

ABSTRACT

Title of Thesis: COMMUNITY CONNECTIONS: LIVING
WELL WITHIN INTERGENERATIONAL
HOUSEHOLDS

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Architecture

Today there are roughly 41 million people in the U.S. who are older than 65 years of age. By 2030 it is estimated that number will rise to 72 million people. With this dramatic increase in our aging population it is necessary to explore options such as multigenerational living as an approach to maintain this generation's inclusion in society rather than create isolation. This thesis explores the relationship between the nuclear family and the changing of what we consider the nuclear family in the United States. Through mixed-use developments, different building typologies, and several residential sizes, this research will reshape ideas of senior living, future generations, and the community while in an intergenerational site. Connection to the surrounding community, nature, and active lifestyles under a dwelling fall under the pretense of living well no matter what age. The result of choosing an intergenerational shared site and having the option of living in a residence of multiple generations is a life of better social interaction, activity, and happiness.

COMMUNITY CONNECTIONS: LIVING WELL WITHIN
INTERGENERATIONAL HOUSEHOLDS

by

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Dedication

To my friends. All of you have showed support, love, and care in many ways that I aspire to be. To my loving sisters Kristen and Jen. Thank you for your continued support, example of your own lives, and dedication to what you love doing. You both have inspired me to push myself in what I do and to walk a life of love. To my loving parents. Thank you for your support, opportunity, and the role model you play in my life. You both have showed me an incredible amount of unconditional love and a life of immense thankfulness for every breath taken. I wouldn't be the man I am today without your continued guidance. To my brother Phil, your own career pursuits and continued efforts to work hard has encouraged me to work the hardest I can. To my Emily. May we continue to pursue a life of dedication and perseverance through obstacles we may ever face. You show me life's second chances, which is every sunrise revealing a new day.

May we all continue to live our best lives until this world swiftly passes.

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Chapter 1: Introduction

Philosophers have studied living and the passing of human lives. As we approach our older years, our ability to perform tasks that we once were able to starts to regress. Yet millions of people age 65 and above are continuing to be a part of society and their families. The household has transitioned from many generations living under one roof to a nuclear family. As the number of people aged 65 and above are continuing to increase, the location for this population will be expected to have a solution. This thesis explores the typical senior living community and suggests multigenerational housing options within an intergenerational shared site.

How can design of a multi-generational community impact senior care and our future generations? This thesis investigates the benefits of co-residing with other generations and the health impacts on those participating in co-residence and programming. An understanding of public and private spaces within an intergenerational shared site will provide the foundation for education and independence, which is critical to human behavior. Background and understanding of different levels of senior care in addition to understanding of education/childcare will be foundational to the site's success. Considering the families role in caregiving will aid in the understanding of a multigenerational living space and propel a future in how we care for our love ones till the end.



Figure 1: Grandparents as Caregivers

Source: (First 5 LA 2019)

Chapter 2: Senior Living Today

Senior Living Origins

History of Community Living

Towards the later years in life as human beings age, we become not as sharp, quick, or as healthy as we used to be earlier in our lives. We become less in control of the very thing that used to control every vital function to survive and live. That is our body. Our physical strength fades, energy leaves us and often the very thing that controls us, the brain, may leave us. This has required overtime the creation of homes with a first-floor master bedroom, becoming closer to neighbors, as well as the creation of organizations who look over us in reaction to not living with our children. In the early nineteenth century, church groups began to establish special homes for the aging population within their own church body. These beginning homes required substantial family support in order to house this generation as well as physical support from their families or people within their church community.

By 1935, the federal government became involved in nursing homes with the passage of the Social Security Act of 1935 (Institute of Medicine 1986). This then grew the private nursing homes where residents could be funded by the Old Age Assistance Act. The growth of these communities soared as a result. In 1950, the Social Security Act authorized payments to residents in public institutions as well as direct payments to health care providers (Institute of Medicine 1986). Later in 1960, new legislation allowed for the development of public institutions for the older adults that required more assistance. This legislation came from the realization that not all elderly individuals could support themselves with their own monthly pensions knowing many of them needed long-term care. The Kerr-Mills Act, replaced with a more extensive program called

Medical Assistance for the Age (MAA), covered the medically needy for the first time. By 1965, 47 states had MAA programs with a total outlay of \$1.3 billion a year with 300,000 recipients (Institute of Medicine 1986). Also happening during the same time, many skilled nursing beds did not meet fire and health standards. This started the perspective that nursing homes are a prison where people go to see the end of their life. With different issues relating to separation of individuals in these homes from other age groups as well as happiness to residents living within these developments created a change in perspectives. *“They (our lives) are spent in institutions—nursing homes and intensive care units—where regimented, anonymous routines cut us off from all the things that matter to us in life”* (Gawande 2014).

Shifts in Senior Living



Figure 2: Levels of Care - Support as we Age

Source: (Culpepper Place 2019)

Motivated by negative views of nursing home care, the industry shifted in senior housing beginning in 1979 to 1985 (Marak 2018). This started a different perspective of how care should

be towards the end of one's life with a focus of service of the residents residing within their care. In 1986 to 1993, the providers, consumers, and government became interested and created four distinguishable kinds of assisted living communities (Marak 2018). Their creation included the development of assisted living separated into a hybrid model, assisted living, independent living, and memory support. By creating these different levels of care options, residents with more abilities are able to maintain a private lifestyle while being close to other options as they may be needed. Other levels of care responded to the status of the individual looking to reside within this community based off of their health. One of the items that still has remained for this type of home care is the mindset that these are the places where one meets their end. While this has truth to it, any residence that one remains in could be the place where they meet their end. The concept of assisted living allows residents to dwell in a space where they are surrounded by community and support groups when one is in dire need of assistance.

Current trends

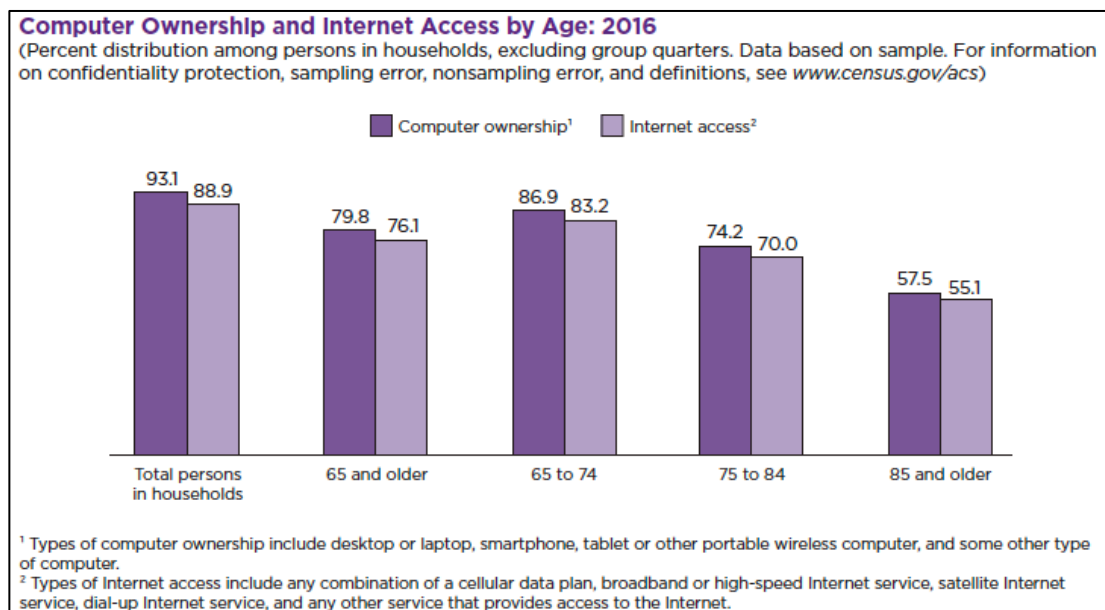


Figure 3: Computer Ownership and Internet Access by Age - 2016

Source: U.S. Census Bureau, 2016 American Community Survey, 1-year estimates.

As we continue to grow as a society, we are also specifically growing in all age groups. Linking this to senior living means we have a demand for senior living. “For the past decade, there has been a rise of community-based options with retirement living facilitated by technology” (Perkins Eastman 2013). As we entered into a digital age, our seniors are also increasing with their ability to be connected through social media as well as to their family. Speaking to my own experience, both sets of my grandparents have devices which enable video communication in addition to having connections through different types of social media. While still being connected no matter the distance, our world population is growing, which certainly doesn’t exclude the older generation. Looking at **Figure 3**, a strong percentage of ages 65 and older (80 %) have computers while 76% have access to the internet connecting generations no matter the age. “The proportion of elderly people aged 80 years or older is projected to increase by nearly 300 percent between now and the year 2040” (Schwarz and Brent 1999). This projection was seen in 1999 which has dated but remains true when looking at the number of individuals entering another age bracket. “The huge baby boom generation, which transformed public and private institutions is poised to change our communities once again” American Society on Aging 2009 (Perkins Eastman 2013). We have seen a rise in community living while the population grows while also creating change in due to the population. Retirement communities continue to expand and generally will specifically start with the amenities the community has. “Retirement living providers continue to expand

wellness, dining, and recreation options in response to demands for more choices and a healthier lifestyle” (Perkins Eastman 2013). Communities have also been changing their dining facilities to offer amenities such as a café that turns into a bar where residents currently are

asking how many bar taps the community can have. This reveals the desire for human connection and a social environment in which people interact with each other in a natural manor.

Saving for retirement

Expenses. Something always considered throughout life but heavily considered towards the end when a large percentage of people are retired. According to the U.S. Census Bureau, only 22 % of men & 14% of women are still participating in the work force age 65 and older (**Figure 4**).

This means approximately 80% of people age 65 and older are accessing savings previously earned, support from their own families, or relying on public funds in order to support their lives. Looking to **Figure 5**, 89% of individuals age 65 and older rely on social security, 49% rely on retirement funds, and 37% rely on their own personal savings. It is commonly heard at a young age that you need to start saving for retirement unless you are planning to work for the rest of your life. This looks like a daunting task when it comes the future of your life and certainly your living situation as you age.

Looking at the culture of Japan, the family has had a different perspective on the elderly and specifically their own when it comes to the structure of the family. It's not uncommon for grandparents in Japanese culture to remain with their families or more specifically, children remain with their parents and grandchildren become a part as well. This can create a larger family where more incomes can support the amount of people residing. In the United States, the family is typically a nuclear family. This means the kids will live with their own parents until they become of age where they no longer need their parental support. An important factor when considering a senior living community is the availability for different income levels. Certain communities often will reach a specific earning level while disregarding variety and diversity of different people within the community itself. This can often exclude individuals who can't afford assisted living.

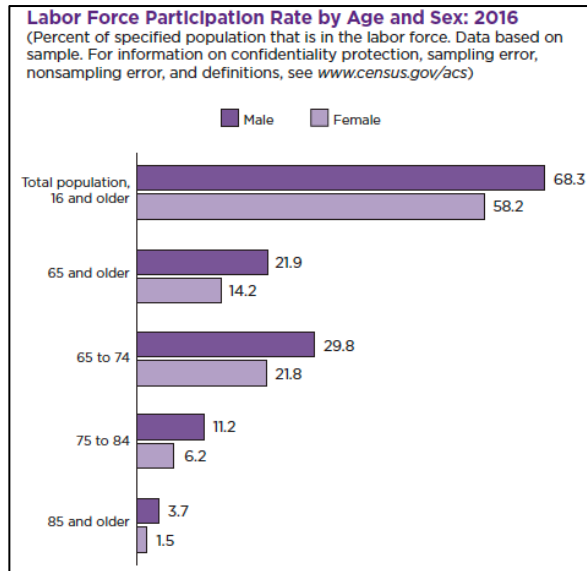


Figure 4: Labor Force Participation Rate by Age and Sex – 2016

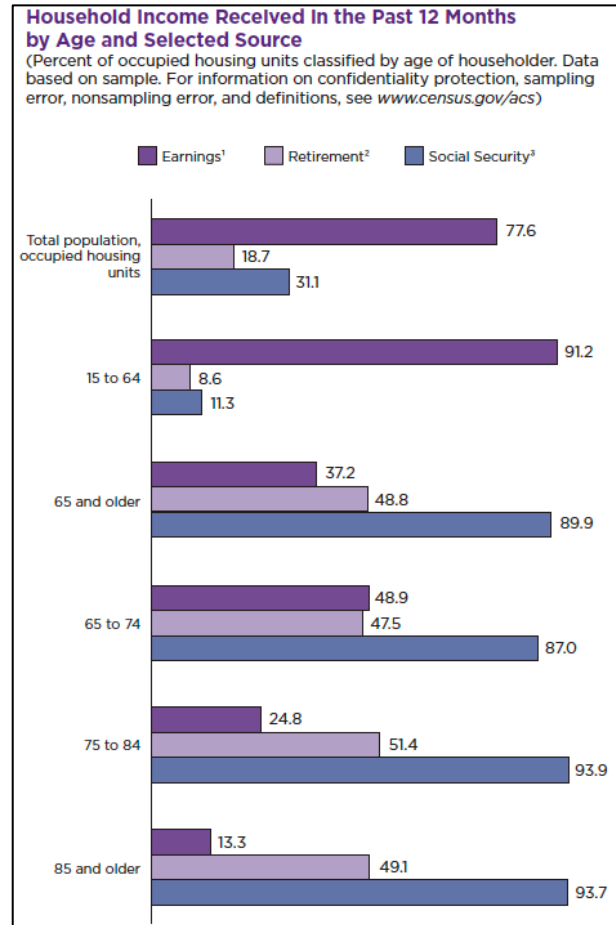


Figure 5: Household Income Received in the Past 12 Months by Age and Selected Source

Source: U.S. Census Bureau, 2016 American Community Survey, 1-year estimates.

Demographics

Americans are living longer and healthier lives. “The population of Northern America, which includes the United States, is also continuing to age and, according to projects, will retain its position as the second oldest region in the world in 2050 with 21.4 percent of the total population 65 and older” (Roverts, et al. 2018). Looking at Figure 6, the United states has an increasing rate as people age of seniors living without a significant other. The United States faces an influx of different ethnic groups which poses different viewpoints on living standards for the elderly as well as themselves. Different cultures have many different viewpoints on seniors and specifically their level of care. Looking specifically at the United states, the older population is

an important segment of the population and increasing within it exists distinct groups with different lifestyles and needs (Roverts, et al. 2018). Looking overall between the different genders, there were a greater number of older females (27.5 million) than older males (21.8 million) (Roverts, et al. 2018). Regardless of sex, there is a significant amount of the older generation that will need places to live when considering different levels of care environments. The way we deal with aging needs to be inclusive to all age groups and create a range of ages regardless of ability and an individual's age.

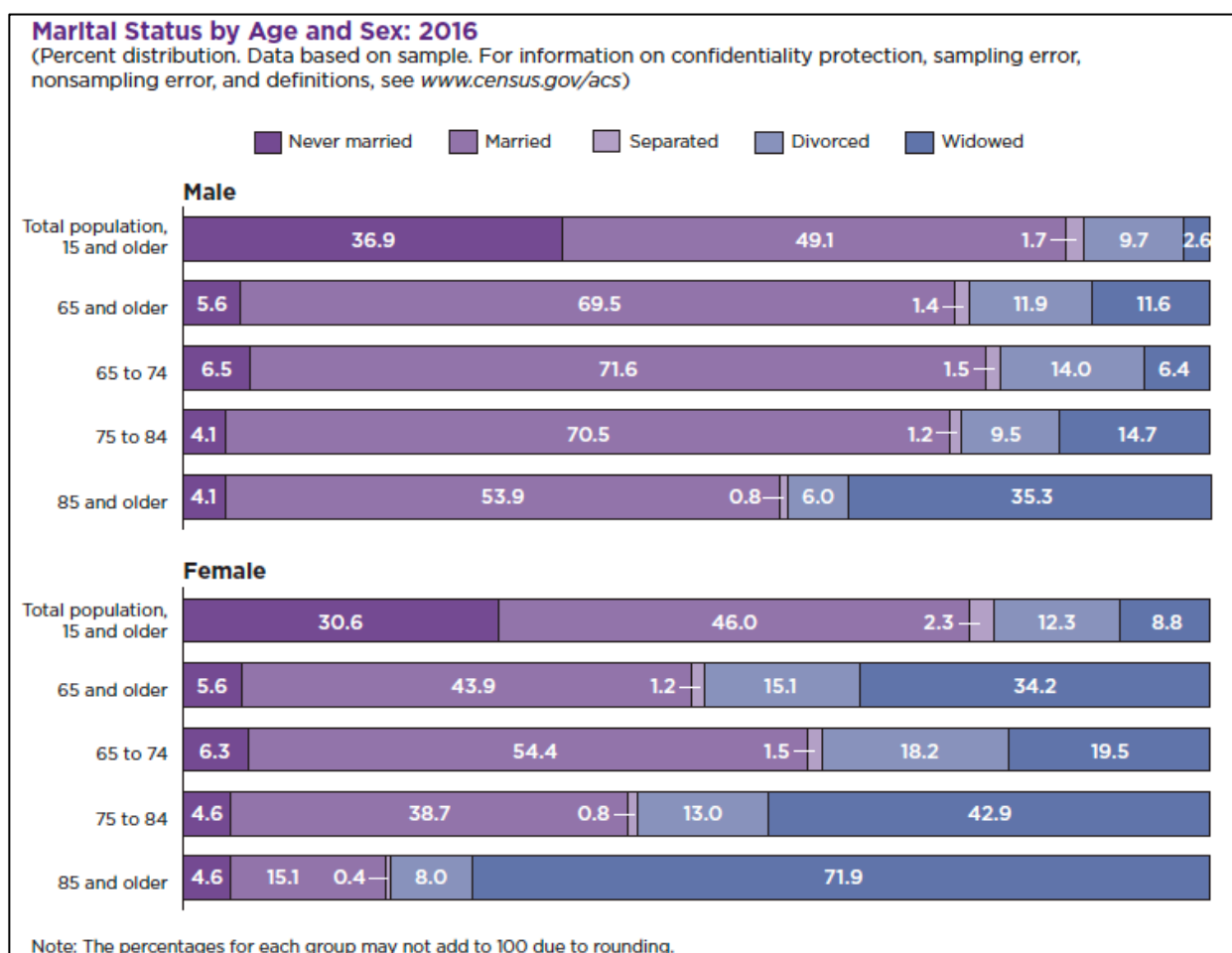


Figure 6: Marital Status by Age and Sex - 2016

Source: U.S. Census Bureau, 2016 American Community Survey, 1-year estimates.

Chapter 3: Being Mortal

“I began writing when I was a junior surgical resident, and in one of my very first essays, I told the story of a man whom I called Joseph Lazaroff. He was a city administrator who’d lost his wife to lung cancer a few years earlier. Now, he was in his sixties and suffering from an incurable cancer himself—a widely metastatic prostate cancer. He had lost more than fifty pounds. One day, we woke up unable to move his right leg or control his bowels. He was admitted to the hospital, where I met him as an intern on the neurosurgical team. We found that the cancer had spread to his thoracic spine, where it was compressing his spinal cord.

The cancer couldn’t be cured, but we hoped it could be treated.

Emergency radiation, however failed to shrink the cancer, and so the neurosurgeon offered him two options: comfort care or surgery to remove the growing tumor mass from his spine. Lazaroff chose surgery. The surgery required opening his chest, removing a rib, and collapsing a lung to get at his spine. Blood loss would be high. Recovery would be difficult. All I had to do was go in and take care of the paperwork. Lying in his bed looking gray and emaciated, I said I was an intern that had come to get his consent for surgery. I said that the operation could remove the tumor but leave him with serious complications, such as paralysis or a stroke, and that it could even prove fatal. I tried to sound clear without being harsh, but my discussion put his back up. Likewise, his son who was in the room, questioned whether heroic measures were a good idea.

‘Don’t you give up on me. You give me every chance I’ve got.’- Lazaroff

(Gawande 2014)



Figure 7: During our final Moments

Source: (Wagner 2019)

As the story goes on, Mr. Lazaroff's surgery was a technical success with over eight and half hour surgery. But he never recovered from the procedure. On the fourteenth day of continued problems with a respiratory failure, a systemic infection, and blood clots, Mr. Lazaroff passed away. "Here he was in the hospital, partially paralyzed from a cancer that had spread throughout his body. The chances that he could return to anything like the life he had even a few weeks earlier were zero" (Gawande 2014).

From this story we can find a way in which we deal with the unavoidable process in life. This specific way is a form of torture we give ourselves despite knowing our inevitable end will come to us at some point. By living along with other generations, even in the last days, an individual could be making an impact on other generations if they lived their life with access to other age groups.

How to end Life Well

Despite diseases that seem to take control over the very body we were able to function, we should be accepting our due time will come at some point. How one lives their life to the fullest is up to the individual. This thesis is arguing against a form of continued hospital visits and expectations that surgery will solve issues that are beyond repair. Certainly, there are needs to visit the hospital for cases when there is more of a possibility of survival.

An individual who lived his life well till his end is a man who was man of many friends by the name of Bill. Bill was an individual who was active. He loved kayaking, fishing, rafting, reading, camping, hiking, traveling, snow skinning, surfing, and golfing. He was incredible generous man who enjoyed his life to the fullest. He took time out of his own days to spend time on the golf course with people for just an adventure or another chance to be in nature. He was diagnosed with a form of cancer that left him with very little time to live as noted by his doctors. They noted that he a few months to live when he was diagnosed with cancer. He tried radiation as a form of treatment that didn't work and left him extremely tired. He then when onto a natural form of treatment that involved traveling and acupuncture and herbal treatments. Bill lived more than a year beyond the time the doctors told him he would meet his death. He spent this time with family in addition to continually work as his private chiropractic office. His choice was to live his best healthy life he could and not subject himself to treatments that could have shortened his life more than it did.

Bill passed away in his home at the age of 61.

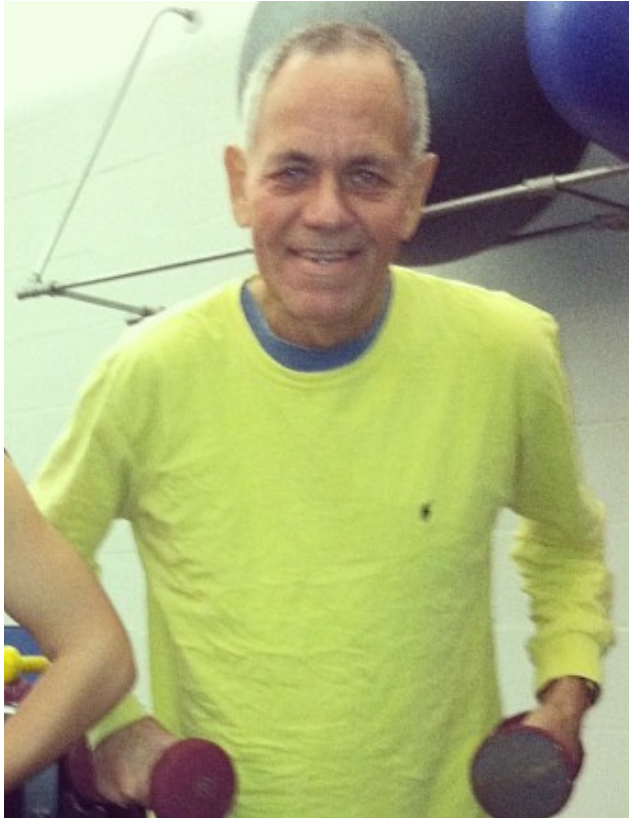


Figure 8: In Loving Memory - Bill during his extended life
Source: Author

This story is communicating that despite any limitations, one should not let those limitations prevent one from experiencing life outside of a hospital and impacting future generations. Bill showed to other generations a life of adventure and perseverance despite the obstacles he had in front of him.

What will you regret in the end?

For each person, their goals in life are special. This could be answered in a simple statement that some people may not regret anything in the end. Others may see the mistakes they made or miss opportunities they could have taken that might have increased their happiness. Based off of an article posted in Forbes, some of the top 25 biggest regrets in life include the people we surround ourselves with. Taught my kids to do stuff more, spending more quality time

with the kids, not taking care of my health, and being a better father or mother are some of the top 25 results impacting others futures (Jackson 2012). This question arises differently for each individual, yet one constant remains. Each person has the availability to impact a person positively in their life and passing something of themselves onto another individual.

Modern Medicine

The story of Mr. Lazaroff in the early in this portion of the chapter highlights an importance in this day. Modern medicine has changed the length of an individual's life longer than at any other time in history. Modern medicine has also changed the way we deal with death into medical experiences. "Across not just the United States but also the entire industrialized world, the experience of advanced aging and death has shifted to hospitals and nursing homes" (Gawande 2014). Death is not a failure. Death is natural to happen and normal. It may be the enemy and we all may hate it but it is the natural order of things.

"You don't have to spend much time with the elderly or those with terminal illness to see how often medicine fails the people it is supposed to help. Our lives are spent in institutions—nursing homes and intensive care units—where regimented, anonymous routines cut us off from all the things that matter to us in life" (Gawande 2014).

We have room to act. To shape our stories. A few conclusions come clear when we understand this: that our most cruel failure in how we treat the sick and aged is the failure to recognize that they have priorities beyond merely being safe and living longer. We have the opportunity to shape our institutions, our culture, and our conversations in ways that transform the possibilities for the last chapters of everyone's lives. This type of reshaping our culture can be done by incorporating intergenerational communities and an option of living within multigenerational households.

Chapter 4: How to Design for Seniors

As we enter into an older age bracket, there becomes a dire need of assistance and dependency.

There are vital elements to our own life quality. These can be as simple as noted in **Figure 9**.

The highest level of life quality requires much more time for someone with dementia. Self-

Actualization takes a long time were as the basic physical needs of safety, health, nourishment,

and shelter and much more tangible items to handle.

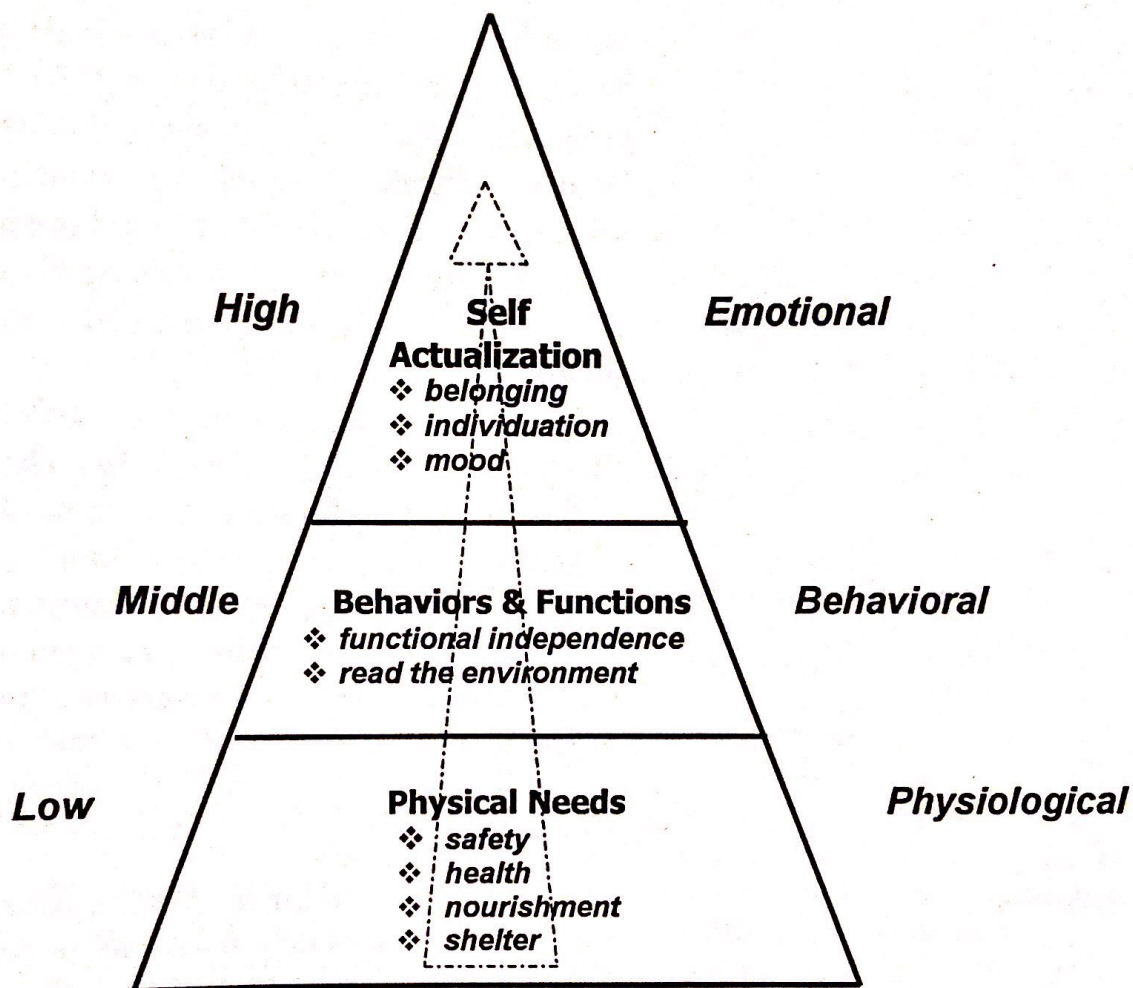


Figure 9: Components of life quality

Source: (Schwarz and Brent 1999)

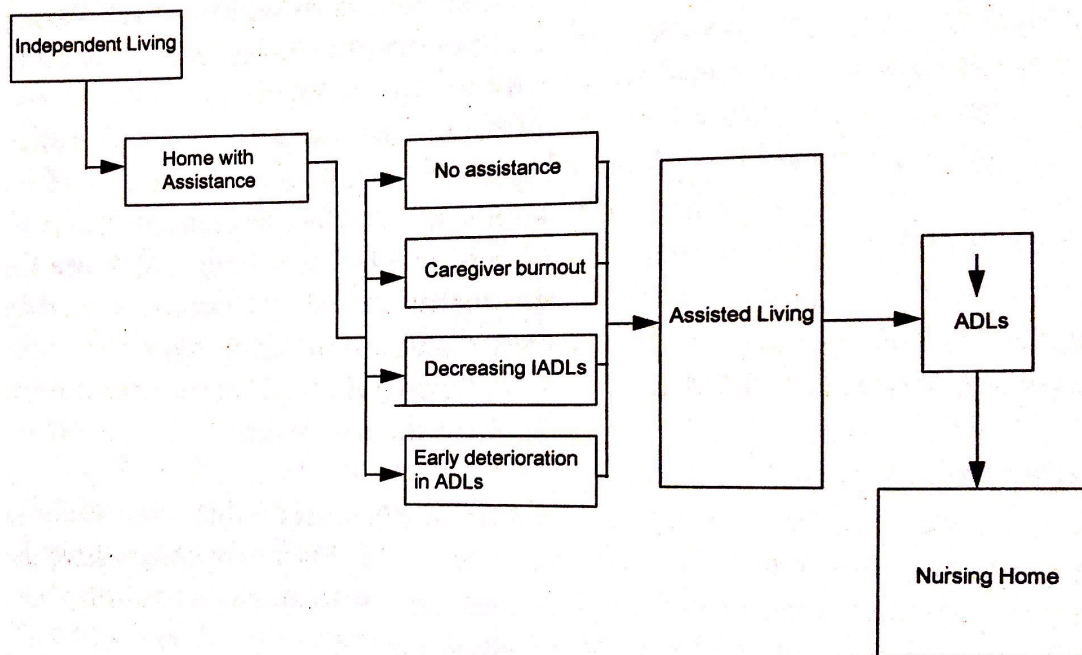


Figure 10: Long-term Care path

Source: (Schwarz and Brent 1999)

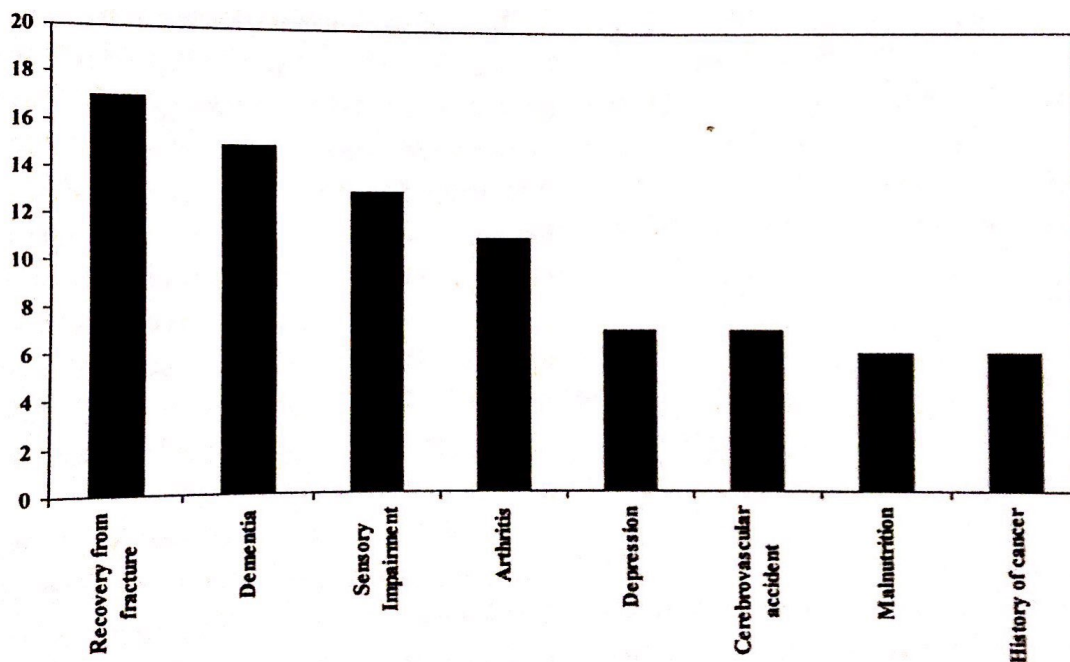


Figure 11: Common medical diagnoses of patients in assisted living

Source: (Schwarz and Brent 1999)

Levels of care

For the typical levels of structure for a retirement community, one can look at **Figure 10** for a generalized version of this movement. Typically, when looking for a smaller place to take care of rather than staying within a larger home, one will choose Independent Living. This is generally close to the community itself with access to amenities and services when in dire need. There is also a naturally occurring independent living where an individual stays where they are at in a residence and continues their life as it would be.

For those who are in more dire need of support, the next level of support is assisted living. This allows an individual to still have independence yet are have a support staff that will generally keep an eye on them and regularly see them every day. Other forms of assistance can be named memory support. This level of care generally involves much more assistance and more control of the individuals as they are not able to leave the premises of the site. All of these levels of care also bring up the importance of the site and each space being accessible to all.

Typical Programs

Typical programs of older adults range from facility to facility. Common ones include a recreation center, shared meal location or a dining hall, nearby parks, health services, etc. These programs all encourage the individuals to get outside of their homes and be social, active, and within a community of people who have gone through life as well.

Chapter 5: Multigenerational Living

Changing of families

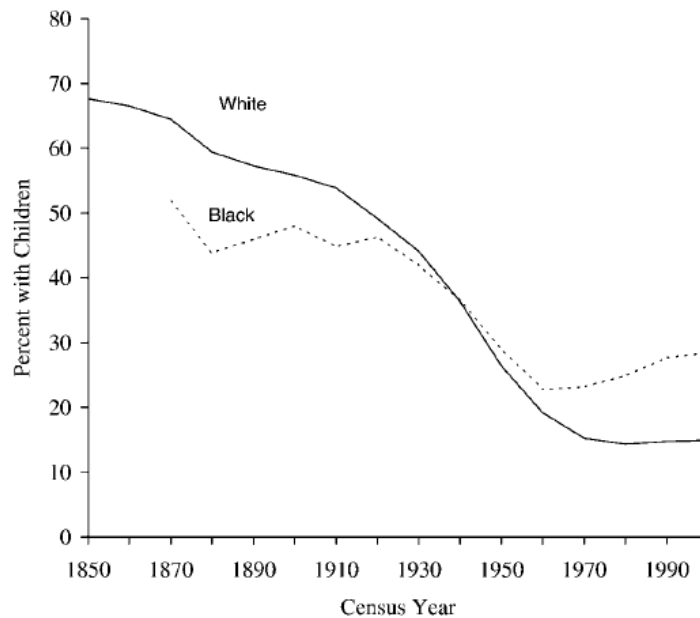


Figure 12: Percent of Persons Age 65+ Residing with their own Children Age 18+; United States Whites and Blacks, 1850 to 2000

Source: (Ruggles 2007)

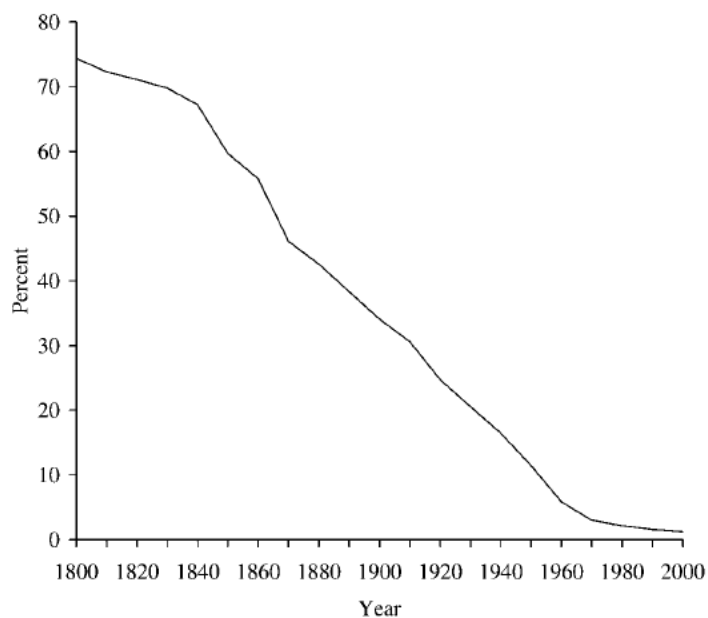


Figure 13: Percent of the Labor Force Employed in Agriculture, United States, 1800 to 2000

Source: (Ruggles 2007)

“In the mid-nineteenth century, almost 70 percent of persons age 65 or older resided with their adult children; by the end of the twentieth century, fewer than 15 percent did so” (Ruggles 2007). This pattern has been as a result of families not limiting connection but merely as a result of their occupation. If we look at **Figure 12**, we can see the percentage of children aged 18+ who reside with their parents. It is important to note that the decline of intergenerational co-residence can reflect a decline of patriarchal control brought about by the rise of wage labor and the decline of agriculture (**Figure 13**). Naturally, families started to rely on their own working positions and less on the outcome of the family’s farm. “The growth of the Social Security program and private pension plans in the twentieth century mean that more and more elders had secure cash incomes even though fewer and fewer had their own farms or businesses” (Ruggles 2007). Despite the data revealing trends of less multigenerational living, research has found this may not be ideal. Looking at the U.S. Census Bureau (**Figure 14**), let’s take stock of recent results of co-resident specifically grandparents who are caregivers for their grandchildren.

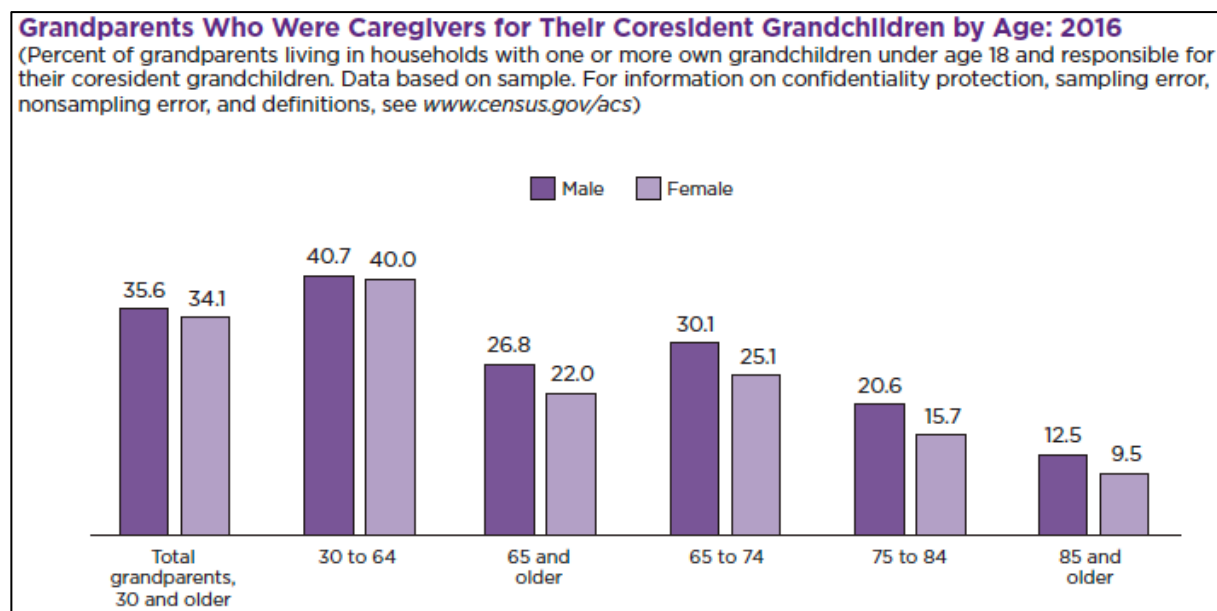


Figure 14: U.S. Census – Caregivers

Source: U.S. Census Bureau, 2016 American Community Survey, 1-year estimates.

This data reveals certain circumstances whether it be the death of children's immediate paternal parents or possible issues regarding their status in society may reflect a case where grandparents need to take care of their grandchildren who need support. Regardless of necessary childcare for grandchildren, "recent trends such as increased life expectancy, decreases in family size, and the rise of both single-parent families and maternal employment increase the potential for grandparents to play important roles in the lives of their grandchildren" (Dunifon 2012). The American society has reflected currently a pattern where interaction with grandparents is occasional and not as often compared to previous decades.

Intergenerational Programming

2 in 3 Americans desire to spend more time with people outside of their own age group. 7.6 million children currently live in households headed by their own grandparents or their other relatives (Generations United 2019). Intergenerational programming within senior living facilities is changing not only the people who interact in these communities, but the mindset of the individuals who see these communities from the outside. In addition, growing research reveals how damaging isolation and loneliness can be amongst the older generation.

While looking at a different mindset of living and care towards the end of someone's life, it is important to note what intergenerational living is and specifically what a shared site is. Intergenerational living pairs younger generations with older adults while having a shared site means these different age groups are in the same physical location. Multigenerational living relates within the residence of families where many generations of a single family reside together. Both are important in different ways of how they relate to a community focused on elderly care.

As we have advanced medicine and the quality of our lives through more sanitary living conditions, older generations play important roles despite their age. Due to our enhances in technology and medicine, we have experienced increases in life expectancy, from less than 50 years in 1900 to almost 80 years in 2005 (National Center for Health Statistics, 2010). Since we are living healthier and longer lives, grandparents can sustain relationships with their grandchildren throughout childhood and into young adulthood being a part of their lives more than ever before. There are several benefits to having many different generations existing in programs where different ages interact as well as living situations where three generations are living under one roof. “They (grandparents) can serve as role models for their grandchildren, discussing appropriate behavior, encouraging academic or other success, helping with homework, and providing advice and emotional support” (Dunifon 2012).

There’s been programs that have worked successfully bringing different ages onto the same site specifically having a shared site. A program in Champion, Ohio has incredible effects on all age groups. “*‘That’s a big emphasis at Champion is that they’re family,’ she said. ‘Being with the kids really brightens the older adults and really gets them engaged. For the kids, it’s like having a grandparent around’*” (Generations United & The Eisner Foundation 2018). From this program, intergenerational shared sites can have an impact on individuals who may not have family nearby or family not a part of their lives. This allows for interactions of a broad age ranges despite not being related and providing benefits to all happening at the site.

“Intergenerational practice involves bringing people together in purposeful, mutually beneficial activities that promote greater understanding and respect between generations and contribute to building more cohesive communities. Intergenerational practice is inclusive and builds on the

positive resources that both young and old can offer each other and those around them” (Hatton-Yeo and Ohsako 2000).



Figure 15 :Healthy Living with Community

Source: (First Coast YMCA 2019)

When discussing opportunities of shared sites, multigenerational living or even being in close proximity to many generations can provide many benefits. “When grandparents provide emotional or instrumental support to parents, it could decrease parents’ stress or improve parents’ emotional health, ultimately leading to positive child outcomes” (Dunifon 2012). These options for levels of care and programs allow children needing to find a place for their parents a much easier task.

When most families have seen a shared room at an ‘old folks’ home’ they often see that as the only option when considering where their parents have gone. When discussing options for living, more than 4 in 5 Americans say if they (85%) or a loved one (86%) needed care, they

prefer a setting where there are opportunities to interact with different age groups over a community with just a single age group (Generations United & The Eisner Foundation 2018). This already reveals a change in perspective when it comes towards the of individuals lives where there is a realization that maintaining social interaction amongst different people in a community other than your own age range impacts your perspective as well as your contribution to the human race as a whole. We all age. There is no escaping the eventual grasp of death that takes us all. Whether we individually fear death or fear another person we love leaving us, we as a society need to see items that should matter in life. Having the comfort of knowing your child doesn't need to take care of you in the end is important. One's quality of life shouldn't diminish no matter an age. Choosing an intergenerational shared site and having the option of living in a residence of multiple generations is better than the stories thousands of families tell of the trauma of having to place their mom or dad in and institution.

Health of Seniors and Youth: Impacts of intergenerational living

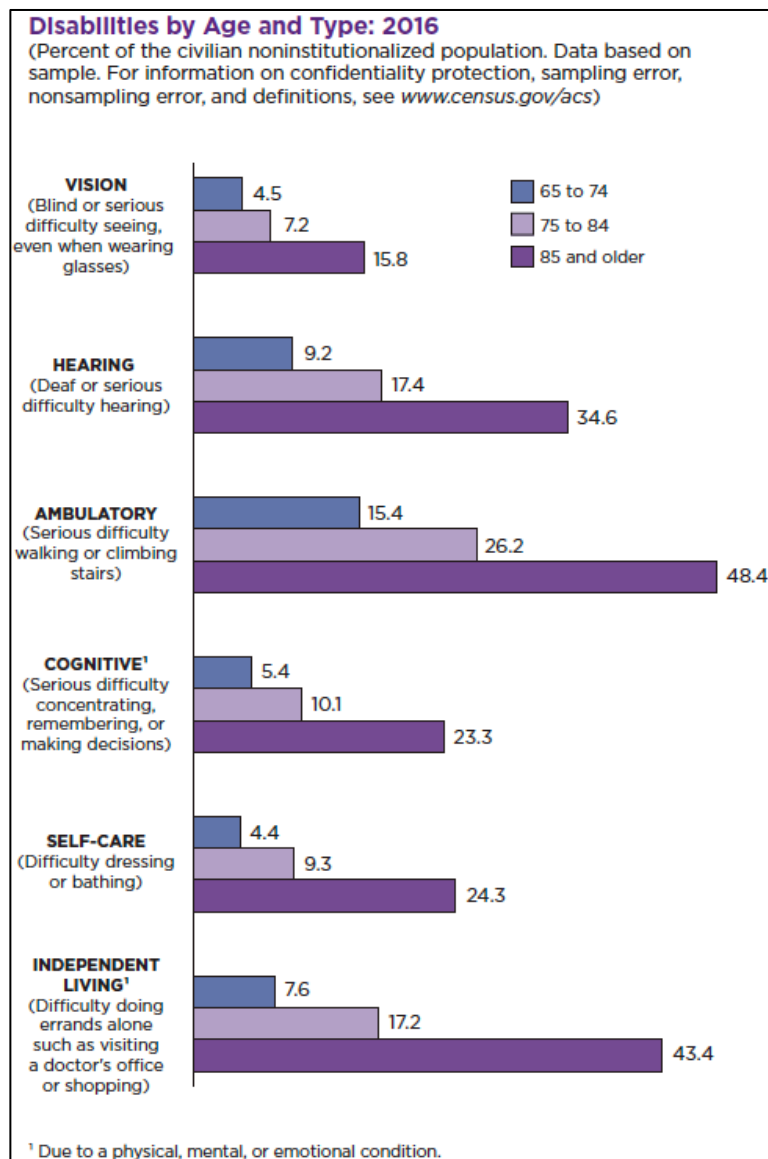


Figure 16: Disabilities by Age and Type - 2016

Source: U.S. Census Bureau, 2016 American Community Survey, 1-year estimates.

When looking at models of intergenerational programs, there are many positive reports from the different age groups. For youth, there is evidence of improved self-esteem and self-worth, improved academic performance and motivation to learn. There are also reports of positive attitudes toward themselves and the older adults, fewer dropouts from school, and an

increase in positive behaviors in school and at home. When looking at older adults, there is evidence of a more productive use of time, reaffirmation of worth, and increased satisfaction with their own life, enhanced cognitive function, improved mental and physical health, and improved feelings of self-esteem and self-worth (Hatton-Yeo and Ohsako 2000). A study coordinated by Generations United and The Ohio State University, found that intergenerational relationships improved attitudes toward elders and youth and support the health and development of participants (Generations United & The Eisner Foundation 2018). When reflecting upon the impact of both generations, there is increasing evidence of reduced loneliness and a renewed connectedness to society as a whole. When considering an intergenerational living community, it is important to take stock of all seniors as a whole. Looking at **Figure 16**, we can begin to understand different limitations or opportunities for a community that creates connection and assistance on a voluntary basis.

“Compared with non-caregivers, long-term multigenerational caregivers were more likely to report better self-rated health, higher life satisfaction, and fewer depressive symptoms. We found some evidence of recessed mobility limitations for both skipped-generation and nonresidential caregivers relative to non-caregivers” (Konrad, et al. 2013). As we begin to understand the positive implications of living together as a society and not separating because of our different ages, we can consider a society that lives together for the common good of living well and connecting to each other no matter our background or history.

“‘You see them come to life like they have a purpose again,’ She said. ‘It’s almost as if they have their own little family here’” (Willco Interview) (Generations United & The Eisner Foundation 2018).

Chapter 6: Living Well



Figure 17: Three Generations Under One Roof

Source: (Abrahms 2013)

Multigenerational

Up until the 1950's in the United States and throughout the world, three and sometimes four generations live(d) together in multigenerational families. Housing has evolved especially after the end of World War II into a single-family dwelling which has shifted our landscape.

“The rapid increase in the number of elderly people (65 years and older) combined with decreases in financial support for human and health services is already leading to dilemmas and even disasters for some American families regarding care for seniors in the clan” (Niederhaus and Graham 2007). This has posed stresses on families and especially to those who can't afford to take financial responsibility and often support the aging population. When considering a type

of care for a family member in need of assistance, it can often be difficult balancing the cost of a community and also the status or qualitative value of the community itself. Regardless of families having separate bank accounts and different living quarters, the majority of Americans are part of a multigenerational family, and these families are geographically, financially, and emotionally connected already.

In addition to financial constraints when considering care, with the changing of the workforce women, being the traditional caregivers, are now working. “In fact, 80 percent of married mothers with children are employed outside the home, and women with children under the age of 6 are the fastest-growing part of the female labor pool” (Niederhaus and Graham 2007). This can often leave a hole for childcare especially when considering the added costs of doing so. In addition to care costs, no matter how the markets are, we still lack affordable housing. Homes are expensive and often homes are the figure in representing a life’s work in saving and continual careers.



Figure 18: Keeping it in the family

Source: (West 2018)

One way to combat this cost of living is to include another real estate opportunity by accommodating more residents. Houses become more valuable if they can accommodate more residents. “That is, a potential source of more affordable housing is to use and underused space in single-family-home neighborhoods to create accessory apartments and the like” (Niederhaus and Graham 2007). When considering multigenerational living, certainly grandparents don’t necessarily want to have a daily interaction with their grandchildren or be an on-call babysitter when the parents need one. Some people don’t feel comfortable being around crying babies or cannot physically lift them. Grandparents also might not want to deal with noisy children or teenagers who play loud music.

“According to a Pew Research Center analysis of the latest U.S. Census Bureau data, approximately 51 million Americans, or 16.7 percent of the population, live in a house with a least two adult generations, or a grandparent and at least one other generation, under one roof” (Abrahms 2013). This is revealing a statistic that is showing a naturally occurring intergenerational living situation. This may also reveal that more generations under one household help with providing financial support for the rest of the family.

When considering the layout of such an adjoining space, it is important to think about certain rooms within the residences being separate. “The two most important considerations are a separate entrance and kitchen” (Niederhaus and Graham 2007). The kitchen and often an adjacent living space are really the heart of the home where the bedrooms are mere extensions off of them. It is important to also consider the proximity to other generations and the privacy involved. When looking at the privacy related to the proximity of an elder’s family, an individual within a multigenerational living quarters defined a position effectively. “Not surprisingly, privacy is a major concern. While the families spend a lot of time together in the kitchens and

living areas, each member feels a significant need for a place he or she can be alone. As one Grandmother who has her own suite put it, *‘I’ve been living alone for four years. I wanted privacy; they’re here when and if I need help. That part was very important’*” (Niederhaus and Graham 2007).

Age segregation is harmful. Our existing typical communities tend to divide our society into different ages with the elderly being often distant in specific senior communities. “Research suggests that participation in intergenerational programs and meaningful cross-age relationships may decrease social isolation and increase older adults’ sense of. Belonging, self-esteem and well-being, while also improving social and emotional skills of children and youth participants.

Impacts of future generations

The youth of a society are always the focus and future of society. How we raise them impacts the future they have and the conditions of the very world they live in. Within our families themselves, friends, and neighbors we surround ourselves with impact who we become as a member of our society. Directly linking multigenerational living within a community, there are many benefits to allowing relationships to develop within a family. Grandparents could help raise their grandchildren then later in life, they would be nearby to receive help with their own care if needed. The positive side of having an older adult in the house is having more life experience. This may reveal more parenting experience and better situational awareness. “It’s a miracle that so many of them do as good a job as they do. No one is more ill-equipped to raise children than young parents. Most parents come to the job of parenting with very little life experience. They’re hardly finished being parented themselves. They’re still looking for answers, still searching for clues” (Niederhaus and Graham 2007).



Figure 19: Intergenerational Relationships despite no family ties'
Source: (Generations United & The Eisner Foundation 2018)

“We have an aging population, and what we can’t afford to do is set them in a Sun City-type arrangement so they’re only sharing their experience and knowledge with other older adults,” Donna Butts, executive director of Generations United.”

Mixed Development

One of the characteristics of a successful living situation is the promotion of walkability within the community. Mixed-use development is important when looking at housing opportunities within dense urban environment with options of different retail spaces and close proximity to commercial areas where essentials to society are nearby. What is typically being done in communities outside of cities are the creation of “small towns” to support the community itself. These communities include a community dining, recreation, and other public items. This is important to have gather points as a community where relationships grow. What a multigenerational site infers is the creation of a community not based on age but many ages existing around each other. Mixed use development including many public services will enhance the surrounding community as well as the ones living within it.



Figure 20: Three levels of Intergenerational Living

Source: Author

When considering what type of mixed-use development to include, services pertaining to education may be an important factor. There is a company that is focused on enhancing the

interaction between youth and older adults through shared site programming. The emphasis of these programs finds the shared site program improves learning, social and emotional skills of adults. The below figure represents a lot of similar programming between children and youth and typical senior living communities.

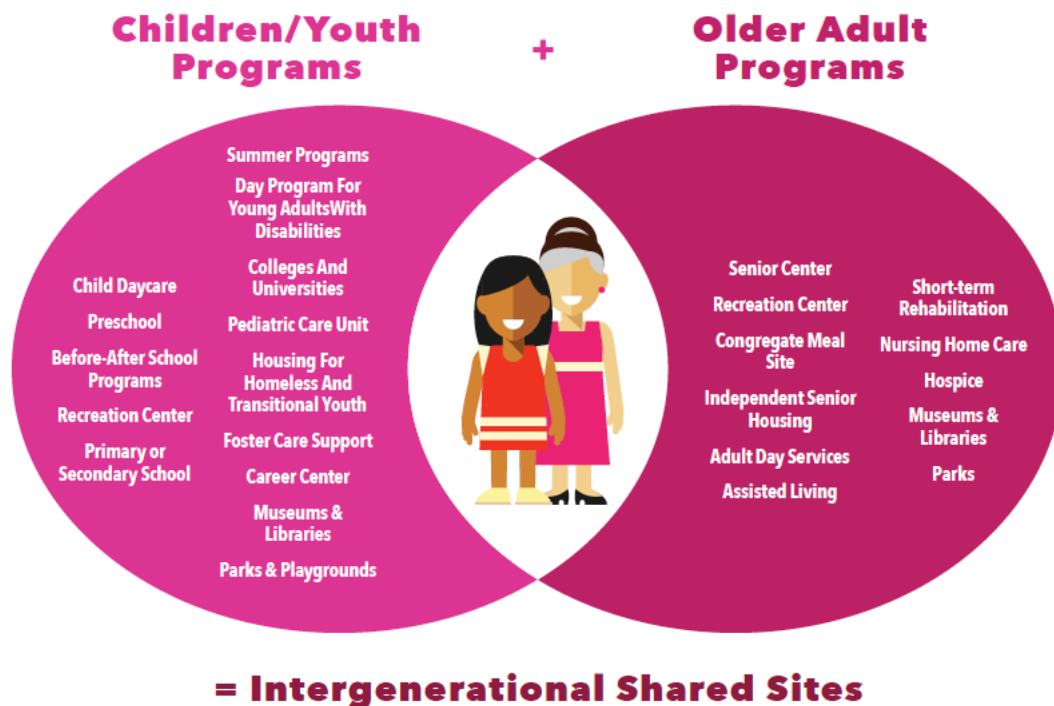


Figure 21: Shared programs between Seniors and Youth

Source: (Generations United & The Eisner Foundation 2018)

In addition to having several overlapping programs between youth and older adults, there are 3 aspects to having a successful intergenerational site. A successful development for age integration includes flexible housing. Flexible housing occurring within three typologies at the minimum. A site also needs to provide public and private spaces where individuals can choose how to interact with one another and where they feel comfortable. Communities also need to be transit oriented. Providing connections to other neighborhoods links different people together for a more cohesive community.

Three Aspects to Intergenerational Relationships



Flexible Housing

- Single Family Detached
- Attached Housing
- Apartment Units



Public & Private Spaces

- Streets
- Parks
- Plazas



Transit Oriented

- Street Connections
- Transportation Links
- Neighborhood Connections

Figure 22: Keys to Intergenerational Living

Source: Author

Any future development needs to follow these principles (**Figure 23**). By following these principles, we will enhance what we consider a community and have a society of better social interaction, increased activity, and increased happiness.

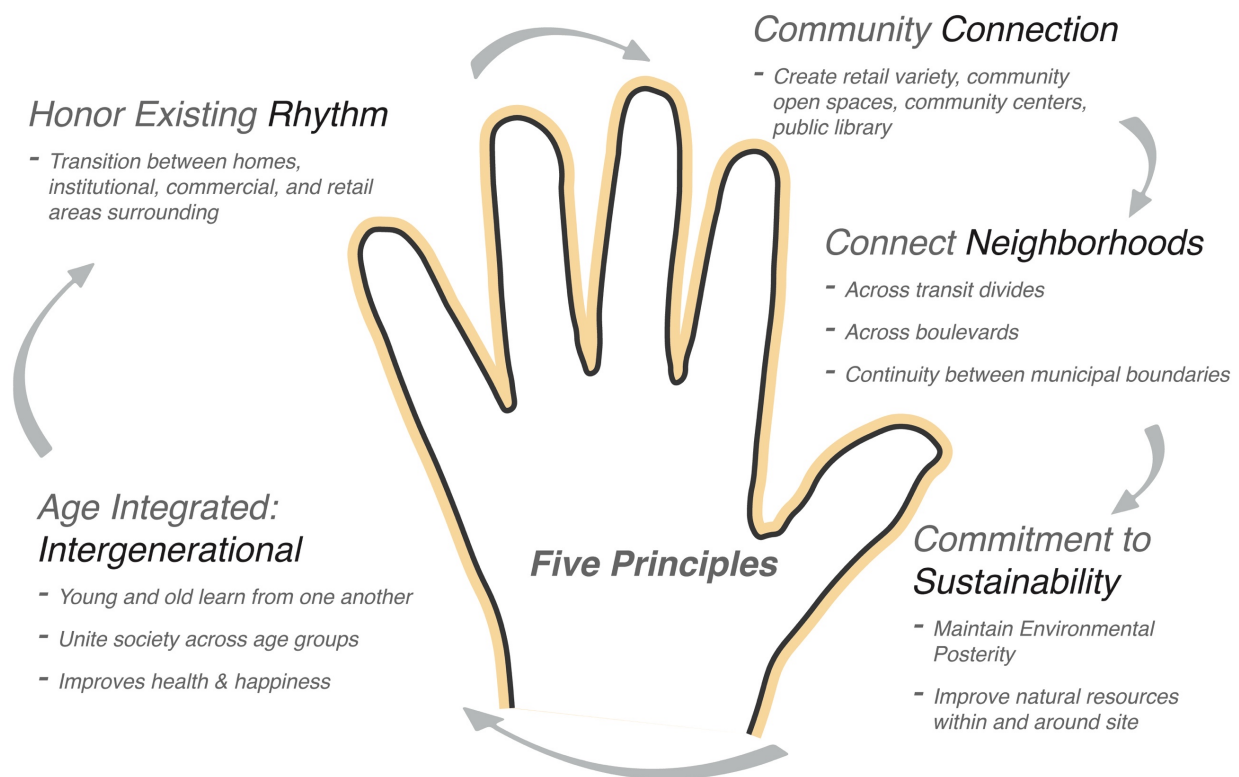


Figure 23: Five Development Principles

Source: Author

Living the best till the end

A good life is one of maximum independence. As we age, concerns regarding the ability to be independent are difficult to have and can be restricting. Under the premise of living well, one must consider exactly how to do so and what may be important especially as we go through life. Everyone has their own viewpoint of what is important in life. The characteristics of living well includes valuing the very people one is surrounded by which tends to be one's family. Death is unavoidable. "Lacking a coherent view of how people might live successfully all the way to their very end, we have allowed our fates to be controlled by the imperatives of medicine, technology, and strangers" (Gawande 2014). This multigenerational community is pushing for social interaction and to value the people who have built one's life to where it is today. In the end of one's life, typically one is surrounded by their family. By being in close proximity to their family, they are able to be with their loved one during their last moments.

While a grandparent is still a presence of society and their family, they should be a positive presence in their children and grandchildren's life's. Not only do grandchildren benefit from having grandparents so close, there are instances where grandparents felt they have learned lessons from their grandchildren. We are always learning about each other and learning new things. There's not a moment where we have it all figured out. People and viewpoints change and understanding of things can be enhanced through life experience. An older parent continuing to be around and impact future generations are a great way to live well.



Figure 24: Living Well- Adventuring with assistance

Source: (Old Town Crier 2018)

“Part of the way my father handled the limit he faced was by looking at them without illusion. Though his circumstances sometimes got him down, he never pretended they were better than they were. He always understood that life is short and one’s place in the world is small. But he also saw himself as a link in a chain of history” (Gawande 2014).

Chapter 7: Site Selection: Testing sites for Program Accommodation

Scope of the Site

Pittsburgh. The city of bridges. Since the 1980's, the once steel mill driven city has changed significantly in the cleanliness and the energy of the people. The city has begun to earn the title of a city of Reinvention. Many of the once brownfield portions of the city along the waterfronts have become new parks and walking baths along the vital resources of the Three rivers. Pittsburgh is unique in that it has significantly risen in job opportunities where recent graduates from nearby universities are more inclined to stay. In comparison to other major cities, Pittsburgh offers housing close to half the cost of other large cities.

One of unique features about Pittsburgh are the hills and the streets that are woven into the landscape. Although, commuting in Pittsburgh is similar if not sometimes worse than the average commute time of 27 minutes of driving. The city features a busway that connects the outlying areas to the downtown as well as an Amtrak station that connects the city by train to Harrisburg, Lancaster, Philadelphia, and New York city as a part of the one rail system (**Figure 26**). This creates a city of connectivity.

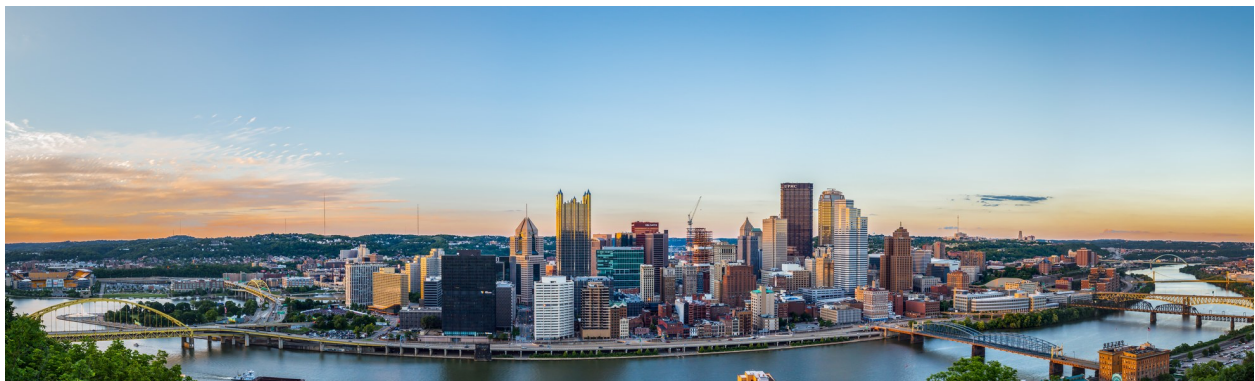
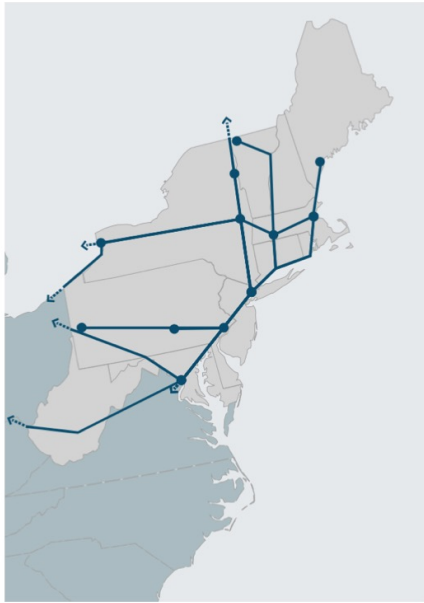
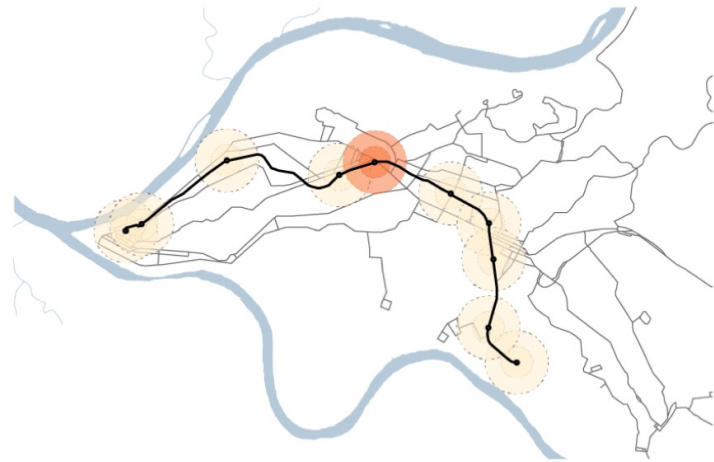


Figure 25: The City of Bridges - Pittsburgh

Source: (Russo 2017)



Amtrak



Pittsburgh Busway

Figure 26: Transportation Links - Amtrak & Busway

Source: Author

In addition to being a city of bridges, Pittsburgh has emphasized areas in need of redevelopment being existing brownfields. Pittsburgh has been known to be an industrial city, but it has turned into a location for revitalization. The Urban Redevelopment Authority has recognized specific areas in need of redevelopment. Pittsburgh's East End has invested a lot of capital into a redevelopment of an existing brownfield.

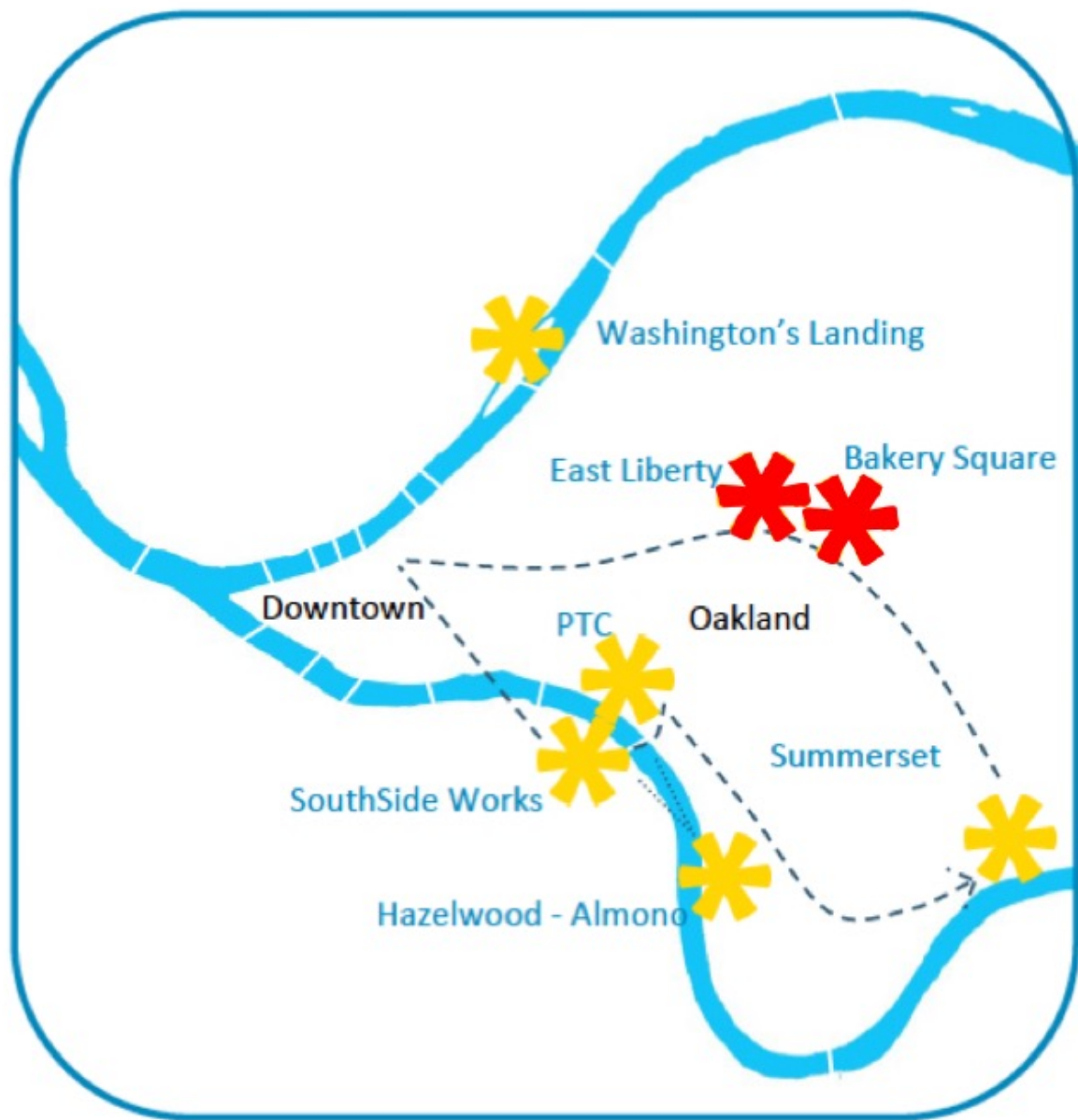


Figure 27: Brownfield Redevelopment - Urban Redevelopment Authority

Source: “ (Urban Redevelopment Authority 2019), Author

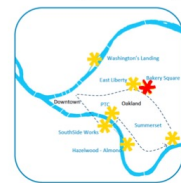
Bakery Square 1.0

Site: 6 Acres
 Total Investment: **\$120,500,000**
 Completion Date: 2009
 Residential Units: 0
 Commercial Sq Ft: 400,000 sq ft
 Jobs Created: 2,000



Bakery Square 2.0

Site: 12 Acres
 Total Investment: **\$125,500,000**
 Completion Date: In Progress
 Residential Units: 402
 Commercial Sq Ft: 200,000 sq ft
 Jobs Created: 1,700



Brownfields



East Pittsburgh

Figure 28: Existing Development - Bakery Square

Source: (Bakery Square 2019), Author

Figure 28 and **Figure 29** are two prime examples where there have been and increased amount of urban redevelopment along vital transportation links in the city. These two areas have seen a lot of investment adjacent to the Busway.

East Liberty Transit Center

Site: 6 Acres
 Total Investment: **\$25,000,000**
 Completion Date: 2016
 Transit Ridership Increase: 6%



East Liberty Transit Oriented Development

Site: 121 Acres
 Total Investment: **\$142,700,000**
 Completion Date: 2017
 Residential Units: 360
 Commercial Sq Ft: 43,242 sq ft
 Jobs Created: 182



Brownfields



East Pittsburgh

Figure 29: Existing Development - East Liberty

Source: (Urban Redevelopment Authority 2019), Author

East End Pittsburgh: Corner of East Liberty, Larimer, and Shadyside -Three Corners



Figure 30: Connection from Three Corners to All of Pittsburgh

Source: Echo Realty and Author

The East End of Pittsburgh, including East Liberty, Larimer, and Shadyside, has become a recent location for a significant amount of redevelopment. Bakery Square, a redevelopment of an existing Nabisco plant, has become the center piece of redevelopment on Penn Ave. The space between Bakery Square and the busway is the location for renewal. This is the center for a new urban intervention connecting separate mixed-use spaces of East liberty's business district, Bakery Square, and downtown Pittsburgh.

5 miles outside of downtown, East End has created huge investments in the technology industry and the culture of the surrounding community. The community includes many

restaurants of different flavors, business new and old, and an addition to the development of its nightlife. Other surrounding necessities in the area include a Home Depot, Whole Foods, Target, Trader Joes, and many other smaller businesses important to the community.

Located in Shadyside, several national retailers have invested in neighborhood shopping streets such as Ellsworth Avenue, Walnut Street and S. Highland Avenue. Each have contained their own culture developed by the people in the surrounding community.

This location which I am calling Three Corners is a strong place for revitalization under the premise of creating a place for all ages.

Site Analysis

Pittsburgh ranks #5 as a Best Place to Retire by U.S. News. This may be the revitalization of the city or possibly the number of people who reside in the city continually. The city contains 2,000 acres of land in city parks in addition to county parks, state parks, and river front parks.

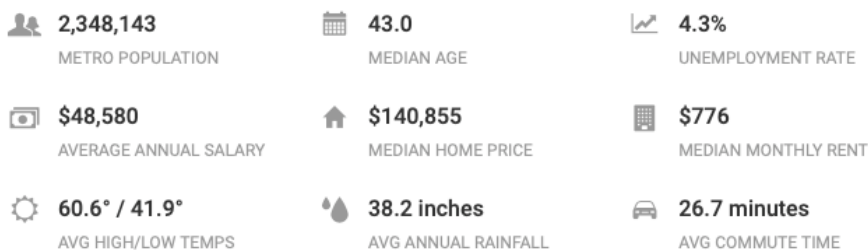


Figure 31: Demographics of Pittsburgh

Source: U.S. News

TRAFFIC COUNTS

Penn Avenue - 13,000 ADT

DEMOGRAPHICS	3 Miles	5 Miles	7 Miles
Population	174,564	333,592	530,241
Households	80,910	154,210	243,333
Median HH Income	\$49,733	\$48,934	\$51,082
Active Businesses	9,864	22,220	28,973

Figure 32: Demographics of Pittsburgh

Source: Echo Reality

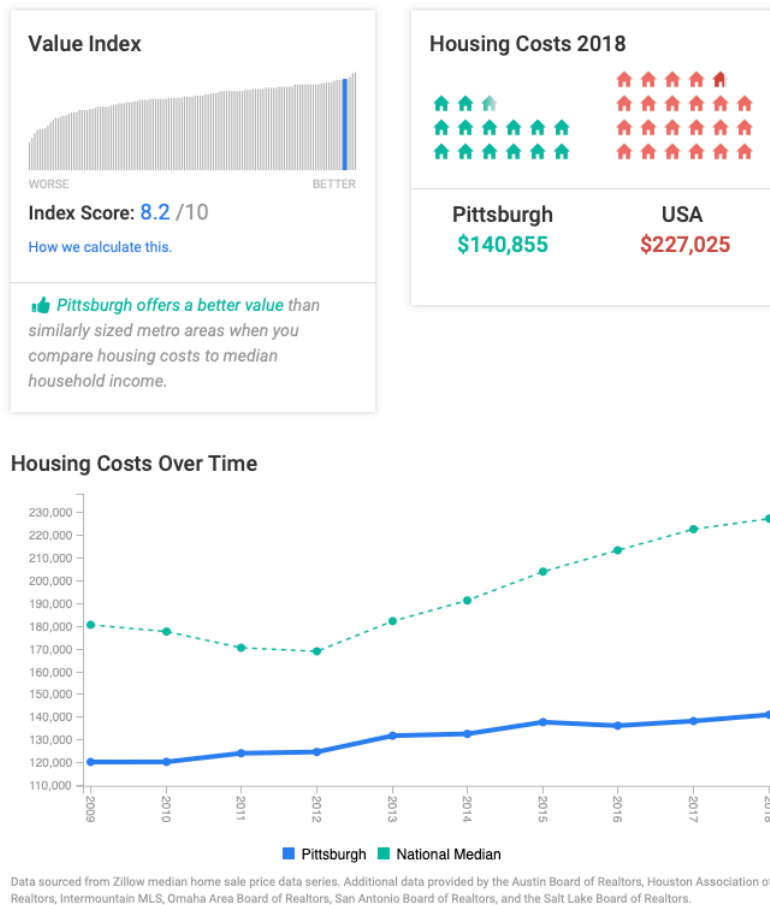


Figure 33: Housing Costs through the years- Pittsburgh compared Nationally
Source: U.S. News

The cost of living is significantly lower than most major cities Nationally where the median household income is typically lower. More than 20 years ago, Pittsburgh lost a lot of its younger population to other metro areas due to the poor job market within the city. They are now returning as Pittsburgh has been returning. Carnegie Mellon University, The University of Pittsburgh, Duquesne University, and higher education institutions bring in a large population of students from around the country and the world. A major percentage of people who grew up in Pittsburgh also generally remain.

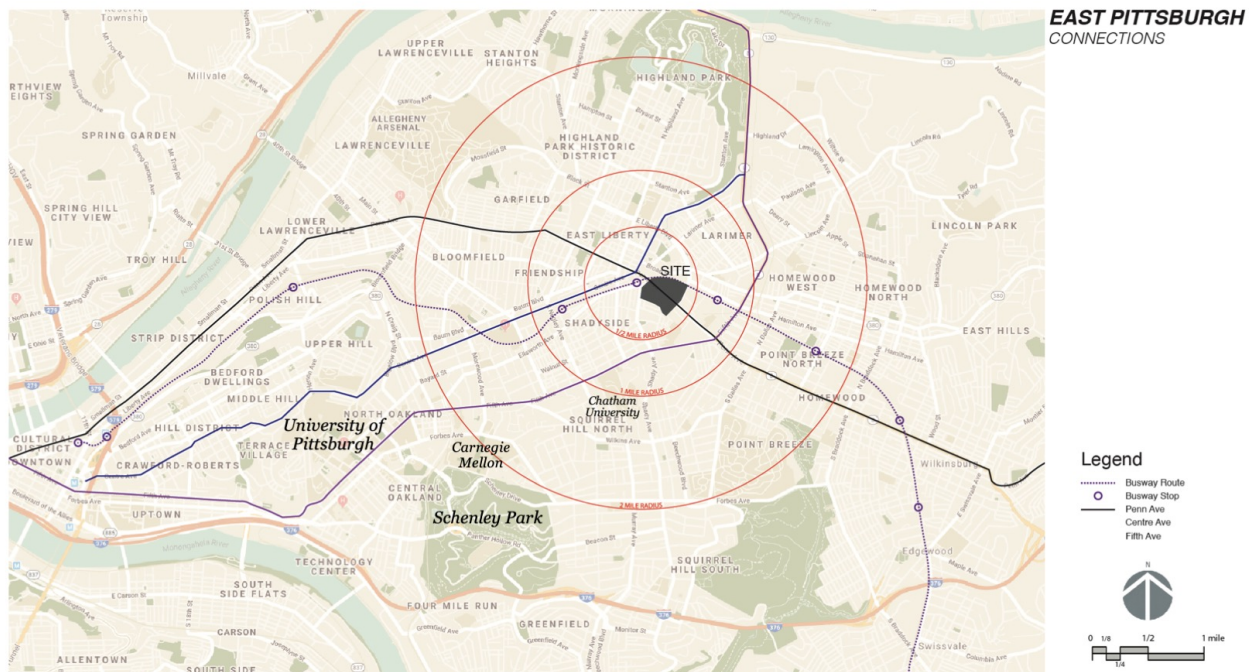


Figure 34: Thesis Site - Connections

Source: Google Earth, Author



Figure 35: Thesis Site Before

Source: Google Earth, Author

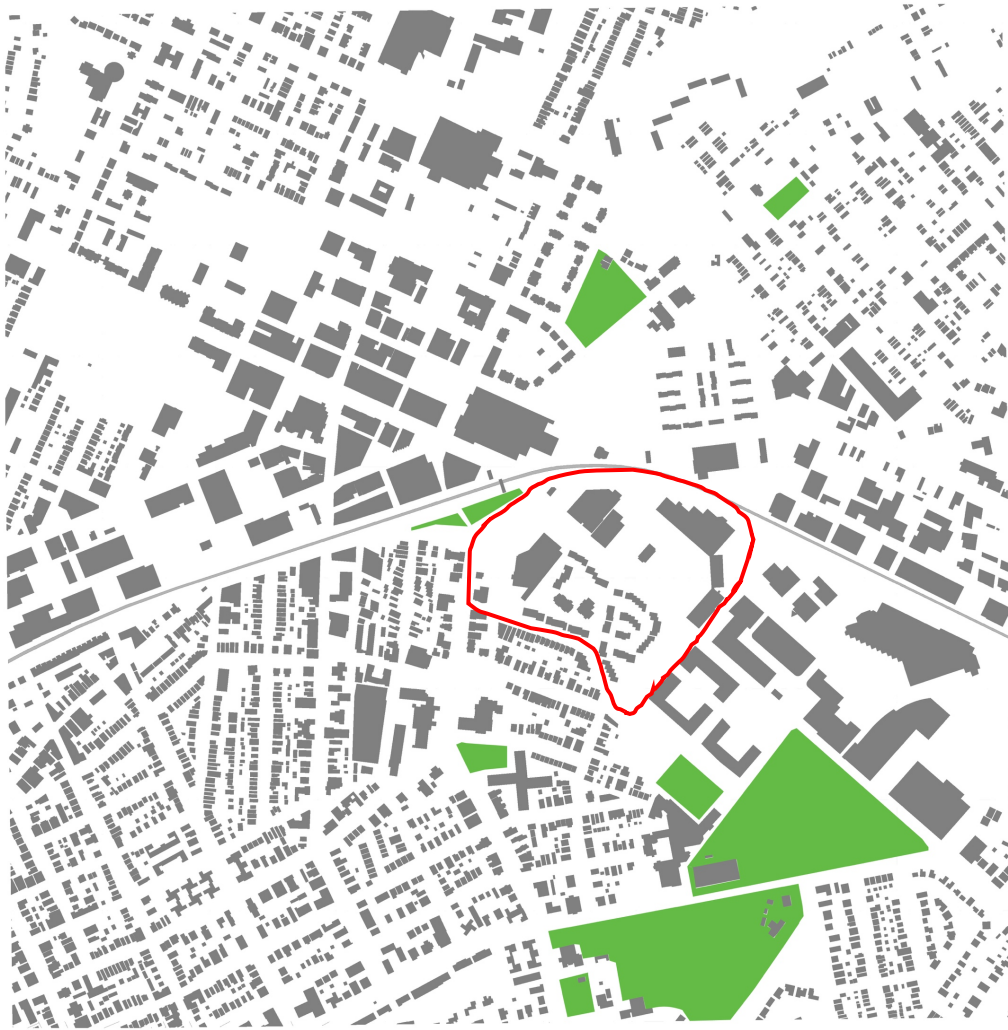


GRAPHIC SCALE - 1" = 400'

0' 100' 200' 400' 800'

Figure 36: East End - Figure Ground

Source: Author



GRAPHIC SCALE - 1" = 400'

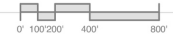
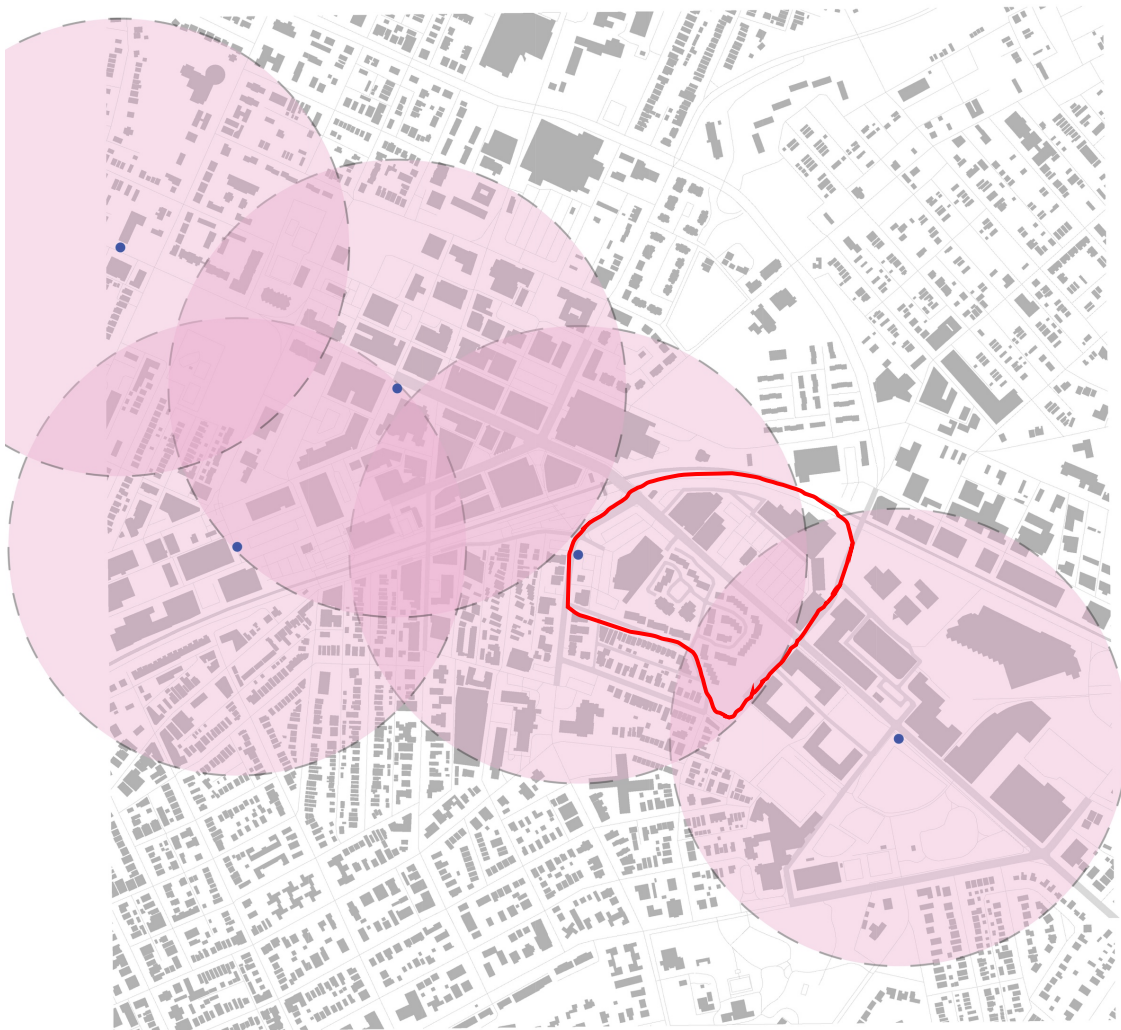


Figure 37: East End - Green Spaces

Source: Author



GRAPHIC SCALE - 1" = 400'

0' 100' 200' 400' 800'

Figure 38: East End - Bike Share Locations with 1/4-mile radius
Source: Author

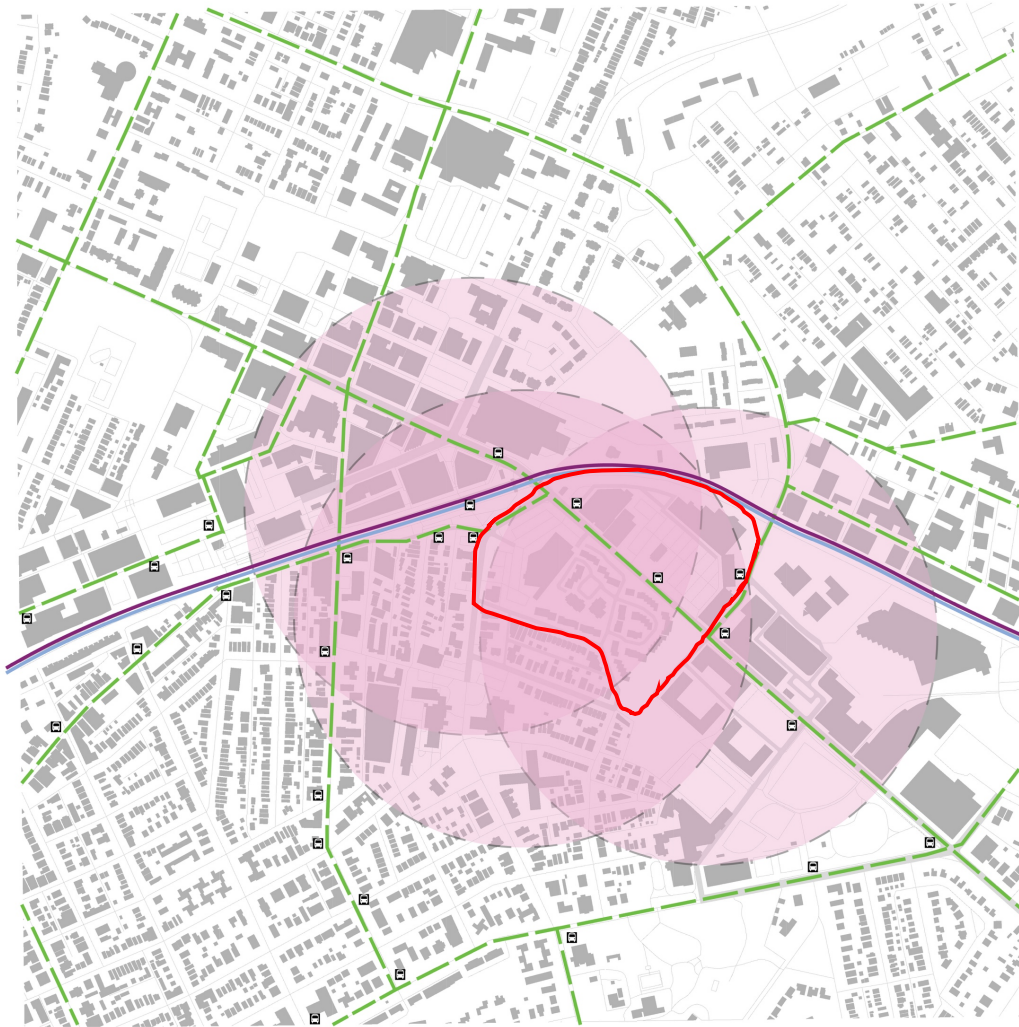


Figure 39: East End - Transportation Stops with 1/4-mile radius

Source: Author

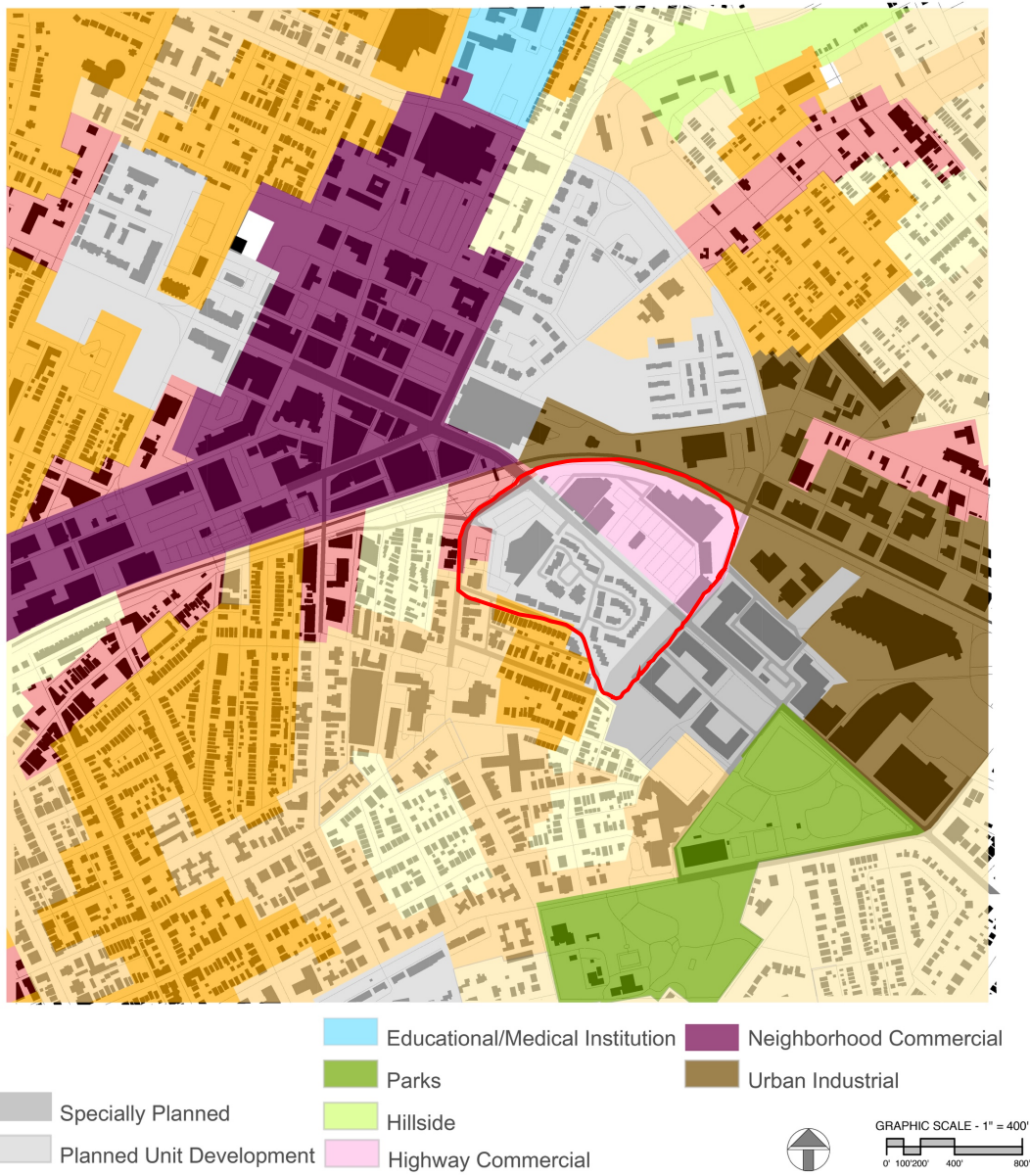


Figure 40: East End - Zoning Regulations

Source: Author

Chapter 8: Concept Exploration:

The following concepts explore intentions on the boundary of development in the East End. Each have a different mentality regarding the surrounding community and heights related to typologies existing and surrounding the use. The area question includes a shopping center named Giant Eagle with existing townhomes to the southeast. Across Penn Avenue includes a highway commercial area

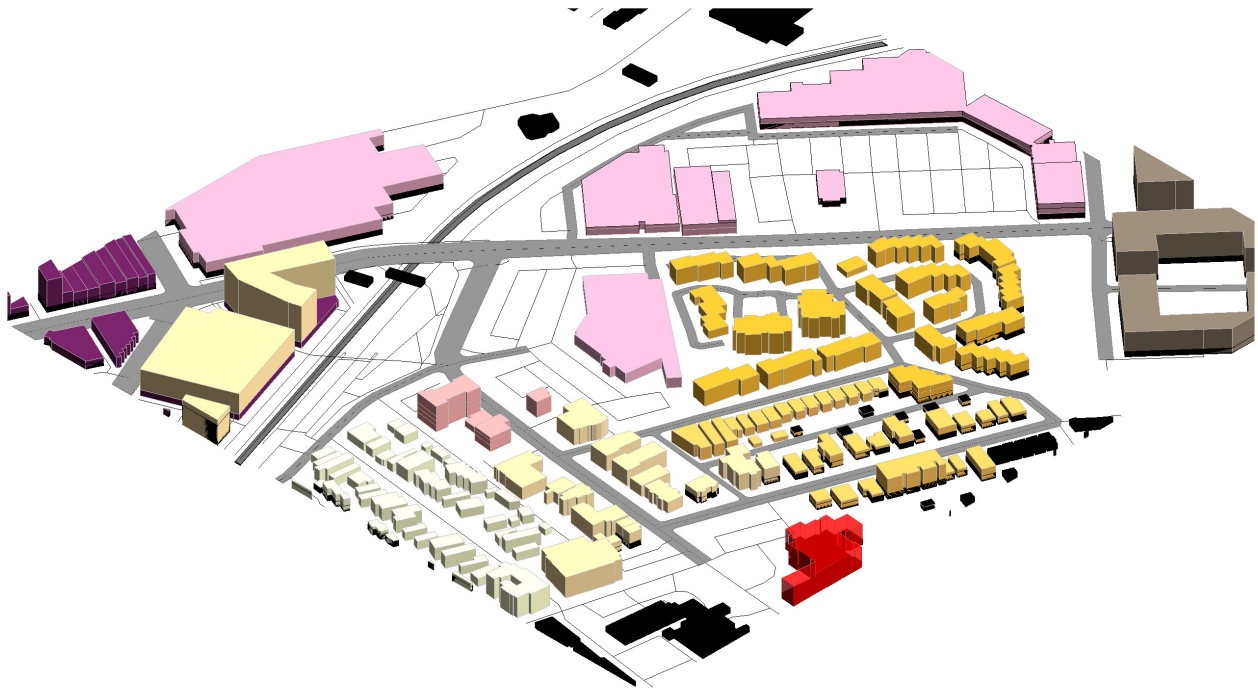


Figure 41: East End – Existing Site Massing

Source: Author

Scheme 1: Redevelop Giant Eagle Plaza

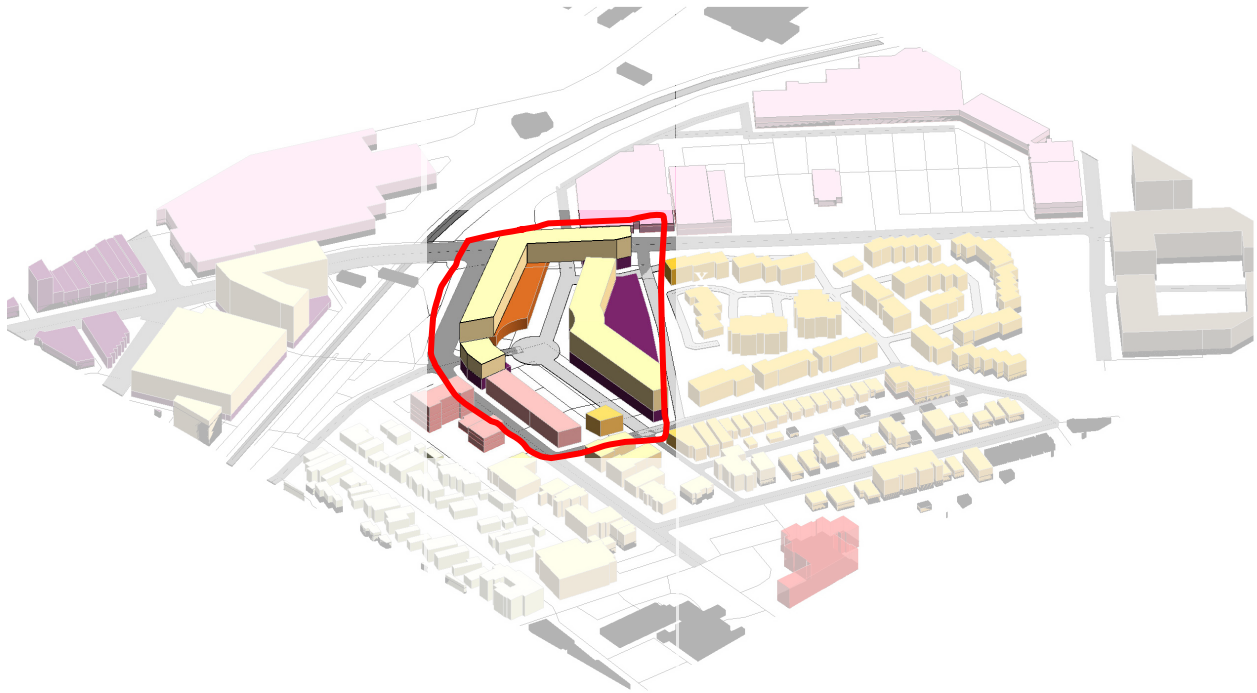


Figure 42: Option Set 1 - Massing Study

Source: Author

The main emphasis of scheme one includes a demolition of the existing Giant eagle and the surround context within the boundary of the roads adjacent. The goal was to limit the amount of change and create a connection point without much displacement.

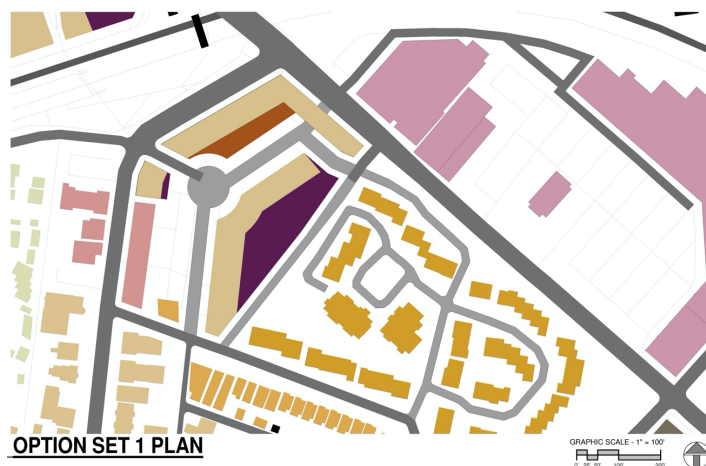


Figure 43: Option Set 1 – Site Plan

Source: Author

Scheme 2: Redevelop around Existing Retail

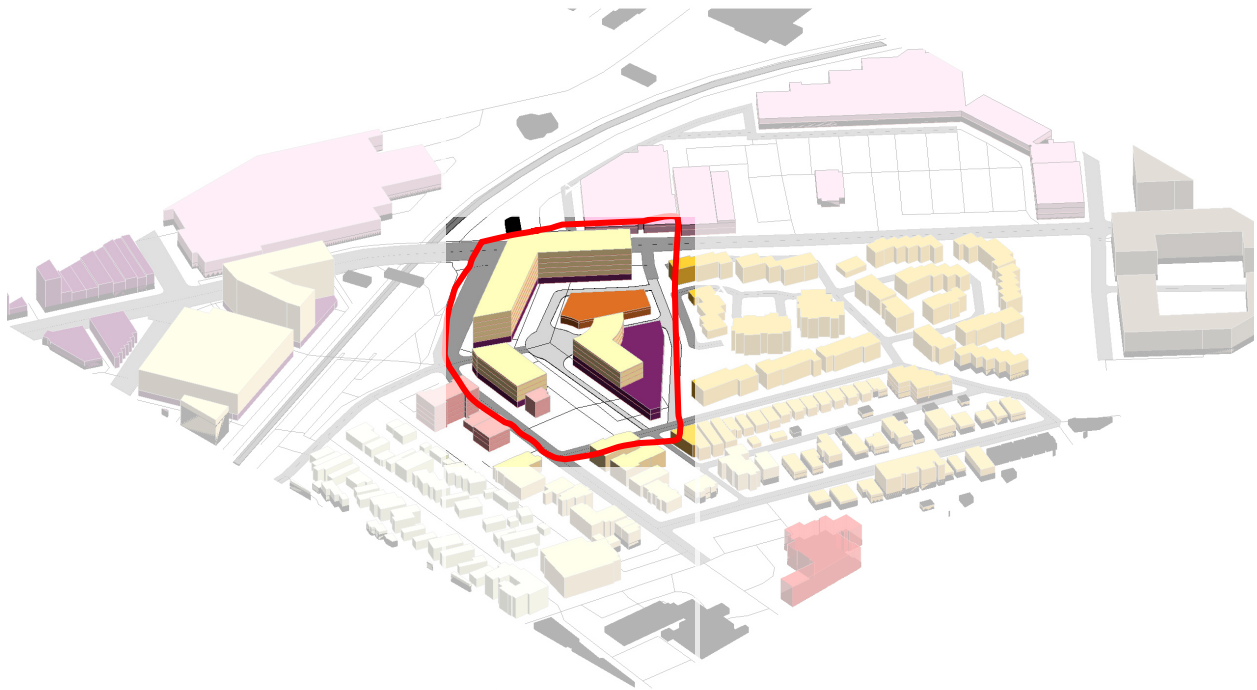


Figure 44: Option Set 2 - Massing Study

Source: Author

The main emphasis of scheme one includes a demolition of the existing Giant eagle and renovating the existing structures on the corner. The goal was to limit the amount of change and maintain the existing fabric on a portion of the site.

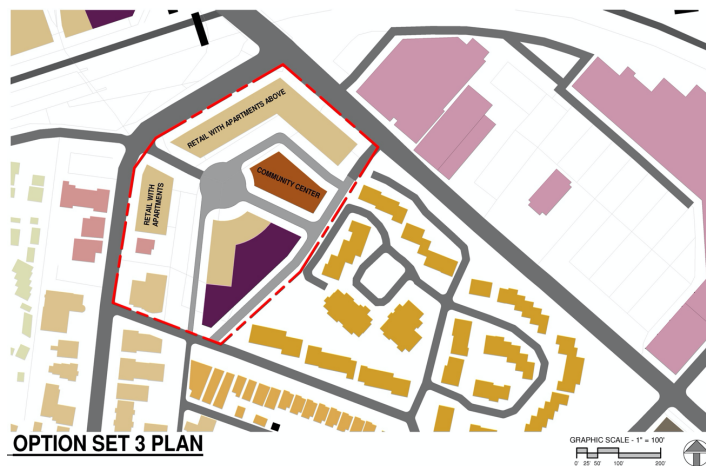


Figure 45: Option Set 2 – Site Plan

Source: Author

Scheme 3: Redevelop West Penn Ave

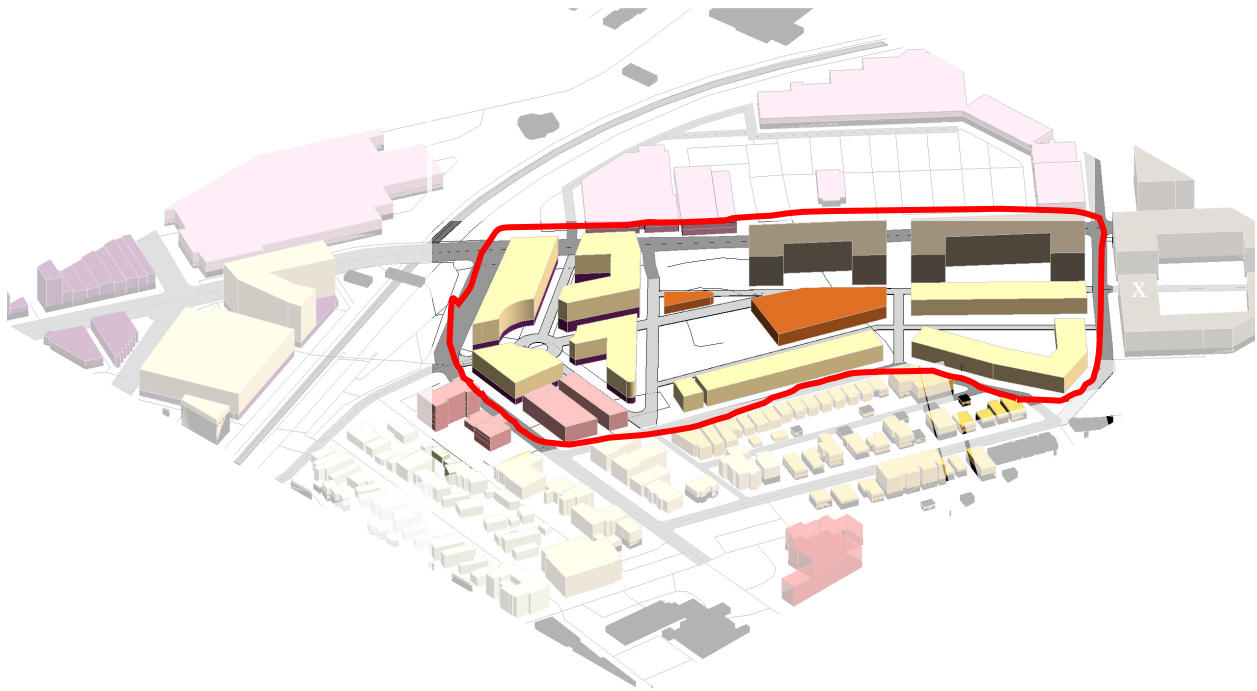
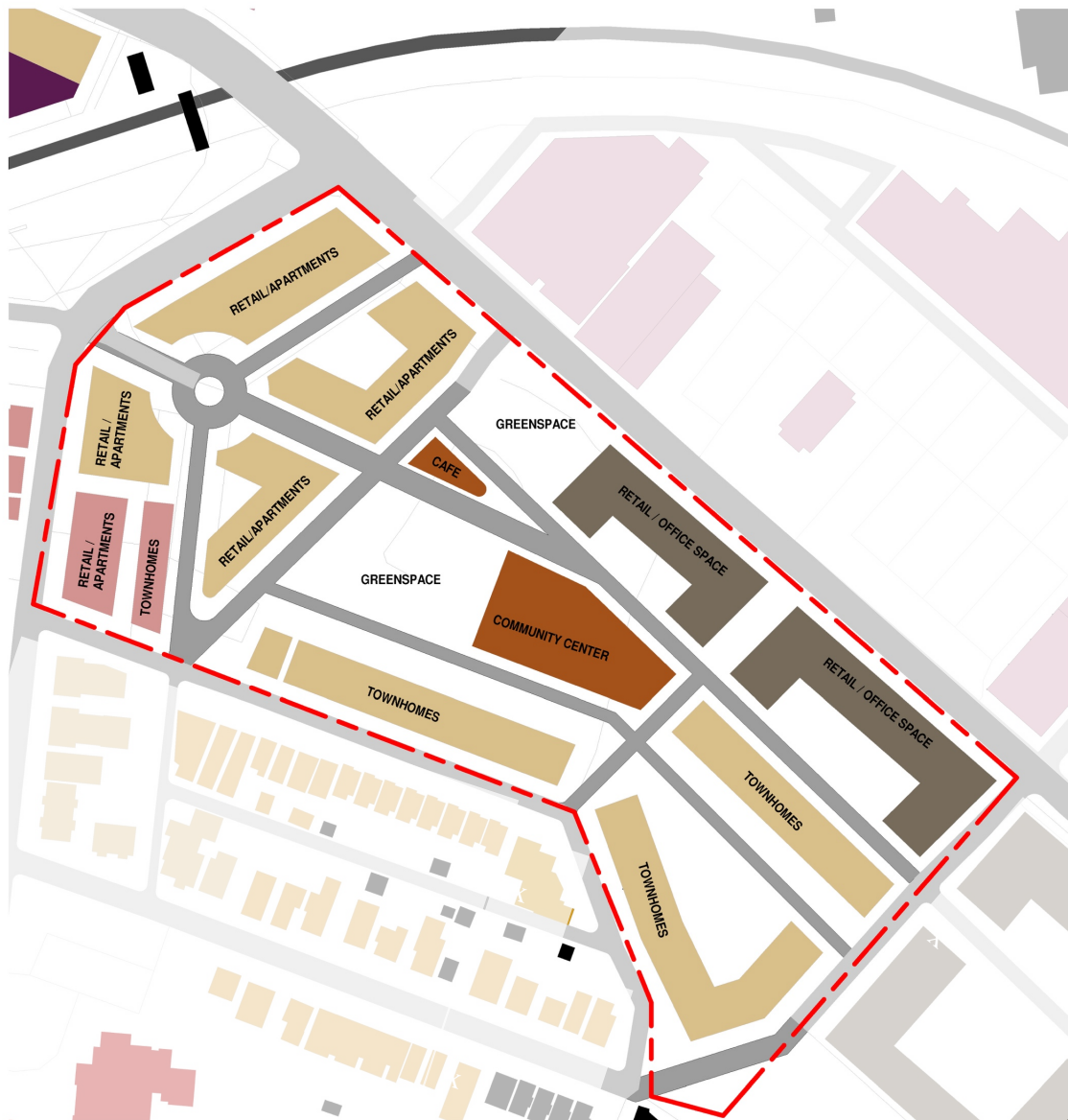


Figure 46: Option Set 3 – Massing Studies

Source: Author

This initial scheme is a focus on creating a connection between the adjacent Bakery Square development to the east and the East Liberty Business District to the west of the site. Both include a mixed-use development strategy with the availability for zoning to change in time. A form-based code is the beginning strategy in this initial concept. Streets are connected from existing neighborhoods to generate a cohesion among other neighborhoods. The strategy includes an emphasis on the street itself as the important artery that connects the different uses and neighborhoods.



GRAPHIC SCALE - 1" = 100'

0' 25' 50' 100' 200'



Figure 47: Option Set 3 – Site Plan
 Source: Author

Chapter 9: Design Proposal

Programmatic Arrangement

From the previous design options, this thesis saw issues in a majority of the surrounding areas. In order to connect different generations, it had to consider how the existing development surrounding the site connected. The gated community in the middle of **Figure 48** posed an issue of creating a connections from the Bakery Square development to the east and the East Liberty Business District to the west of the site. By considering the entire site a location to incorporate and intergenerational living community, this thesis could bridge the gap between two existing developments and provide a more pedestrian friendly connection to the busway station.

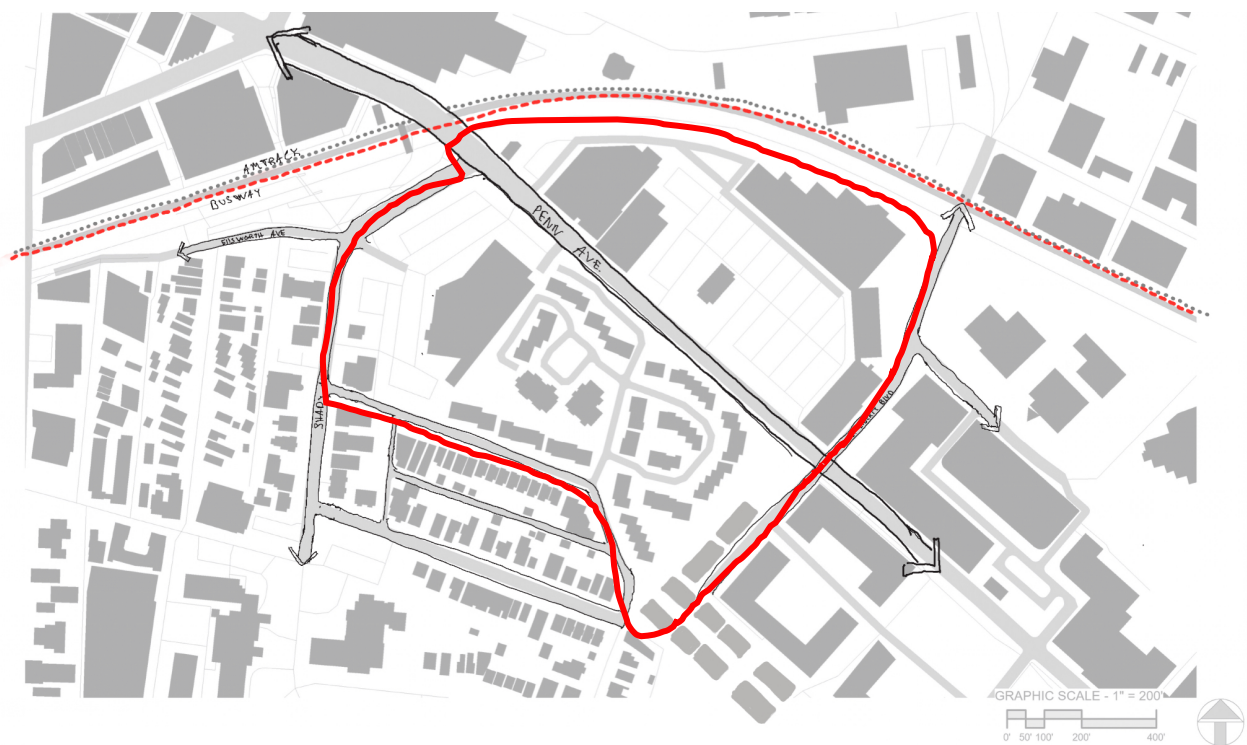


Figure 48: Thesis Site Boundary - Expanded Site

Source: Author



Figure 49: Creating Street Connections

Source: Author

One of the crucial elements of creating connections amongst ages is to provide new street connections to improve links from transportation hubs to parks that are to the east of the site. Providing a walkable and simple network allows individuals to understand a new development easier and also provides viewpoints to where they are headed. Providing specific markers along the way helps all ages understand where they are and how to navigate through spaces. Simplifying the grid also allows density to increase along regular street patterns increasing the walkability and closeness amongst all ages.

Key elements that provide connections amongst all ages, is to provide spaces where all ages could interact with one another. **Figure 50** demonstrates some key components that allow for ages to interact with one another. Certainly, other public services allow other ages to interact with one another. These are specific examples where all ages share similar programming.

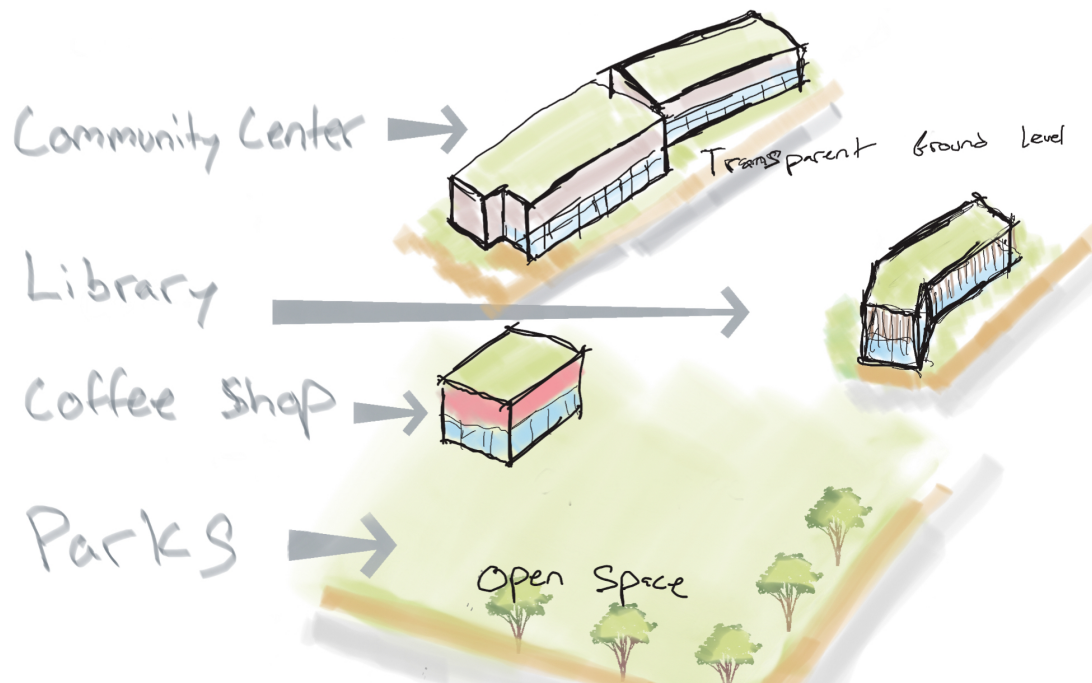


Figure 50: Essential Public Spaces -Create Community Connection

Source: Author

Discussing flexibility includes providing a variety of housing options, **Figure 51** looks at different scales that are found in Pittsburgh that can be deployed in East Liberty.

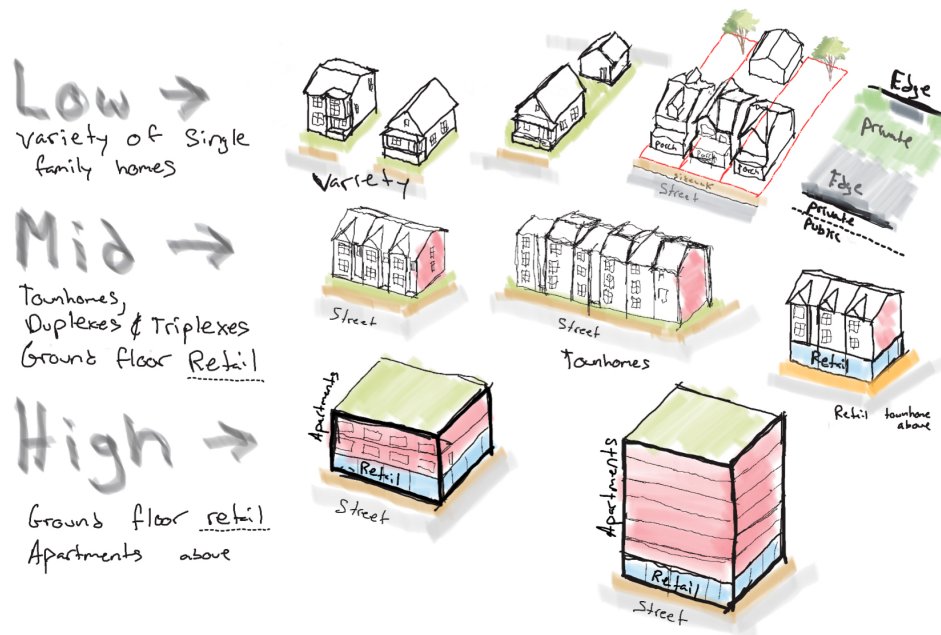


Figure 51: Provide Different Housing Types - Options

Source: Author



Figure 52: Site Programming - High to Low Density

Source: Author

This site option was looking at options of increasing the density in East Liberty and how to do so. Increasing the density along the bus stop while lowering the density towards Bakery Square and the single-family detached housing area. This option looked at having specific connections at vital intersections found in East Liberty.



Figure 53: High to Low Density – Areas of Connection

Source: Author



Figure 54: Site Programming – Low to High Density

Source: Author

This site option was looking at options of providing more community open space adjacent to the busway station and increasing the density along Penn Avenue as it works its way towards Bakery Square. This option includes specific civic buildings at the edges of the neighborhoods to create connection amongst different development.

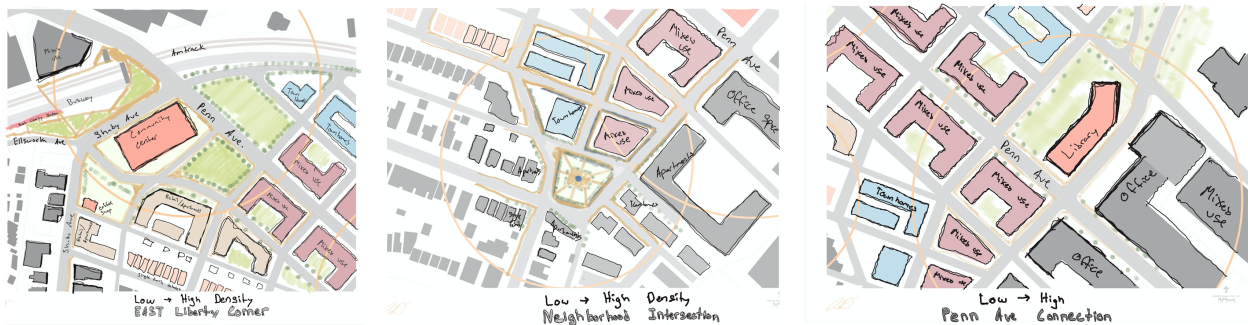


Figure 55: Low to High– Areas of Connection

Source: Author

Principles taken from beginning site information to create a community center adjacent to the bus station to provide a connection point for the 3 neighborhoods of East Liberty, Shadyside, and Larimer. Many different evolutions of the over master plan occurred as seen in **Figure 56** through **Figure 58**. The end result was to simplify the urban plan of this area and bring order to the master plan through a typical block. From the following options, you can see the emphasis of densifying along Penn Avenue while looking to provide a common space adjacent to the bus station. The overall size of these different blocks was from looking at sizes of blocks surrounding the development such as Bakery square but creating more permeability through the boulevard edges. Increasing the intersections along Penn Ave is also vital to slow down transportation and create a more pedestrian friendly walking environment. You will see in these original site plans, the amount of intersections and in the final proposal, the lessening of intersections. There are still intersections cut through to create a walkable community. Providing a communal plaza for neighborhoods to connect with one another is vital to linking generations together across municipal boundaries.

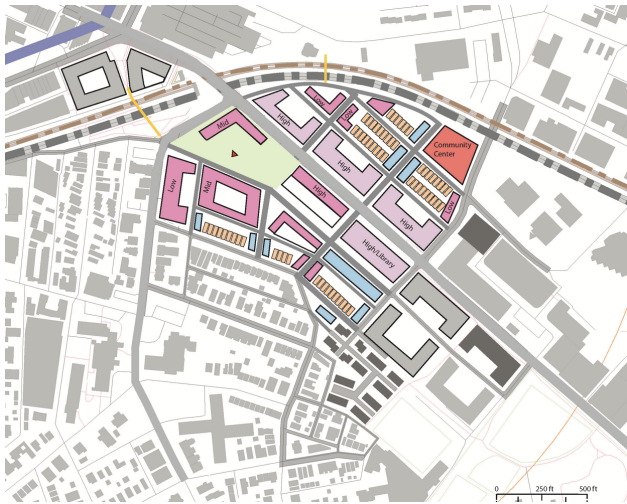


Figure 56: Site Programming – Providing many housing options

Source: Author

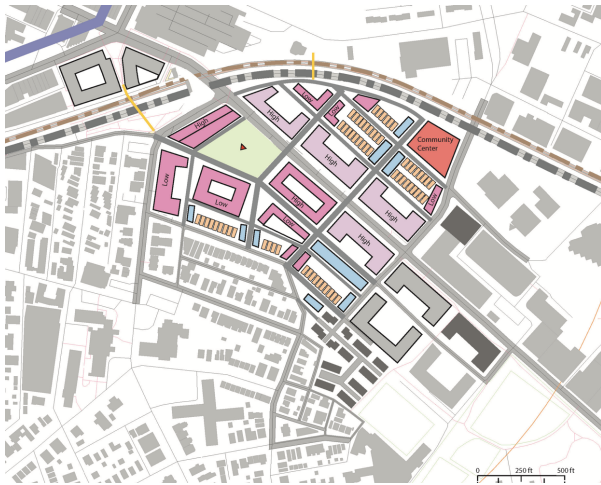


Figure 57: Site Programming – Create Interior Common Space

Source: Author

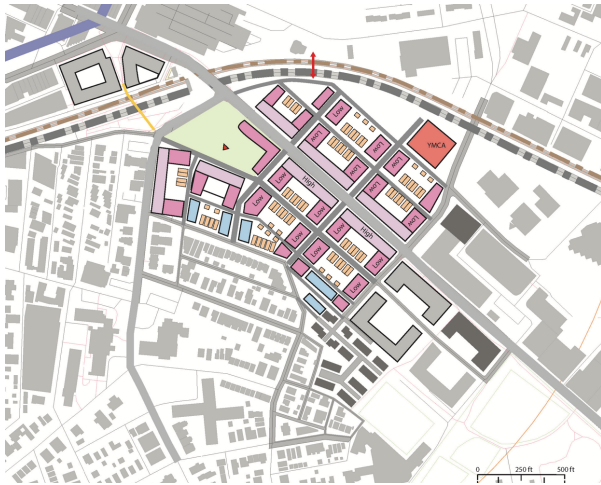


Figure 58: Site Programming – Simplify Urban Plan

Source: Author

Process

Inspiration of what to do with the common space and organization of the master plan was by taking a look at precedence studies. The common space creation was by looking at case studies seen in **Figure 59** through **Figure 61**. These were vital to thinking of how to use a common space, what people like about specific common spaces, and what Pittsburgh needed for a common space. Then from these precedent studies, **Figure 62** through **Figure 64** shows the result from looking at sizes and options for creating a center. What the center this area needed was an area to have concerts, have open grass law spaces as well to allow for events to be held and for people to use the space after any event would occur. It was also important to consider what would be used around this space. It was vital to incorporate housing in some manner in order to increase the usage of this common space. Including a civic space was important as well which a library can be seen in the final design of the space. Retail was also vital to include surrounding this space to create a walkable community. Including program that brings people to the area will increase the interest. Also, including a variety of restaurant options will increase the traffic and include a broader range of people. Pittsburgh is a city that is interested in food and new places to go. A variety of neighborhoods have restaurants that are favorites amongst the people living in the cities.

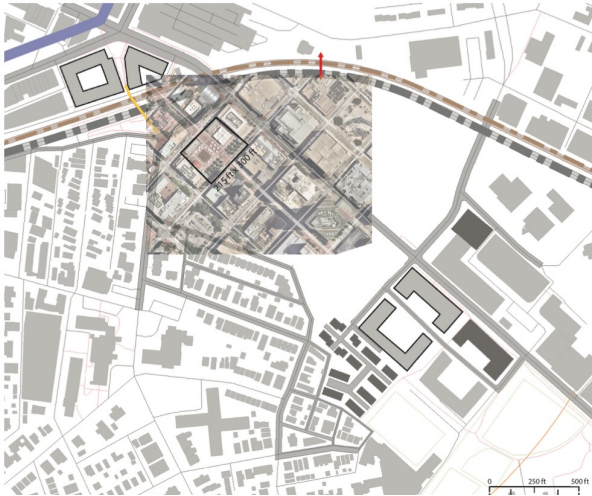


Figure 59: Thesis Community Center – Sundance Square Plaza: Fort Worth, Texas

Source: Author



Figure 60: Thesis Community Center – Yards Park Washington, D.C.

Source: Author

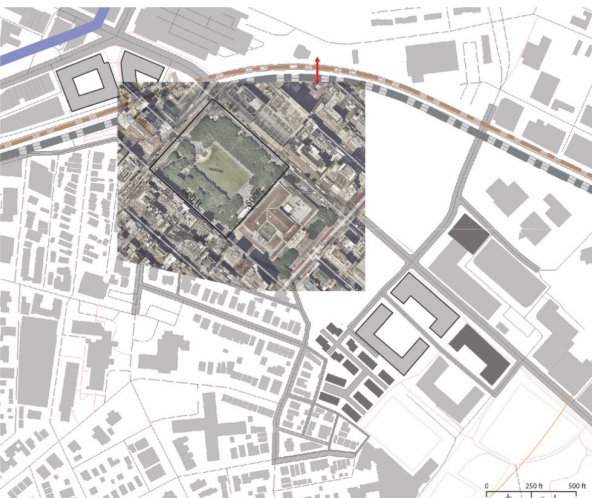


Figure 61: Thesis Community Center – Bryant Park New York City, New York

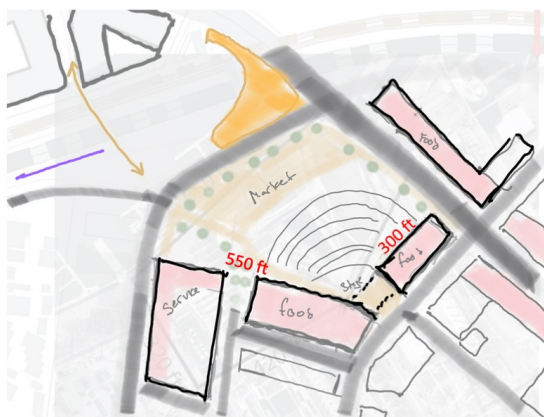
Source: Author



Area: 85,000 sq ft

Figure 62: Thesis Community Center – Retail Surround (Open to Busway)

Source: Author



Area: 165,000 sq ft

Figure 63: Thesis Community Center – Amphitheater Center (Connection to Penn Ave)

Source: Author



Area: 190,000 sq ft

Figure 64: Thesis Community Center – Park Center, Green Space Surrounded by Retail

Source: Author

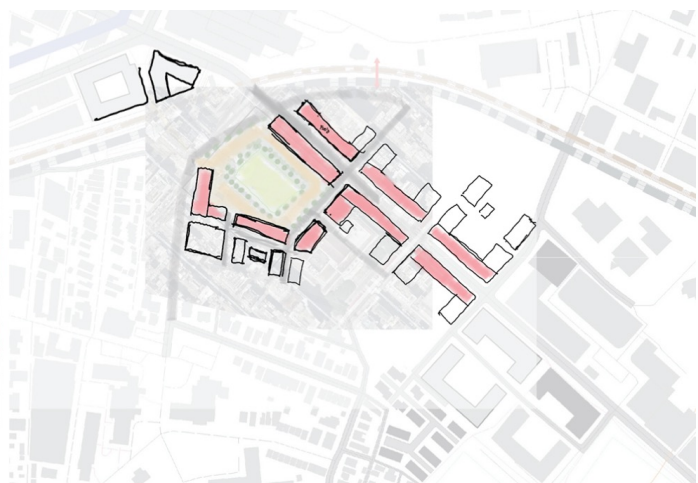




Figure 65: Low Density Housing Types— Creating Space for Families

Source: Author

Figure 65 shows an interest in creating housing variety at all levels. This image is specifically looking at where to incorporate a shared unit that could be an in-law suite or another apartment where another family could live in. The low-density homes want to incorporate a type of flexibility that allows expansion of individuals living within the home while also being in the same footprint. **Figure 66** looks at studying Pittsburgh’s neighborhoods, and taking dimensions of the properties while also considering where the additional apartment would be in relation to the core of the household.

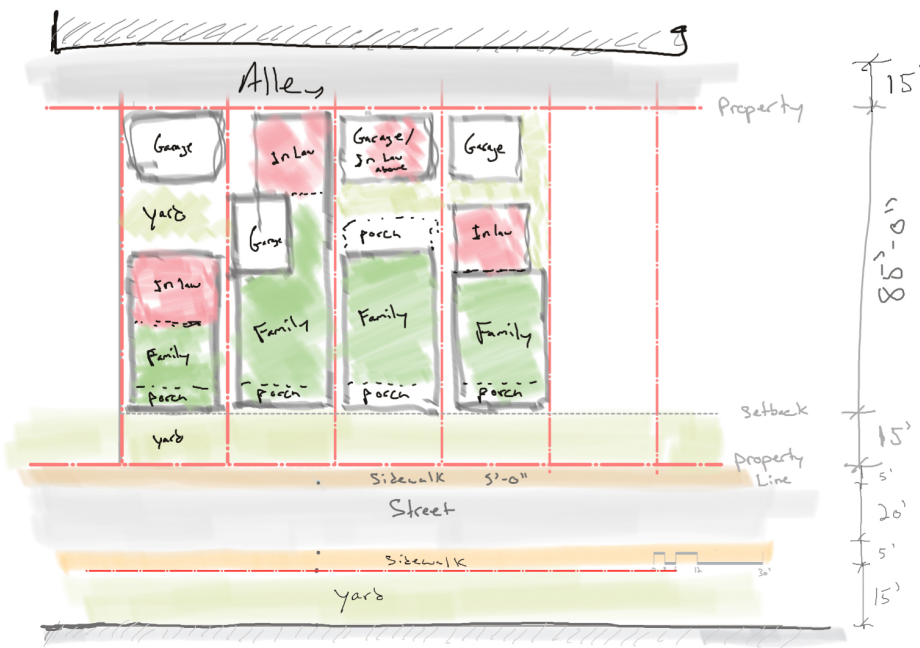


Figure 66: Low Density Housing – Studying Pittsburgh’s Neighborhoods

Source: Author

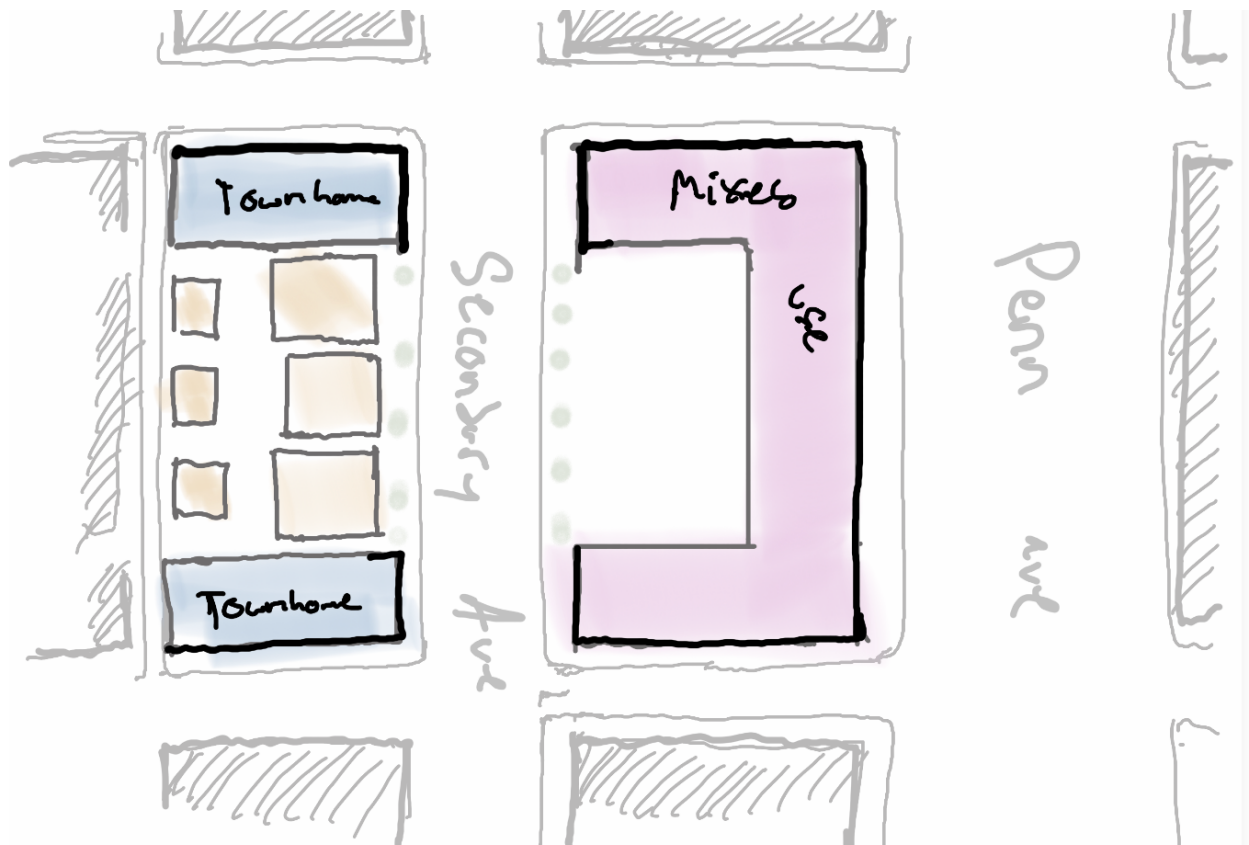


Figure 67: Typical Block – Bring Order and Simplicity to Urban Plan

Source: Author

Figure 67 shows the start of the creation of a typical block. Originally it was proposed to create a similar block pattern, which evolved to a prototype that can be expanded upon with options to remove specific typologies to include parks and green spaces. It can also lengthen but the principles of the block remain; to include variety and a walkable community with a short distance. This block allowed increased density to occur on Penn Ave while including a neighborhood street behind the bar building. Allowing the variety of options to be included nearby mixed-use development allows people to walk to services decreasing the number of times they need to rely on vehicles to provide transportation. **Figure 68** showcases the evolution of the typical block and the creation of low-rise apartments to provide an edge to the townhomes.

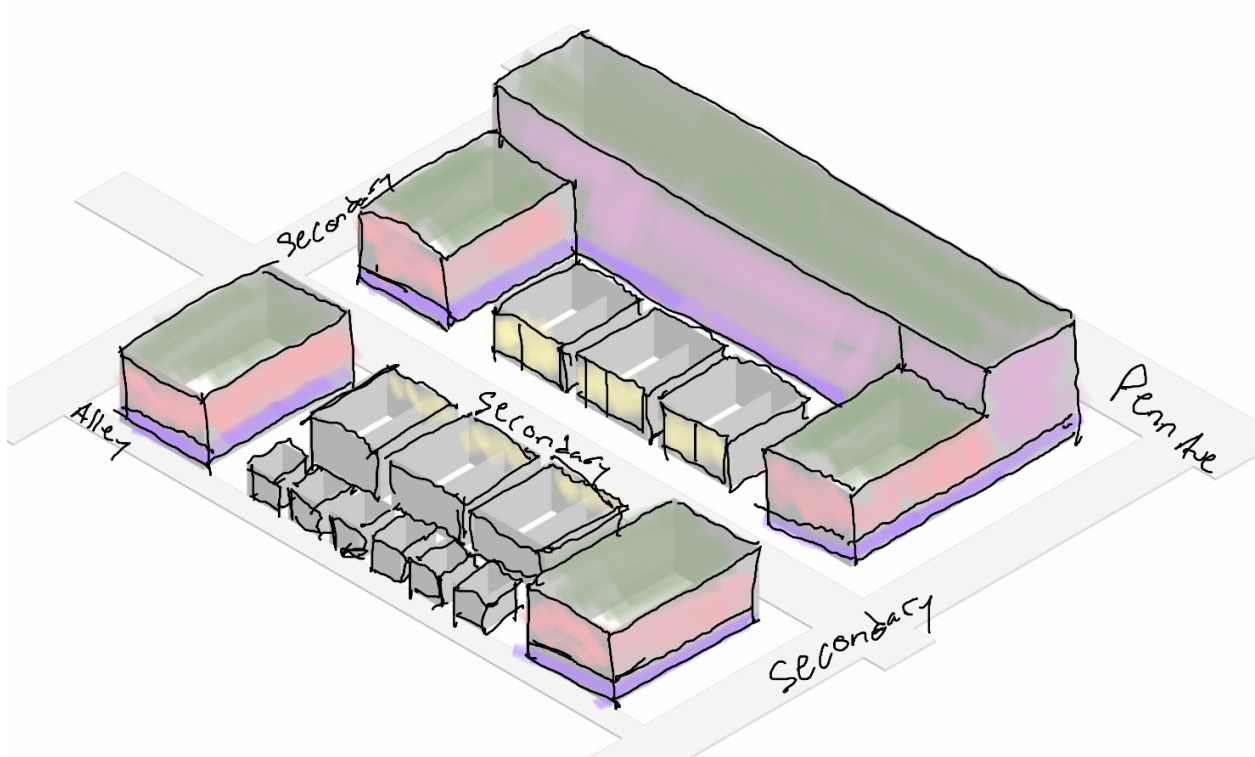


Figure 68: Typical Block – Density and Housing Options

Source: Author

Design:



Existing:

Townhomes: 84

Condominiums- 41
(Apartments)

Retail: 229,180 sf
Shady Hill Center: 78,176 sf
Penn Ave Shopping
Complex: 151,000 sf

Figure 69: Existing Site Conditions - Gated Community & Strip Malls

Source: Author



Proposed:

Commercial | 85,574 sf

Retail | 95,676 sf

Service | 28,962 sf

Common | 111,551 sf

Apartments | 734,363 sf

Townhomes | 157,572 sf

Single Detached | 25,242 sf

FAR: 1.12

Bakery Sq. South: 1.67

Figure 70: Thesis Proposal – Mixed-use, Typology Variety, and Housing Options: 10 year Build Out

Source: Author

Figure 69 reveals a site that consists of a gated community and strip malls that separate Bakery square from the Bus Station. By proposing a development that creates connections with mixed-use development, different building typologies, and several housing options, this proposal will allow generations to interact with one another in a walkable community. The site design follows the principles of connecting neighborhoods along transit divides, making street connections, incorporating public and private spaces throughout the urban design.



Figure 71: Thesis Proposal - Figure Ground Plan

Source: Author



Figure 72: Thesis Proposal - Green Spaces

Source: Author



Figure 73: Thesis Proposal - Street Connections

Source: Author

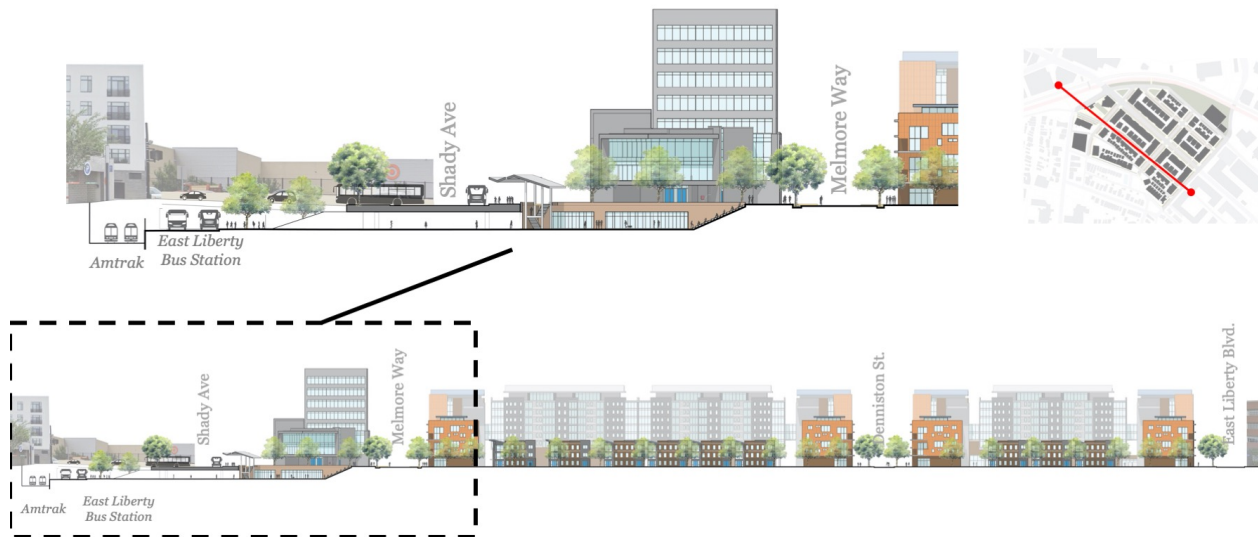


Figure 74: Thesis Proposal – Transit Connections

Source: Author

Figure 74 shows the creation of a lowered plaza to connect underneath Shady Ave linking this development to the East Liberty Bus Station. The Amtrak is seen to run adjacent to the Busway showing the transit links this community has. **Figure 75** shows the creation of the typical block to bring order and simplicity to the urban design. The typical block includes housing variety and housing size options while densifying along Penn Avenue and providing a neighborhood connection via Ellsworth Ave to a park to the east. The unique element of the typical block is the proposed flexibility. Apartments are able to be made larger due to having an open plan dedicated to allowing for light construction walls between apartments. This flexibility allows families to change apartment sizes if needed and adapt as their own family changes.

Proposed:

Commercial | 11,929 sf
Retail | 17,964 sf
Service | 5,757 sf
Common Space | 23,257 sf

Townhomes | 12
4-8 people per

Studio | 12 - 62

1 Bedroom | 60 - 124

2 Bedroom | 28 - 78

3 Bedroom | 4 - 50

Total Apartments | 104 – 314 Units

Total People | 460 - 660

Figure 75: Thesis Proposal – Typical Block

Source: Author





Figure 76: Thesis Proposal – Section through typical Streets

Source: Author



Figure 77: Thesis Proposal – Section through Typical Secondary Streets

Source: Author

Key pieces related to connectivity, is the relationship of how housing interacts with different streets. Looking at Penn Avenue's street section, the transition of retail as it goes to the secondary street of tertiary is an important piece linking tertiary development to the boulevard development. This is reinforced by looking at **Figure 78**. As the secondary street moves away from the boulevard, the beginning of common spaces is seen on the ground level. This is to reinforces a neighborhood street of Ellsworth Ave. With housing being flexible, certain apartments are able to be removed and incorporate common spaces through levels.



Site Plan

Figure 78: Thesis Proposal Ground Floor

Source: Author



Site Plan

Figure 79: Thesis Proposal Second Floor

Source: Author



Figure 80: Thesis Proposal Third Floor

Source: Author

Before, this area between Bakery Square and the bus station included a gated community that created a divide between the areas. The gated community includes a wall that surrounds the development. Current development seen in Bakery Square include townhomes who follow the same pattern of one entrance in and out of the complex. The proposal suggests that any development needs to be a link to other communities, not include a barrier to any pedestrian. If we are to create a society that connects ages together, development needs to include the simple design of sidewalks that are friendly in addition to areas that aren't dead zones between excellent transportation hubs. Providing a flexible community is one that allows all ages to interact with one another and a community that is able to change as the size and reliance of family's increase is vital to a future where we generate connections throughout all age groups. The following images showcase the transformations from a car depended area and almost unwalkable area in Pittsburgh to a mixed-use densified development with many housing varieties included with walkable streets.



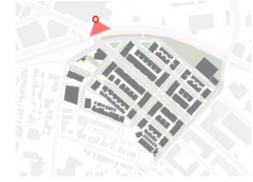
Before



After

Figure 81: Before and After – East Liberty Transit Intersection

Source: Author



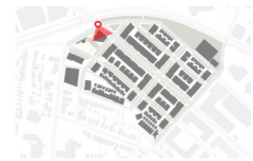
Before



After

Figure 82: Before and After – East Liberty Transit Intersection

Source: Author





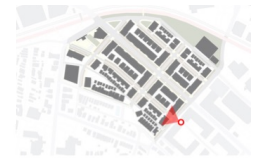
Before



After

Figure 83: Before and After – Ellsworth Ave: East Liberty Transit Intersection

Source: Author



Before



After

Figure 84: Before and After – Ellsworth Ave: Bakery Square Pedestrian Connection

Source: Author



Before *After*
Figure 85: Before and After – East Liberty Corner Community Space
 Source: Author

The creation of a public space at the corner that serves the busway Station is not only creating a center for the development but offering a connection point at the corner of three neighborhoods. Developments aren't created to serve the purpose of itself, but also the adjacent neighborhoods and individuals who make up the surround developments. This community space includes a lowered plaza for easy connection underneath Shady Ave (in the foreground). This will generate connection from the station to the plaza that generates a center. The center includes a public library on the left and just off the screen to the right is a grocery store. These services offer important connections to the neighborhoods and all age groups that surround the area.

Flexibility:

One of the key aspects to housing options is providing flexibility. This is flexibility that is able to adapt to the changing of the family. **Figure 86** shows the type of flexibility designed into the apartments. All apartment buildings in this thesis follow these principles for creating an open plan. Light construction is built between apartments than can be removed to combine into a

larger apartment. Another type of flexibility is by incorporating moveable walls that can expand two common spaces together to make 1 large living room. This could be ideal for a family that has two kids within the home and an older generation that would like to live nearby. Creating a larger common space would allow the family to host large gatherings as a unit but also be able to have privacy amongst each generation. This could also be a way to lessen the common space of each apartment encouraging neighbors to interact with one another more frequently.

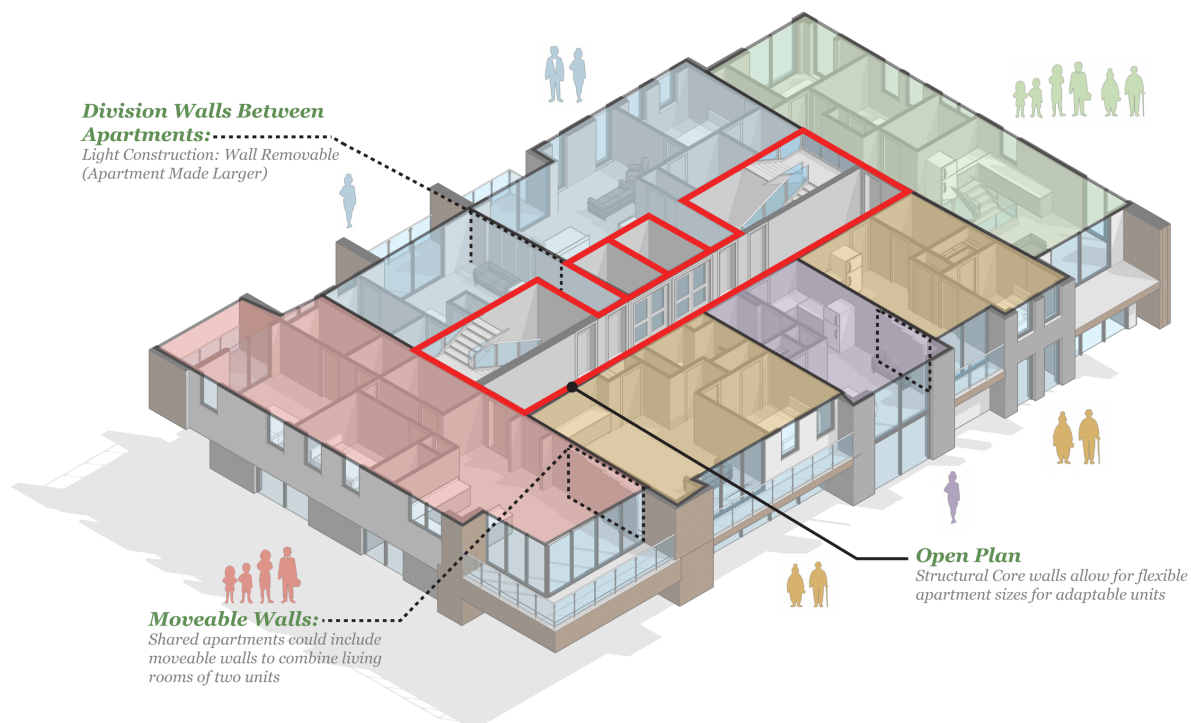


Figure 86: Flexibility – Apartments

Source: Author

Another type of flexibility includes the townhome design. As seen in **Figure 87**, the core remains the same between but the individuals using the spaces can vary. Options on the left-hand side demonstrate a residence with three generations living under one roof. If a home doesn't need as much space, they can rent out specific rooms that are more attached or less attached

depending on the original layout of the townhome. This type of flexibility is one that is built at the start, but the flexibly is the space designation decided by individuals living within the home.

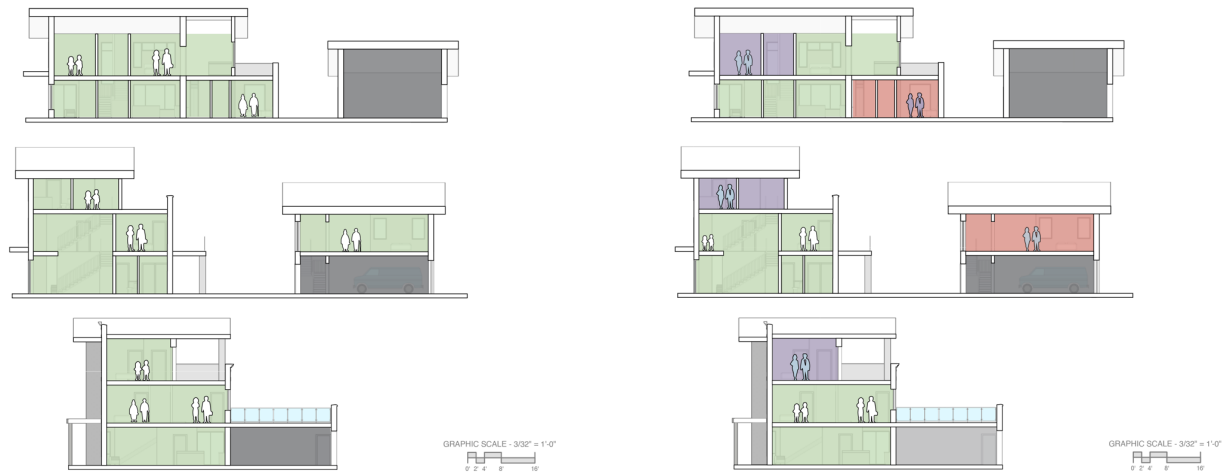


Figure 87: Flexibility – Low Rise Townhomes

Source: Author

Conclusion



Figure 88: East Pittsburgh: 10 Year Build Out

Source: Author

Intergenerational programming is not a new idea. The history specifically seen within the United States is a country who used to have more multigenerational households, and communities that were reliant on many public interactions. It is easy to see that as we age, we will need assistance as we start to lose our grip on many aspects of our bodies. Providing spaces that are able to adapt to any family size is a way we can increase our social connection, health and happiness. Spaces that are able to be transformed in order to allow the user to identify how their household works best is vital to providing housing that lasts. Too often, buildings become outdated. If the way we build our structures are able to be transformed, we will decrease the countless times we update our spaces. Demonstrating the changing of a household, while in a site

of multiple options allows individuals from diverse backgrounds to interact with one another. At the community scale, mixed-use development that blends areas such as residential, commercial/retail, and common spaces, are vital to create an integrated development. Integrating areas that would otherwise be located in different parts of town are vital to create a sustainable future. At the urban scale, providing a mix of uses are things many successful developments include. Providing a range of spaces within a small area brings people to an area and lets them remain. Let us connect all age groups no matter what age we are.

Pittsburgh is a city that has been going through major transformations since its industrial days. The city is plagued by a majority of single family detached, transportation issues, and lack of public education on transit connections. The east end of Pittsburgh has seen an incredible amount of transformation as part of an urban revitalization. The areas between what is considered brownfields is an area where connecting ages doesn't occur. If we begin to think of all spaces as places of opportunity for interaction to occur, we can transform our cities.

In a world where our bodies fail us as we become older, we must take every second to the fullest advantage. Future generations can be impacted by individuals with more experience noting advice from going through the majority of their life. Families offer a place of age connection. Neighbors offer a community where we can enjoy our time we have left.

The result of choosing an intergenerational shared site and having the option of living within a multigenerational household is a life of better social connection, increased activity, and happiness.



Figure 89: Presentation Boards

Source: Author

Bibliography

Abrahms, Sally. "3 Generations Under One Roof." *AARP: Home & Family*. AARP. April 2013.

<https://www.aarp.org/home-family/friends-family/info-04-2013/three-generations-household-american-family.html> (accessed April 2019).

Bakery Square. 2019. <http://bakery-square.com> (accessed 2019).

Culpepper Place. *Culpepper Place*. Mar 1, 2019.

<https://culpepperplaceassistedliving.com/assisted-living-levels-of-care/levelofcare1/>
(accessed May 2019).

Dunifon, Rachel. *The Influence of Grandparents on the Lives of Children and Adolescents*.

Article, Policy Analysis an Management, Cornell University, Ithaca: Child Development Perspectives, 2012, 55-60.

First 5 LA. *Multigenerational Safety: Grandparents as Caregivers*. 2019.

<https://www.first5la.org/parenting/articles/multigenerational-safety-grandparents-as-caregivers/> (accessed May 2019).

First Coast YMCA. *Healthy Living*. 2019.

<https://webcache.googleusercontent.com/search?q=cache:ATSEDpiWwgAJ:https://fcymca.org/programs/health-wellness/+&cd=7&hl=en&ct=clnk&gl=us> (accessed May 2019).

Gawande, Atul. *Being Mortal: Medicine and What Matters in the End*. New York, NY:

Macmillian Publishing Group, 2014.

Generations United & The Eisner Foundation. "All in Together: Creating Places where Young

and Old Thrive." *Generations United*. 2018. <https://www.gu.org/what-we-do/our-projects/signature-reports/> (accessed March 2019).

- Generations United. *Who We Are*. 2019. <https://www.gu.org> (accessed March 2019).
- Hatton-Yeo, Alan., and T. Ohsako. *Intergenerational Programmes: Public policy and research implications*. Collected Works, Institution for Education, United Nations Educational, Scientific, and Cultural Organization, Hamburg: Unesco Institute for Education, 2000, 1-61.
- Institute of Medicine. *Improving the Quality of Care in Nursing Homes*. Edited by (US) Committee on Nursing Home. Washington (DC): National Academies Press, 1986.
- Jackson, Eric. *The 25 Biggest Regrets in Life. What are Yours?* October 18, 2012. <https://www.forbes.com/sites/ericjackson/2012/10/18/the-25-biggest-regrets-in-life-what-are-yours/#50c05e5d6488> (accessed May 2019).
- Konrad, Thomas R., Peggie Dilworth-Anderson, Shouu-Yih D. Lee, Courtney H. Van-Houtven, Sally C. Stearns, and Li-Jung E. Ku. "Impact for Caring for Grandchildren on the Health of Grandparents in Taiwan." *The Journals of Gerontology: Series B* (The Gerontological Society of America) 68, no. 6 (November 2013): 1009-1021.
- Marak, Carol. *History of Assisted Living: How Assisted Living Started in the United States*. 2018. <https://www.assistedlivingfacilities.org/resources/history-of-assisted-living/> (accessed March 2019).
- Niederhaus, Sharon Graham, and John L. Graham. *Together Again: a Creative Guide to successful Multigenerational Living*. Lanham, Maryland: J. Evans, 2007.
- Old Town Crier. "Living Well In OUR Advanced Age." *Old Town Crier: From the Bay to the Blue Ridge*. August 1, 2018. <https://oldtowncrier.com/2018/08/01/living-well-in-our-advanced-age/> (accessed April 2019).

- Perkins Eastman. *Building Type Basics for Senior Living: Second Edition*. Hoboken, New Jersey: John Wiley & Sons, Inc., 2013.
- Roverts, Andrew W., Stella U. Ogunwole, Laura Blakeslee, and Megan A. Rabe. "The Population 65 Years and Older in the United States: 2016- American Community Survey Reports." *United States Census Bureau*. U.S. Department of Commerce: Economics and Statistics Administration. October 2018. census.gov (accessed March 26, 2019).
- Ruggles , Steven. "The decline of Intergenerational Coresidence in the United States, 1850-2000." *American Sociological Review* 72 (6), 2007: 964-89.
- Russo, John. *The Pittsburgh Conundrum*. July 26, 2017. <https://prospect.org/article/pittsburgh-conundrum> (accessed May 2019).
- Schwarz, Benyamin, and Ruth Brent. *Aging, Autonomy, and Architecture: Advances in Assisted Living*. Baltimore, MD: Johns Hopkins University Press, 1999.
- The Images Publishing Group Pty Ltd. *Design for Aging Review*. Vol. 6th Edition. Mulgrave: Images publishing Group Pty Ltd, 2004.
- Urban Redevelopment Authority. *Brownfield Projects*. 2019. www.ura.org/pages/brownfield-projects (accessed 2019).
- . *East Liberty Transit Oriented Development*. 2019. <https://www.ura.org/pages/east-liberty-transit-oriented-development> (accessed 2019).
- Wagner, Stephen. *What do we Know about Deathbed Visions*. January 2, 2019. <https://www.liveabout.com/what-we-know-about-deathbed-visions-2594507> (accessed May 2019).
- West, Vantage. "Keeping it in the family – multigenerational homes enrich lives and wallets." *Tucson.com*. Arizona Daily Star. January 19, 2018.

<https://community.tucson.com/financial/keeping-family-multigenerational-homes-enrich-lives-wallets/> (accessed April 2019).