Overcoming Resistance to Density and Desegregation in Seattle: Developing a Model for High-Density Integrative Transit Oriented Development

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Introduction

Since the civil rights activism of the late 1960s, Seattle has moved toward greater equity along racial lines, but as this thesis will argue, a variety of factors are still holding the city back from full integration. Socio-economic constructs based on the discriminatory laws of the last century have combined with the persistence of racial biases and resistance to integration in affluent neighborhoods to keep segregation alive in Seattle. The low density nature of Seattle's urban environment has exacerbated the problems of segregation and obscured the wealth gap from affluent communities. The lack of viable public transportation has only reinforced the city's strong residual patterns of racial segregation, restricting access by lower-income racial minority populations to more affluent communities, city services and cultural attractions. This thesis will propose a high-density transit-oriented development (TOD) typology that will seek to promote a more racially integrated urban environment through well-established principles of successful urbanism as well as innovative residential mixing strategies.

This document begins by discussing how Seattle became such a low-density highly segregated city. The seeds of these problems were planted as far back as Seattle's founding and continued to develop throughout much of the 20th century. Next it will discuss the state of the problem today. Although some efforts have been made to densify and desegregate the city, many of these strategies are either not aggressive enough, are misguided or are met with resistance. It will present literature to support a different way of viewing the problem and go on to develop a theory for architectural interventions that can help densify and desegregate Seattle in a novel way. Finally it will develop a design on a TOD site in the Roosevelt neighborhood that illustrates an architectural response to the problem of resistance to density and desegregation in Seattle.

Chapter One: The Development of a Low-Density Segregated City

When Seattle was incorporated as a city in 1869, it was comprised of a small downtown zone hugging the water and scattered clusters of buildings in the surrounding hills. The city had only around 1,000 residents at that time, but that would quickly change in the coming decades. A thriving timber town, Seattle saw prosperous growth along the waterfront, and in 1887 the first cable car was built to connect downtown to First Hill ushering in an important era of transportation-related growth.[1]

In 1896 when miners struck gold in the Yukon, Seattle became the major supply hub for men on their way to look for gold. The rapid influx of wealth and related travel to and from the gold rush fueled the already hurried development patterns in Seattle. Many of the small clusters of buildings on the hills surrounding downtown quickly multiplied as cable and street car lines stretched throughout the hills around downtown (fig 1.1). Although the city had been platted decades earlier, it had not implemented zoning laws, city planning initiatives, and urban growth strategies. With a growing population to house, abundant timber resources, and a broad network of transportation routes in place, Seattle

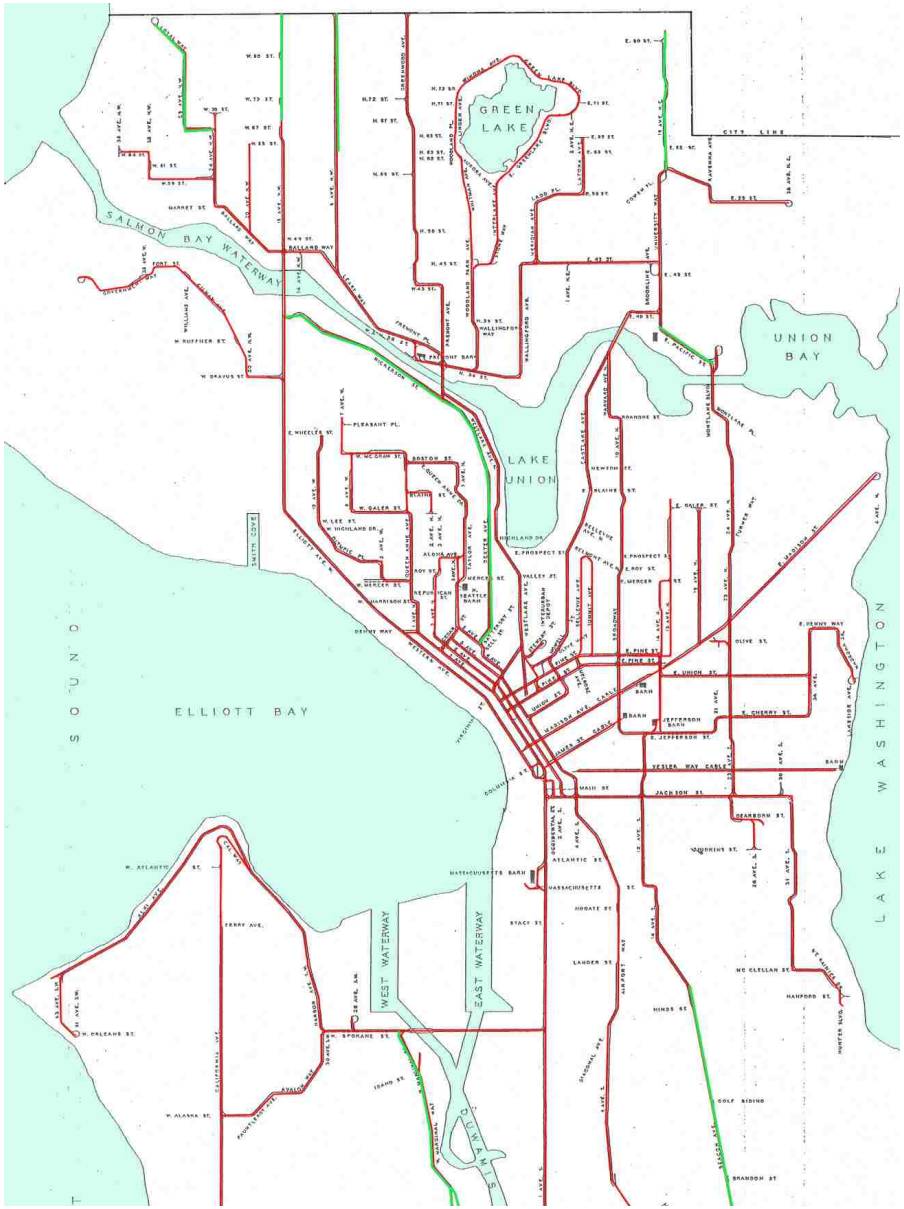

Figure 1.1: Seattle's Street Car System as of 1933. Red tracks were established by 1915.

experienced a proliferation of low-density, primarily single-family, wood-frame sprawl. Rather than a carefully conceived urban form, cable car stops defined the location of widely scattered neighborhood centers.[2] Throughout the early 20th century, these neighborhood centers were strengthened through the development of local social clubs, library branches, and schools. The boundaries formed by Seattle's hilly, hour-glass geography and its many waterways further strengthened these centers.

When cars gained ground as a primary means of transit and growth slowed, development of the street car system stagnated. Plagued by financial problems from the outset, the extensive streetcar system was finally sold to the city and decommissioned in the early 1940s. Buses and cars took over as the city's primary means of transit. However, the neighborhood centers and surrounding residential tracts that had been developed along street car lines were well-established. The character of these neighborhoods was similar in architectural scale and typology but varied greatly along, social, economic, and racial lines.[3]

Housing covenants, begun in Seattle in the 1910s, became common place after 1926 when the US Supreme Court ruled racial deed restrictions legal. Covenants, often enacted en masse by neighborhood organizations, were attachments to property deeds stating that in many cases said property could never be sold to a person of blood, lineage, or extraction of a long list of racial, cultural, and religious origins. Conveyances were often included to guarantee that properties in many neighborhoods could not be rented, leased, or transferred to these

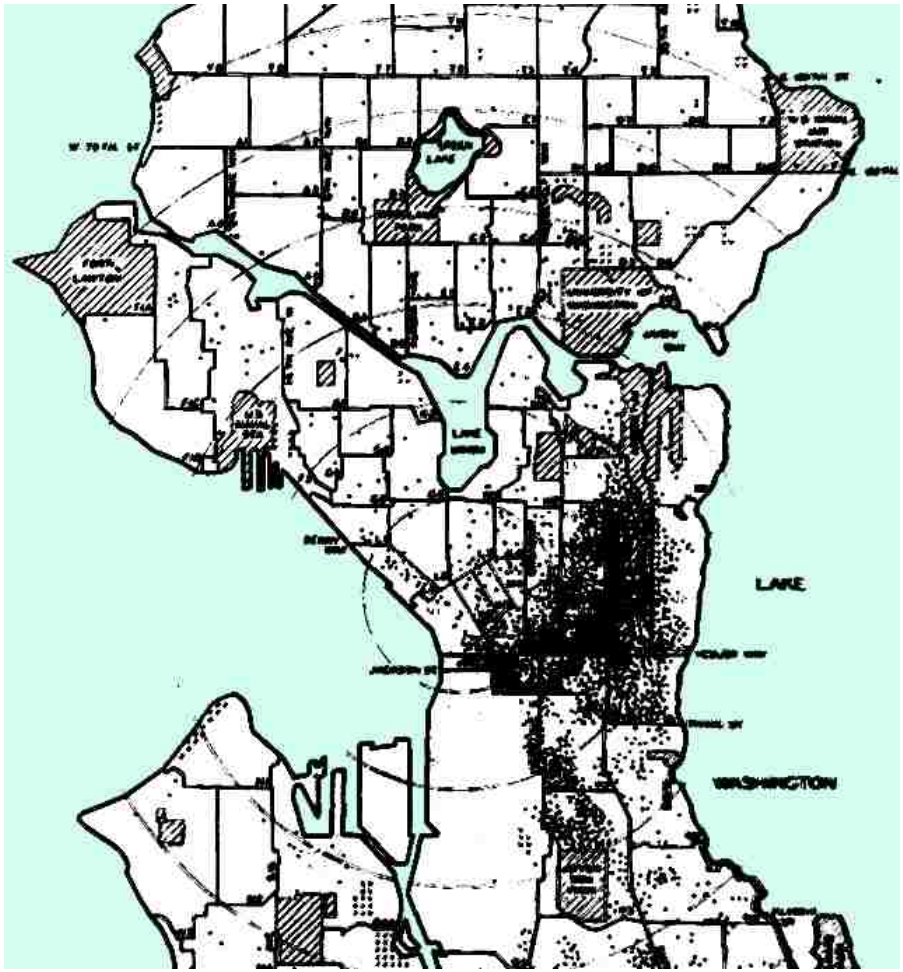

Figure 1.2: Dot map of Seattle's Minority Populations in 1960. Residents self identifying as black, Chinese, Phillipino, Japanese, and Native American are represented.

individuals. Other deeds specified that neighborhoods were reserved for whites and in one case for Aryans. This created decades of forced segregation of the city with whites occupying all but small areas of the University District and a tightly controlled cluster of neighborhoods in central and southeast Seattle (fig 1.2). Such covenants remained in effect in Seattle until the Supreme Court made them unenforceable in 1968, which was far longer than other parts of the country. Unlike the South, Seattle never expressly segregated its buses, schools, and public buildings, but neighborhood segregation was so strong that public facilities were highly segregated by default.[4]

Today a strong corollary exists in Seattle between low-income persons and racial minorities. Though historically education and employment discrimination played a major role, covenants were also partially to blame for this situation. American families built long-term wealth through home ownership. Because home ownership was restricted for racial minorities over a period of many years (and because their property was devalued through red-lining), these groups collectively have accrued less wealth than their white counterparts.[5] Even though covenants and related red-lining policies are no longer applicable, the lasting effect they have had on minority cultures is visible. Families of color in the Seattle are still less likely to own a home than their white counterparts and their homes are worth less on average than white families who have accumulated real-estate wealth over many generations.[6]

Further contributing to Seattle's segregated housing patterns is the lack of a reliable public transportation system. Until 2010, when Link Light Rail started service, the only city-wide public transportation system was the bus system, which is often criticized for inefficient service. The only other transportation option for most Seattleites is ownership of a car. This is a very costly means of transportation and creates city-wide problems with traffic congestion and parking that are only exacerbated by the all-too-common slick road conditions due to Seattle's climate. For many low- and middle-income citizens, car ownership is out of reach financially, leaving them at the whims of the bus system.[7] Unreliable public transit greatly restricts their access to cultural centers, public services such as high quality schools and healthcare, and job opportunities. When combined with rising housing costs (both rental and ownership), which have outpaced income increases, the average American family spends over 50 percent of its income on housing and transportation.[8] In Seattle, as elsewhere, this greatly limits the ability of low- and middle-income people to establish savings and job stability, work towards home ownership, and gain financial independence. Without these securities, low- and middle-income people are less likely to establish long term community ties and political power within the city.

These restrictions only act to reinforce the cycle of situational segregation and socio-economic oppression that has become the norm in Seattle. Light Rail is in the process of expansion and represents a significant opportunity for the city to find novel solutions for desegregation and density concerns by redefining its built character through new transit-oriented development typologies.

Endnotes

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Chapter Two: Current Challenges of Desegregation and Density

As Seattle rapidly grew and developed throughout the 20th century, a number of troubling characteristics became engrained in the city's identity. Rapid unregulated growth in the early part of the century led to sprawling, geographically isolated, low-density neighborhoods with strong individual identities. As neighborhoods began to organize themselves socially, they often enacted neighborhood-wide housing covenants to exclude racial, cultural, and religious minority groups from property ownership in large areas of the city. Furthermore, a lack of adequate public transportation restricted equal access to city services and amenities for low-income individuals.

Segregation in Seattle Today

Although in recent decades planning and zoning regulations have taken hold in Seattle, and housing covenants and redlining have been eliminated, the lingering effects of the low-density highly segregated past are still visible. Racial segregation is Seattle has been slowly diminishing,[1] but as seen is figure 2.1 Seattle is far from meaningful levels of integration. Additionally, the wealth divide in America seems to have a strong corollary with race. Racial minorities

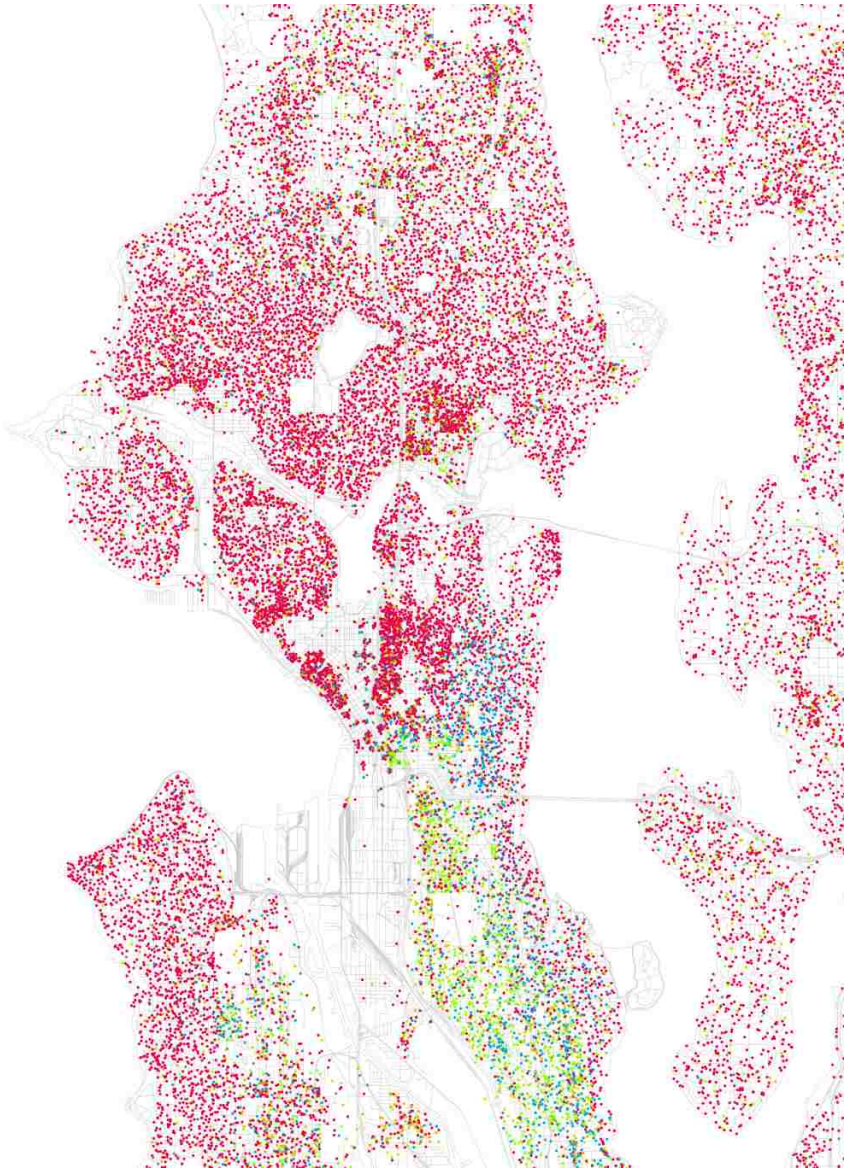

Figure 2.1: Racial segregation map based on 2000 Census. Each dot represents 25 people with red dots representing White individuals, blue representing Black, green representing Asian, and orange representing Hispanic individuals

make up the majority of persons living in poverty. In Seattle this divide is directly evident when comparing maps of racial group concentrations with maps showing median incomes (fig. 2.1; fig. 2.2).

Racial and socio-economic segregation is clearly present in Seattle, but why does it persist? A number of reasons for lasting segregation are often cited. Firstly, regardless of laws like the Fair Housing Act of 1968, and transparency in lending laws, people of color are still denied loans more often than whites of comparable income levels. Investors and developers often avoid neighborhoods with high concentrations of people of color, landlords often discriminate based on race,[2] and real estate agents engage in an increasing common practice of "steering" certain groups to certain areas.[3] Clearly overt bias perpetuates segregation. This type of discrimination within real estate practices leads to degradation of housing stock in low-income areas which drives property values down thus widening the economic divide between people of color and whites.[4]

A second reason often cited for segregation is preference. While this is in some ways true, I believe it is a short sighted view commonly put forward to attempt to minimize the realities of the problem. Iris Marion Young puts forward the theory that affinity grouping is not in and of itself a problem. All other factors being equal, our arguably natural preference to socialize with and live near people of similar cultural, racial, or religious background would not alone create the wealth divide and rampant discrimination present in America today. However Young points out that segregation as it exists today limits choice,

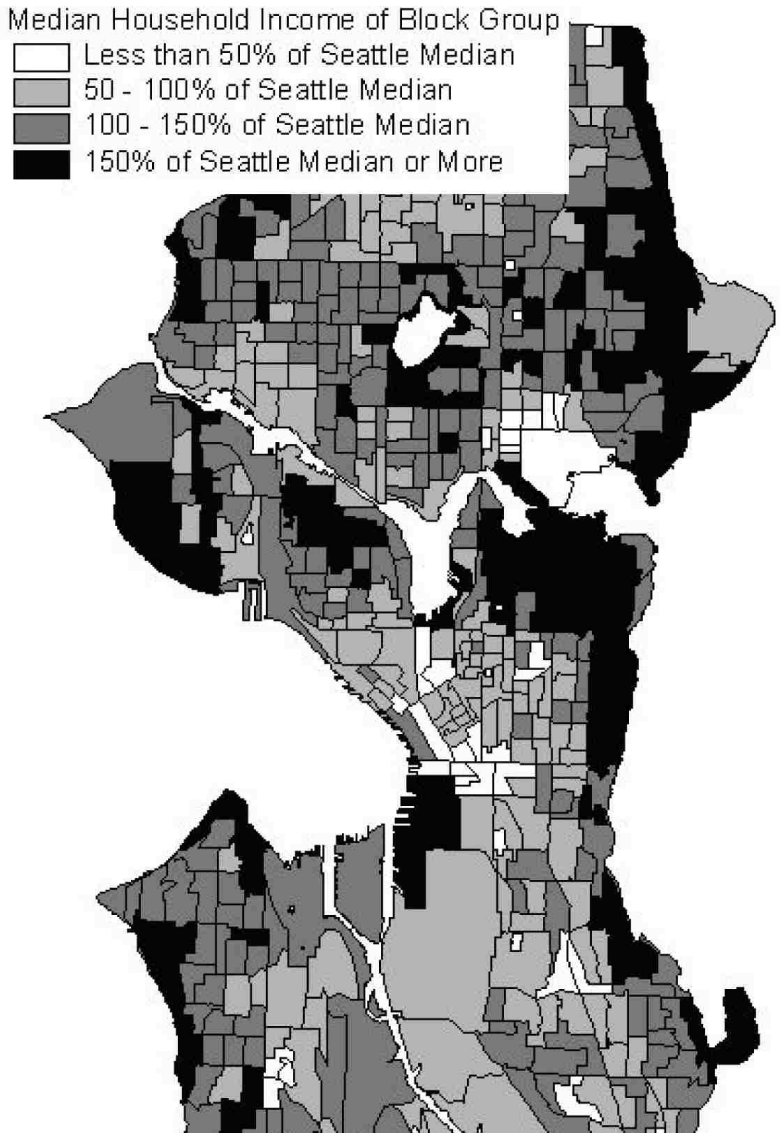

Figure 2.2: Median Household Income by Census Tract based on 2000 Census data.

reinforces advantages and disadvantages, and impedes equitable political power and discourse.[5] So although to some extent a preference for segregation exists amongst most racial, cultural, and religious groups, the reality of complete and large-scale segregation is undesirable and hugely oppressive to minority groups as it creates inequitable access to resources.

Thirdly a less frequently recognized contributor to segregation is the level of density. Jonathan Rothwell and Douglas Massey have shown that lower density areas have higher rates of segregation and the inverse of this idea holds true as well. Even after controlling for a wide variety of area characteristics, they showed that areas with higher maximum zoning limits have lower levels of racial segregation. Rothwell and Massey go on to theorize that the underlying mechanism for their findings is that restrictive zoning in white areas drives housing prices up thus limiting options for lower-income individuals, who are more likely to be of color.[6]

Although the causes of segregation can offer clear insights into solutions, it is important to look at what strategies are currently in place in Seattle to combat segregation. Although the city does not seem to have any initiatives in place to combat segregation specifically a number of efforts have taken place to deconcentrate low-income housing. For example, in 1978 the city adopted a plan for Scattered Site Housing. This program, still in effect today, works to acquire small properties throughout the city and convert them to low-income housing. This gives low-income individuals a wider variety of housing options

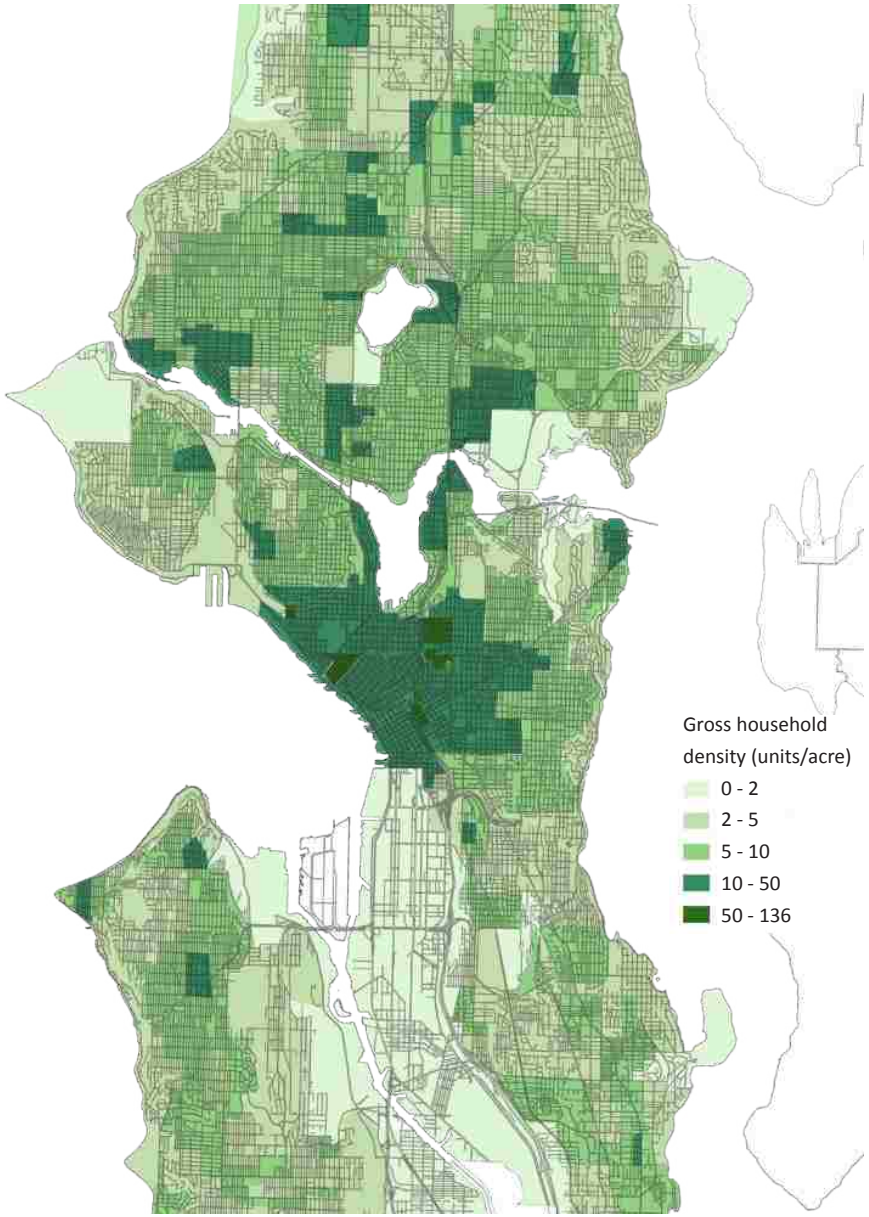

Figure 2.3: Seattle Housing Density 2010

and increases their access to better schools and public services. The city has also discouraged construction of low-income housing in low-income neighborhoods and channeled funds to rehabilitate existing low-income housing and social services, and it has supported civic improvements in low-income neighborhoods. Seattle has also developed four mixed-income projects through federal HOPE VI grants in an effort to deconcentrate poverty and the social ills that often plague low-income neighborhoods.[7] However, in all of these projects, white middle-income social norms have been adopted without consideration for the established preferences of the incoming tenants.

Density and NIMBY-ism in Seattle Today

With a population density of just over 6,700 people per square mile Seattle is a low-density city.[8] Often compared to San Francisco, Seattle is actually only about 40 percent as dense. While the city has been making efforts to increase density, a map of dwelling units indicating per acre occupancies suggests that small pockets of increased density will not be enough to turn the situation around (fig 2.3).

Seattle has recognized a variety of reasons to address growth and density including, increased diversity of housing options, environmental stewardship, community building, economic growth and stability, and greater social equity. To achieve goals consistent with these ideas, the city has enacted an Urban Village strategy. This strategy identifies four village categories in order to match the existing and proposed character of a variety of neighborhoods. Specifically these policies will channel development dollars to specific areas of the city to facilitate increased density, mix of uses, transit development and walkable communities and to discourage development along highway and non-pedestrian friendly thoroughfares where real estate cost are typically low.[9]

The Urban Village plan seems like a smart set of strategies that is sensitive to neighborhood needs and still achieves city-wide urbanism goals. How effective the plan has been is questionable. Seattle is still a very low-density city. Most citizens understand that to accommodate the projected growth of Seattle, the city needs to grow up not out, but proposals for growth anywhere near a typical Seattleite's home or community is routinely met with resistance.[10] NIMBY-ism, the term for describing opposition to development or "not in my back yard," is very strong in Seattle and 60 percent of the city is still zoned for single-family homes.[11]

Where increased neighborhood density and desegregation is concerned, NIMBY attitudes are most commonly based on unsubstantiated fears of decreased property values, increased crime, additional traffic and congestion, and construction of unattractive poorly managed buildings. However, each of these fears is in fact a myth. Property values have been shown to remain level, crime and other social ills do not follow low-income individuals into more affluent neighborhoods, traffic and parking can be solved when properly managed by the city, and ensuring that market-rate units are developed alongside low-income ones promotes high design and management standards.[12]

Endnotes

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Chapter Three: Toward a Solution; Dense, Diverse, Transit-oriented

Challenging Common Arguments and Strategies for Residential Desegregation

Arguably diverse cities are richer more robust environments, but what are the specific reasons to work against segregation? This chapter will first look at the reasons that are often cited by governmental agencies and policy makers. Then it will outline alternate ways to view the problem to arrive at a more rich set of proposals for why and how to diversify Seattle.

In the 20th century low-income housing and poverty became highly concentrated in many urban areas. As more affluent mostly white and some black people moved to the suburbs and industry followed them to less populous areas or to the Third World, impoverished people of color with the fewest choices were left behind in inner cities. Along with this concentration came a wide variety of other social ills including joblessness, crime, drug abuse, high dropout rates, and high rates of teen pregnancy. This phenomenon has been studied and has proven that there is a direct correlation between concentrated poverty and less positive outcomes for individuals. The inverse has also proven to be true. When poverty is deconcentrated social ills are also reduced or eliminated and individuals report healthier, more successful life outcomes. Despite disagreement on its benefits, many cities have adopted policies like Seattle's Scattered Site Housing project and Federal Section 8 vouchers. [1]

There is also a growing body of evidence that mixed-race and mixed-income neighborhoods provide more equitable access to safe, healthy environments with better schools, city services, and job opportunities. Furthermore, interactions of people with diverse backgrounds are said to lead to innovative thinking. Neighborhoods with a variety of income levels also contain more robust economic structures.[2]

While all of the above mentioned ideas are valid, they represent an outcomes-based understanding of the problem. Therefore, they miss some of the complexities of why segregation is wrong in the first place and consequently miss important aspects of how to eliminate it. As Joanna Duke states,

> "The underlying cause of segregation is not necessarily being addressed by mixed-income housing implementation. That is, attempts at economic integration do not seem to address the underlying discrimination, both race and class based, that has sustained neighborhood segregation."[3]

All of the above mentioned ideas are based around the fact that segregation limits choice. This is only the first facet of a powerful theory Iris Marion Young has formulated around issues of segregation.

Young explained that limiting choice is manifested in price, quality, and access disparities in housing choice between affluent whites and low-income people of color. Concentrated poverty in low-income neighborhoods leads to downward spiral of business failure and lack of maintenance of physical structures in low-income neighborhoods that leads to reduced access to amenities like stores, offices, and service businesses. At the same time, higher property values in affluent neighborhoods leads to active investment in businesses, which creates easier access to a variety of service and leisure businesses. Due to their greater political influence, affluent neighborhoods also often attract higher levels of investment from city agencies, which results in higher quality schools, infrastructure, and waste collection and emergency services.

Young went on to state that because this disparity leads to physical segregation it actually obscures its own existence. Because affluent whites are not exposed on a regular basis to the realities of suppressed economic situations, lack of services and amenities, and social ills like crime and joblessness, they view their privileged status as simply average. Without a point of comparison, affluent whites can view their lives and situations as normal.

In addition to economic, housing, and environmental privilege, Young argued that affluent whites control the majority of political power in segregated communities. Physical segregation and obfuscation of privilege impedes the creation of both physical and social space for active and equitable political discourse. Therefore as with all other forms of privilege, whites end up with the majority of political power.[4]

The conclusion that I draw from Young's ideas is that within her framework the point of desegregation would be to close the advantage gap in both physical and political realms. This reasoning of course implies that part of the reason to eliminate segregation is a deconcentration of poverty but that the complexity and therefore possible strategies for correcting the problem are far broader and more faceted than most policy makers wish to tackle.

Young put forward two possible solutions for addressing desegregation in her framework that loosely relate to commonly accepted strategies but again offer a richer and more realistic understanding of possible outcomes.

Young's first strategy is integration, a common strategy in many cities including Seattle and typically manifests as dispersed housing or mixed-income housing projects. Scholars often cite the expected outcomes of mixed-income housing

from a position of privilege. All too often middle- and upper-class white social norms are imposed on all residents of mixed-income developments. Judging the outcomes of these places on this basis seems extremely disrespectful and judgmental of varied sets of social norms and implies that affluent individuals are advantaged simply because their social norms are somehow superior. Scholars claim that "the behavior patterns of some lower income residents will be altered by emulating those of their higher income neighbors . . . Nonworking low-income tenants will find their way into the workplace in greater numbers because of the social norms of their new environment." In addition, "the crime rate will fall because the higher income households will demand a stricter and better enforced set of ground rules for the community."[5] Young would argue that these types of assumptions are a strong case against mixed-income development in affluent neighborhoods because it continues to unfairly burden already oppressed low-income and minority individuals.

Young went on to argue that the goal of most integration efforts is mixing. This misses the point that the desegregation should be about the elimination of the cycle of privilege and deprivation. Mixing strategies establish the ultimate goal as one of assimilation rather than integration.[6] The mixing goal also sheds a negative light on voluntary clustering. It is human nature for individuals to want to interact with and live near people with whom they share some common background, cultural ideal or set of social norms. Young posited that clustering in and of itself is not wrong as long as it does not lead to exclusionary practices. Furthermore, clustering can be an important generator of self-esteem, cultural identity and social and political clout.[7]

Joanna Duke argues for a similar recognition of social and cultural difference. She states that the assumption of mixed-income housing promoters is that the benefit that low-income people will receive by gaining access to affluent social constructs is the key metric for success. However, maintenance of cultural attributes, access to political space and avenues to affect change in their new communities are almost always overlooked.[8]

Young summarized the importance of respect for diverse social norms and the benefits of clustering in her "together in difference" theory. At the heart of this theory is the following:

> "The social and political idea of together-in-difference assumes segregation is wrong, but that social group differentiation and relative separation are not wrong."[9]

Here Young proposes a second, completely different focus for solving the problem of segregation. Instead of assuming the maximum benefit will be reached through integration, instead she proposes that the political power balance should be equalized and that disparate groups should strive for recognition of one another rather than just tolerance. Recognition implies understanding, respect, and active engagement while tolerance suggests mutual indifference.[10] Young seems to conclude that together-in-difference ideals applied to policy would result in movement of resources to low-income people rather than people to resources to reduce the impacts of poverty while giving low-income

individuals more agency in their housing decisions. She also argues that none of this will be possible or sustainable without equitable political discourse.[11]

Both strategies, moving people to resources and resources to people are currently in place in Seattle. However, the problem of large-scale segregation persists and there seems to be an inequitable distribution of political power. Young's ideas make a great deal of sense, but she falls short of offering concrete suggestions for enacting change. I believe that creating an equitable power balance will not be possible without exposing the privilege-deprivation gap to the affluent ruling class. Therefore, there is a need for Young's ideas of together-in-difference to be applied at a micro scale within mixed-income housing developments. Within such a development, there would be equitable access to housing, services, and educational opportunities while recognizing that the basic economic situations of residents are not easily or quickly changed. An emphasis therefore would be placed on recognition of and respect for differences rather than expectations that lower-income individuals will suddenly become upwardly mobile and adopt middle- and upper-class white norms. While many of these goals could be achieved through social programs, novel architectural space, place making and spatial relationships are needed to facilitate these objectives.

Mixed-income housing as a microcosm of together-in-difference

To break the cycle of privilege and deprivation, Young argues that the privileged class needs to be exposed to and educated about the realities of the deprived class and the social and cultural norms of the minority groups that make up this class. Although this approach typically burdens the lower-class it seems to be the most expeditious way to expose and therefore begin to break the privilege/deprivation cycle. Furthermore with carefully planned spaces, spatial relationships, and tenant education much of the burden on low-income residents can be alleviated. Therefore this thesis is proposing mixed-income development in affluent neighborhoods. The most effective way for the affluent to gain an understanding of their privilege is to interact on a regular basis with the deprived class. Of course there is reason to believe that this is not as easy as simply having people live together. There do not seem to be examples of a mixed-income development where social mixing and neighboring happened in a significant way between low-income and market-rate tenants. While this is certainly worrisome, some minor modifications in metrics of success, spatial organization, and programming can significantly affect these outcomes.

Many mixed-income developments are strictly managed. Potential tenants are carefully screened, and strict rules governing social norms are enforced. In many of these developments the fact that they are mixed-income is completely concealed from market-rate tenants. Hiding this fact suggests that many of the strict rules are congruent with the social norms of the market-rate tenants. Units are also commonly mixed in a way to discourage clustering. When clustering does happen it is viewed as a point of failure within these developments.[12]

This thesis proposes that clustering be allowed if not encouraged. Rather than demanding strict adherence to a preconceived set of social norms, tenants

should be educated about cultural differences and recognition and respect for varied social norms. Architecturally this can be facilitated through small groupings of units, that residents select into, where neighboring can happen more naturally. When affinity groups are allowed to cluster, an atmosphere of respect can develop because low-income tenants will be less likely to feel the pressure to change their daily patterns or social norms while also adapting to a new type of neighborhood. The establishment of this type of living arrangement would be at risk of reinforcing segregation so programming for mixing, in the form of both formal and informal small and large public spaces, also needs to be in place.

An opportunity for meaningful mixing can also be facilitated by demographic mix. Children tend to form affinity groups along race lines, but do not associate negative feelings with children of other racial backgrounds until after the age of 10. Furthermore research has shown that when children below this age are encouraged to teach things to and learn things from kids of a different race than themselves affinity grouping is dramatically reduced.[13] Accommodating family occupancy by all income groups would be essential for this type of bias prevention to take place. Friendship bonding between children could facilitate mixing between parents as well. Additionally, although it is best to eliminate the chance of bias formation, the teacher-student model for reducing bias can be a powerful one for adults as well. If opportunities where provided for tenants to learn from one another meaningful mixing would be more likely to occur.

Locating mixed-income development in affluent neighborhoods would mean that low-income tenants still gain access to better schools, a wider variety of economic opportunities, and better cultural and social services. Layering the principles of together-in-difference and clustering acceptance onto typical mixed-income housing could lead to greater chances for meaningful mixing between tenants from various backgrounds because the perpetuation of the affluent tenants as ruling class could be eliminated. One more layer of principles could also be added to enhance all of the positive outcomes of this type of development. Transit-oriented Development (TOD) and mixed-income, mixed-use projects are mutually beneficial forms of development.[14]

Symbiotic Nature of TOD and Mixed-Income Housing

Seattle is facing a significant opportunity for redefining its built character. The construction of Link Light Rail throughout the city is opening up large opportunities for TOD. The adjacency of development to light rail stations magnifies its potential impact on the character of neighborhoods. Unfortunately the high cost of development near transit often means the resulting projects cater exclusively to affluent people and often leads to gentrification of previously low-income or diverse neighborhoods. However, policy makers are recognizing that TOD can address some of the goals of mixed-income housing and vice versa.[15]

When mixed-income housing is located near transit, housing becomes truly affordable. The average American family with limited access to public transit spends close to 20 percent of its household income on transportation. This

figure will increase as gas prices rise. This expense can be reduced by more than 50 percent when housing is located near transit. This puts more money in the pockets of low-income families, which can directly reduce their dependence on subsidies. Low-income individuals are also less likely to depend on cars than affluent individuals when transit is an option. This helps stabilize transit ridership. Access to transit also extends access to job opportunities for individuals who may have previously been stranded in their home neighborhoods by a lack of adequate transit. Finally mixed-income development reduces the chances of gentrification near stations.[16]

Because of the mutually beneficial nature of TOD and mixed-income development, this thesis proposes that this type of housing be located near transit in Seattle. It also appears that neighborhoods are not as resistant to density near transit. This creates an opportunity to challenge misguided assumptions about negative impacts of density. The reality is that density has little measurable effect on property values, proper planning can stabilize parking and congestion, crime does not rise significantly, and mixed-income and mixed-use development encourages higher design and management standards.[17] Furthermore, research has shown that TOD raises property values by as much as 30 percent, provides more eyes on the street and extended hours of street life, which reduces instances of crime and dramatically reduces necessity for cars thus reducing traffic and parking concerns.[18]

Endnotes

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Chapter Four: Site Analysis

A site has been selected within the Roosevelt neighborhood of Seattle. While somewhat typical of many of Seattle's northern neighborhoods, Roosevelt has some unique characteristics that make it a good fit for the project. While similar to surrounding neighborhoods in that it has a small commercial core surrounded by primarily single-family dwellings, Roosevelt is uniquely positioned to have access to I-5 at two points and also contains major arterial streets in both north-south and east-west directions. This makes it a hub of traffic from surrounding neighborhoods. These characteristics, along with its alignment with other key locations, make Roosevelt an easy fit for a future Light Rail station.

Identified as an "urban village," Roosevelt has zoning in place for a medium density commercial core, but many properties in this zone are still only one to two stories. A light rail station is slated to open in this neighborhood in 2021.[1] Clearly, the city sees Roosevelt as a growth-ready environment. Surrounding the commercial core is some low to mid density multi-family housing and rental properties, but the primary typology of the neighborhood is single-family homes built between the world wars and occupied by long term owners.

Roosevelt's commercial core has seen low turnover even in hard economic

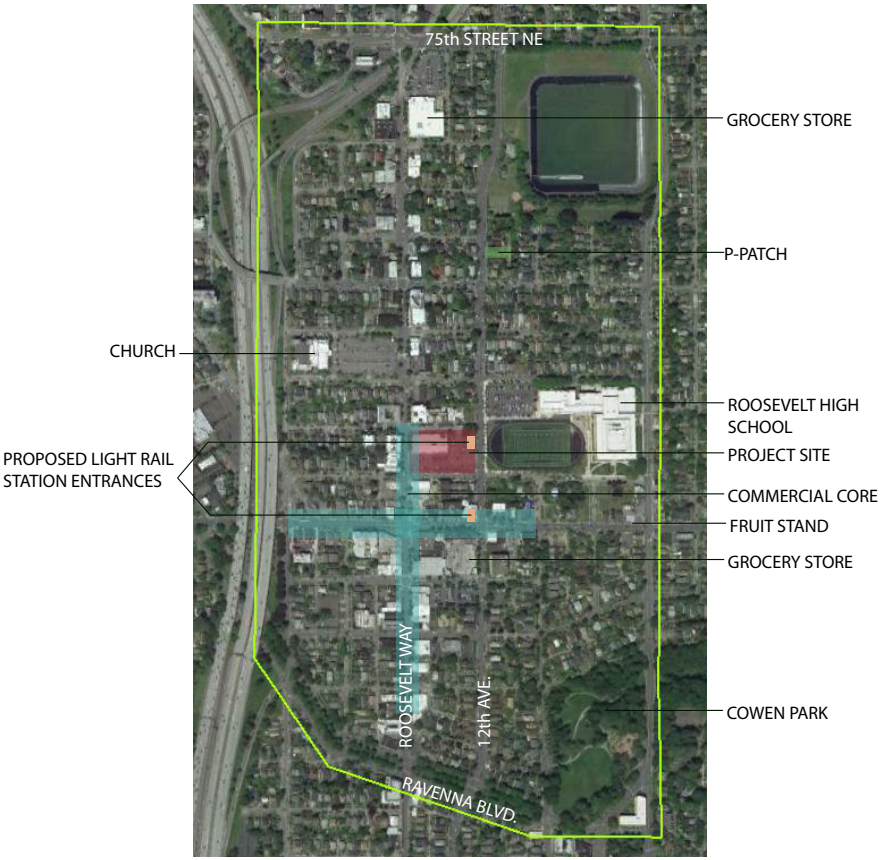

Figure 4.1: Roosevelt neighborhood, amenities, commercial core, and project site.

times, but is still not a very active area of the city primarily because it is a place that arterials pass through rather than a destination for anyone living outside the neighborhood. Mixed-use TOD in the neighborhood can attract a wider variety of people and new and interesting cultural and commercial enterprises.

History of Roosevelt Neighborhood

By the turn of the 20th century Roosevelt was still largely undeveloped. At its South West corner ran a street car line to bring people to Ravenna Park and the adjacent ravine. In 1903 Ravenna Boulevard was constructed and the creek running from Green Lake to the ravine was buried beneath it. The area of preserved wilderness in the ravine became a popular attraction during the Alaska Yukon Pacific exhibition in 1906 and the same year Charles Cowan bought a large area of what is now the Roosevelt neighborhood at the west end of the ravine. The following year he donated eight acres of this land to the city to form what is now Cowen Park[2].

Although it was still considered rural countryside by many Seattleites, the Roosevelt area developed rapidly following WWI. By the late 1930's many of the houses that stand today were built. When I-5 was built in 1919 it defined the Western boundary of the neighborhood. In 1922 Roosevelt High school opened and by 1927 the school was forced to expand. In 1928 a Sears department store opened at the corner of 12th Ave. and 65th St. as the anchor of what is still today the commercial core of the neighborhood[3].

Figure 4.2: Roosevelt High School

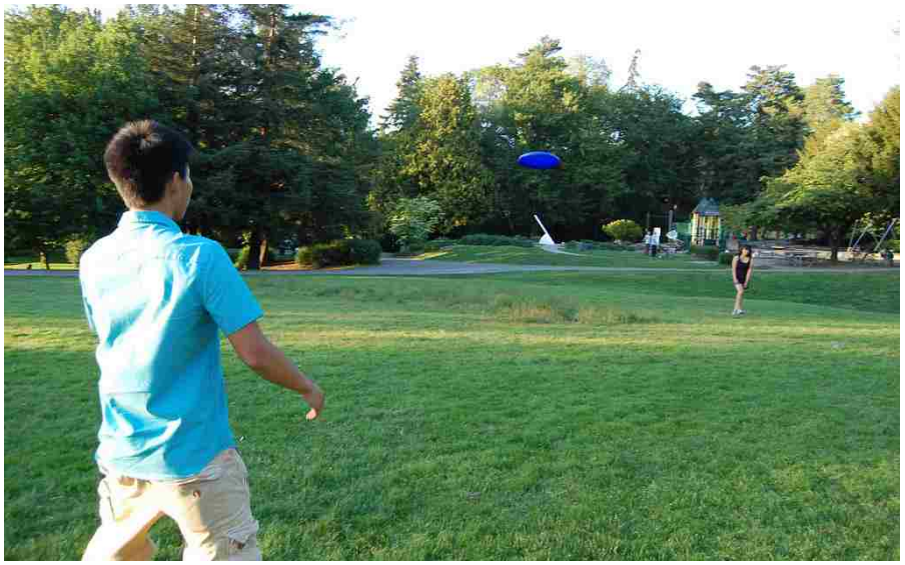

Figure 4.3: Cowen Park

The Roosevelt Neighborhood in Context: Surrounding Neighborhoods

At Roosevelt's Southern border lays the University District. Made up of a mix of single-family homes, mid-rise apartment buildings, and a large commercial zone, the U District houses a wide variety of people and activities. Of course it is also home to the University of Washington (UW) which hosts as many as 80,000 students, faculty, and staff on any given day. Architecturally there is a wide variety of building types and scales dating as far back as the early 20th century. This neighborhood also contains a number of schools, churches, a hospital, a library, homeless and youth services, and varied commercial, restaurant and grocery businesses. Notably it also contains three of the few high rises north of downtown. One is the administration tower owned by UW that is a recognizable landmark for miles around while the other two, an apartment building and a hotel, fade more effectively into the fabric of the surrounding neighborhood.

At Roosevelt's other edges lay the Green Lake neighborhood to the west across I-5, Maple Leaf to the North and Ravenna to the East. Each of these neighborhoods is similar to Roosevelt in the sense that they are primarily residential neighborhoods with small commercial cores. At the same time each has a unique character, like most neighborhoods in Seattle. These neighborhoods seem to have in common a highly desirable residential, almost suburban, atmosphere with all of the amenities of city living.

Although the Roosevelt neighborhood contains a number of amenities it is not at this time a significant destination neighborhood for residents of other parts of Seattle. As previously described, it acts as a hub for access to I-5, park a major park-and-ride lot for commuters and an arterial pass through. For neighborhood residents of course it is a home base that offers many typical city amenities.

Neighborhood Character and Amenities

Roosevelt lies to the east of I-5 and is bordered by 15th Avenue NE to the east, Ravenna Boulevard to the south and 75th Street to the north. Both Ravenna and 75th are key points of access to I-5 for Roosevelt and surrounding neighborhoods. The neighborhood can also be accessed by the rest of the city via bus routes 48, 64, 66, 71, 72, 73, 76, and 79.

The most notable landmark in the neighborhood is Roosevelt High School. The only other officially designated historic landmark is the Cowen Park Bridge on 15th Ave that lies at the Eastern border of the neighborhood. There are no other notable landmarks in the neighborhood.

The neighborhood contains three parks. Cowen at the South East end of the neighborhood is a popular gathering, recreation and play place for local residents. It also lies at the west end of the Ravenna ravine which is a popular hiking, biking, running and live action role playing location for local residents. Froula Park, to the North, contains a small playground and tennis courts and lies in the open space surrounding Green Lake Reservoir. The third park is Rainbow Point which is a pocket park abutting I-5 with views of downtown to the South. The neighborhood is also home to a 10-doctor family medical practice associated

with Swedish Hospital, a large Christian Assembly church, and a large park-and-ride lot under I-5 that caters to commuters heading downtown and to the east side of Lake Washington.

The commercial core of the neighborhood that stretches 2 to 5 blocks in each direction from the intersection of Roosevelt Avenue and 65th Street contains a variety of bars and restaurants, as well as a wide variety of retail stores offering everything from appliances to consignment clothing to high end audio equipment. The retail core occupies a variety of building types. Most are no more than 2 stories and are a combination of old and new structures including contemporary shopping center style developments, old repurposed wood houses and ground floor retail in apartment buildings. Scattered throughout the retail zone are a number of Eastern medicine learning centers, practitioners and alternative bookstores.

The neighborhood also contains 3 grocery stores that represent a wide range of price points. One of these stores is to be demolished for Light Rail construction staging and future TOD. The neighborhood also houses a popular fruit stand that offers a wide variety of produce at very low prices. Housed within one of the neighborhood's vegetarian restaurants is a small natural foods shop, and the neighborhood also has a p-patch with 30 plots available to local residents.

Neighborhood Demographics

While it was difficult to find demographic information that could accurately

Figure 4.4: Roosevelt Commercial Core

Figure 4.5: Typical Residential Street in Roosevelt Neighborhood

describe the racial characteristics of the neighborhood, figures 2.1 and 2.2 illustrate that the neighborhood is predominately white. The city has compiled some census data, from the 2000 census, for the Roosevelt Urban Village that shows that over 71 percent of the neighborhood's 1,400 housing units were detached single family homes and that almost 95 percent of these units were owner occupied. Almost 72 percent of neighborhood residents had achieved a bachelor's degree or higher whereas nationwide that figure was below 25 percent. The median household income was $67,040 which was 33 percent higher than the city-wide median. All of these figures lead me to conclude that Roosevelt is a highly educated middle- to upper-middle class white neighborhood dominated by single-family home owners[4].

Although the neighborhood seems to fit the mold of a well-established affluent white neighborhood, it is not such a one dimensional place as other surrounding neighborhoods are. In addition to the vocal and active long term owners, there are a large number of renters in the neighborhood. Many of these renters are college students or recent college graduates. Additionally at the heart of the neighborhood is a large area of undeveloped and underdeveloped commercial property. Along with the Light Rail plans, this demographic mix and development opportunity make Roosevelt uniquely appropriate as a testing ground for novel mixed-income and mixed-use development.

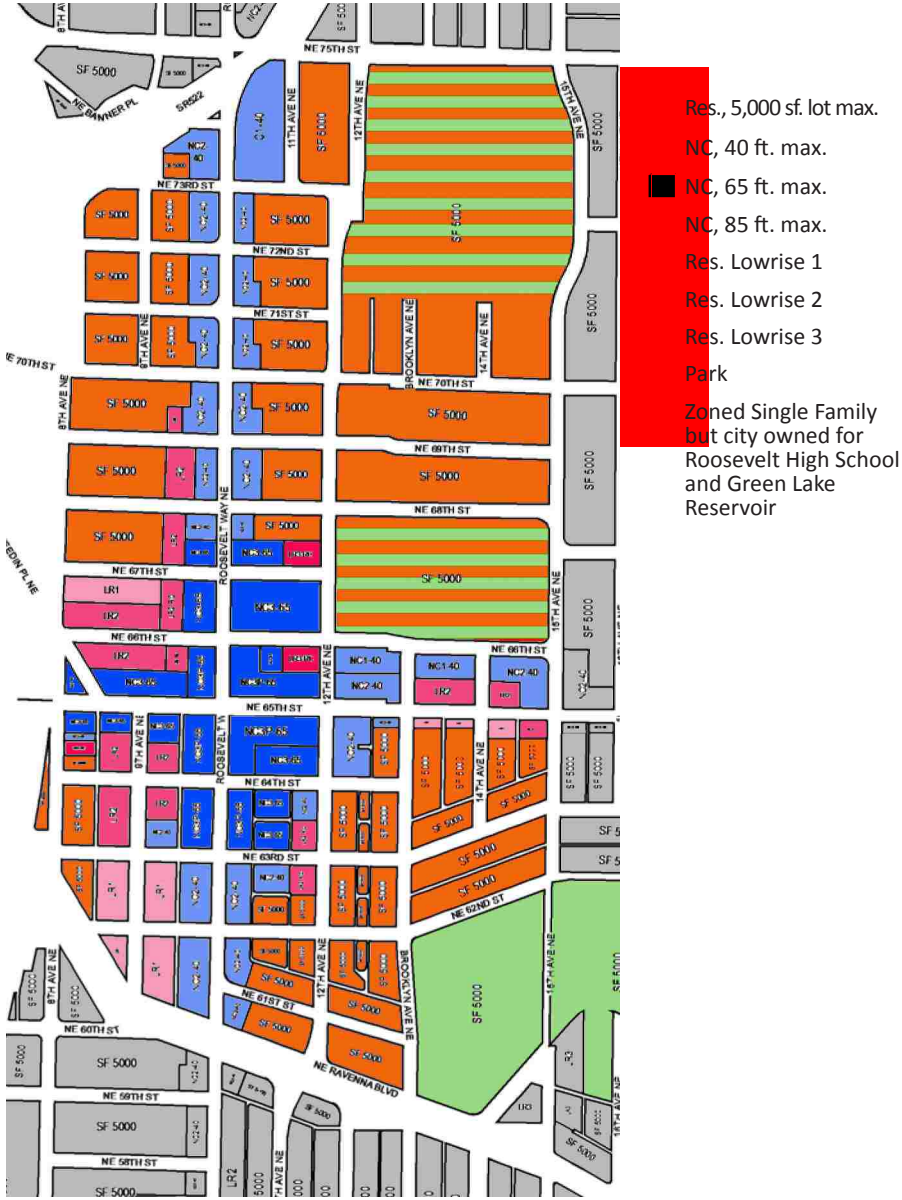

Figure 4.6: Zoning for Roosevelt neighborhood as of August 2011.

Zoning

Currently the neighborhood is zoned to accommodate single family residences

at its outer edges and move towards higher densities and mixed use at its core. The tallest zoning presently represented in the neighborhood is a T-shaped are stretching east from I-5 along 65th Street to 12th Avenue and continuing north and south along 12th for 2-3 blocks in each direction. The neighborhood also contains a substantial amount of 40-foot commercial or mixed use zoning and some swaths of low-rise housing mostly located between Roosevelt Avenue and I-5[5] (fig 4.6). However, there is currently a very active debate going on within the neighborhood about a forthcoming rezone. While local developers and density advocacy groups are pushing for some areas of dramatically higher zoning, local residents including the neighborhood council are demanding more conservative changes that would provide increased height in areas immediately adjacent to future light rail stops but keep the rest of the neighborhood plan basically the same.

In July 2011 Mayor Michael McGinn released a report about the neighborhood which included his recommendations for revised zoning. His plan represents a compromise between local residents and developers. The final decision will be in the hands of the city council. I feel that the mayor's proposed compromise is an appropriate one for all parties. Developers would get a bit of an up-zone which will hopefully move them towards development of dilapidated properties that currently blight the neighborhood. Residents would lose very little single-family housing and would also avoid the extreme scenario of towers lining 65th Street in the 120-foot zoning area that developers had called for. The most significant effects of the Mayor's plan would be a 2-block zone of 85-foot mixed-

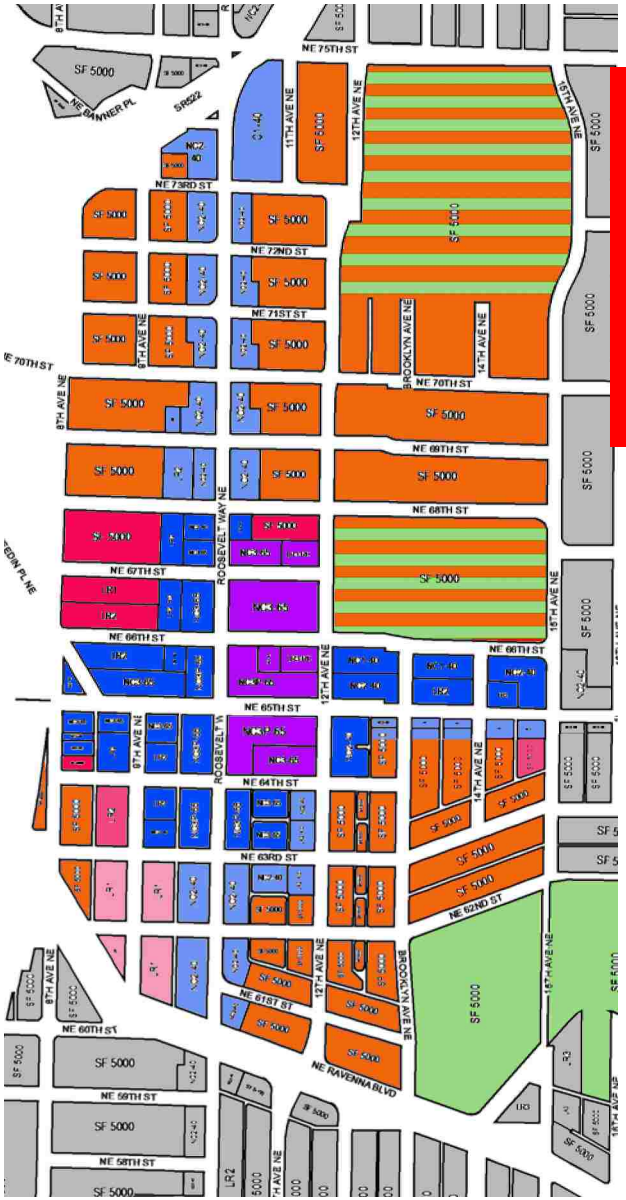

Figure 4.7 Mayor McGinn's proposed rezone for Roosevelt.

use commercial zoning adjacent to light rail and 65-foot zoning extending east on 65th Street.[6] (fig 4.7) This all seems appropriate in order to reach density levels needed to support environmental and density initiatives surrounding light rail development.

Project Site

The project site is bordered by Roosevelt Avenue to the west, 12th Avenue to the East, 66th Street to the south and 67th Street to the north. Within the current city sidewalks to site is 350 feet in the east west direction by 200 feet north to south. Under current zoning, the maximum floor area ratio for the site is 4.75 and with the recommended upzone the maximum FAR would be 5.8. Currently this site contains a single story grocery store surrounded by a parking lot. The north, west, and south sides of the site are surrounded by multi-family housing. To the east is Roosevelt High School's playfield and the school itself. (fig 4.8)

The existing building on the site will be demolished to act as a staging area for the construction of the Roosevelt Link Light Rail station. A station entrance will be built at the East end of the block. The city plans to sell the remainder of the block to private developers for TOD. This makes the site an ideal fit for the proposed project. Often one of the key critiques of subsidized and low-income housing development and redevelopment is that residents are displaced so that the site can be razed and rebuilt. This site represents a zero displacement opportunity.

The site itself slopes substantially from its high point at the north east corner to its low point; a full twenty feet lower at the south west corner. While this slope sounds substantial the site appears much flatter in person due in part to existing retaining walls along the southern edge of the block.

Traffic on the east to west streets, 66th and 67th, is two way, while the avenues to the east and west each run one way. Roosevelt Way to the west is a south bound arterial running from Northgate Way to the north all the way to the University Bridge to the south where it joins with 11th Avenue to make Eastlake Way. One bus route runs south on Roosevelt and six lines run north on 12th Ave. All of these busses stop within two blocks of the site.

The current zoning for the block is NC3-65. This indicates a large pedestrian-friendly mixed-use zone that contains a variety of businesses and housing compatible with the neighborhood. The "65" designation indicates a building height maximum of sixty-five feet. Both the neighborhood council and the mayor are suggesting this block be rezoned to NC3P-85. This indicates the same type of commercial and residential mixed use but ups the height limit to eighty-five feet.

The primary goal of this thesis is to find effective ways for architecture and space planning to positively impact the way in which diverse socio-economic and racial groups interact. This site is an ideal testing ground, being in a racially and socio-economically homogenous neighborhood that has the potential to be transformed by transit. When the light rail station becomes a reality the character and demographics of the neighborhood may shift substantially.

In other words, it is a neighborhood facing the realities of rapid growth and increasing density which could experience a large influx of widely varying groups of potential renters and buyers in a short period of time.

Figure 4.8: Project site as seen from south west corner of Roosevelt Way and 66th Street NE.

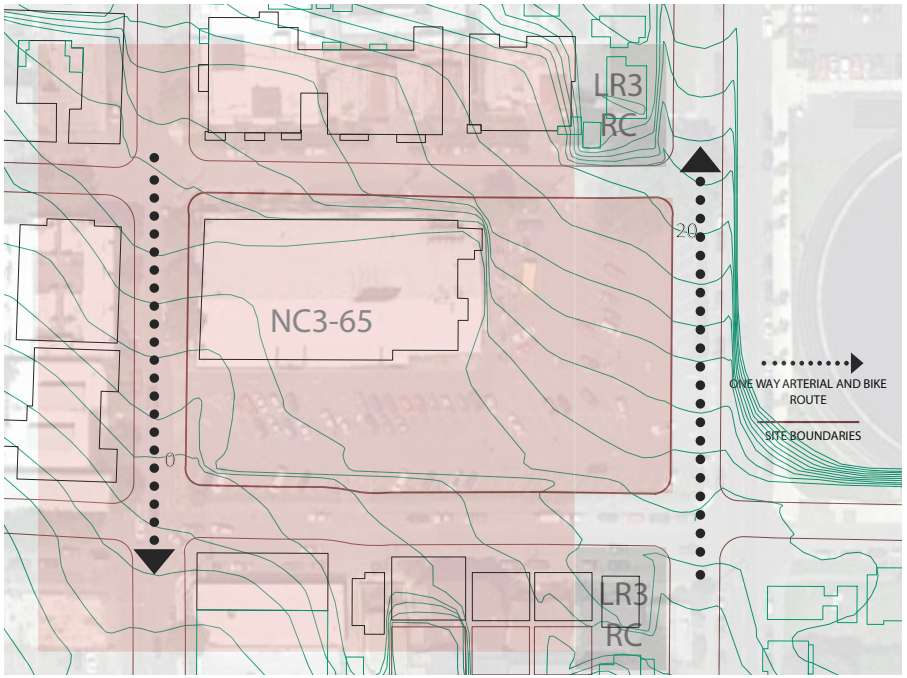

Figure 4.9: Project Site showing current zoning and traffic direction.

Endnotes

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2. David Wilma. "Seattle Neighborhoods: Ravenna - Roosevelt -- Thumbnail History." *History Link.org*. 20 Aug. 2001. Web. <http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=3502>.

3. "Roosevelt, Seattle." *Wikipedia, the Free Encyclopedia*. 17 Aug. 2011. Web. 19 Aug. 2011. <http://en.wikipedia.org/wiki/Roosevelt,_Seattle>.

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Chapter Five: Case Studies

A wide variety of case studies were explored to highlight issues that are relevant to the problems addressed in this thesis and that have direct influence on the program. The case studies also include projects that are related to the intended architectural character, the mixed income and mixed use functions envisioned, and the preferred site responses.

Chatham Square: Alexandria, Virginia

Like many recent mixed-income developments, Chatham Square was developed to replace low quality, low density, low-income housing in historic Alexandria, Virginia. Because of strict design standards (fig 5.1), the designers of this development had to come up with a creative solution to integrate the new development into the surrounding historic neighborhood. This was achieved by creating a back-to-back model where market rate units are laid out as traditional town homes while the courtyard units are low income rentals apartments arranged behind facades that mimic the town home model. [1] (fig 5.2)

This case study is relevant because it represents an excellent example of non-discriminatory design. Rather than designing different types of units at

Figure 5.1: Chatham Square street facades

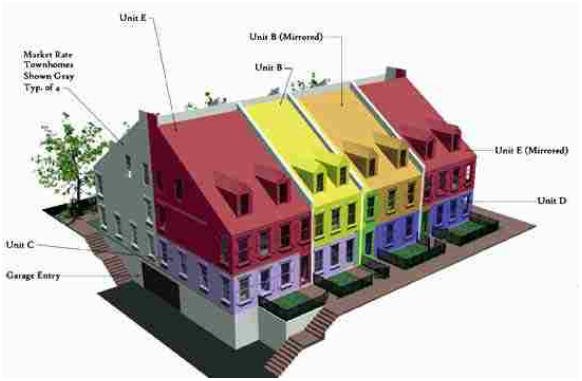


Figure 5.2: Chatham Square space planning diagram showing back to back arrangement of town homes and rental apartments.

different quality levels or distinguishing low-income from market rate through scale or building type, Chatham Square makes it impossible for both the public and residents to visually determine which units are designated for which type of tenant. This is an important design principle to employ in mixed-income developments because it works towards erasing snap judgments or unfair biases for tenants, surrounding neighborhood residents and the public.

Alley 24: Seattle, Washington

Alley 24 is a mixed use development in the South Lake Union neighborhood of Seattle. It was designed by NBBJ and occupies an entire city block. It contains 172 apartments and ground level town homes, two restaurants, 185,000 square feet of commercial space and 23,000 square feet of ground level retail. Interestingly, rather than stacking functions like many Seattle developments the block is divided into residential and commercial quadrants by two intersecting mid-block pedestrian pathways. This planning idea takes advantage of Seattle's large standard block size to create a grid within the grid. [2] (fig 5.3)

Alley 24's through block public spaces are an appealing model. On the project site there is a need to maintain a feeling of connection between the high school and the Roosevelt Avenue retail zone. A through block pedestrian friendly public zone, like the highly successful one at Alley 24, could achieve this goal. The development as a whole also stands as a strong example of density and a rough outline for gross programmatic areas.

Figure 5.3 Alley 24 aerial view showing split rather than stacked site usage.

Figure 5.4 High Point typical streetscape

High Point: Seattle, Washington

The High Point neighborhood was originally developed as government housing during WWII and remained predominately low-income housing through the 1990s. As the original buildings increasingly fell into disrepair many of them were torn down. Very few public services and transportation options were available to residents there exacerbating many of the discriminatory practices and social ills often found in very low-income areas.

In 2003 the city applied an HOPE IV grant towards a six year multiphase redevelopment plan for the neighborhood. Now complete, this project has been widely praised as a model for participatory design, affordable environmentally sustainable design, and low- and middle-income housing quality and models for ownership. (fig 5.4)

This development is particularly relevant because it represents what is viewed as the gold standard for mixed income development. While the redevelopment is a vast improvement over what remained of the original neighborhood, the measures of success are set through a lens of privilege. There is little discussion of the hardship of the tenants who were displaced for redevelopment, whether or not the income and demographic mix represented meets the most urgent needs of the city's low- and middle-income populations, and what the ongoing needs of these populations are. Instead the development model and management was largely transferred to private interests, as is common with HOPE IV projects. And although there are certainly tenants who can benefit from the rent-to-own model that is in place at High Point, there are and will be tenants who cannot or prefer not to become homeowners. Over time it is possible that the entire development could become owner occupied thus shutting out a large population of Seattleites in need of affordable rental opportunities.[3]

Although the design work will be focused of architectural concerns, High Point stands as an important case study on institutionalized bias towards home ownership and middle- and upper-class ideas of property ownership as proxy for political and special rights and power. This thesis hopes to take these issues into account by providing a diverse set of unit types and financing options to suit the current and ongoing needs of a wide variety of Seattle residents.

Endnotes

1. Jon Zirkle. "Chatham Square." *Congress for the New Urbanism*. 3 Aug. 2007. Web. 17 Apr. 2011. <http://www.cnu.org/node/875>.

2. Claire Enlow. "Alley24." *ULI-Development Case Studies*. Fall 2007. Web. 06 April 2011. <http://casestudies.uli.org/CaseStudies/C037020.htm>.

3. Sutton and Kemp. pg.47.

Chapter Six: Program

The design portion of this thesis will address the development of the entire block outlined in the site analysis. The current plan for the light rail station shows that the entire east end of the block is to be occupied by a single-story station entrance. This model has met with resistance from neighborhood residents who would like to see more retail or commercial activities incorporated into the station design. Therefore the east end of the block will be treated as a blank slate and all options relating to station entrances will be considered. However, a substantial amount of time will not be devoted to designing a light rail station as that is not the focus of this thesis. Instead it will focus on how the flow of riders in and out of the station relates to and affects other spaces on the site as transit access is important.

As outlined in earlier chapters it is important to develop mixed-income housing models that do not conform to middle- and upper-class white norms and increases density in the Roosevelt neighborhood without significant resistance from local residents. But how can spatial relationships and architectural interventions accomplish these goals?

First this thesis proposes that the block be broken down into a finer scale by a major pedestrian throughway that connect Roosevelt High School and the light rail station entrance to the heart of the commercial zone on Roosevelt Avenue (fig 6.1). In addition to providing physical connections splitting the block will

Figure 6.1: Cross Block Pedestrian Path

help to prevent the development from feeling blocky and bulky thus reducing the appearance of high density.

Second, the residential portion of the project will be split into small clusters of housing units that are arranged to have entrances facing one another around a common open space (fig. 6.2). These spaces will be relatively private so that residents of each cluster may feel a sense of collective ownership over these spaces. Having units face these spaces will increase opportunities for neighboring as there will be visual and physical connections among units. Each cluster will also have access to interior shared spaces many of which will include meeting spaces and community kitchens to encourage neighboring activities.

Many mixed-income developments are run by management agencies that set strict rules based on privileged white social norms. Instead this thesis proposes very loose management oversight of a development-wide neighborhood council made up of representatives from each cluster. This group would discuss and preside over rules and community issues for all residents with all clusters having equal representation and voting power. As any further specifics of this type of ruling body are outside the scope of this thesis it will instead suggest spatial implications of this type of organization. The clusters will either physically or through view corridors be connected to the main through block pedestrian corridor. Centrally located on the corridor will be the housing management office as well as large community gathering spaces where neighborhood groups, like the neighborhood council, can meet and organize.

Many clusters will have a unique character governed by mix of unit types as well as programming of their common space. For example, one cluster may be made up of family units surrounding a playground while a neighboring cluster may be studio and one bedroom units surrounding outdoor grills and seating. This will provide comfortable spaces for different groups such as families, teen agers, single adults, and children to gather. Clusters will not be segregated by income type. Unit type mixing will vary to encourage neighboring among residents with symbiotic lifestyles. While at times this may lead to some racial and socio-economic clustering, this type of clustering is not a problem in and of itself. Unit types will be available to serve student, varying family sizes, and an elderly population as well as professionals and craftspeople looking for live-work arrangements.

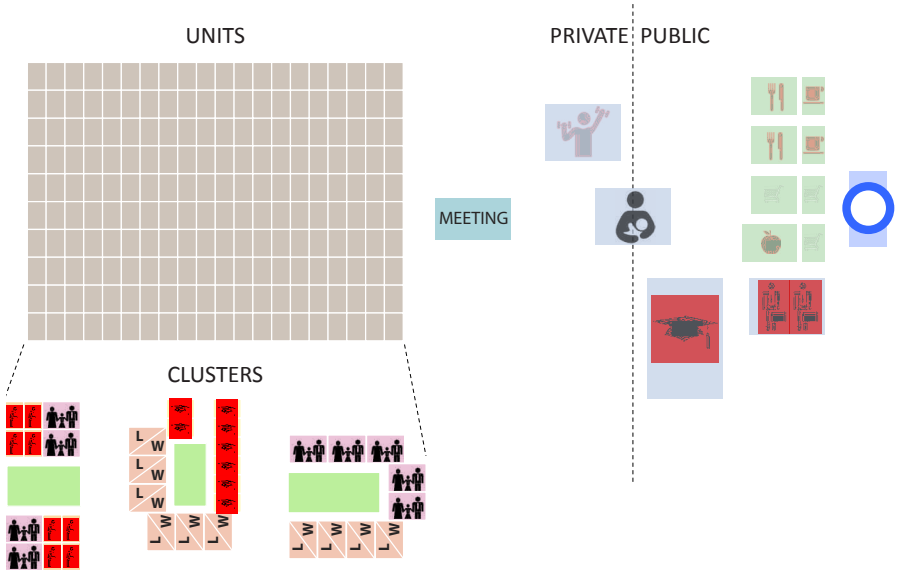


Figure 6.2: Programming Diagram

In addition to housing there will be programming for both commercial and retail businesses. To encourage connections to the high school as well as the University of Washington and other local educational institutions an anchor commercial use will be created to accommodate both a vocational/job-training enterprise and a less formal skill sharing enterprise. The formalized job-training facility will primarily serve the needs of unskilled lower income residents. The skill share enterprise will operate alongside the formal school to engage a broader set of residents in teaching and learning opportunities that can help foster cross cultural education and understanding.

Retail businesses will also be included, such as a local fruit stand which may be forced out of its current home at the corner of 65th St. and 15th Ave. NE. due to redevelopment of that block. This is one of the few neighborhood businesses that draws a significant number of people from outside the neighborhood because it offers fresh produce at low prices. It is currently adjacent to two bus stops serving multiple lines so it is a good fit for both light rail patrons and residents.

To the north of the site is a residential bar with street facing entrances for live-work units and a few small retail spaces. Along the arterials, Roosevelt Ave. and 12th Ave., street level access is for commercial, retail, and light rail use to ensure easy access to businesses for pedestrians and increased privacy for residents. Along the major pedestrian through block connection are a variety of uses. Some live-work units as well as retail and open public spaces will draw light rail riders and neighborhood residents through the block.

All of these spatial ideas will help to activate the block by creating a wide variety of places and spaces to accommodate the needs of many types of people. Additionally, the organization of clusters and their access to onsite gathering, commercial spaces, and transit will foster both mixing and respectful clustering of a variety of groups.

Private Living Spaces

Approximately 150 residential units will be designed for a total maximum occupancy of 300-400 residents. Within each unit type there will be a combination of market rate and subsidized ownership and rental opportunities. While getting the mix right is important to the real world success of a mixed-income development, the character and arrangement of spaces will be the focus, rather than the specific details of the financial model of each unit. The mix will reflect the following:

Unit Type	Qty	Bed	Bath	Avg. Sq.Ft.	rent/ own	sub./ market
Live/Work	10-15	0-2	1-2	600-1000	100/0	50/50
studio and 1 bed	50-75	0-1	1	500	80/20	50/50
2-4 bedroom	40-60	3-4	1-2	1100	60/40	70/30

These units will be organized into 8-12 clusters that will each have the following spaces:

Outdoor Recreation Space	2000-7000 Sq. Ft.
Indoor Gathering Space	2000 Sq. Ft.
Community Kitchen	500 Sq. Ft.

Additionally as described above, residents will have access to general gathering spaces that will also be accessible to the public:

Property Management Offices	1500 Sq. Ft.
Large Meeting Room	3000 Sq. Ft.
Small Meeting Room	1000 Sq. Ft.
Outdoor Gathering Space	3000-5000 Sq. Ft.

Commercial Spaces

Spaces will be provided for a variety of commercial tenants with the conjoined job training and skill share as the anchor business. The job training facility will require more space than is being allotted for other businesses both to ensure a substantial physical presence and to provide appropriately sized commercial spaces for organizations that would be likely to settle in this neighborhood.

Commercial Spaces	Quantity	Sq. Ft.
Job Training / Skill Share	1	15000
Additional Commercial	3	7500

Retail Spaces

There will be space for a variety of retail spaces similar to what is currently found in the neighborhood. Food service and dry goods sales are classified as retail.

Retail Spaces	Quantity	Sq. Ft.
Fruit Stand	1	3750
Restaurants	2	2500
cafes	2	1500
dry goods or other food	2	2000
	2	3500

Total Project Size

In addition to all of these spaces there is a need for services spaces that will be largely unseen such as parking, garbage and recycling, loading areas, storage areas, and infrastructure. While parking will no longer be required by the city, some parking for park and ride function, tenant needs and commercial traffic seems necessary. All parking would be on a first come, first serve basis to discourage dependence on this amenity. The most significant of these spaces are as follows:

Additional Interior Spaces	
100-150 parking stalls	40000-60000 Sq. Ft.
Private Circulation	35000 Sq. Ft.
Mechanical	12000 Sq. Ft.
Light Rail Station Entrance	5000 Sq. Ft.

When combined with the other spaces listed above the project totals are as follows:

Private Living Space	100,000-150,000 Sq.Ft.
Indoor Community Spaces	15000-30000 Sq.Ft.
Public Community Spaces	8500-10500 Sq.Ft.
Commercial Spaces	37500 Sq.Ft.
Retail Spaces	22750 Sq.Ft.
Additional Spaces	112000-122000 Sq.Ft.
Total Interior Space	295750 – 372750 Sq.Ft.

Gross F.A.R.= 4.3-5.5

This F.A.R. meets code for both 65 and 85 foot zoning heights. However, because these totals do not represent the outdoor spaces, parts of the block may exceed 65 and even 85 feet in height.

Chapter Seven: Design Response

The issues of density and socioeconomic segregation can be difficult to understand and express spatially. To begin to clarify these issues a series of maps, sections, and diagrams were formulated. When housing density, low and mixed income housing location and volume, and Seattle's light rail system are overlaid (fig. 7.1) , the widely varied nature of neighborhoods through the city becomes apparent. While every neighborhood has a unique character, some generalizations can be made by splitting the city into northern, central, and southern zones. The sectional analysis points out that northern neighborhoods, such as Roosevelt which are typically more affluent, are low in density, and have limited access to subsidized housing. Downtown is clearly much higher in density and also contains more subsidized housing while southern neighborhoods which are typically poorer are low density and have high volumes of subsidized housing (fig. 7.2).

When zooming in on the project site the same set of criteria, density, subsidized housing and transit patterns and proximity were explored. Roosevelt has a medium density core comprised of a commercial core and low to mid rise apartments and town homes. The majority of the neighborhood is occupied

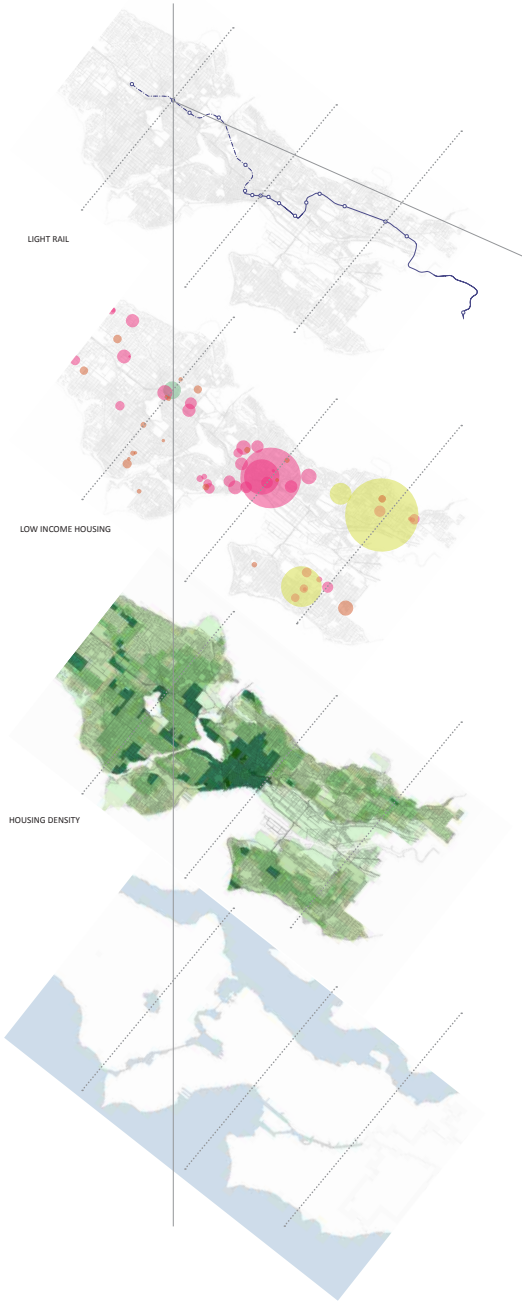
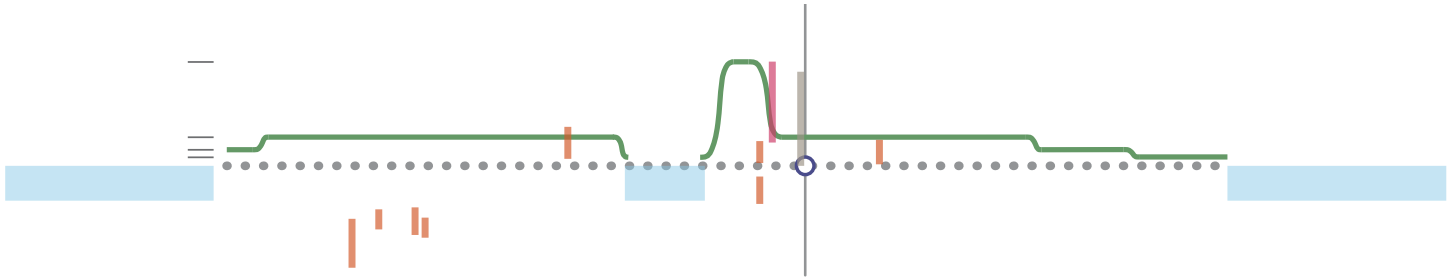
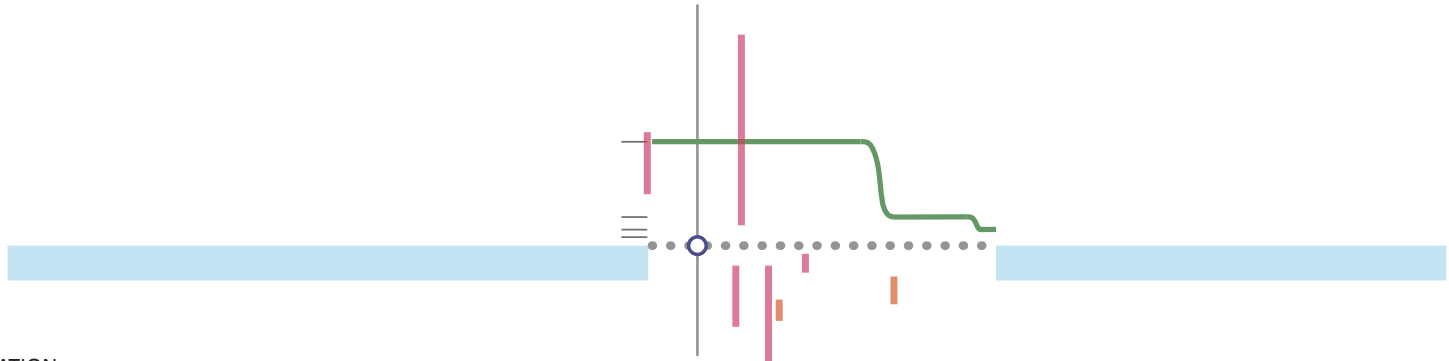


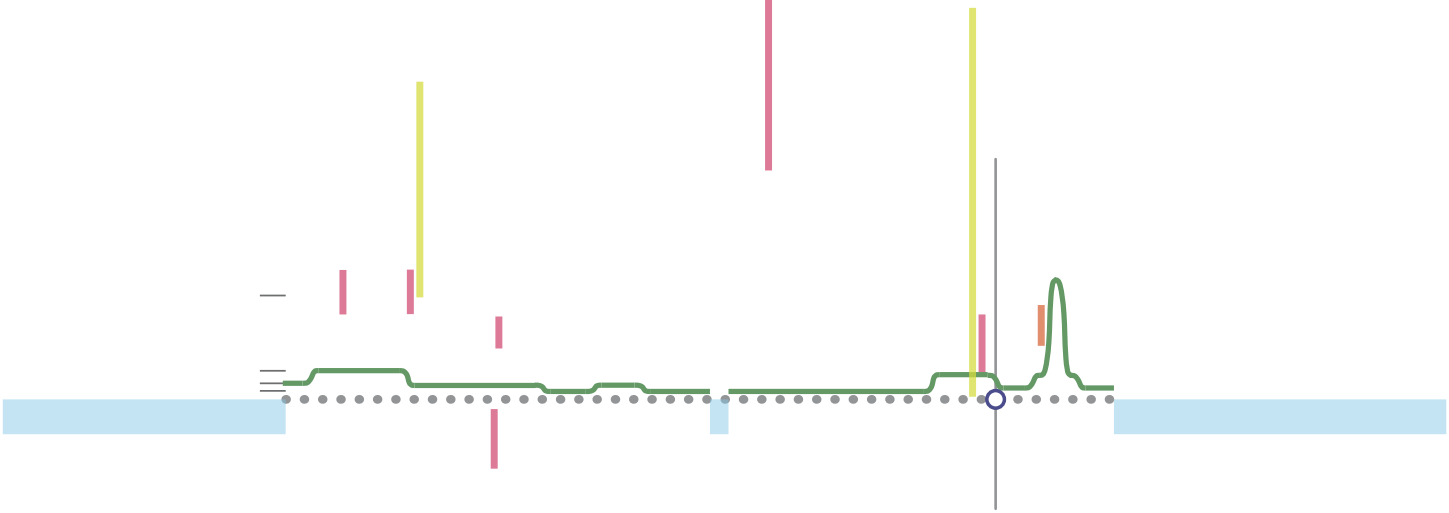
Figure 7.1: Mapping Housing Density, Low Income Housing and Light Rail



ROOSEVELT STATION



PIONEER SQUARE STATION



OTHELLO STATION

Figure 7.2: Sectional representation of neighborhood types.

by single family homes. Some subsidized housing is available just outside the neighborhood boundaries and the neighborhood is very well connected to bus lines, arterials streets, I-5 and the future path of the light rail (fig. 7.3).

With Roosevelt established as an appropriate neighborhood for the type of design intervention that this thesis proposes, programming was explored diagrammatically. The programmatic response includes approximately 150 living units in order to reach a density that pushes the limit of what is currently seen in Roosevelt while still allowing for a balance of open and built spaces on the block. Balancing open and built space creates opportunities for rich neighborhood and resident interactions and activities. The units are organized into clusters of varying forms that are each centered around an open space. The site also contains commercial spaces for educational use, child care, a gym and offices, and retail spaces. All of these spaces are organized based on their relative degree of accessibility to the general public (fig. 7.4).

The site planning response includes splitting the ground level plan with a pedestrian pathway running east to west. This throughway facilitates easy

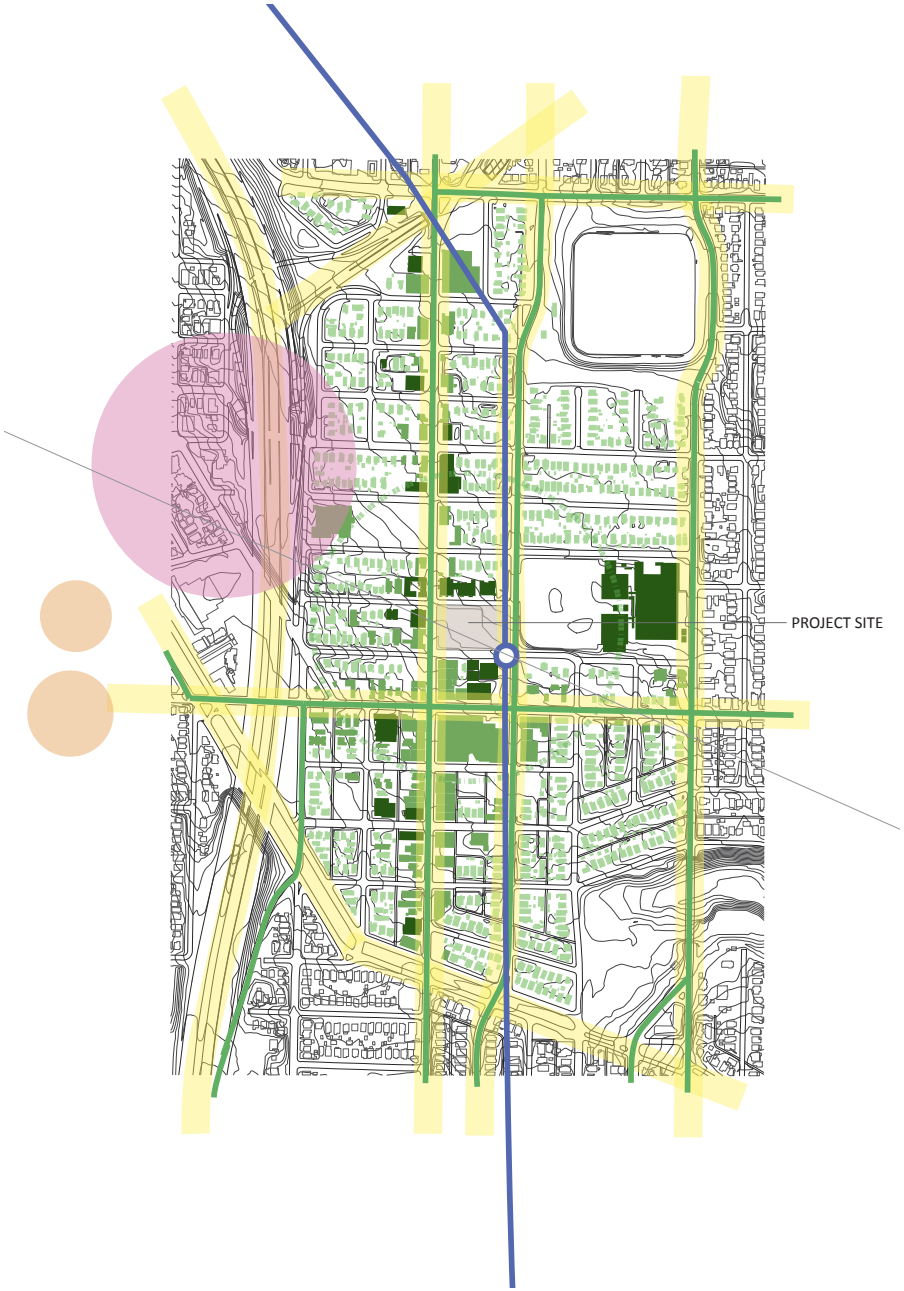


Figure 7.3: Roosevelt Neighborhood

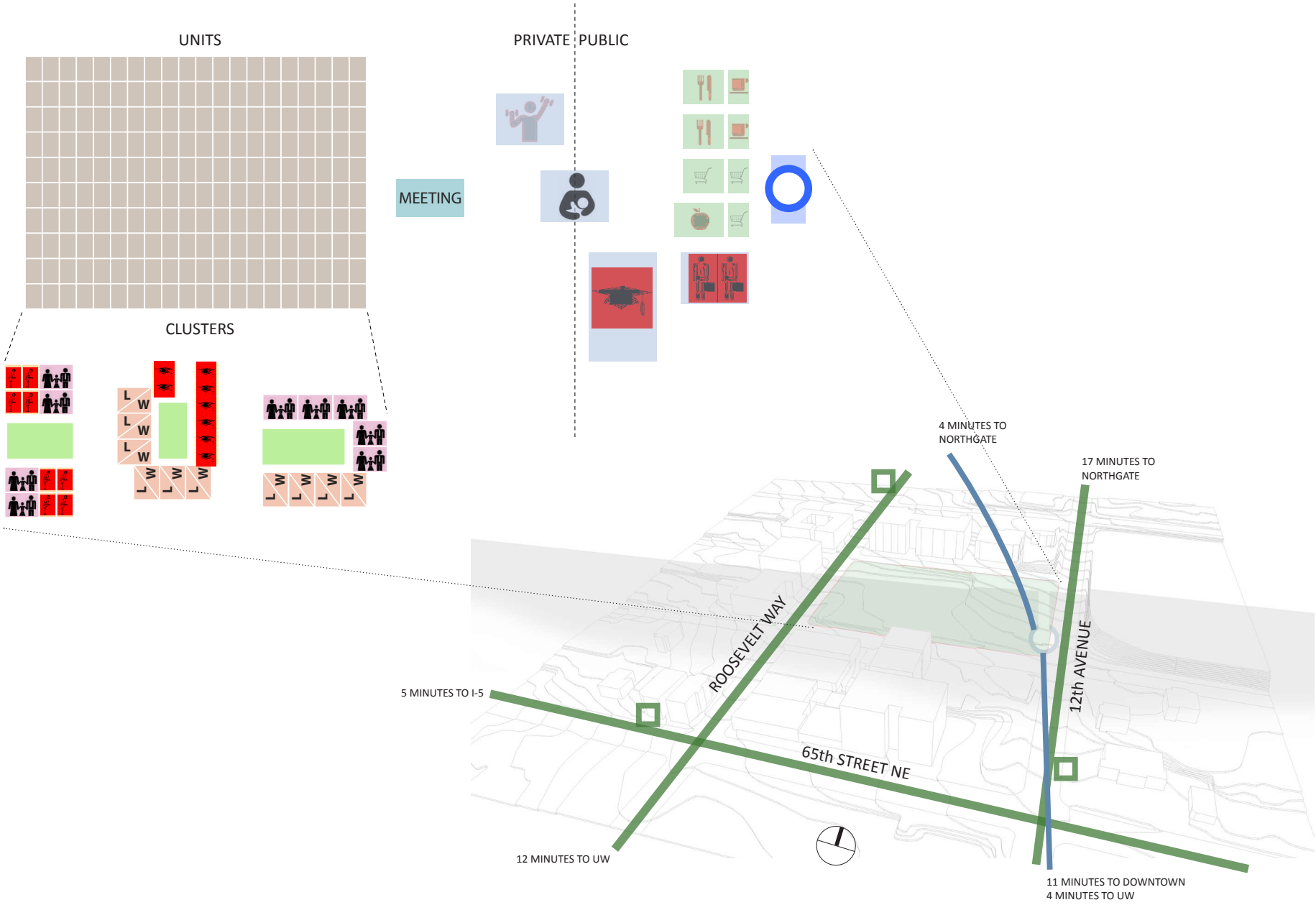


Figure 7.4: Programmatic Response

Figure 7.5: Ground Level Plan

access to the neighborhood's commercial core for light rail riders, community members coming from the high school and residents of the project. A mix of commercial, retail, and live-work units are intermixed along this access to encourage light rail riders, residents and community members to come into the site and activate the main public plaza. Commercial uses are along Roosevelt Way to respond to the commercial character of the street. Retail and light rail spaces are concentrated along 12th Avenue to respond to the higher pedestrian presence there while residential access is kept along tertiary streets that are already residential in character (fig. 7.5).

Upper level plans contain residential units with access to roof top gathering spaces for many of the unit clusters. All of the residential floors are single loaded with corridors facing the interior of the block. Some circulation areas are enclosed but access corridors are all open air spaces. This openness allows for

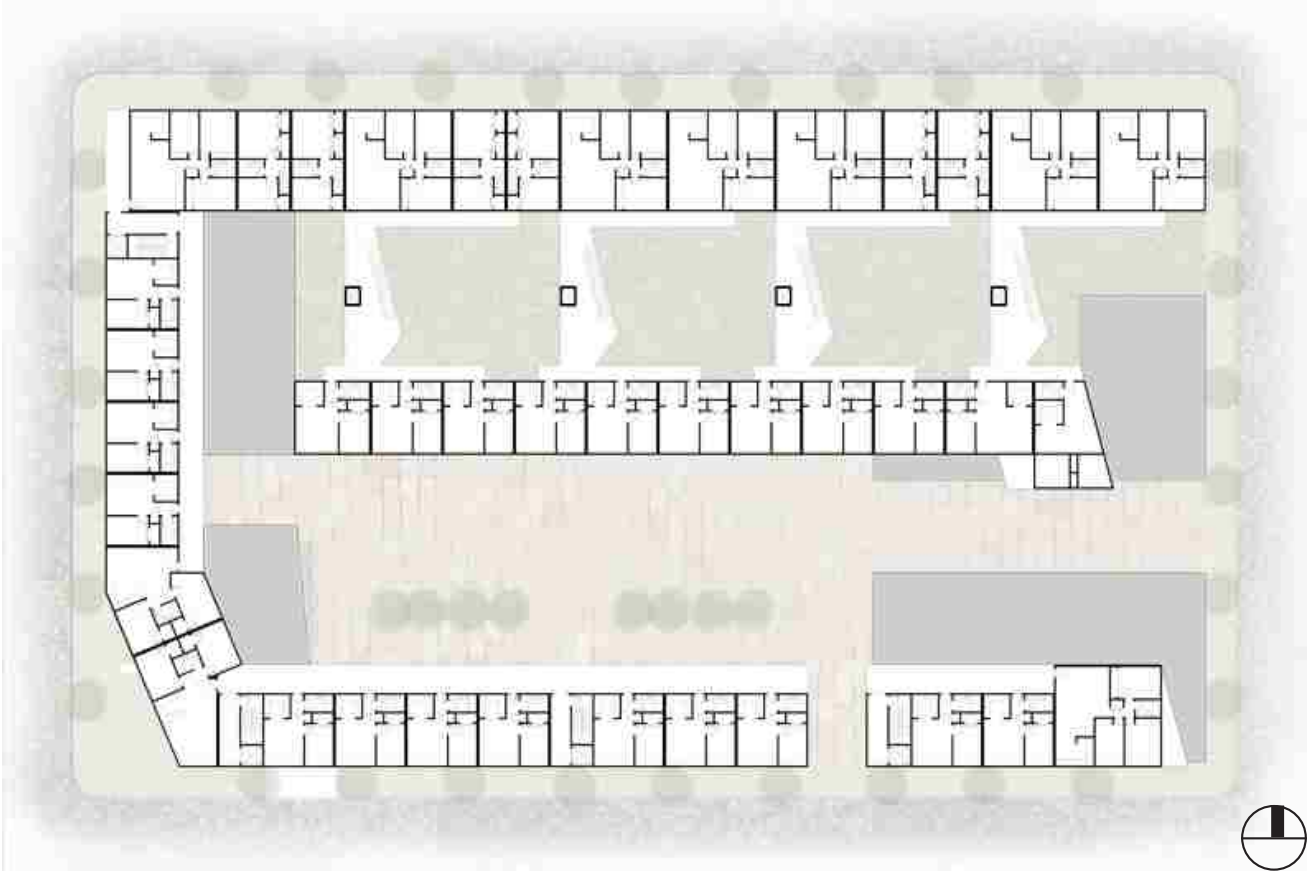
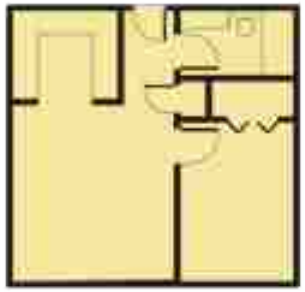


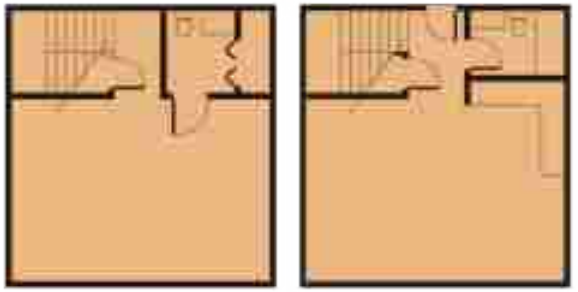
Figure 7.6: Typical Unit Level Plan

unrestricted views between unit clusters and into public spaces and facilitates social exchanges and a feeling of security among residents (fig. 7.5).

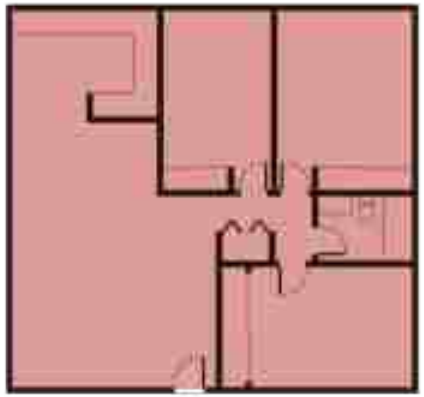
Within the residential areas, five basic unit types are presented following two sizing modules and allow for a wide variety of residents (fig. 7.6). To obscure income differences subsidized and unsubsidized units as well as rental and ownership units have identical sizes and layout. Students, couples, families with 1-4 children, inter-generational households and elderly singles and couples could all live within the various unit types. Each unit cluster acts as a mini neighborhood and has a unique mix of units to accommodate residents with symbiotic lifestyles. To encourage neighboring each cluster has access to both outdoor and indoor shared spaces and exterior circulation spaces (fig. 7.7). The clusters are organized to center around the main public plaza in order to maintain both physical and visual connections to the rhythm of the block and the neighborhood (fig. 7.8).

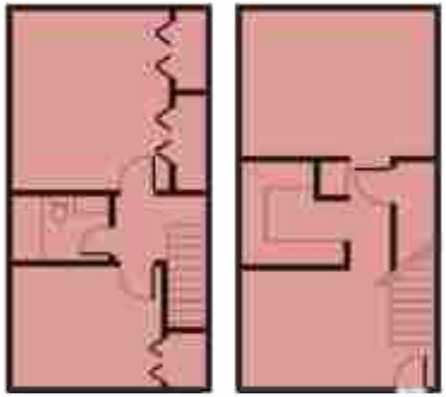


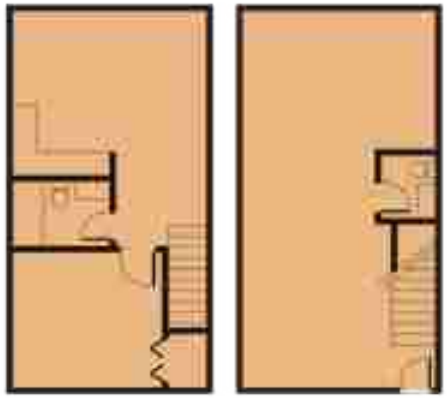
552 SF
73 UNITS



1104 SF
5 UNITS







1178 SF
34 UNITS

1178 SF
16 UNITS

1178 SF
15 UNITS

Figure 7.7: Five basic unit types fitting within two modules are included to accommodate a wide variety of residents.

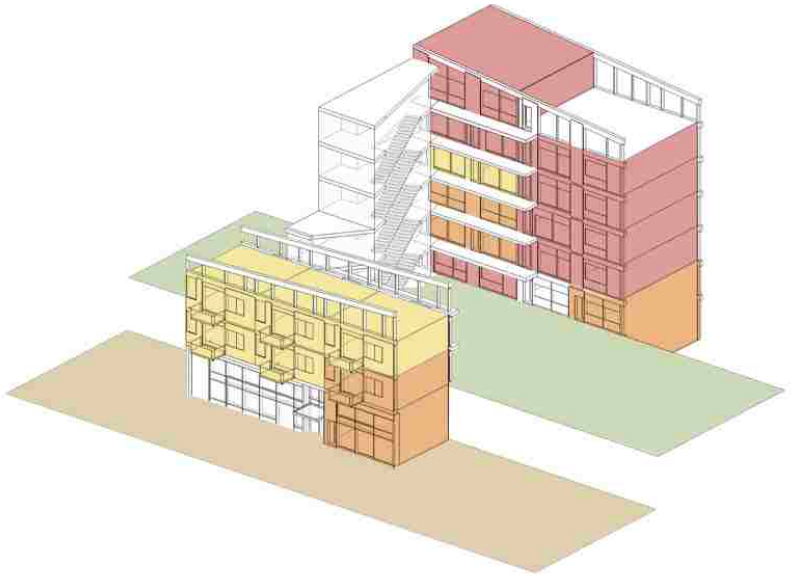


Figure 7.8: Typical Unit Cluster

The form of the building is derived through careful consideration of urban edge conditions (Appendix A) and facilitates both visual and physical connections to the main public plaza for all of the clusters. When viewed in section it is clear that the center bar of residential units is kept lower to allow for both sun and view access for residents in the northern and southern bars. Along the east edge of the site residential clusters are stacked on top of commercial space to allow for sun, view and ventilation access as well as a sense of separation from public spaces to encourage a sense of ownership over shared spaces. The lower levels of the east edge are kept relatively dense to respond to high traffic volumes and existing commercial character along Roosevelt Way. The west edge of the site is the most porous. It faces the high school, allows for light rail access and, based on current patterns, would be the highest pedestrian traffic edge of the site (fig. 7.9).

Figure 7.9: Eight Unit Clusters

The skill share and job training facility has the potential to draw the largest number of people from both the local neighborhood and the general public. It is placed at the east end of the site on the ground level of the commercial

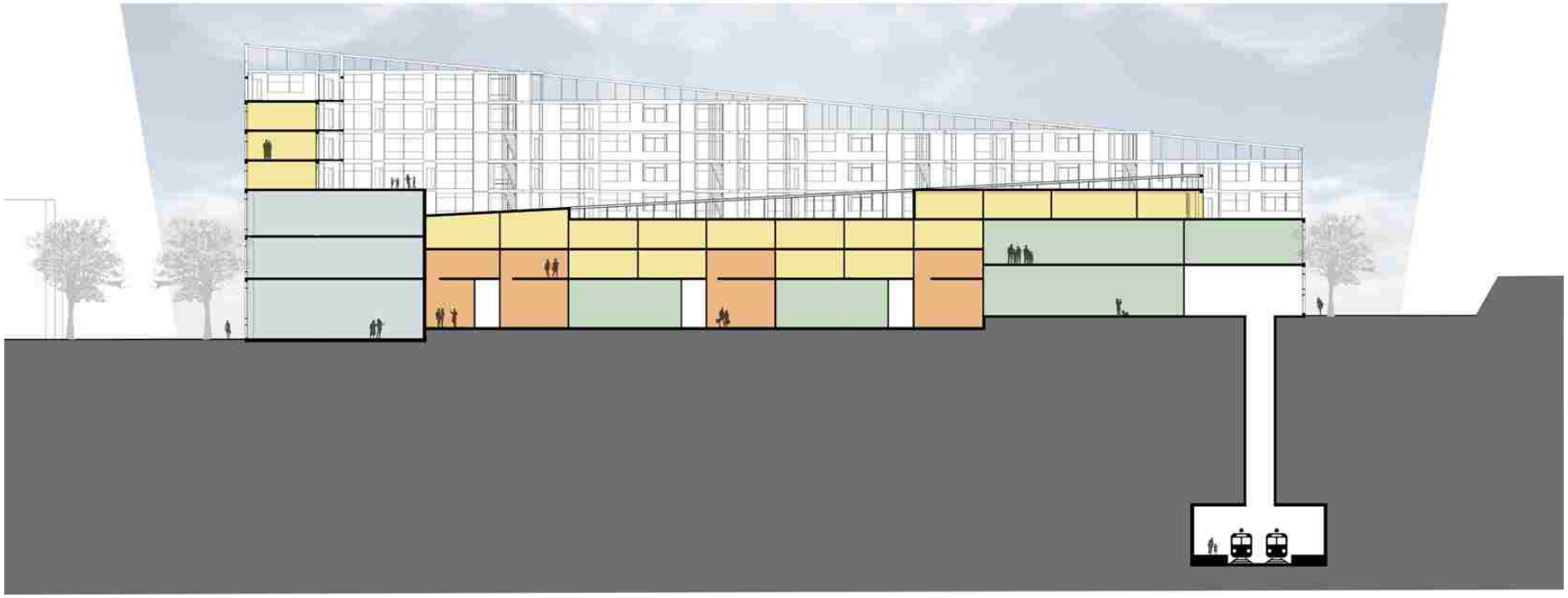


Figure 7.10: East West Section Through Center Bar of Building

block. This placement allows for easy access from the commercial core and also draws large numbers of people through the site as they arrive from the light rail or walk over from the high school and the bulk of the residential areas of the existing neighborhood.

The facade system illustrates the gradation of public and private access to the site. Where greater privacy from busy streets is desired the facade is more opaque. For facades that face the public plaza but not busy traffic the facade includes more glass and translucent panels. For spaces that face directly towards neighbors or spaces that are shared only by residents the facade becomes highly transparent to encourage a sense of familiarity and security among neighbors (fig. 7.10).

All of the design considerations mentioned above are clearly illustrated in the section perspective drawing. Here the varying height of the massing is most

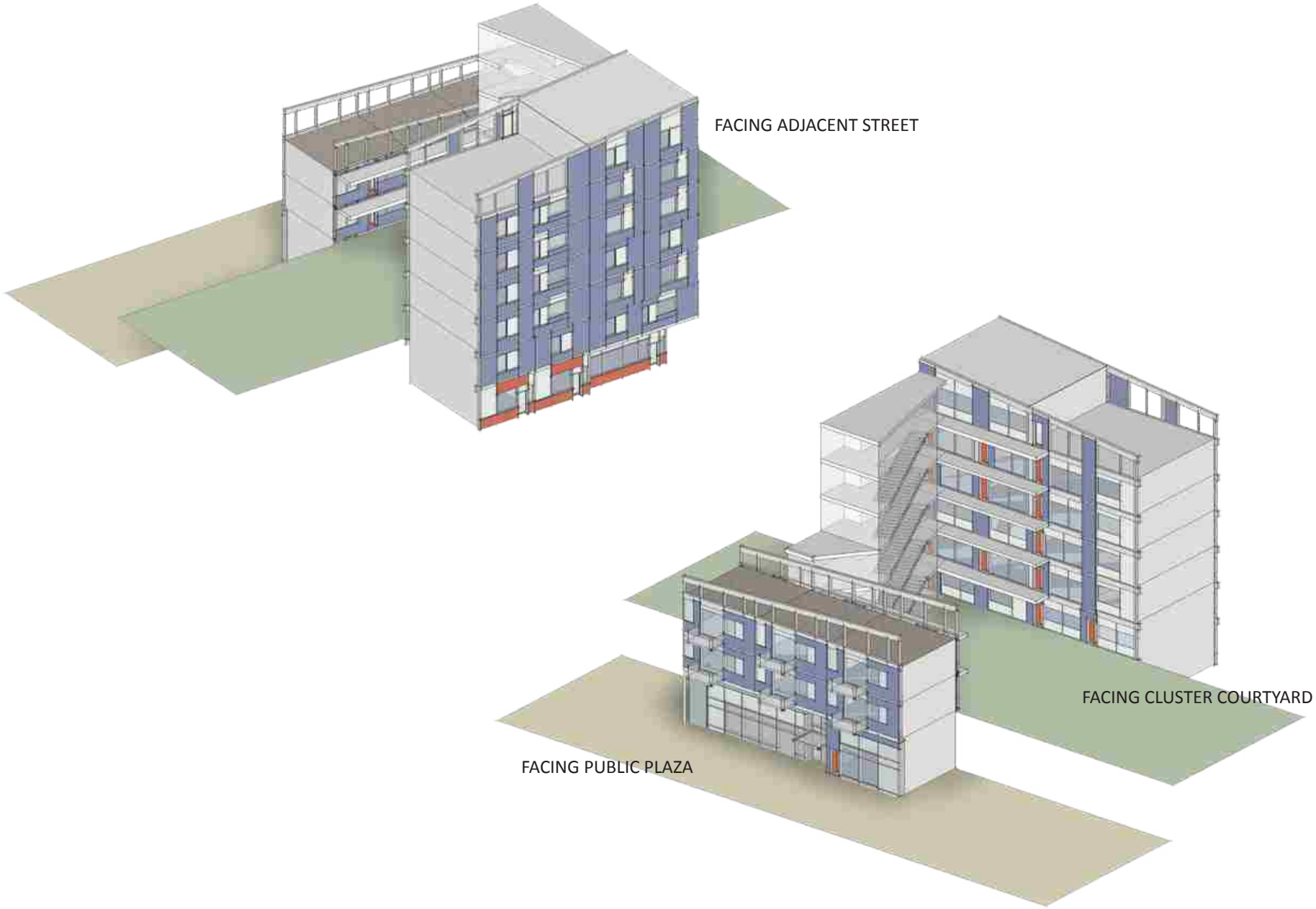


Figure 7.11: Representative Areas of Various Facade Configurations

Figure 7.12: Section Perspective Looking West

evident and illustrates the considerations made for view, sun access, urban edge response, balance of open and built spaces, and gradation of public and private spaces. This drawing also shows that raised plinth level where many of the private outdoor spaces are located as well as the open circulation areas that look onto these courtyards. Also shown in this drawing are the gathering, neighboring, and view potentials afforded through resident access to roof areas as well as the scale and character of the public plaza.

Figure 7.13: Vignette One: View to the north coming from the southern light rail access point. To the left is the public plaza. To the right is 12th Avenue.

Figure 7.14: Vignette Two: View into the public plaza. To the left is the southern residential bar. On the right is ground level retail and residential access points with residential units above. In the distance is the through block access to Roosevelt Way surrounded by commercial spaces with residential units above.

Figure 7.15: Vignette Three: This view is taken from inside one of the main circulation cores for the residential . Shown here are the visual connections to both units and the shared exterior courtyard space within the cluster. The large circulation space that allows for a variety of social encounters and activities is shown in the foreground.

Figure 7.16: Vignette Four: This view is taken from a residential balcony looking back into the public plaza. In the distance is the southern light rail entrance topped by the tallest residential cluster within the project at the south east edge of the site.

Chapter Eight: Conclusion

Ideas of dense, mixed income, mixed use development have been explored and analyzed by planners, sociologists, politicians, and architects for decades. Many ideas and projects have been tested but few if any have been deemed successful over the long term. While many solutions have been found for urbanistic, architectural and even financial viability, these projects have consistently failed when it comes to fostering social interactions between residents.

While I cannot claim to have found a solution where others have failed, I do feel that I have presented some novel responses to the problems I have outlined. Reviewers agreed that the residential clustering ideas, high-density mixed-use TOD, and neighborhood integration strategies presented at the final review were appropriate responses to the challenges that Seattle faces with resistance to density and desegregation.

Reviewers expressed two primary concerns with the work presented. They felt that the block felt somewhat insular rather than open to the neighborhood. They also felt that the architectural form was somewhat monolithic. While porosity could be increased by opening the residential plinth to the public plaza and creating some physical gaps between sections of the building, the typical pedestrian's experience of the site would not be one of a closed nature. While not open to the sky along Roosevelt Way, the through block connection is quite broad and tall. Furthermore, the most active pedestrian space along 12th Avenue is very porous and smaller in scale. The architectural form of the building was designed to be responsive to the varied urban edge conditions of the site. While relatively uniform in width, the form is quite dynamic in height. Throughout the block the building varies in height from forty feet to over one hundred feet tall. Perhaps more explicit description and representation of these conditions would have helped to clarify the formal response to the site.

Taking into account the critiques mentioned above and additional feedback I received throughout the design process I can see a few key areas for improvement in the project. Through the design process I more fully realized how much of a challenge designers face when trying to create density without compromising form, access to natural light and fresh air, a balance of built and open spaces, and successful social spaces. Within this project, refinement in the gradations between public and private spaces, more detailed application of

program within the form, fine-tuning of physical and social connections to the neighborhood and development of individual characteristics of the unit clusters would enhance the effectiveness of the design proposal.

The greatest challenge of course was finding a way to translate sociological theory into built form. Through the process of applying the theoretical framework to a design proposal it became clear just how important a comprehensive understanding of a wide variety of topics is for successful design work. Perhaps this is really where the problem lies with execution of this type of project. If planners, politicians, designers and academics shared their expertise more freely new ideas could emerge that could dramatically improve our built environment.

Overall the project is successful in illustrating the main thesis ideas and acting as a model of a project that could increase density and decrease racial and socioeconomic segregation while also having a positive impact and impression on the neighborhood. Whether or not Seattle's built environment will develop in this way remains to be seen. New models of development in response to light rail hold the key, but so far solutions like the one proposed in this thesis remain untested in Seattle.

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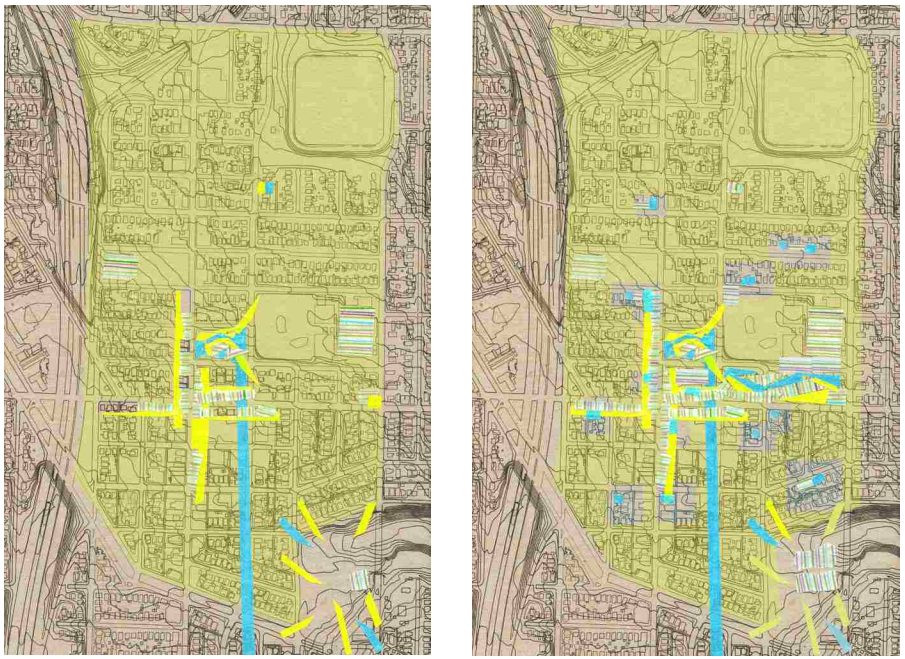
Appendix A: Charrette Summary

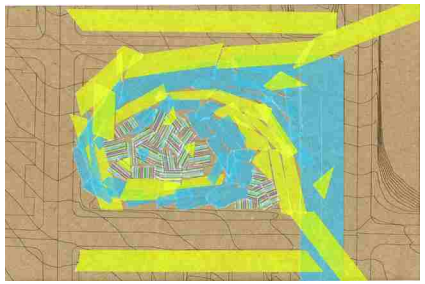
The charrette focused on a form finding exercise related to an influx of people entering the Roosevelt neighborhood. This influx would come in the form of a transient population of daily and occasional light rail riders, and a more permanent population of people relocating to the neighborhood as it grows and changes in light of TOD. In direct contrast to all of these new people in the neighborhood the current neighborhood residents were seen as a similarly strong force to the new incoming population.

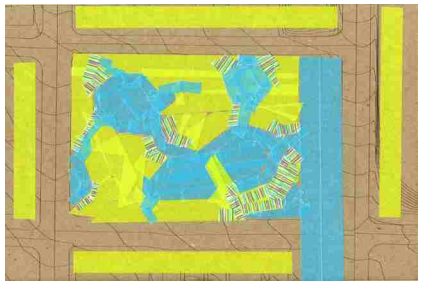
Beginning with the water imagery that Link Light Rail has developed (i.e. the "Ride the Wave" slogan) I explored the forces represented by the two groups, neighborhood residents and newcomers. I diagramed these forces at both the neighborhood and site scales in a number of ways.(fig. A1-A6) These diagrams were extrapolated to create areas that represented existing, new, and places of mixing. Then small 3 dimensional models (fig. A7,8) were built in which these three types of spaces became residential use, commercial use, and outdoor public spaces. Finally I selected one of these models to insert into the site and explore scalar implications. (fig. A9-A10)

In review, in addition to affirmation of this process, it was suggested that I continue with this type of exploration by pushing the scale and height of the models. It was also suggested to explore more far reaching interactions between the site and the city.

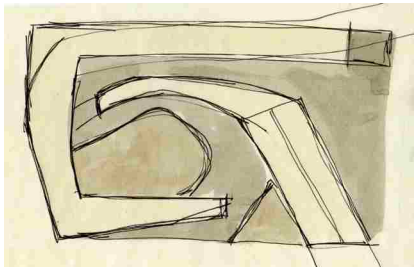


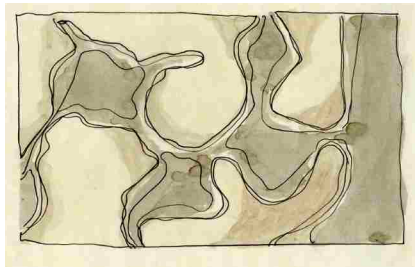
Figures A1,A2: Diagrams of Roosevelt neighborhood at time of project completion and in the future. Yellow indicates zones of strong influence by current residents, blue indicates influence from new forces entering, and stripes are zones of mixing.



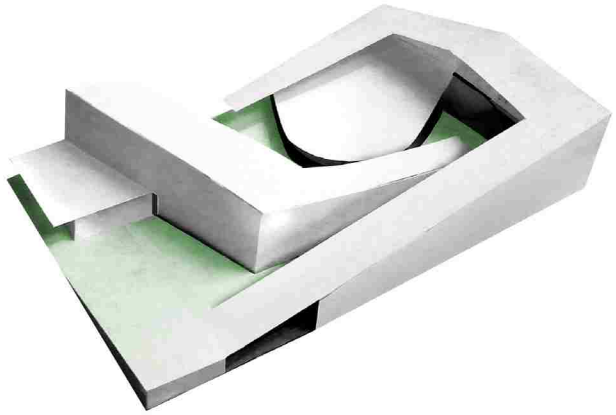


Figures A3,A4: Two diagrams showing possible configurations of mixing forces at a site scale. Yellow represetns existing neighborhood forces, blue represents incoming forces and stripes represent zones of mixing.





Figures A5,A6: Two diagrams extrapolating information from force diagrams. Lighter areas represent residential use, mid-tones represent commercial or retail use and dark areas are public or exterior zones.



Figures A7,A8: Models showing possible 3-d represenations of the diagrams shown above.

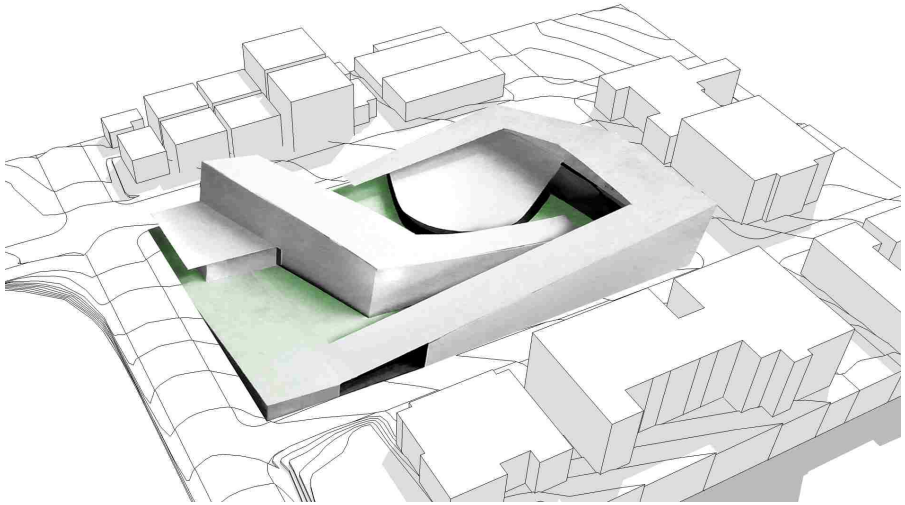


Figure A9: Massing study, site scale

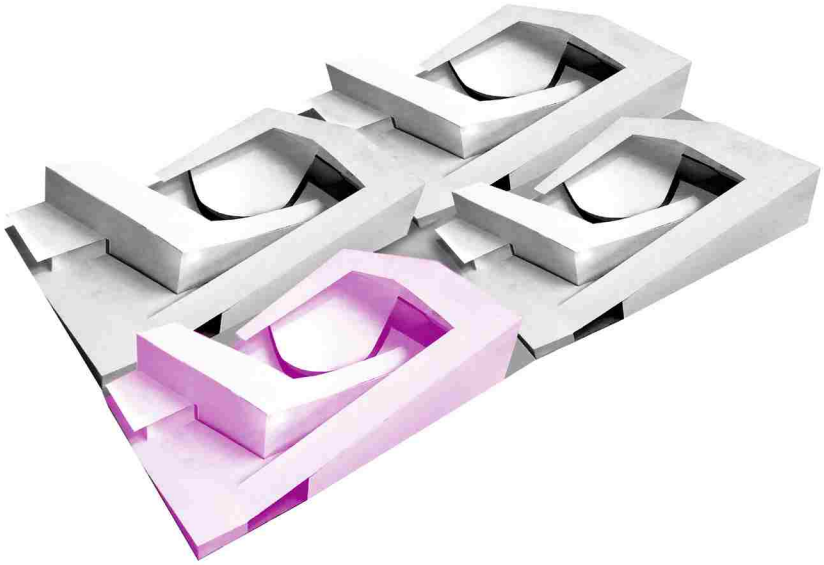


Figure A10: Massing study, building scale