohesive groupings of prodigious middle and upper-middle class dwellings.” <sup>142</sup>

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<sup>139</sup> Image source: [www.norfolk.gov](http://www.norfolk.gov)

<sup>140</sup> Image source: [www.norfolk.gov](http://www.norfolk.gov)

<sup>141</sup> [www.norfolk.gov](http://www.norfolk.gov)

<sup>142</sup> [www.norfolk.gov](http://www.norfolk.gov)

## Local Housing Developments: Current

### Kiln Creek, Newport News



**Figure 97: Kiln Creek, local street<sup>143</sup>**

**Figure 98: Kiln Creek, housing typology<sup>144</sup>**

### Port Warwick, Newport News



**Figure 99: Port Warwick, commercial town square<sup>145</sup>**

**Figure 100: Port Warwick, housing typology<sup>146</sup>**

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<sup>143</sup> Image source: Author's photo

<sup>144</sup> Image source: Author's photo

<sup>145</sup> Image source: Author's photo

<sup>146</sup> Image source: Author's photo

## Chapter 6: Design Analysis

Program:

Program Summary

Program Graphic Depictions

Program Descriptions

Parking Analysis:

Existing Condition

Proposed Solution

Zoning Analysis



## Program

In order to begin designing the master plan area, the major land-use components must be defined in terms of both size (acreage, square footage, density) as well as adjacencies and relationships with other program pieces. The intention is to develop a community, which is primarily self-sufficient for residents on a daily basis, but also offers services and amenities to those coming to Newport News for business or pleasure.

### Program Graphic Depictions

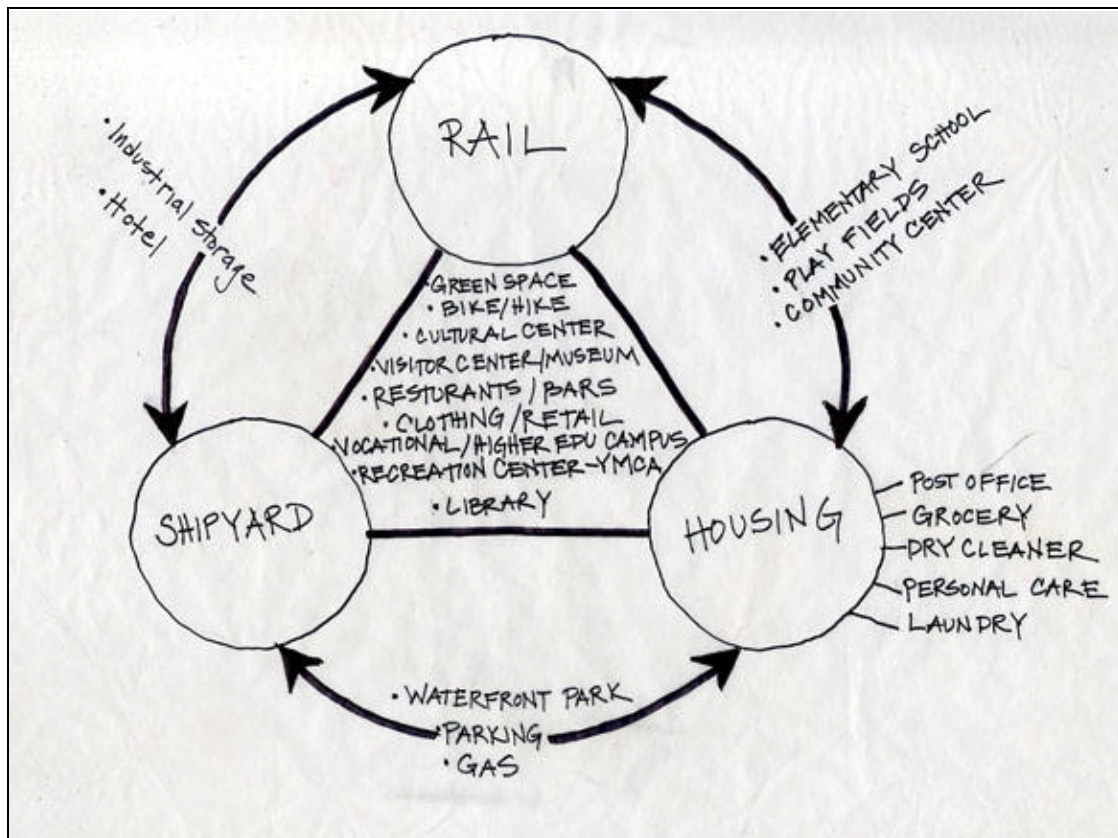


Figure 101: Programmatic Connections<sup>147</sup>

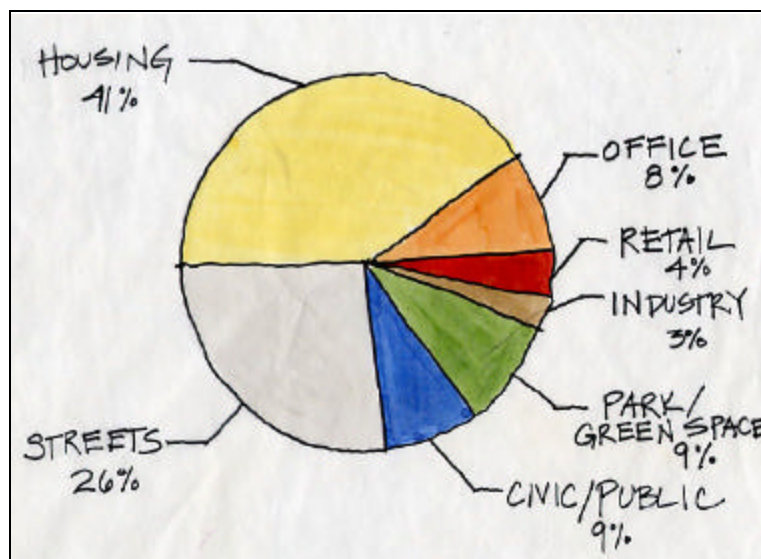
The three target audiences whose needs will be addressed by the proposed master plan include: the housing communities (both existing in surrounding communities and those for whom the new housing stock is targeted), the shipyard community (those

<sup>147</sup> Image source: Author's diagram



employees and students that are looking for amenity adjacent to work), and finally those who travel to Newport News by the proposed light rail system (for both work or recreation).

There are many resources that will be shared by all three audiences, which should be located centrally to serve the broadest range of users. Other functions are more specific to individual audience or shared by two of the three. These relationships are critical to the success of the master plan.



**Figure 102: Relative Land use<sup>148</sup>**

Based on Arthur Gallion studies of the size of urban communities in his book The Urban Pattern<sup>149</sup>, as well as contemporary mixed-use projects the above chart is intended to represent the balance of various land-uses that are intended to create a successful and thriving urban community.

<sup>148</sup> Image source: Author's diagram

<sup>149</sup> Arthur Gallion, Urban Pattern (New York: Van Nostrand Reinhold, 1986).

## Program Summary

This proportional relationship can then be specifically applied to site by determining how many acres of the 180-acre site should be set aside for each given land use and then determining which facilities will be included in each category. The existing Framework Plan<sup>150</sup> set up by the city begins to compile a catalogue of resources requested by the community. This list was consulted and the below series of charts represent a further elaboration.

Reweaving the Urban Fabric: A Residential District for Newport News				
Overall Land-Use Distribution for Master Plan Area (180 Total Acres)				
Land-Use	Description	% Master Plan Area	(Acres)	(Square Feet)
Residential	(see breakdown below)	41%	73.80	3,214,728
Office		8%	14.40	627,264
Retail		4%	7.20	313,632
Industry	(Shipyard and CSX)	3%	5.40	235,224
Park/ Green Space		9%	16.20	705,672
Public/ Civic		9%	16.20	705,672
Streets/ Infrastructure		26%	46.80	2,038,608
Total		100%	180.00	7,840,800

Figure 103: General Program Breakdown

Reweaving the Urban Fabric: A Residential District for Newport News				
Residential Land-Use Breakdown (73.80 Acres)				
Land-Use	Description	% Master Plan Area	(Acres)	(Square Feet)
Low Density	(10 U/A)	16%	28.80	1,254,528
Medium Density	(20-50 U/A)	15%	27.00	1,176,120
High Density	(50-80 U/A)	10%	18.00	784,080
Total		41%	73.80	3,214,728

Figure 104: Residential Program Distribution

<sup>150</sup> "District I Plan," Framework for the Future, (Newport News: Chapter 14, 2000).

Reweaving the Urban Fabric: A Residential District for Newport News				
<b>Housing</b>		<b>(73.80 Acres)</b>		
Density	Housing Typology: sq ft	Units/Acre	Acres	Units
Low Density (10 U/A) (existing example)	Single Family: 1000-4000 sf Huntington Heights (9U/A)	(10U/A)	28.80	288
Medium Density (20-50 U/A) (precedent example)	Townhouses: 800-2000 sf Matsusaka (29 U/A)	(35U/A)	27.00	945
High Density (50-80 U/A) (precedent example)	Apts, Stacked TH: 500-1600 sf Langham (81.5 U/A)	(65U/A)	18.00	1,170
<b>Total</b>		<b>Average:</b> (37U/A)	<b>Total:</b> 73.80	<b>Total:</b> 2,403

Figure 105: Housing Land-use, Units/Acre

Reweaving the Urban Fabric: A Residential District for Newport News				
<b>Office</b>		<b>(14.40 Acres)</b>		
	Description	Floors	Sq. Ft.	Acres
Hotel (200 rooms)	500 sf/room = 100,000 sf	5 floors	20,000.00	0.46
<b>Remaining Office Space</b>	225 sf/ person		607,264.00	13.94

Figure 106: Office Land-use

Reweaving the Urban Fabric: A Residential District for Newport News				
<b>Retail</b>		<b>(7.20 Acres)</b>		
	Description		Sq. Ft.	Acres
Grocery Store	40,000 sf each		40,000.00	0.92
Pharmacy				
Restaurants	5 Restaurants @ 4,000 sf each		20,000.00	0.46
Bar				
Nightclub				
Personal Care				
Laundry				
Dry Cleaners				
Gasoline	8,600 sf each		8,600.00	0.20
Clothing/Accessories				
Footwear				
<b>Remaining Retail</b>			245,032.00	5.63

Figure 107: Retail Land-use

Reweaving the Urban Fabric: A Residential District for Newport News				
<b>Industrial</b>		<b>(5.40 Acres)</b>		
	Description		Sq. Ft.	Acres
Storage adjacent to rail				
Shipyards Supply Storage				
<b>Remaining Industrial</b>				Parti Specific

Figure 108: Industrial Land-use

Reweaving the Urban Fabric: A Residential District for Newport News				
Park/ Green Space		(16.20 Acres)		
	Description		Sq. Ft.	Acres
Linear Park	Physical Link E/W or N/S			
Bike/Hike trails	Recreational, Commute Opt.			
Playing fields	For Elm. School, Apprentice			
Remaining Park/Green				Parti Specific

**Figure 109: Green Land-use**

Reweaving the Urban Fabric: A Residential District for Newport News				
Civic/Public		(16.20 Acres)		
	Description	Floors	Sq. Ft.	Acres
Community Center	track, fields, fitness, gym 750sf / classroom 3,225sf/ 10,000 units of media	3 Floors		
Recreation Center/ YMCA			215,000.00	4.94
Elementary School			40,000.00	0.92
Public Library			15,000.00	0.34
Cultural Center	110 sf/student 40 sf/child	4 floors		
Post Office				
Visitors Center/ Museum				
Apprentice Sch. (6,000 stdnt)			165,000.00	3.79
Day Care Center (150 kids)			6,000.00	0.14
Remaining Civic/Public			264,672	6.08

**Figure 110: Civic Land-use**

### Program Description- Housing

This thesis intends to find a balance of housing typologies to meet the needs of residents with multiple incomes, multiple ownership need, and both military and civilian status. Those typologies most appropriate for the site include mixed-use buildings with either flats or stacked townhouses above retail, apartment buildings, townhouses, garden apartments, and single-family houses. While these traditional typologies are the starting point for design the result will be a composite to create an urban working class community with the amenities of both suburban and urban living. The goal is to create a community with a mix of types and densities to attract a variety of residents. The intended density will be between 10 and 80 units per acres, with an average of 37 units per acre.

### Program Description- Civic

The program for the **Community Center** is flexible and intended to house a variety of local events including volunteer functions and entertainment. Spaces should include multipurpose assembly hall, classrooms, and offices.

The **Recreation Center** is seen as a compliment to the apprentice school. In its current location the apprentice school has a sports facility; this relationship should be preserved. The center will house a pool, gymnasium, fitness center, weight room, and locker facilities, as well as exterior playing fields.

The **Elementary School** is critical to the development of the new neighborhoods proposed. The area is lacking adequate schools, especially those for beginning education. The school will accommodate classrooms for grades k through 5, gymnasium, cafeteria, and multipurpose spaces for assembly or performances. Exterior recreation space is also essential.

The proposed **Library** will be an amenity to both the community and the shipyard. By being sited in a central location the library will compliment both the elementary school and apprentice school. The program should include stacks, reading room, offices, auditorium, and classrooms.

The **Cultural Center** is seen as an institution for both the performing and visual arts. It will serve as the venue for both local and regional performances and exhibitions.

The **Visitor's Center** is intended to serve as a gateway to the city and offer information about the history and heritage of Newport News and the Newport News Shipbuilding Company. It should be located within proximity to the shipyard. Major program pieces include a gallery, auditorium/theater, and reception lobby. The space should be flexible to handle both large groups and individual visitors. An adjacent open space should be considered.

The **Apprentice School** will be an elaboration of the existing school, which is housed in the Parkside community, adjacent to I-664. By moving the school closer to the shipyard and elaborating the program to function as more of a campus for both vocational and evening adult education, the institution will have more of a direct connection with its students.

## Parking Analysis

### Existing Condition

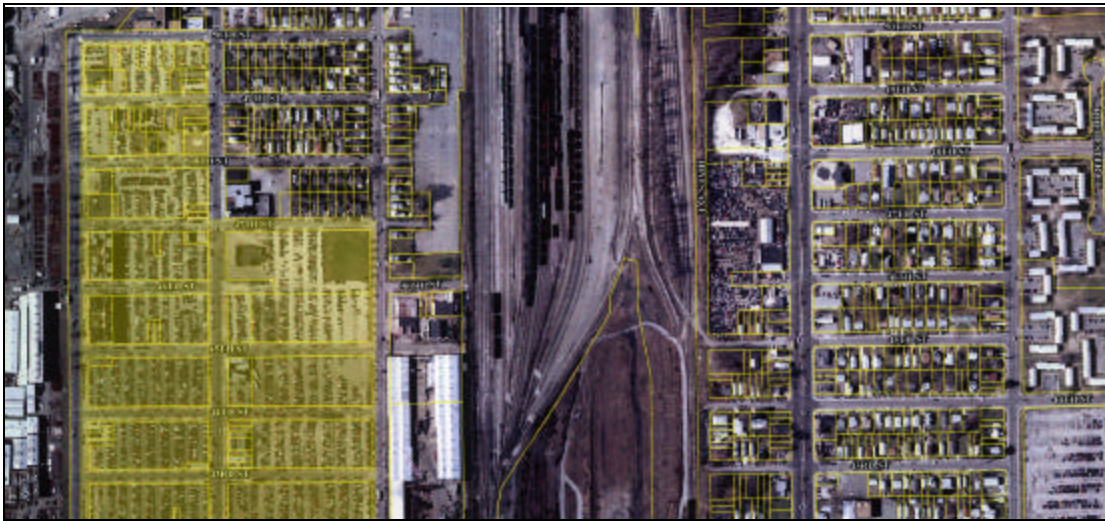


Figure 111: Parking Blocks in Midtown<sup>151</sup>



Figure 112: Enlarged Image of typical Midtown Parking Block<sup>152</sup>

<sup>151</sup> Image source: Newport News City Planning Office, Author's overlay

<sup>152</sup> Image source: Newport News City Planning Office

Based on the 1990 US Census, it was estimated that over 70% of the nearly 100,000 employed in Newport News drove to work daily<sup>153</sup>. The shipyard employs over 21,000 currently, so one could estimate that close to 15,000-shipyard employees drive to work daily from surrounding communities in the Hampton Roads Region.

This influx of employees is evident in the fact that within the existing master plan area, 11 of the 14 Midtown blocks are solely devoted to surface parking for the shipyard. In total there are about 5,000 spaces in the district, both surface and on street parking.

### Proposed Intervention

The existing condition of the site presents a challenge in terms of parking. By considering the number of parking spaces that will need to be accommodated for the new housing and business that this master plan proposes in addition to the existing number of shipyard parking, it becomes clear that surface parking alone is incapable of solving the problem. Even with the introduction of light-rail system, which is intended to offer an alternative for automobile commuters and residents, parking garages will have to be incorporated into the master plan to make development possible.

Based on the transit-oriented projects in Portland Oregon<sup>154</sup>, a city with a very successful light-rail system, housing near light rail tended to accommodate on average 1 parking space per unit. With the goal of nearly 2,500 new units, 2,500 residential spaces will need to be added to the 5,000 shipyard spaces, not to mention spaces needed for the new local businesses relocating to the site.

It is the intention of this thesis to develop creative ways to provide parking for the city, which are neither visually obtrusive nor inconvenient for residents and visitors alike.

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<sup>153</sup> "District I Plan," Framework for the Future, (Newport News: Chapter 14, 2000) 4.3.

<sup>154</sup> [www.trimet.org](http://www.trimet.org)



## Zoning Analysis

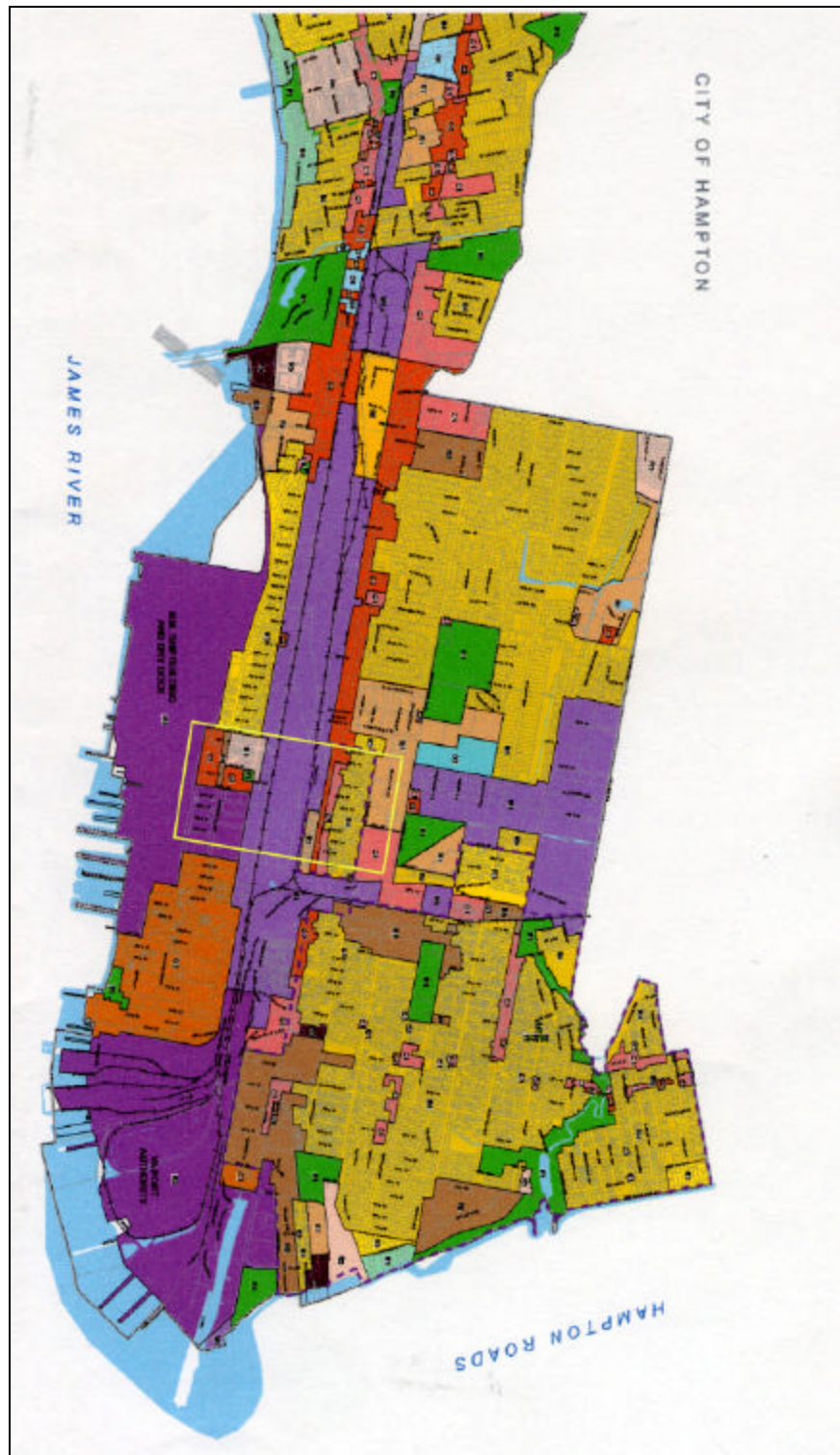


Figure 113: Zoning Map, study area outlined <sup>155</sup>

<sup>155</sup> "District I Plan," Framework for the Future, (Newport News: Chapter 14, 2000)

## Summary of Existing Zoning Regulations

Reweaving the Urban Fabric: A Residential District for Newport News												
Zoning Analysis: Existing Condition												
	Site Area Area (min) sf	Lot Area (min) sf	Open Space (min) sf/unit	Lot Width (min) ft	Frntg. (min) ft	Depth (min) ft	Septr. (min) ft	Setback (min) ft	Height (max) ft	Den. (max)	Lot Covg. (max) %	FAR
R1-R4		6,600		60-80	30-60	100-110		30(F)10(S)	35			
R5	12,000	1,500	2,000	100-120	100	120	20	30(F)10(S)	35*	11		
R7	12,000	1,500	1,500	100-120	100	120	20	30 (F)20(S)	45*	24	50	
R8	12,000	1,500	1,000	100-120	100	120	20	30(F)20(S)	55*	34	60	
R9	40,000		500	200	200	200		30(F)20(S)	110*	80	80	0.5-1.5
P1								30	35*			
O1								25(F)5(S)	40		80	
O2												
O3												
C1								25(F)5(S)	40*		50	
C2								25(F)5(S)	40*		50	
C3										20		
M1												
M2												

Source: City Planning Commission  
Newport News Zoning Ordinance, February 2004

**Figure 114: Zoning Regulations, Existing**

R1-R4	Single-Family Dwelling District
R5	Low Density Multi-Family Dwelling District
R7	Medium Density Multi-Family Dwelling District
R8	High Density Multi-Family Dwelling District
R9	Mixed Use District
P1	Park District
O1	Office Park District
O2	Office/Research/Development District
O3	Office/Research/Development District
C1	Retail Commercial District
C2	General Commercial District
C3	Regional Business District
M1	Light Industrial District
M2	Heavy Industrial District

**Figure 115: Zoning Districts**

## Chapter 7: Design Intentions

Goals and Objectives:

Urban Strategy

Architectural Strategy

Special Problems and Issues

## **Design Goals**

### Urban Strategy

- 1.) Reweave Urban Fabric
- 2.) Create Public Amenity
- 3.) Increase Access
- 4.) Provide for Future Growth Potential
- 5.) Illustrate Prototypes for Development
- 6.) Encourage Community 24/7

### Architectural Strategy

- 1.) Develop an urban typology that gives a sense of identity to the urban neighborhood, evoking both industrial and nautical heritage
- 2.) Use architecture to define public zone of the street
- 3.) Promote eyes on the street, responsibility for actions in public realm
- 4.) Create modest housing prototypes which address needs and means of middle and working class families
- 5.) Integrate parking within the block to reduce need for separate parking structures within city fabric
- 6.) Utilize low-rise, high-densities typologies

### **Special Problems and Issues**

1. Develop a diverse housing stock to replace the existing surface parking and underdeveloped land in Midtown. The goal is to create a multiplicity of types to address a community with mixed ownership needs, a mix of civilian and military status, and a mix of income levels.
2. Replace existing surface parking with parking structures to reallocate land to housing, commercial, and civic uses, which serve to reenergize Midtown.
3. Reinstate the existing street grid of Midtown across the CSX rail yard to help connect the Northwest community and Midtown.
4. Build on a light-rail system proposed by the City Planning office, which will link Downtown, Midtown, northern Newport News, Williamsburg, and Hampton. This light-rail system will provide an alternative for shipyard workers who typically commute daily by car, contributing to the abundance of surface parking in Midtown.
5. Create a commercial core to activate the site and create a destination for residents, employees and visitors. Those moving to Midtown as well as those in adjacent Parkside can share this retail amenity.
6. Introduce civic structures, which address the needs of the residents as well as act as destinations for visitors.
7. Use green space to link community.
8. Translate the needs and amenities found in the suburbs to an urban neighborhood that is its own definable districts within the city of Newport News.
9. Develop an identifiable neighborhood within the larger maritime center.
10. Retain the land used for shipbuilding but curb unnecessary and irresponsible sprawl into the adjacent neighborhoods.

<b>Goals</b>	<b>Overall Design Issues and Approach</b>
Future Growth Community 24/7	Develop a diverse housing stock to replace the existing surface parking and underdeveloped land in Midtown. The goal is to create a multiplicity of types to address a community with mixed ownership needs, a mix of civilian and military status, and a mix of income levels.
Future Growth	Replace existing surface parking with parking structures to reallocate land to housing, commercial, and civic uses, which serve to reenergize Midtown.
Reweave Fabric Increase Access	Reinstate the existing street grid of Midtown across the CSX rail yard to help connect the Northwest community and Midtown.
Increase Access Future Growth	Build on a light-rail system proposed by the City Planning office, which will link Downtown, Midtown, northern Newport News, Hampton, and Williamsburg. This light-rail system will provide an alternative for shipyard workers who typically commute daily by car, contributing to the abundance of surface parking in Midtown.
Future Growth	Create a commercial core to activate the site and create a destination for residents, employees and visitors. Those moving to Midtown as well as those in adjacent Parkside can share this retail amenity.
Public Amenity	Introduce civic structures, which address the needs of the residents as well as act as destinations for visitors.
Public Amenity	Use green space to link community.
Prototype for Development	Translate the needs and amenities found in the suburbs to an urban neighborhood that is its own definable districts within the city of Newport News.
Prototype for Development	Develop an identifiable neighborhood within the larger maritime center.
Prototype for Development	Retain the land used for shipbuilding but curb unnecessary and irresponsible sprawl into the adjacent neighborhoods.

**Figure 116: Relationship between Goals and Issues**



## Chapter 8: Design Approach

Master plan:

Parti A  
Parti B  
Parti C  
Parti D

Housing Prototype:

Parti I  
Parti II  
Parti III

## Master Plan

### Parti A

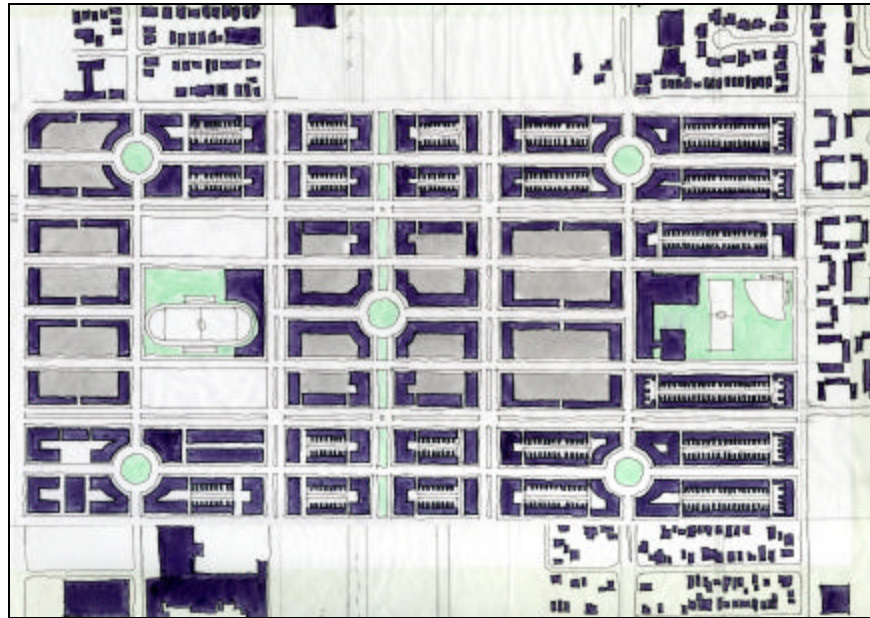


Figure 117: Neighborhood Greens, scheme #1<sup>156</sup>

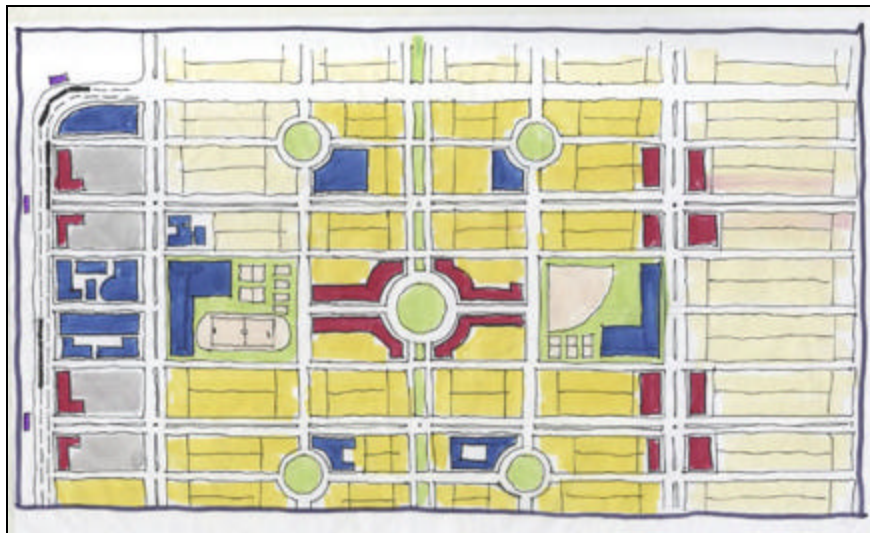


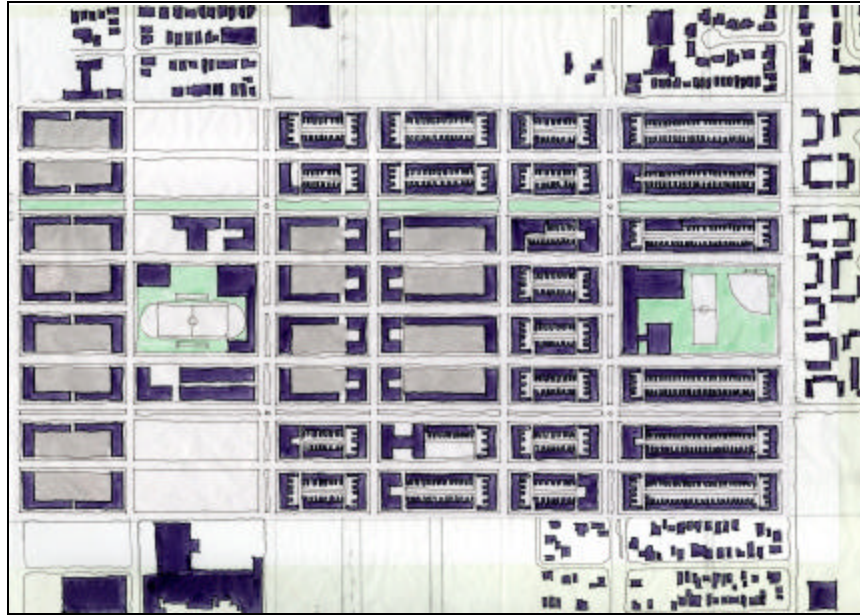
Figure 118: Neighborhood Greens, proposed land use<sup>157</sup>

The intention of this scheme was to explore how small green spaces could begin to give identity to smaller districts within the larger master plan. By interrupting the existing grid, nodes were formed, signifying neighborhood centers. Retail is centrally located, with two flanking parks. The shipyard edge is dominated by parking and shipyard specific uses.

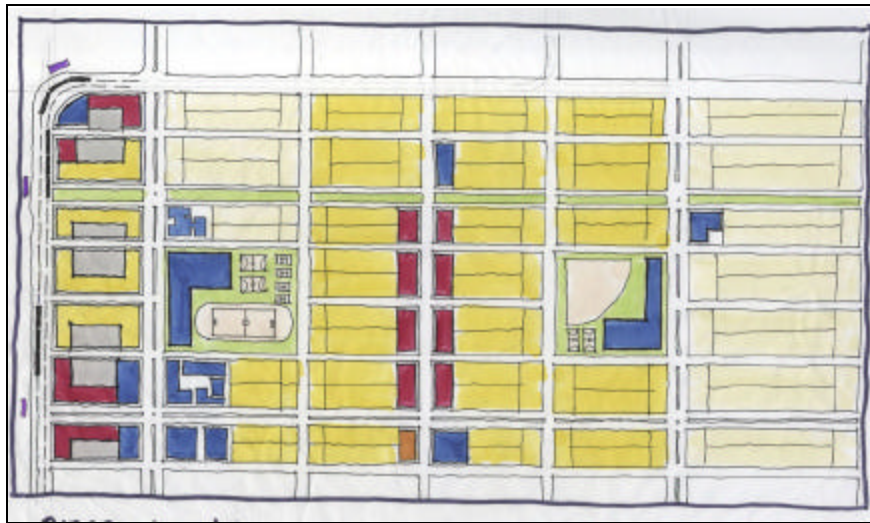
<sup>156</sup> Image source: Author's drawing

<sup>157</sup> Image source: Author's drawing

## Parti B



**Figure 119: Recreational Centers, scheme #2**<sup>158</sup>



**Figure 120: Recreational Centers, proposed land use**<sup>159</sup>

This scheme explores the placement of two large recreational parks on either side of a retail spine. Each park is intended to be specific to the needs of the surrounding community. The western park is more targeted to shipyard employees and apprentice students, while the eastern park is more geared toward families and elementary students.

<sup>158</sup> Image source: Author's drawing

<sup>159</sup> Image source: Author's drawing



## Parti C

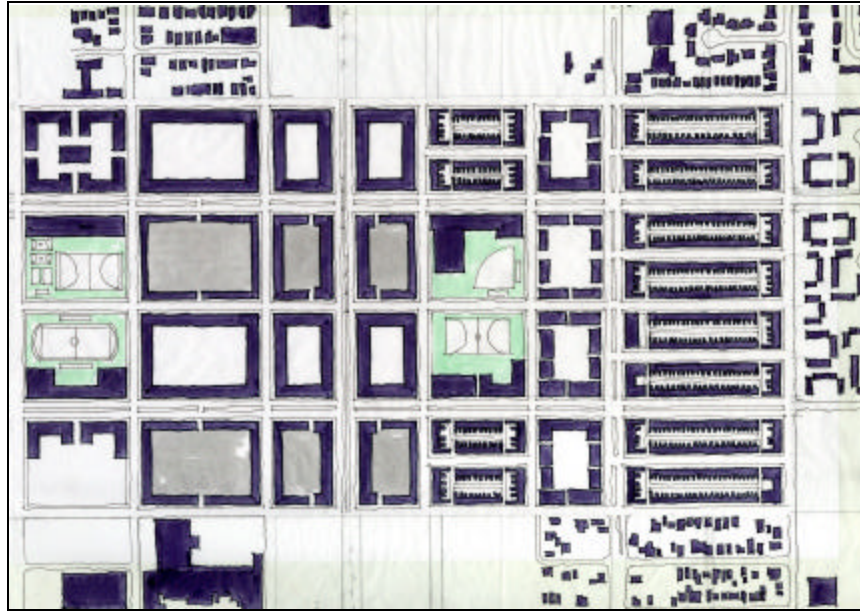


Figure 121: Civic Clusters, scheme #3<sup>160</sup>

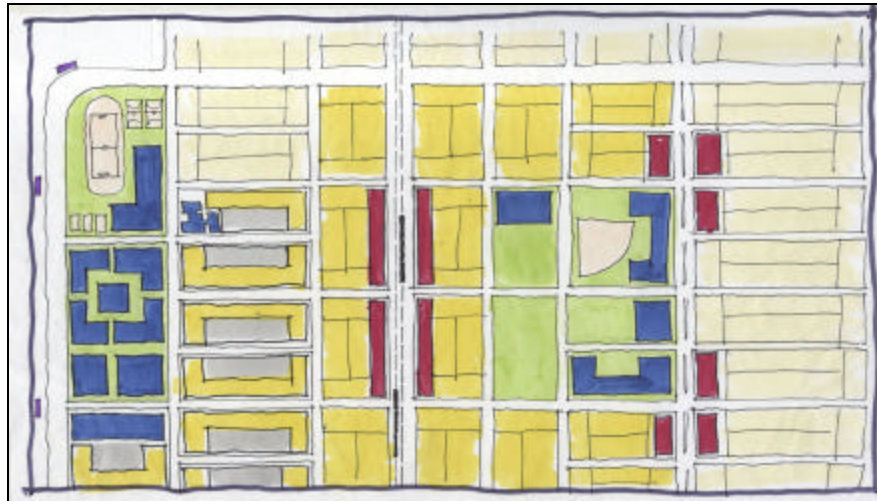


Figure 122: Civic Clusters, proposed land use<sup>161</sup>

This strategy creates grouping of civic functions, located to the needs of the community. The shipyard edge is lined with the apprentice school and recreation center, giving this edge a dominant green space as opposed to the existing population of parking. The eastern district is organized around the elementary school, library, and community center. Retail dominates the intermediate zone along the light rail.

<sup>160</sup> Image source: Author's drawing

<sup>161</sup> Image source: Author's drawing

## Parti D

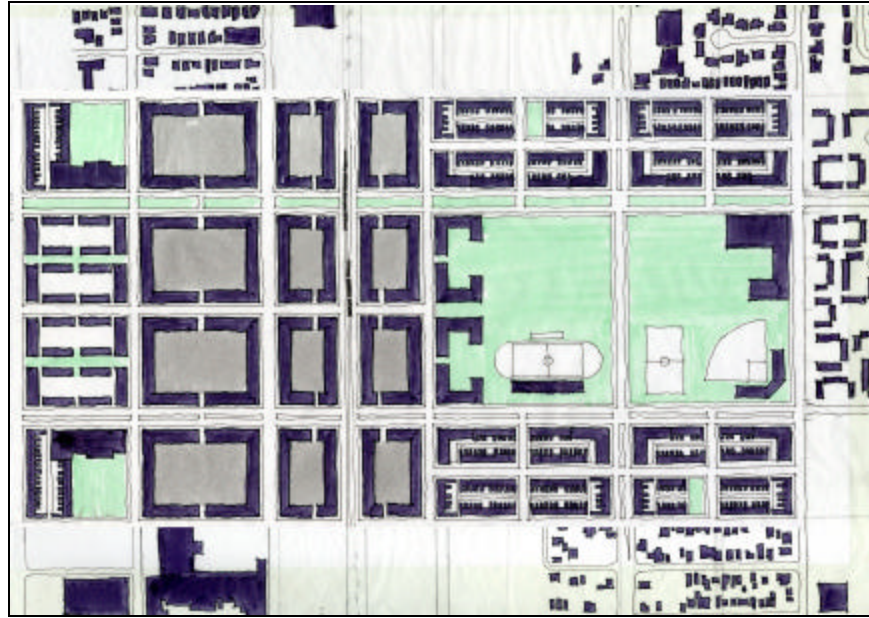


Figure 123: Central Park, scheme #4<sup>162</sup>

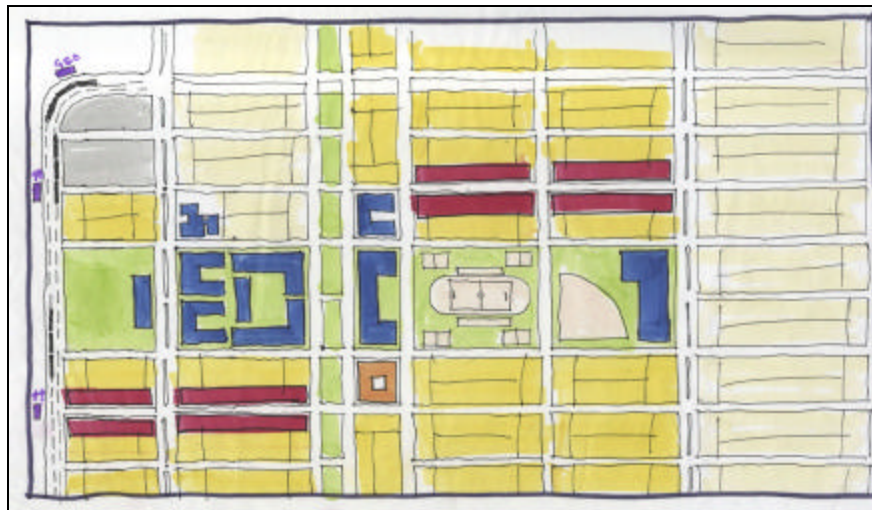


Figure 124: Central Park, proposed land use<sup>163</sup>

This exploration builds on the use of a centralized green park system, which spans between the shipyard and Parkside. In this way the two communities are united by a community amenity. The elementary school is situated at the eastern end of the park, while the apprentice school is located at the western edge. Retail is dispersed throughout the master plan.

<sup>162</sup> Image source: Author's drawing

<sup>163</sup> Image source: Author's drawing

## Chapter 9: Design Conclusions



## Chapter 10: Project Documentation

## Master Plan

### Regional Intervention

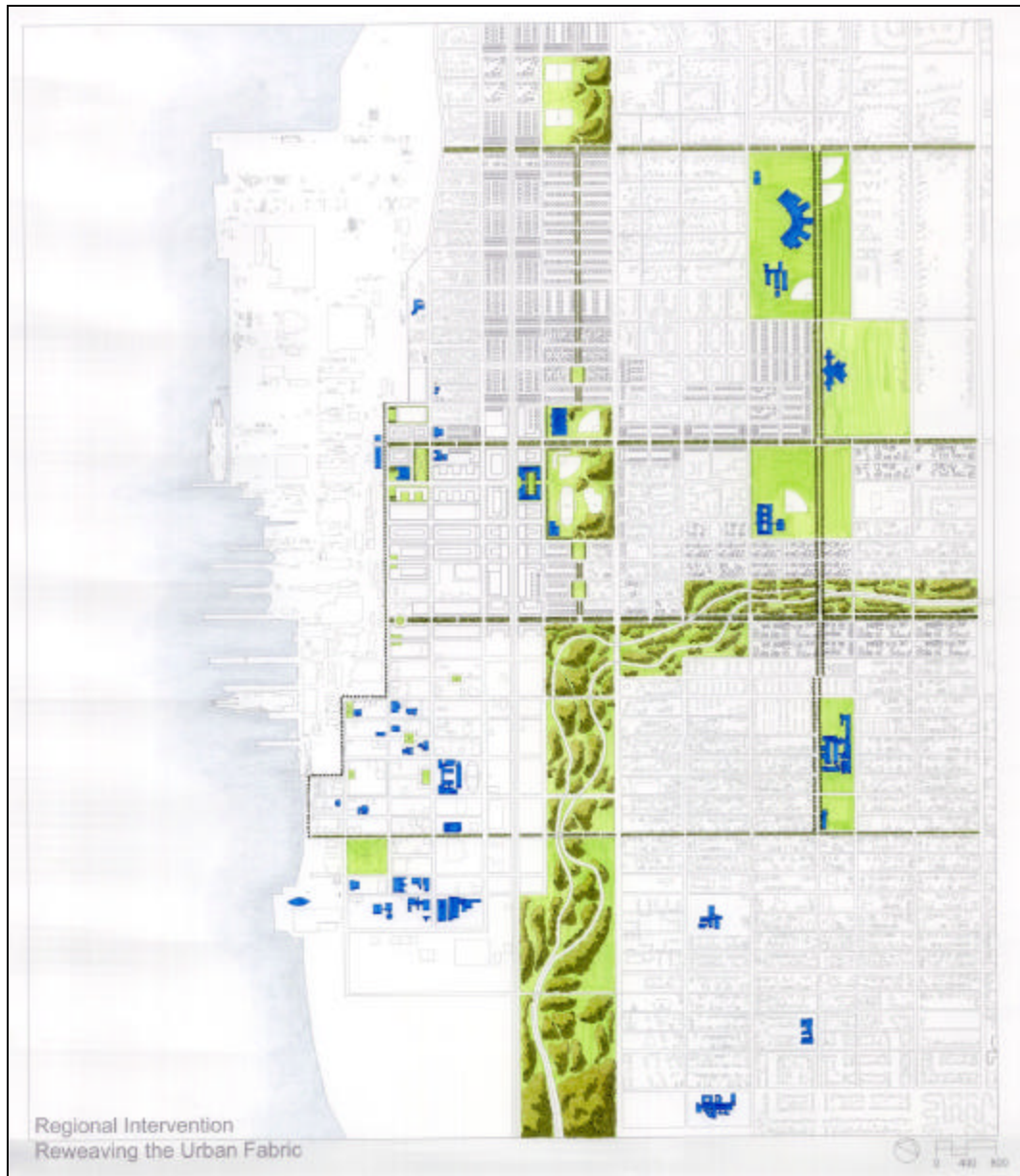


Figure 125: Regional Intervention<sup>164</sup>

<sup>164</sup> Image source: Author's drawing

## Master Plan



Figure 126: Master Plan<sup>165</sup>

<sup>165</sup> Image source: Author's drawing

## Aerial



**Figure 127: Aerial Perspective, looking west<sup>166</sup>**

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<sup>166</sup> Image source: Author's drawing



## Diagrams

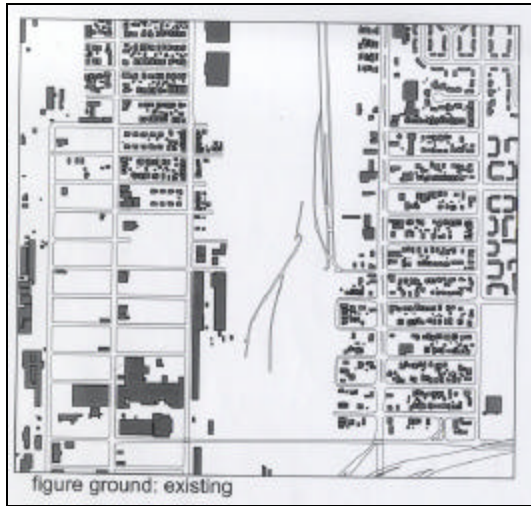


Figure 128: Figure-Ground, existing (left)<sup>167</sup>

Figure 129: Figure-Ground, proposed (right)<sup>168</sup>

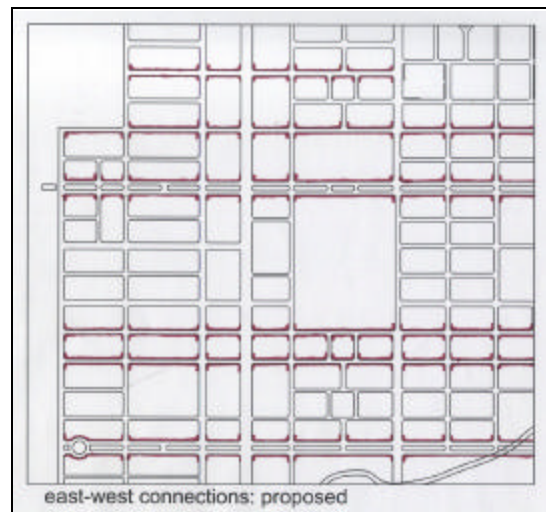


Figure 130: East-West connections, existing (left)<sup>169</sup>

Figure 131: East-West connections, proposed (right)<sup>170</sup>

<sup>167</sup> Image source: Author's drawing

<sup>168</sup> Image source: Author's drawing

<sup>169</sup> Image source: Author's drawing

<sup>170</sup> Image source: Author's drawing



Figure 132: Land-use, existing (left)<sup>171</sup>



Figure 133: Land-use, proposed (right)<sup>172</sup>



Figure 134: Parking, existing (left)<sup>173</sup>

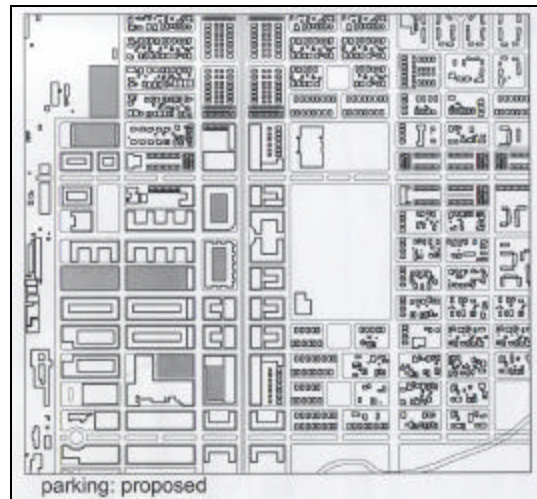


Figure 135: Parking, proposed (right)<sup>174</sup>

<sup>171</sup> Image source: Author's drawing

<sup>172</sup> Image source: Author's drawing

<sup>173</sup> Image source: Author's drawing

<sup>174</sup> Image source: Author's drawing





Figure 136: Development Area within Master plan (left)<sup>175</sup>

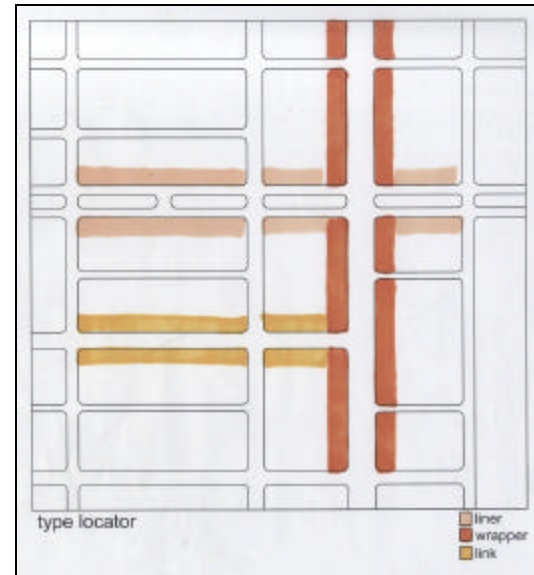


Figure 137: Type Locator (right)<sup>176</sup>

<sup>175</sup> Image source: Author's drawing

<sup>176</sup> Image source: Author's drawing

## Housing Typologies

### “Wrapper” Typology

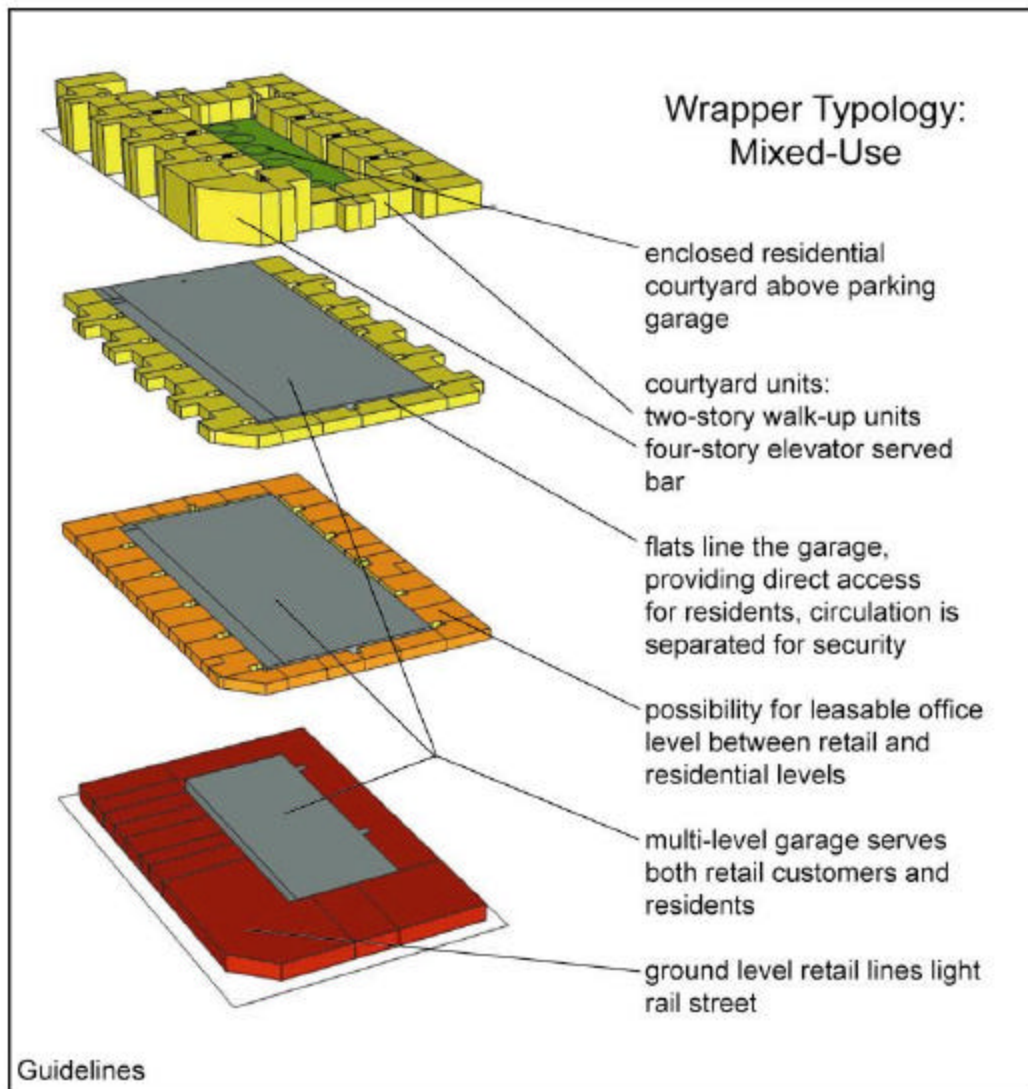


Figure 138: Wrapper component diagram<sup>177</sup>

<sup>177</sup> Image source: Author's drawing



Figure 139: Wrapper Rail Elevation<sup>178</sup>

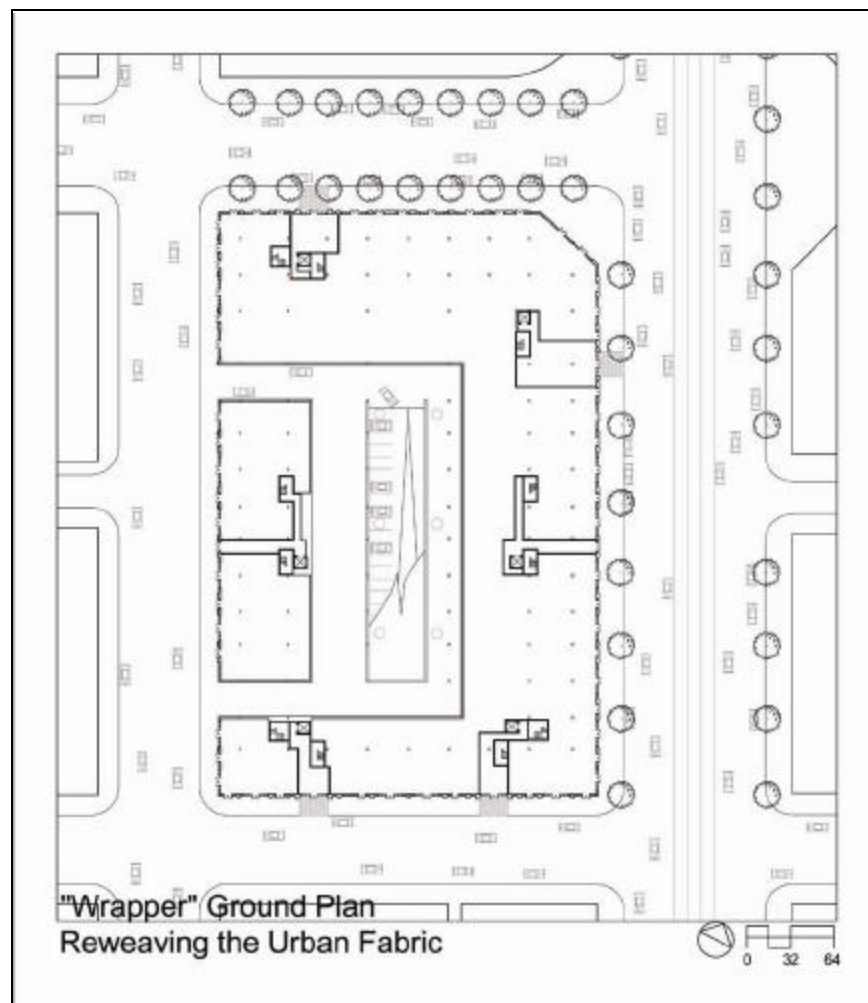


Figure 140: Wrapper Ground plan<sup>179</sup>

<sup>178</sup> Image source: Author's drawing

<sup>179</sup> Image source: Author's drawing

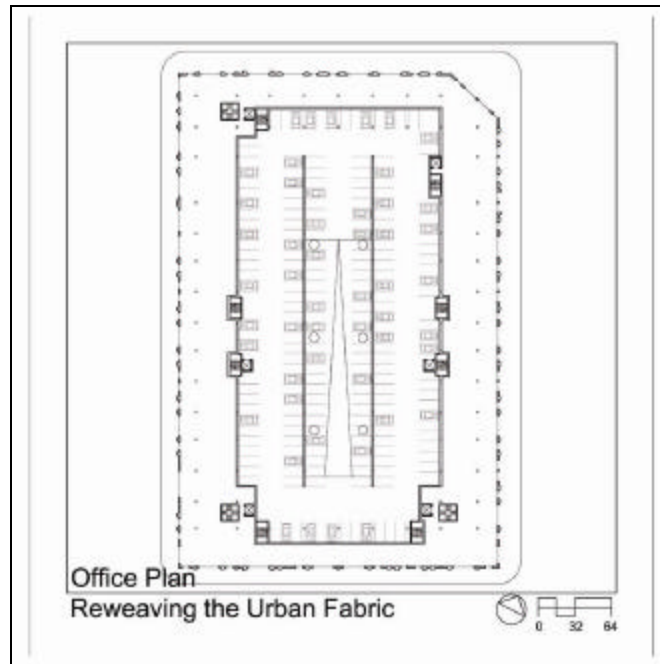


Figure 141: Wrapper Office Level Plan<sup>180</sup>

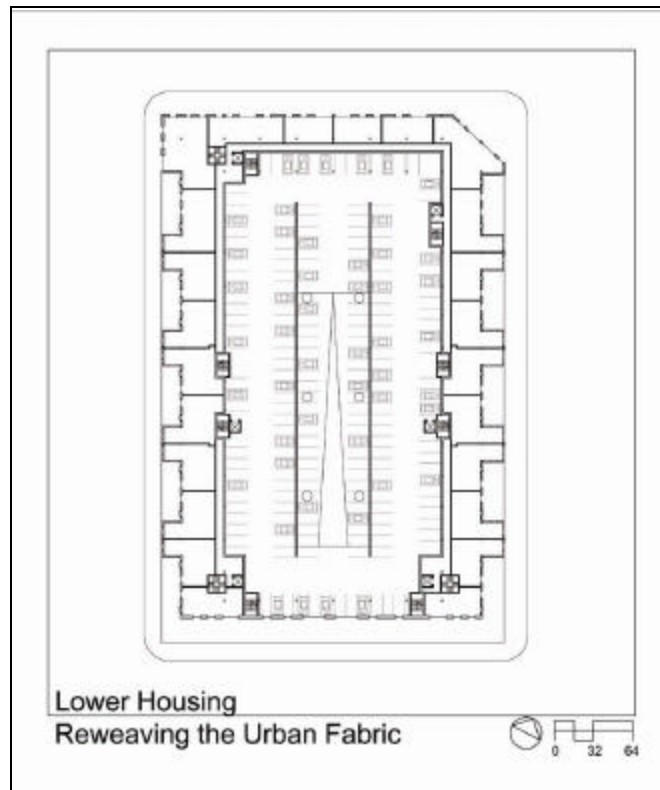


Figure 142: Lower Housing Plan<sup>181</sup>

<sup>180</sup> Image source: Author's drawing

<sup>181</sup> Image source: Author's drawing

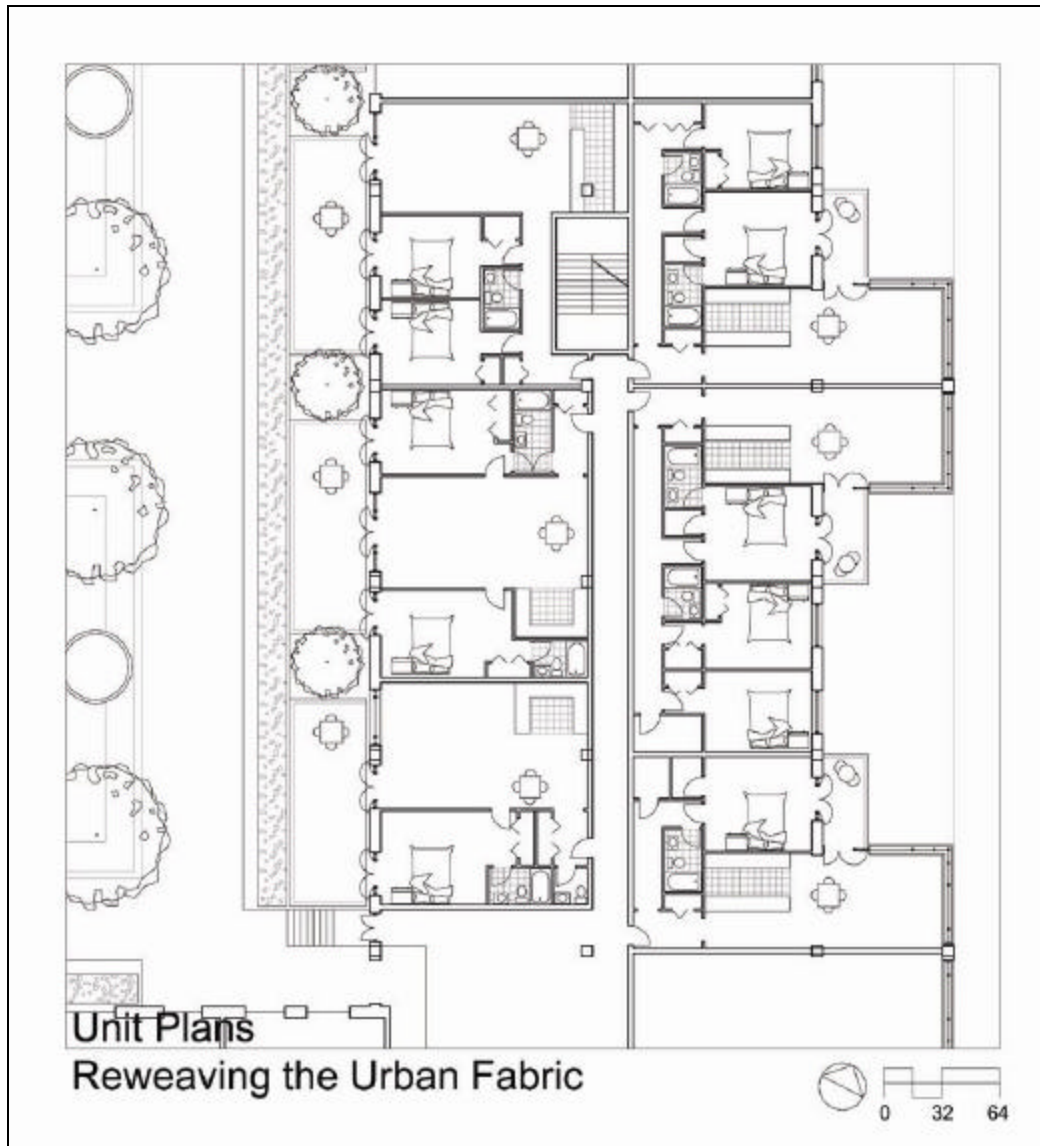
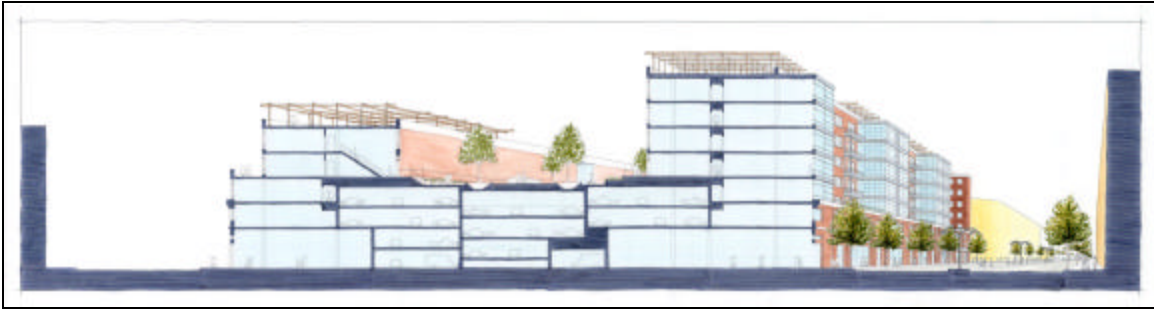


Figure 143: Wrapper Unit Plans<sup>182</sup>

<sup>182</sup> Image source: Author's drawing





**Figure 144: Wrapper Section Perspective**<sup>183</sup>



**Figure 145: Section Perspective, enlarged**<sup>184</sup>

<sup>183</sup> Image source: Author's drawing

<sup>184</sup> Image source: Author's drawing





Figure 146: Wrapper, Exterior perspective <sup>185</sup>

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<sup>185</sup> Image source: Author's drawing



Figure 147: Wrapper, Courtyard perspective<sup>186</sup>

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<sup>186</sup> Image source: Author's drawing



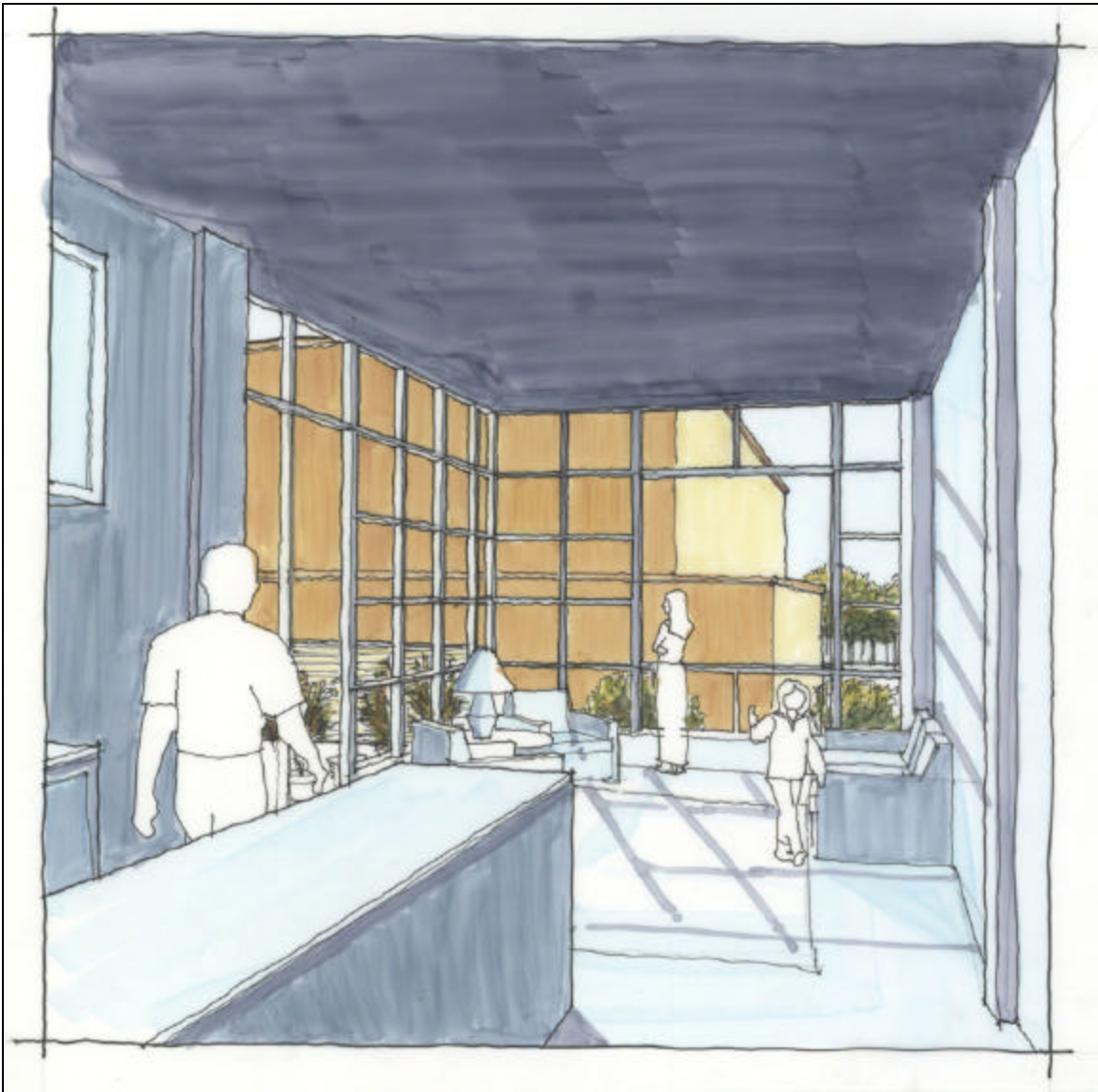


Figure 148: Wrapper, Interior perspective <sup>187</sup>

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<sup>187</sup> Image source: Author's drawing

## “Link” Typology

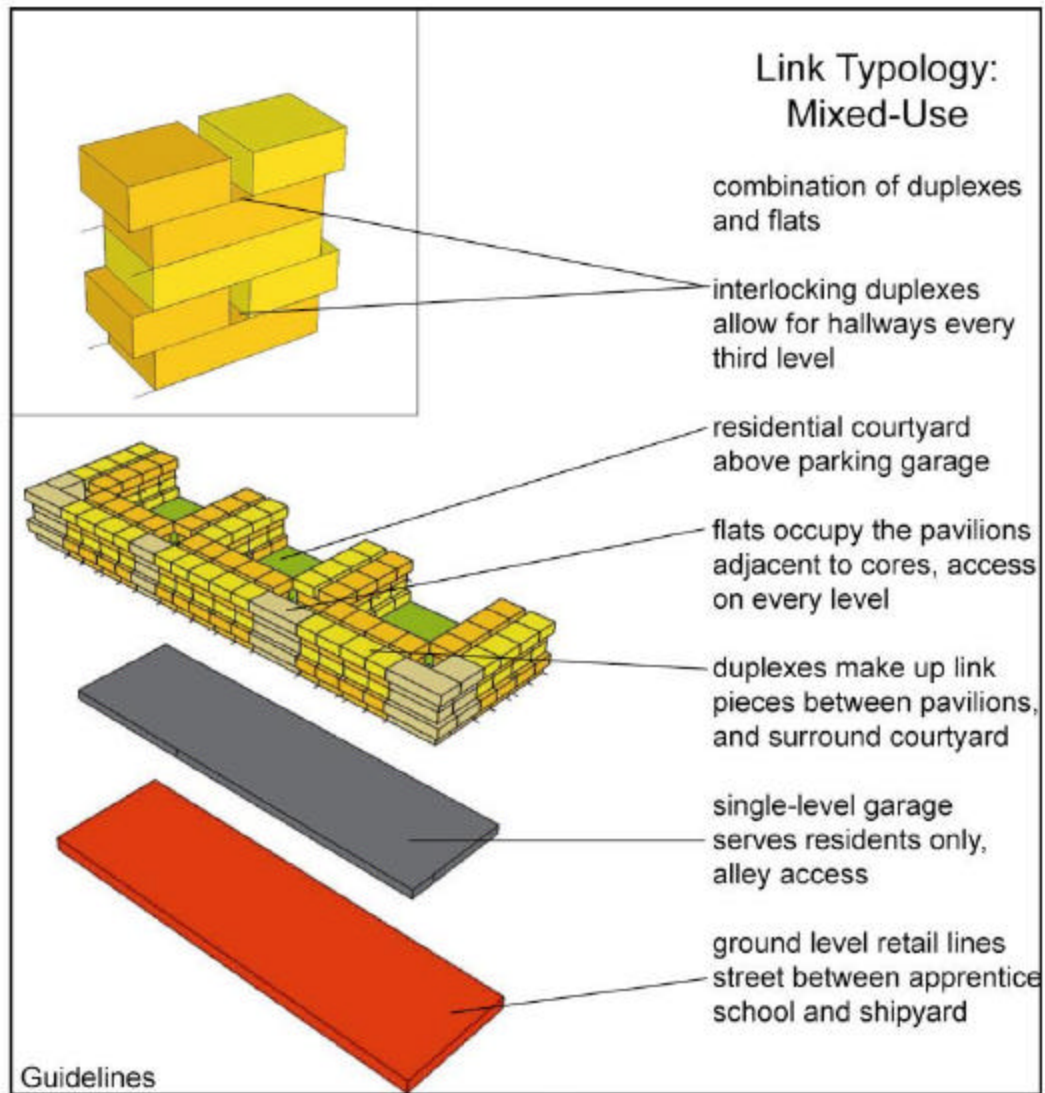
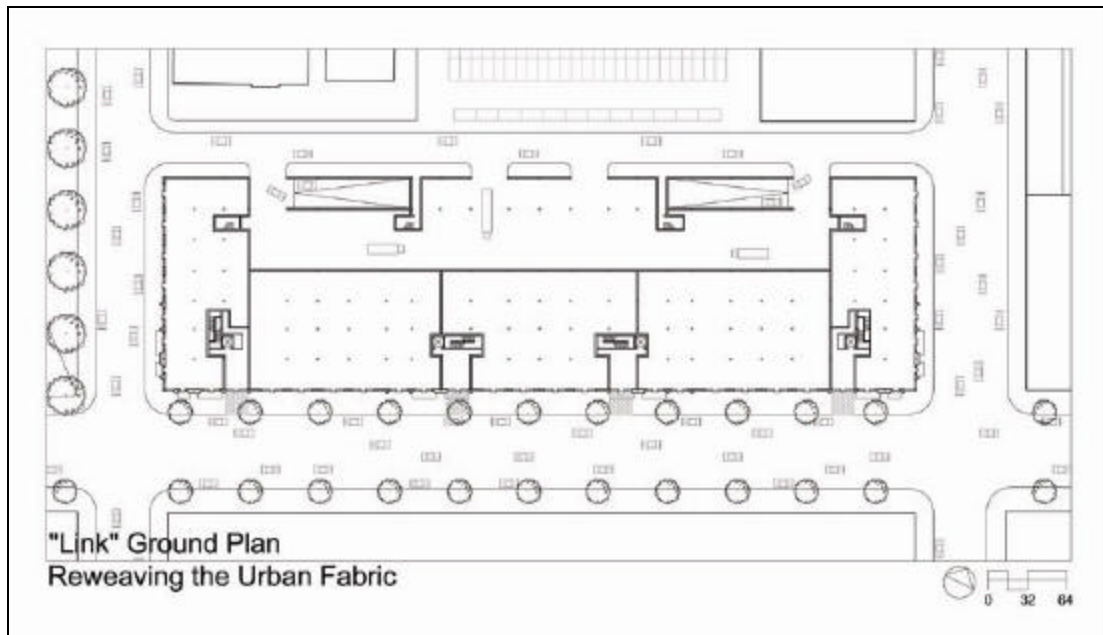


Figure 149: Link component diagram<sup>188</sup>

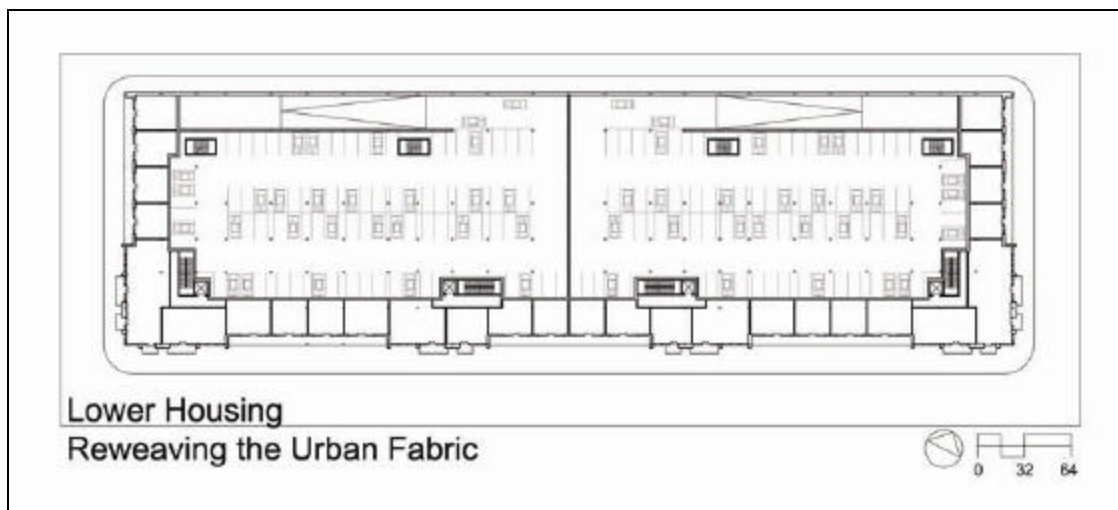
<sup>188</sup> Image source: Author's drawing



**Figure 150: Link South Elevation**<sup>189</sup>



**Figure 151: Link Ground Plan**<sup>190</sup>

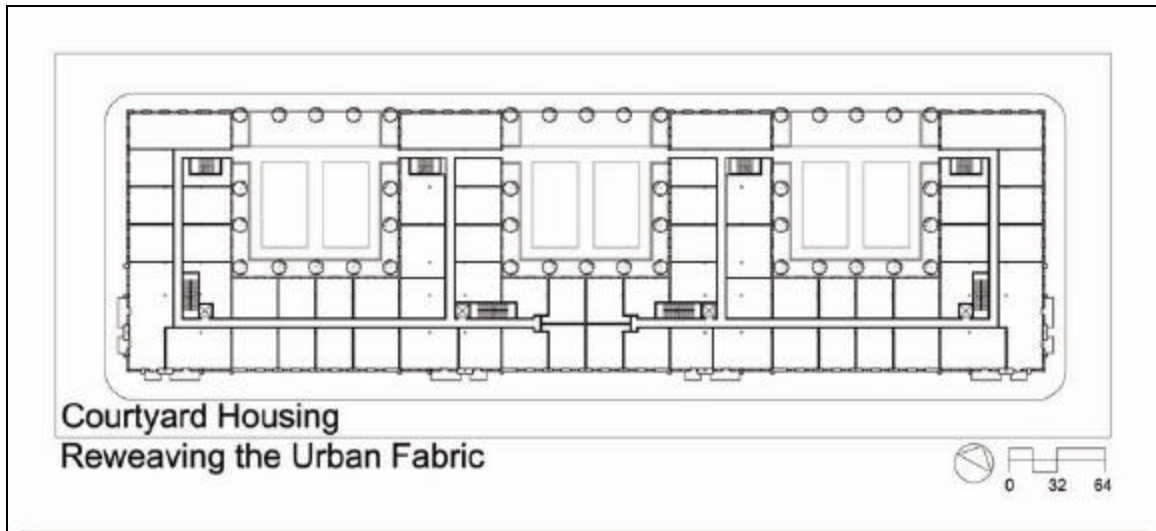


**Figure 152: Link Lower Housing Plan**<sup>191</sup>

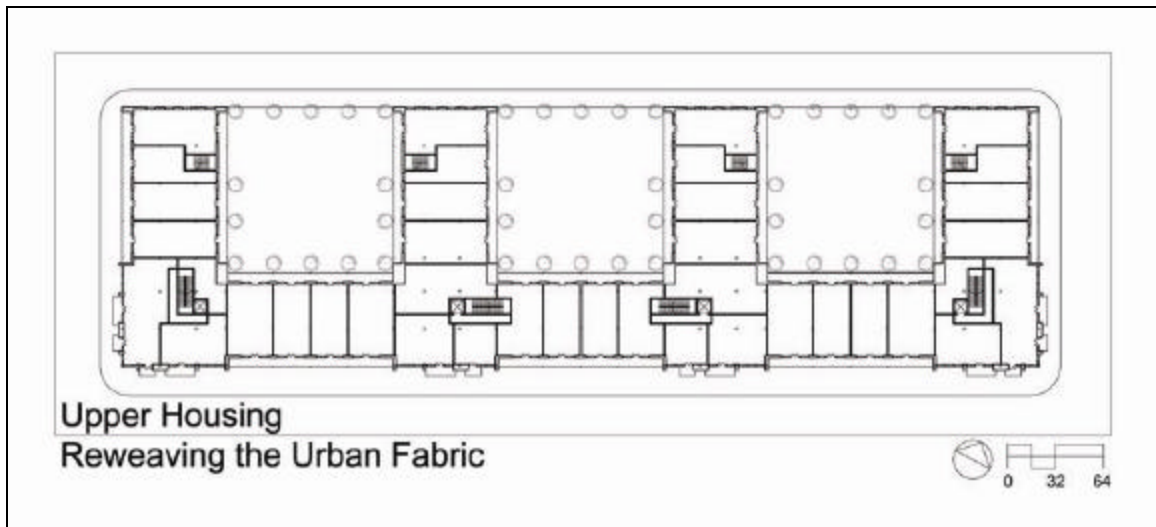
<sup>189</sup> Image source: Author's drawing

<sup>190</sup> Image source: Author's drawing

<sup>191</sup> Image source: Author's drawing



**Figure 153: Link Courtyard Housing Plan<sup>192</sup>**



**Figure 154: Link Upper Housing Plan<sup>193</sup>**

<sup>192</sup> Image source: Author's drawing

<sup>193</sup> Image source: Author's drawing



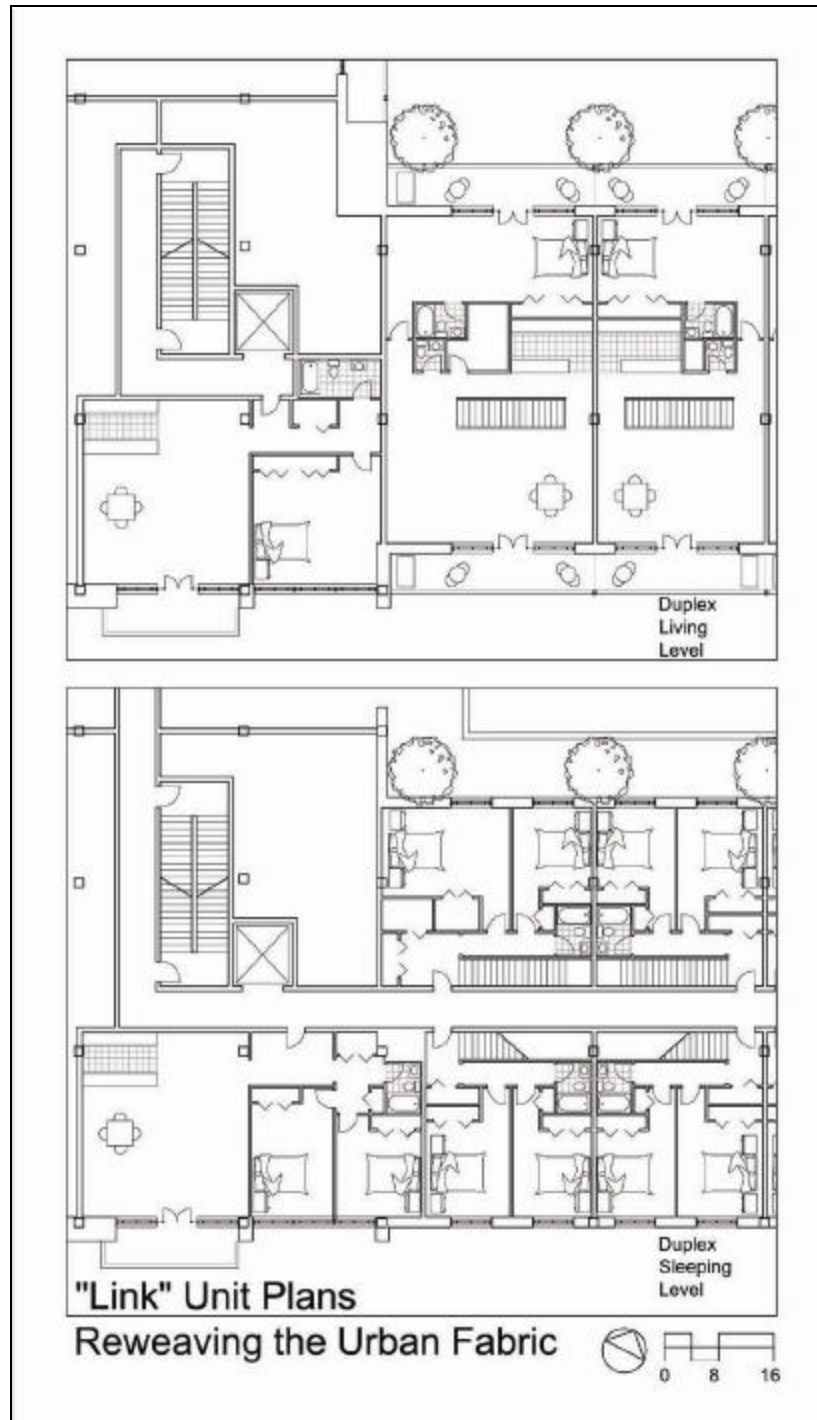
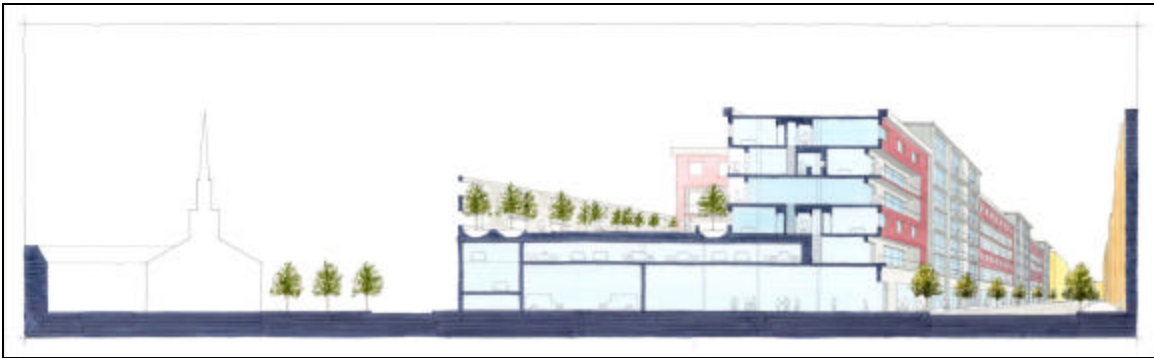


Figure 155: Link Unit Plans<sup>194</sup>

<sup>194</sup> Image source: Author's drawing



**Figure 156: Liner Section Perspective**<sup>195</sup>



**Figure 157: Section Perspective, enlarged**<sup>196</sup>

<sup>195</sup> Image source: Author's drawing

<sup>196</sup> Image source: Author's drawing

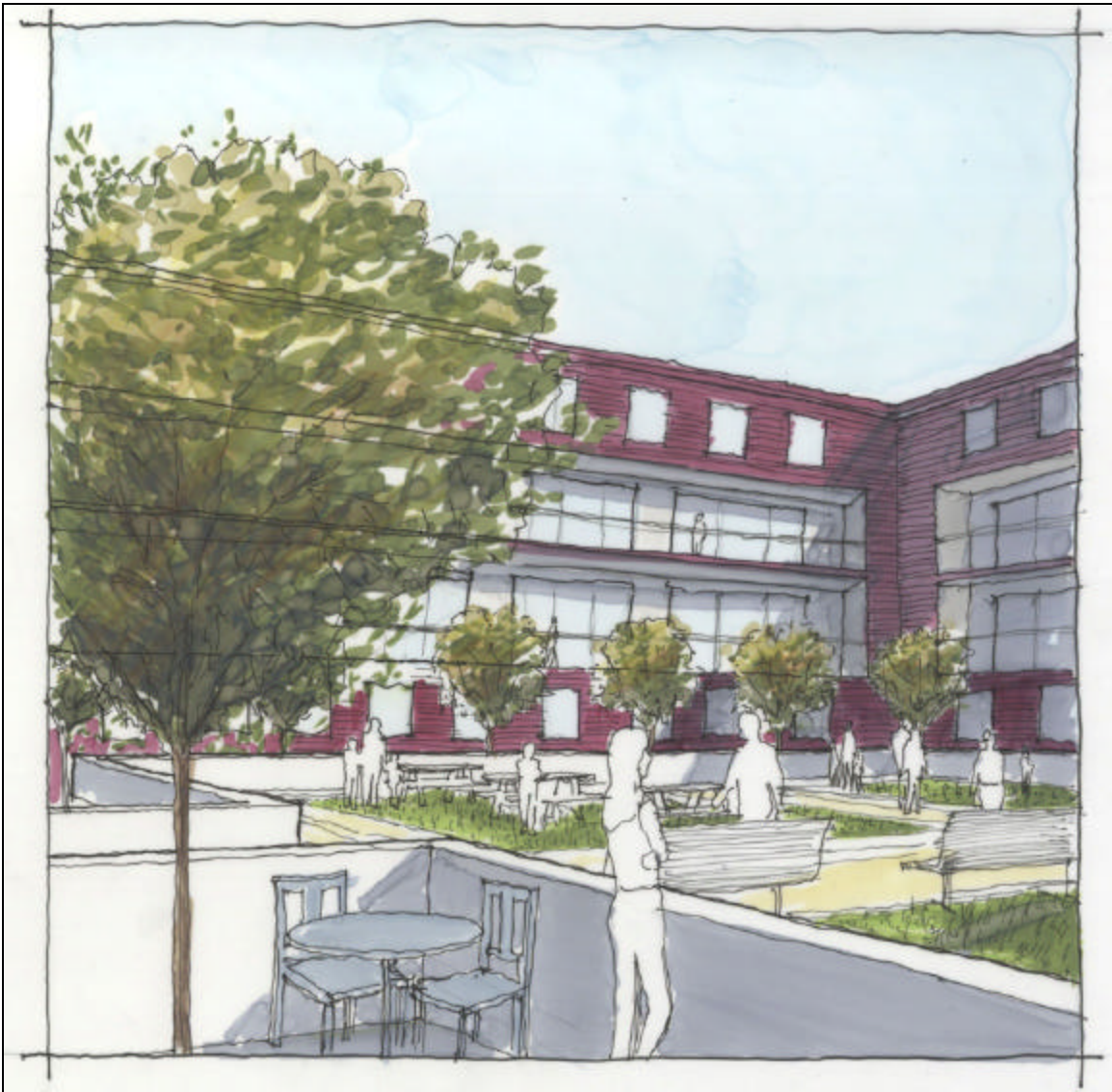


Figure 158: Link, Exterior perspective<sup>197</sup>

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<sup>197</sup> Image source: Author's drawing





**Figure 159: Link, Courtyard perspective<sup>198</sup>**

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<sup>198</sup> Image source: Author's drawing



Figure 160: Link, Interior perspective <sup>199</sup>

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<sup>199</sup> Image source: Author's drawing

## “Liner” Typology

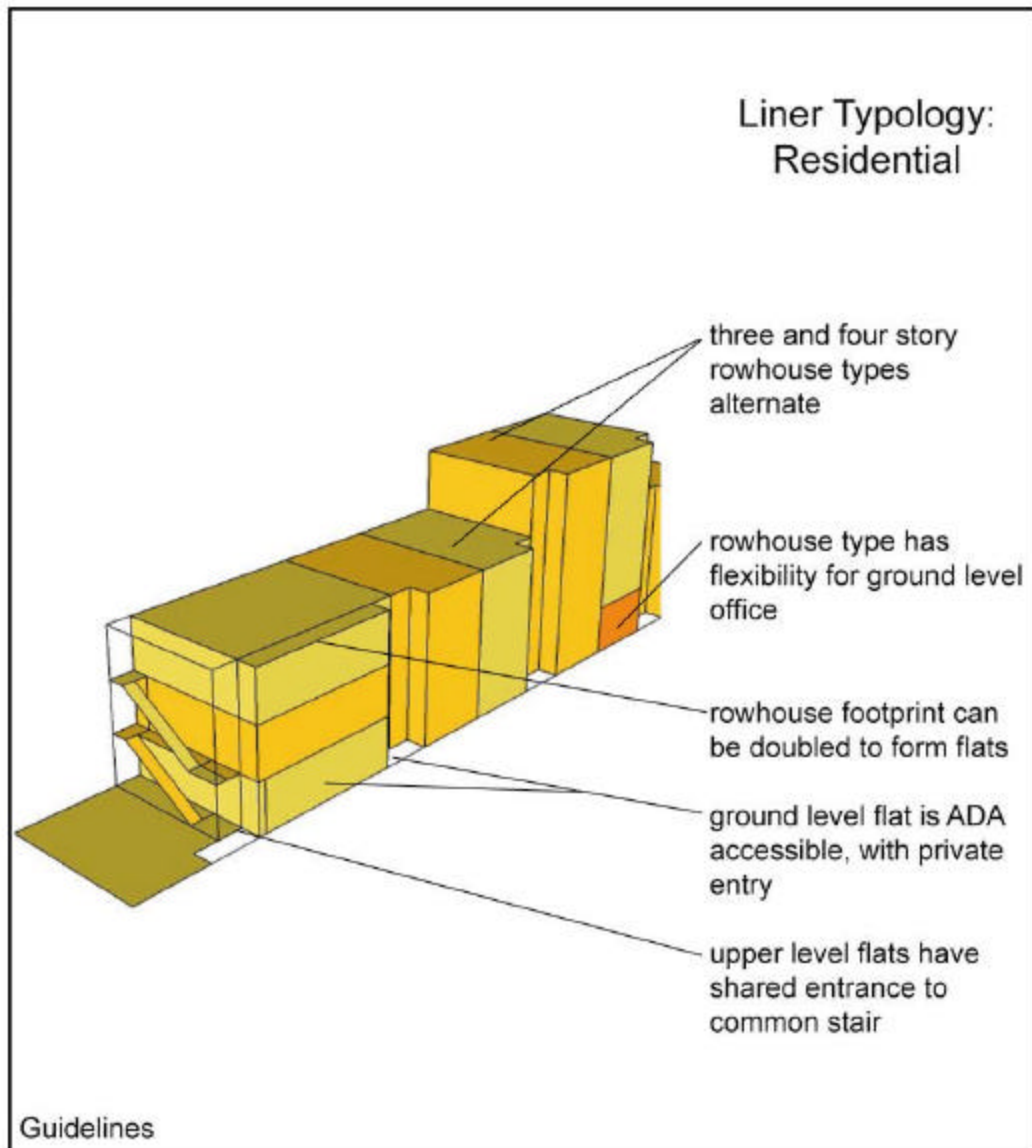


Figure 161: Liner component diagram<sup>200</sup>

<sup>200</sup> Image source: Author's drawing



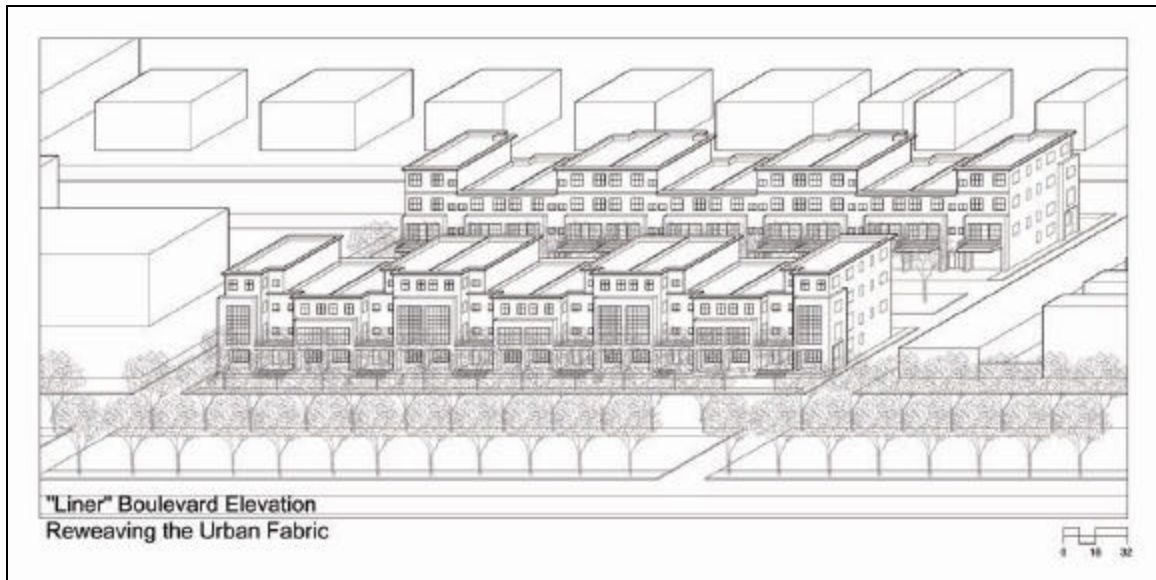


Figure 162: Liner Boulevard Elevation<sup>201</sup>

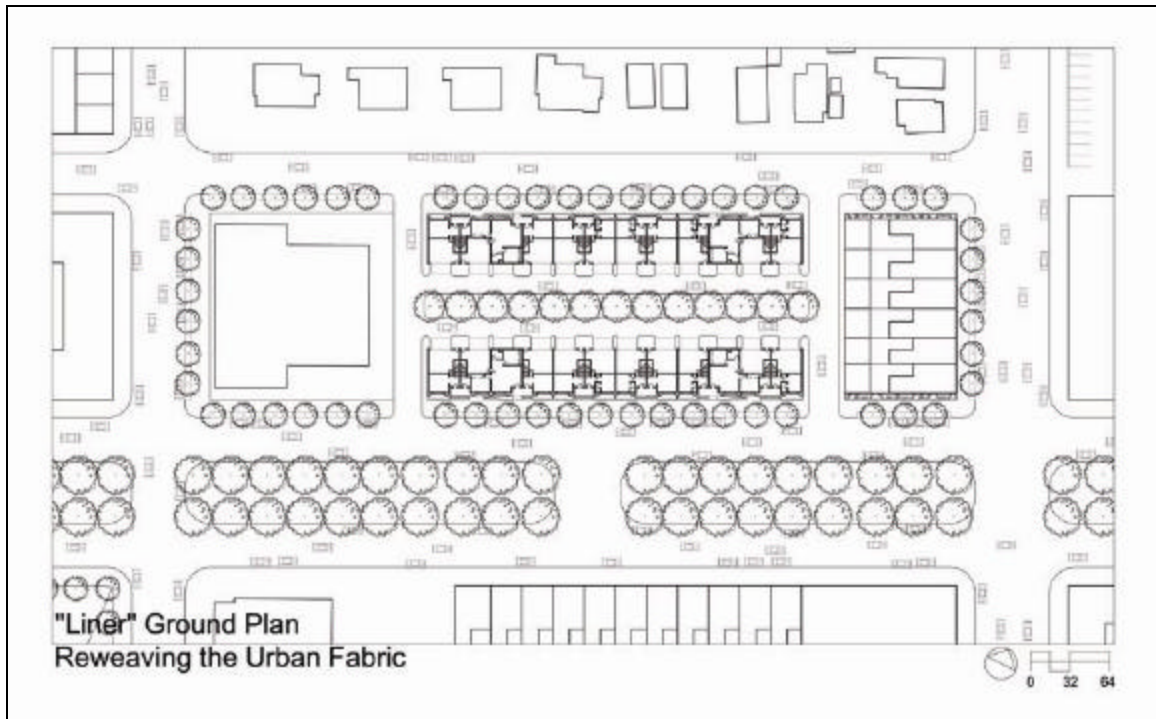


Figure 163: Liner Ground Plan<sup>202</sup>

<sup>201</sup> Image source: Author's drawing

<sup>202</sup> Image source: Author's drawing

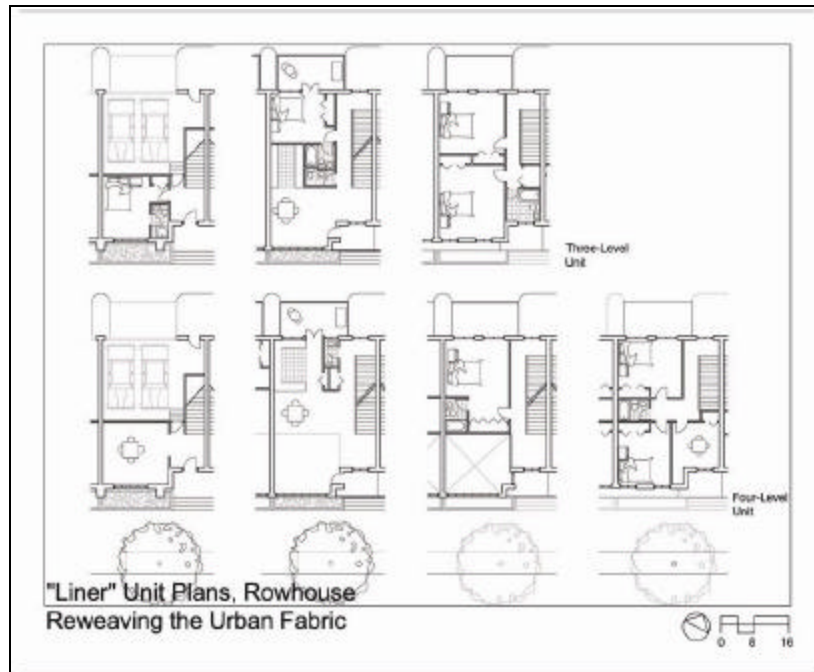


Figure 164: Liner Rowhouse Unit Plans<sup>203</sup>

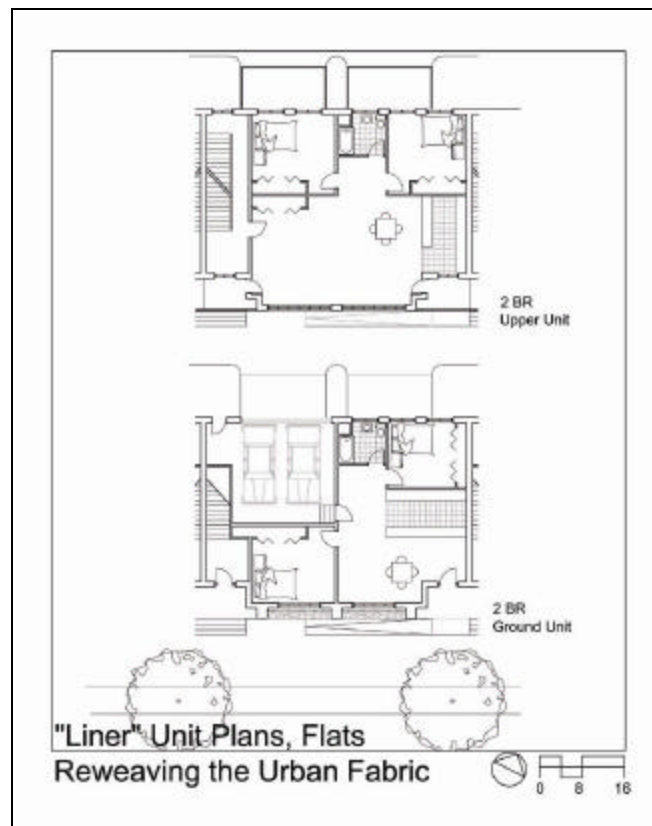


Figure 165: Liner Flat Unit Plans<sup>204</sup>

<sup>203</sup> Image source: Author's drawing

<sup>204</sup> Image source: Author's drawing



**Figure 166: Liner Section Perspective**<sup>205</sup>



**Figure 167: Section Perspective, enlarged**

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<sup>205</sup> Image source: Author's drawing



**Figure 168: Liner, Exterior perspective**<sup>206</sup>

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<sup>206</sup> Image source: Author's drawing





Figure 169: Liner, Muse perspective <sup>207</sup>

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<sup>207</sup> Image source: Author's drawing

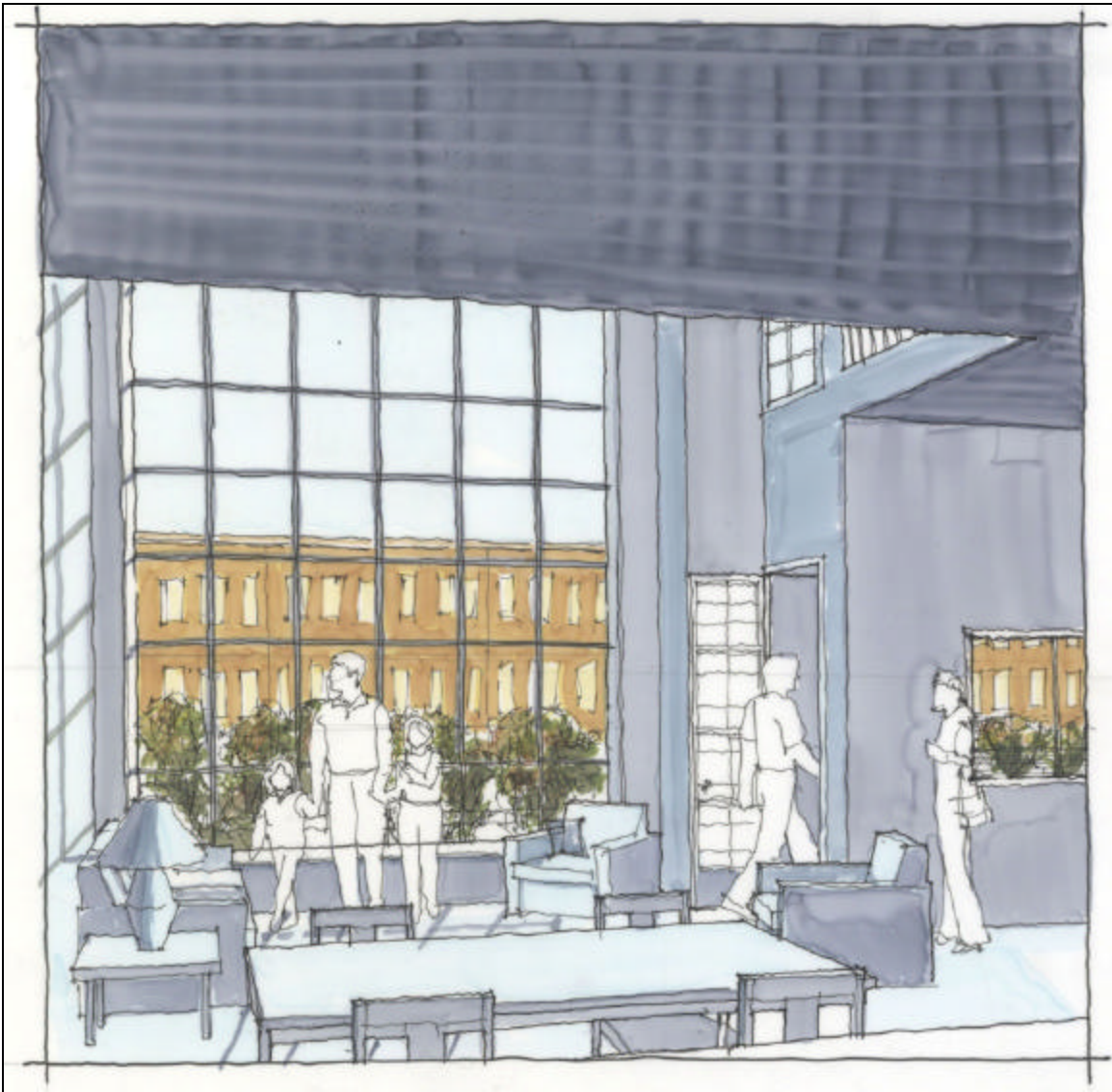


Figure 170: Liner, Interior perspective <sup>208</sup>

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<sup>208</sup> Image source: Author's drawing



## Bibliography

- Binney, Marcus. Architecture of Rail. Lanham: Academy Editions, 1995.
- Bosker, Gideon. Lencek, Lena. "Portland as 'Urban Theme Park.'" Architecture. November 1987, 51-8.
- "District I Plan." Framework for the Future. Newport News: Chapter 14, 2000.
- Fishman, Robert. Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier. New York: Basic Books, 1977.
- Gallion, Arthur B. The Urban Pattern. New York: Van Nostrand Reinhold, 1986.
- Georgetown Planning Group. Georgetown Waterfront Area Study. Washington: Georgetown Planning Group, 1972.
- "Hilton Village." Hampton Roads History Tours. Internet. 19 September 2004.
- Jones, Tom. Pettus, William, and Pyatok, Michael. Design for Living, Good Neighbors: Affordable Family Housing. New York: McGraw-Hill, 1997.
- Katz, Peter. The New Urbanism. New York: McGraw-Hill, 1994.
- Koetter Kim & Associates. New York: Rizzoli, 1997.
- Kunstler, James Howard. The Geography of Nowhere. New York: Simon & Schuster, 1993.
- Levine, Jonathan. "Rethinking Accessibility and Jobs-Housing Balance." Journal of the American Planning Association. 1 March 1998: 12+.
- Little, Charles E. Greenways for America. Baltimore: Johns Hopkins University Press, 1990.
- Lynch, Kevin. Image of the City. Cambridge: MIT Press, 1960.
- Murphy, Jim. "A Track Record." Progressive Architecture. 2:88, 66-71.
- New Urban Housing. Pittsburgh: Community Design Center of Pittsburgh, 1994.
- Newport News Maritime Center. Newport News: LDR International, 1999.
- Nevins, Deborah. Grand Central Terminal: City within the City. New York: Municipal Art Society of New York, 1982.

“Northend Huntington Heights Neighborhood.” Hampton Roads History Tours.  
Internet. 19 September 2004.

“Present and Original Physical Appearance.” Ghent National Register. Internet. 20  
September 2004

Porter, Douglas. “Business-Oriented Neighborhoods.” Planning. 30 (2004): 30-33.

Thompson-Fawcett, Michelle. “Leon Krier and the organic revival within urban policy  
and practice.” Planning Perspectives. 13 (1998): 167-194.

Trimet.org

Torre, L. Azeo. Waterfront Development. New York: Van Nostrand Reinhold, 1989.

Quarstein, John V., and Rouse, Parke S. Newport News: A Centennial History.  
Newport News: City of Newport News, 1996.

Zaitzevsky, Cynthia. Fedrick Law Olmstead and the Boston Park System. Cambridge:  
Belknap Press, 1982.