

Shared Space
Community-Centered Development in the Suburbs

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Abstract

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This thesis explores typical development patterns in American suburbs and proposes a new model, fostering a sense of community and serving as a catalyst for more extensive social changes. It proposes shared spaces and spatial gradients to create continuity and integration between the public and private realms. The project is a master plan for a new mixed-use development, including the design of two housing types. The design focuses on open spaces and how they relate to one another as well as the private residences. The selected site is in Bothell, WA, where the city is actively seeking proposals as part of its downtown redevelopment master plan.

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Throughout history, the treatment and arrangement of shelter have revealed more about a particular people than have any other products of the creative arts. Housing is an outward expression of the inner human nature; no society can be fully understood apart from the residences of its members.

-Kenneth Jackson, Crabgrass Frontier¹

1. Introduction

The very pursuit of happiness in post-war history was synonymous with the suburbs. A move to the suburbs symbolized many things in the American context. It was a move of social and economic mobility: a path that led away from the nation's ailing central cities and to the emergent suburban frontier. The American Dream was realized in the nation's nascent suburbs.

- Bernadette Hanlon, Cities and Suburbs: New Metropolitan Realities in the U.S.²

1.1 Why Suburbs?

Individual homeownership in America is so integral to the national identity that it is often referred to as the *American Dream*. For most, this phrase immediately recalls an image of the suburban home: white picket fence, ample yard, gabled roof, garage and driveway. This is still the benchmark of success for many - the very manifestation of having "made it" - yet, increasingly, environmentalists, planners, and doctors are identifying suburbs as the source of an array of larger problems. This conflict cuts to the core of the nation's identity, and the question of whether it can be resolved will be decided in the built environment over the next 50 years.

Beneath the criticism of the suburbs lies a clear truth: people *want* to live in them. Whether environmentalists, architects, and others approve, the American people have voted with their feet (or, perhaps, their wheels). According to the U.S. Census, half of all Americans now live in the suburbs.³ People choose to live in suburbs for safety, for good schools, for lower taxes, for space and access to the outdoors, for the benefit of their children and for themselves.⁴ In a Fannie Mae National Housing Survey, 73 percent of those surveyed identified a "single-family detached house with a yard on all sides" as the ideal type of home.⁵ This ideology is not going away just because urban intellectuals think people should live in cities. The question that matters now is: What are the essential elements of this vision, and what is not working? Perhaps somewhere in the middle, there is room for improvement.



Fig. 1. Levittown, NY: 1940s era family photo.

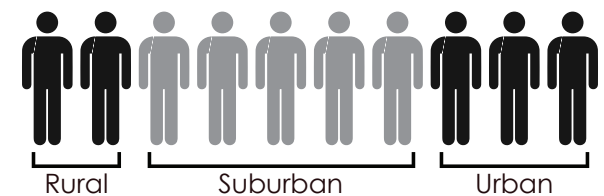


Fig. 2. 50 percent of Americans live in the suburbs. (Data from 2000 U.S. Census)

As an attempt to recover what was missing in the city, the suburban exodus could be amply justified, for it was concerned with primary human needs. But there was another side: the temptation to retreat from unpleasant realities, to shirk public duties, and to find the whole meaning of life in the most elemental social group, the family, or even in the still more isolated and self-centered individual. What was properly a beginning was treated as an end.

—Lewis Mumford, *The City in History*⁶

1.2 Historical Basis for Contemporary Suburban Issues

While the concept of suburbs has been dated back to eighteenth century England,⁷ it reached its apotheosis in the decade following World War II in America. A confluence of factors following the war led to an explosive growth in suburban construction in the United States; these factors included a severe housing shortage, a post-war baby boom, racial tension in cities, incentivized federal homeowner loans, a federally-financed highway system, increased construction productivity, and the space and wealth to spare. Emerging from the Great Depression of the 1930s, America was suddenly on top of the world and had the means to achieve the dream of a nice home and a piece of land for everyone. Well, almost everyone. Federal loans, banks, and property deeds often explicitly excluded African Americans from moving to the suburbs.⁸ In this postwar world, women were generally expected to be housewives, leaving them alone during the day to tend the house while their husbands commuted into the city to work.⁹ While more women work today and minorities are more accepted by society, women still do the majority of the housework (generally in addition to their paid work) and the suburbs are still largely segregated by both race and class.^{10 11}

American suburbs were built on a development model that sought to isolate uses by zone: residential, office, retail, industrial, etc. The single-family home in the suburbs is intentionally distant from both places of work and places to shop in an effort to preserve its picturesque qualities.¹² The result of this isolation is that the day-to-day upkeep of a house (the cooking and cleaning) plus the time spent driving between the house, grocery store, shopping mall, and any after-school activities for children is nearly a full



Fig. 3. 1940s era GE ad targeting young families of returning veterans.

time occupation in itself, requiring a dedicated person and a separate vehicle for each inhabitant. The suburbs were designed for young, traditional, single-earner families, and they do not work as well for dual-income couples, single people, elderly people, multi-generational families, or lower income households for whom the transportation cost is prohibitory.¹³

There is a significant difference in form between older suburbs that were built along rail lines and suburbs that were built based on the automobile. The connection to the city through rail both limited the size of a suburb (within walking distance to the station), and gave it structure, generating a small, walkable, mixed-use commercial center radiating out from the train station. This hub-and-spoke connection to the city center was superseded when private car ownership became the norm, allowing the suburbs to extend further and be segregated by use. The car was perhaps the most significant factor in enabling the pervasive spread of suburbs in the second half of the twentieth century. As suburbs spread further and further from commercial centers, they became increasingly insular, segregating the residents from the larger society as well as from each other.¹⁴ While this history is not an exhaustive account, it establishes the basis for the following five areas that define the problems facing contemporary American suburbs today: unsuitability for changing demographics, a lack of civic engagement, social isolation, and negative impacts on both health and the environmental.



Fig. 4. Lakewood, OH: an early streetcar suburb of Cleveland.



Fig. 5. Typical modern car suburb.

Americans cannot solve their current housing problems without reexamining the ideal of the single-family house – that is, reexamining its history, and the ideals of family, gender, and society it embodies...

–Dolores Hayden, Re-Designing the American Dream¹⁵

1.3 Statement of the Problem

This section will analyze the five aforementioned challenges facing suburban life in order to characterize the scope of the problem that will be addressed by the thesis.

Changing Demographics

At the time of the 2000 US Census, the population of America was 50 percent suburban, 30 percent urban, and 20 percent rural. The makeup of the average American household had changed significantly from the post-World War II suburb boom. One quarter of all households in 2000 were single people, including many of the elderly. Fully 58 percent of households in the United States were composed of one or two people, up from 37 percent in 1950. The percent of households that are “traditional families” (married couple with or without children) had declined from 78 percent of the population in the 1950s to 52 percent in 2000; both one person households and non-traditional families (such as single parents) had increased substantially. People over 65 now made up 12 percent of the population compared to eight percent in the 1950s, while people who are non-white now made up 25 percent of the population compared to 11 percent. As a nation, America has changed substantially since the 1950s, when the vision of the suburban dream home was built. The country is more elderly, more racially diverse, more single, more childless, and generally living in smaller household units.¹⁶

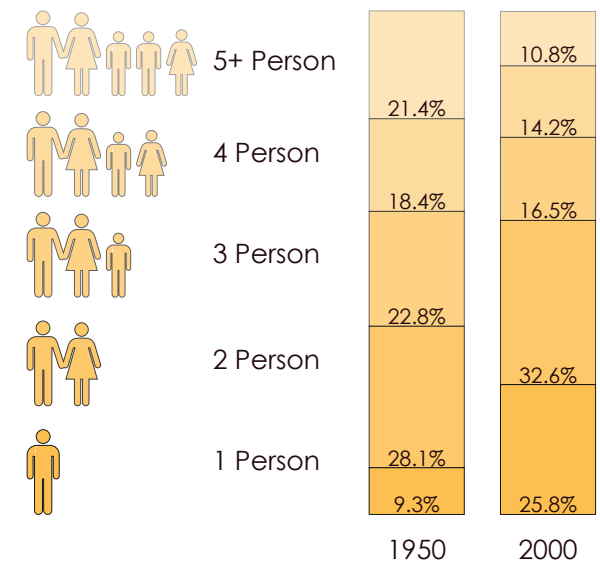


Fig. 6. Change in household size.
(Data from 2000 U.S. Census)

Suburbia began as the domain of the wealthy and was enlarged to include middle and working class white residents in the postwar period, yet recently it has been going through another transformation. A 2013 report by the Brookings Institute found that since 2000, the growth rate of the nation's suburban poor has been double that of urban areas, and that the suburbs are now home to the majority of America's poor. As cities become increasingly expensive and suburbs more numerous and accessible, there has been an unprecedented demographic shift, turning the image of the traditional suburb on its head. The report refers to the history of "spatialized inequality" in suburbs, and while these shifting dynamics add complexity to this picture, the reality is that suburbia is simply more fractured and segregated: with wealthy outer ring and poor inner ring suburbs strictly divided along class as well as race lines.¹⁷ These divisions have typically been enforced by exclusionary zoning guidelines that mandate minimum lot and home size. Put forward as a means of protecting property values, these policies have the effect of ensuring that only people of similar means can afford to live in an area.¹⁸ As more low-income people move into suburbs, as the elderly population increases, and as the number of both single parents and people living alone increases, these strict divisions that presuppose individual homes and neighborhood plans based on traditional families will increasingly fail to meet the needs of the changing population. What is needed now is a way to adapt the suburbs to acknowledge these changing demographics.

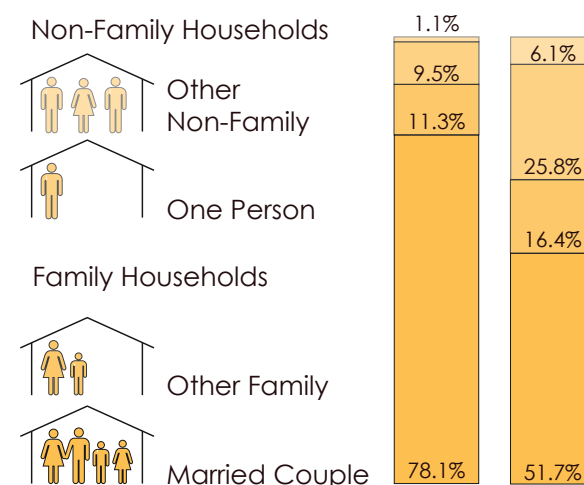


Fig. 7. Change in household type.
(Data from 2000 U.S. Census)

The dream house is a uniquely American form because for the first time in history, a civilization has created a utopian ideal based on the house rather than the city or the nation.

-Robert Gross, quoted in Crabgrass Frontier¹⁹

Civic Engagement

The homogeneity of the suburbs is reinforced by segregation among spatial uses, along race and class lines, and even by household types. This serves not only to isolate residents in “ghettos” of their own peers, but has a more insidious effect of reducing overall participation in the public realm and civic life of the nation. Political scientist Robert Putnam has chronicled the across-the-board decline in civic engagement in terms of measurable social participation in America since its high point in 1968. This includes everything from voting, to joining the PTA, to participating in nonprofit organizations, bowling leagues, and informal get-togethers – which he collectively referred to as “social capital.” Putnam argued this can be directly linked to the homogeneity of the suburbs where Americans increasingly live:

In a careful survey of community involvement in suburbs across America, political scientist Eric Oliver found that the greater the social homogeneity of a community, the lower the level of political involvement: ‘By creating communities of homogeneous political interests, suburbanization reduces the local conflicts that engage and draw the citizenry into the public realm.’²⁰

In his analysis, Putnam identified four factors that have contributed to the decline of social capital in America. While Putnam estimated that the effects of sprawl and time spent commuting account for 10 percent of the overall civic decline, and another 10 percent can be attributed to pressure from work, he attributes 25 percent to the privatization of leisure (namely television), and 50 percent to a generational change in



Fig. 8. Homogeneity in the suburbs.



Fig. 9. Los Angeles, CA: Suburban sprawl.

values.²¹ Putnam's study suggested that when people spend their lives entirely in the private realm - or in the bubble of a socially-homogenous public realm - their sense of connection to the greater society suffers, as does their participation in it.

Part of the explanation underlying the decline in civic engagement in America is that no real public realm exists in the suburbs. Urban sociologist Ray Oldenburg criticized the suburbs for not offering "a sense of place and belonging"²²; somewhat more bluntly, James Kunstler said "that these are places not worth caring about."²³ What both of these men were responding to is the lack of a meaningful sense of identity and community that emerges from negotiating shared space. The separation of uses inherent in suburban zoning works against creating the walkable civic spaces that typically foster a lively public realm. In residential areas, property lines are generally considered sacrosanct and often reinforced with fences, leaving the occasional park and the actual roadway as the only public space.

The road as public realm is woefully inadequate; there is nowhere to sit, it is inhospitable, and it is dangerous – a place made for cars, not people. The problem with the road as public realm is that one is only ever passing through it, not occupying it. As Andres Duany points out, "time normally spent in the physical public realm is now spent in the automobile, which is a private space."²⁴ For many people, it is standard practice to travel from home to office and back in a private car, never leaving private space from the time they back out of the garage until reaching the parking lot at work.



Fig. 10. One of James Kunstler's "places not worth caring about."



Fig. 11. Time spent commuting in the private space of a car.

To decrease heart disease, cancer, osteoporosis, depression, and other diseases, we need convenient opportunities for regular physical activity... The trouble is that in the last half century, we have effectively engineered physical activity out of our daily lives.

-From the introduction, Making Healthy Places²⁵

Spending so much of one's day in private space precludes the opportunity for the back-and-forth flow of ideas that public spaces facilitate. There is a clear need in suburbs for the expansion of the public realm, creating spaces to facilitate the kind of interaction and engagement that Putnam laments losing.

Health

One of the issues that arises repeatedly in the literature on suburbs is the sense of physical isolation. As medical professionals have learned more about the complex interrelationships that affect human health, it now appears that something as simple as being lonely and not having anywhere to go begins to take on a much more serious tone. According to a 1988 study, "Social relationships, or the relative lack thereof, constitute a major risk factor for health – rivaling the effect of well established health risk factors such as cigarette smoking, blood pressure, blood lipids, obesity and physical activity."²⁶ Loneliness itself is a health risk factor, in particular affecting teens and the elderly, who are often isolated in car-dependent suburban culture. Loneliness can lead to increased stress levels, poor sleep patterns, poor diet, lack of exercise, lower willpower and self-esteem, abuse of intoxicants, and failure to adhere to medical regimens or seek appropriate care. These effects can ripple out into other areas of health, leaving the individual in a compromised state and more susceptible to serious diseases.²⁷

Dr. Richard Jackson suggested that the very shape of America's built environment is the cause of some of the major health epidemics today. In particular, Jackson pointed

to the rise in Type 2 Diabetes. Rates of Type 2 Diabetes have doubled over the last 15 years, and the disease is now seen (along with heart disease) in children, which was unheard of just two decades ago. Jackson connected the rise in diabetes to a car-dependent lifestyle and environmental design factors that preclude walking as part of a daily routine.²⁸ Heart disease (the likely outcome of long-term diabetes) is now the leading cause of death among both men and women in the United States and the fifth leading cause of death among teens.^{29 30}

Suburbia's sprawling, car-dependent built environment impacts teens and the elderly in particular. Auto accidents are the leading cause of death among teens, followed by homicide and suicide, both of which are related to social isolation.³¹ Social isolation and loneliness are predictors for teen depression, which has been shown to increase the risk of suicide.^{32 33} As evidence of the ubiquity of this phenomenon, antidepressants are now the most prescribed medication in the United States.³⁴ Even the epidemic of school shootings, which now seem like an aspect of everyday life in America, has been related to the social isolation experienced in American suburbs.^{35 36 37} Isolation is not just bad for teens, however. In the elderly, feelings of loneliness have been shown to accelerate the development of Alzheimer's and dementia.^{38 39} An AARP study found that men over 65 outlive their ability to drive by six years and women by 10, leaving them physically isolated with difficulty seeking medical treatment.⁴⁰ As with teens, suicide and depression are also problems for the elderly in America; according to a 2009 study,

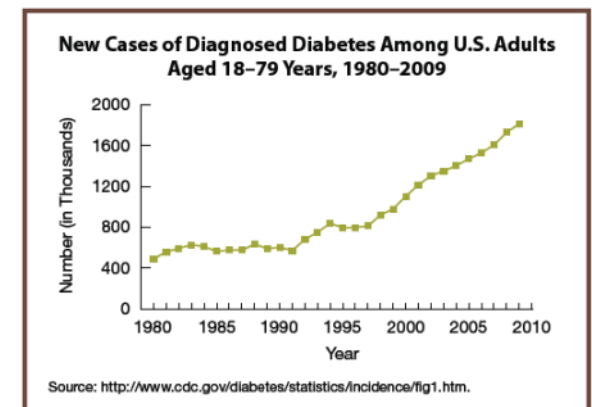


Fig. 12. U.S. Diabetes Epidemic: CDC graph showing the significant rise in Diabetes in the U.S.



“suicide rates in the elderly... are still higher than in younger adults and are more closely associated with depression.”⁴¹ Suicide rates among elderly men are especially high, a trend that increases as men age beyond 65, but that remains relatively stable in women over 65.⁴² Both teens and the elderly need a built environment that is walkable and has a thriving public realm, thereby promoting health and social contact. For the elderly, this need goes one step further – requiring environments in which one can “age in place,” including proximity to a community that can act as a casual support network as well as specific design features that promote accessibility for those with limited mobility.⁴³

As medical researchers look for the broader causes underpinning their specific areas of study, they are increasingly finding America’s built environment to blame. The physical and social isolation that a sprawling, car-dependent suburban fabric creates undermines both physical and mental health. A shift in America’s built environment that supports multi-generational, walkable communities, as well as an emphasis on high quality public space that promotes social contact, could go a long way toward addressing the wide range of lifestyle-affiliated health issues that are plaguing Americans today. When looked at through the lens of health, it is not an exaggeration to say that the reformation of the suburban environment is literally a matter of life and death.

When we try to pick out anything by itself, we find it hitched to everything else in the Universe.

-John Muir, My First Summer in the Sierra⁴⁴

The Environment

In his 2006 documentary An Inconvenient Truth, Al Gore famously made the case for global warming to the nation. He identified rising temperatures, higher levels of greenhouse gases in the atmosphere, melting glaciers and polar ice caps, an increase in extreme weather events, increased precipitation and droughts, rising ocean levels, and local climates altered well beyond natural cycles as evidence that this is an anthropogenic phenomenon. As Gore and many other environmentalists have pointed out, the United States is the largest overall and per capita contributor of carbon emissions in the world.⁴⁵ With five percent of the world's population, America consumes 33 percent of the world's transportation energy and contributes 34 percent of the mobile sources of greenhouse gases.⁴⁶

America has a love affair with the car. This romance shows up in everything from 1950s rock and roll to the 1970s movies Grease and American Graffiti to the more recent string of The Fast and the Furious movies. According to the authors of Once There Were Greenfields:

*Our typical new suburban household owns 2.3 cars, takes 12 automobile trips per day and drives 31,300 miles per year. American households now spend more of their income on transportation than on food, and more on transportation than on any other expense category other than housing.*⁴⁷

The authors go on to point out that the average car uses 550 gallons of gasoline

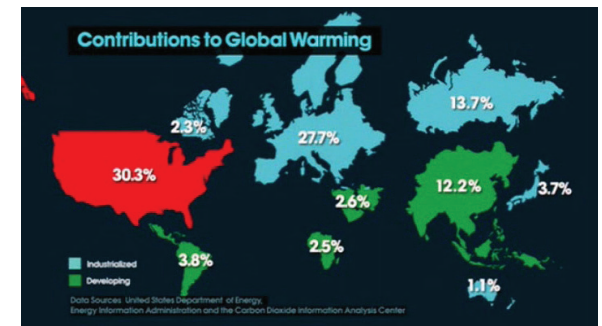


Fig. 13. Global Warming: Diagram from An Inconvenient Truth highlighting America's contribution to global warming.



Fig. 14. American Car Culture: Scene from Grease, the musical.

and releases 8,800 pounds of CO² emissions annually. In addition to CO², cars release carbon monoxide, ozone, nitrogen oxide, and particulate pollution into the atmosphere.⁴⁸ Unfortunately, transportation emissions are only 29 percent of total energy use and 33 percent of greenhouse gas emissions, with buildings themselves accounting for another 39 percent in each category.^{49 50}

The *National Housing Transportation Survey* shows that households in low density areas produce roughly twice the emissions of households in high density areas. Households that are very close to transit lines produce a quarter of the emissions of households without access to transit. To drive home the point, the *Residential Energy Consumption Survey* shows that 80 percent of residential energy use is by single-family homes, and that single-family homes use twice as much energy as multifamily units.⁵¹ Taken together, these studies suggest that the “location efficiency” of a project can have more a significant impact than any building-specific sustainable design strategy.

Climate change and air pollution are only one of the consequences of America's car-dependent, sprawling suburban landscapes. The overwhelming majority of energy production in the United States comes from non-renewable fossil fuel sources, including oil, coal, and natural gas.⁵² As demand for these resources grow, there is increased pressure to exploit ever more of the natural environment for resource extraction, as well as the development of riskier and less productive extraction technologies to meet demand (such as hydraulic fracking⁵³), ultimately approaching what has been labeled



Fig. 15. Location Efficiency: Graph from an EPA study showing the significance of transportation-related energy use.

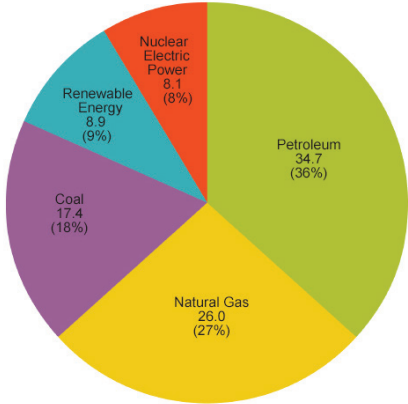


Fig. 16. U.S. Energy Production by Source. (2012)



“peak production” - a point of diminishing extraction returns. Many have argued that the world has already passed the point of global peak oil production.⁵⁴ This dependence on fossil fuels has the additional consequence of making America dependent on Middle Eastern oil imports, tying the nation politically, economically, and militarily to a highly unstable region. As has been suggested earlier, it is precisely the day-to-day pattern of life in America that connects individuals to these seemingly distant, dire political and environmental repercussions.

The low density, car-dependent design of suburbia requires excessive energy use for everything from going shopping, to commuting, to heating and cooling inefficient single-family homes. Whether that energy comes from oil, coal, natural gas, or nuclear power, there is a serious associated environmental cost. Environmentalists have been saying for decades that America needs to transition to a less energy-dependent lifestyle while there are still resources to do it, and the most substantial way to make that change is in the built environment. Through the construction of compact, walkable communities with access to public transit, denser and more efficient multifamily housing, and reduced consumption through shared resources, the majority of Americans who live in the suburbs today can significantly reduce their environmental impacts. The caveat to this mandate (and a point this thesis is particularly concerned with) is that this change should not merely be a sacrifice, but rather a new housing paradigm that actually improves the quality of people’s lives: increased density with increased quality of life.

A home is more than a roof over one's head or a financial investment. It can provide a sense of security and comfort, or elicit feelings of frustration, loneliness, or fear. The home environment affects a person's confidence, relationships with others, and personal satisfaction.

-From Cohousing: A Contemporary Approach to Housing Ourselves⁵⁵

Social Isolation

The last problem, underling all the others, is the potential for social isolation that so many have connected to the suburbs. Loneliness is an inherently subjective, personal experience that is different for each individual, depending on the social and spatial makeup of their community, their family dynamics, and how well integrated they are into larger social networks. Loneliness and isolation have health impacts, environmental impacts, and impacts on civic engagement. While it may be possible to live one's whole life without being adequately fulfilled in this regard, this would seem to deny some essential part of the self, and it is hard to imagine that it wouldn't have significant and deleterious consequences in all areas of one's life. Whether this issue is framed as psychological, neuroscientific, spiritual, or otherwise, it is arguably the most important deficit of suburban life because it has ripple effects in so many directions.

1.4 Thesis Overview

The foregoing analysis of suburban life has identified various issues such as walkability, public space, a sense of place, social interaction, reduced resource use, inclusivity, and adaptation in the face of change as important issues in America's suburban built environment today, but there is one core concept that connects all of these. These issues all rest upon the need for social contact and collaboration among individuals, or the creation of a sense of community. Community is both the lubrication that leads to action, as well as the glue that holds people together. A strong and vibrant community, with an active public realm where people can interact, where neighbors come to know, trust, and rely on each other, is the prerequisite for a functional society. The built environment is just one part of what makes community work, but creating great spaces that encourage interaction and social contact is the first step in facilitating the growth of community, and it is something that is sorely needed within the residential fabric of American suburbs today.

The goal of this thesis is to present a believable project that can address the myriad issues of suburbia while still resonating with why people choose to live in the suburbs. While this project will draw upon and weave together many ideas that have been previously tried in forward-thinking residential developments, they will be theoretically grounded by the goal of creating community through the use of shared space. While the word "community" is associated with practically every new development, it is all too often given lip service, while the preference for clearly delineated private space dominates the plan. This thesis will present a hybridized project that combines a variety of housing



types to increase density and appeal to broader demographics while leveraging the resulting open space to create shared public, semi-public, and semi-private zones that will create a much richer experience of place. As such, this project will be a new development of a large enough size to redefine the standard spatial relationships of streets and dwelling units within its boundaries.

To make multifamily housing successful in suburban areas where single-family houses are affordable, it is important that the project not sacrifice quality of living to achieve greater density, but rather offer greater quality of living alongside greater density. This is where the use of shared space to create an enhanced sense of community and access to increased amenities become essential elements of the project. The next section will identify five theoretical concepts to guide the thesis, conduct a review of applicable literature, survey potential housing typologies, and ultimately propose a development that is specifically appropriate for contemporary American suburbs.

2. Theoretical Framework

2.1 Overview

The theoretical framework for this thesis presents architectural concepts drawn from a review of applicable literature that provide potential solutions to the problems identified in the previous section. The five areas of conceptual focus are the public realm, civic engagement, inclusivity, health, and sustainability. At the core of these five concepts is the need to establish a thriving sense of community. While these concepts range from the abstract to the concrete, this thesis will focus primarily on spatial solutions. This is not to suggest that spatial solutions alone are adequate – merely that they are the proper focus for the architectural portion of any proposed solution. Housing is so intimately connected to the needs of individuals and groups that any potential solution must be equal parts architecture and psychology/sociology. After discussing the project concepts, the thesis will present case studies of similar projects that will inform the design solutions, and conclude by proposing a direction for the project design.

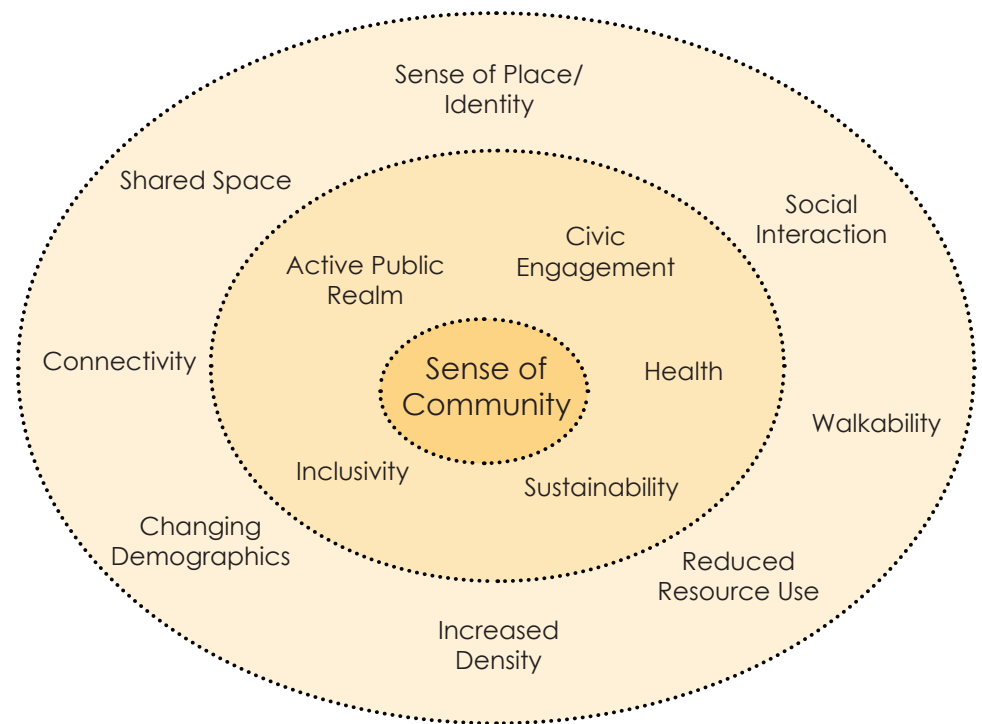


Fig. 17. Theoretical Framework "ripple effect" diagram.

2.2 Primary Concepts

Sense of Community

In his seminal study of individualism in America, sociologist Robert Bellah pointed out that “individualism lies at the very core of American culture,” yet went on to suggest, “Perhaps the notion that private life and public life are at odds is incorrect. Perhaps they are so deeply involved with each other that the impoverishment of one entails the impoverishment of the other.”⁵⁶ In a similar vein, Robert Putnam stated that individuals engaged with larger communities not only become “healthy, wealthy, and wise”, but that “people who have active and trusting connections to others – whether family members, friends, or fellow bowlers – develop or maintain character traits that are good for the rest of society. Joiners become more tolerant, less cynical, and more empathetic to the misfortunes of others.”⁵⁷ What both of these authors are talking about is the thing that is formed when individuals step outside of themselves and create networks of social connections; this is a sense of community, a mutual trust and awareness that is the glue that holds groups of people together.

The Public Realm and Civic Engagement

Robert Putnam identified common spaces as a prerequisite for the redundancy of contact required to build successful networks. Putnam specifically states that “urban planning, architecture, and technology can each foster redundancy and multistrandedness by creating opportunities for encounters that knit together existing ties.”⁵⁸ According to Christopher Alexander,

The common land has two specific social functions. First, the land makes it possible for people to feel comfortable outside their buildings and their private territory, and therefore allows them to feel connected to the larger social system... And second, the common land acts as a meeting place for people.⁵⁹

By this reasoning, the spatial basis for the creation of a sense of community is shared common space, or the public realm.

Andres Duany characterized the public realm as “communal space... places for people to get together to talk,” listing as examples walkable streets, parks, pubs, and public squares.⁶⁰ Ray Oldenburg declared the need for the *third place* that is neither home nor work, identifying pubs and coffee shops specifically, but also community centers, beauty parlors, general stores, and so on.⁶¹ According to Duany, people who occupy public space are more likely to be exposed to those of different life experience and background and to social ideas that are outside of their specific life experience, which Robert Putnam has said promotes civic engagement, empathy, conflict resolution, and stronger social networks.^{62 63}

This thesis is focused on rethinking residential expression in suburban form, not designing an entire town center based on New Urbanist principles. As such, the idea of the public realm will find expression in two ways: site selection and site design. Sites that are in walkable areas (near basic amenities like schools, parks, grocery stores, restaurants, bars, etc.) will be given preference in selection. The larger task of the project, however, will be to introduce shared space in to the site itself, in order to create a forum for



Fig. 18. Third Place: Scene from the TV show Cheers, the quintessential public third place.

interaction and the exchange of ideas, both between residents as well by engaging the larger area. This extensive integration of shared spaces into what is typically envisioned as a fully private realm has the goal of creating a strong sense of community, which is the single most important factor behind the success of the project, as well as all the potential benefits and solutions that the project proposes. Community starts with something as simple as a conversation between neighbors and leads to increased trust, awareness, personal growth, conflict resolution, and civic engagement. While designing spaces that facilitate interaction is only one small part of creating a vibrant community, it is a necessary precondition that is so often lacking in residential developments.

Limitations of design:

Architectural determinism is the idea that the built environment is the sole, or even primary, cause behind social behavior. This thesis is not advocating a deterministic approach to anything as complex as human emotions or social webs. As cohousing expert Dorit Fromm posited in her study of collaborative housing, it is “the collaborative attitude” that is the essential component of the project, not the organizational structure or the design of the spaces. “This attitude,” according to Fromm, “is a process in which people switch from an individual mode of thinking to one of an awareness and care of the group.”⁶⁴



Fig. 19. Portland, OR: Volunteer community clean-up.



Fig. 20. New York, NY: Image of an Occupy Wall Street protest.

Strategies for successful design:

The successful interplay of public and private spaces within architecture requires understanding the character of each and deploying many layers of slight spatial transitions among them. Architect Ross Chaplin identified seven spatial layers between the public and private in an example project:

A resident arriving home or a guest coming to visit enters through ‘implied’ gateways – near the mailbox kiosk of the parking pockets – into the garden courtyard. From here to the front door are five more layers: a border of perennial plantings, a low split-cedar fence with a swinging gate, the front yard, the frame of the porch with a porch railing and flowerboxes, and the porch itself. Within the cottages, the layering continues, with active spaces toward the commons and private spaces further back and above.⁶⁵

While Chaplin referred to this strategy formally as “a sequence of boundaries,” many of these boundaries are subtle and implied.⁶⁶ Architects Kathryn McCamant and Charles Durrett echoed this sensibility: “These links and thresholds should be indicated physically, although the demarcation can be as subtle as a change in ground cover, or a step up.” To them, this is a “hierarchy of spaces” that “helps support community life and relationships among people.”⁶⁷ Jan Gehl discussed a similar and complementary concept, which he labeled “soft edges.” Gehl analyzed the use of spaces around residential buildings and suggested that the detailing of the areas immediately adjacent to entrances and exits deserve particular attention. Gehl specifically mentioned well-



Fig. 21. Spatial Layering: Image of homes in a pocket neighborhood.
(Photo credit: Ross Chaplin Architects)

designed seating, play areas for children, porches, and an easy transition from indoors to outdoors, allowing residents to “pop out” for just a minute. To Gehl, these soft edges help to enliven semi-public zones by easing the transitions between public and private spatial gradients.⁶⁸

While spatial gradients and soft edges can be understood as boundaries intended to protect privacy without the vulgarity of a six foot high fence, they also serve as fluid connections between spaces. Gehl discussed the need for easy transitions to encourage individuals to move freely back and forth between the private space of the home and the semi-private space of the porch or more public sidewalk – ideally without much effort or preparation. In this view, the outdoors is conceived of as a continuous extension of the indoors. Gehl identified 10 feet as an ideal distance between the semi-private zone of the porch and the public sidewalk – close enough to easily carry on a conversation, but with enough distance that one does not feel obliged to.⁶⁹ Gardens are especially effective, both as a subtle barrier and as an excuse to occupy the semi-public space where one might engage with passers-by. As McCamant and Durrett declared, “the design should allow residents to choose whether to be with others or to be alone.”⁷⁰ In navigating the individual sensitivities that arise from attempting to integrate private and public space within the project, this thesis will pay particularly close attention to the importance of these transitions zones – the spatial gradients and soft edges that serve as both barriers and invitations, as fences and welcome mats.



Fig. 22. Soft Edges: Image of Jan Gehl's “soft edges” concept.
(Photo credit: Gehl Architects)

If what you are selling is privacy and exclusivity, then every new house is a degradation of the amenity. However, if what you are selling is community, then every new house is an enhancement of the asset.

-Vince Graham, addressing the National Association of Home Builders, qtd. in Suburban Nation⁷¹

Inclusivity

Suburbs have traditionally been homogeneous areas, often segregated economically and culturally, creating “lifestyle enclaves”⁷² of people with similar life experience, finances, and values.⁷³ While the explicit racial segregation of the postwar era has been illegal for some time, the reality is that many places in America remain segregated along racial and other demographic lines, whether intentionally or not, by cultural norms, zoning codes, and developments that fail to value inclusivity. Among others, Andres Duany and Robert Putnam have suggested that heterogeneous living environments are beneficial because they expose individuals to points of view they would not otherwise encounter, encouraging empathy, conflict resolution, stronger social networks, and serving to enrich life experience.^{74 75} The concern with heterogeneity is that it can lead to conflict, or simply balkanization, if a community does not gel. The study *Designing Neighborhoods for Social Interaction*, which looked specifically at cohousing, found that,

Homogeneity within residential communities promotes social interaction. A very strong message from the research was that although homogeneity in terms of residents' attitudes and values is important in ensuring high levels of social interaction, variety in terms of affluence and household type (i.e. one-person households, couples and families, etc.) for example actually increases social interaction in cohousing communities.⁷⁶



While this is just the result of one study, it shows a nuanced interaction between homogeneity and heterogeneity in housing communities, suggesting that homogeneity in some areas and heterogeneity in others is the ideal.

While the concept of inclusivity relates to such divergent demographic factors as household size and type, economic position, ethnic and cultural background, sexual orientation, resident age, and even life experience and belief systems, the spatial expression is to provide variety in the type of spaces included in the project. Designing an inclusive shared housing community suggests including a variety of unit types, sizes, and prices that allow for people from a variety of backgrounds to live in the project. This could include units for young single people, elderly single people, couples without children, single parents with children, traditional nuclear families, or extended families living under one roof. The project should offer rental units as well as owned units, to allow for the inclusion of people with lower incomes, as well as people in a more transitional stage of life. Units might also be designed as a base model with the possibility for future additions or customization to anticipate residents' growth and needs, or as funds become available. Units could include a self-contained portion with its own entrance that could be rented separately for additional income if needed or desired. These purely spatial considerations will allow a wider variety of people to be able to live in the project than is common in typical multifamily developments.

The challenge is to find a copacetic way to meet the needs of all these different groups. This can primarily be addressed through careful site planning, including adjacencies on the site, relationships to the centers of activity in the community, and the spatial gradients and soft edges discussed in the previous section. As mentioned previously, the architecture can only set the stage for the growth of a vibrant, heterogeneous community; it is up to that community itself to fully realize the idea.

Health and Sustainability

Opportunities to promote health and sustainability through architecture occur at practically every stage of the design and construction process, involving everything from site selection, to building massing, to materials and interior finishes. As the largest green building certification program in the United States, the U.S. Green Building Council's LEED (New Construction, 2009) awards points in the following categories: sustainable sites, water efficiency, energy and atmosphere, material and resources, indoor environmental quality, innovation in design, and regional priority.⁷⁷ While LEED is just one take on sustainability, it is a good starting place in assessing prospective sustainability imperatives, many of which overlap with health imperatives. Walk Score (along with Bike Score and Transit Score) is another organization working to bring sustainability and health concepts to the mainstream. Walk Score assesses an area's walkability using a point system that rewards a site for being within a 5-30 minute walking distance of common amenities. Walk Score operates primarily as a real estate tool, but mentions



Fig. 23. USGBC LEED Credit Categories.

“location efficiency” as an element of sustainability, as well as being an excellent predictor of walking (and therefore health) opportunities in an area.⁷⁸

Both LEED and Walk Score suggest that the most important first step in sustainability and health is choosing a site that is in a walkable area, near transit and amenities. According to an EPA study on location efficiency, homes can save more energy from their location than their specific building efficiency measures, largely due to the use of public transit and reduced transportation needs.⁷⁹ Dr. Richard Jackson echoed this preference for location from a health perspective, pointing to environmental health factors like air quality and walkability.⁸⁰ Beyond site selection, sustainability and health play an important role in informing the site plan and building massing, as well as the details of building-specific design strategies.

Because the layout of most suburbs clearly preferences automobile circulation, one of the great challenges for the individual site is to navigate the interaction of pedestrian and vehicular circulation successfully. According to McCamant and Durrett, the most important first move is to relegate parking to the periphery of the property, preserving the space between buildings as a pedestrian zone. They took this idea one step further, suggesting that “pedestrian circulation can serve as an organizing principle for the layout of buildings.”⁸¹ Beyond encouraging walking within the project, this creates a car-free zone for children to play and adults to socialize, both of which have important health impacts.⁸²



Fig. 24. Boulder, CO: Walking mall, a lively public space.



Fig. 25. Atlanta, GA: Beltline walking and biking trail.



The site plan can promote health and sustainability by taking advantage of the natural elements of the site to use passive systems, capture views, and create active outdoor spaces. Perhaps the most significant natural factor is solar orientation and access, affecting everything from daylighting potential, to passive heating and cooling, to the possibility for energy generation, as well as the substantial health benefits of access to natural light.⁸³ The site plan can also capture prevailing winds for ventilation and cooling, shelter buildings in the earth to provide insulation, use trees for shading, and provide natural amenities and views, which have proven mental health benefits.⁸⁴ Other site-related factors to consider are air quality, potential soil contaminants, adjacent noise and light pollution, stormwater runoff, landscape irrigation needs, the possible collection and reuse of rainwater, conservation of habitat areas, and the possibility of growing food on site. All of these factors have impacts that can contribute positively to sustainability, health, or often both.

At the level of the individual building, there are a wealth of strategies to promote health and sustainability, ranging in scope from general systems to specific material choices. Beyond those strategies already mentioned (which require a combination of building design, massing, and siting), individual buildings can primarily contribute to health and sustainability through their material selection, quality of construction, ongoing energy and water use, and whether they promote a sense of well-being in their occupants. As an example, natural materials and finishes preserve indoor air quality by reducing the off-gassing of volatile organic compounds (VOCs).⁸⁵ High quality materials



will last longer, requiring less waste and energy use in replacement. A well detailed and executed building envelope will ensure that moisture does not get trapped in the wall assembly, preventing mold and the premature decay of materials.⁸⁶ Radiant heating, as an alternative to conventional forced air systems, is both more efficient and eliminates the problem of dust and mold present in heating ducts.⁸⁷ Even the choice of hard surface floors or carpeting has a significant impact on allergens in the home.⁸⁸ Lastly, a well-designed, well-insulated building will use less energy to heat and cool itself, reducing the need for fossil fuels and the amount of carbon released into the atmosphere. While these are just examples of the many possible strategies, they suggest that for health and sustainability goals to achieve their full impact, these strategies should be integrated in to the project at every level of design and construction, from site selection, to the site plan, to the massing and details of the building itself.

How much more complex, then, is multifamily housing. For in this building type we have the psychological and social demands of the single-family home, plus the accommodation of families living together – families of all shapes and sizes. Multifamily housing must satisfy the human need for self-expression in built form (which single-family homes more easily accommodate) yet also foster a sense of community. Such projects are delicate balances of public face and private spirit, individual space and communal identity.

-Michael J. Crosbie, Multi-Family Housing⁸⁹

2.3 Alternatives to Single-Family Housing

Conventional Multifamily Housing

Conventional multifamily housing includes apartments/condominiums, as well as ground-based, attached housing such as townhouses and duplexes. Projects are often designed for a specific population (such as students or the elderly) or for a particular market segment (market rate, low-income, etc.). According to the National Association of Home Builders, one quarter of housing in the United States today is in multifamily units.⁹⁰ The advantage of multifamily housing, according to Architect Mike Pyatok, is that it is denser, more affordable, has smaller units, and conserves land, energy, and resources.⁹¹ Pyatok also believes multifamily housing can bridge ethnic and socioeconomic divides and integrate with transit oriented development by incorporating mixed-use and mixed-income elements. While all this is good, in many people's perspectives living in multifamily housing entails sacrificing something essential about the vision of having one's own home and space. While people may choose to live in multifamily housing out of necessity or a desire to be in a denser urban center, the typology is not something that is typically seen in the suburbs, where space is more plentiful; yet all of the environmental and social advantages that Pyatok mentions are just as necessary in suburban areas as urban ones. The question of what it would take to make multifamily housing an attractive alternative in suburbia lies at the heart of this thesis, and, in many ways, it seems to come down to the question of whether it presents a positive alternative, rather than merely being a compromise or a sacrifice.



Fig. 26. Seattle, WA: Mixed-use apartment building designed by Weber Thompson Architects. (Photo credit: Weber Thompson Architects)



Fig. 27. Seattle, WA: Townhouse development by B9 Architects. (Photo credit: B9 Architects)

Limitations of conventional multifamily housing:

Kathryn McCamant and Charles Durrett criticized conventional multifamily developments in their book on cohousing, stating that,

Conventional condominium... developments rarely incorporate design factors that encourage neighbors to meet or that provide children with safe and challenging play areas. As a result, residents of many condominium complexes barely know each other (despite their proximity), and conflicts often arise over children playing in "off-limits" areas.⁹²

McCamant and Durrett went on to state that "while multistory apartments are high density, they are rarely desirable to families with children. Moreover, living more than three or four stories above the ground creates feelings of anonymity in many people."⁹³ The question, then, is one of the shared spaces in multifamily housing. Since many of these projects are pushed by developers with tight budgets, shared amenities, which no one in particular pays for, are often neglected or minimized. If there are more generous shared amenities, the question quickly becomes who is responsible for them and how are they used? Architect and planner Oscar Newman suggested that multifamily developments that do not have a sense of "territoriality" or uniqueness, have poor visual surveillance from living areas, and have inactive public spaces "can make the act of going from street to apartment the equivalent to running the gauntlet."⁹⁴ If the shared spaces are underutilized and isolated, they become potentially dangerous. Either way,

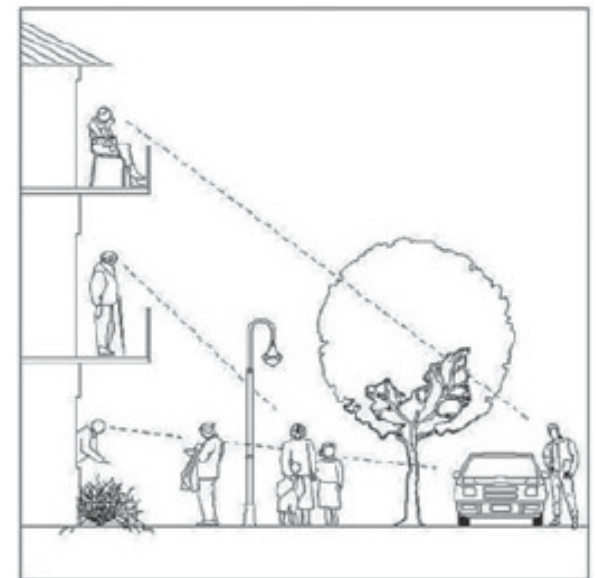


Fig. 28. Defensible Space: Casual surveillance and activity keep shared spaces safe.

there is a maintenance and liability cost that the building owner must bear, as well as the inevitable conflict between parking (which is usually located as near to individual units as possible) and providing open space on the site. The simple act of creating shared space means that the project must have smaller or fewer units, reducing profitability under a traditional development model, which must be made up in higher unit costs. While well-designed multifamily projects do exist, the majority unfortunately provide the necessary private space without meaningful accompanying shared spaces that would serve as a positive trade-off for the sacrifice of living in higher densities. Elsewhere in this thesis, these shared spaces have been identified as the catalyst for the development of a strong sense of community, the element that seems most lacking in conventional multifamily developments.

Clustered Housing

Architect Ross Chaplin proposed “pocket neighborhoods,”⁹⁵ similar to what William Whyte identified as “cluster development” in the 1960s,⁹⁶ and what is commonly called “clustered housing” as an alternative to traditional multifamily projects. Clustered housing projects typically combine a number of individual, free-standing homes built in a cluster around a shared open space. This approach allows for higher densities than traditional, single-family housing, while preserving the feeling of single-family homes and supplementing the denser arrangement with shared, park-like space that is preserved on site. While these projects may not be nearly as dense as urban apartment complexes,

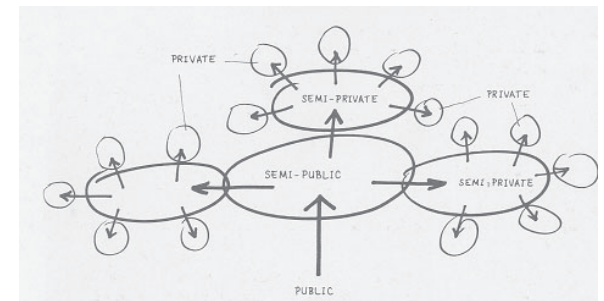


Fig. 29. Defensible Space: Diagram highlighting the role of semi-public spaces in creating territoriality in a multi-family living environment.

they are an improvement over traditional single-family suburbs, and Chaplin suggested that they can be successful in creating a sense of community, which is key to making denser arrangements palatable. While Chaplin did not specify a target number of dwelling units per acre, he suggested that 12 to 16 households are ideal for a pocket neighborhood.⁹⁷ Christopher Alexander recommended clusters of 8 to 12 detached households.⁹⁸ The Pine Street Cottages in Seattle (one of Chaplin's examples) are 10 units on .36 of an acre, for a density of 28 units per acre. The cottages themselves are very small at 400 ft² each, yet they sold immediately. According to Chaplin,

These buyers had no tolerance for hearing a neighbor's toilet flush, or a constant churning of personalities and vehicles. They wanted to live in a ground-based single-family neighborhood, without the long to-do lists that come with family-size houses.⁹⁹

Traditional single-family suburbs may have densities of 1 to 12 units per acre,¹⁰⁰ with townhouse developments at 15 to 35 units per acre, and mid- and high-rise apartment projects at densities from 45 to over 100 units per acre.¹⁰¹ Clustered housing provides a compelling alternative to single-family housing in terms of its shared space and potential for community, while also achieving the "ground-based" characteristic of single-family housing that attracts so many people. While clustered housing projects may reach higher densities than single-family areas, they tend to still be composed of detached individual homes, limiting their potential density. It could be said that these slight increases are not enough of an improvement to significantly alter suburban fabric



Fig. 30. Clustered Housing: Project designed by Ross Chaplin Architects, similar to the Pine Street Cottages.

or land-use patterns. The Pine Street Cottages, for example, were exceptional in their density only because the individual units were unusually small.

In response to the lower densities of clustered housing compared to other types of multifamily developments, Christopher Alexander suggested augmenting clusters with the addition of row houses. He estimates that detached clusters can achieve densities up to 15 units per acre, while clusters with row houses can reach 15 to 30 units per acre.¹⁰²

Limitations of clustered housing:

The crucial question for the success of clustered housing projects is whether they can create a sense of community in the shared spaces. Because the individual units are often smaller and closer to their neighbors, the shared space becomes an important extension of the home, a spillover for children to play in, for adults to relax and socialize, and for parties or events to be hosted. This equanimous sharing of space so intimately related to the individual home requires a sense of trust and engagement with one's neighbors. While the very proximity and physical design of clustered housing may promote such an atmosphere, there is not necessarily an accompanying social infrastructure to bridge the gap and facilitate the development of a sense of community. Without the accompanying sense of community, the shared spaces can become liabilities rather than amenities – someone must take care of them, their use may become a point of contention between neighbors, and, if left vacant, they fail to

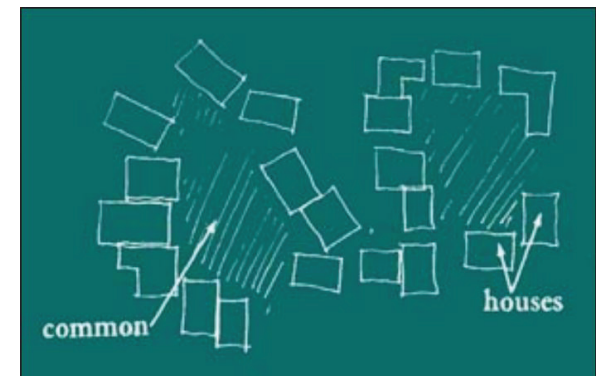


Fig. 31. Clustered Housing: Diagram from A Pattern Language by Christopher Alexander.

I know I live in a community because on a Friday night it takes me 45 minutes and two beers to get from the parking lot to my front door.

–Trudeslund cohousing resident¹⁰³

be adequate as defensible space, opening up the possibility of abuse from outside the site. Unfortunately, clustered housing is not generally studied as its own category, so there is little information on non-cohousing clustered developments to corroborate how successful the social components of these projects are.

Cohousing

While it can take many forms, cohousing in the United States is typically low-rise, medium-density, clustered multifamily housing. The first cohousing community was built in 1972 in Denmark, where cohousing is called *bofællesskaber*, which means “living together.” The concept was brought to the United States and dubbed “cohousing” in 1988 with the publication of Cohousing: A Contemporary Approach to Housing Ourselves by Kathryn McCamant and Charles Durrett. McCamant and Durrett were both architects who traveled for over a year in Denmark, living in and studying this alternative housing type that they hoped would address the substantial lack of community in American housing. The resulting book explains everything from lessons learned in the design process, to the financial mechanisms, and even the social challenges of creating a cohousing community. McCamant and Durrett defined cohousing by identifying these four characteristics: participatory process, intentional neighborhood design, extensive common facilities, and complete resident management. They went on to state that most cohousing communities are from 15 to 30 households and have 40 to 100 members.¹⁰⁴ While both larger and smaller examples exist, McCamant and Durrett considered this



Fig. 32. Seattle, WA: Duwamish Cohousing. Circulation path and shared meal in the common house. (Photo credits: Josh Parkinson)

middle range optimal, being large enough that one does not have to be best friends with their neighbors, but small enough that they know everyone with whom they live.

The difference between cohousing and clustered housing is that cohousing pushes the community aspects further, incorporating participatory decision making and resident management with more extensive shared amenities and a more intentional approach to community formation. The centerpiece of any cohousing site plan is the common house, a large, shared building that functions essentially as a community center for the project. The common house (along with other shared site amenities like a shop, garden, laundry, children's play areas, etc.) provides a strong positive to counteract the perceived sacrifice of living in a denser housing arrangement where some privacy is sacrificed. What is lost in privacy is made up for in community, and in access to more amenities than any one household could afford on their own. These shared spaces, and the accompanying sense of community, are essentially the selling point of cohousing compared to other types of multifamily housing.

Since a majority of the issues with contemporary suburbs identified in this thesis have at the root of their solutions increased connection between people, cohousing seems especially well suited to address the entire range of suburban deficits. The very design of a cohousing project predicates a sense of community by thoughtful use of public, semi-public, and private spatial gradients extending from within the home itself into the shared space and (ideally) out into the larger community. A shared sense of



Fig. 33. Bainbridge Island, WA: Winslow Cohousing. Circulation path and common house dining space.

community addresses the social isolation of traditional suburbs, while taking advantage of shared resources and responsibilities can relieve individual household domestic work and achieve a lighter environmental footprint. These shared functions can be anything from celebrations, to nightly meals in the common house, to shared shop space and community-owned vehicles, to establishing a food-buying cooperative, or simply watching each other's children. Since the majority of these domestic responsibilities traditionally fall on women's shoulders, cohousing can offer a significant liberation compared to the isolating workload of maintaining a detached single-family home while working and watching children.¹⁰⁵ By setting the stage for increased interaction outside the nuclear family, cohousing epitomizes the proverb "It takes a village to raise a child," offering both adults and children exposure to multiple points of view and the opportunity for personal growth and enrichment. This exposure to other points of view is the first step toward increasing the civic engagement that Robert Putnam identified the need for.

Limitations of cohousing:

The limitations of cohousing have to do with its demanding level of involvement, leading to de facto exclusivity and homogeneity in some areas. The process of creating a cohousing community can take years of planning, getting finances in line, finding a site, and making decisions as a group.¹⁰⁶ This process can be draining, involving a commitment of time and emotions that many people simply burn out on. According



Fig. 34. Seattle, WA: Jackson Place Cohousing. Circulation path and common house children's play room.

to a resident interviewed by McCamant and Durrett, “For every ten families who want to live in cohousing, there is only one that is prepared to take on the burden of the planning period, and for every ten of those, there are only a few who can take the initiative.” This same resident insisted that “a housing program should be carried out by people, not for people,” encapsulating the duality at the core of cohousing.¹⁰⁷ Virtually every source that discussed cohousing emphasized how the collaborative process of creating and maintaining the community is an essential factor in creating the bonds of community that build trust and companionship among members, leading to a strong sense of community and active engagement in the common spaces. These same sources identified this same process as a primary source of complaint, and cause for emotional fatigue and burn out in cohousing communities.^{108 109 110} According to Dorit Fromm’s critical study of the first five years of American cohousing, the communities tend to cost more than comparable townhouses, tend to be exclusively composed of well-educated people, and while they are diverse in terms of age, income, religion, family make-up, and sexual orientation, they are not generally racially or culturally diverse.¹¹¹ One possible explanation for this tendency is that the commitment of finances, time, and emotions are something that only a certain segment of the population is willing or able to invest. While this investment may be an important element in the development of a strong sense of community, it is probably the single greatest factor limiting the more widespread adoption of cohousing as a viable alternative to single-family housing in the United States. There is a conflict, then, between community and exclusivity at the core



Fig. 35. Corvallis, OR: CoHo Ecovillage.



Fig. 36. Portland, OR: Daybreak Cohousing.

of the cohousing model. McCamant and Durrett confronted this reality early on in their book (which is essentially “the bible” when it comes to cohousing), but they simply saw no other way for cohousing to be built:

The participatory process has both advantages and disadvantages, but no cohousing has been built any other way. Even with the proven success of cohousing, developers hesitate to build it on their own. Experience shows that only people who seek new residential options for themselves will have the motivation to push through the arduous planning and design process without compromising their initial goals.¹¹²

Dorit Fromm pointed out, somewhat dramatically, in the conclusion of her study of American cohousing that despite all the challenges of cohousing as it exists today, there are still many Americans for whom it addresses some elemental need, and, presumably, there are many more for whom it could, if cohousing were only a little more approachable.

American cohousing provides a strong “sense of community.” That this community is much harder to develop than was envisioned – that it is not very affordable, that it requires large amounts of time to maintain, that making decisions together is not as smooth as anticipated, that free time with one’s family is not increased, and that often a sense of privacy is decreased – that is the cost. And that there are Americans willing to pay the costs demonstrates the value of community to them, and of the cohousing concept as an alternative to the “American Dream.”¹¹³



The question this analysis raises is, Can the aspects of cohousing's physical design that promote a sense of community be applied to a traditional, developer-led project and be successful without cohousing's accompanying self management and intensive decision-making process? McCamant and Durrett unintentionally suggest an answer: "While the participatory development process establishes the initial sense of community, it is the physical design that sustains it over time."¹¹⁴

2.4 Case Studies



Fig. 37.
Bellingham Cohousing
(Bellingham, WA)



Fig. 38.
Pringle Creek Community
(Salem, OR)



Fig. 39.
Grow Community
(Bainbridge Island, WA)

Bellingham Cohousing

Location: Bellingham, WA

Completed: 2000

Architect: The Cohousing Company
(McCamant & Durrett Architects)

Size: 6 acres (2 acres wetland)

Units: 33 units

Units/Acre: 8.25 (w/o wetland)

Description: 2, 3, and 4 bedroom units, 800 - 1600 sq. ft., flats and duplexes, clustered around a common house and open space play area. Wetland on property is protected.



Fig. 40. Entry in to project.



Fig. 41. Semi-public shared space.



Fig. 42. Plan view (aerial).

Bellingham Cohousing is the nicest of seven Northwest cohousing communities I've visited. The common house is an adapted farmhouse, but otherwise the design is classic cohousing (designed by the couple who brought cohousing to the U.S.): clustered attached units, parking on the exterior, inward-facing, with bland architecture and great shared spaces. Bellingham stands out in the care the residents devote to its landscaping, making for truly beautiful walkways and shared spaces. The project isn't in a walkable area and it turns its back on the neighborhood, but internally it's very pleasant, and the wetland is a nice amenity. The project does a great job with establishing comfortable spatial gradients along walkways. Unfortunately, there are no smaller or rental units, and the unit cost is high for the area.



Fig. 43. Common House and play area.



Fig. 45. Path leading to Common House.



Fig. 44. Typical unit interior.



Fig. 46. Common House dining and kitchen.

Pringle Creek Community

Location: Salem, OR

Completed: On-going

Architect: Opsi Architecture, Ramsay Worden Architects.

Size: 32 acres

Units: Approx. 170

Units/Acre: Approx. 5

Description: Single family houses, cottages, duplexes, townhouses, and live/work lofts in 8 clusters with a mixed-use and community plaza at the center. Amenities include greenhouse and garden space, arts and farmer's market pavilion, walkable commercial space, and substantial green space.



Fig. 47. Triplex rendering.



Fig. 48. Semi-public shared space.

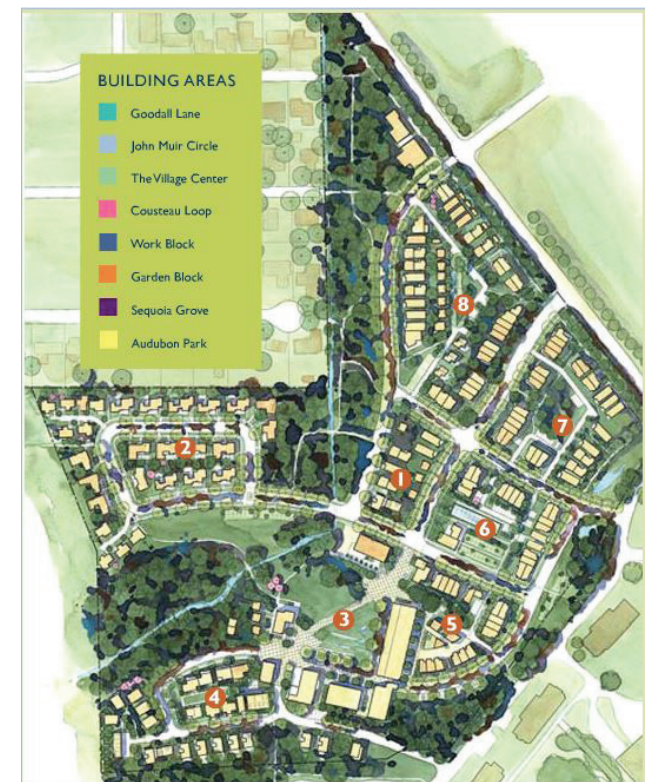


Fig. 49. Site plan.

All the planning was in place for Pringle Creek Community in 2007 when the economy collapsed; seven years later there are only a handful of houses built, yet the developer has stuck with its ambitious sustainability goals and innovative site planning. The project is the redevelopment of part of a very large institutional property three miles from downtown Salem in an industrial area. Pringle Creek has ambitious sustainability and land-use goals, and aims to create its own transit and limited mixed-use economy, including commercial spaces, an agriculture co-op, and a weekly farmer's market. The architecture of what is built is simple and nice, not traditional but not flamboyantly modern either. As designed, Pringle Creek would be a spectacular place to live; unfortunately, economics (and possibly lack of interest) have left it largely vacant.



Fig. 50. Single-family house.



Fig. 51. Guest house interior.



Fig. 52. Model tall house.



Fig. 53. Community center interior.

Grow Community

Location: Bainbridge Island, WA

Completed: On-going

Architect: Davis Studio, Cutler
Anderson Architects.

Size: 8 acres

Units: 131

Units/Acre: 16.4

Description: Clustered single-family houses, duplexes, townhouses, apartments, and condos with a shared community center and open space.



Fig. 54. Single-family street facade.



Fig. 55. Pathway through single-family cluster.



Fig. 56. Rental apartment street facade.



Fig. 57. Rental apartment community facade.



Fig. 58. Original Davis Studio site plan.



Fig. 59. Adopted Cutler Anderson site plan.

Grow Community was originally designed as two clusters of single-family houses at the ends of an “L” interspersed with several apartment and townhouse buildings. The elbow of the “L” was shared open space with a community center, day care, and commercial space. The developer went with a revised site plan leaving the Village cluster intact (built) and swapping more apartments and large, rectilinear open spaces for the rest (unbuilt). With only a third of the project completed, it is hard to judge its overall success, but my sense is that the clustered housing with meandering paths and small, semi-public pockets or nodes would have made for a richer spatial experience, as well as appealing to residents who want a ground-based, single-family house. It is worth noting that both versions have comparable densities.

Grow combines innovative site planning with well-designed architecture and ambitious sustainability goals (meeting the One Planet Community criteria). It is a very exciting project that has anticipated its market perfectly, immediately selling out all Village units, with a long waiting list for resales. Phase 1 is well-designed, but lacks substantial open space, so it will be interesting to see how the project feels once completed, and whether the separately-designed areas work to develop a shared sense of community.



Fig. 60. Single-family house.



Fig. 61. Single-family house interior.

There is not a single approach that has not been tried out on the ground, and the lessons are there for those who wish to look... It's in new combinations of the old that the opportunity lies, and the moment was never better.

–William H. Whyte, Clustered Development¹¹⁵

2.5 Conclusions

No one type of multifamily housing development commonly being built today fully addresses the totality of issues raised in this thesis, yet, taken together, there is a body of knowledge that does have solutions for each concern. The problem in practice has been incorporating the right mix of strategies to successfully create multifamily housing that engenders a strong sense of community. This is a problem primarily of the quality of shared spaces and a tendency to default to clearly defined private spaces over shared ones. The challenge is largely financial, related to developers' and banks' willingness to explore uncharted territory, but also a matter of social ideology and architectural expression. Because it has not been a part of my education, this thesis will not attempt to prove the financial aspects of the project, but will rather focus on the social and architectural implications.

After a review of the various approaches to multifamily housing in practice today, this thesis proposes a larger clustered housing development that incorporates a variety of housing types (including apartments, townhouses, and other attached housing types) centered around a shared community center and open space. This is intended to be a mixed-income, multi-generational community that prioritizes inclusivity, sustainability, and health through sensitive site design. While the architecture may be the most prominent element of such a project, it is the spaces between buildings that truly determine whether the project will be successful or not. The project will draw heavily on the physical design and attitude toward space of cohousing communities, while attempting to translate these ideas into a development type that is more traditional in



nature and more likely to work for the majority of Americans living in the suburbs. The development will use the space gained by incorporating denser housing types to offer high quality shared space within the site, relegating cars to the periphery and creating a pedestrian zone with amenities that will offer an improved quality of life over both traditional multifamily projects and single-family suburbs.

3. Methodology

3.1 Overview

This thesis addresses the challenges of the suburbs with an approach to development that prioritizes fostering a sense of community as a means of catalyzing larger social changes. Methodologically, it relies on secondary sources to inform the parameters of the design, as well as personal experience in visiting similar projects and conducting informal interviews with residents. The measures of success for the project will be in how well the design is able to coherently synthesize all of these various concerns, with particular attention paid to the relationships between the gradients of public, semi-public, and private space that define the project.

3.2 Goals and Objectives

The goals and objectives for this thesis are expressed in the table to the right.

Concepts	Goals	Program Objectives	Design Objectives
Sense of Community, Civic Engagement and the Public Realm	To create a strong sense of community and foster civic engagement.	Provide common, shared spaces as a backdrop for unstructured interactions between neighbors, friends, and the larger community.	Shared spaces should be integrated in to day-to-day life, inviting, porous, provide an array of options, and utilize spatial gradients and soft edges to provide subtle layers of transition between public and private space.
Inclusivity	To create a vibrant, heterogeneous community.	Provide a variety of housing types, sizes, and price levels. Create flexible and adaptable homes that allow for growth, additions, or rental of a bedroom. Site buildings to acknowledge the differing needs of the elderly, families, and singles.	Design individual units to extend gradients of public to private space indoors. Design elderly units for accessibility and quiet, family units for activity, centrality, and casual surveillance of children in public spaces, and single units in more active areas, but with some buffering from families.
Healthy and Sustainability	To create a community that promotes individual health and is environmentally sustainable.	Provide a walkable space that is connected to a larger walkable neighborhood. Create spaces that encourage social interaction. Utilize shared resources and proximity to transit to reduce individual consumption, especially vehicle use.	Place parking in a way that is sensitive to adjacent uses, emphasizing pedestrian activity and interaction on the site. Create vibrant social spaces that encourage interaction. Incorporate access by many paths to promote walking.

3.3 Program of Spaces

Overview

The program for this project is focused on combining a variety of sizes and types of residential units with an emphasis on shared open space and site amenities. The project aims to be mixed-use, mixed income, and express diversity in housing size and type. The emphasis on high quality shared spaces helps foster community while allowing the individual units to be smaller and more efficient without sacrificing access to amenities.

Shared Interior Spaces

At the center of the site is a shared community center overlooking a large grass play area. The community center serves both residents of the site as well as members of the larger community, acting as an important bridging element to outside the site. While the community center design is not the focus of this thesis, it will include a cafe, staff work area, day care center (with attached, secure, exterior play area), teen room, coworking office, and meeting room for community events. The other shared built space is a combination wood and bike shop, supporting an emphasis on bike transportation and limiting the tools and workspace individual households would otherwise need.

Shared Exterior Spaces

The exterior areas in a clustered development are what really make the project come alive, because these are the spaces where the unstructured interactions that encourage community happen. These spaces include a hardscaped plaza related to



the mixed-use buildings on site, a grass play area adjacent to the community center, a secure, segregated play area attached to the community center day care, a hardscaped gathering area with a fire pit, benches, and picnic tables, a community garden, a fenced dog park, and shared back yard spaces at the center of each of the residential unit clusters. While many of these spaces are flexible in size, a much larger portion of the site will be devoted to shared space than in a typical development. The site will feature extensive landscaping throughout, to provide spatial buffers and transitions, and to accommodate stormwater infiltration.

Residential Units

The residential units on site are a mix of apartments, attached two story lofts over ground level flats, and attached, staggered townhouses. Apartment unit size varies from 500-1200 sq. ft., the one bedroom flats are 520 sq. ft., two bedroom lofts are 1240 sq. ft., two story, two bedroom townhouses are 1210 sq. ft., and three story, three bedroom townhouses are 1560 sq. ft. All unit types place an emphasis on high quality exterior space and connection to shared spaces on site.

3.4 Site Selection

To focus the site search, I established the following criteria as preconditions for a location that could begin to address all of the concepts identified in this thesis. The analysis of contemporary suburbs and potential solutions has lead me to conclude that a vibrant, walkable, “first tier” suburb outside the city would be the most likely place to integrate such diverse concerns as walkability, public transit, spatial requirements, inclusivity, and accessibility.

Site Selection Criteria

1. Transit commute < 1 hour to downtown Seattle.
2. Within walking distance (1 mile) of a school, grocery store, and commercial center.
3. A “suburban infill” site (replacing existing property or on vacant land).
4. Can combine multiple lots to cover at least 4 acres.
5. An area that is diverse and affordable.

Due to the hourglass geography of Seattle and the expense of the east side, I divided my search between the immediate suburbs to the north and south of Seattle. I began by orienting my search around transit centers, such as those in Kent, Renton, and Burien. While Kent, in particular, is fairly far from Seattle, its location along the Sounder rail line makes it promising as a commuter suburb. Burien, for instance, is closer and has nice residential areas, but poor transit connections that would make commuting tiresome. While the commercial center in Renton is particularly bleak, Kent has the

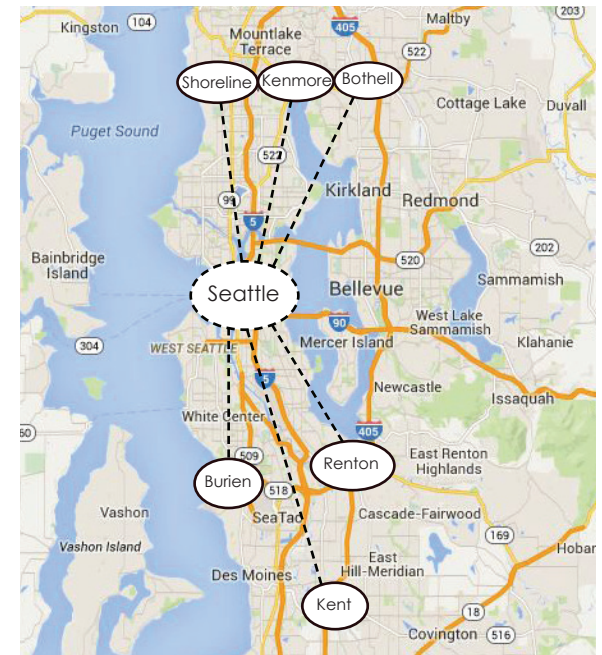


Fig. 62. Sites surveyed in the Seattle metropolitan area.

beginnings of a small, walkable urban area centered on City Hall, a branch library, and a New Urbanist shopping center. Unfortunately, Kent's commercial center is largely cut off from its residential areas by highways, large roads, and rail tracks. Kent's East Hill neighborhood is its primary residential center, but it is separated from the commercial and transit center by a five lane road that runs up a steep hill. While this distance is less than two miles, it is not particularly walkable, and could make commuting a challenge.

To the north of the city, I considered Shoreline, Kenmore, and Bothell. Shoreline, while well-connected to Seattle, feels like an extension of the city's northern neighborhoods, without its own sense of place to build upon. Both Kenmore and Bothell are located along SR-522 at the northern end of Lake Washington, accessible to both Seattle and Bellevue. Both cities have large areas of land in their downtown areas that are vacant or underutilized and are ripe for development. Kenmore is closer to both major cities, making for a shorter commute, but it seems to have no real plan for the development of its downtown area, while Bothell is currently experiencing the largest publically-led downtown revitalization in the state.¹¹⁷ Bothell has a nice, walkable downtown to build upon, and the city seems to be taking a progressive attitude in this redevelopment process. The project this thesis is proposing is exactly the sort of development Bothell is looking for, and the city has large parcels that it is actively seeking proposals for. The fit with Bothell felt serendipitous and made the project seem both realistic and timely, so I choose to find a parcel to work with in Bothell's master plan.

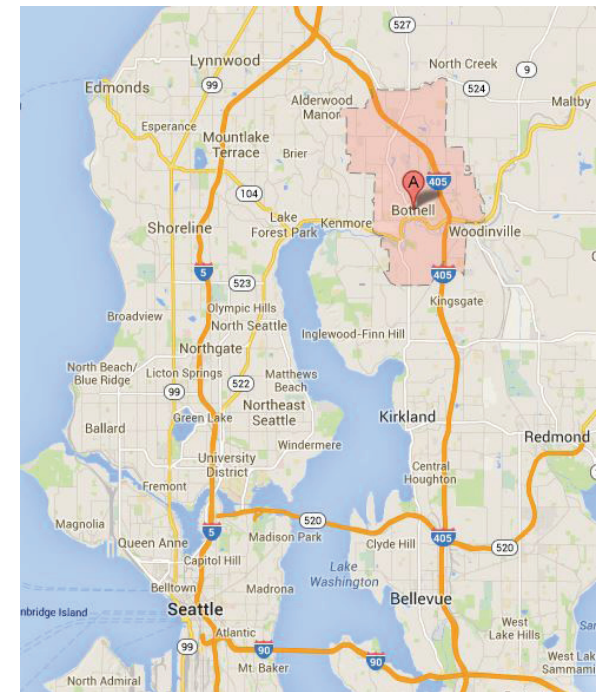


Fig. 63. Location of Bothell in metropolitan area.

3.5 Context Analysis



Fig. 64. Rendering of downtown Bothell with future development.

Commute

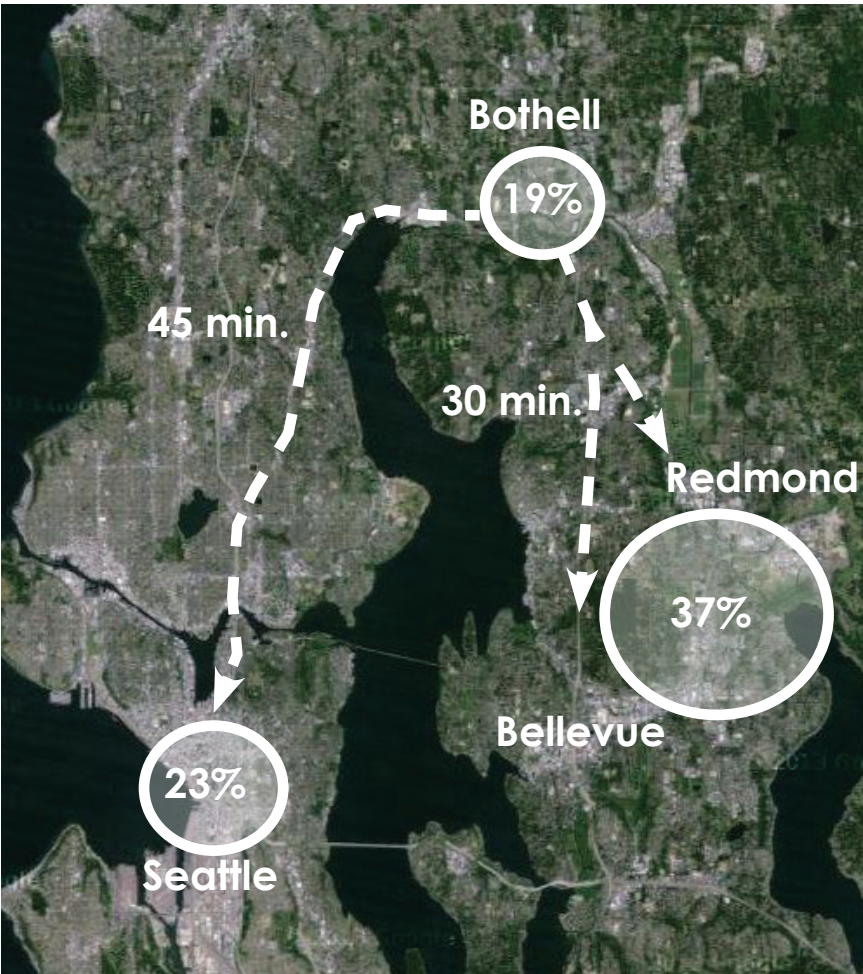


Fig. 65. Bothell commute map.

Bothell is fairly well served by public transit, with bus access to both major employment centers in the region. While there is a growing commercial sector in Bothell, it is still largely a commuter suburb.

25 min. drive / 45 min. bus to Seattle
15 min. drive / 30 min. bus to Bellevue

19% of residents work in Bothell
23% commute to Seattle
37% commute to other Eastside areas

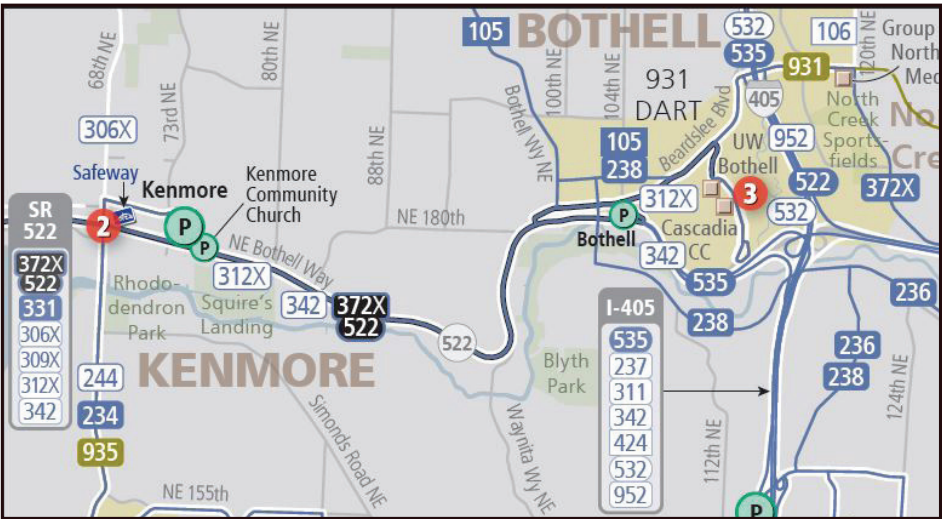


Fig. 66. Bothell bus route map.

Regional Connectivity

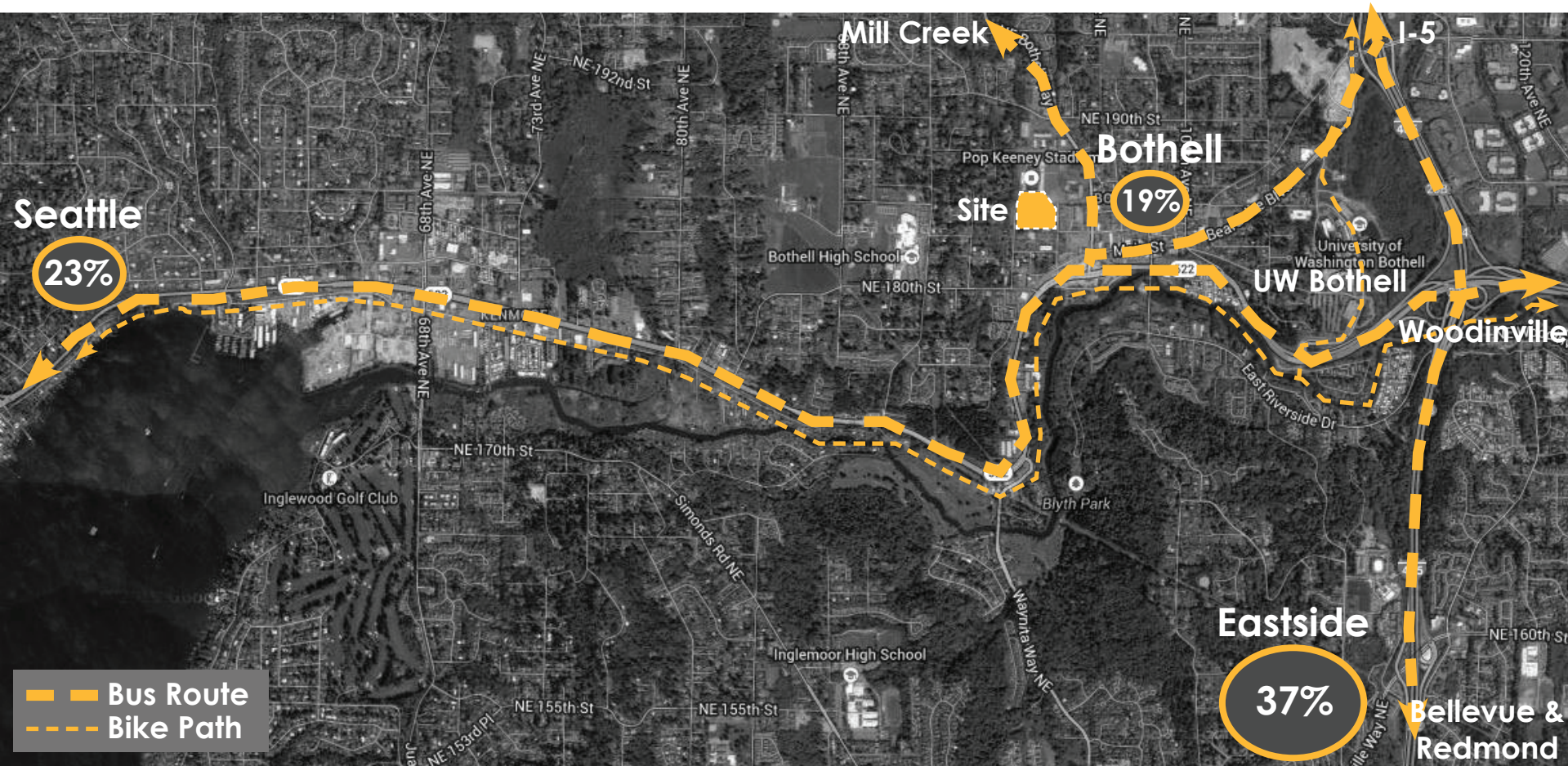


Fig. 67. Regional connectivity.

Transit Routes

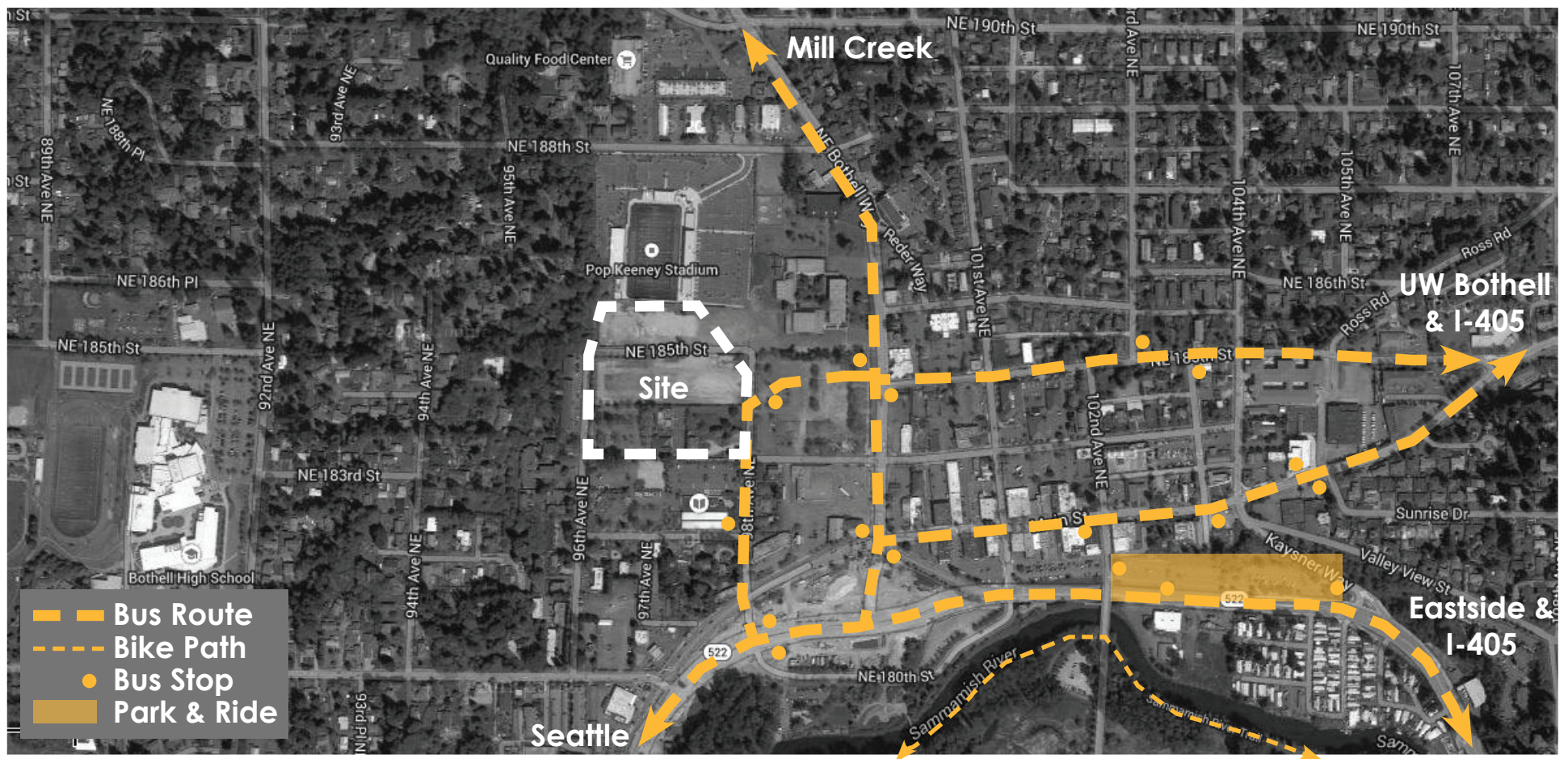


Fig. 68. Transit routes.

Adjacencies

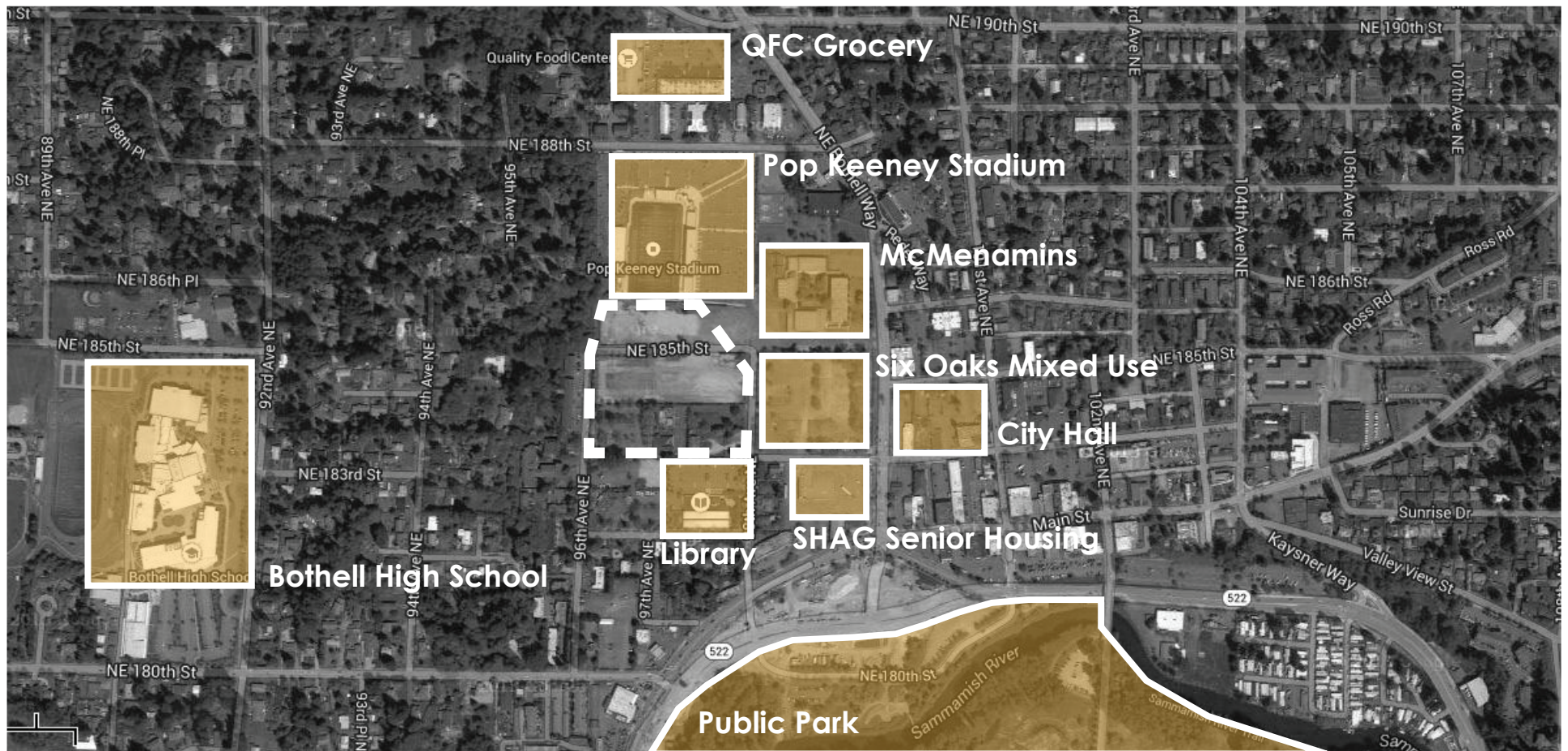


Fig. 69. Adjacencies.

Walking Radius

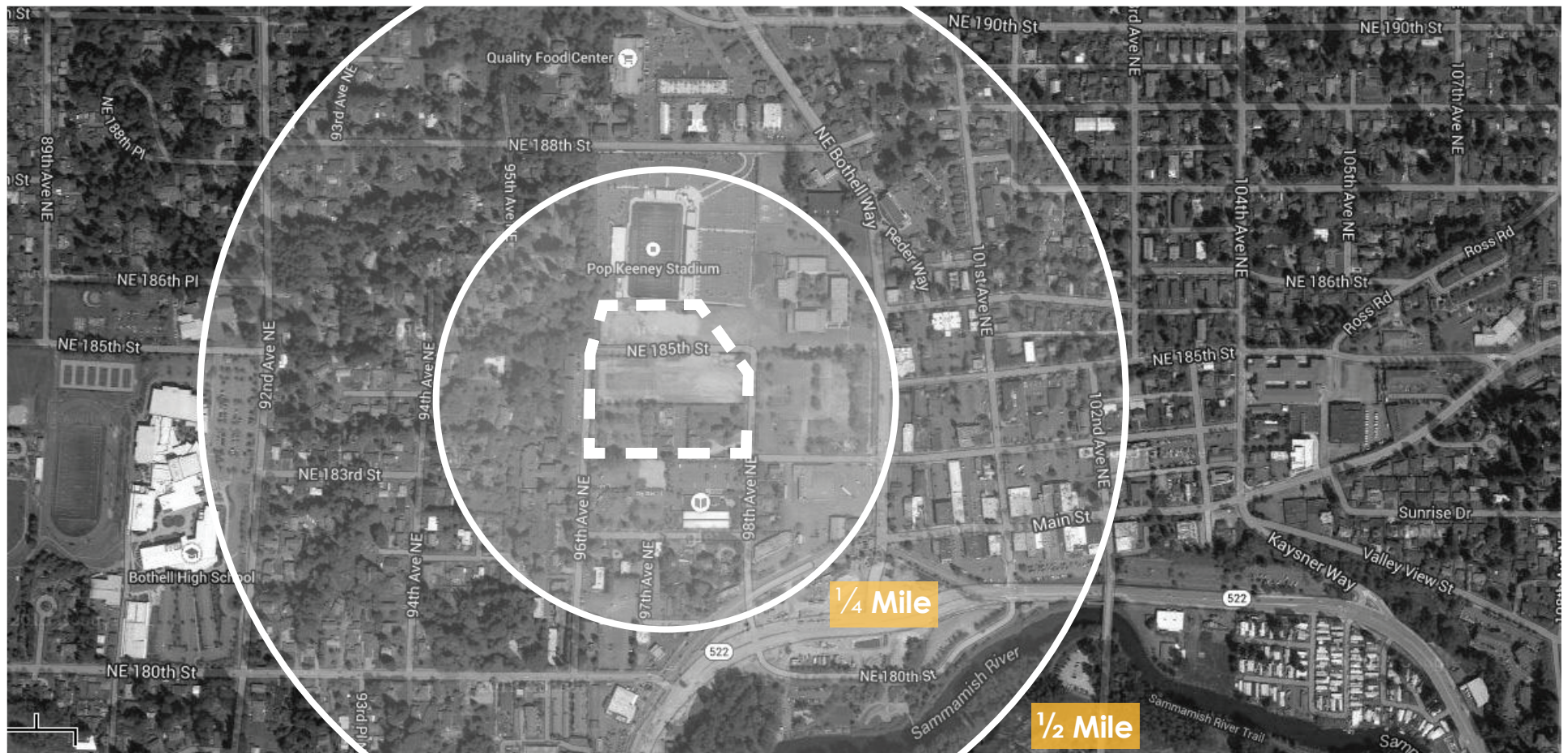
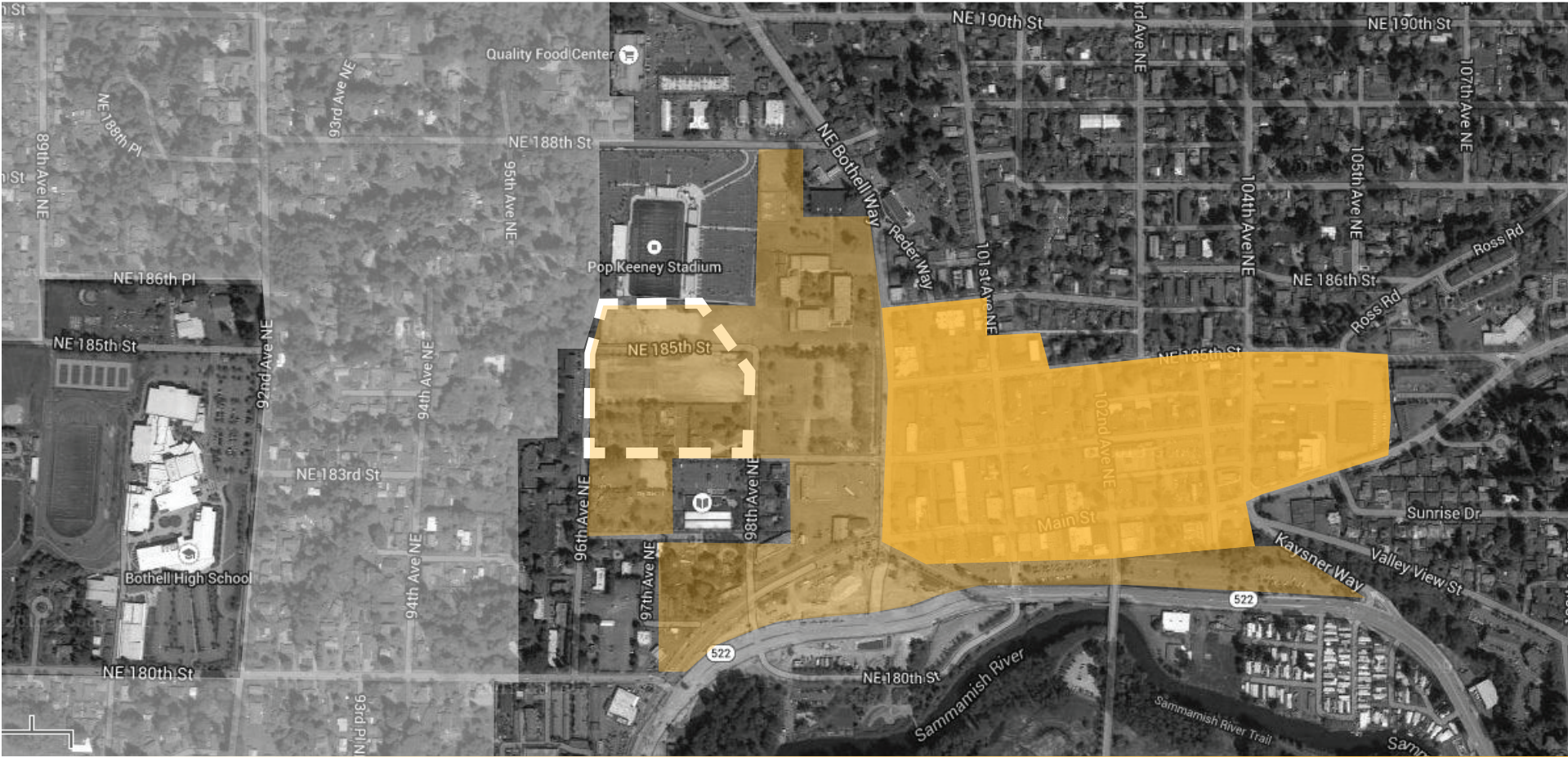


Fig. 70. Walking radius.

Site as Transition Zone



Single-Family Residential

New Development

Commercial Core

Fig. 71. Site as transition zone.

Bothell Redevelopment Master Plan

Bothell is currently undergoing the largest publicly-led redevelopment of a downtown in the state. The city has attracted substantial public and private funds in this effort and has an ambitious plan for replacing what is now largely vacant land and underdeveloped lots with a vibrant, denser, walkable downtown area.



Fig. 72. Cover Image from Bothell's redevelopment plan document.

Conceptual Master Plan

This conceptual plan shows the projected infill for Bothell's downtown area, including a new City Hall, a substantial amount of multi-family housing, new commercial developments, a number of street extensions, the relocated SR-522 route, and the expansion of SR-527 in to a multiway boulevard.



Fig. 74. Bothell conceptual master plan.

Site Area in Conceptual Plan

For the project site, Bothell has envisioned a multi-family development that is primarily composed of townhouses, with some larger apartment buildings and a green space. These units are served by a number of new roads and alleys carved in to the site.

This thesis will work within the larger Bothell master plan, ultimately proposing a mix of housing types that is similar to what is shown here, but that approaches using space on the site with a very different attitude.

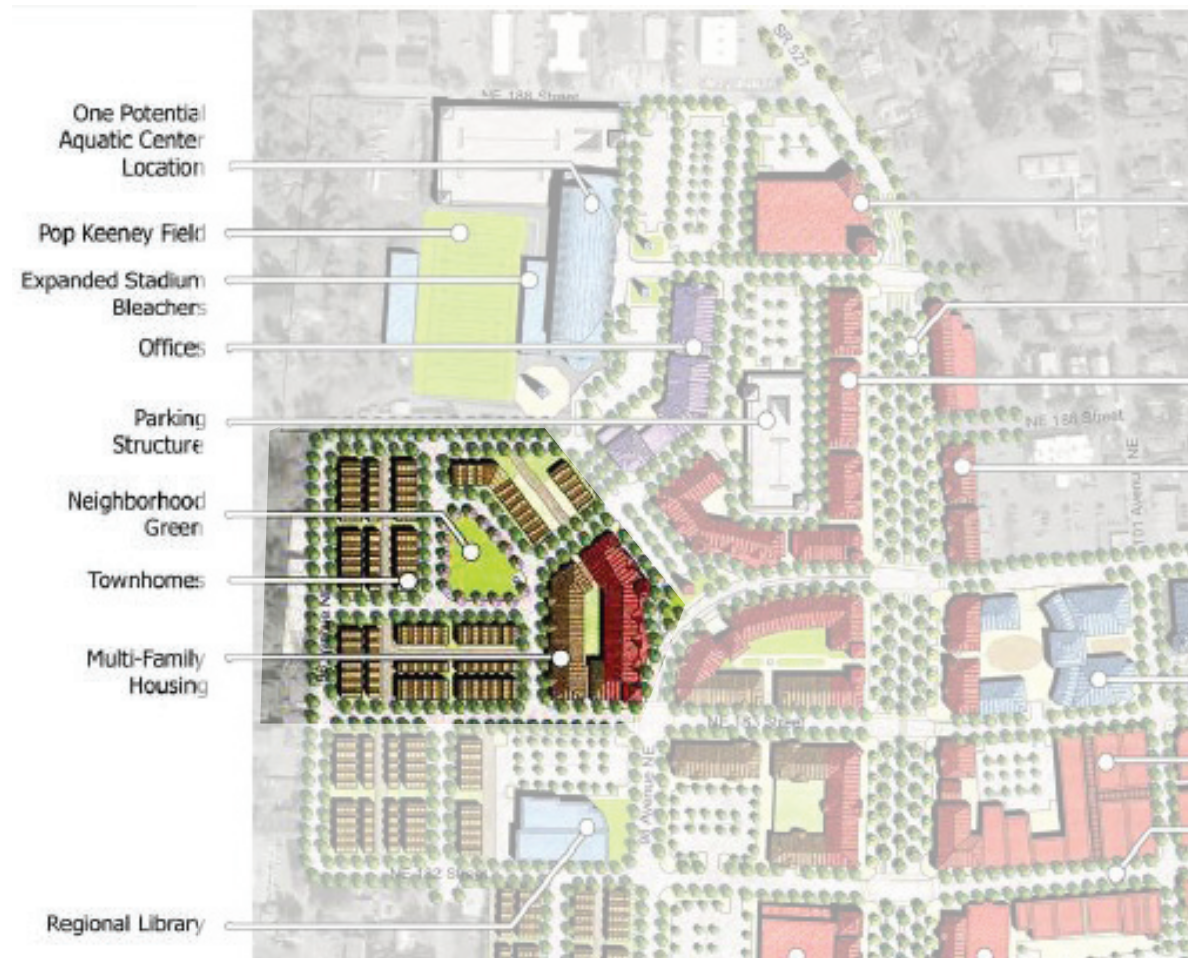


Fig. 75. Site area in conceptual plan.

Site Edge Development

In the city's redevelopment plan, the eastern edge of the site will see a number of significant alterations. A curved extension of 185th St. will be connected to 98th Ave. (the N-S street that defines the site's border). This curved street will be bisected by a new diagonal connector leading to a small triangular park en route to Pop Keeney Stadium. This edge will also see the daylighting of Horse Creek (which currently runs in pipes under downtown to the Sammamish River). The cumulative effect of these changes will be to improve street life and walkability from SR-522 up 98th Ave., forming what is essentially a promenade to the stadium. This new street connection will be served by bus access.

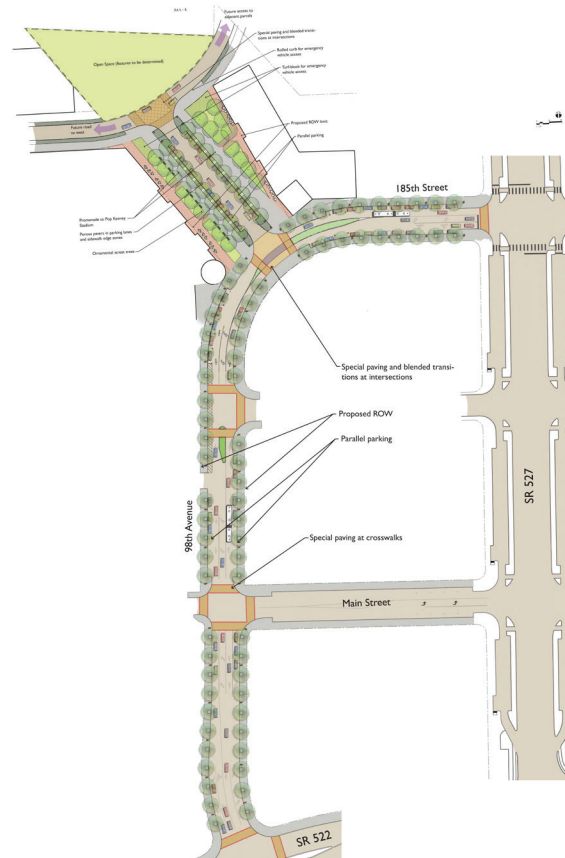


Fig. 76. Pop Keeney Way diagonal connector.

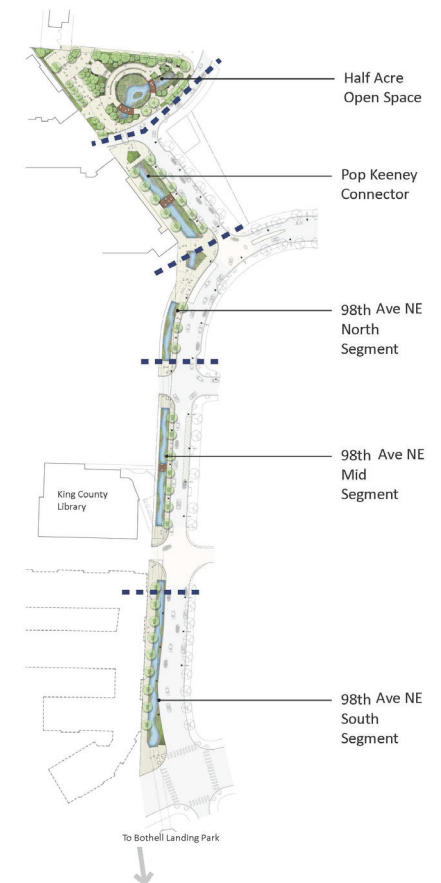


Fig. 77. Horse Creek daylighting.

Site Edge Development

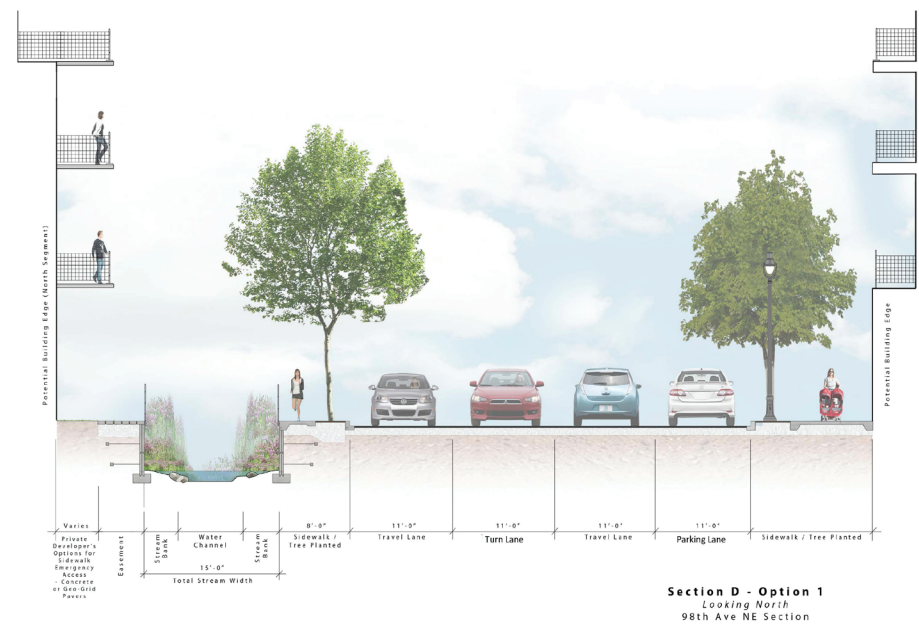


Fig. 78. 98th Avenue NE street section.

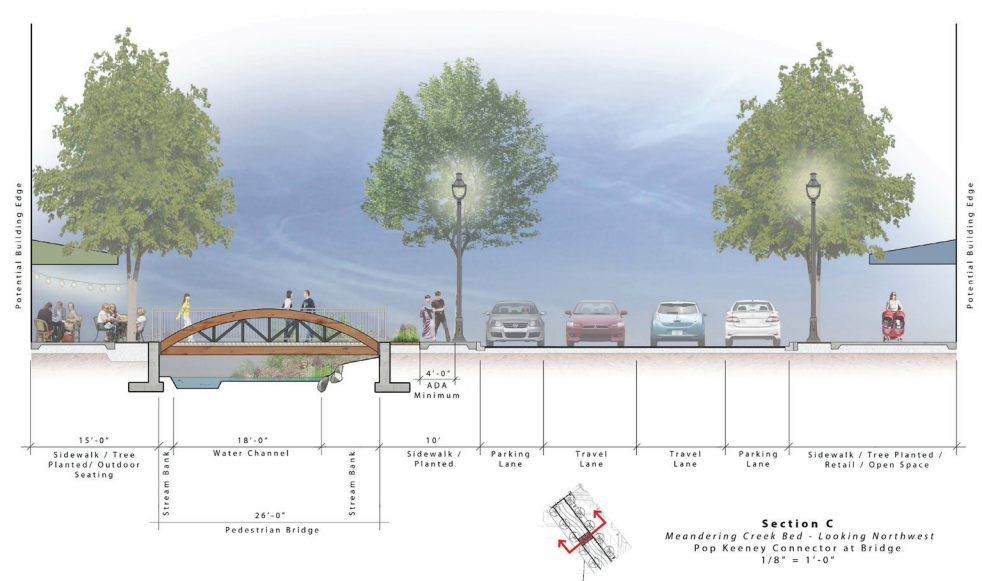
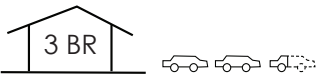
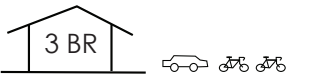


Fig. 79. Pop Keeney Way street section.

Zoning

This project will attempt to follow all zoning requirements except for parking. Bothell requires an enormous amount of parking on site, which runs counter to the vision of its downtown as a walkable, regionally connected center. For this reason, I am proposing including one parking space per unit, plus dedicated bike parking on site, and including street parking in this count.

Parking
 Required: .75 - 1 per Bedroom
 Proposed: 1 per Unit + 2 Bikes
Open Space
Space between buildings: 20' Public open space: 100 sq. ft./unit Private outdoor space: 60 sq. ft./unit

R 8,400
Single-family residential with 8,400 sq. ft. minimum property size.
Downtown Core District
Bothell's most urban zone, with heights up to 6 floors and 65'.

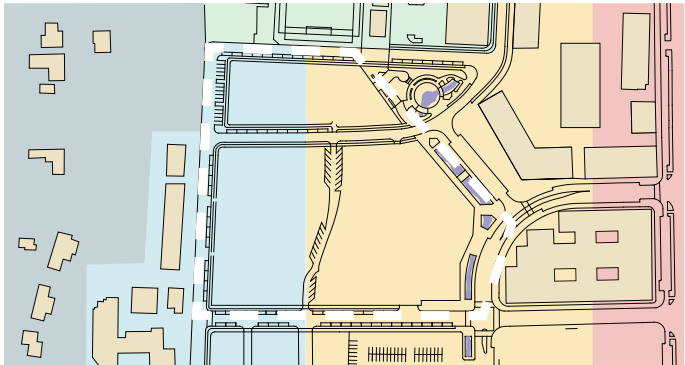
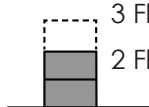
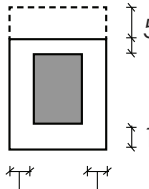
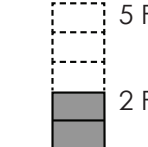
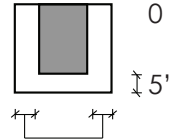


Fig. 80. Site zoning.

Downtown Transition District
 Height  Setbacks

Downtown Neighborhood District
 Height  Setbacks

Vicintiy Plan (Existing)



Fig. 81. Vicintiy plan (existing).



Vicintiy Plan (Expected)



Fig. 82. Vicintiy plan (expected).



Existing Development Types

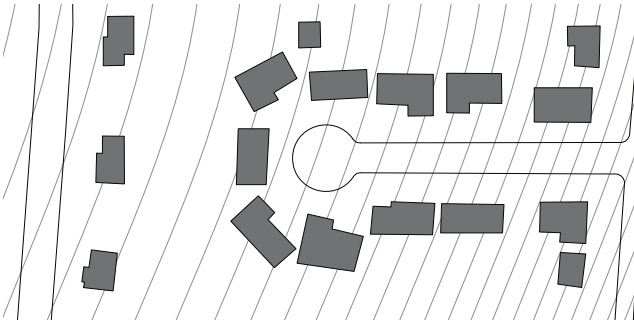


Fig. 83.
Single-Family Residential
8,400 Minimum Lot Size
(5 DU/Acre)



Site

The site sits between two development extremes, and it needs to find a middle ground in terms of unit type and density.

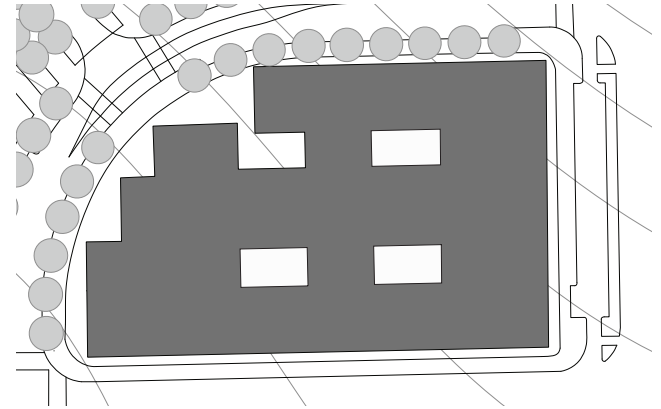


Fig. 84.
Six Oaks Mixed-Use
203 Units + 6,000 Sq. Ft. retail
1.9 Acres
(107 DU/Acre)

Context Images



Fig. 85. Bothell Main Street.



Fig. 87. Downtown Bothell.



Fig. 86. View of downtown vacant land from SR-522.



Fig. 88. View of downtown from SR-522.

Site Images



Fig. 89. View of site looking East.



Fig. 90. View up 98th Avenue NE.



Fig. 91. View of site from 98th Avenue NE.

3.6 Design Methods

The design method for this thesis relies on precedent study of existing multi-family housing developments, specifically clustered housing and cohousing, lessons learned from literature analyzing existing communities, and a variety of urban design strategies informed by the particulars of the site. The program is adapted from existing community developments. As with any project, the site itself ultimately determined what was or was not appropriate for the project. The project strives to be sensitive and responsive to the existing context, integrating the fabric of space on site with that of the larger downtown area. The design aim is to use the buildings on site to define a sequence of shared spaces, with an emphasis on continuity and integration of public and private spaces. This spatial integration is achieved through attention to spatial gradients, soft edges, and interstitial spatial layering. The housing units emphasize a relationship with the ground and exterior spaces, through extensive inclusion of decks and balconies over-looking public and shared areas. The design process was iterative and intuitive, synthesizing the myriad factors involved in such a development and attempting to arrive at a solution that best addressed them all.

3.7 Limits and Delimits

The primary limit of the project is that it will not be built and cannot be evaluated to determine whether the design strategies have been successful at fostering the development of a sense of community, in addition to the other goals of the project. In a typical cohousing project, the group process that goes in to development is seen as a necessary component for later smooth functioning, trust, and engagement in the community.¹¹⁶ The danger in adapting communal spaces to a larger and less formal community development is that the community will not gel, that no one will take ownership of the shared spaces, and that they will be neglected. While I will not get the feedback of a post-occupancy evaluation or group meeting process, I have found plenty of literature that evaluates existing cohousing projects and suggests specific design approaches that are more likely to be successful than others, which I will draw on heavily. I have also spoken informally with many people who live in cohousing, as well as larger scale community developments, and have taken their experiences in to account.

The primary delimit of this project is that it is simply one manifestation, acting as an example of a larger idea, which is more of an attitude toward spatial relationships on site than an architectural typology. As such, this approach could be applied on any multi-family housing project on any site and look slightly different in each instance. The project is not proposing to offer the only possible solution, or to transform the suburbs in a larger, more structural way, as New Urbanist town centers posit. This project is primarily focused on housing, because it is the area that most directly affects individual



experience of the suburbs, and because it is where the tensions between private and public space are traditionally most acute. A further delimit is that while this project will attempt to be “affordable” in a general way, I am not going to apply rigorous analysis or metrics to affordability, because it simply has not been a part of my education and is not something with which I have experience.

4. Design

The site holds the east street edge with two five story, mixed-use buildings. These larger buildings address the more urban side of the site, are in scale with the adjacent development, and complement the city's intentions for the diagonal Pop Keeney Way to be realized as a promenade to the stadium. From this edge, the buildings step down in scale as a sequence of public and semi-public spaces leads one through the site along a pedestrian-only east-west circulation axis. In the center of the site, this path intersects a woonerf shared street, acting as the primary north-south circulation path through the site.

Attached housing units are clustered on the site around shared yard spaces. The yard adjacent to the community garden serves as a fenced dog park for the community, and is visually connected to the more public spaces, unlike the other yards, which have a semi-private character.



Fig. 92. Site plan.

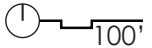




Fig. 93. Expanded site plan.



Expanded Site Plan

Density

The total unit count is divided roughly evenly between apartments and attached, ground-based units. The overall site density of 39 units/acre lies in a comfortable middle ground, greatly increasing density over traditional single-family suburbs, but not so dense that the open spaces on site become meaningless or lack spatial and relational richness.



Fig. 94. Proposed development.

Building Types

The buildings on site represent a density gradient as they step down across the site from east to west. The density added by these apartment buildings allows the site plan to take advantage of substantial open spaces to create high quality shared spaces for all residents, as well as members of the larger area. The mixed use functions at the ground floor of the two buildings along 98th Avenue serve to connect the site to the downtown area, and bring people in to the public areas on site, including the plaza/play area open space and the community center. As the site steps down moving west, these spaces become smaller and more private, with a stronger connection to the ground-based, staggered townhouse units. The loft-over-flat attached units bridge this gap, being ground-based but of a more formal character in their connection to the adjacent spaces and paths.



Fig. 95. Building type diagram.

Circulation

The interior of the site is reserved as pedestrian space, with the exception of the north-south woonerf street, which acts as a primary organizing element on the site. The woonerf street is one way, picking up from 97th Street to the south and jogging over to meet the community center and north apartment building before letting out in front of the stadium. The woonerf unifies a number of functions on site, including pedestrian circulation, bike parking, car parking, emergency vehicle access, and drop-off for the community center, shop, and interior housing units.

The other primary circulation path runs east-west through a sequence of the primary shared spaces on site. Secondary circulation is provided by sidewalks along all streets, with tertiary paths that are narrower and laid with crushed rock through the shared back yard spaces.

The site is permeable on all sides, with primary points of entry that serve site residents as well as the general public.



Fig. 96. Circulation diagram.

Open Spaces

The interior of the site is defined by a sequence of open spaces that transition from engaging the general public on the east edge to serving the site residents on the west. The width of these spaces narrow as they move from more public to more private, expressing a gradient across the site. The street edge leads in to plaza space adjacent to the ground floor commercial uses and the community center cafe. Directly south of the community center is a large open space serving as a play area for children and the conceptual center of the site. Where this east-west path crosses the woonerf street is a node for gathering, with a fire pit and outdoor seating. The west-most space in the sequence is a community garden, which, while still public, is more intimate and residential in character.

Adjoining the community center to the west is a small, dedicated play area for the day care center, which is required to be secure and segregated from other uses.

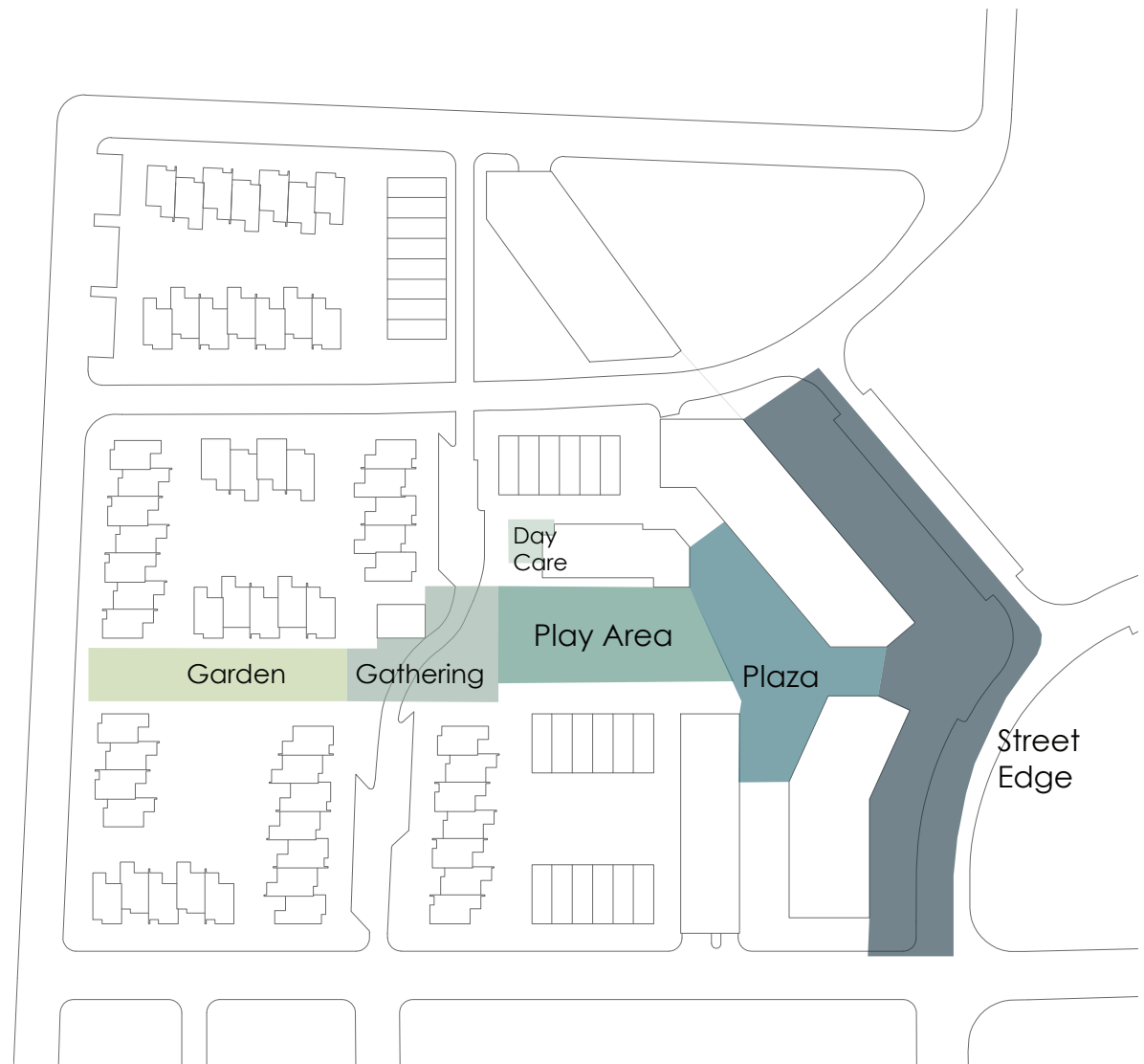


Fig. 97. Open spaces diagram.

Sequence of Open Spaces

Housing Cluster Strategy

The ground-based residential units on site are arranged in four clusters centered around shared yard spaces. The cluster on the higher density side of the site is a hardscaped courtyard with a large raised landscape element in its center. The yards in the two north- and west-most clusters have open grass areas with copses of trees at either end. The fourth yard space has a more specialized function as a fenced community dog park. This space is visually connected to the community garden, making it more public in nature than the other three.

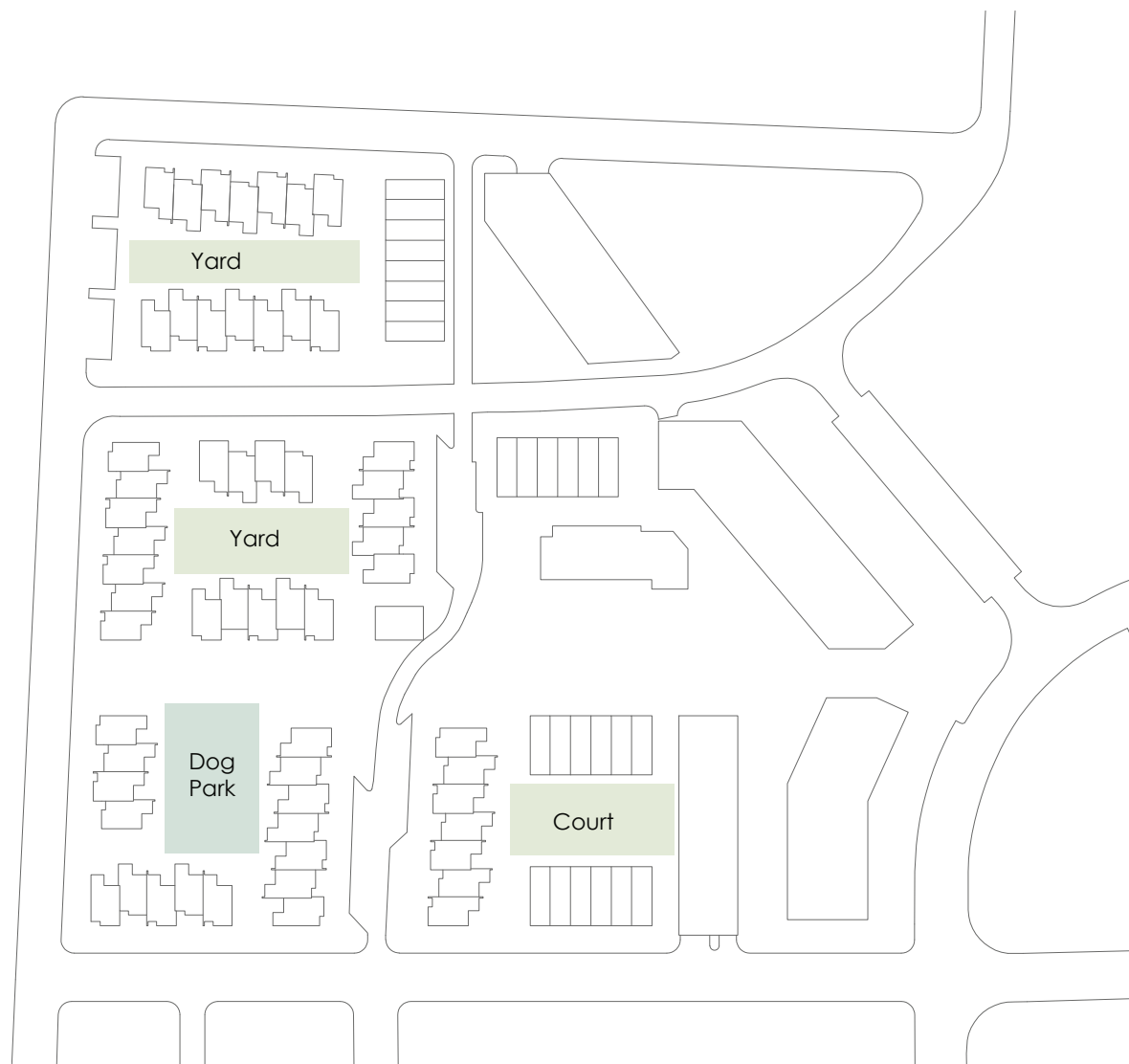


Fig. 98. Shared yards diagram.

Parking

The parking on site is distributed along the street and in an underground garage, preserving the interior of the site as a pedestrian realm. The one exception to this is the woonerf street, which is as much pedestrian as it is automotive in character.

The move to keep parking to the periphery of the site is intended to facilitate unstructured interactions between residents that can only happen in pedestrian space. While no unit is far from parking, the short walk from car to house is an important element in designing the site to emphasize social interaction between neighbors.

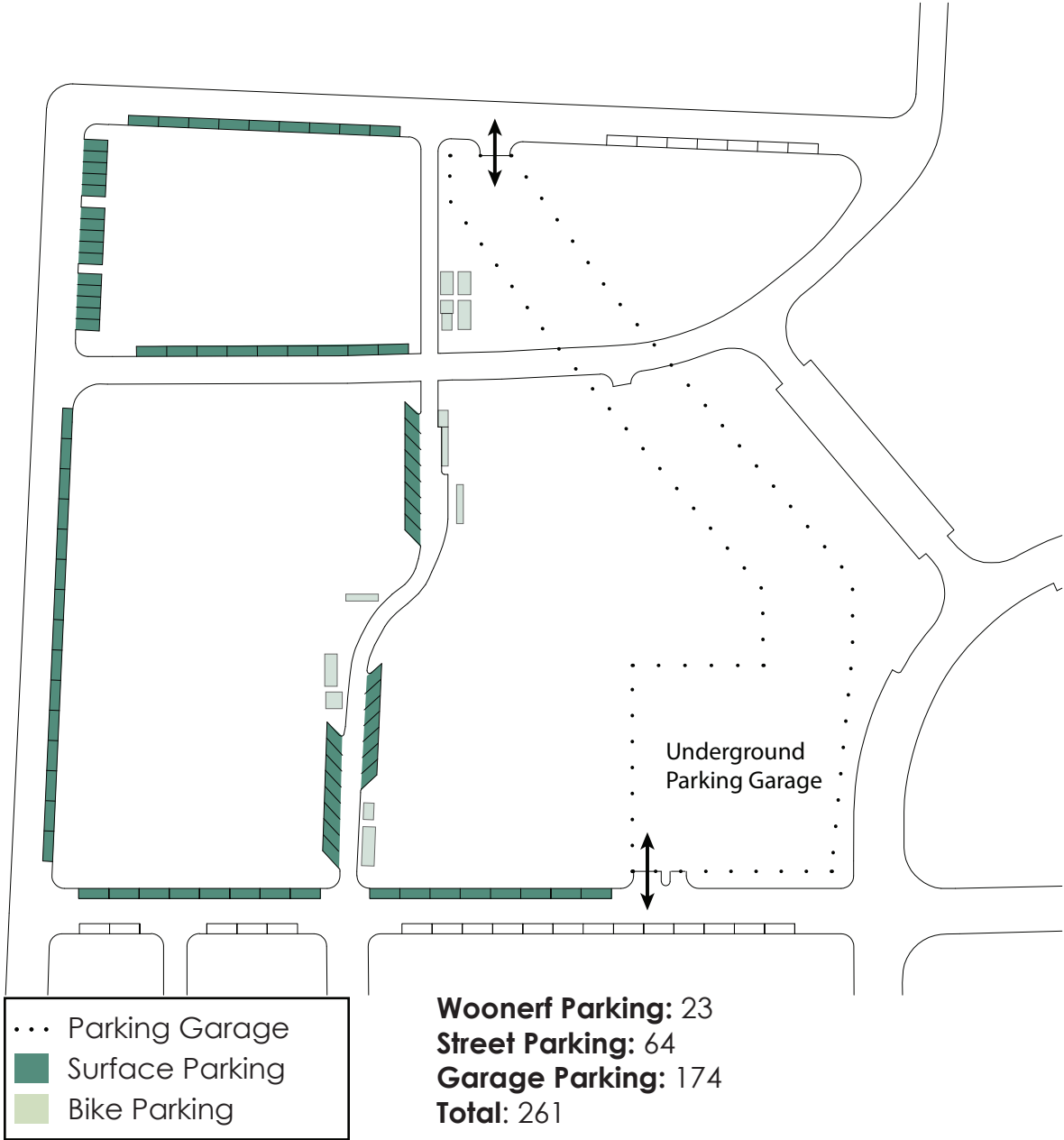


Fig. 99. Parking diagram.

Stormwater

The site landscaping is designed to handle stormwater through a series of rain gardens and bioswales. Water is channeled from the high point at the northwest corner through street-side rain gardens to two east-west bioswales that infiltrate and process the water before discharging it in the Horse Creek channel that runs along the east edge of the site, ultimately letting out in the Sammamish River.

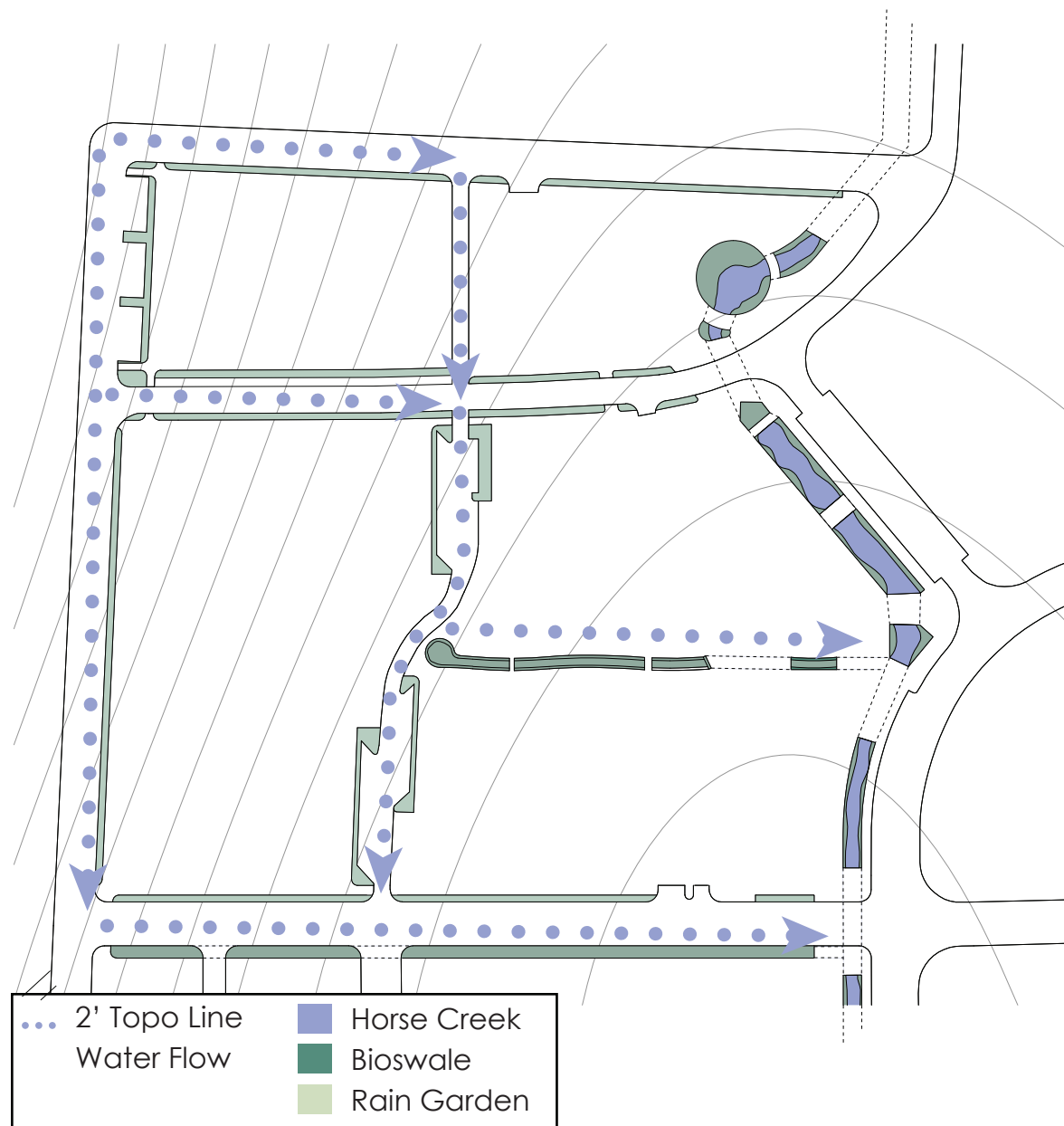
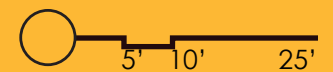
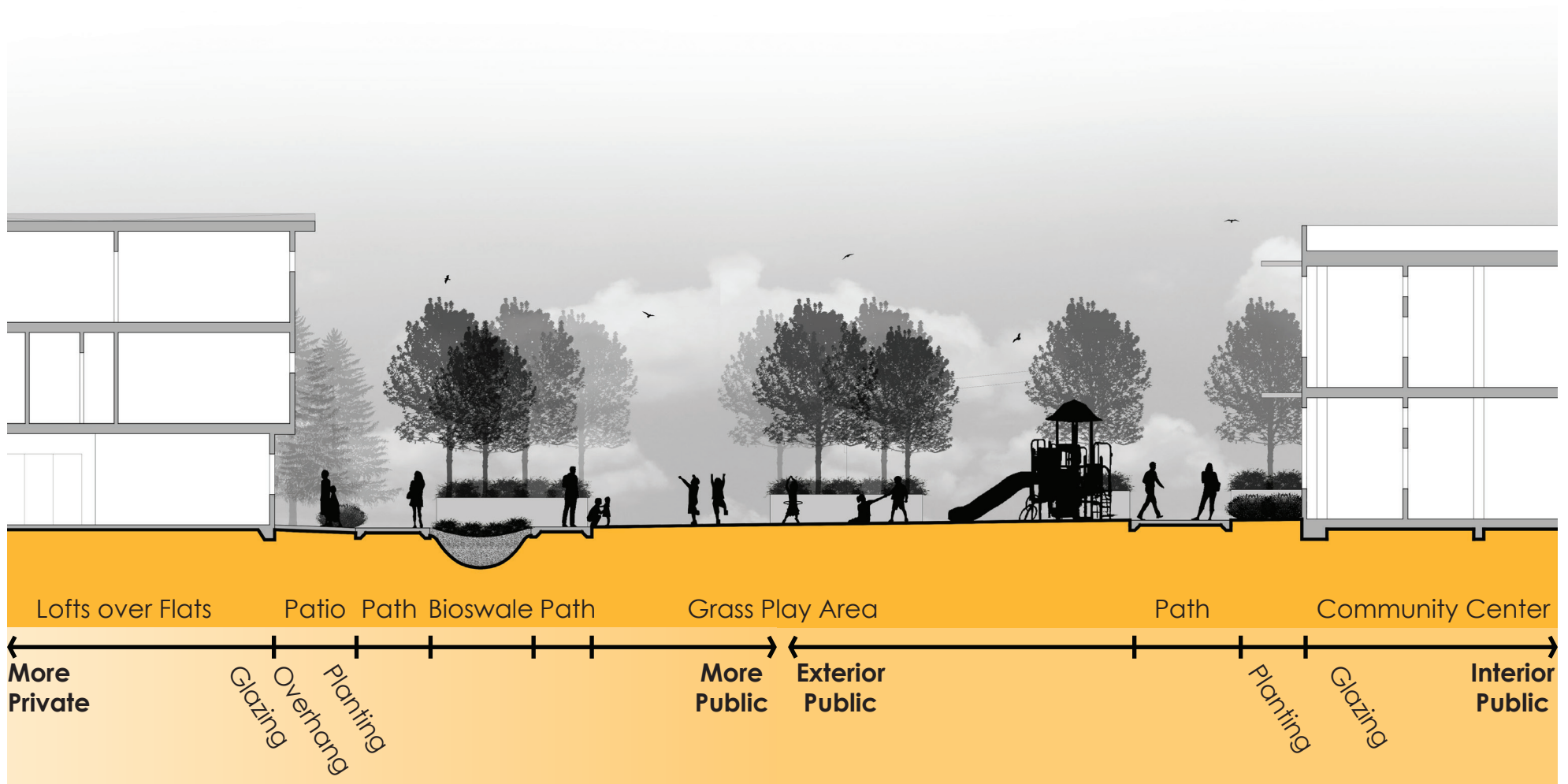


Fig. 100. Stormwater diagram.



Section Through Play Area

Fig. 101. Section through play area.



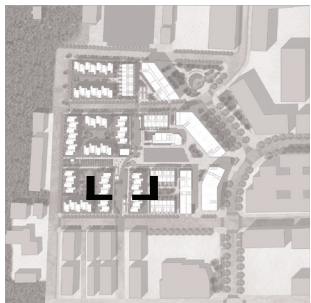
Play Area Spatial Gradient

Fig. 102. Play area spatial gradient.



Perspective View of Play Area

Fig. 103. Perspective view of play area.



Section Through Woonerf Street

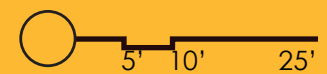
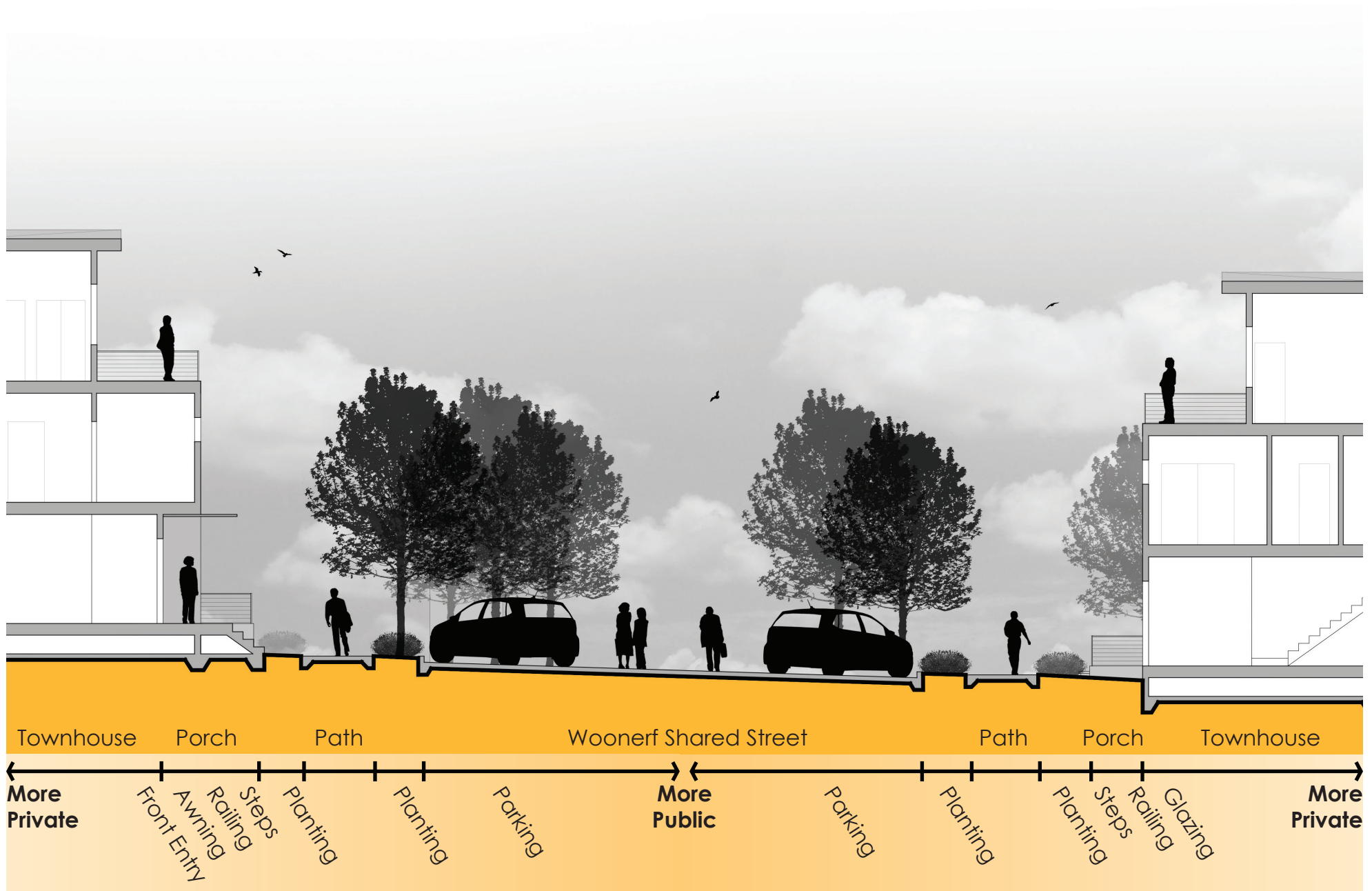


Fig. 104. Section through woonerf street.



Woonerf Street Spatial Gradient

Fig. 105. Woonerf street spatial gradient.



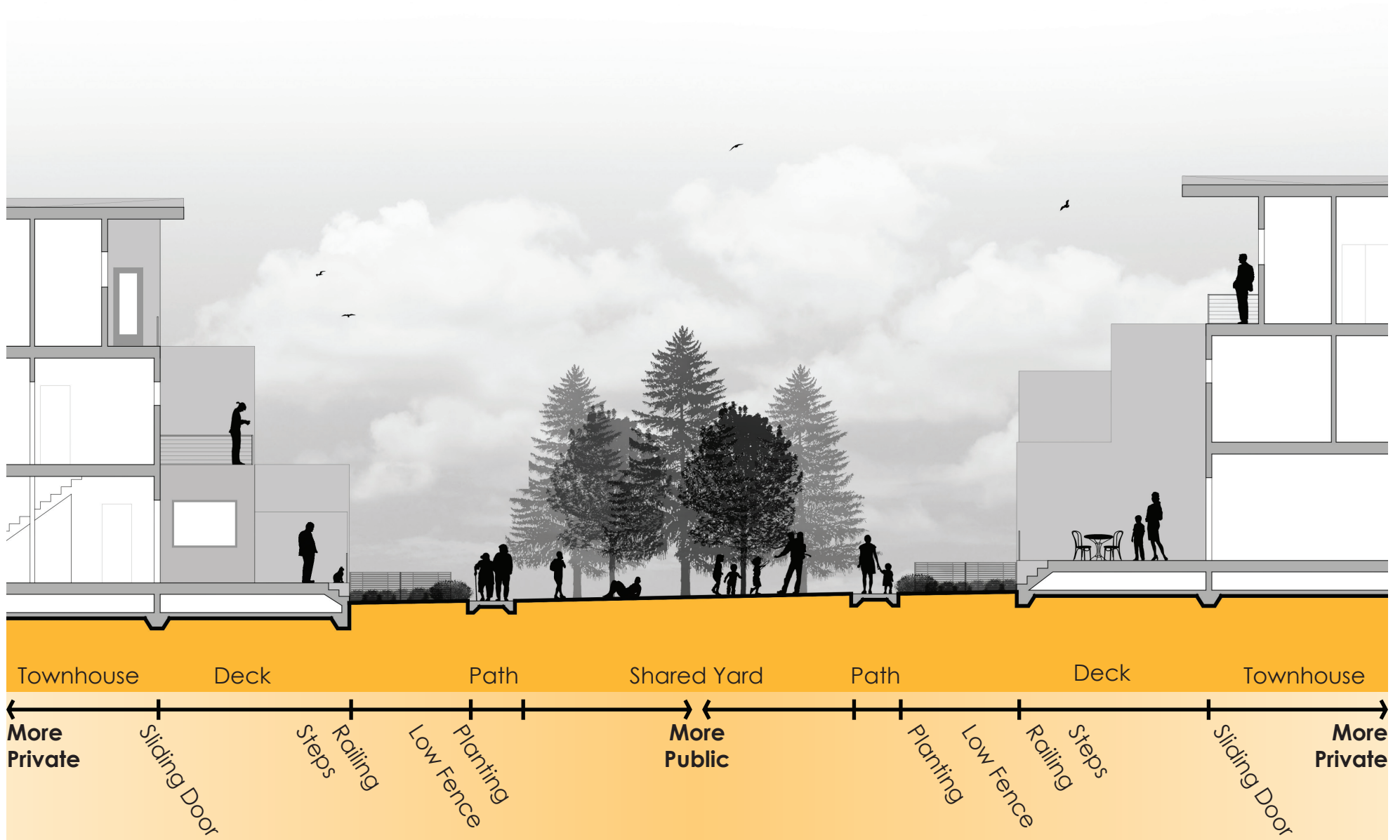
Perspective View of Woonerf Street

Fig. 106. Perspective view of woonerf street.



Section Through Shared Yard

Fig. 107. Section through shared yard.



Shared Yard Spatial Gradient

Fig. 108. Shared yard spatial gradient.



Perspective View of Shared Yard

Fig. 109. Perspective view of shared yard.

Project Building Types

For the purposes of this project, I have focused on designing the two more residential building types on the site, the Lofts over Flats and the Townhouses. I choose these because they represent the point at which the intersection of public and private space is most acute, and is therefore the most delicate in terms of spatial transitions. I have not designed the mixed-use buildings or the community center due to time constraints.

Lofts over Flats

2 BR Lofts (1240 sq. ft.)

1 BR Flats (520 sq. ft.)



Fig. 110. Lofts over flats.

Townhouses

3 Story, 3 BR (1560 sq. ft.)

2 Story, 2 BR (1210 sq. ft.)



Fig. 111. Townhouses

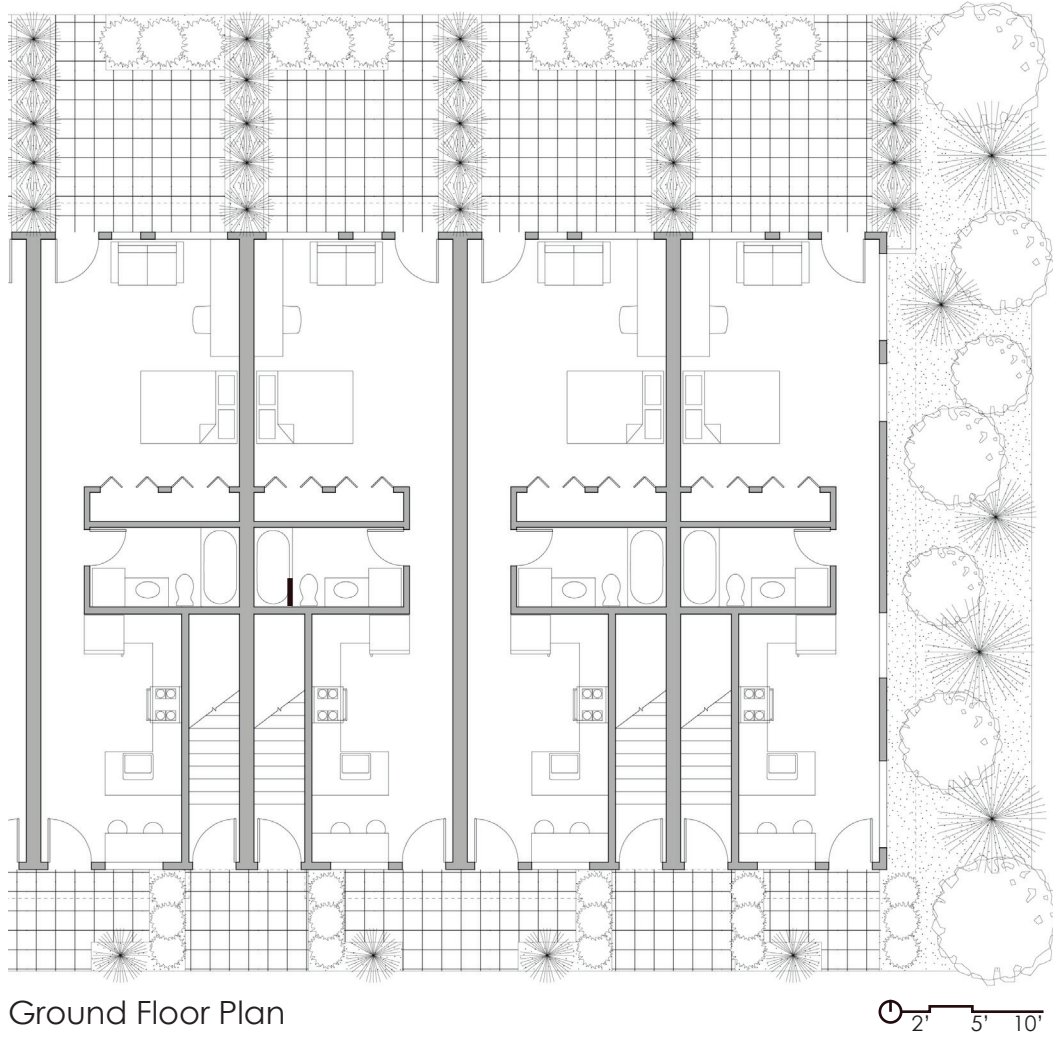
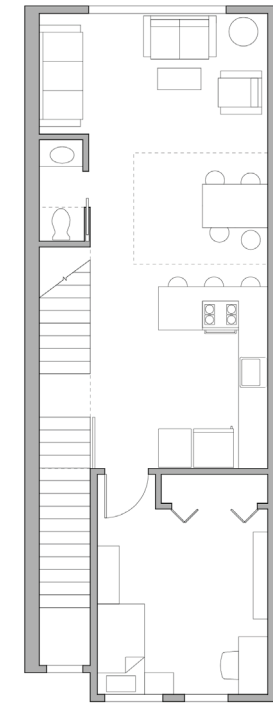
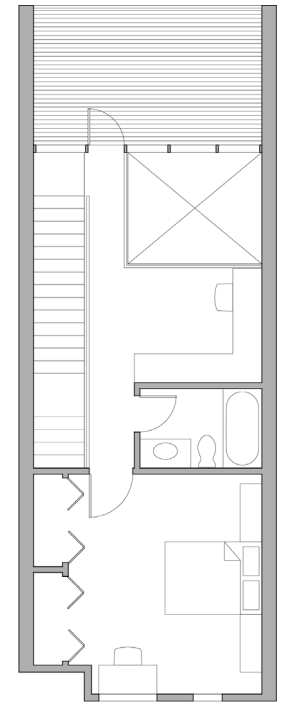


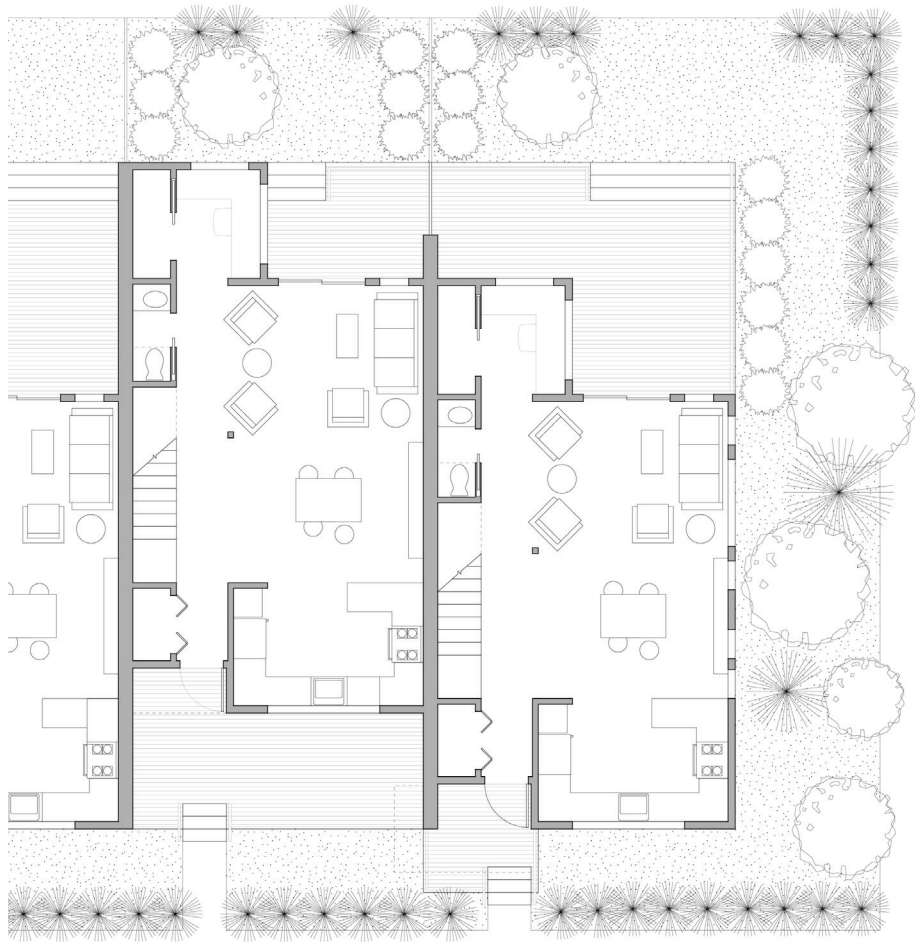
Fig. 112. Loft over flats floor plans.



Second Floor



Third Floor



Ground Floor Plan

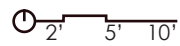
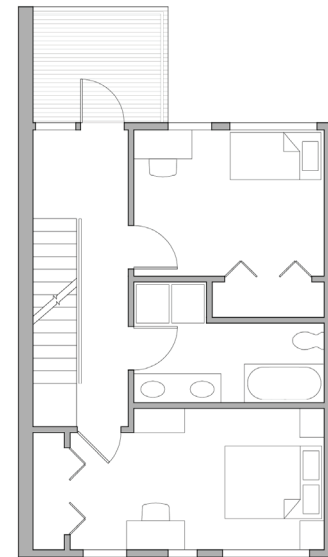
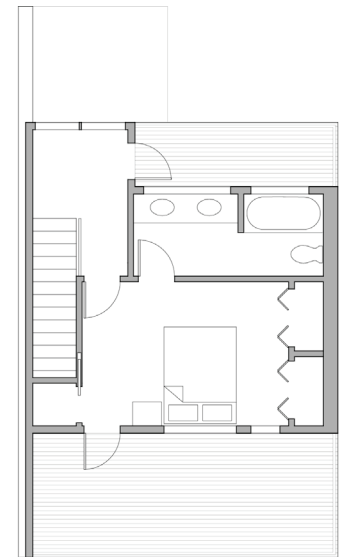


Fig. 113. Townhouse floor plans.



Second Floor



Third Floor

5. Conclusion



I grew up in the suburbs north of Detroit. The area where my parents live is wealthy and beautiful, with large properties and abundant greenery. My childhood came about as close to the “American Dream” as anyone could rightfully expect to have, yet I felt that something important was lacking throughout. At Oberlin College, I lived in one of the largest and most well-established student cooperative systems in the country. This experience of living alongside other people, cooking, cleaning, playing, and making decisions about our own space cooperatively opened my eyes to a much richer experience of living than simply having a nice house in a nice area with good schools. Following college, I lived in a number of cooperative living environments, including Duwamish Cohousing in Seattle. I wanted to use this thesis as a way to revisit, through the lens of architecture, a line of thought that has been with me throughout my entire adult life. The premise of the thesis is that an attitude toward the design of the built environment that values and promotes a sense of community could not only provide a richer living experience for its residents, but also begin to address so many of the pressing issues we see in our suburban environments today.

In order to test this idea, which I've called community-centered development, at a scale large enough to redefine the spatial grid of the suburbs, incorporate a variety of housing types, and emphasize open space amenities on site, I gradually shifted in my thought from envisioning the project as a single cohousing-type community to a larger suburban development. This project synthesizes a number of ideas about defining



space in multi-family housing environments and attempts to apply them at a larger scale and in a more mainstream, suburban context. This shift to think of the project as what one reviewer rightly called “a demonstration project” informed my choice of Bothell for the site. The particulars of what was appropriate for the specific site and context played a substantial role in my design investigation and in shaping the project. Ultimately, however, the thesis is about an attitude toward shared space in residential developments, and these ideas could be applied on any site and at any scale, yielding a slightly different project in each instance.

It has been rewarding to investigate this line of thought and to create one vision of how a more community-oriented approach to development might inform the way we live in this country. I strongly believe that there is a need for a greater sense of community in our living environments, both urban and suburban, and that the way we design our built environment plays an important role in setting the stage for new ways of living to flourish, new ideas to emerge, and for the conversation about who we are and how we live to move forward.

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- Fig. 101. Lambert, Ross. *Section Through Play Area*. Architectural drawing. 2014.
- Fig. 102. Lambert, Ross. *Play area spatial gradient*. Architectural drawing. 2014.
- Fig. 103. Lambert, Ross. *Perspective View of Play Area*. Architectural drawing. 2014.
- Fig. 104. Lambert, Ross. *Section Through Woonerf Street*. Architectural drawing. 2014.
- Fig. 105. Lambert, Ross. *Woonerf Street Spatial Gradient*. Architectural drawing. 2014.
- Fig. 106. Lambert, Ross. *Perspective View of Woonerf Street*. Architectural drawing. 2014.

- Fig. 107. Lambert, Ross. *Section Through Shared Yard*. Architectural drawing. 2014.
- Fig. 108. Lambert, Ross. *Shared Yard Spatial Gradient*. Architectural drawing. 2014.
- Fig. 109. Lambert, Ross. *Perspective View of Shared Yard*. Architectural drawing. 2014.
- Fig. 110. Lambert, Ross. *Lofts over Flats*. Architectural drawing. 2014.
- Fig. 111. Lambert, Ross. *Townhouses*. Architectural drawing. 2014.
- Fig. 112. Lambert, Ross. *Loft over flats floor plans*. Architectural drawing. 2014.
- Fig. 113. Lambert, Ross. *Townhouse floor plans*. Architectural drawing. 2014.

