

# The Age(ful) Community

Reimagining American Suburban Planned Communities  
for Aging in Place

Natalie Wilson

University of Detroit-Mercy School of Architecture & Community Development (UDM SADC)

ARCH 5100-5200 / Master Thesis Studio

ARCH 5110-5210 / Master Thesis Supplement

Fall 2021-Winter 2022

Thesis Candidate: Natalie Wilson

Studio Advisors: Erika Lindsay, Laura Foxman

External Advisor: Virginia Stanard





## Acknowledgments

I have been so fortunate to have so many people support me in this process. I would first like to thank my official and unofficial advisors, Erika Lindsay, Virginia Stanard, Laura Foxman, and Sarah Black for all of their feedback and the outside sources they provided. A special thanks to my Italian friends, the Beatas, for hosting me and showing me around Turin. Thank you to my family for their personal insights on aging in place and multigenerational housing. And finally, thank you to the Volterra-Detroit Foundation, Giulia and Marco of the Pagnotta International Residential College, Dean Dan Pitera, Associate Dean Noah Resnick, and Wladek Fuchs for making the study abroad program to Volterra, Italy possible. This thesis as it stands today would not have come to be without it.



## Abstract

American suburbs are widespread and are designed mono-programmatically for mainly residential use. Decades after the creation of these suburbs, there is a growing realization that pedestrians should be taken into consideration. The 15-min city, complete neighborhood, and 8-80 city all argue that it is healthier and better for all people, especially elders and children, to have more activities and other programs accessible from a shorter distance. One issue that has been considered is how the neighborhood can be designed for aging in place and to adapt to different stages of family life and aging. The second element of this thesis is how the community can adapt to ensure aging in place. To better understand the situation, data has been recorded, mapped, photographed, diagrammed, analyzed, and connected to other data. Building on these perspectives, the extent of walkability, biking, and transit have been explored. From these studies, evidence supports the idea that elders and other age groups need to be closer to their homes and should have support systems within the community. As people age and have other uses for their homes, the neighborhoods need to adapt for people to remain long-term in their homes.

## Thesis Statement

Urban planning based on the separation of programmatic zones causes isolation, forces dependence on public and private transportation, and limits access to much-needed programs. American suburbs are designed mono-programmatically for mainly residential use. Commercial, cultural, and civic programs are located on the edges. These zones are far enough apart that people must rely on other forms of transportation than walking, such as public transit. Because public transit is typically unavailable or inadequate, driving is the most convenient way to access programs. Within these residential zones, children are growing up and people are continuing to age. Children are not old enough to drive themselves, so they must rely on others to get them to other places. Similarly, older adults do less driving or none at all.

The research conducted focuses on design through context, which results in a framework. Created mappings of different cities are compared to better understand walkability, programmatic design, and urban planning in general. The Bagley neighborhood in Detroit and the Italian town Volterra are all extensively mapped by program, transportation, and distances. Past utopian plans reveal the values of the past and why current cities are designed the way they are. One such plan, the Garden City by Ebenezer Howard, represents a society that valued industry, transit, and clear separations of zones. Because of plans like this, cities have widespread programs. Today though, there is a growing realization that the pedestrian should be taken into consideration. The 15-min city, complete neighborhood, and 8 80 city all argue that it is healthier and better for all people, especially elders and children, to have more activities and other programs more accessible from a shorter distance. Senior

housing precedents have been further researched to understand elders' needs and how they are currently being fulfilled.

One portion of the issue that has been considered is how the neighborhood can be designed for aging in place and adapt to the different stages of family life and aging. The second element of this thesis is how the community can adapt to ensure aging in place.

This thesis argues that American suburban planning strategies are not working. Cars have become the top priority over people. People are living longer and want to stay in their homes. The thesis begins with the theory of people needing stability, such as staying in one place. The perspective presented for the topic is mainly guided by a post-positivist framework and is supported by contextual observations. The intention is to determine how these American suburban planning strategies affect people's social and physical health. Thus, the thesis intends to demonstrate how old urban planning strategies harm elders and what needs to be done to improve them.

Throughout the thesis, a variety of methods are used. In general, data is recorded (mapped, photographed, and written down), diagrammed, analyzed, and connected to other data. Human activities within public spaces are observed and categorized as rest, play, and pass. Support systems among generations and within communities are studied and analyzed. The limits of what unassisted individuals can do are researched through the perspectives of aging and health. Building on these perspectives, the extent of walkability, biking, and transit are explored.

There are alternate viewpoints that are relevant and must be considered as part of this thesis. Real estate agents and architects who

lived through industrial slums would critique this thesis proposal to bring civic and commercial programs into residential zones. This thesis assumes that neighborhoods should be planned around the community members' shared physical health and social needs. However, real estate agents understand land use and building use as a means of development and revenue. They consider land use and building use from a privatization perspective. Land and buildings are for the paying clients. However, design through this lens does not concern the surrounding neighborhood and community members. Programs that are beneficial for the real estate agent's client might be harmful to the community. For instance, without zoning restrictions, the real estate agent may determine and recommend to their client that a high-rise luxury apartment building should be built. This apartment building brings people into the neighborhood that do not understand or respect the community, raises property taxes, and eventually, drives the original community members out. The type of situation set up here is an example of gentrification and a realistic example of why the real estate agent perspective might be detrimental.

From a modernist architect's perspective, there are concerns associated with bringing new programming into residential neighborhoods. They argue that commercial, industrial, and residential need to continue to be separate. Past precedents have argued for this separation of programs due to poor past experiences from every program mixing together. For instance, during the industrial revolution, people lived in tight quarters close to their work, which was seriously harmful. These slums were highly polluted and caused major health complications.

However, not all of these concerns are relevant today. Housing today is regulated and not all programs are harmful to residents. All of these reasons are why mixed-use neighborhoods may not be welcomed. In terms of the aging in place aspect of the thesis, there are many arguments that claim there are better housing types for elders. Families often feel that there are not enough resources for an elder to stay at home safely and effectively. Due to these limited resources, that person can receive better care at a nursing home or a senior community. However, these arguments do not bear in mind what the person may want, what the community can do to help its elder members, and that these decisions remove people from their contexts. Bringing resources in and creating support structures would help both parties.

While there are several strengths to this study, it is not without limitations. The research performed is distanced from the people it may affect. The studies presented are from the perspective of an outsider to the communities being studied and as someone who is not within the age groups being designed for. Some interviews have been conducted with members of the older age group. This thesis has mainly been based on statistics, mapping, and impersonal history. In terms of the programmatic recommendations, while there should be more mixed-use within residential neighborhoods, not everything should be permitted. Not all industrial and commercial programming should spill into residential because it may be dangerous and/or would not be welcomed by the community. Another concern is that, with the current legislation, if there are significant improvements to the neighborhood, property values could rise. This rise in property values would increase taxes

and drive people out that cannot afford to pay for these new expenses, resulting in gentrification.

As neighborhoods continue to be recontextualized and improved, there are many issues that need to be considered. Many suburban plans will need to be resolved. The neighborhoods need to be better designed for all people. Not everyone has the means or the ability to get to where they need to because urban plans distance programs outside of where people can access by walking. Due to the distances between different programs, people need to travel to places by car. If someone cannot drive or does not have a car, they must rely on someone else. In order for people to remain in their homes and neighborhoods, especially in their older years, their neighborhoods and communities need to have programs and physical environmental adaptations. Even after improvements are made to neighborhoods, there are concerns about losing longtime residents. Gentrification is spilling into established and struggling communities, which means these communities lose character and history. There need to be policy protections against gentrification and mixed housing to sustain the community. Thus, the problems with suburban planning are not simple and must be carefully handled.



# Table of Contents

## The United States & Europe

<b>1. Introduction</b>	14-31
Current Context & Background	17-19
Communal Needs	20-22
Elders' Social Health Needs	22-23
Elders' Walkability	23
References & Figures	24-31
<b>2. Planned Communities &amp; Precedents</b>	32-59
Age-Exclusive Communities: Introduction	35
AEC: Garden City (1902)	35-38
AEC: Radiant City (1924)	38-40
AEC: The Neighborhood Unit (1929)	40-45
AEC: Broadacre City (1934)	45-48
AEC: Leisure World of Maryland (1964-)	48-49
Age-Inclusive Communities: Housing	50-51
Walkable Neighborhoods: Frameworks	52
WN: 15-Min City	52
WN: 8 80 City	53
WN: Complete Neighborhood	53
References & Figures	54-59
<b>Italy</b>	
<b>3. Italian Cities Studies</b>	62-75
Turin City Interaction Studies	65-68
Italian City Interaction Studies	68-73
References & Figures	74-75
<b>4. Volterra: Italian Plan Precedent</b>	76-95
Volterra: Context & Assets	79-91
References & Figures	92-95



# Italy & the United States

## 5. Family Structures Case Studies

98-107

American & Italian Family Dynamics  
References & Figures

101-105  
106-107

# Detroit, MI

## 6. Detroit Community & Plan Precedents

110-125

I-94/I-75 Neighborhood  
Power House Productions  
Durfee Innovation Society  
References & Figures

113-115  
116-118  
118-121  
122-125

## 7. Bagley Neighborhood: The Site

126-149

Bagley: Context & Assets  
References & Figures

129-145  
146-149

## 8. The Age(ful) Community

150-165

The Age(ful) Community: Strategies  
References & Figures

153-161  
162-165

## 9. Conclusion

166-169

The Future of the Age(ful) Community

169

## 10. References

170-183

## 11. Figures

184-204





Sun Catcher Studio. *United States printable map.*



Milo Miloesger from NounProject.com. *europe.*



# 1. Introduction



## Current Context & Background

Throughout the U.S., the typical suburban plan is a very popular residential layout. This is especially evident in the 2017 American Household Survey, which reveals that as much as 52% of Americans live in the suburbs.<sup>1</sup> Within and outside of this residential plan typology, the most common form of housing is single-family residential. According to Statista, in 2021, there were 208.4 million single-family homes and only 37.8 million multi-family homes in the U.S.<sup>2</sup> In other words, in 2021, the U.S. had nearly 6x more single-family homes than multi-family homes. Given that suburban single-family homes are so widely used, they seem like they must be good for many people. However, most suburban neighborhoods in the U.S. are not designed for everyone. Even in their infancy, suburban neighborhoods were exclusive, particularly in programming and available modes of transportation. For instance, the earliest forms of the suburbs from the 1810s consisted solely of residential buildings and spaced workplaces far enough to need steam ferry transportation to and from.<sup>3</sup> Later versions of the suburbs from the 19th century used trains.<sup>3</sup> By the 20th century, most suburbanites needed to use cars to get to work, school, shops, and any other social and essential programs; a condition that still exists in most suburbs today.<sup>3-4</sup>

Evidently, since their creation, the layouts of these suburban neighborhoods make it impossible or nearly impossible for people to access commercial and other programs without transportation. The distances between people's homes and where they need to go are intentionally too great to walk, which results in severely limited access to programs. These conditions force people to rely on public transit and/or cars. Public transportation may not be

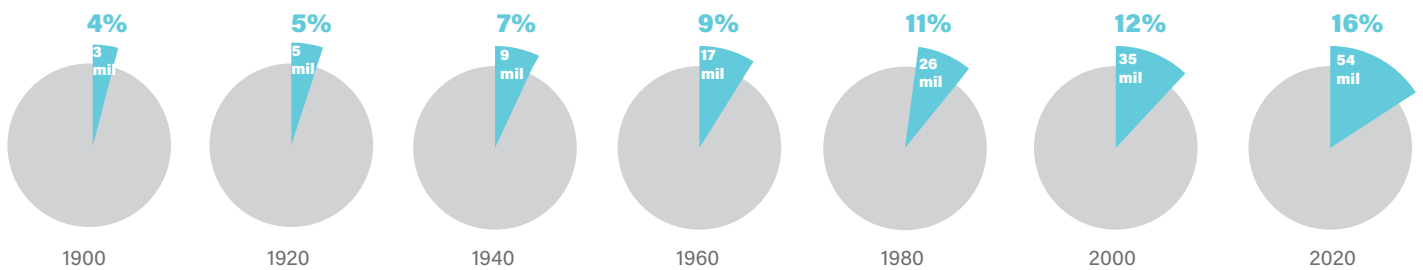
reliable or even available based on where someone lives, which leaves traveling by car as the only viable option.

However, for youth, older adults, and people with limited mobility, driving a car may be difficult or impossible. To limit young drivers, every state has a set age minimum, both for starting driving and for obtaining a driver's license. For instance, in Michigan, for a level 2 driver's license, the prospective driver needs to be at least 16 years old.<sup>5</sup> Due to this age limit, anyone younger than 16 years old cannot drive on their own. While older adults do not need to worry about the age limits, they have other conditions to bear in mind. For senior drivers, driving can be difficult and dangerous. Aging, declining physical and mental health, and medication side effects can all lower an older adult's ability to drive safely. Even though they drive less compared to their younger middle-aged counterparts, 70+ old drivers are more likely to fatally crash.<sup>6</sup> Given that elder drivers are less likely to drive as much or at all, they, like children, are limited on how far they can go. Similarly, people who experience limited mobility either cannot drive or cannot drive as much due to their physical health conditions. For example, Michigan's Secretary of State lists as part of the requirements that the driver must "pass a vision test and meet the [given] physical and mental standards."<sup>7</sup> If someone fails these tests and standards, that person cannot legally drive. Because of these limits on driving, youth, elders, and differently-abled people must either struggle on their own or rely on others to get to places and reach people outside of their homes and neighborhoods. Without help, their worlds are confined by the extent they can move on their

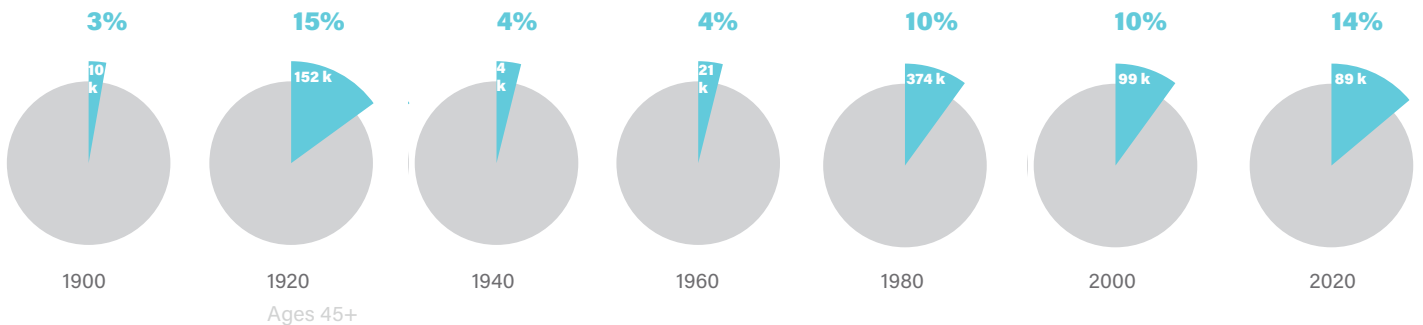
own.

In order for people to thrive and stay in the communities they love, their neighborhoods need to work for them not the other way around. Considering that the oldest and youngest generations have the most needs compared to other generations, it makes sense to design specifically for them and allow the other generations to adapt.<sup>8</sup> To redevelop neighborhoods successfully, one must bear in mind the needs of all generations and

mobility levels. It is essential to care for the elder and younger populations for a variety of reasons. The elder population has consistently increased over the decades and the youth population has remained a large portion of the total population. This is especially evident from looking at the U.S. population growth and Detroit population growth from a more local perspective from 1900 to 2020 (Figures 1.1-1.4). The elder population has grown substantially in percentage and amount.



**Figure 1.1.** U.S. Senior Population (Ages 65+)

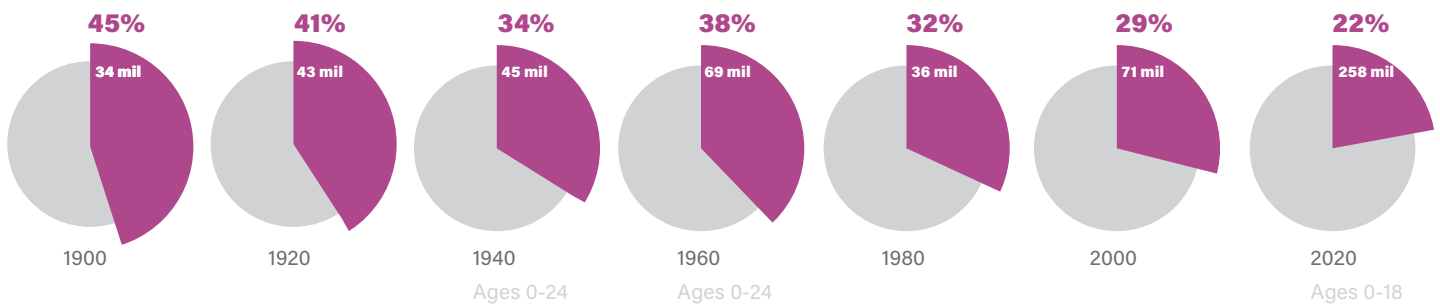


**Figure 1.2.** Detroit Senior Population (Ages 65+)

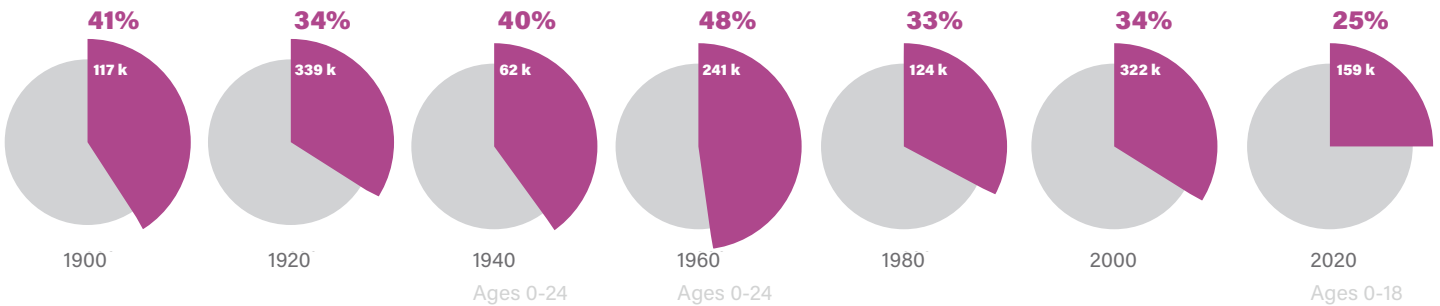


The youth population, while its percentage has decreased, its overall size in the U.S. has increased. Within the U.S. elder population, specifically, people ages 65+, 40% have limited mobility. Connecting between the two age groups, many children depend on older adults. The Administration for Community Living (ACL) reported that 1.1 million people ages 60+ had dependents ages 18 and younger.<sup>9</sup> As demonstrated, these two age groups are numerically and societally important and should

be considered in the planning of American communities.



**Figure 1.3.** U.S. Youth Population (Ages 0-19)

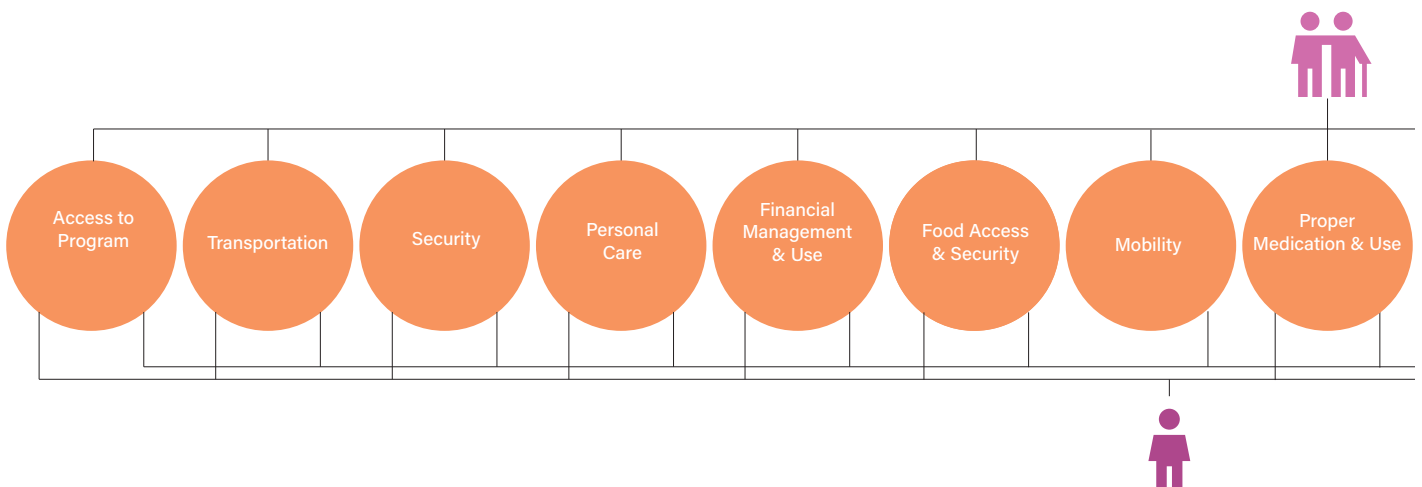


**Figure 1.4.** Detroit Senior Population (Ages 0-19)

## Communal Needs

Beginning with understanding youth, children have very specific physical and social needs that must be met in order to develop well. According to the Children's Hospital Colorado, children's needs are security, stability, consistency, emotional support, education, positive role models, and structure.<sup>10</sup> All of these needs are based on teaching children life skills, emotional control, and growth as a person in general. Security means that children need to be and feel safe. There should not be any major obstacles that have the potential to do serious harm to their wellbeing. In terms of stability, children need a stable environment and good people around them. Building off of that, social norms and rules need to be consistent. To best understand how to handle emotions, emotional support from peers and adults is necessary. Children need to learn motor skills, critical thinking, and life skills through education from

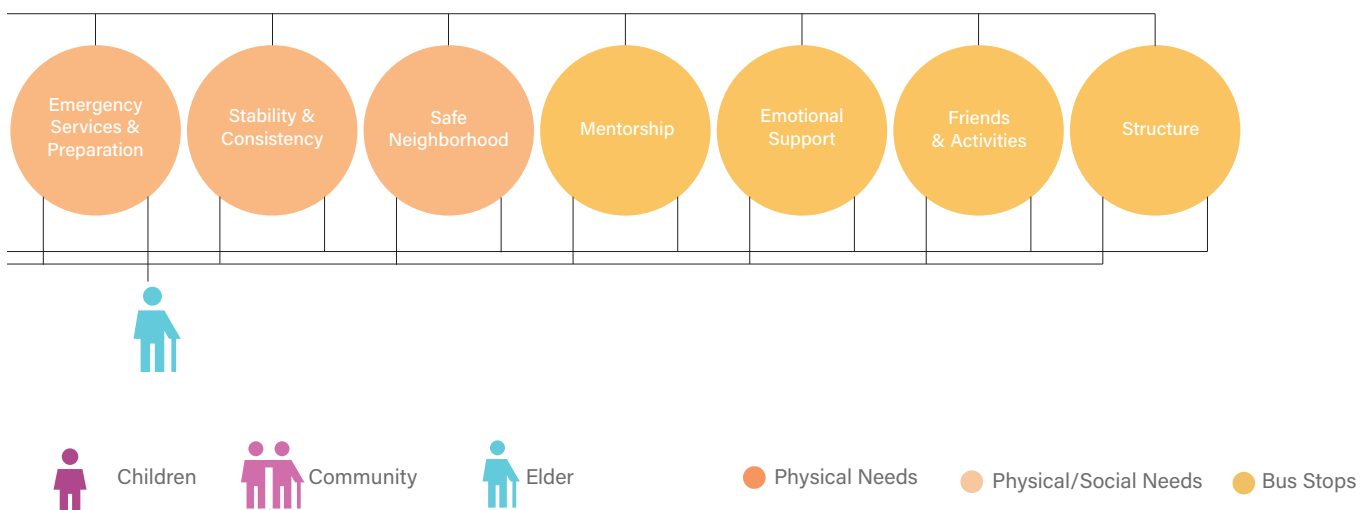
teachers and other adults. The adults in their life need to be positive role models. They should exemplify how to be well-behaved and overall be good human beings. Finally, there should be structure in children's lives. Children need to have rules and boundaries set in place. They should feel safe and secure and have people that they can trust to teach them how to go about life. It is critical to understand these needs in order to determine what could be fulfilled through design, the community, and/or individual families. Similarly, elders have certain physical and social needs. According to the NIA, elders need personal care, financial management, mobility, proper medication and compliance, safe neighborhoods, food access and security, transportation, friends, and activities.<sup>11</sup> Elders need more or less support and socialization from others depending on their mobility and other health conditions. They have to be able to take

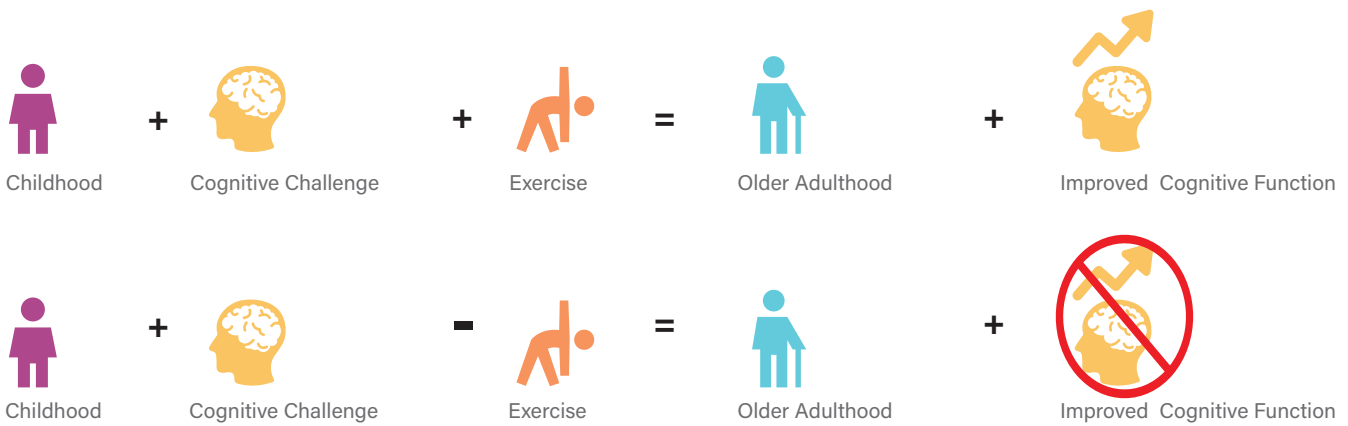


**Figure 1.5.** Community Support Systems Based on Elders' and Children's Needs

care of themselves physically and financially and connect with others. Upon closer examination, it is clear that elders and children have similar needs, but for different reasons. These needs are combined into one diagram connected to each age group. As illustrated in the diagram representing their shared needs, both groups need safety and security and bonds with people they trust (Figure 1.5). Children are only beginning their lives, so they do not know as much as they would need to live on their own. Elders know enough to live on their own but may need assistance with certain tasks due to lower physical and mental functioning. Given that these age groups have many complementary and overlapping needs, they can actually fulfill some of each other's needs and receive similar assistance from the community.

Beyond their similar needs, there is another direct link between these two age groups. Physical and mental health in childhood directly affects older adulthood, particularly the extent of the effects of Alzheimer's and dementia (Figure 1.6). If someone in their childhood is well cognitively challenged and exercises regularly, that person is more likely to have improved cognitive function in older adulthood. If a child is not cognitively challenged enough and does not exercise enough, that person is more likely to have worse side effects from Alzheimer's and dementia as an older adult.<sup>12</sup> Another way of looking at it is that older adult health begins with childhood. It is essential that the community provides ways for people, especially children, and elders, to maintain their physical and social health.



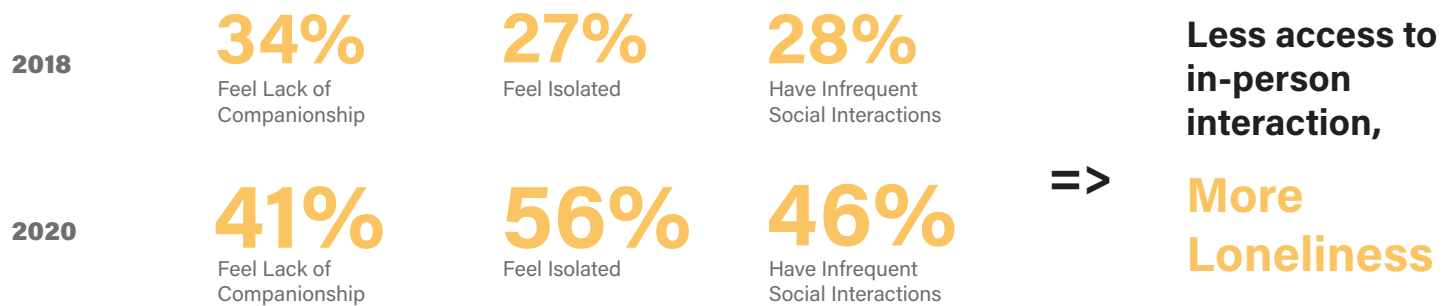


**Figure 1.6.** Childhood's Effects on Older Adult Cognitive Functions

### Elders' Social Health Needs

Socializing is important for all age groups, but it is especially crucial for elders. Recently, this issue has been further exemplified by the federal and state Covid-19 restrictions. During the height of the Covid-19 crisis, there were limits on physical contact due to the uncertainty and the severity of the illness, which confined people to their homes. It had severe negative effects on elders, who relied on outside interactions. As a national poll from the University of Michigan reveals, all three forms of loneliness (lack of

companionship, isolation, and infrequent social interactions) greatly increased during this time period (Figure 1.7).<sup>13</sup> Arguably, because the stay-at-home orders limited physical contact for everyone, elders felt more lonely than before these restrictions. While loneliness may not seem serious, there are other additional severe negative effects. The lack of socialization can be seriously harmful. According to the National Council on Aging (NCOA), without enough socialization, elders are more likely to have worsened cognitive

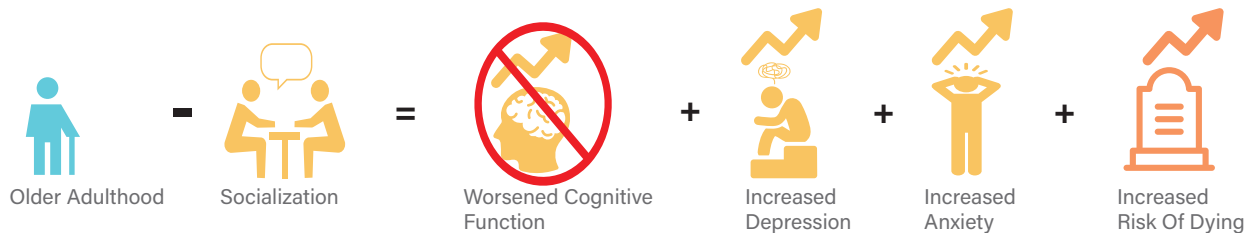


**Figure 1.7.** Socialization Before & During the Covid-19 Pandemic (Ages 50-80)

## Elders' Walkability

function, depression, and anxiety. The resulting stress increases their risk of dying suddenly (Figure 1.8).<sup>14</sup> In other words, it is vital that elders have access to social programs because it can easily mean life or death.

Knowing that elders drive less and tend to have less mobility, it is important to understand their walkability before planning any program locations. In a recent walkability study, researchers explored the extent the average people aged 65-90 could and should walk (Figure 1.9). A comfortable walk lasted about 8 min 46 sec. For daily exercise, an elder could walk for 30 min. However, not all walking paths are feasible. Pathways that have more than an 8% slope are the worst and steepest elders can navigate. An ideal slope would be less than 5%.<sup>15</sup> All of these components of elder walkability are crucial in making their environments safe, healthy, and comfortable.



**Figure 1.8.** The Harmful Effects of Lacking Enough Socialization



**Figure 1.9.** Walkability in Older Adulthood (Averages for Ages 65-90)

## References

1. HUD User. (2020, August 3). *Urban. Suburban. Rural. How Do Households Describe Where They Live?* HUD User. <https://www.huduser.gov/portal/pdredge/pdr-edge-frm-asst-sec-080320.html>.
2. Statista. (2021, November 8). *Single-family vs multifamily homes US 2021* [Infographic]. Statista. <https://www.statista.com/statistics/1042111/single-family-vs-multifamily-homes-usa/>.
3. Sennott, R. S. (2005). *Suburban Planning: Overview* (J. Archer, Ed.). Encyclopedia of twentieth century architecture, 3 (P-Z). <http://architecture-history.org/schools/SUBURBAN%20PLANNING.html>.
4. Strupp, J. (2018, February 20). *Can transforming suburban places to walkable urban ones be successful and popular?* Greater Greater Washington. <https://ggwash.org/view/66351/transforming-suburban-places-more-walkable-popular-suburban-remix>.
5. Michigan Legal Help (2022). *Getting a Standard Michigan Driver's License if You Are a Teenager*. Michigan Legal Help. <https://michiganlegalthelp.org/self-help-tools/crime-traffic-and-id/getting-standard-michigan-drivers-license-if-you-are-teenager#:~:text=You%20must%20be%20at%20least%2016%20years%20old%20to%20apply,present%20the%20same%20identification%20documents>.
6. Insurance Institute for Highway Safety (IIHS) & Highway Loss Data Institute (HLDI). (2021, April 1). *Older drivers*. IIHS. <https://www.iihs.org/topics/older-drivers>.
7. The Office of Secretary of State (2022). *Under Age 18*. Michigan.gov. [https://www.michigan.gov/sos/0,4670,7-127-1640\\_50050-192747--,00.html](https://www.michigan.gov/sos/0,4670,7-127-1640_50050-192747--,00.html).
8. 8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.
9. The Administration on Aging (AoA). (2021). *Profile of Older Americans*. Administration for Community Living (ACL). [https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final\\_.pdf](https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final_.pdf).
10. Children's Hospital Colorado (2022). *What Every Child Needs*. University of Colorado School of Medicine. <https://www.childrenscolorado.org/conditions-and-advice/parenting/parenting-articles/what-children-need/>.
11. National Institute on Aging (NIA) (2017, May 1). *Aging in Place: Growing Older at Home*. (NIA). <https://www.nia.nih.gov/health/aging-place-growing-older-home>.

12. Greenwood, P. M., & Parasuraman, R. (2012). *Nurturing the older brain and mind*. MIT Press. <https://web-p-ebSCOhost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=5d2da899-ada6-4eab-98b6-a3bf73b177f5%40redis&bdata=JnNpdGU9ZW9vc3QtbGl2ZQ%3d%3d#db=e000xna&AN=432808&anchor=tocAnchor>.
13. Piette J., Solway E., Singer D., Kirch M., Kullgren J., Malani P. (2020, Sep. 14). *Loneliness Among Older Adults Before and During the COVID-19 Pandemic*. University of Michigan National Poll on Healthy Aging. <https://www.healthyagingpoll.org/reports-more/report/loneliness-among-older-adults-and-during-covid-19-pandemic>.
14. National Council on Aging (NCOA) (2021, Mar. 31). *Covid-Driven Isolation Can Be Dangerous For Older Adults*. NCOA. <https://www.ncoa.org/article/covid-driven-isolation-can-be-dangerous-for-older-adults>.
15. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

## Figures

**Figure 1.1.** *United States Senior Population (Ages 65+)*, based on:

The Administration on Aging (AoA). (2021). *Profile of Older Americans*. Administration for Community Living (ACL). [https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final\\_.pdf](https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final_.pdf).

**Figure 1.2.** *Detroit Senior Population (Ages 65+)*, based on:

Data Driven Detroit (2011). *Census Demographic Profile. Data Driven Detroit*. [https://datadrivendetroit.org/web\\_ftp/Census/PlaceProfiles/Detroit\\_city\\_MI.pdf](https://datadrivendetroit.org/web_ftp/Census/PlaceProfiles/Detroit_city_MI.pdf).

Hoult, T. F., Mayer, A. J., Sheffield, S. (1963, Feb.). *The Population Revolution In Detroit*. Institute for Regional and Urban Studies at Wayne State University. <https://riseupdetroit.org/wp-content/uploads/2019/01/The-Population-Revolution-in-Detroit.pdf?iframe=true&width=100%&height=100%..>

United States Census Bureau (1900). *1900 Census Population: Volume 2: Population Pt 2: Ages*. University of Michigan Library: Census Publication Inventory. <https://guides.lib.umich.edu/c.php?g=283004&p=1885626>.

United States Census Bureau (1922). *Fourteenth Census: 1920*. University of Michigan Library: Census Publication Inventory. <https://www2.census.gov/prod2/decennial/documents/06229686v20-25ch1.pdf>.

United States Census Bureau (2021). *QuickFacts: Detroit City, Michigan*. United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/detroitcitymichigan/AGE775220#AGE775220>.

United States Department of Commerce: Bureau of the Census (1952). *1950 Census of the Population: Detroit, Mich. Census Tracts*. Superintendent of Documents, U.S. Government Printing Office. <https://www2.census.gov/prod2/decennial/documents/41557421v3p2ch02.pdf>.

United States Department of Commerce: Bureau of the Census (1982). *1980 Census of the Population*. Superintendent of Documents, U.S. Government Printing Office. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns_bw.pdf).

**Figure 1.3.** *United States Youth Population (Ages 0-19)*, based on:

United States Census Bureau (1902). *1900 Census- Volume 2. Population, Part II*. <https://www2.census.gov/library/publications/decennial/1900/volume-2/volume-2-p2.pdf>.



United States Census Bureau (1922). *1920 Census- Volume 3. Population, Composition and Characteristics of the Population by States*. <https://www2.census.gov/library/publications/decennial/1920/volume-3/41084484v3ch01.pdf>.

United States Census Bureau (1943). *1940 Census- Volume 4. Characteristics by Age*. <https://www2.census.gov/library/publications/decennial/1940/population-volume-4/33973538v4p1ch1.pdf>.

United States Census Bureau (1961, Sep. 8). *1960 Census of Population: Supplementary Reports*. <https://www2.census.gov/library/publications/decennial/1960/pc-s1-supplementary-reports/pc-s1-11.pdf>.

United States Census Bureau (1983, May). *1980 Census- Volume 1. General Population Characteristics*. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011u\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011u_bw.pdf).

United States Census Bureau (2021, Aug. 12). *The U.S. Adult and Under-Age-18 Populations: 2020 Census*. <https://www.census.gov/library/visualizations/interactive/adult-and-under-the-age-of-18-populations-2020-census.html>.

**Figure 1.4.** *Detroit Youth Population (Ages 0-19)*, based on:

Data Driven Detroit (2011). *Census Demographic Profile. Data Driven Detroit*. [https://datadrivendetroit.org/web\\_ftp/Census/PlaceProfiles/Detroit\\_city\\_MI.pdf](https://datadrivendetroit.org/web_ftp/Census/PlaceProfiles/Detroit_city_MI.pdf).

Hoult, T. F., Mayer, A. J., Sheffield, S. (1963, Feb.). *The Population Revolution In Detroit*. Institute for Regional and Urban Studies at Wayne State University. <https://riseupdetroit.org/wp-content/uploads/2019/01/The-Population-Revolution-in-Detroit.pdf?iframe=true&width=100%&height=100%>.

United States Census Bureau (1900). *1900 Census Population: Volume 2: Population Pt 2: Ages*. University of Michigan Library: Census Publication Inventory. <https://guides.lib.umich.edu/c.php?g=283004&p=1885626>.

United States Census Bureau (1922). *Fourteenth Census: 1920*. University of Michigan Library: Census Publication Inventory. <https://www2.census.gov/prod2/decennial/documents/06229686v20-25ch1.pdf>.

United States Census Bureau (2021). *QuickFacts: Detroit City, Michigan*. United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/detroitcitymichigan/AGE775220#AGE775220>.

United States Department of Commerce: Bureau of the Census (1952). *1950 Census of the Population: Detroit, Mich. Census Tracts*. Superintendent of Documents, U.S. Government Printing Office. <https://www2.census.gov/prod2/decennial/documents/41557421v3p2ch02.pdf>.

United States Department of Commerce: Bureau of the Census (1982). *1980 Census of the Population*. Superintendent of Documents, U.S. Government Printing Office. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns_bw.pdf).

**Figure 1.5.** *Community Support Systems Based on Elders' and Children's Needs*, based on:

Children's Hospital Colorado (2022). *What Every Child Needs*. University of Colorado School of Medicine. <https://www.childrenscolorado.org/conditions-and-advice/parenting/parenting-articles/what-children-need/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.

National Institute on Aging (NIA) (2017, May 1). *Aging in Place: Growing Older at Home*. (NIA). <https://www.nia.nih.gov/health/aging-place-growing-older-home>.

**Figure 1.6.** *Childhoods' Effects on Older Adulthood Cognitive Function*, based on:

Adrien Coquet from NounProject.com (2020, Feb. 19). *Grow* [Icon]. Noun Project. <https://thenounproject.com/icon/grow-3203131/>.

Alexander Skowalsky from NounProject.com (2015, Aug. 18). *Exercise* [Icon]. Noun Project. <https://thenounproject.com/icon/exercise-200526/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Greenwood, P. M., & Parasuraman, R. (2012). *Nurturing the older brain and mind*. MIT Press. <https://web-p-ebSCOhost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=5d2da899-ada6-4eab-98b6-a3bf73b177f5%40redis&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#db=e000xna&AN=432808&anchor=tocAnchor>.

Logan from NounProject.com (2017, Oct. 31). *No Entry* [Icon]. Noun Project. <https://thenounproject.com/icon/no-entry-1379326/>. Lynch, K. (1960). *The Image of the City*. MIT Press.

Marek Polakovic from NounProject.com (2014, May 22). *Brain* [Icon]. Noun Project. <https://thenounproject.com/icon/brain-51575/>.

**Figure 1.7.** *Socialization Before & During the Covid-19 Pandemic (Ages 50-80)*, based on:

Piette J., Solway E., Singer D., Kirch M., Kullgren J., Malani P. (2020, Sep. 14). *Loneliness Among Older Adults Before and During the COVID-19 Pandemic*. University of Michigan National Poll on Healthy Aging. <https://www.healthyagingpoll.org/reports-more/report/loneliness-among-older-adults-and-during-covid-19-pandemic>.

**Figure 1.8.** *The Harmful Side Effects of Lacking Enough Socialization*, based on:

Adrien Coquet from NounProject.com (2018, May 2). *Depression* [Icon]. Noun Project. <https://thenounproject.com/icon/depression-1725758/>.

Alzam from NounProject.com (2021, Mar. 10). *Death* [Icon]. Noun Project. <https://thenounproject.com/icon/death-4200549/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Johanna from NounProject.com (2017, Mar. 17). *Talk* [Icon]. Noun Project. <https://thenounproject.com/icon/talk-947027/>.

Marco Fleseri from NounProject.com (2016, Jun. 1). *Anxiety* [Icon]. Noun Project. <https://thenounproject.com/icon/anxiety-492367/>.

Marek Polakovic from NounProject.com (2014, May 22). *Brain* [Icon]. Noun Project. <https://thenounproject.com/icon/brain-51575/>.

Miho Suzuki-Robinson from NounProject.com (2020, Oct. 1). *Depression* [Icon]. Noun Project. <https://thenounproject.com/icon/depression-4091575/>

National Council on Aging (NCOA) (2021, Mar. 31). *Covid-Driven Isolation Can Be Dangerous For Older Adults*. NCOA. <https://www.ncoa.org/article/covid-driven-isolation-can-be-dangerous-for-older-adults>.

**Figure 1.9.** *Walkability in Older Adulthood (Averages for Ages 65-90)*, based on:

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.





## 2. Planned Communities & Precedents





## Age-Exclusive Communities: Introduction

As presented in the introduction, there are community designs that are exclusive against people based on age. To define the term, age-exclusive communities intentionally or unintentionally limit the age groups that can live there through planning, policies, and the overall environment of the places. Examples explored in this section are from the 20th and 21st centuries because they are still very much the norm in today's suburbs. Many design strategies of the utopian plan schemes of the early 20th century arguably have inspired realized suburban plans. To better understand the pros and cons of current suburbs, it is best to study and analyze the past utopian design schemes. The goal is to understand what each utopian city proposes in terms of the urban scale, human scale, the overall sustainability of the city itself, and their effects on current suburban plans. The final scheme is from the 60s and has been expanded since then. It is a realized example of a typical aging community. It is a type of community, which only consists of elders. This is a common miniature suburban planning strategy that is used instead of allowing an older adult to age in place at home. Studying and analyzing it presents an opposing argument of how older adults should live and allows for further conversation on the value of an age-diverse community.

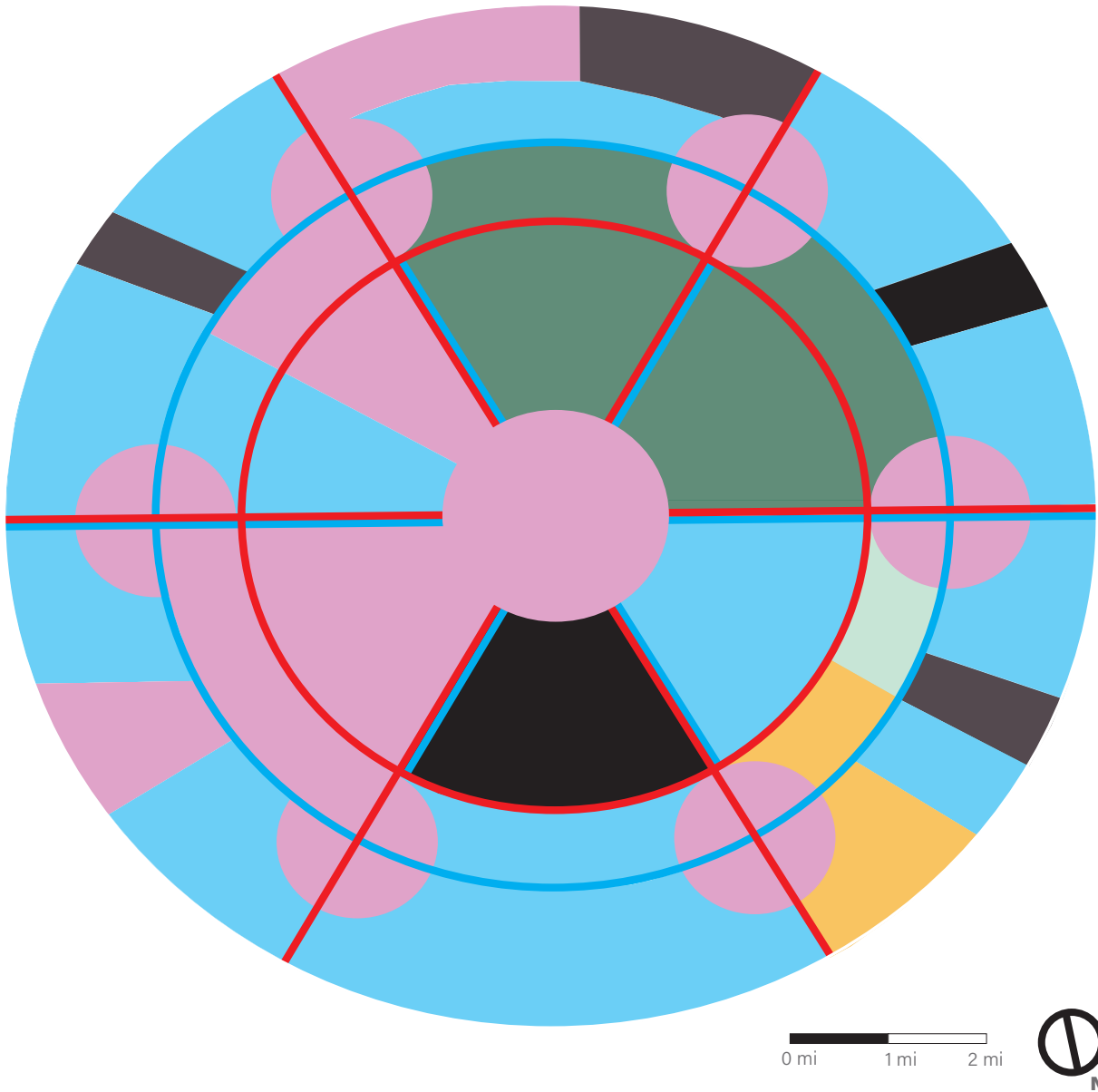
## AEC: Garden City (1902)

Beginning with Ebenezer Howard's 1902 plan, the Garden City (Figure 2.1), has all the programmed zones spaced apart in such a way that people must travel by train or canal. In his scheme, there are groupings of small communities within the large city, which are organized by occupation, resources, health,

and limited by a set population maximum. Fully able-bodied mentally healthy people are separated into the seven main circular miniature cities solely by occupation. In other words, all of the industrial workers live one community and all of the agricultural workers live in another. People who have mental and or physical health issues are divided into other sections outside of the seven main communities. If people are deemed mentally incompetent, then they live in a large insane asylum. If people consistently drink to intoxication, then they are considered inebriates and live in inebriate housing. Depending on the person's physical health conditions, that person works on the epileptic farms or attends a college for the blind. People without homes are considered waifs, so they live in the waif homes. All of these communities are separated from each other by green belts, bodies of water, and train tracks. To move from community to community, people must take a train or ferry.<sup>1</sup>

Sketches of Howard's Garden City by artist Sara Dunn (Figures 2.2-2.3) give a glimpse of what these communities may be like. There are no sketches of this urban planning concept from Howard himself, so they are based on the art and architectural styles of the time and Howard's description of it.<sup>2-3</sup> As the reader can see from the sketches, much like what is listed in the plan, the main communities are circular and grand but might be walkable based on figures shown on the winding pathways.

Based on the description, his map, and the sketched perspective views of it, the Garden City has some remarkable achievements in terms of the overall residents' efficiency, health, and housing. All of the workers live near their occupations, which significantly lowers their commute time and increases their availability to



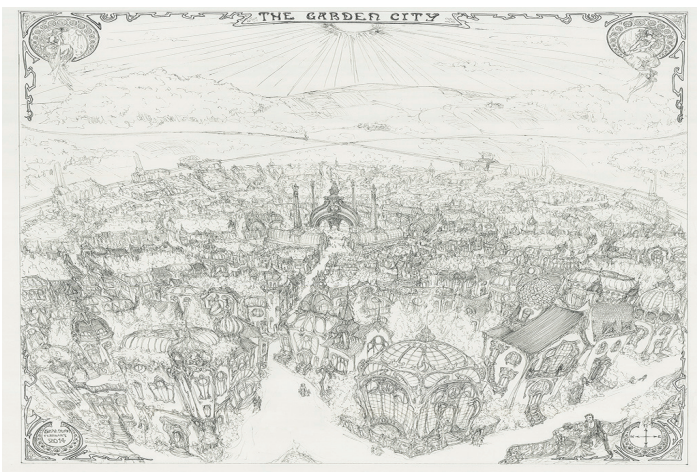
- Multi-Family Residential
- Industrial
- Schools
- Agricultural Landscape
- Bodies of Water
- Canals
- Other
- Public Landscape
- ↔ Transit

**Figure 2.1.** Ebenezer Howard's Garden City Plan

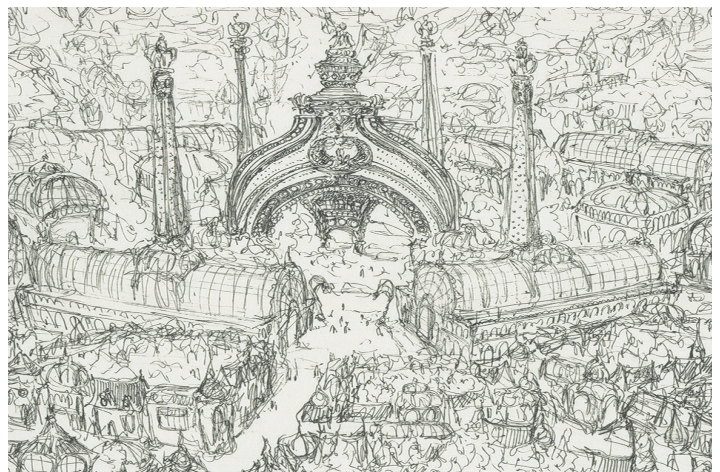
work. Every community has access to green infrastructure and water. The residents, regardless of their economic status and health, have housing. Due to the set population limits, the Garden City prevents overcrowding. These strategies and assets are all beneficial to the residents.

However, while the Garden City plan has many innovative and good suggestions for urban planning, Howard fails to consider the human scale and the future of the city. His plan blatantly segregates whom he arguably considers the presumably ideal, productive people from the helpless, problematic people. The young, healthy worker can live within one of the seven centralized communities, whereas other people must live on the outskirts. The residents are further disconnected from each other by occupation and the distances between the communities. As mentioned earlier, each community has its own specialty and only workers within that field can live there. This is highly problematic because everyone within that

community has the same or similar skill sets and therefore, has the same or similar weaknesses as well. For example, if the industrial community has problems with the local vegetation, it is helpless without assistance from someone in the agricultural community. Similarly, the communities on the outskirts cannot improve because they only consist of people with the same health and socioeconomic conditions. They do not have access to other people who can help them and have no or only set jobs that they can do. Because these communities are so far apart and only have like-minded people in each one, they are physically and socially distant. Without much contact between these different groups of people, it is difficult to expect anyone to bond, trust, and help anyone outside of their own community. In general, any resources that are not within a particular community are far away and completely inaccessible without relying on public transportation. Only residences and places of occupation are within walking distance. Economically, these separate communities are



**Figure 2.2.** Sketch of Garden City



**Figure 2.3.** Sketch of the Center of Garden City

not sustainable because they all rely solely on one source of income. For instance, if the agricultural community experiences drought and loses its crops, its residents are doomed because they do not have other skills and cannot move to any of the other communities because of the set population limits. In his planning process, Howard prevents diversity of people, ideas, skills, and socioeconomics, which significantly harms them.

### AEC: Radiant City (1924)

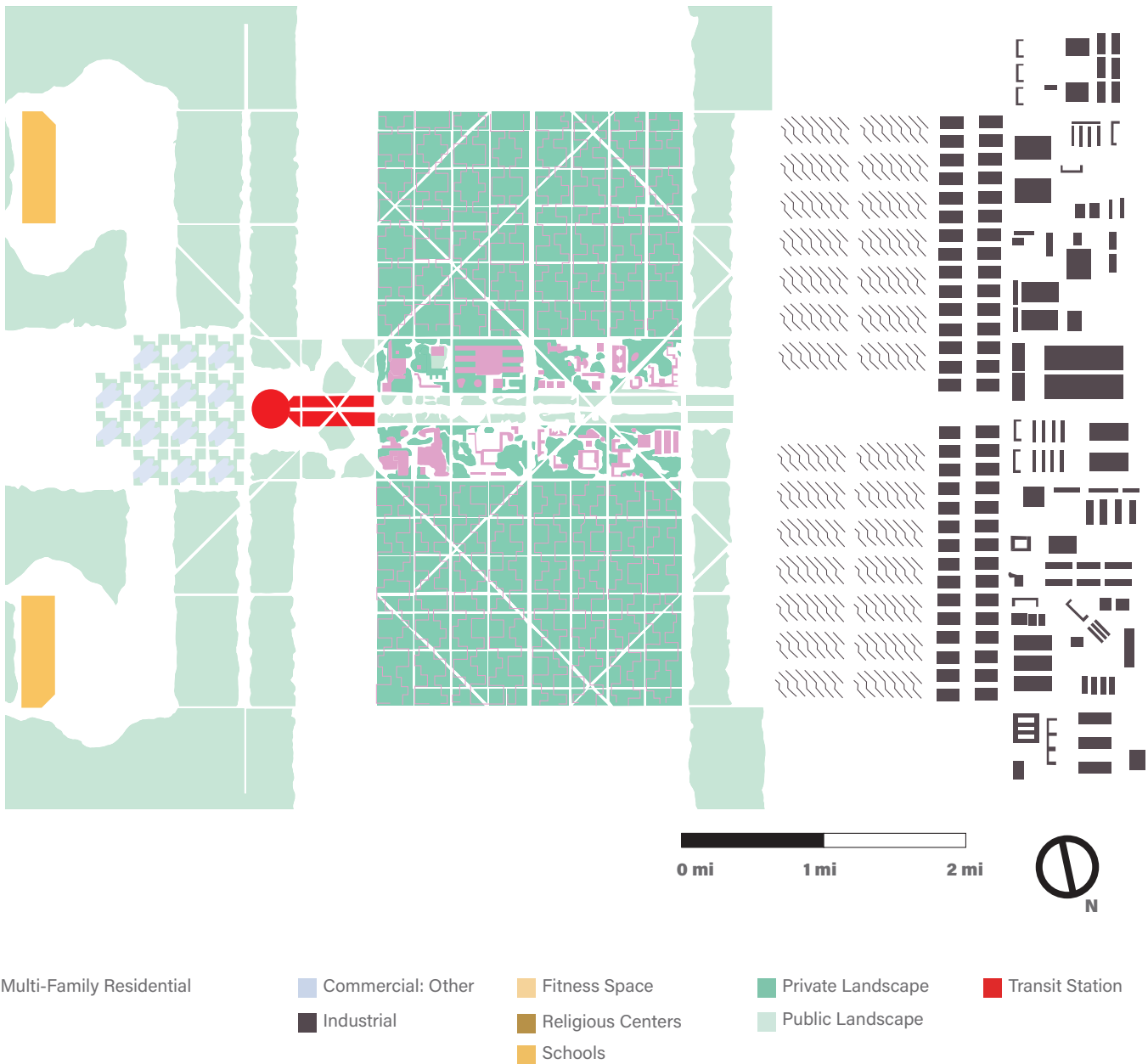
Nearly twenty years later, in 1924, Le Corbusier creates his utopian plan, the Radiant City, which proposes expansive zones of industrial, residential, commercial, and entertainment programs (Figure 2.4). These proposed zones can only be accessed via car or train. All of the residents who live high above the rest of the city are in 164 ft (50 m) tall apartment buildings, which contain rooftop pools, kindergartens, and inhouse amenities for catering and laundry. Commercial skyscraper buildings are centrally located within the city (Figure 2.5). Parks, which are situated in between the residential blocks, are the only public amenities that are within walking distance from the residences (Figure 2.6). The workplaces, schools, and government buildings are on the far ends of the city. The industrial area is the furthest away from the residences.<sup>4</sup> Although, from Le Corbusier's sketches, the Radiant City appears vastly different from the Garden City, it shares a few similar traits. Both rely heavily on transportation and green infrastructure to separate zones.

From Le Corbusier's utopian plan, there are some great design strategies from the

perspectives of physical and social health and green infrastructure. Everyone in the community has access to green space, which can be used for recreation and can be mentally used as an escape from the bustling city. Within the housing units themselves, there are additional recreational spaces and green rooftop spaces, which do the same on a smaller scale and closer to the residents. In all of these spaces, there are opportunities for people to connect to each other and improve their health. The laundry and catering amenities that are provided within the residential buildings provide access to food and help people to take care of themselves and their families.

Much like Ebenezer Howard though, Le Corbusier does not entirely consider the human scale. Similar to Howard's utopian plan, the Radiant City's programs are too spaced far apart to be accessed without public and/or private transportation. This means that people cannot easily access other necessary programs, such as groceries, banks, and jobs. The distances between the different sections of the city leave people who cannot afford or cannot use cars, such as children, elders, and differently-abled people, vulnerable and forces them to travel by train. If, for instance, the train malfunctions, those groups of people cannot travel. Beyond this, efficiency is lost because so much time is spent on commuting to and from work, school, shops, and/or home. The buildings themselves also do not consider people who have lowered mobility. These structures are so tall that they require several flights of stairs or elevators. The buildings are difficult or impossible to navigate without elevators. This design decision forces these people to not travel outside of their homes often or at all and disconnects them from their

neighbors. Therefore, Le Corbusier's plan harms older adults and differently-abled people the most.

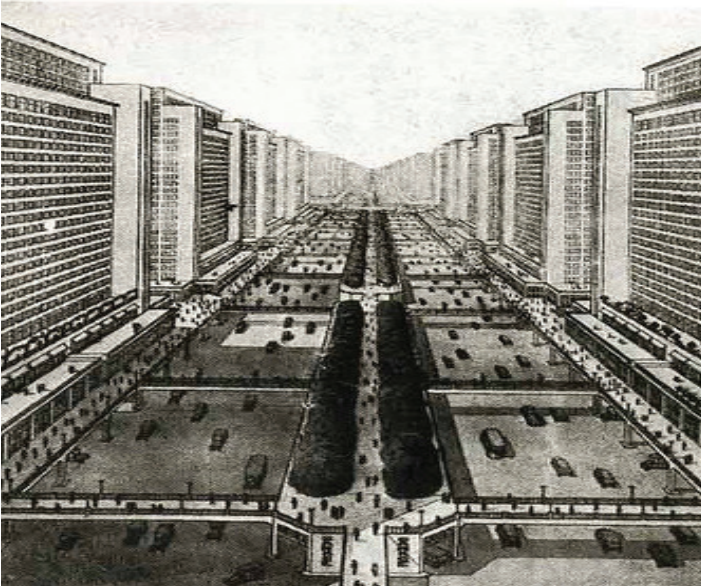


**Figure 2.4.** Le Corbusier's Radiant City Plan



## AEC: The Neighborhood Unit (1929)

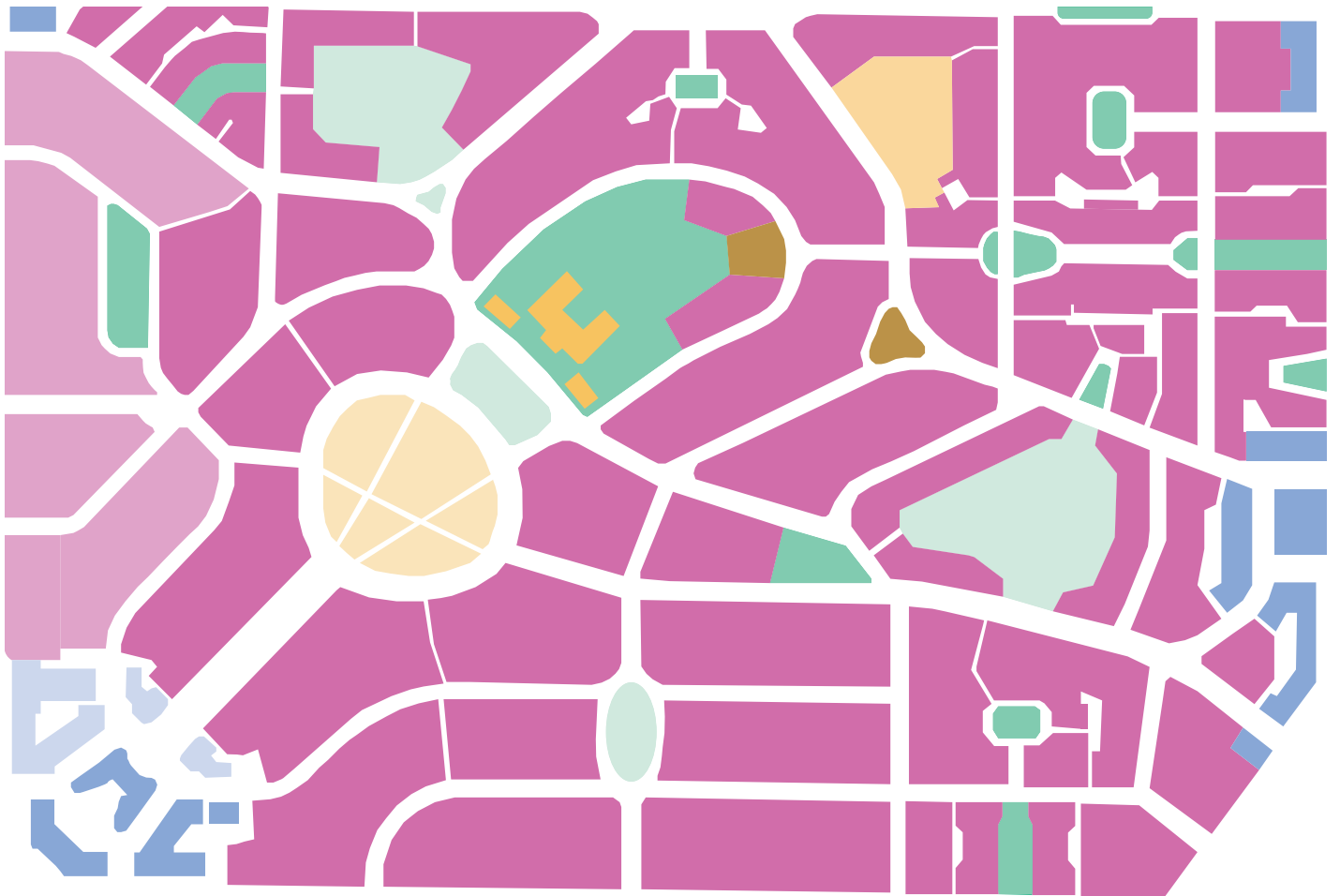
Within the same decade, Clarence Perry proposes his utopian plan in 1929: the Neighborhood Unit. The Neighborhood Unit is a framework for a series of community typologies, which are the low-cost suburban development (Figure 2.7), the industrial unit (Figure 2.8), the apartment-house unit (Figure 2.9), and the five-block apartment-house unit (Figure 2.10). Each unit has its own unique characteristics and highly specified program allotments, but are all based on the same principles. These units are subdivided into programmed districts. Perry's principles state that all the neighborhood units need to have specified sizes, boundaries, open spaces, institution sites, local shops, and an internal street system. For the unit size, Perry recommends that while it can vary, it should be small enough that the community only needs one kindergarten. The unit's surrounding boundaries should be high-traffic thoroughfares for cars. Within the unit, there should be a network of parks that meet the residents' needs. Institutions, such as schools, should be centrally located within the unit. At least one or more shopping districts need to be located within the unit in a circular fashion. Perry recommends locating them at traffic crossings and near other commercial districts. The final consideration Perry proposes is a private highway that only residents can use. For the low-cost suburban development, the unit as a whole is 160 acres and consists of a variety of housing options, a series of small public spaces, a centralized community center, shopping districts at the four corners of the unit, and roads for vehicular traffic. This unit is meant to be started with no other built structures surrounding it.



**Figure 2.5.** Sketch of the Radiant City Commercial Zone



**Figure 2.6.** Sketch of a Park in the Radiant City

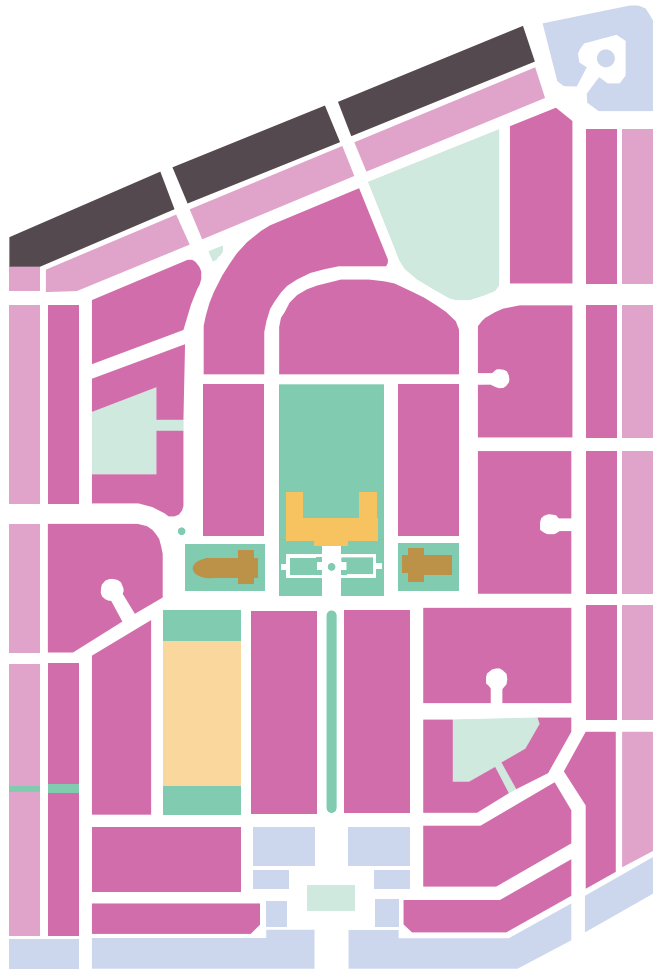


0' 50' 100' 250'



- |                             |                     |                    |                     |
|-----------------------------|---------------------|--------------------|---------------------|
| ■ Single Family Residential | ■ Stores            | ■ Community Center | ■ Private Landscape |
| ■ Multi-Family Residential  | ■ Commercial: Other | ■ Fitness Space    | ■ Public Landscape  |
|                             |                     | ■ Religious Center |                     |
|                             |                     | ■ Schools          |                     |

**Figure 2.7.** The Low-Cost Suburban Development Plan



The industrial unit should be near industrial and railway work. It requires 101.4 acres, which are used for single-family houses, apartments, an elementary school, public spaces, business centers, warehouses, and streetscape for vehicular traffic. Civic space and residential are centrally located with commercial and industrial surrounding them. Playspaces are near the boundary of the four corners. In addition to the roads for cars, there is a subway station. The third unit, the apartment-house unit, mainly focuses on apartments, outdoor green space, and vehicular streetscape for residents and needs 75.5 acres. The residences, green spaces, and exercise spaces surround the central school system.

- |                             |                     |                     |                     |                   |
|-----------------------------|---------------------|---------------------|---------------------|-------------------|
| ■ Single Family Residential | ■ Commercial: Other | ■ Fitness Space     | ■ Private Landscape | ■ Transit Station |
| ■ Multi-Family Residential  | ■ Industrial        | ■ Religious Centers | ■ Public Landscape  |                   |
|                             |                     | ■ Schools           |                     |                   |

**Figure 2.8.** The Industrial Unit



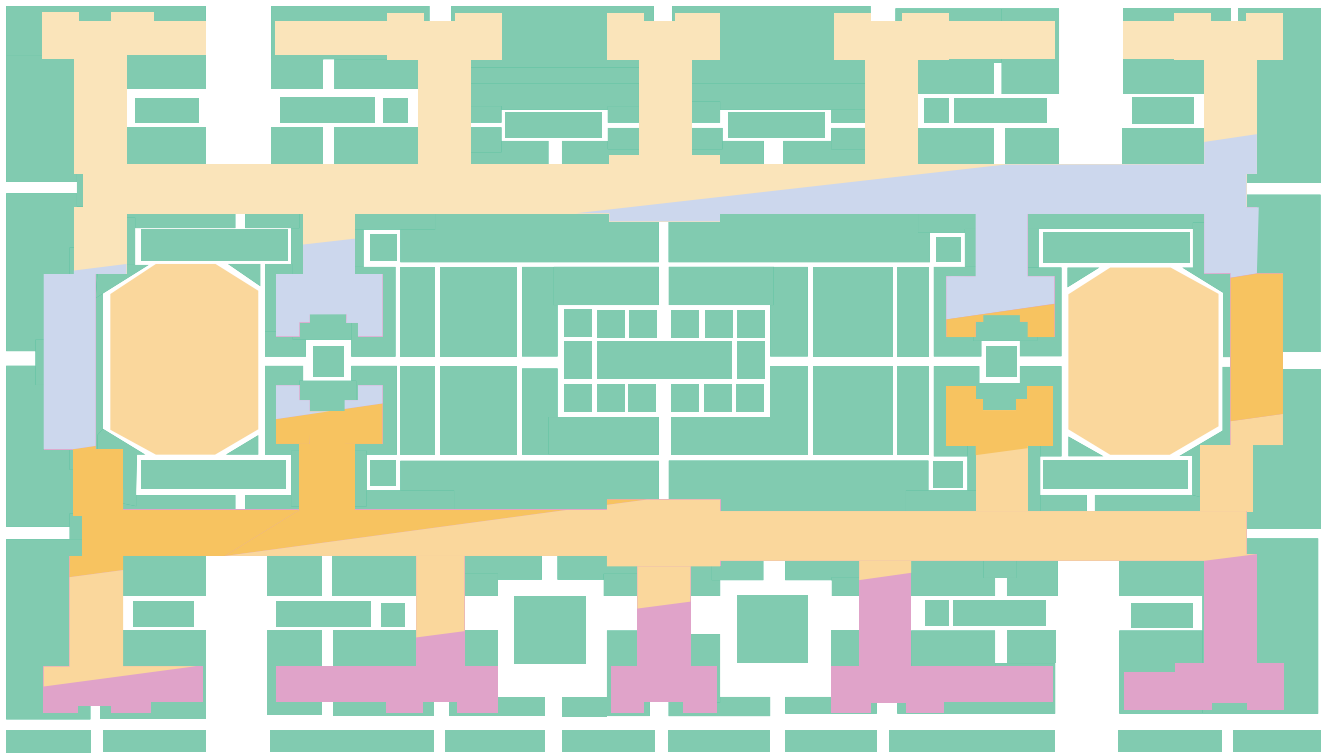


- Multi-Family Residential
- Commercial: Other
- Community Center
- Private Landscape
- Religious Centers
- Public Landscape
- Schools

**Figure 2.9.** The Apartment-House Unit

The final unit, the five-block apartment house unit, acts as a strategy to adaptively reuse high-rise Manhattan buildings that have lots that

are 200 ft by 670 ft. In this scheme, everything a person needs fits is located within all of these buildings. Each building has apartment



- Multi-Family Residential
- Commercial: Other
- Community Center
- Private Landscape
- Fitness Space
- Schools

**Figure 2.10.** The Five-Block Apartment House Unit

housing, hotel rooms, an elementary school, exercise space, and a gymnasium and auditorium for various community uses.<sup>5</sup>

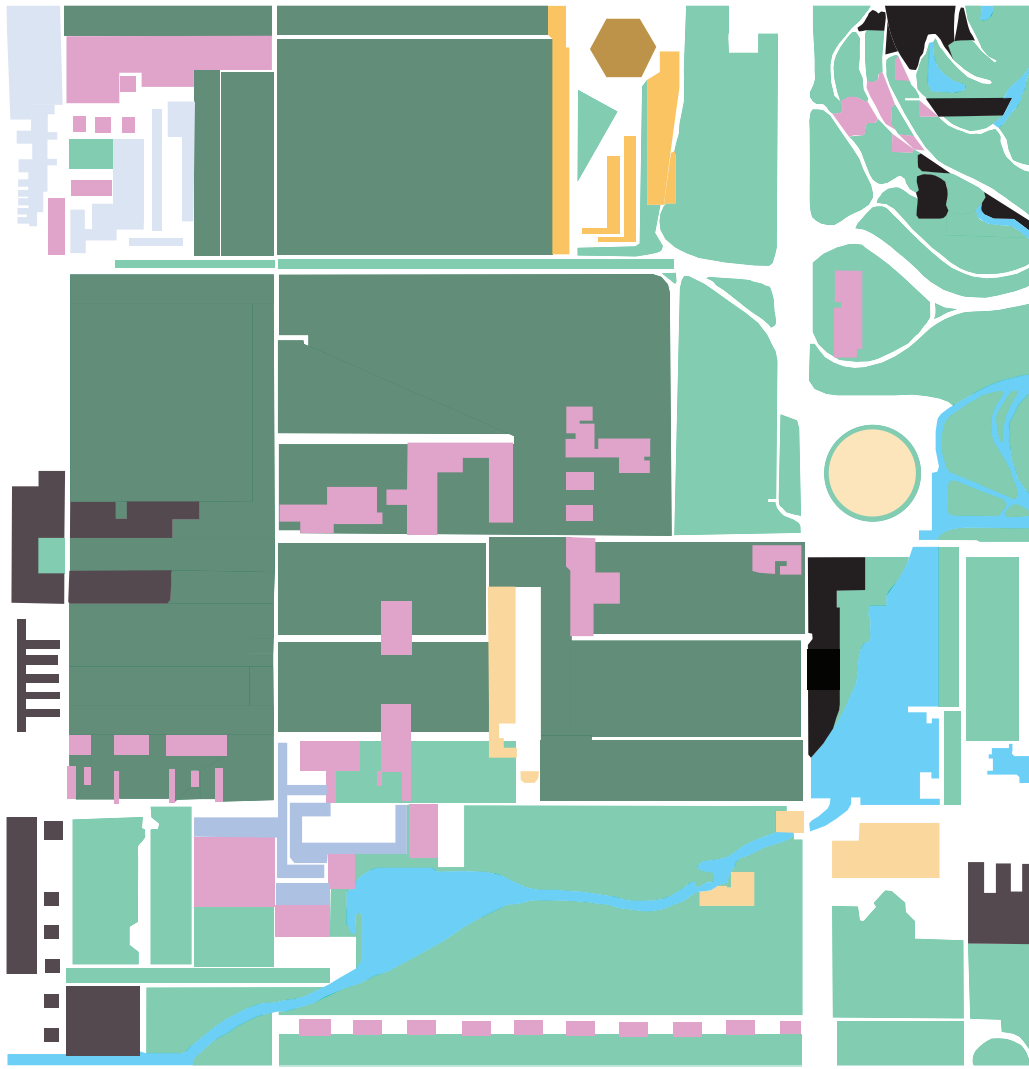
All of these different urban planning schemes, due to their unique programs, have their own advantages and disadvantages. They all attempt to fulfill every community need, but at different scales. Because Perry is so detailed in the number of acres required and the types of buildings and programs, his suggestions can be more easily realized than the previous plans. In every scheme, there are green spaces, exercise spaces, housing, elementary schools, community centers, vehicular roads, set program allotments, and set population maximums. Residents have specific spaces to interact with each other and exercise, which are good for their physical and social health. Of the proposed schemes, the most likely to succeed is the low-cost suburban development plan because unlike the other schemes, has a large variety of housing it has a large variety of housing types to choose from. As the article, "Is Housing Diversity Good for Community Stability?: Evidence from the Housing Crisis," states, diverse housing increases the chances of a neighborhood surviving because there is a mix of socioeconomic backgrounds and lower-cost housing options if, for example, someone loses their job. It ensures that people can still afford to stay in the neighborhood and that the higher and lower incomes can balance each other out.<sup>6</sup>

For every scheme Perry presents, though, he arguably designs for young families who own cars based on the programming he provides for all of the schemes. None of the units are good for walkability, though because all of the roads are for vehicular traffic. The five-block unit is especially isolating because it enforces that the residents

should not leave their large apartment buildings. All of the programming is housed within these buildings, so there is no need to leave. Similar to the residential units in the Radiant City, the high-rise apartments are problematic for elders and for people with lower mobility. These buildings require several flights of stairs, which forces these groups to be completely dependent on working elevators. Otherwise, if they can and do use the stairs, they have physical difficulties moving and are more likely to seriously hurt themselves. Due to the set population limits and the housing being centered around specific occupations, there is no opportunity for other people, who are not like-minded, much like what occurs in the Garden City. Therefore, the lack of walkability to programs, the isolationism, and the evident focus on young families cause none of these schemes to be sustainable for people who want to age in place, socialize with diverse people, and access programs.

### AEC: Broadacre City (1934)

Building off of these previous plans, Frank Lloyd Wright's 1934 Broadacre City plan offers a land-rich city with its own new programs but shares similar traits to the preceding plans (Figure 2.11). A wide variety of occupational, educational, physical health and social programs are spread out throughout the city. Athletic programs and spaces include athletic clubs, sports fields, a baseball field, and an equestrian track equipped with a horse stable. Fresh food is bountiful in the market and from the farming industry. Job opportunities are available in medical, automotive, agricultural, research, educational, and entertainment. In terms of social programs and spaces, residents can meet, learn,



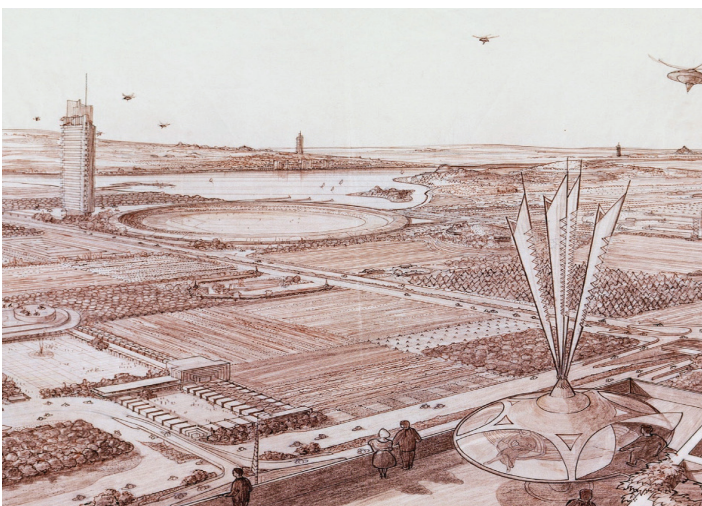
- Multi-Family Residential
  - Commercial: Other
  - Industrial
  - Other
- Community Center
  - Fitness Space
  - Religious Centers
  - Schools
- Agricultural Landscape
  - Private Landscape
- Bodies of Water

**Figure 2.11.** Broadacre City Plan

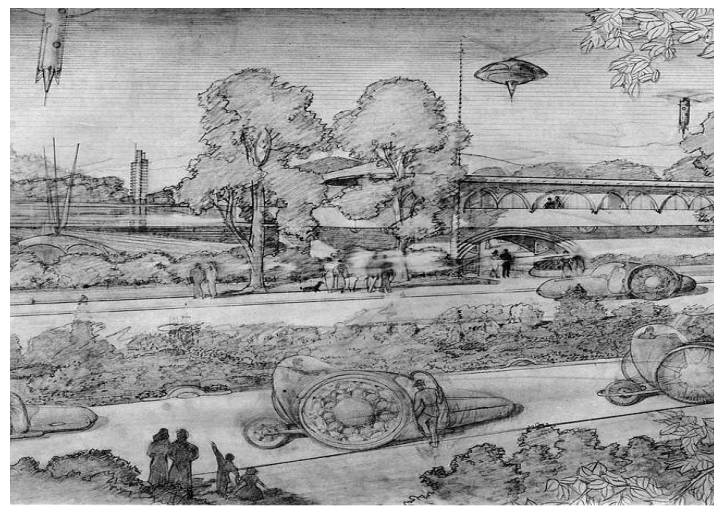
and be entertained in parks, at the worship center, at the movie theater, at the animal exhibits, at the fairs, and at the culture center. Residents are all able to learn in an elementary school, an educational center, and a research center. The city's natural assets are forests, orchards, vineyards, and a ready supply of fresh water. Similar to Howard, Le Corbusier, and Perry, Wright places residential close to where individuals work. Most of the land is made up of small sections for every resident to farm on (Figure 2.12). Wright envisions that every resident owns one or more acres of land and a minimum of one car. As Perry does in all of his Neighborhood Unit plans, Wright stipends set sections of land for each resident and for highly specified programs. Much like Howard and Perry, Wright's utopian plan acts as one in a network of plans. Broadacre City connects to other likewise communities through physical contact via a shared highway system and remote communication via phone and radio (Figure 2.13).<sup>7</sup> All of the utilities, transportation, and commerce are controlled and owned by the residents.<sup>8</sup>

Unlike the previous plans, Wright specifically gives control to the residents.

Evidently, Wright learns from his predecessors and evolves his plan to be more specific and to include more programs. All programmatic ideas help sustain the community and its residents. With a car, they all have access to programs that promote their social and physical health. People have many different places and activities to choose from, which feels more fulfilling. However, because Wright's plan utilizes so much of what previous planners used, it has similar problems. Much like the Radiant City and the Neighborhood Unit, Broadacre City cannot work without cars. Groups that cannot use cars due to health conditions and/or age limits cannot access most of the programs because the distances between residential and other programs are too far apart to feasibly use other means of transportation. Additionally, similar to the Garden City's residential planning strategies, Broadacre City's plan isolates people from each other because they are spread out to live by their



**Figure 2.12.** Sketch of Broadacre's Plots of Land



**Figure 2.13.** Sketch of the Broadacre Highway

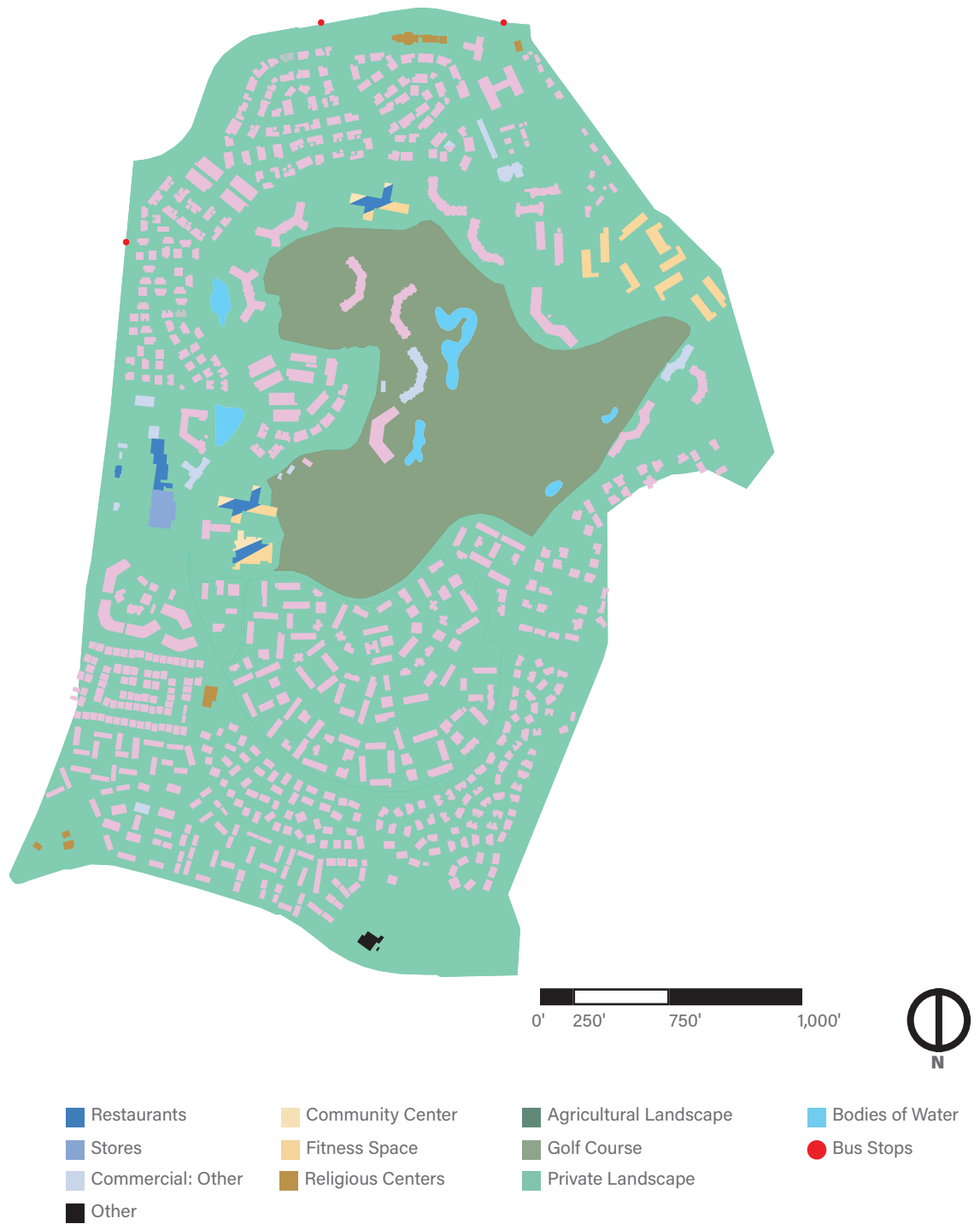
occupations. Although Wright's programs greatly benefit residents, his failure to not foresee walkability causes inaccessibility to those programs.

### AEC: Leisure World of Maryland (1964-)

Conversely, unlike the 20th century utopian schemes, there are aging communities today that blatantly exclude younger generations, such as Leisure World (Fig. 2.14). Leisure World's first homes were built in 1964, its latest ones were completed in 2003, and its most recent renovations were finished in 2013.<sup>9</sup> It prides itself on being a retirement community only for people ages 60+ and has all the amenities someone needs without ever leaving. High-rise condos, single-floor ranch houses, apartments, and other housing types are spread out across the site.<sup>10</sup> Restaurants onsite provide food. The medical staff handles residents' medical and other health needs. There are various fitness spaces including pools, tennis courts, golf courses, and wooded walking paths. Many fitness classes promote joint relief, motion, and fun group interactions. Residents can socialize through the many clubs provided on-site that specifically focus on politics, sports, art, and volunteer efforts.<sup>11</sup> Various housing prices and options are available, but potential residents must be selected.<sup>12</sup> All of these program types are highly beneficial and more sustainable for residents.

While programmatically, this type of senior housing has many successes, it is not perfect. As is, this concept removes elders from their context and excludes them from the rest of society. Elders are no longer part of the world outside of the gated senior community. Much like

the Garden City and Broadacre City, like-minded people stay together and do not have as much access to different ideas and people. Their weaknesses are all the same or similar, so they do not have the strength of a diverse group. Additionally, many other age groups can benefit from these same program types and planning strategies. Everyone needs to be able to exercise and socialize. If the programmatic strategies in senior facility plans such as this can be retrofitted into existing communities, then everyone can benefit.



**Figure 2.14.** Leisure World Map



## Age-Inclusive Communities: Housing

The housing precedents examined here both focused on multigenerational use and maximizing the space. They serve as small-scale precedents of how different generations could live and work together. From the beginning, De La

Ossa Architects designed Gartenpark Hohenkirchen for multigenerational housing. Using modularity and accessible design, multiple generations can live in the same housing unit. Composed of two apartments for each unit,



Pedestrian Designated Pathway



Ample Space to Move & Seating for Rest

**Figure 2.15.** Gartenpark Hohenkirchen



Large Crosswalk



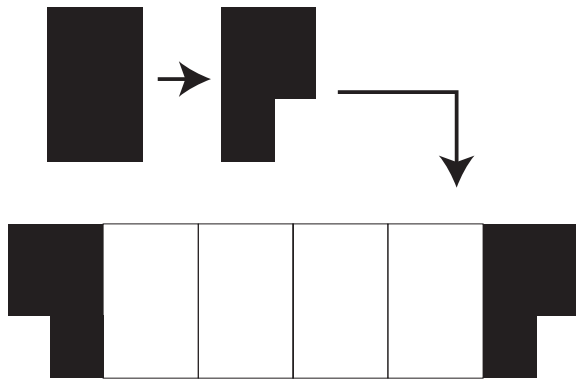
Large Dining Area With Mobility Inclusive Seating

■ Pedestrian-Friendly   ■ Mobility Inclusive   ■ Rest

**Figure 2.16.** Das Generationenhaus Heselach



entrances are separated by apartment level to allow each generation to have its own space. Within these units, there are spaces specifically designated for people to meet up. The unit sizes vary from 381-440 ft<sup>2</sup> (116-134 m<sup>2</sup>) and can hold



Modules of Multi-family Apartments



Expansive Flat Courtyards with Seating

up to 5 residents.

Unlike Gartenpark Hohenkirchen, Das Generationenhaus Heslach was not always meant to be multigenerational. Büro Drei Architekten - Kai Haag, Sebastian Haffner and Tilmann Stroheker revamped the nursing home into a mixed-use, multigenerational complex with everything one needed within one small area. After the renovations, it included a shopping center, doctors' offices, nursing home, apartments, and meetup spaces.<sup>13</sup>

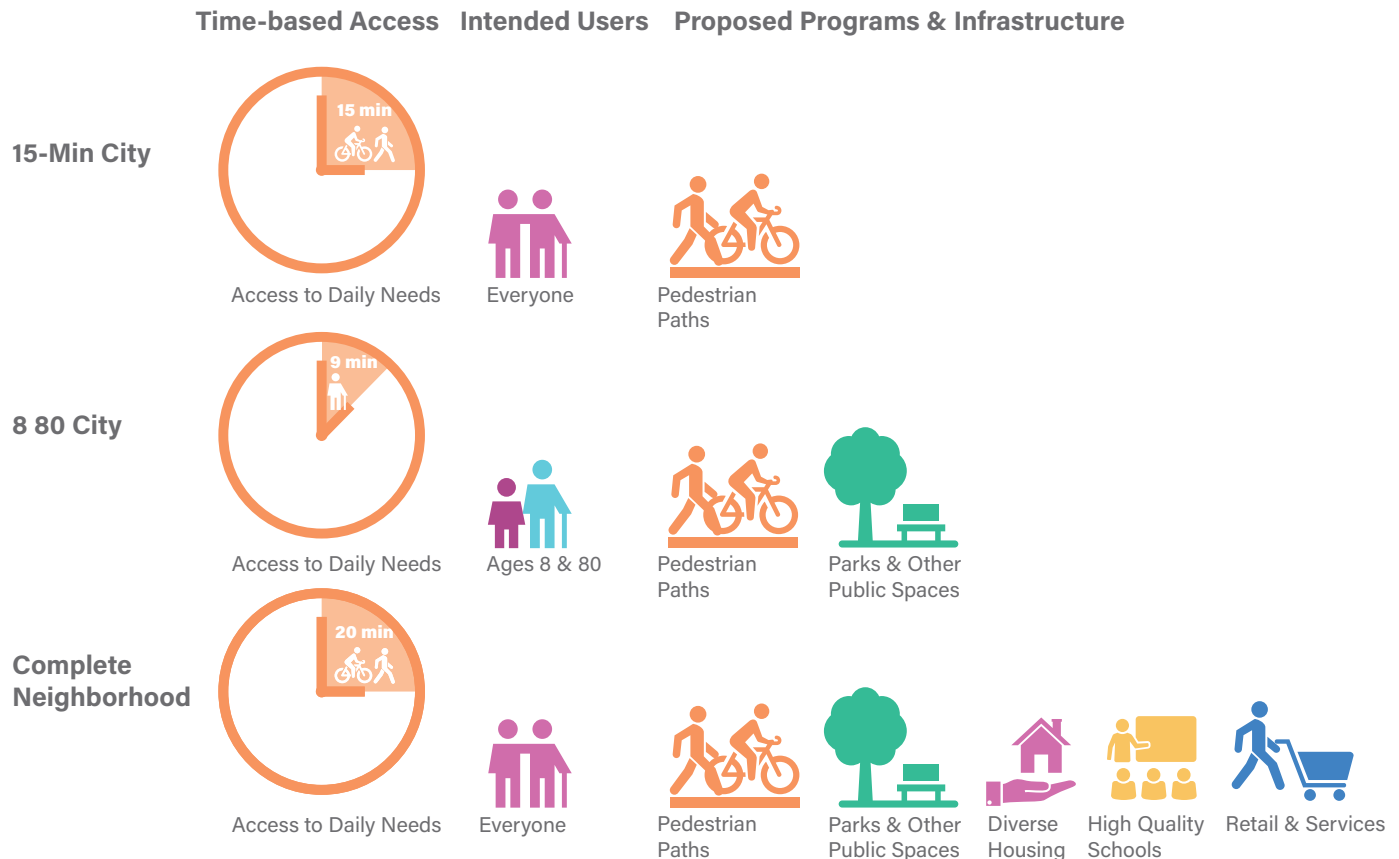
These two housing precedents are further compared by diagramming similar elements that served different types of needs. These provisions are categorized as pedestrian-friendly, rest, and mobility inclusive (Figures 2.15-2.16). Both have pathways for solely people, which is very pedestrian-friendly. They also have ample spaces with furniture for sitting and relaxing, which would be restful. These spaces are spaced out in such a way that anyone could use them, regardless of mobility level. In both buildings, there is also a set support system for access to food, people to socialize with, and other necessities. Elders in Gartenpark have their younger family members tend to their needs. They can also provide for their younger relatives' needs, such as free babysitting. Heslach residents have all of their needs met within one building and there are a variety of people, so there are diverse strengths to take on the diverse weaknesses. Thus, these precedents both share programmatic and support network strengths, which can be applied to other communities.

## Walkable Neighborhoods: Frameworks

On a larger scale, there are neighborhood frameworks that oversee urban plans and programs. Within this section, three neighborhood planning precedents are examined, compared, and diagrammed: the 15-min city, 8 80 city, and complete neighborhoods (Figure 2.17). From there, concepts are taken as suggestions for this thesis. Each one had its unique take on how to design the city layout for maximum comfort and use of the inhabitants. Interestingly, all of them involve walkability and seem to build off of each other. These concepts became a major part of the research process down the line.

## WN: 15 Min City

The basis of the 15-min city is that everything a person needs is within a 15-min walk or bike ride. Otherwise, reliable transportation to those needs is within that same 15-min walk or bike ride. For instance, a person could walk to a grocery store within 15-min. In another scenario, that same person could walk 15-min or less to a bus stop which would take them to a grocery store.<sup>14-15</sup> However, the 15-min city fails to be mobility accessible. Elders have difficulty walking that long and far.



**Figure 2.17:** Walkable Neighborhoods Frameworks

## WN: 8 80 City

An ideal city for the organization 8 80 is a city that is designed in such a way that an 8-year-old and an 80-year-old can thrive. They can walk or bike to anything that they need with little to no help. Ideally, public spaces and parks would be spread throughout the city to break up the hustle and bustle of daily life and provide a meeting space for people.<sup>16</sup> This framework arguably takes the youngest and oldest generations into more consideration and would likely plan for elders' walkability.

## WN: Complete Neighborhood

In a complete neighborhood, everything that a person needs to succeed and live there is available and accessible, regardless of income, age, or mobility level. This concept builds off of the previous two and expands further. As creator Virginia Stanard states, a complete neighborhood needs the following within a 20-min walk or reliable transportation to these within a 20-min walk: "diverse housing options, retail and service amenities, high-quality schools, parks, and public spaces, and access to jobs." Diverse housing means that there should be a variety of housing typologies and prices.<sup>17</sup> All of the other requirements are relatively self-explanatory. In general, the focus of a complete neighborhood is on the residents as a whole. It systematically strategizes for a variety of programmatic needs and promotes social and physical health. However, planning within a 20-min walk causes programs to be unattainable for people who cannot easily walk that distance.

## References

1. Howard, E., Moreira, S., & Duduch, T. (2021, May 12). *What Are Garden Cities?* ArchDaily. <https://www.archdaily.com/961275/what-are-garden-cities>.
2. Dunn, S. (2014, Apr. 4). *The Garden City Utopia* [Graphic]. Behance. <https://www.behance.net/gallery/15865643/The-Garden-City-Utopia>.
3. Dunn, S. (2014, Apr. 4). *The Garden City Utopia: The Center of the Utopian City* [Graphic]. Behance. <https://www.behance.net/gallery/15865643/The-Garden-City-Utopia>.
4. Le Corbusier, & Merin, G. (2013, Aug. 11). *AD Classics: Ville Radieuse / Le Corbusier*. ArchDaily. <https://www.archdaily.com/411878/ad-classics-ville-radieuse-le-corbusier>.
5. Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.
6. Chakraborty, A. and McMillan, A. (2018). *Is Housing Diversity Good for Community Stability?: Evidence from the Housing Crisis*. Sage Journals. <https://journals.sagepub.com/doi/10.1177/0739456X18810787>.
7. Gray, Jennifer (2018, Oct. 1). *Reading Broadacre*. Frank Lloyd Wright Foundation. <https://franklloydwright.org/reading-broadacre/>.
8. Frank Lloyd Wright Foundation (2017, Sep. 8). *Revisiting Frank Lloyd Wright's Vision For "Broadacre City."* Frank Lloyd Wright Foundation. <https://franklloydwright.org/revisiting-frank-lloyd-wrights-vision-broadacre-city/>.
9. Leisure World of Maryland (LWMD) (2022). *Our History*. Leisure World Maryland. <https://leisureworldmaryland.com/about/our-history/>
10. Leisure World of Maryland (LWMD) (2022). *Get To Know Us*. Leisure World Maryland. <https://leisureworldmaryland.com/get-to-know-us/>.
11. Leisure World of Maryland (LWMD) (2022). *Discover Our Lifestyle*. Leisure World Maryland. <https://leisureworldmaryland.com/discover-our-lifestyle/>.
12. Leisure World of Maryland (LWMD) (2022). *Join Our Community*. Leisure World Maryland. <https://leisureworldmaryland.com/join-our-community/>.

13. Herwig, O. & Bruce, L. (2008). Multigenerational Living: Social Change as a Catalyst for New Design Solutions. *Universal design solutions for a barrier-free living*. Birkhäuser. <https://web-s-ebscohost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=9a8d9a9a-d594-4687-b01a-0100d26c7d4c%40redis&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#AN=525728&db=e000xna>.
14. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
15. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
16. 8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.
17. Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.

## Figures

**Figure 2.1.** *Ebenezer Howard's Garden City plan*, based on:

Howard, E., Moreira, S., & Duduch, T. (2021, May 12). What Are Garden Cities? ArchDaily. <https://www.archdaily.com/961275/what-are-garden-cities>.

**Figure 2.2.** *Perspective Sketch of Ebenezer Howard's Garden City*. Photo credits: Sara Dunn. Retrieved at Behance on April 18, 2022.

**Figure 2.3.** *Perspective Sketch of the Center of Ebenezer Howard's Garden City*. Photo credits: Sara Dunn. Retrieved at Behance on April 18, 2022.

**Figure 2.4.** *Le Corbusier's Radiant City Plan*, based on:

Le Corbusier, & Merin, G. (2013, Aug. 11). AD Classics: Ville Radieuse / Le Corbusier. ArchDaily. <https://www.archdaily.com/411878/ad-classics-ville-radieuse-le-corbusier>.

**Figure 2.5.** *Sketch of the Radiant City Commercial Zone*. Photo credits: iamyouseisme.wordpress.com. Retrieved at Archdaily on January 5, 2022.

**Figure 2.6.** *Sketch of a Park in Radiant City Commercial Zone*. Photo credits: guerillasemiotics.com. Retrieved at Archdaily on January 5, 2022.

**Figure 2.7.** *The Low-Cost Suburban Development Plan*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.8.** *The Industrial Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.9.** *The Apartment-House Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.10.** *The Five-Block Apartment House Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," *The 1929 Regional Plan of New York and Its Environs. The City Reader*. Routledge.

**Figure 2.11.** *Frank Lloyd Wright's Broadacre City plan*, based on:

Wright, F. L. (1934). [Broadacre City]. <http://www.twoworldsfoundation.org/site/in-the-works/broadacre-city/>.

**Figure 2.12.** *Sketch of Broadacre's Plots of Land*, Photo credits: Frank Lloyd Wright. Retrieved at FrankLloydWright.org on April 23, 2022.

**Figure 2.13.** *Sketch of the Broadacre Highway*, Photo credits: Frank Lloyd Wright. Retrieved at Flickr on April 23, 2022.

**Figure 2.14.** *Leisure World Map*, based on:

Google. (n.d.). [Google Map of Leisure World MD]. Retrieved February 21, 2022, from <https://www.google.com/maps/place/Leisure+World,+MD+20906/@39.1020652,-77.0865204,15z/data=!3m1!4b1!4m5!3m4!1s0x89b7ce256d422477:0xeb54538a4f611d8!8m2!3d39.1037192!4d-77.0710895?hl=en&authuser=1>.

Leisure World of Maryland (LWMD) (2017). *LWMD Community Map With Walking Trails*. Leisure World Maryland. [https://leisureworldmaryland.com/media/LWMD CommunityMap2017.pdf](https://leisureworldmaryland.com/media/LWMD%20CommunityMap2017.pdf).

**Figure 2.15.** *Gartenpark Hohenkirchen*, Photo credits: De La Ossa Architects. Retrieved at Neubaukompass on February, 28, 2022.

**Figure 2.16.** *Das Generationenhaus Heselach*, Photo credits: Carola Hagele, MuZe Sud. Retrieved at Stuttgarter Zeitung, Mehr Generationen on January, 18, 2022.

**Figure 2.17.** *Walkable Neighborhoods Frameworks*, based on:

8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.

Adrien Coquet from NounProject .com(2017, Jun. 8). *School* [Icon]. Noun Project. <https://thenounproject.com/icon/school-1099568/>.

- Adrien Coquet from NounProject.com (2019, Aug. 4). *Work* [Icon]. Noun Project. <https://thenounproject.com/icon/work-2941895/>.
- Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.
- Berkah Icon from NounProject.com (2018, Apr. 2). *Sell House* [Icon]. Noun Project. <https://thenounproject.com/icon/sell-house-1672584/>.
- Cuputo from NounProject.com (2021, Jun. 28). *Bike* [Icon]. Noun Project. <https://thenounproject.com/icon/bike-4303164/>.
- Dima Lagunov from NounProject.com (2013, Nov. 22). *Walking* [Icon]. Noun Project. <https://thenounproject.com/icon/walking-26898/>.
- Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.
- Linda Wati from NounProject.com (2019, Jun. 7). *Shop* [Icon]. Noun Project. <https://thenounproject.com/icon/shop-2729660/>.
- Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.
- Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.









Lluisa Iborra from NounProject.com. *europe*.



# 3. Italian Cities Studies



## Turin City Interaction Studies

As a short study on human interaction in the city, the city of Turin is explored, photographed, and analyzed (Figure 3.1). Turin acts as a solid testing ground for this type of analysis because it is a large city with a busy city center. Within the city center, it has many large public squares and seating and stores lining covered arcades. There are plenty of spaces to observe human interaction and its relationship to the environment. The methods used in the study are inspired by this semester's sketch problem prompt to research through making. The goal is to become immersed in a highly specific area of interest for a week, create something new through multi-media techniques, and learn from the experience. As part of the interactive research, one afternoon exploring and observing the city under the guidance of a local provides many photographed examples of interaction between people and their surroundings. This tactic allows the focus to be on one specific place and uses one observation method, so the sketch problem does not become muddled by too many outside factors.

The city center seems like the most logical space to utilize because it is intentionally designed for large groups of people to pass through and gather. It is a busy area and thus, a space with plenty of people and activities to observe. Within this context, only public space is observed used because it is accessible to everyone. The concern is that people act differently in a specific private space, which may skew the results. There are too many factors to consider in a private space, such as the type of program of the private space. In this narrow aspect of this thesis, there is an exploration of how to utilize human observation and photography as a form of research and an

analysis of the data that occurred through diagramming directly onto it.

This sketch problem process engages the idea of research through making and site observation in many ways. First, every photograph is captured in real-time. From there, the photos are laid out onto a digital board and manually sorted by photo quality and content. Once they can be seen all at once, further observations are made, which results in finding three trends, which are noted as pass, pause, and rest. All of these noted conditions are named without any reference to other studies. The term pass means that someone used the space only to get from one point to another. The term pause indicates that someone intends to stay in the space momentarily and then continue on to another activity or location. The term rest reflects that someone intends to stay in the space for a much longer length of time. All of the people shown in the photographs are color-coded to reflect these trends. Then the photographs are further analyzed through the lens of Kevin Lynch's elements of a city: path, edge, node, district, and landmark.<sup>1</sup> From there, inferences can be made to determine how certain elements affect people's interactions with the spaces and others.

From the sketch problem, there is a realization that certain elements of the city create different opportunities for people to pass, pause, and/or rest. Paths encourage people to pass through because they do not have space to stop. Landmarks are intended for people to pause and/or rest to look at and admire them. Nodes allow for all three types of interaction to occur. This research helps to better understand how these public spaces cause these interactions and hints at how to recreate them in future designs.



1



2



3



7



8



9



13



14



15

1-10: Paths enable passing; edges allow for passing and rest.

11-14: Landmarks enable pause and rest.

15-16: Nodes enable passing

**Figure 3.1.** Turin City Interaction Studies





4



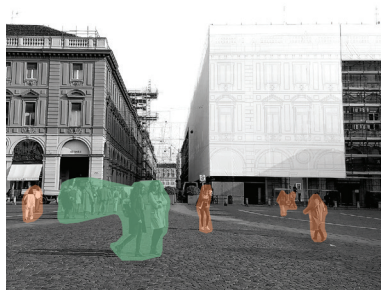
5



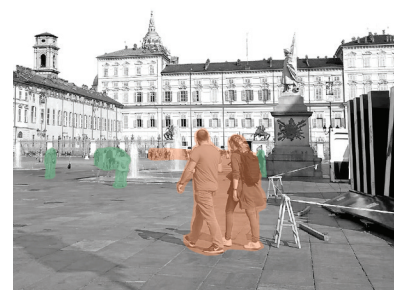
6



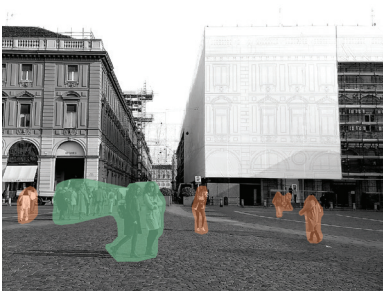
10



11



12



16

Based on feedback from exhibiting this research, this methodology has inspired further, more specific studies in other Italian cities and how to create micro spaces along the intended site's streetscape. As proven by the study, landmarks can be created as wayfinding tools and small welcoming spaces for socialization and rest. These types of spaces are beneficial for everyone, especially elders. People are encouraged to exercise and socialize more, which greatly helps their social and physical health.

### Italian City Interaction Studies

Building off of the city element studies in Turin, further studies are conducted on the Italian cities visited during the study abroad program. The goal is to further explore the city elements' effects and the concepts of pass, pause, and rest and how to use these to promote social and physical health. In a similar manner as the

previous study in Turin, city spaces are photographed, categorized, defined, and analyzed. During the sorting process, there were four main trends are found, which are labeled pedestrian-friendly, mobility inclusive, rest, and play. A pedestrian-friendly space encourages people to walk through the street safely and comfortably. A mobility inclusive space is easy or easier to use, regardless of the level of mobility. Rest encourages a person to stay in one place for a long period of time before moving on. Play encourages a person to interact with the object/ space. From these categories, subcategories emerged. Pedestrian-friendly spaces can be categorized further as a designated pathway and a large enclosed space (Figure 3.2).



1



2



3

1-3: Natural Barrier

4-6: Elevation Difference

7-9: Material Shift

10-12: Large Enclosed Space: Elevation Difference

**Figure 3.2.** Pedestrian-Friendly Spaces





4



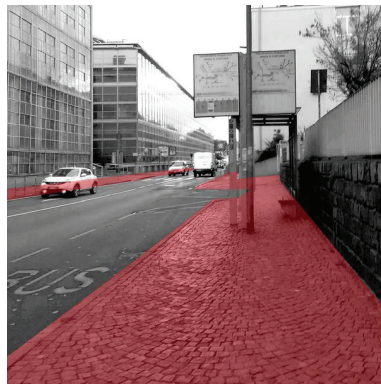
5



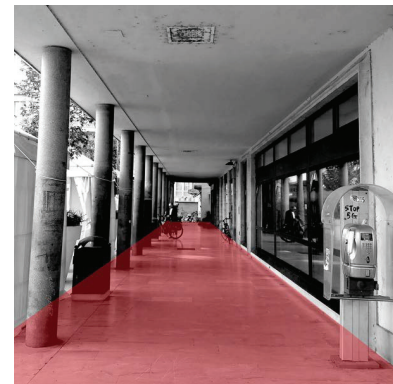
6



7



8



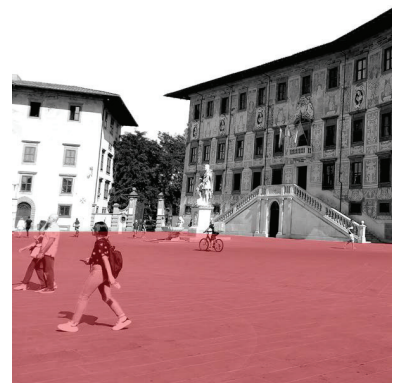
9



10



11

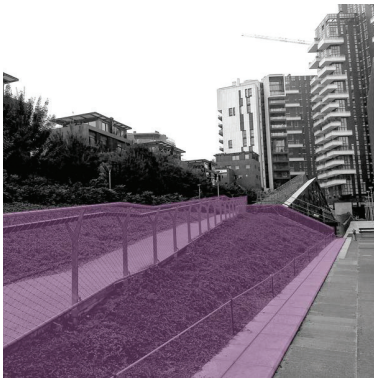


12

Mobility inclusive spaces include additional separate access and equal access to spaces (Figure 3.3). Play and rest both result from intended and adapted uses of spaces (Figures 3.4-3.5). All of these are labeled, color-coded, and given a short summary analysis. From these studies, one could clearly see how each space encouraged people to use it in a certain way. Using these findings helps to

better understand how to design space for specifically intended behaviors.

As presented in these studies, Italian cities have a variety of methods that make spaces pedestrian-friendly, mobility friendly, restful, and playful. Paths narrow to exclude vehicular traffic, which creates safer and more peaceful walking trails. Many of these paths lead to large open spaces, where people can access commercial and



1



2



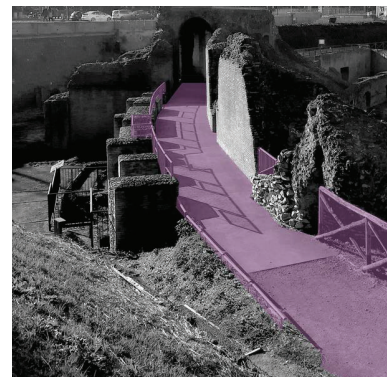
3



4



5



6

1-3: Separate Access

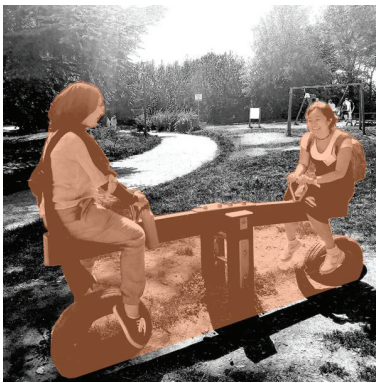
4-6: Equal Access

**Figure 3.3.** Mobility Inclusive Spaces

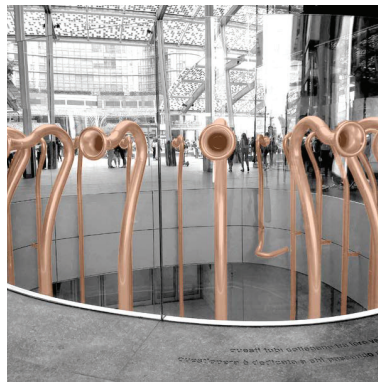


social programs, interact with other people, and cross safely to other pathways. For the most access to programs and spaces, Italian cities adapt pathways to buildings and outdoor spaces to be wheelchair accessible. There are either ramps built in addition to older steps or solely large ramps for everyone to use. Playful spaces have sculptural and kinetic features, which encourage interaction with them and convince

people to stay longer.



1



2



3



4



5

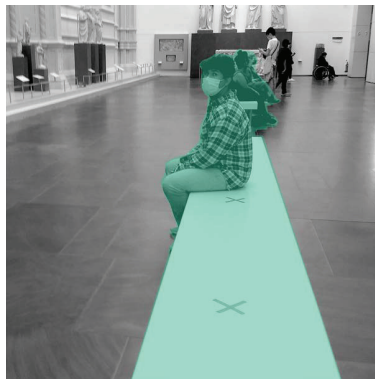


6

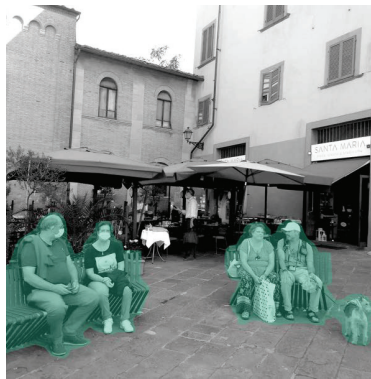
1-3: Intended Play

4-6: Adapted Play

**Figure 3.4.** Playful spaces



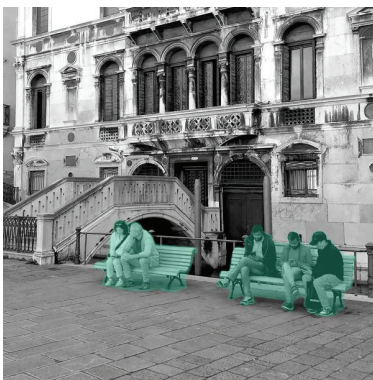
1



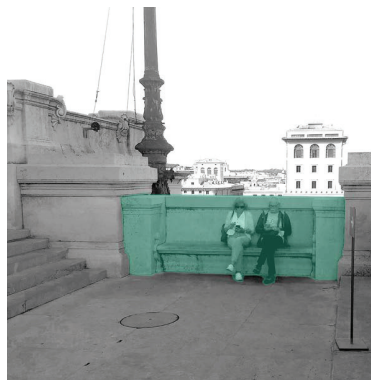
2



3



4



5



6

1-3: Seating as Edge

4-6: Seating Along Edge

7-9: Adapted Rest Along Edges

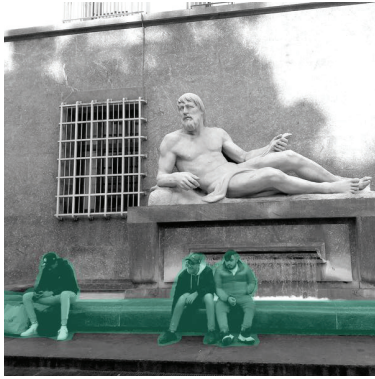
10-12: Rest as Necessity

**Figure 3.5.** Rest Spaces





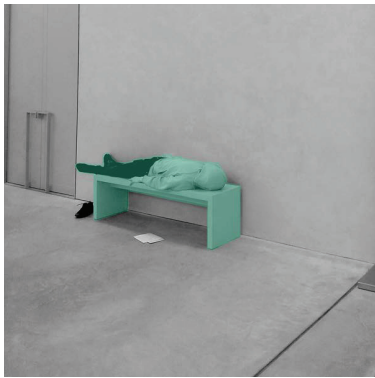
7



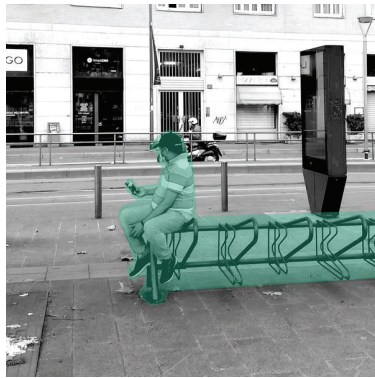
8



9



10



11

## Figures

1. Lynch, K. (1960). *The Image of the City*. MIT Press.



## Figures

**Figure 3.1.** *Turin City Interaction Studies.*

**Figure 3.2.** *Pedestrian-Friendly Spaces.*

**Figure 3.3.** *Mobility Inclusivity Spaces.*

**Figure 3.4.** *Playful Spaces.*

**Figure 3.5.** *Rest Spaces.*



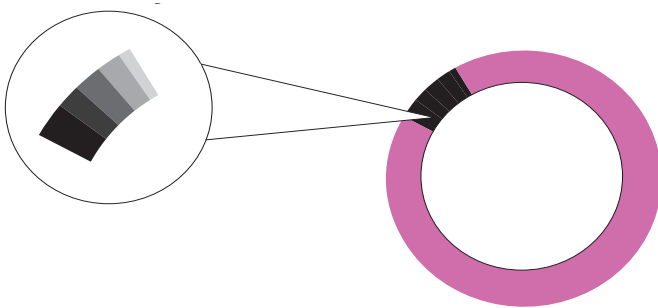
## 4. Volterra: Italian Plan Precedent



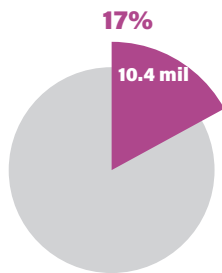
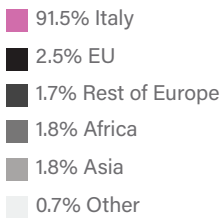
## Volterra: Context & Assets

Volterra is a quaint medieval town in Tuscan Italy that mainly consists of mixed-use multigenerational apartments. Businesses are situated on the ground level and apartments are stacked on top. Its demographics are very similar

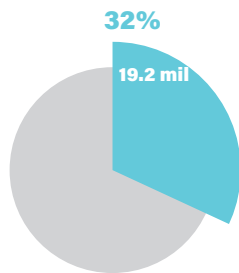
to that of its country (Figure 4.1).<sup>1</sup> Volterra has a relatively homogenous, high elder population due to elder migration and young adults moving out (Figure 4.2).<sup>2</sup>



Nationality Demographics



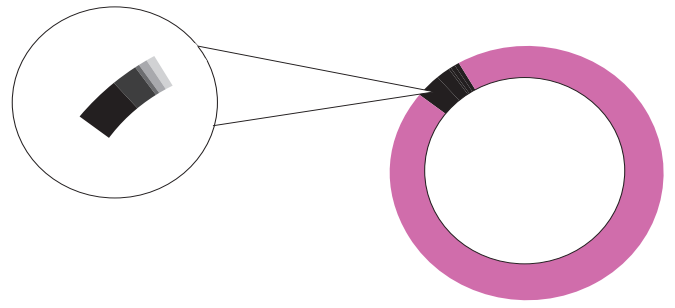
2021  
Ages 0-19



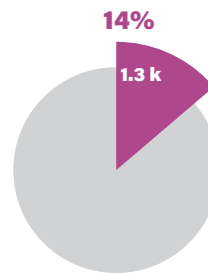
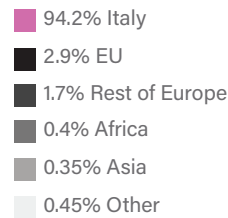
2021  
Ages 60+

Age Demographics

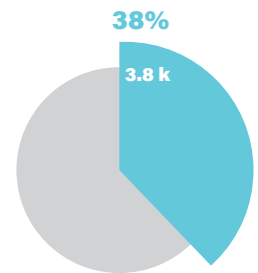
**Figure 4.1.** Italy Demographics



Nationality Demographics



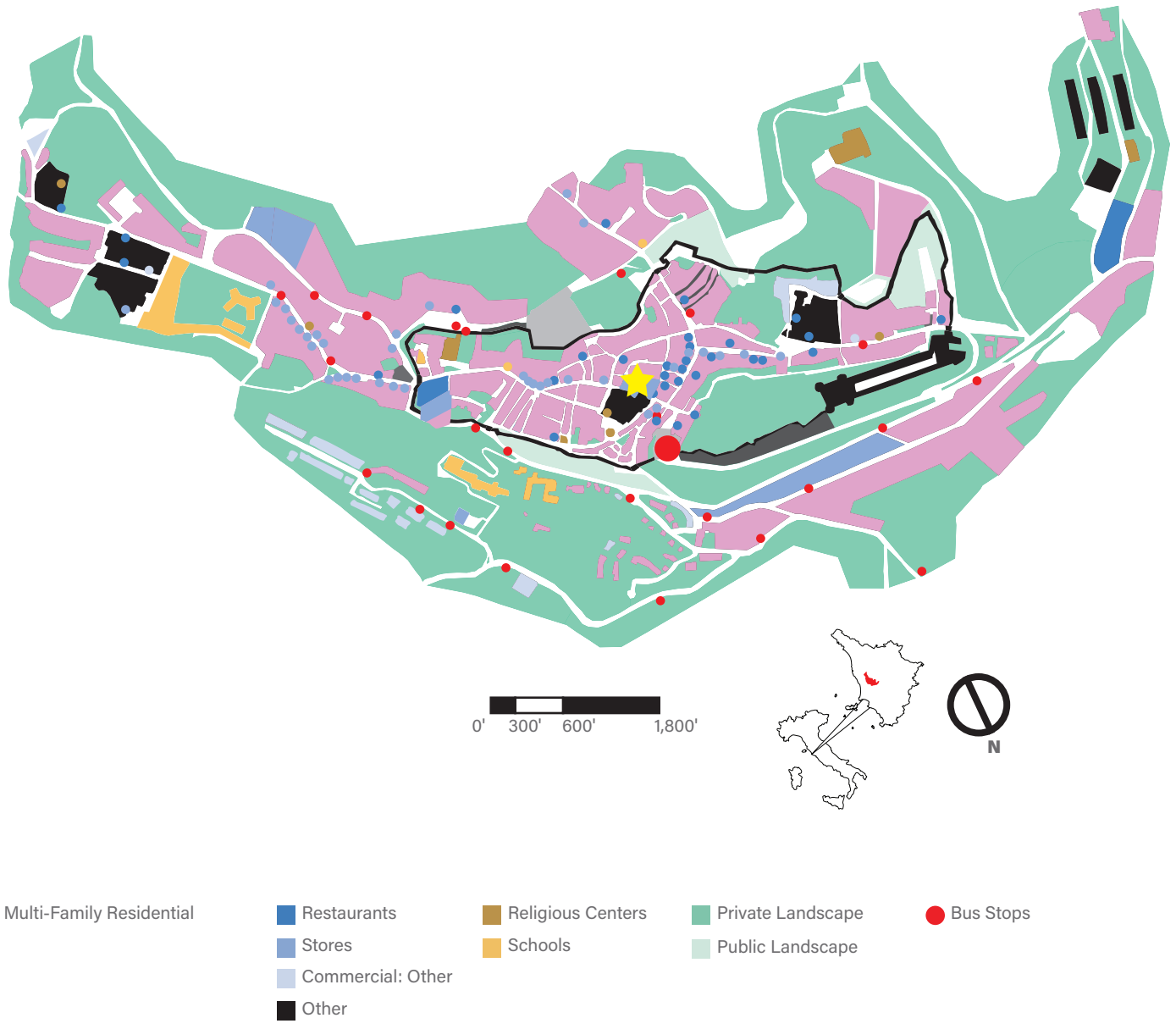
2021  
Ages 0-19



2021  
Ages 60+

Age Demographics

**Figure 4.2.** Volterra Demographics



**Figure 4.3.** Volterra Assets Map


As the home base for the Italian study abroad trip, analyses of the town's organization and resulting experiences form from the students' personal experiences and mappings from Google Maps and the Volterra Detroit Foundation. The assets map of Volterra illustrates the programmatic organization of the town (Figure 4.3). Piazza Dei Priori, denoted by a star on the map, acts as a centralized public square and is supported by other smaller piazzas spread about other parts of town. This large public space hosts many programs including Saturday morning flea markets and farmers' markets, holiday festivals, tourist information and attraction ticket sales, bus ticket sales, restaurants, and cafes. Bus stops, grocery stores, markets, restaurants, and cafes are sited throughout the town.

In terms of walkability in general, scores for walkability, bike-friendliness, and transit-friendly based on the website WalkScore's scoring system give a quantifiable indication of how the town works. Walkscore utilizes a numerical system 0-10 to indicate how well a place's infrastructure allows people to easily walk, bike, and take public transportation to where they want and/or need to travel. Walkscore's website explains that the scale for walkability ranges from

complete car dependency for daily needs to no reliance on cars to access daily needs. Similarly, bike-friendliness ranges from minimal bike infrastructure to enough bike infrastructure to access daily needs. The rating of transit-friendliness ranges from little access to public transportation to easy access to public transportation to daily needs.<sup>5</sup> To best understand these scores, they are adapted into percentages. Based on the walkability score given on the website and the study abroad students' experiences of the town, Volterra is 88% walkable, 10% bike-friendly, and 45% transit-friendly (Figure 4.4).<sup>6</sup>

88% 

10% 

45% 

**Figure 4.4.** Volterra Walkability, Bike-friendliness, & Transit-friendliness

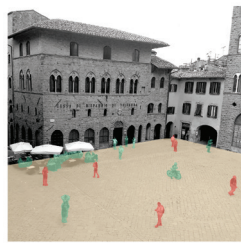
Photographs of the students' experiences of navigating the city support these scores (Figure 4.5). Given that Volterra was built long before cars, its streets within the town walls are narrow for its residents' use, which means that all of it can be explored on foot. Sometimes, when cars and other vehicles drive through the town, pedestrians must clear the center of the roads. Outside of its walls, the roads are mainly for vehicular traffic, so pedestrians must walk along the narrow edge. The hills in the town make the pathways steep, which creates further difficulty for pedestrians. Due to the steepness of the topography, it is extremely difficult to bike in the town. Only professional cyclists can safely bike. Regarding transportation, there are many bus stops located

in the town, but only one large bus station on the town's edge for leaving town.

A better understanding of Volterra's pedestrian-friendliness results from utilizing mapping and walkability analysis based on concepts and data from the 15-min city and the walkability study Walkability Index for Elderly Health: A Proposal.<sup>7-9</sup> All of the created mappings have the town's city center as the starting point and present every path that can be taken within a set time limit and travel method.



Street Within the City Walls



The City Center: Piazza dei Priori



A Quintessential Staircase



The Bus Station



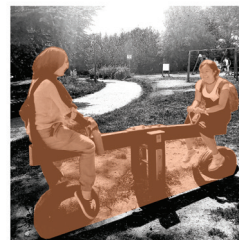
Elevated Pedestrian Path



Narrow Pedestrian Path Along Vehicular Traffic



Sharing the Road With Vehicles



Age Friendly Playscape



Stepped Pedestrian Path

- Community Centers
- Space to Rest
- Pedestrian Friendly
- Space to Play

**Figure 4.5.** Students' Pedestrian Experiences of Volterra



Within a 15-min bike ride from the Piazza Dei Priors, any point within the city can be accessed (Figure 4.6).



Starting point: Piazza dei Priors

15-Min Bike Ride Paths

*Due to steep inclines, bikeability is only applicable to practiced cyclists*

**Figure 4.6.** 15-Min Bike Ride Pathways From Piazza dei Priors



Nearly every location in Volterra can still be accessed within a 15-min walk starting from the Piazza Dei Priori (Figure 4.7).



- Starting point: Piazza dei Priori
- 15-Min Walking Paths

**Figure 4.7.** 15-Min Walk Pathways From Piazza dei Priori



Applying an elder's comfortable 9-min walk reveals that an elder can access most of the town's shops and food markets and many of the bus stops, including the main bus station if they walk directly from the Piazza Dei Priori (Figure 4.8).<sup>9</sup>



- Starting point: Piazza dei Priori
- 9-Min Walking Paths

**Figure 4.8.** 9-Min Walk Pathways From Piazza dei Priori



Even within a 5-min walk from the town center, many shops and food markets are accessible (Figure 4.9). Thus, the town is very walkable and provides easy access to physical needs.



- Starting point: Piazza dei Priori
- 5-Min Walking Paths

**Figure 4.9.** 5-Min Walk Pathways From Piazza dei Priori

Given Volterra's high walkability and high elder population, it evidently must support older adults' physical and social needs. Photographs from the study abroad students of elder residents illustrate their daily interactions and support systems (Figure 4.10). The townspeople are all very close and enjoy talking to and supporting each other every day. Multiple generations within the same family live in the same apartment and help each other. Because of the long-term relationships between neighbors, elders have plenty of people to turn to for socializing and for assistance. As mentioned before, the town is very walkable, which means elders are able to easily exercise and access their daily social and physical needs. When they need to rest, there are many places including benches, steps, and seating along the wall. Besides socializing with friends and neighbors, there are senior-specific groups that meet and do activities together. These moments demonstrate how well Volterra fulfills elders' daily social and physical needs.

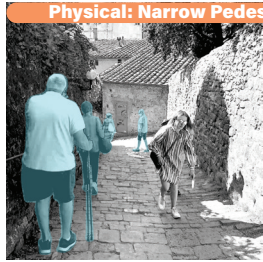
From these studies, there is a lot that can be learned from Volterra and applied to an American community. Volterra is highly walkable, has a tight-knit community, and has everything someone needs to thrive. However, the steepness of the hills and the limited transit infrastructure present mobility difficulties for elders. Without the strong support from relatives, neighbors, and community groups that are all part of Volterra's culture, Volterra cannot provide for its older residents. It clearly demonstrates the need for both strong urban planning and strong community programs.





**Social: Community**

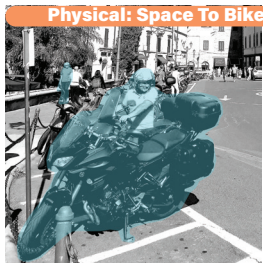
Talking to Neighbors



**Physical: Narrow Pedestrian Paths**

Walking through town

*Photo Credits:Alana Ramirez*



**Physical: Space To Bike**

Riding into Town



**Social: Space to Meet New People**

**Restful: Wall "Seating"**

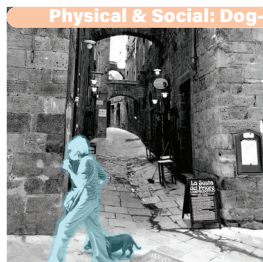
Talking & Waiting for the Bus



**Restful: Seats By Pedestrian Paths**

Pausing to Enjoy the Scenery

*Photo Credits:Alana Ramirez*



**Physical & Social: Dog-Friendly**

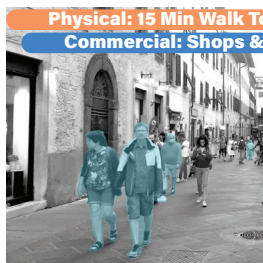
Walking the dog

*Photo Credits:Alana Ramirez*



**Physical & Social: Senior Groups**

Exploring Etruscan Ruins



**Physical: 15 Min Walk To Needs**

**Commercial: Shops & Restaurants**

Out Shopping

**Figure 4.10:** Elders' Pedestrian Experiences in Volterra

## References

1. Brinkhoff, T. (2021). "Italy: Administrative Division." City Population. <http://www.citypopulation.de/en/italy/admin/>.
2. Brinkhoff, T. (2021). "Italy: Administrative Division." City Population. <http://www.citypopulation.de/en/italy/admin/>.
3. Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.
4. Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.
5. WalkScore (2022). *Most Walkable Cities in the United States, Canada, Australia on Walkscore*. WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
6. WalkScore (2022). *Volterra, Tuscany- WalkScore*. WalkScore. <https://www.walkscore.com/score/volterra-italy>.
7. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
8. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
9. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

## Figures

**Figure 4.1.** *Italy Demographics*, based on:

Brinkhoff, T. (2021). *Italy: Administrative Division*. City Population. <http://www.citypopulation.de/en/italy/admin/>.

**Figure 4.2.** *Volterra Demographics*, based on:

Brinkhoff, T. (2021). *Volterra*. City Population. <http://www.citypopulation.de/en/italy/toscana/pisa/050039volterra/>.

**Figure 4.3.** *Volterra Assets Map*, based on:

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.4.** *Volterra Walkability, Bike-friendliness, & Transit-friendliness*, based on:

WalkScore (2022). *Volterra, Tuscany- WalkScore*. WalkScore. <https://www.walkscore.com/score/volterra-italy>.

**Figure 4.5.** *Students' Pedestrian Experiences of Volterra*.

**Figure 4.6.** *15-min Bike Ride Pathways from Piazza dei Priori*, based on:

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.7.** 15-min Walk Pathways from Piazza dei Priori, based on:

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.8.** 9-min Walk Pathways from Piazza dei Priori, based on:

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.9.** 5-min Walk Pathways from Piazza dei Priori, based on:

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

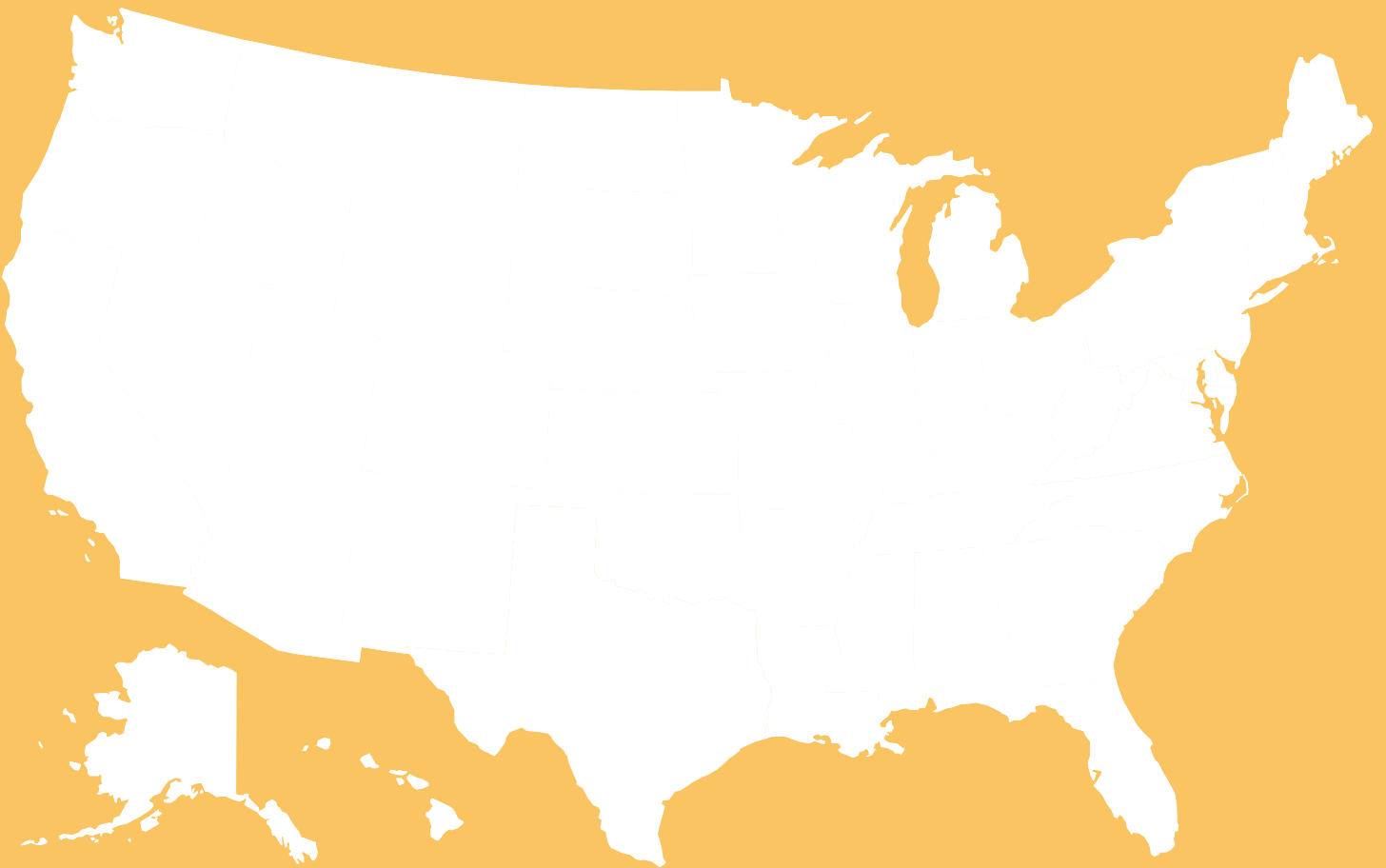
**Figure 4.10.** *Elders' Pedestrian Experiences in Volterra*, Photo credits: Alana Ramirez & Natalie Wilson.







Lluisa Iborra from NounProject.com. *europe*.



Sun Catcher Studio. *United States printable map*.





# 5. Family Structures Case Studies



## American & Italian Family Dynamics

In a short study, American and Italian family dynamics are researched and compared. The purpose of this study is to better understand on a micro level how families care for their elder relatives. From this resulting newfound knowledge, inspiration for programmatic proposals arises for how the community can become part of its members' support structures. The intended site for the thesis is in America, so it makes sense to understand current American family dynamics. Italian family dynamics are relevant to study given what is known about their strategies for caring for different members. As the Intergenerational Foundation reveals, Italian families work in such a way that every generation of the family helps one another. For instance, the organization states that parents care for the grandparents and in return, the grandparents look after the grandchildren.<sup>1</sup> Three American families and one Italian family informally explain how their support structures work. In all four families, the elder relatives age in place in their long-term homes. From these conversations, the gathered data is organized and diagrammed by the people involved and the responsibilities (Figures 5.1-5.4). The ages of the elders of the families range from the late 60s to mid-90s. Due to these age differences and varying health conditions, each elder brings a unique point of view representative of the vast differences of the elder population as a whole.

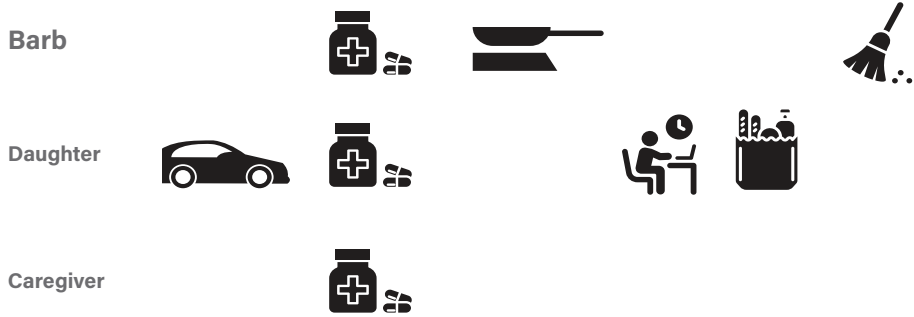
In the first family, Barbara (Barb) and her daughter live in the same house together. Barb is in her mid-90s, is legally blind, and has owned her home for over 20 years. She stays at her house because she has memorized the floor plan. Regarding her family support structure, her daughter cares for her and drives her to social gatherings and appointments. In return, her

daughter has a home, a space to work, and a parking space for her car. On occasion, when her daughter needs to work outside of the home, a paid caregiver stays with Barb.

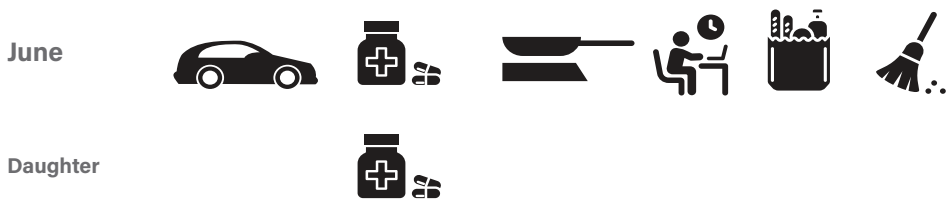
The second American family has fewer shared responsibilities. June is in her early 80s and lives independently in an apartment. She takes care of her health and home care needs, attends church social gatherings, and often drives herself to visit relatives. Her daughter checks in with her periodically about any new medical conditions.

The third American family shares similar characteristics to the two previous families. Janet is in her late 80s and mostly lives independently in her house, which she has owned for over 20 years. She cooks, cleans, and talks regularly to her neighbors and to her family members on the phone. Her son drives her to appointments and helps her with her finances and any medical and home repair needs that arise. A paid caregiver visits her twice a week to check-in, socialize, and buy her groceries.









In the Italian family, three generations live in the household. A week-long visit there, along with many informal conversations helps to tell their story and give insights into their day-to-day life. Rita is in her late 60s and owns a three-story apartment, which has been passed on from generation to generation for decades. She cooks, raises chickens, farms, and helps drive her grandchildren to school. Her daughter and son-in-law handle the finances, and home maintenance, and assist with the chores. Her granddaughters mainly focus on their schoolwork, but when they can, they help grow vegetables and care for the chickens. For large extended family gatherings, they host everyone in a large dining room on the main level.



**Figure 5.1.** Barb's Family Responsibilities

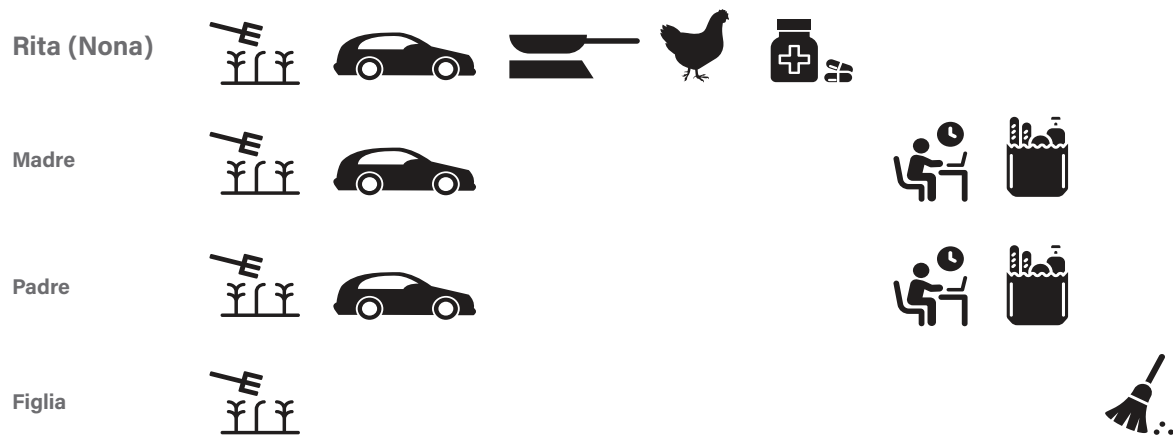


**Figure 5.2.** June's Family Responsibilities

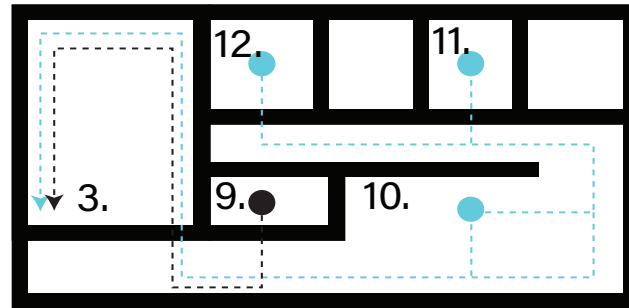
-  Farming
-  Raising Chickens
-  Groceries
-  Driving
-  Medication
-  Cleaning
-  Cooking
-  Work



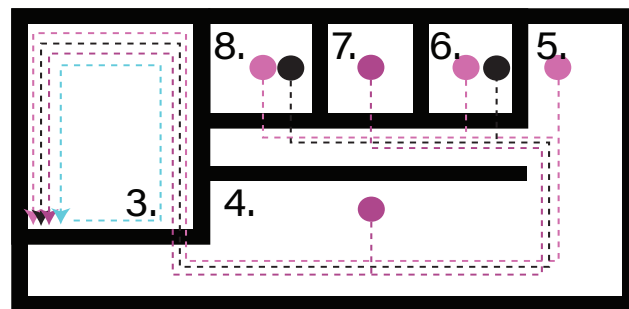
**Figure 5.3.** Janet's Family Responsibilities



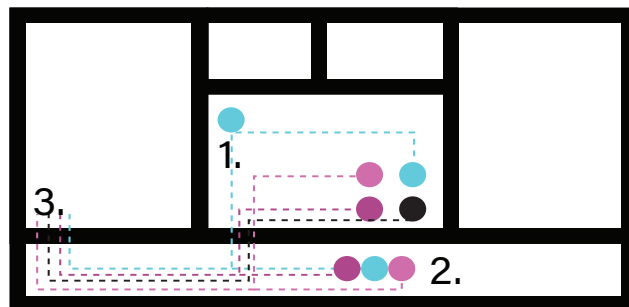
**Figure 5.4.** Rita's Family Responsibilities



Second Floor



First Floor



Ground Floor

- 1. Main Kitchen & Dining Room
- 2. Porch
- 3. Staircase
- 4. Madre's Family Living Room
- 5. Madre's Family Kitchen & Dining Room / Workspace
- 6. Madre's & Padre's Bedroom

- 7. Figlia's Bedroom
- 8. Madre's Family Bathroom
- 9. Padre's Office
- 10. Rita's Living Room
- 11. Rita's Bedroom
- 12. Rita's Bathroom

- Rita
- Madre
- Padre
- Figlia

**Figure 5.5.** Plan Diagram of the Rita's Home

Within this apartment, the different family branches have their separate floors and share the ground floor (Figure 5.5). On the top floor, Rita has a bathroom suite, a bedroom, and a living room. Her son-in-law uses a small room to the side of the living room as his office. The second floor is her daughter's family's floor, which has a kitchen, bedrooms, a bathroom, and a living room. The main floor has a kitchen, bathroom, and a large room that acts as a dining room and living room. Outside of the apartment, there is an outdoor oven for cooking pizza and a large yard for growing vegetables, raising chickens, and playing with their family dog.

In all of these scenarios, elders' social and physical needs are met either independently or with help from their families. Family members act as physical caregivers and companions. The American families have more responsibilities that fall on one individual and rely more on caregivers for assistance. To some extent, they are more distant and the elder family member is more responsible for their own care. In the Italian family, there is more of an emphasis on family responsibilities as being part of a small community. Each person involved provides a service or resource to one another, which is what makes these family dynamics work.

Based on these experiences and findings, the thesis' work provides opportunities for similar support structures to exist within a larger community and neighborhood context.

## References

1. Solly, M. (2019, Jul. 9). *Intergenerational issues in Italy: a family matter?* Intergenerational Foundation. <https://www.if.org.uk/2019/07/09/intergenerational-issues-in-italy-a-family-matter/>.



## Figures

**Figure 5.1.** *Barb's Family Responsibilities.*

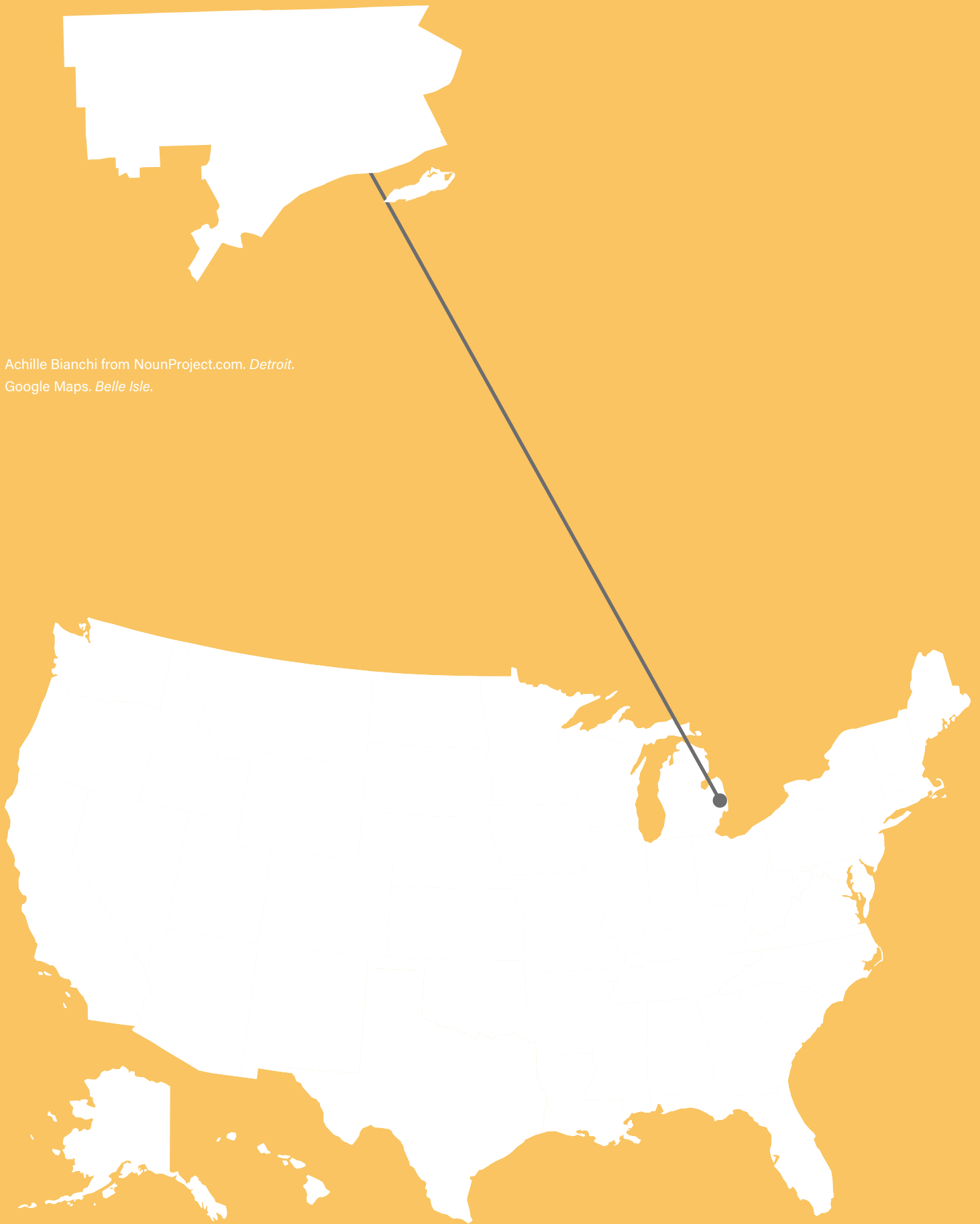
**Figure 5.2.** *June's Family Responsibilities.*

**Figure 5.3.** *Janet's Family Responsibilities.*

**Figure 5.4.** *Rita's Family Responsibilities.*

**Figure 5.5.** *Plan Diagram of Rita's Home.*





Achille Bianchi from NounProject.com. *Detroit.*  
Google Maps. *Belle Isle.*



# 6. Detroit: Community & Plan Precedents

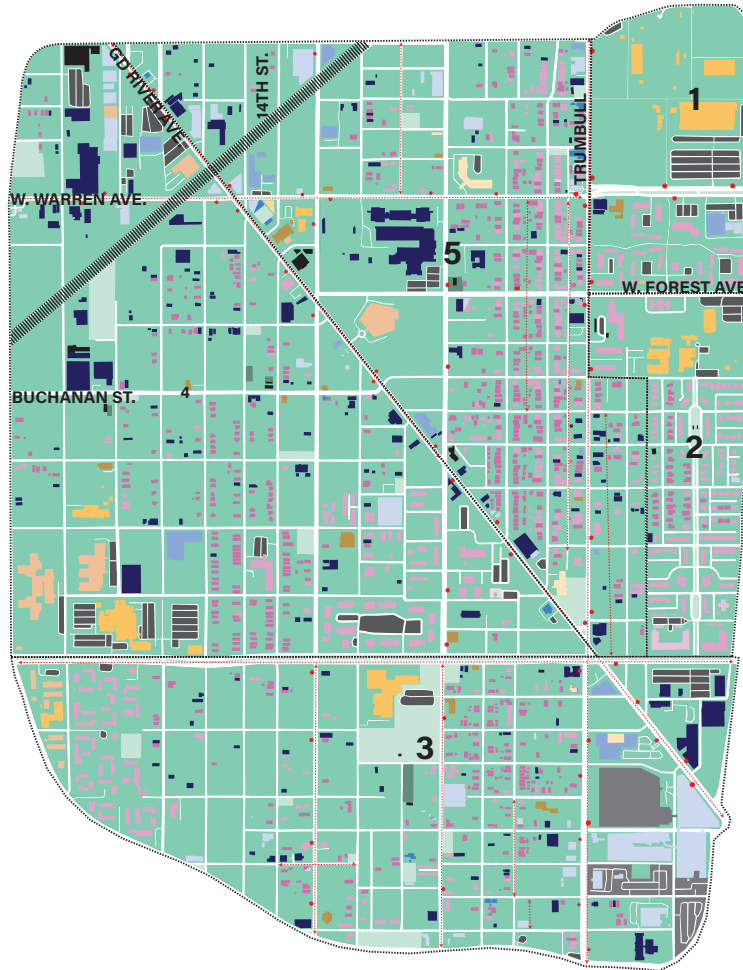


## I-94/I-75 Neighborhood

This section of Detroit is approximately the same size as the intended site for the thesis (Figure 6.1). Another reason for analyzing this is that it is highly regarded on WalkScore for walkability and transportation (Figure 6.2).<sup>1</sup> Walkscore's rating system uses the number range 0-10 (0 being the worst and 10 being the best) and its numbers have been converted into percentages. It evaluates pedestrian-friendliness based on infrastructure and how easily a pedestrian can access their daily needs through walking, biking, and public transportation.<sup>2</sup> For this area's residents, it is 88% walkable, 10% bike-friendly, and 45% transit-friendly.<sup>3</sup> There are some bike lanes, several bus stops, and many pedestrian paths, allowing for many different transportation methods. Due to this infrastructure, people can easily access programs throughout the combined neighborhoods due to the various transportation options available. Additionally, within this large section, it has a wide variety of housing typologies, some mixed-use, and mixing of zones (Figure 6.3). There are single-family homes, apartments, apartment buildings, and mixed-use apartments. Within these residential areas, program types include restaurants, shops, and religious centers, which are integrated.<sup>4</sup> This means that residents have easier access to programs that fulfill their social and physical needs. They have spaces to walk to, access food and meet with others.

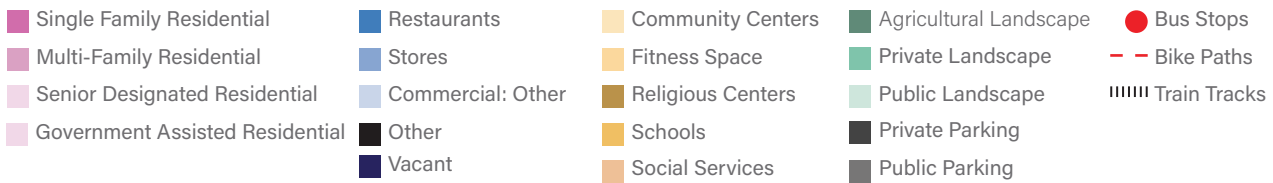
As a whole, it works as a system of smaller neighborhoods that can be beneficial to each other. Unified, the area has a variety of pedestrian-friendly experiences and housing typologies, which allows it to be more economically sustainable and more accessible. However, separately, the neighborhoods do not work as well. Different housing types are

separate from each other, so they do not allow for diverse users' needs. Certain neighborhoods have less infrastructure, so they are more difficult to navigate as a pedestrian. These strategies used here on a large scale need to intentionally intertwine with one another in order to work.



**Neighborhoods:**

- 1. Wayne State
- 2. Jeffries
- 3. North Corktown
- 4. Core City
- 5. Woodbridge



**Figure 6.1.** I-94/I-75 Neighborhood Assets Map



88% 

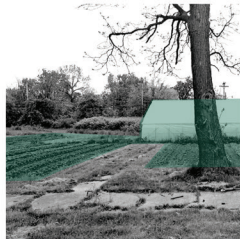
10% 

45% 

**Figure 6.2.** I-94/I-75 Neighborhood Walkability, Bike-friendliness, & Transit-friendliness



Bike Route on Cochrane St.



Urban Farm



Bike Lane on W. Forest Ave.



Perry Funeral Home



Community Basketball Court



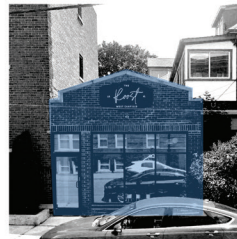
Community Pocket Park



Stillpoint Zen Buddhist Temple



Community Garden



Cafe: The Roost



Bike Lanes on Perry St.

 Multi-Family Residential

 Restaurants

 Religious Centers

 Agricultural Landscape

 Pedestrian Friendly

 Commercial: Other

 Schools

 Public Landscape

 Space to Play

 Space to Rest

**Figure 6.3.** I-94/I-75 Neighborhood Mixed Use & Mixed Zoning

## Power House Productions

Founded by artists Mitch Cope and Gina Reichert, Power House Productions acts as a system of creative community spaces within its residential neighborhood, all of which are located close together (Figure 6.4).<sup>5</sup> Using previously vacant land and homes, each community space has a specialized program. There are six spaces total, all of which fulfill the community's physical and social needs (Figure 6.5).

Articles on the Power House website explain in the depth all of the different spaces and programs. The Power House Productions Headquarters has work and study space and houses the non-profit organization.<sup>6</sup> Ride it Sculpture Park is a skateboarding park, where children can learn how to skateboard and everyone can ride.<sup>7</sup>



**Figure 6.4.** Power House Productions Assets Map

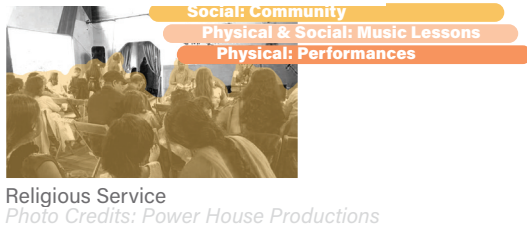


Figure 6.5. Power House Productions Programs

The Play House hosts theater productions and religious services using its indoor stage and outdoor seating.<sup>8</sup> The Jar House includes a library full of the neighborhood's history and a guest suite for visiting artists.<sup>9</sup> The Sound House has space to play music and record.<sup>10</sup> The Squash House includes a fitness space and a greenhouse for growing vegetables.<sup>11</sup> Beyond these, there are youth programs, hobby connection groups, job training, and art programs.<sup>12</sup>

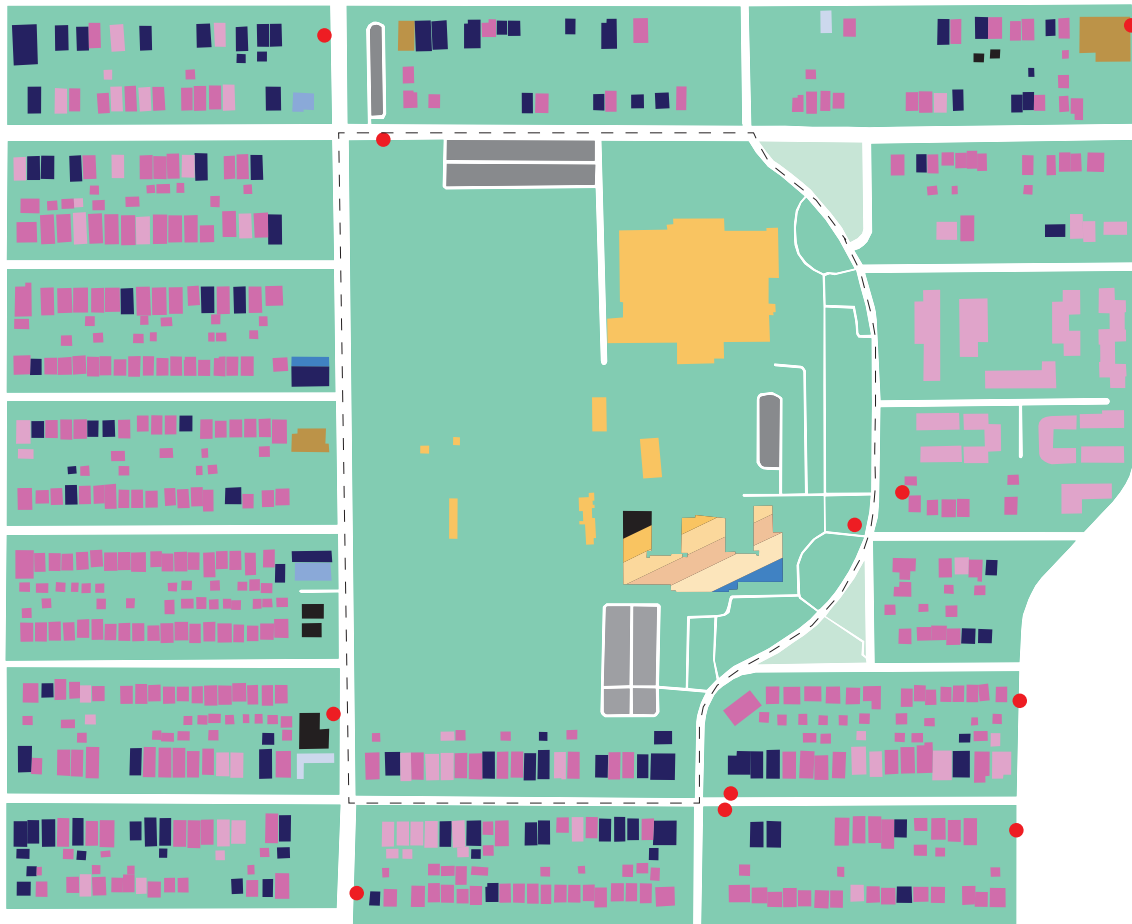
While there are not any senior-specific programs, elders and other community members greatly benefit physically and socially from the existing programs. Although all of the programs are spread out in the neighborhood, they are within a reasonable walking distance from each other. Given that all of the programs are integrated within the neighborhood and are in close proximity to each other, residents can easily access them within a short distance of their homes. There are a variety of opportunities to exercise and socialize. All of the converted homes have spaces to connect with and learn from other people. People can work out in the skateboarding park and in the Squash House's fitness space. They can all access food from the greenhouse as well. This small system of community programs, however, only works because it fits with the neighborhood's context and the neighborhood plan is small enough for pedestrians to access all of the spaces. The founders of Power House Productions use existing houses and vacant land creatively, which saves money and does not negatively affect the neighborhood's overall aesthetic and rhythm. If the founders had built new buildings, those buildings may not have been supported by the community and they would cost more money. In a larger-scale community, the Power House's network of spaces would need

to expand considerably. Otherwise, people would not be able to access their programs. Not everyone would be able to use the buildings and programs due to limited floor space and resources. While this programmatic framework is successful in its neighborhood, it would need to adapt if used in other contexts.

### Durfee Innovation Society

Designed by Berardi + Partners and founded by Life Remodeled, the Durfee Innovation Society (DIS) is a community center converted from an under-utilized k-8 school located in the heart of a residential neighborhood (Figure 6.6).<sup>13</sup> Retrofitting and renovating spaces, several organizations have moved in and all of them contribute to the community (Figure 6.7). As a centralized community center full of commercial, social, fitness, and other spaces, it fulfills the community's social and physical needs. People have access to food, exercise space, social space, education, and income. A restaurant, a gymnasium, an activity space, an arcade, a laundry room, an auditorium, a library, social services, tutoring, and job obtainment services are all housed within the DIS. Beyond the building itself, the organization has developed youth and senior programs and blight control funding. Beyond the building itself, the organization has developed youth and senior programs and blight control funding.<sup>14</sup> As a result, money goes directly to and stays in the community.

All of these services and spaces greatly benefit the community members' health, security, and their neighborhood as a whole. The restaurant and food security programs provide access to food for people who cannot otherwise



- |                             |                     |                     |                     |             |
|-----------------------------|---------------------|---------------------|---------------------|-------------|
| ■ Single Family Residential | ■ Restaurants       | ■ Community Centers | ■ Private Landscape | ● Bus Stops |
| ■ Multi-Family Residential  | ■ Stores            | ■ Fitness Space     | ■ Public Landscape  |             |
|                             | ■ Commercial: Other | ■ Religious Centers | ■ Private Parking   |             |
|                             | ■ Other             | ■ Schools           | ■ Public Parking    |             |
|                             | ■ Vacant            | ■ Social Services   |                     |             |

**Figure 6.6.** Durfee Innovation Society Assets Map

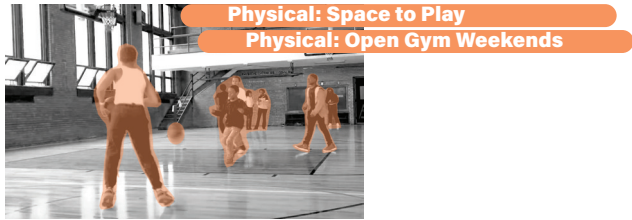


access it. The gymnasium and activity space give community members space to exercise and meet with other people. The arcade includes a cafe space and a variety of games for relaxation. To help students in the community stay clean, they have free access to washing machines for their school uniforms. The auditorium holds community movie nights, hosts meetings, and brings funding in from space rental. In the library, students can study and work together, invoking community among the youth. Social services are available for mental health and job searching assistance, so residents remain healthy and secure. Tutoring services and college classes are available. Young residents can work their way up to higher education and better jobs which, brings new skills and revenue into their community. Through these programs, residents of all ages have more opportunities to improve their physical and social health.

Although this building provides for many needs within the community, it cannot serve everyone. Its neighborhood is much larger than what is shown on the map. Given that it is only one building centrally located in a large neighborhood, not all of the residents can access it or its services. For some people, the distance between their homes and the community center is too great to reasonably travel on foot. Additionally, as one building, it is severely limited by floor space and human capacity. For a much larger neighborhood context, it would need to expand further into more buildings spread throughout the neighborhood.



Durfee Innovation Society  
 Photo Credits: Derrick Martinez



Gymnasium  
 Photo Credits: Life Remodeled



Library  
 Photo Credits: Life Remodeled



Toarmina's Pizza  
 Photo Credits: Life Remodeled



Mezzanine  
 Photo Credits: Life Remodeled



"Locker Room" Arcade  
 Photo Credits: Life Remodeled



Auditorium  
 Photo Credits: Life Remodeled

**Figure 6.7.** Durfee Innovation Society Programs

## References

1. WalkScore (2022). *Detroit Apartments for Rent and Detroit Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit>.
2. WalkScore (2022). *Most Walkable Cities in the United States, Canada, Australia on Walkscore*. WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
3. WalkScore (2022). *Jeffries, Detroit Apartments for Rent and Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit/Jeffries>.
4. Google. (n.d.). [Jeffries, Detroit Michigan]. Retrieved Feb. 16, 2022, from <https://www.google.com/maps/place/Jeffries,+Detroit,+MI/@42.3469922,-83.0772511,16z/data=!3m1!4b1!4m5!3m4!1s0x8824d2a96af84f5f:0x9ccec7ccc57be!8m2!3d42.3466357!4d-83.0718264?hl=en&authuser=0>
5. Power House Productions (2019). *Mission*. Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.
6. Power House Productions (2022, Apr. 17). *Power House Productions*. Detroit Urban Innovation Exchange. <https://www.uixdetroit.com/projects/powerhouse.aspx>.
7. Power House Productions (2019). *Play House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/play-house/>.
8. Power House Productions (2019). *Ride It Sculpture Park*. Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.
9. Power House Productions (2019). *Jar House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/jar-house/>.
10. Power House Productions (2019). *Sound House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/sound-house/>.
11. Power House Productions (2019). *Squash House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/squash-house/>.



12. Power House Productions (2019). *Carpenter Exchange*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/carpenter-exchange/>
13. Cook, B., Welsh, K., & Giorgees, A. (2022, Feb. 18). *NOMAS Lecture: Bryan Cook, NOMA, Berardi + Partners*. NOMAS Black History Month Lecture Series, University of Detroit-Mercy School of Architecture & Community Development, W. McNichols, Detroit, MI, United States.
14. Life Remodeled (2022). *Top Ten Ways Life Remodeled Strengthens Community at the DIS*. Life Remodeled. <https://liferemodeled.org/durfee-innovation-society/>.

## Figures

**Figure 6.1.** *I-94/I-75 Assets Maps*, based on:

Google. (n.d.). [Jeffries, Detroit, MI]. Retrieved Jan. 27, 2022, from <https://www.google.com/maps/place/Jeffries,+Detroit,+MI/@42.3469922,-83.0772511,16z/data=!3m1!4b1!4m5!3m4!1s0x8824d2a96af84f5f:0x9ccec7ccc57be!8m2!3d42.3466357!4d-83.0718264?hl=en&authuser=0>.

Google Earth Pro.

**Figure 6.2.** *I-94/I-75 Neighborhood Walkability, Bike-Friendliness, & Transit-Friendliness*, based on:

WalkScore (2022). *Jeffries, Detroit Apartments for Rent and Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit/Jeffries>.

**Figure 6.3.** *I-94/I-75 Neighborhood Assets Photo Credits*: Google Earth Pro. Retrieved at Google Earth Pro on January 8, 2022, March 8, 2022.

**Figure 6.4.** *Power House Productions Assets Map*, based on:

Google. (n.d.). [Power House Productions, Klinger Street, Detroit Michigan]. Retrieved Apr. 4, 2022, from <https://www.google.com/maps/place/Power+House+Productions/@42.4124283,-83.0641365,17z/data=!3m1!4b1!4m5!3m4!1s0x883b2d2f92b74d9d:0x5d43bf168be1755e!8m2!3d42.4124549!4d-83.0618592?hl=en&authuser=0>

Google Earth Pro.

**Figure 6.5.** *Power House Productions Programs Photo Credits*: Google Earth Pro, Power House Productions Retrieved at Google Earth Pro, Power House Productions, & Facebook on March 19, 2022. Based on:

Power House Productions (2019). "Carpenter Exchange." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/carpenter-exchange/>

Power House Productions (2019). "Jar House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/jar-house/>.

Power House Productions (2019). "Mission." Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.

Power House Productions (2019). "Play House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/play-house/>.

Power House Productions (2019). "Ride It Sculpture Park." Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.

Power House Productions (2019). "Squash House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/squash-house/>.

**Figure 6.6.** *Durfee Innovation Society Assets Map*, based on:

Google. (n.d.). [Durfee Innovation Society, Collingwood Street, Detroit Michigan]. Retrieved Mar. 8, 2022, from <https://www.google.com/maps/place/Durfee+Innovation+Society/@42.3820251,-83.1132399,17z/data=!3m1!4b1!4m5!3m4!1s0x8824ccec1743534b:0xc94cd5d3ae48f08a!8m2!3d42.3819068!4d-83.1109675?hl=en&authuser=0>.

Google Earth Pro.

**Figure 6.7.** *Durfee Innovation Society Assets*. Photo Credits: Martinez, D., Life Remodeled. Retrieved at The Jewish Detroit News, Youtube on March 15, 2022, March 8, 2022. Based on:

Life Remodeled (2022). *Top Ten Ways Life Remodeled Strengthens Community at the DIS*. Life Remodeled. <https://liferemodeled.org/durfee-innovation-society/>.

Life Remodeled (2021, Feb. 10). *Tour the DIS* [Video]. Youtube. <https://www.youtube.com/watch?v=sgpSDclPqA>.

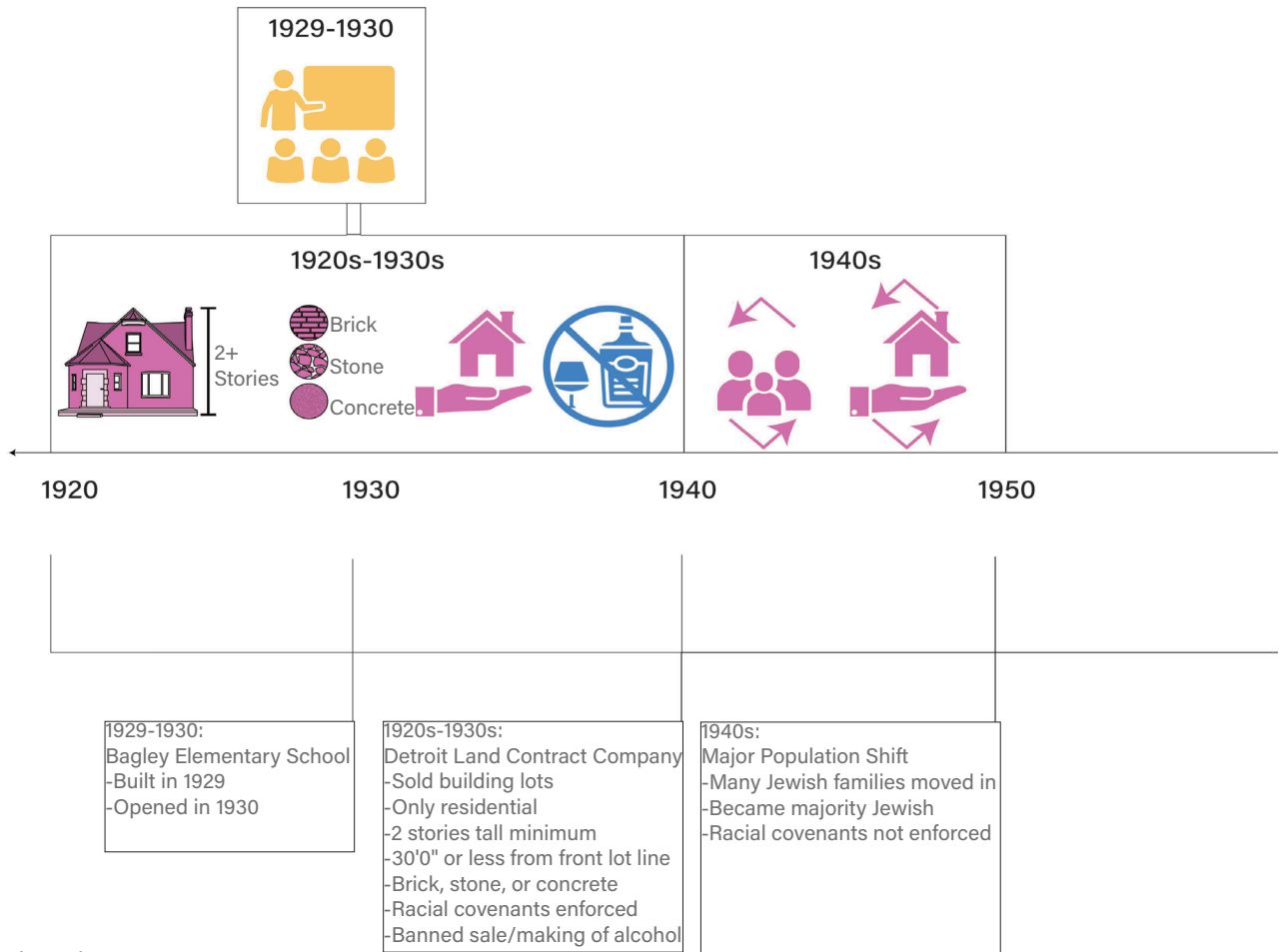


# 7. Bagley Neighborhood: The Site

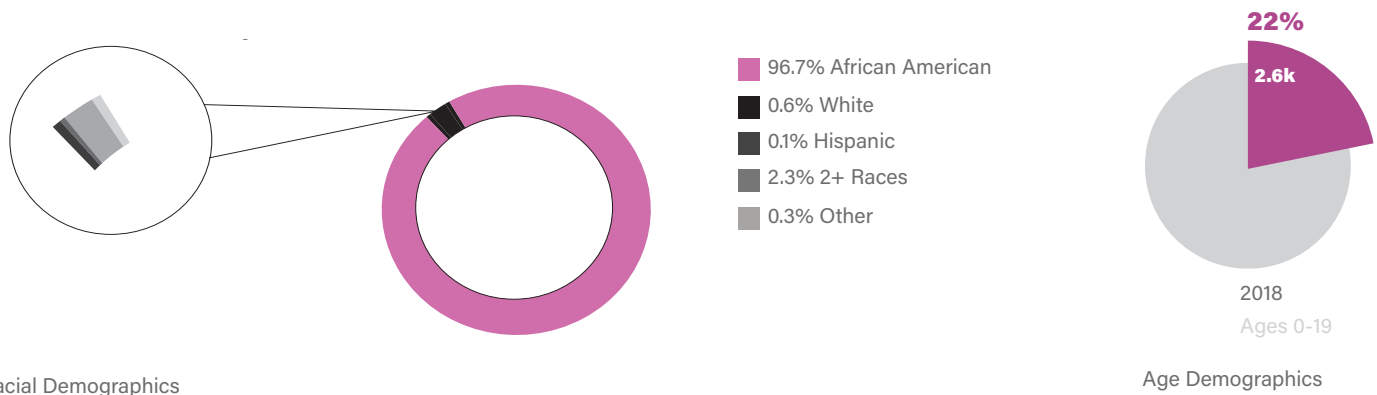


## Bagley: Context & Assets

For the thesis design site, Detroit's Bagley neighborhood seems like a perfect fit to test design frameworks and design for a community that supports aging in place and community development. Before formulating design ideas, it is important to understand the neighborhood's site context and history. The Bagley Community Council recounts much of its history, which is diagrammed in the timeline (Figure 7.1). The neighborhood was founded in the 1920s under strict racial covenants and other property requirements. Originally, the Detroit Land Contract Company sold plots of land in Bagley in the 1920s and 1930s. All of the plots of land had to be used for residential purposes. These homes had to be at least two stories tall, made of brick, stone, or concrete, and thirty feet away from the front lot line. No alcohol could be made or used and racial covenants were enforced. Due to these constraints, all of the first residents were white. Bagley Elementary School, a central part of the community, was founded in 1929. As these covenants loosened, the population's racial breakdown shifted dramatically to majority Jewish. During the 1960s, white flight occurred and many African American families moved in, causing another major population shift to majority African American.<sup>1</sup> Recently, in 2015, the neighborhood joined the community support network Live6 Alliance. The Live6 Alliance describes itself as an organization that funds and supports uplifting the economies and local communities of the four neighborhoods, which border the commercial avenues Livernois and McNichols: Bagley, Martin Park, University District, and Fitzgerald.<sup>2</sup>

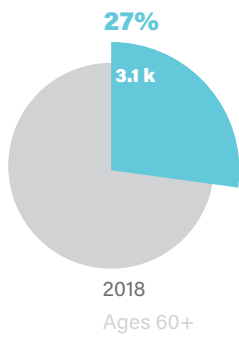
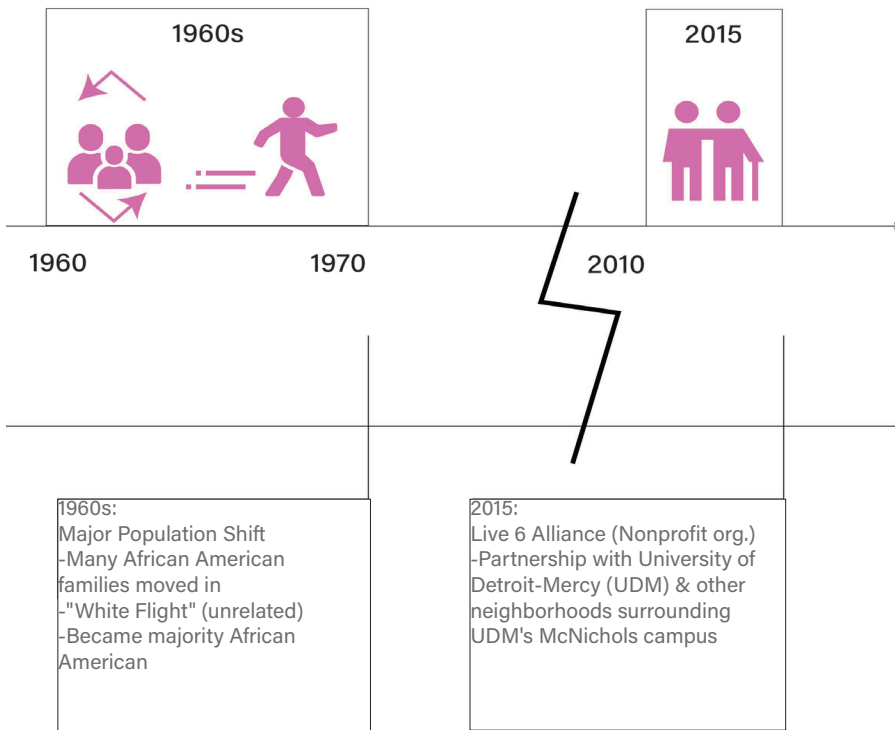


**Figure 7.1.** Bagley History



**Figure 7.2.** Bagley Demographics





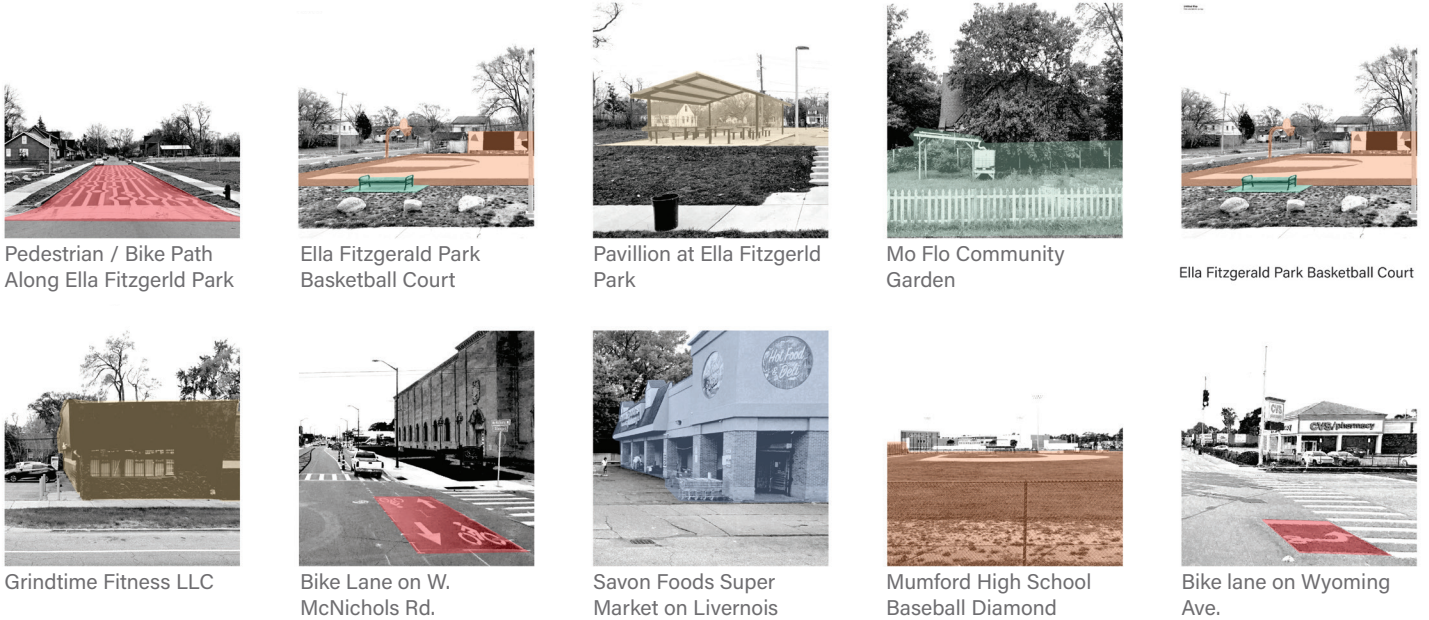
All of these events have directly and indirectly resulted in the neighborhood's demographics, urban plan, and programs. As the demographic data illustrates, events in the 1960s greatly affected the population. Racially, the population has remained majority African American since then.<sup>3</sup> In terms of the age breakdown, it is mostly elders and youth with more people ages 60+ (Figure 7.2).<sup>4</sup> The neighborhood's plan reflects the strict land-use requirements from the 20s (Figure 7.3). Much like a suburban neighborhood, the majority of the neighborhood consists of single-family residential. Its large residential core is surrounded by a commercial edge. Bus stops line the main roads. At the center of it all is Bagley Elementary School. Other, newer schools are scattered along the edges of the residential section.<sup>5-6</sup>



**Figure 7.3.** Bagley Assets Map

There are spaces that provide for people's physical and social needs, but they are mainly along the edges of the neighborhood or within other nearby neighborhoods (Figure 7.4).

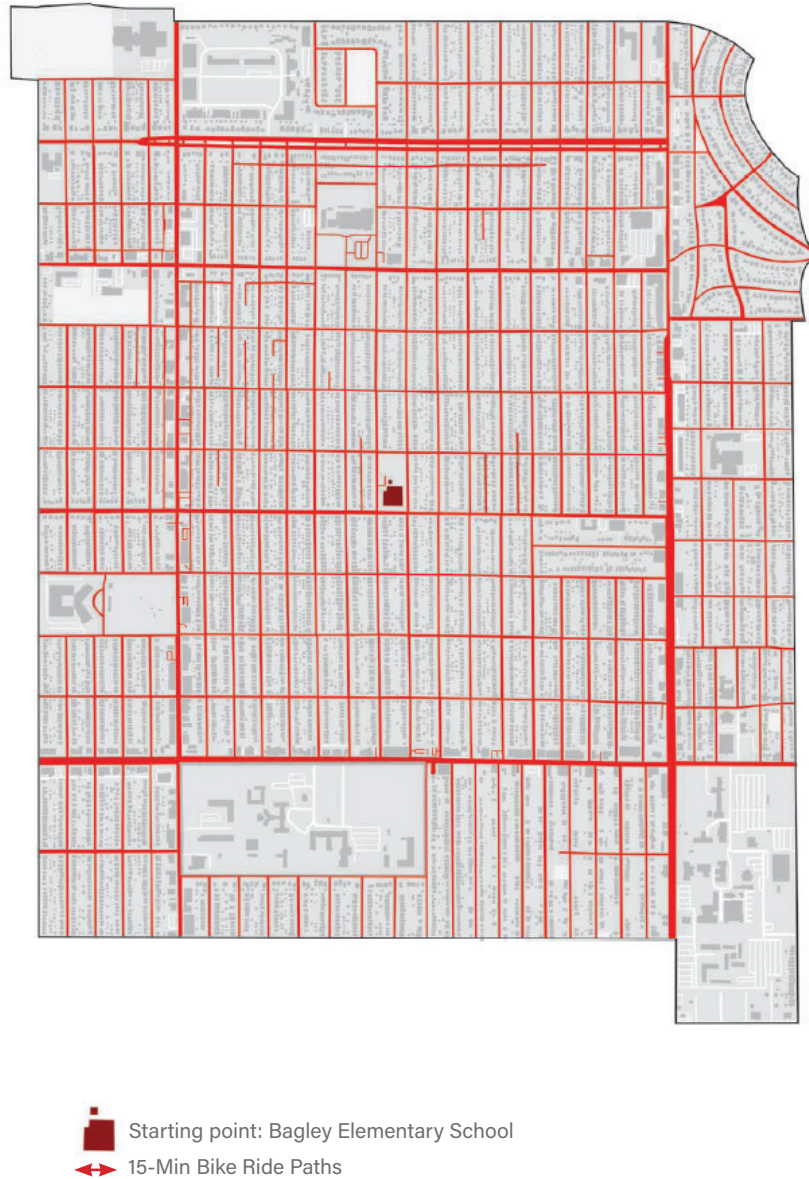
The zoning specifications severely limit the diversity of housing types and access to programs. To further illustrate this point, walking paths are mapped from Bagley Elementary School to demonstrate how little can be accessed because of the set separation of residential and commercial programs (Figures 7.5-7.8).



- Stores
- Community Centers
- Agricultural Landscape
- Pedestrian Friendly
- Fitness Space
- Public Landscape
- Space to Play
- Space to Rest

**Figure 7.4.** Bagley Assets

Following the 15 min city concept of 15 min bike-ability though, any location within the neighborhood can easily be accessed.<sup>7-8</sup>



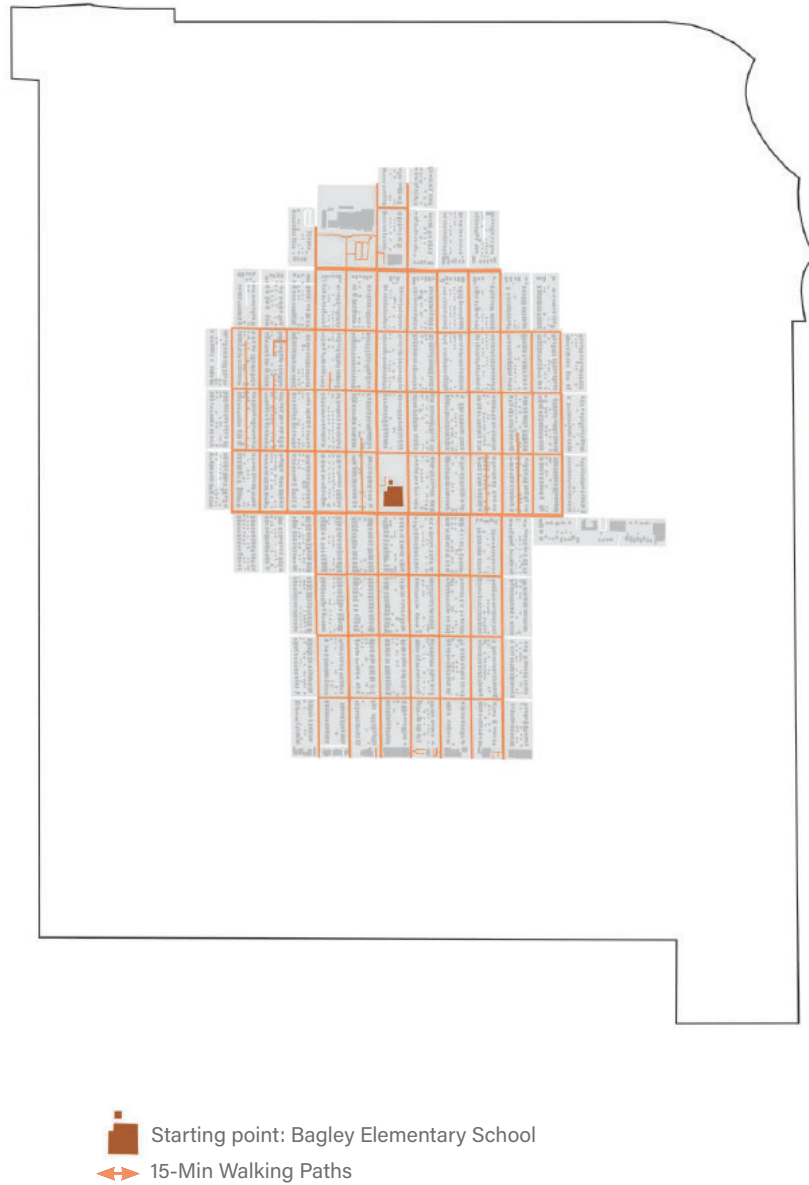
**Figure 7.5.** 15-Min Bike Ride Pathways From Bagley Elementary School





From a 15 min city perspective and an elder's daily exercise perspective, a 15 min walk does not result in access to much of the programming

along the commercial edge.<sup>7-9</sup>



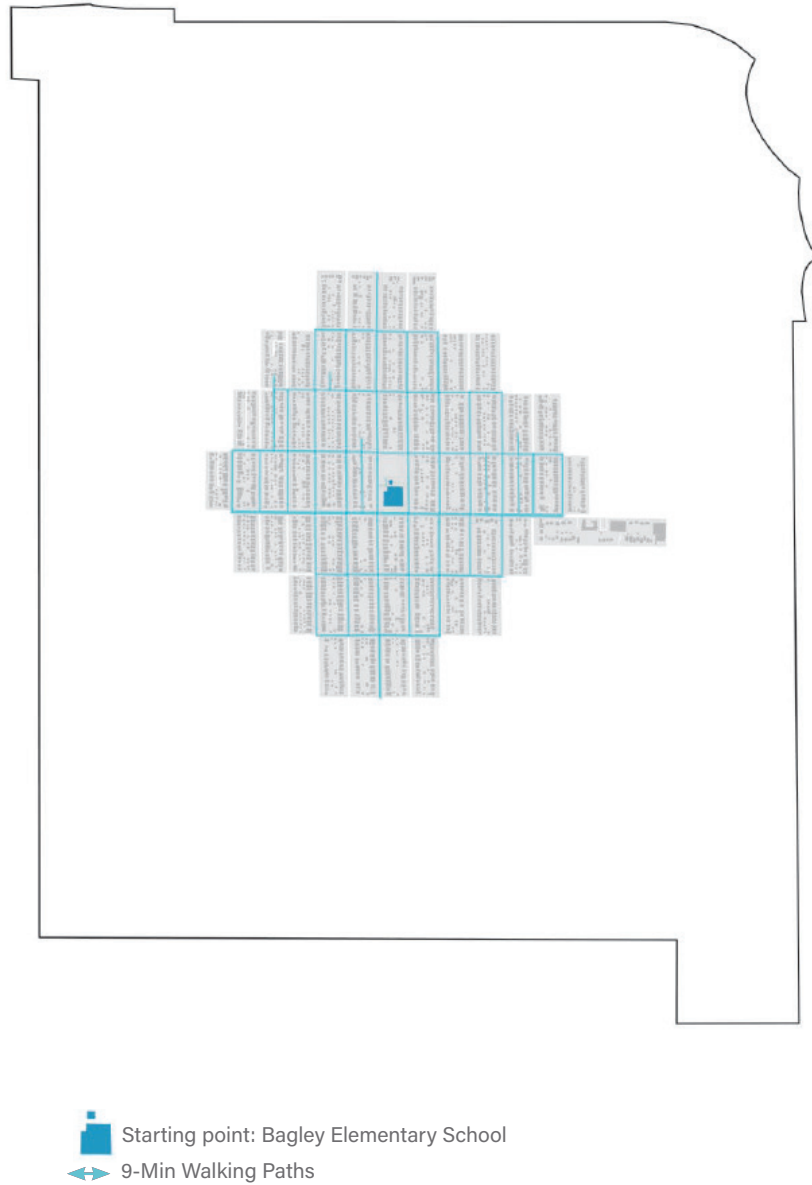
**Figure 7.6.** 15-Min Walk Pathways From Bagley Elementary School





Within a comfortable walk for an elder from the elementary school to anywhere within the neighborhood, that elder cannot access anything besides residential.<sup>9</sup> This result occurs regardless

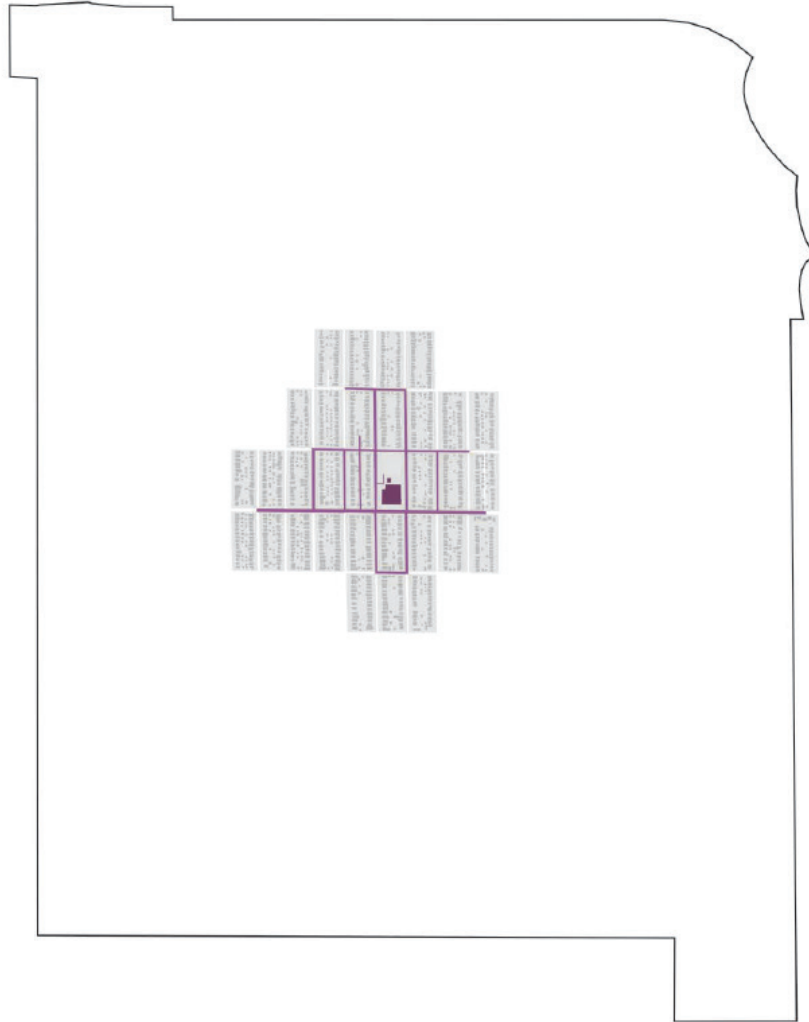
of if that elder walks 5 min there and back or walks for 9 min straight.



**Figure 7.7.** 9-Min Walk Pathways From Bagley Elementary School



As demonstrated, the neighborhood's conditions cause it to not be walkable for the elder residents.



■ Starting point: Bagley Elementary School  
↔ 5-Min Walking Paths

**Figure 7.8.** 5-Min Walk Pathways From Bagley Elementary School

These findings are supported by the walkability, bike-friendliness, and transit-friendliness scores on Walkscore. To review, Walkscore is a tool that analyzes and rates pedestrian infrastructure on a scale of 0-10. The

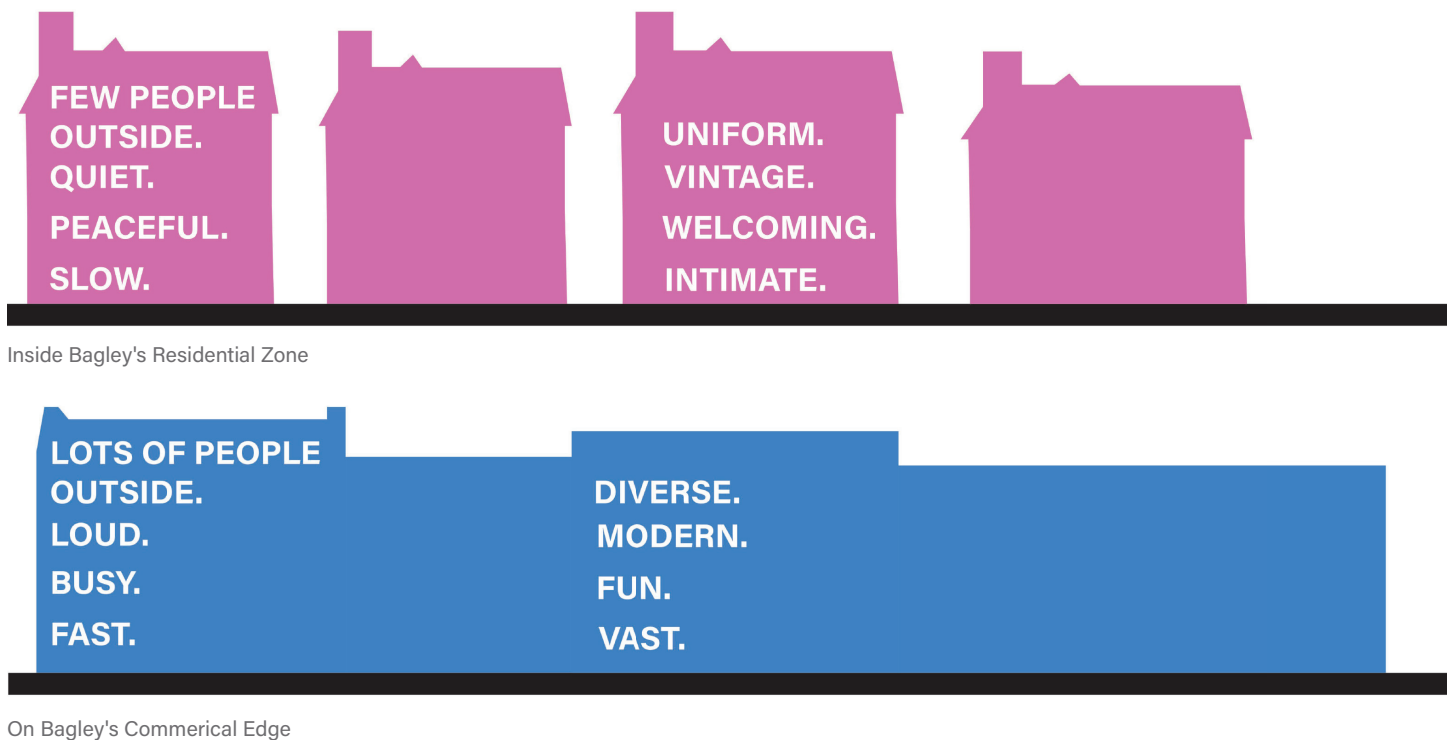
rating of 10 indicates that the place has the best and easiest to use infrastructure for pedestrians to access their daily needs. The lowest ratings indicate that the place has little to no easily accessible infrastructure, which means people

50% 

44% 

40% 

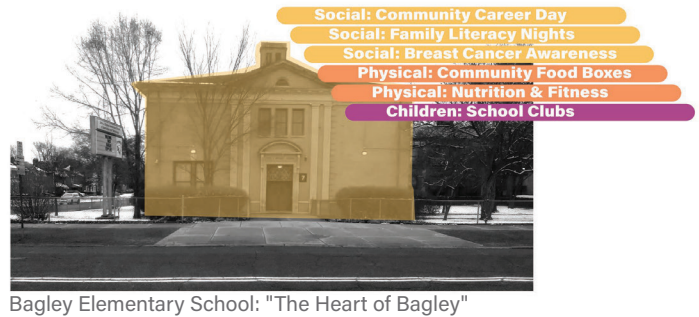
**Figure 7.9.** Bagley Walkability, Bike-friendliness, & Transit-friendliness



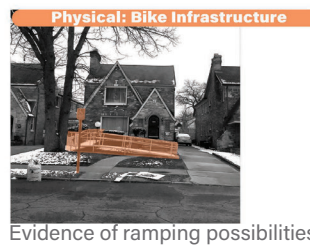
**Figure 7.10.** Bagley Site Observations

must be car-dependent to access their daily needs.<sup>10</sup> To further quantify these ratings, they are converted into percentages. Based on these conditions, Bagley is 50% walkable, 44% bike-friendly, and 40% transit-friendly (Figure 7.9).<sup>11</sup> These percentages indicate that Bagley somewhat supports pedestrians' ability to comfortably and safely access daily needs. Depending on one's location on the site, pedestrian friendliness varies. Site observations further illustrate this point (Figure 7.10). The residential zone and commercial edge have completely different vibes and infrastructure. The residential zone feels slower and easier to navigate, whereas the commercial edge is much busier and has more traffic.

Despite these differences, both have programmatic and infrastructure advantages that are helpful to community members, especially elders (Figure 7.11). Some of the houses within the residential zone have ramps adaptively added, which proves that they can be converted for more mobile accessibility. There are safety features in the neighborhood, particularly around Bagley elementary school, so people can cross safely. The school's playground is accessible to the neighborhood children, which fulfills their physical health needs. Plenty of restaurants and stores are on the commercial edge to fulfill community members' food needs. The commercial edge provides access to rentable bikes for a convenient transportation option. Both areas have even, low-sloped sidewalks, which can be easily navigated. Most importantly, both zones have community centers for social engagement and assistance.



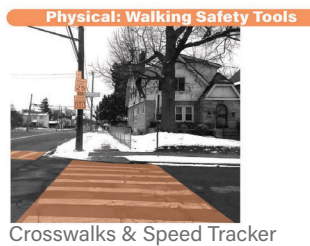
Bagley Elementary School: "The Heart of Bagley"



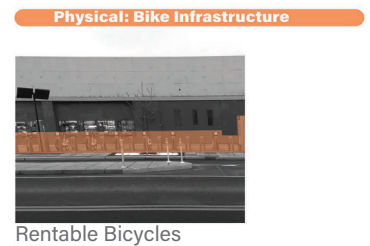
Evidence of ramping possibilities



Local Restaurant



Crosswalks & Speed Tracker



Rentable Bicycles



School Playground



DCDC & Live 6 Homebase



Well Maintained Sidewalks

Residential Center



Well Maintained Sidewalks

Commercial Edge

**Figure 7.11.** Bagley Programs & Infrastructure

Bagley Elementary School especially provides several services to the community. It hosts educational events for students and community members to participate in, has children's groups and clubs, physical fitness programs, and donates healthy food to community members who cannot otherwise afford it.<sup>12</sup> Therefore, the community has programs and infrastructure that can be built upon to strengthen the sustainability of the community. As is, though, Bagley cannot fully support its residents because of the distances between residences and programs. It has some programs already that can fulfill residents' social and physical needs, but they are not accessible.



## References

1. Bagley Community Council (2017). *Bagley History*. Bagley Community Council. <https://bagleycommunity.org/about/history/>.
2. Live 6 Alliance (2022). *Live 6 Alliance: The crossroads of culture, commerce, and community*. Live 6 Detroit. <https://live6detroit.org/#allthings>.
3. Statistical Atlas (2018, Sep. 14). *Race and Ethnicity in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Race-and-Ethnicity>.
4. Statistical Atlas (2018, Sep. 14). *Age and Sex in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Age-and-Sex>.
5. Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.
6. Google Earth Pro.
7. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
8. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
9. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.
10. WalkScore (2022). "Most Walkable Cities in the United States, Canada, Australia on Walkscore." WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
11. WalkScore (2022). *Bagley, Detroit Apartments for Rent and Rentals- WalkScore*. Walkscore. <https://www.walkscore.com/MI/Detroit/Bagley>.
12. Bagley Elementary School of Journalism And Technology (2022). *Program & Activities*. Detroitk12. <https://www.detroitk12.org/domain/7169>.



## Figures

### **Figure 7.1.** *Bagley History*, based on:

Bagley Community Council (2017). *Bagley History*. Bagley Community Council. <https://bagleycommunity.org/about/history/>.

Live 6 Alliance (2022). *Live 6 Alliance: The crossroads of culture, commerce, and community*. Live 6 Detroit. <https://live6detroit.org/#allthings>.

### **Figure 7.2.** *Bagley Demographics*, based on:

Statistical Atlas (2018, Sep. 14). *Race and Ethnicity in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Race-and-Ethnicity>.

Statistical Atlas (2018, Sep. 14). *Age and Sex in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Age-and-Sex>.

### **Figure 7.3.** *Bagley Assets Map*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Google Earth Pro.

**Figure 7.4.** *Bagley Assets*. Photo Credits: Google Earth Pro. Retrieved at Google Earth Pro. on January 30, 2022.

### **Figure 7.5.** *15-Min Bike Ride Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

**Figure 7.6.** *15-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

**Figure 7.7.** *9-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

**Figure 7.8.** *5-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

**Figure 7.9.** *Bagley Walkability, Bike-friendliness, & Transit-friendliness*, based on:

WalkScore (2022). *Bagley, Detroit Apartments for Rent and Rentals- WalkScore*. Walkscore. <https://www.walkscore.com/MI/Detroit/Bagley>.

**Figure 7.10.** *Bagley Site Observations*.

**Figure 7.11.** *Bagley Programs & Infrastructure.* Photo Credits: Natalie Wilson. Based on:

Bagley Elementary School of Journalism And Technology (2022). *Program & Activities.* Detroitk12.  
<https://www.detroitk12.org/domain/7169>.



# 8. The Age(ful) Community



## The Age(ful) Community: Strategies

Given the site's suburban plan, diverse age groups, and community programs already in place, Bagley is a great case study to apply the intended design framework. The goals are to retrofit existing plans, promote social and physical wellness, and empower communities to care for a diverse group of ages on a larger scale than family support structures. The first aspect of this new framework is to use available spaces within the community. Vacant buildings and land should be considered first. Building use analysis of Bagley reveals that it has many vacant commercial buildings and homes, which can be useful (Figure 8.1). Most of the houses reflect the acceptable building structures for Bagley's original land ordinances. These houses are about 25' x40' in area, are 2+ stories tall, are made of brick, and tend to have occupied houses on either side of them.<sup>1</sup> Commercial buildings vary greatly by size, architectural style, and materiality.



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19



20



21



22



23



24



25

1-20: Vacant: Residential

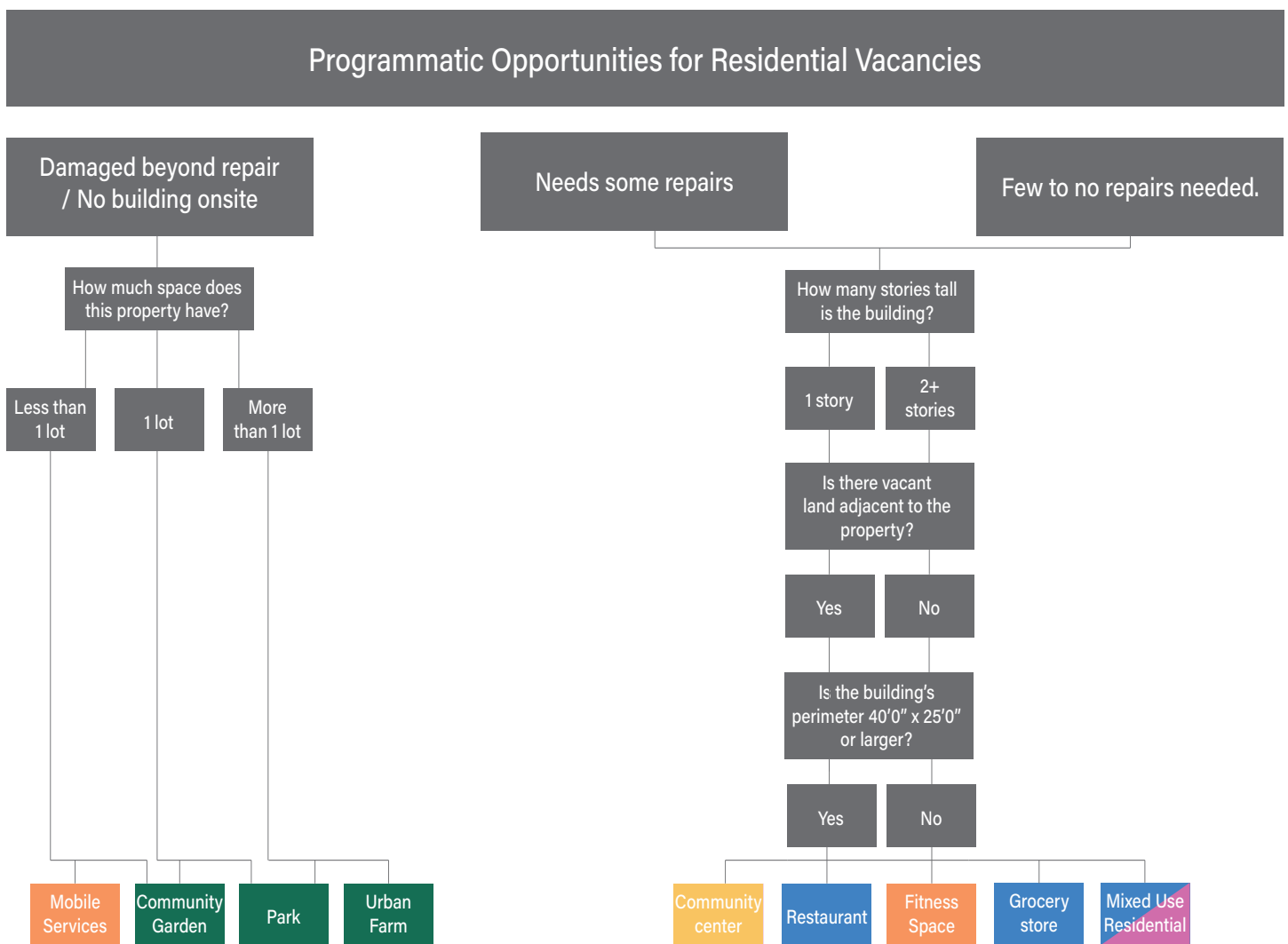
21-25: Vacant: Commercial

**Figure 8.1.** Bagley Vacancies



After determining what buildings and land can be used, the next step is to further analyze each space based on its existing conditions and capacity. Decision-making flow charts are proposed to evaluate spaces within the residential zone and spaces within the commercial zone (Figures 8.2-8.3). The proximities

of programs, building sizes, building conditions, and other more specific factors determine what program types are recommended. For instance, for vacant land and land that has buildings in unreparable conditions, the recommendation is to bring in programs that require open space, such as community gardens, parks, urban farms, and

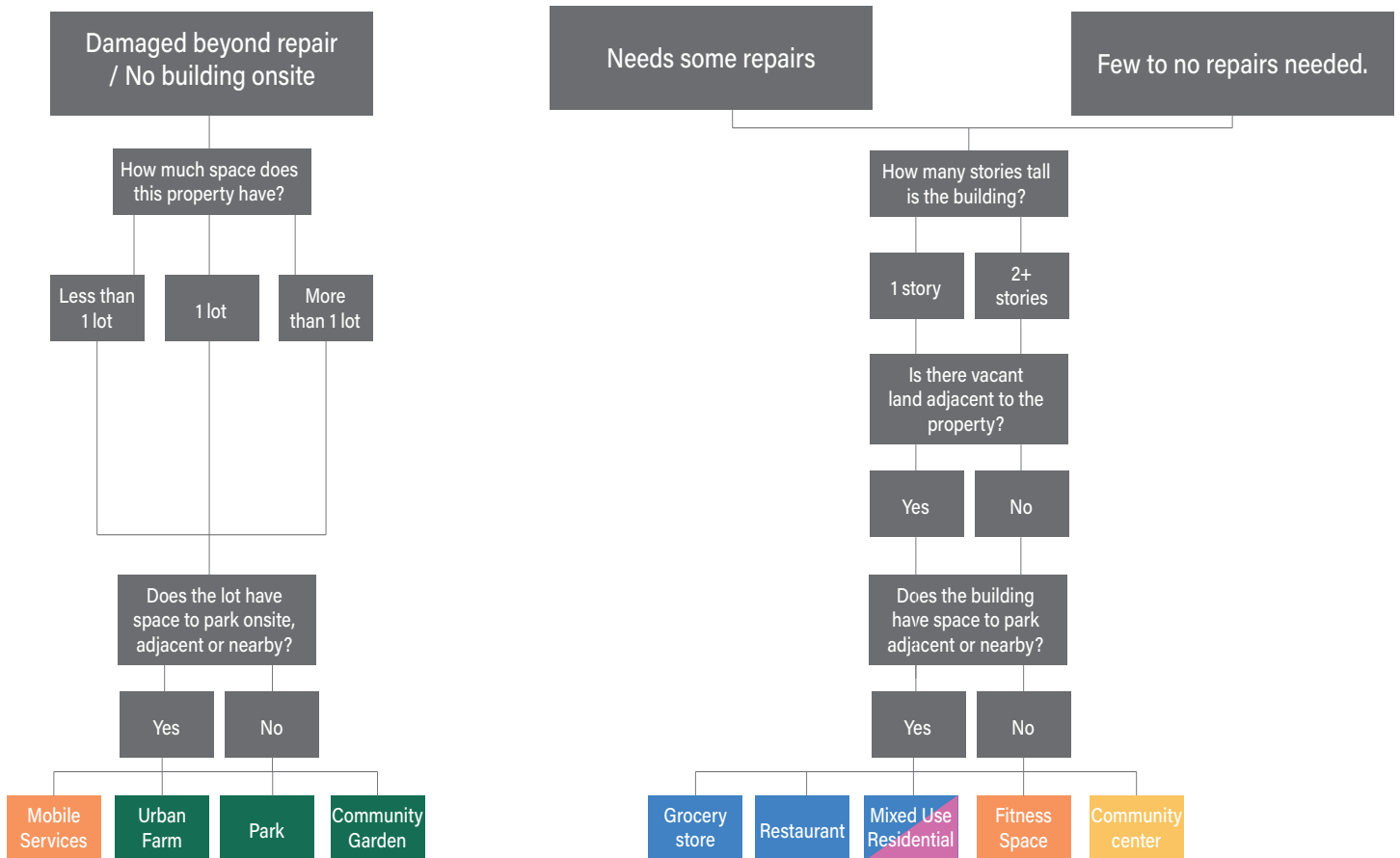


**Figure 8.2.** Programmatic Opportunities for Residential Vacancies Flow Chart.

space for mobile services. The amount of available space also plays a key role. An urban farm needs lots of space, whereas a community garden might not. The term urban farm is also loose enough that residents can decide how the urban farm is used. Ultimately, the community has the final word on what types of programs should integrate

into the neighborhood and the workings of those programs. The programs listed within the flow charts are loosely defined so that communities can finesse these for themselves. As listed in the flow charts, they include mobile services, community gardens, parks, urban farms, community centers, restaurants, fitness spaces,

## Programmatic Opportunities for Commercial Vacancies



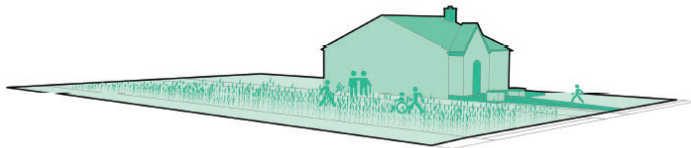
**Figure 8.3.** Programmatic Opportunities for Commercial Vacancies Flow Chart.

grocery stores, and mixed-use residential. The objective of using these flowcharts is to bring a variety of necessary physical health resources and programs and social programs within a reasonable walking distance of the community members. Even elders who cannot leave their homes may benefit from this spatial planning. Friends, family, and caregivers can easily access and bring back needed resources. The proposed programs within the residential zone are more civic and commercial. Programs that are intended to move into the commercial edge are more residential and civic.

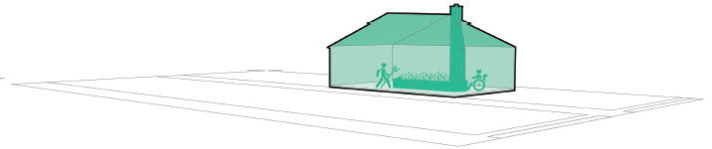
All of the recommended programs in some way engage in the community members' housing, fitness, nutrition, commercial, and social engagement needs. Diagrammatic examples of homes adapted for some of these proposed uses are present to illustrate the possibilities without inhibiting the community members' creativity and control (Figure 8.4). This method brings in new programs without disrupting the neighborhood's spatial rhythm. The adapted building is more readily accepted because it already exists within the community's context and does not radically change it. Once these programs are located, they can be mapped within the neighborhood as a whole. The elders' 9 min walking radius is utilized throughout the community with one representing access to physical needs and the other as access to social needs (Figure 8.5).<sup>2</sup> Intersecting these radii results in creating micro-communities that can support people's needs. This strategy makes pedestrian access to programs easier for everyone.

In addition to new programs, infrastructure needs to be set in place for people to safely and comfortably access programs within these new micro-communities in Bagley and

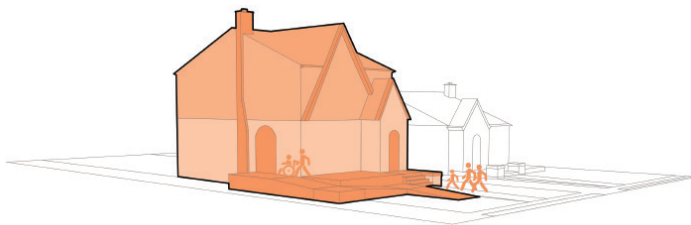
outside of Bagley. This strategy proposes to network and connect surrounding communities to each other on a smaller scale, more pedestrian-friendly plan than Wright's proposal for Broadacre City. Paths should be set aside for pedestrian traffic and ample spaces for rest should be located alongside them, similar to strategies used throughout Italy. Revisiting the walkable neighborhoods frameworks precedents, this new framework, the Age(ful) Community, builds upon their strategies and programmatic proposals (Figure 8.6). It uses walkability as a guide for distances between programs, thinks about different generations, engages in economic wellbeing, and promotes the betterment of the residents' social and mental health.



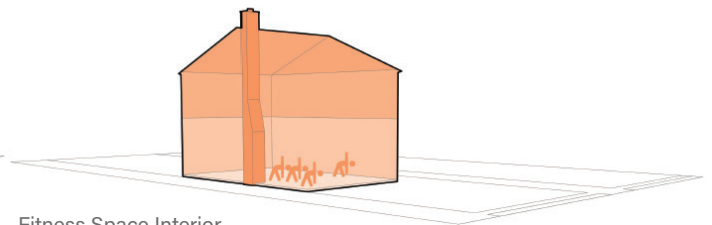
Community Garden Exterior



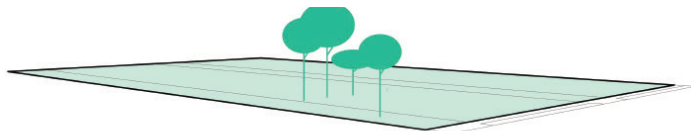
Community Garden Interior



Fitness Space Exterior



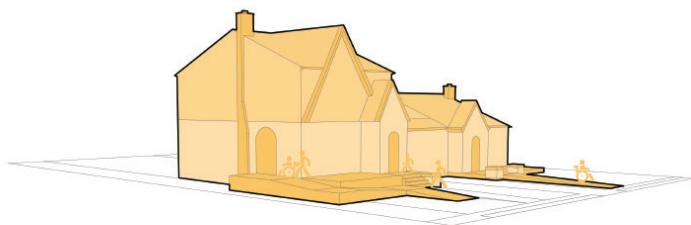
Fitness Space Interior



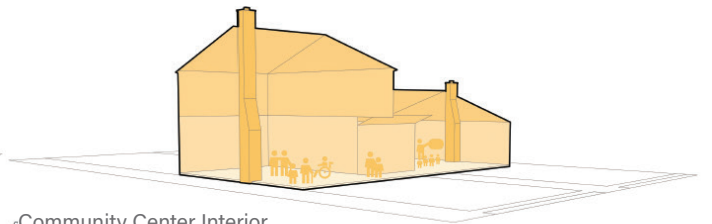
Park Before Adaptations



Park After Adaptations

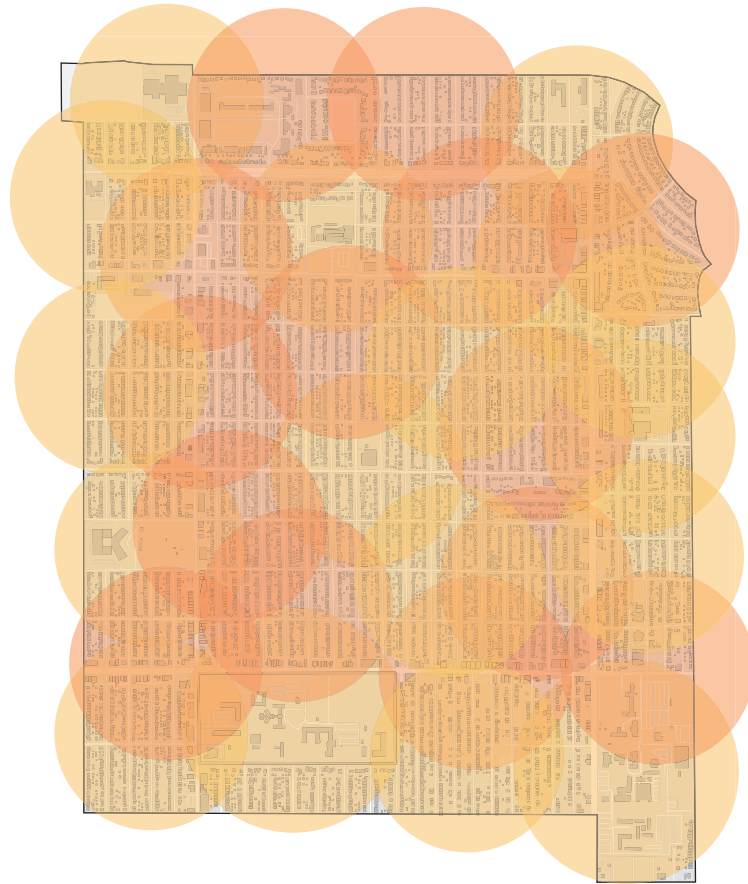


Community Center Exterior



Community Center Interior

**Figure 8.4.** Diagrammatic Examples of Adapted Homes



- Physical Needs Fulfillment: 9 Minute Radii
- Social Needs Fulfillment: 9 Minute Radii

**Figure 8.5.** Bagley Physical/Social Needs Fulfilled Bubble Map



**Figure 8.6.** The Age(ful) Community & Precedent Walkable Neighborhoods Frameworks



## References

1. Google Earth Pro.
2. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.



## Figures

**Figure 8.1.** *Bagley Vacancies*. Photo Credits: Google Earth Pro. Retrieved at Google Earth Pro on March 3, 2022.

**Figure 8.2.** *Programmatic Opportunities for Residential Vacancies Flow Chart*, based on:

Google Earth Pro.

**Figure 8.3.** *Programmatic Opportunities for Commercial Vacancies Flow Chart*.

**Figure 8.4.** *Diagrammatic Examples of Adapted Homes*.

**Figure 8.5.** *Programmatic Opportunities for Residential Vacancies Flow Chart*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Google Earth Pro.

**Figure 8.6.** *The Age(ful) Community & Precedent Walkable Neighborhoods Frameworks*, based on:

8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.

Adrien Coquet from NounProject .com(2017, Jun. 8). *School* [Icon]. Noun Project. <https://thenounproject.com/icon/school-1099568/>.

Adrien Coquet from NounProject.com (2019, Aug. 4). *Work* [Icon]. Noun Project. <https://thenounproject.com/icon/work-2941895/>.

Alexander Skowalsky from NounProject.com (2015, Aug. 18). *Exercise* [Icon]. Noun Project. <https://thenounproject.com/icon/exercise-200526/>.

Berkah Icon from NounProject.com (2018, Apr. 2). *Sell House* [Icon]. Noun Project. <https://thenounproject.com/icon/sell-house-1672584/>.

Cuputo from NounProject.com (2021, Jun. 28). *Bike* [Icon]. Noun Project. <https://thenounproject.com/icon/bike-4303164/>.

- Dima Lagunov from NounProject.com (2013, Nov. 22). *Walking* [Icon]. Noun Project. <https://thenounproject.com/icon/walking-26898/>.
- Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.
- Johanna from NounProject.com (2017, Mar. 17). *Talk* [Icon]. Noun Project. <https://thenounproject.com/icon/talk-947027/>.
- Linda Wati from NounProject.com (2019, Jun. 7). *Shop* [Icon]. Noun Project. <https://thenounproject.com/icon/shop-2729660/>.
- RD Design from NounProject.com (2018, Nov. 30). *Food* [Icon]. Noun Project. <https://thenounproject.com/icon/food-2190546/>.
- Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.
- Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.





# 9. Conclusion



## The Future of the Age(ful) Community

The Age(ful) Community is the culmination of all these urban planning, elder care, walkability, and neighborhood frameworks. It proposes enough specificity to be used within a real urban planning situation while still allowing enough looseness for adaptability to different contexts. This framework is to be used as a tool to strengthen existing and future residents. From an aging-in-place lens, the framework creates ways for existing members of the community to stay and have the tools to be self-sustaining. Although suburban plans are flawed, they can be adapted and can be beneficial for all of its residents. Italian cities' infrastructure and elements reveal how to promote human interaction and support the pedestrian lifestyle. Pedestrian-dedicated pathways, large open spaces, and seating along them encourage traveling and gathering longer. Engaging limited mobility in addition to those elements allows everyone to be able to use the spaces. Interactive spaces engage playfulness and further promote social connections between people. Natural spaces allow for moments of rest in the midst of all the built-up space. Community feedback would help to personalize the strategies to their needs.

The resulting strategies and proposed planning for Bagley serve as a catalyst for further future planning. The intention for the future of the Age(ful) Community is to spread awareness in the architectural field to bring this tool to the communities. On an intimate level, the proposed strategies will continue to be refined and used in future writings and projects beyond this thesis. On a larger scale, publications and workshops revolving around the Age(ful) Community may very well be on the horizon. Perhaps, someday, another perspective architect becomes inspired

by it and proposes their own, improved neighborhood planning framework.





# 10. References

## Section Images References (In Order of First Appearance)

1. Sun Catcher Studio (2022). *United States printable map* [Map]. Sun Catcher Studio. <https://suncatcherstudio.com/patterns/us-maps/>
2. Lluisa Iborra from NounProject .com(2017, Dec. 5). *europe* [Icon]. Noun Project. <https://thenounproject.com/icon/europe-1466691/>.
3. Lluisa Iborra from NounProject .com(2017, Dec. 28). *Italy* [Icon]. Noun Project. <https://thenounproject.com/icon/europe-1466691/>.
4. Achille Bianchi from NounProject .com(2014, Dec. 9). *Detroit* [Icon]. Noun Project. <https://thenounproject.com/icon/detroit-87504/>.
5. *Belle Isle*, based on:  
  
Google. (n.d.). [Belle Isle]. Retrieved Apr. 10, 2022, from <https://www.google.com/maps/place/Belle+Isle/@42.3424299,-82.9966151,14z/data=!3m1!4b1!4m5!3m4!1s0x8824d4b2383fbbd3:0x3da444fedb5e0199!8m2!3d42.3432541!4d-82.9743495?hl=en&authuser=0>.

## Ch. 1 References

1. HUD User. (2020, August 3). *Urban. Suburban. Rural. How Do Households Describe Where They Live?* HUD User. <https://www.huduser.gov/portal/pdredge/pdr-edge-frm-asst-sec-080320.html>.
2. Statista. (2021, November 8). *Single-family vs multifamily homes US 2021* [Infographic]. Statista. <https://www.statista.com/statistics/1042111/single-family-vs-multifamily-homes-usa/>.
3. Sennott, R. S. (2005). *Suburban Planning: Overview* (J. Archer, Ed.). Encyclopedia of twentieth century architecture, 3 (P-Z). <http://architecture-history.org/schools/SUBURBAN%20PLANNING.html>.
4. Strupp, J. (2018, February 20). *Can transforming suburban places to walkable urban ones be successful and popular?* Greater Greater Washington. <https://ggwash.org/view/66351/transforming-suburban-places-more-walkable-popular-suburban-remix>.
5. Michigan Legal Help (2022). *Getting a Standard Michigan Driver's License if You Are a Teenager*. Michigan Legal Help. <https://michiganlegalthelp.org/self-help-tools/crime-traffic-and-id/getting-standard-michigan-drivers-license-if-you-are-teenager#:~:text=You%20must%20be%20at%20least%2016%20years%20old%20to%20apply,present%20the%20same%20identification%20documents>.
6. Insurance Institute for Highway Safety (IIHS) & Highway Loss Data Institute (HLDI). (2021, April 1). *Older drivers*. IIHS. <https://www.iihs.org/topics/older-drivers>.
7. The Office of Secretary of State (2022). *Under Age 18*. Michigan.gov. [https://www.michigan.gov/sos/0,4670,7-127-1640\\_50050-192747--,00.html](https://www.michigan.gov/sos/0,4670,7-127-1640_50050-192747--,00.html).
8. 8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.
9. The Administration on Aging (AoA). (2021). *Profile of Older Americans*. Administration for Community Living (ACL). [https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final\\_.pdf](https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final_.pdf).
10. Children's Hospital Colorado (2022). *What Every Child Needs*. University of Colorado School of Medicine. <https://www.childrenscolorado.org/conditions-and-advice/parenting/parenting-articles/what-children-need/>.
11. National Institute on Aging (NIA) (2017, May 1). *Aging in Place: Growing Older at Home*. (NIA). <https://www.nia.nih.gov/health/aging-place-growing-older-home>.

12. Greenwood, P. M., & Parasuraman, R. (2012). *Nurturing the older brain and mind*. MIT Press. <https://web-p-ebSCOhost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=5d2da899-ada6-4eab-98b6-a3bf73b177f5%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=e000xna&AN=432808&anchor=tocAnchor>.
13. Piette J., Solway E., Singer D., Kirch M., Kullgren J., Malani P. (2020, Sep. 14). *Loneliness Among Older Adults Before and During the COVID-19 Pandemic*. University of Michigan National Poll on Healthy Aging. <https://www.healthyagingpoll.org/reports-more/report/loneliness-among-older-adults-and-during-covid-19-pandemic>.
14. National Council on Aging (NCOA) (2021, Mar. 31). *Covid-Driven Isolation Can Be Dangerous For Older Adults*. NCOA. <https://www.ncoa.org/article/covid-driven-isolation-can-be-dangerous-for-older-adults>.
15. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

## Ch. 2 References

1. Howard, E., Moreira, S., & Duduch, T. (2021, May 12). *What Are Garden Cities?* ArchDaily. <https://www.archdaily.com/961275/what-are-garden-cities>.
2. Dunn, S. (2014, Apr. 4). *The Garden City Utopia* [Graphic]. Behance. <https://www.behance.net/gallery/15865643/The-Garden-City-Utopia>.
3. Dunn, S. (2014, Apr. 4). *The Garden City Utopia: The Center of the Utopian City* [Graphic]. Behance. <https://www.behance.net/gallery/15865643/The-Garden-City-Utopia>.
4. Le Corbusier, & Merin, G. (2013, Aug. 11). *AD Classics: Ville Radieuse / Le Corbusier*. ArchDaily. <https://www.archdaily.com/411878/ad-classics-ville-radieuse-le-corbusier>.
5. Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.
6. Chakraborty, A. and McMillan, A. (2018). *Is Housing Diversity Good for Community Stability?: Evidence from the Housing Crisis*. Sage Journals. <https://journals.sagepub.com/doi/10.1177/0739456X18810787>.
7. Gray, Jennifer (2018, Oct. 1). *Reading Broadacre*. Frank Lloyd Wright Foundation. <https://franklloydwright.org/reading-broadacre/>.
8. Frank Lloyd Wright Foundation (2017, Sep. 8). *Revisiting Frank Lloyd Wright's Vision For "Broadacre City."* Frank Lloyd Wright Foundation. <https://franklloydwright.org/revisiting-frank-lloyd-wrights-vision-broadacre-city/>.
9. Leisure World of Maryland (LWMD) (2022). *Our History*. Leisure World Maryland. <https://leisureworldmaryland.com/about/our-history/>
10. Leisure World of Maryland (LWMD) (2022). *Get To Know Us*. Leisure World Maryland. <https://leisureworldmaryland.com/get-to-know-us/>.
11. Leisure World of Maryland (LWMD) (2022). *Discover Our Lifestyle*. Leisure World Maryland. <https://leisureworldmaryland.com/discover-our-lifestyle/>.
12. Leisure World of Maryland (LWMD) (2022). *Join Our Community*. Leisure World Maryland. <https://leisureworldmaryland.com/join-our-community/>.

13. Herwig, O. & Bruce, L. (2008). Multigenerational Living: Social Change as a Catalyst for New Design Solutions. *Universal design solutions for a barrier-free living*. Birkhäuser. <https://web-s-ebscohost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=9a8d9a9a-d594-4687-b01a-0100d26c7d4c%40redis&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#AN=525728&db=e000xna>.
14. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
15. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
16. 8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.
17. Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.

## Ch. 3 References

1. Lynch, K. (1960). *The Image of the City*. MIT Press.

## Ch. 4 References

1. Brinkhoff, T. (2021). "Italy: Administrative Division." City Population. <http://www.citypopulation.de/en/italy/admin/>.
2. Brinkhoff, T. (2021). "Italy: Administrative Division." City Population. <http://www.citypopulation.de/en/italy/admin/>.
3. Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.
4. Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.
5. WalkScore (2022). *Most Walkable Cities in the United States, Canada, Australia on Walkscore*. WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
6. WalkScore (2022). *Volterra, Tuscany- WalkScore*. WalkScore. <https://www.walkscore.com/score/volterra-italy>.
7. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
8. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
9. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.



## Ch. 5 References

1. Solly, M. (2019, Jul. 9). *Intergenerational issues in Italy: a family matter?* Intergenerational Foundation. <https://www.if.org.uk/2019/07/09/intergenerational-issues-in-italy-a-family-matter/>.

## Ch. 6 References

1. WalkScore (2022). *Detroit Apartments for Rent and Detroit Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit>.
2. WalkScore (2022). *Most Walkable Cities in the United States, Canada, Australia on Walkscore*. WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
3. WalkScore (2022). *Jeffries, Detroit Apartments for Rent and Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit/Jeffries>.
4. Google. (n.d.). [Jeffries, Detroit Michigan]. Retrieved Feb. 16, 2022, from <https://www.google.com/maps/place/Jeffries,+Detroit,+MI/@42.3469922,-83.0772511,16z/data=!3m1!4b1!4m5!3m4!1s0x8824d2a96af84f5f:0x9ccec7ccc57be!8m2!3d42.3466357!4d-83.0718264?hl=en&authuser=0>
5. Power House Productions (2019). *Mission*. Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.
6. Power House Productions (2022, Apr. 17). *Power House Productions*. Detroit Urban Innovation Exchange. <https://www.uixdetroit.com/projects/powerhouse.aspx>.
7. Power House Productions (2019). *Play House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/play-house/>.
8. Power House Productions (2019). *Ride It Sculpture Park*. Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.
9. Power House Productions (2019). *Jar House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/jar-house/>.
10. Power House Productions (2019). *Sound House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/sound-house/>.
11. Power House Productions (2019). *Squash House*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/squash-house/>.

12. Power House Productions (2019). *Carpenter Exchange*. Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/carpenter-exchange/>
13. Cook, B., Welsh, K., & Giorgees, A. (2022, Feb. 18). *NOMAS Lecture: Bryan Cook, NOMA, Berardi + Partners*. NOMAS Black History Month Lecture Series, University of Detroit-Mercy School of Architecture & Community Development, W. McNichols, Detroit, MI, United States.
14. Life Remodeled (2022). *Top Ten Ways Life Remodeled Strengthens Community at the DIS*. Life Remodeled. <https://liferemodeled.org/durfee-innovation-society/>.

## Ch. 7 References

1. Bagley Community Council (2017). *Bagley History*. Bagley Community Council. <https://bagleycommunity.org/about/history/>.
2. Live 6 Alliance (2022). *Live 6 Alliance: The crossroads of culture, commerce, and community*. Live 6 Detroit. <https://live6detroit.org/#allthings>.
3. Statistical Atlas (2018, Sep. 14). *Race and Ethnicity in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Race-and-Ethnicity>.
4. Statistical Atlas (2018, Sep. 14). *Age and Sex in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Age-and-Sex>.
5. Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.
6. Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
7. Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.
8. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.
9. WalkScore (2022). "Most Walkable Cities in the United States, Canada, Australia on Walkscore." WalkScore. <https://www.walkscore.com/cities-and-neighborhoods/>.
10. WalkScore (2022). *Bagley, Detroit Apartments for Rent and Rentals- WalkScore*. Walkscore. <https://www.walkscore.com/MI/Detroit/Bagley>.
11. Bagley Elementary School of Journalism And Technology (2022). *Program & Activities*. Detroitk12. <https://www.detroitk12.org/domain/7169>.

## Ch. 8 References

1. Google Earth Pro.
2. Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.



# 11. Figures

## Ch. 1 Figures

**Figure 1.1.** *United States Senior Population (Ages 65+)*, based on:

The Administration on Aging (AoA). (2021). *Profile of Older Americans*. Administration for Community Living (ACL). [https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final\\_.pdf](https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final_.pdf).

**Figure 1.2.** *Detroit Senior Population (Ages 65+)*, based on:

Data Driven Detroit (2011). *Census Demographic Profile. Data Driven Detroit*. [https://datadrivendetroit.org/web\\_ftp/Census/PlaceProfiles/Detroit\\_city\\_MI.pdf](https://datadrivendetroit.org/web_ftp/Census/PlaceProfiles/Detroit_city_MI.pdf).

Hoult, T. F., Mayer, A. J., Sheffield, S. (1963, Feb.). *The Population Revolution In Detroit*. Institute for Regional and Urban Studies at Wayne State University. <https://riseupdetroit.org/wp-content/uploads/2019/01/The-Population-Revolution-in-Detroit.pdf?iframe=true&width=100%&height=100%..>

United States Census Bureau (1900). *1900 Census Population: Volume 2: Population Pt 2: Ages*. University of Michigan Library: Census Publication Inventory. <https://guides.lib.umich.edu/c.php?g=283004&p=1885626>.

United States Census Bureau (1922). *Fourteenth Census: 1920*. University of Michigan Library: Census Publication Inventory. <https://www2.census.gov/prod2/decennial/documents/06229686v20-25ch1.pdf>.

United States Census Bureau (2021). *QuickFacts: Detroit City, Michigan*. United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/detroitcitymichigan/AGE775220#AGE775220>.

United States Department of Commerce: Bureau of the Census (1952). *1950 Census of the Population: Detroit, Mich. Census Tracts*. Superintendent of Documents, U.S. Government Printing Office. <https://www2.census.gov/prod2/decennial/documents/41557421v3p2ch02.pdf>.

United States Department of Commerce: Bureau of the Census (1982). *1980 Census of the Population*. Superintendent of Documents, U.S. Government Printing Office. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns_bw.pdf).

**Figure 1.3.** *United States Youth Population (Ages 0-19)*, based on:

United States Census Bureau (1902). *1900 Census- Volume 2. Population, Part II*. <https://www2.census.gov/library/publications/decennial/1900/volume-2/volume-2-p2.pdf>.



United States Census Bureau (1922). *1920 Census- Volume 3. Population, Composition and Characteristics of the Population by States*. <https://www2.census.gov/library/publications/decennial/1920/volume-3/41084484v3ch01.pdf>.

United States Census Bureau (1943). *1940 Census- Volume 4. Characteristics by Age*. <https://www2.census.gov/library/publications/decennial/1940/population-volume-4/33973538v4p1ch1.pdf>.

United States Census Bureau (1961, Sep. 8). *1960 Census of Population: Supplementary Reports*. <https://www2.census.gov/library/publications/decennial/1960/pc-s1-supplementary-reports/pc-s1-11.pdf>.

United States Census Bureau (1983, May). *1980 Census- Volume 1. General Population Characteristics*. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011u\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011u_bw.pdf).

United States Census Bureau (2021, Aug. 12). *The U.S. Adult and Under-Age-18 Populations: 2020 Census*. <https://www.census.gov/library/visualizations/interactive/adult-and-under-the-age-of-18-populations-2020-census.html>.

**Figure 1.4.** *Detroit Youth Population (Ages 0-19)*, based on:

Data Driven Detroit (2011). *Census Demographic Profile. Data Driven Detroit*. [https://datadrivendetroit.org/web\\_ftp/Census/PlaceProfiles/Detroit\\_city\\_MI.pdf](https://datadrivendetroit.org/web_ftp/Census/PlaceProfiles/Detroit_city_MI.pdf).

Hoult, T. F., Mayer, A. J., Sheffield, S. (1963, Feb.). *The Population Revolution In Detroit*. Institute for Regional and Urban Studies at Wayne State University. <https://riseupdetroit.org/wp-content/uploads/2019/01/The-Population-Revolution-in-Detroit.pdf?iframe=true&width=100%&height=100%>.

United States Census Bureau (1900). *1900 Census Population: Volume 2: Population Pt 2: Ages*. University of Michigan Library: Census Publication Inventory. <https://guides.lib.umich.edu/c.php?g=283004&p=1885626>.

United States Census Bureau (1922). *Fourteenth Census: 1920*. University of Michigan Library: Census Publication Inventory. <https://www2.census.gov/prod2/decennial/documents/06229686v20-25ch1.pdf>.

United States Census Bureau (2021). *QuickFacts: Detroit City, Michigan*. United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/detroitcitymichigan/AGE775220#AGE775220>.

United States Department of Commerce: Bureau of the Census (1952). *1950 Census of the Population: Detroit, Mich. Census Tracts*. Superintendent of Documents, U.S. Government Printing Office. <https://www2.census.gov/prod2/decennial/documents/41557421v3p2ch02.pdf>.

United States Department of Commerce: Bureau of the Census (1982). *1980 Census of the Population*. Superintendent of Documents, U.S. Government Printing Office. [https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns\\_bw.pdf](https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu80124uns_bw.pdf).

**Figure 1.5.** *Community Support Systems Based on Elders' and Children's Needs*, based on:

Children's Hospital Colorado (2022). *What Every Child Needs*. University of Colorado School of Medicine. <https://www.childrenscolorado.org/conditions-and-advice/parenting/parenting-articles/what-children-need/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.

National Institute on Aging (NIA) (2017, May 1). *Aging in Place: Growing Older at Home*. (NIA). <https://www.nia.nih.gov/health/aging-place-growing-older-home>.

**Figure 1.6.** *Childhoods' Effects on Older Adulthood Cognitive Function*, based on:

Adrien Coquet from NounProject.com (2020, Feb. 19). *Grow* [Icon]. Noun Project. <https://thenounproject.com/icon/grow-3203131/>.

Alexander Skowalsky from NounProject.com (2015, Aug. 18). *Exercise* [Icon]. Noun Project. <https://thenounproject.com/icon/exercise-200526/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Greenwood, P. M., & Parasuraman, R. (2012). *Nurturing the older brain and mind*. MIT Press. <https://web-p-ebSCOhost-com.ezproxy.libraries.udmercy.edu/ehost/detail/detail?vid=0&sid=5d2da899-ada6-4eab-98b6-a3bf73b177f5%40redis&bdata=JnNpdGU9ZWWhvc3QtbGl2ZQ%3d%3d#db=e000xna&AN=432808&anchor=tocAnchor>.

Logan from NounProject.com (2017, Oct. 31). *No Entry* [Icon]. Noun Project. <https://thenounproject.com/icon/no-entry-1379326/>. Lynch, K. (1960). *The Image of the City*. MIT Press.

Marek Polakovic from NounProject.com (2014, May 22). *Brain* [Icon]. Noun Project. <https://thenounproject.com/icon/brain-51575/>.

**Figure 1.7.** *Socialization Before & During the Covid-19 Pandemic (Ages 50-80)*, based on:

Piette J., Solway E., Singer D., Kirch M., Kullgren J., Malani P. (2020, Sep. 14). *Loneliness Among Older Adults Before and During the COVID-19 Pandemic*. University of Michigan National Poll on Healthy Aging. <https://www.healthyagingpoll.org/reports-more/report/loneliness-among-older-adults-and-during-covid-19-pandemic>.

**Figure 1.8.** *The Harmful Side Effects of Lacking Enough Socialization*, based on:

Adrien Coquet from NounProject.com (2018, May 2). *Depression* [Icon]. Noun Project. <https://thenounproject.com/icon/depression-1725758/>.

Alzam from NounProject.com (2021, Mar. 10). *Death* [Icon]. Noun Project. <https://thenounproject.com/icon/death-4200549/>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

Johanna from NounProject.com (2017, Mar. 17). *Talk* [Icon]. Noun Project. <https://thenounproject.com/icon/talk-947027/>.

Marco Fleseri from NounProject.com (2016, Jun. 1). *Anxiety* [Icon]. Noun Project. <https://thenounproject.com/icon/anxiety-492367/>.

Marek Polakovic from NounProject.com (2014, May 22). *Brain* [Icon]. Noun Project. <https://thenounproject.com/icon/brain-51575/>.

Miho Suzuki-Robinson from NounProject.com (2020, Oct. 1). *Depression* [Icon]. Noun Project. <https://thenounproject.com/icon/depression-4091575/>

National Council on Aging (NCOA) (2021, Mar. 31). *Covid-Driven Isolation Can Be Dangerous For Older Adults*. NCOA. <https://www.ncoa.org/article/covid-driven-isolation-can-be-dangerous-for-older-adults>.

**Figure 1.9.** *Walkability in Older Adulthood (Averages for Ages 65-90)*, based on:

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.

## Ch. 2 Figures

**Figure 2.1.** *Ebenezer Howard's Garden City plan*, based on:

Howard, E., Moreira, S., & Duduch, T. (2021, May 12). What Are Garden Cities? ArchDaily. <https://www.archdaily.com/961275/what-are-garden-cities>.

**Figure 2.2.** *Perspective Sketch of Ebenezer Howard's Garden City*. Photo credits: Sara Dunn. Retrieved at Behance on April 18, 2022.

**Figure 2.3.** *Perspective Sketch of the Center of Ebenezer Howard's Garden City*. Photo credits: Sara Dunn. Retrieved at Behance on April 18, 2022.

**Figure 2.4.** *Le Corbusier's Radiant City Plan*, based on:

Le Corbusier, & Merin, G. (2013, Aug. 11). AD Classics: Ville Radieuse / Le Corbusier. ArchDaily. <https://www.archdaily.com/411878/ad-classics-ville-radieuse-le-corbusier>.

**Figure 2.5.** *Sketch of the Radiant City Commercial Zone*. Photo credits: iamyouseisme.wordpress.com. Retrieved at Archdaily on January 5, 2022.

**Figure 2.6.** *Sketch of a Park in Radiant City Commercial Zone*. Photo credits: guerillasemiotics.com. Retrieved at Archdaily on January 5, 2022.

**Figure 2.7.** *The Low-Cost Suburban Development Plan*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.8.** *The Industrial Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.9.** *The Apartment-House Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," The 1929 Regional Plan of New York and Its Environs. *The City Reader*. Routledge.

**Figure 2.10.** *The Five-Block Apartment House Unit*, based on:

Perry, C. (1929). "The Neighborhood Unit," *The 1929 Regional Plan of New York and Its Environs. The City Reader*. Routledge.

**Figure 2.11.** *Frank Lloyd Wright's Broadacre City plan*, based on:

Wright, F. L. (1934). [Broadacre City]. <http://www.twoworldsfoundation.org/site/in-the-works/broadacre-city/>.

**Figure 2.12.** *Sketch of Broadacre's Plots of Land*, Photo credits: Frank Lloyd Wright. Retrieved at FrankLloydWright.org on April 23, 2022.

**Figure 2.13.** *Sketch of the Broadacre Highway*, Photo credits: Frank Lloyd Wright. Retrieved at Flickr on April 23, 2022.

**Figure 2.14.** *Leisure World Map*, based on:

Google. (n.d.). [Google Map of Leisure World MD]. Retrieved February 21, 2022, from <https://www.google.com/maps/place/Leisure+World,+MD+20906/@39.1020652,-77.0865204,15z/data=!3m1!4b1!4m5!3m4!1s0x89b7ce256d422477:0xeb54538a4f611d8!8m2!3d39.1037192!4d-77.0710895?hl=en&authuser=1>.

Leisure World of Maryland (LWMD) (2017). *LWMD Community Map With Walking Trails*. Leisure World Maryland. [https://leisureworldmaryland.com/media/LWMD CommunityMap2017.pdf](https://leisureworldmaryland.com/media/LWMD%20CommunityMap2017.pdf).

**Figure 2.15.** *Gartenpark Hohenkirchen*, Photo credits: De La Ossa Architects. Retrieved at Neubaukompass on February, 28, 2022.

**Figure 2.16.** *Das Generationenhaus Heselach*, Photo credits: Carola Hagele, MuZe Sud. Retrieved at Stuttgarter Zeitung, Mehr Generationen on January, 18, 2022.

**Figure 2.17.** *Walkable Neighborhoods Frameworks*, based on:

8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.

Adrien Coquet from NounProject .com(2017, Jun. 8). *School* [Icon]. Noun Project. <https://thenounproject.com/icon/school-1099568/>.

- Adrien Coquet from NounProject.com (2019, Aug. 4). *Work* [Icon]. Noun Project. <https://thenounproject.com/icon/work-2941895/>.
- Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.
- Berkah Icon from NounProject.com (2018, Apr. 2). *Sell House* [Icon]. Noun Project. <https://thenounproject.com/icon/sell-house-1672584/>.
- Cuputo from NounProject.com (2021, Jun. 28). *Bike* [Icon]. Noun Project. <https://thenounproject.com/icon/bike-4303164/>.
- Dima Lagunov from NounProject.com (2013, Nov. 22). *Walking* [Icon]. Noun Project. <https://thenounproject.com/icon/walking-26898/>.
- Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.
- Linda Wati from NounProject.com (2019, Jun. 7). *Shop* [Icon]. Noun Project. <https://thenounproject.com/icon/shop-2729660/>.
- Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.
- Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

## Ch. 3 Figures

**Figure 3.1.** *Turin City Interaction Studies.*

**Figure 3.2.** *Pedestrian-Friendly Spaces.*

**Figure 3.3.** *Mobility Inclusivity Spaces.*

**Figure 3.4.** *Playful Spaces.*

**Figure 3.5.** *Rest Spaces.*



## Ch. 4 Figures

**Figure 4.1.** *Italy Demographics*, based on:

Brinkhoff, T. (2021). *Italy: Administrative Division*. City Population. <http://www.citypopulation.de/en/italy/admin/>.

**Figure 4.2.** *Volterra Demographics*, based on:

Brinkhoff, T. (2021). *Volterra*. City Population. <http://www.citypopulation.de/en/italy/toscana/pisa/050039volterra/>.

**Figure 4.3.** *Volterra Assets Map*, based on:

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.4.** *Volterra Walkability, Bike-friendliness, & Transit-friendliness*, based on:

WalkScore (2022). *Volterra, Tuscany- WalkScore*. WalkScore. <https://www.walkscore.com/score/volterra-italy>.

**Figure 4.5.** *Students' Pedestrian Experiences of Volterra*.

**Figure 4.6.** *15-min Bike Ride Pathways from Piazza dei Priori*, based on:

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.7.** 15-min Walk Pathways from Piazza dei Priori, based on:

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.8.** 9-min Walk Pathways from Piazza dei Priori, based on:

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.9.** 5-min Walk Pathways from Piazza dei Priori, based on:

Google. (n.d.). [Volterra, Province of Pisa, Italy]. Retrieved Oct. 22, 2021, from <https://www.google.com/maps/place/56048+Volterra,+Province+of+Pisa,+Italy/@43.4041495,10.8538772,15z/data=!3m1!4b1!4m5!3m4!1s0x132a1a43fe2309d1:0x2ee2843d6461d321!8m2!3d43.399395!4d10.8660333?hl=en&authuser=0>.

Volterra-Detroit Foundation (2021). [Map of Volterra]. University of Detroit-Mercy.

**Figure 4.10.** *Elders' Pedestrian Experiences in Volterra*, Photo credits: Alana Ramirez & Natalie Wilson.

## Ch. 5 Figures

**Figure 5.1.** *Barb's Family Responsibilities.*

**Figure 5.2.** *June's Family Responsibilities.*

**Figure 5.3.** *Janet's Family Responsibilities.*

**Figure 5.4.** *Rita's Family Responsibilities.*

**Figure. 5.5.** *Plan Diagram of Rita's Home.*

## Ch. 6 Figures

**Figure 6.1.** *I-94/I-75 Assets Maps*, based on:

Google. (n.d.). [Jeffries, Detroit, MI]. Retrieved Jan. 27, 2022, from <https://www.google.com/maps/place/Jeffries,+Detroit,+MI/@42.3469922,-83.0772511,16z/data=!3m1!4b1!4m5!3m4!1s0x8824d2a96af84f5f:0x9ccec7ccc57be!8m2!3d42.3466357!4d-83.0718264?hl=en&authuser=0>.

Google Earth Pro.

**Figure 6.2.** *I-94/I-75 Neighborhood Walkability, Bike-Friendliness, & Transit-Friendliness*, based on:

WalkScore (2022). *Jeffries, Detroit Apartments for Rent and Rentals- WalkScore*. WalkScore. <https://www.walkscore.com/MI/Detroit/Jeffries>.

**Figure 6.3.** *I-94/I-75 Neighborhood Assets Photo Credits*: Google Earth Pro. Retrieved at Google Earth Pro on January 8, 2022, March 8, 2022.

**Figure 6.4.** *Power House Productions Assets Map*, based on:

Google. (n.d.). [Power House Productions, Klinger Street, Detroit Michigan]. Retrieved Apr. 4, 2022, from <https://www.google.com/maps/place/Power+House+Productions/@42.4124283,-83.0641365,17z/data=!3m1!4b1!4m5!3m4!1s0x883b2d2f92b74d9d:0x5d43bf168be1755e!8m2!3d42.4124549!4d-83.0618592?hl=en&authuser=0>

Google Earth Pro.

**Figure 6.5.** *Power House Productions Programs Photo Credits*: Google Earth Pro, Power House Productions Retrieved at Google Earth Pro, Power House Productions, & Facebook on March 19, 2022. Based on:

Power House Productions (2019). "Carpenter Exchange." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/carpenter-exchange/>

Power House Productions (2019). "Jar House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/jar-house/>.

Power House Productions (2019). "Mission." Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.

Power House Productions (2019). "Play House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/play-house/>.

Power House Productions (2019). "Ride It Sculpture Park." Power House Productions. <http://www.powerhouseproductions.org/index.php/support/mission/>.

Power House Productions (2019). "Squash House." Power House Productions. <http://www.powerhouseproductions.org/index.php/projects/squash-house/>.

**Figure 6.6.** *Durfee Innovation Society Assets Map*, based on:

Google. (n.d.). [Durfee Innovation Society, Collingwood Street, Detroit Michigan]. Retrieved Mar. 8, 2022, from <https://www.google.com/maps/place/Durfee+Innovation+Society/@42.3820251,-83.1132399,17z/data=!3m1!4b1!4m5!3m4!1s0x8824ccec1743534b:0xc94cd5d3ae48f08a!8m2!3d42.3819068!4d-83.1109675?hl=en&authuser=0>.

Google Earth Pro.

**Figure 6.7.** *Durfee Innovation Society Assets*. Photo Credits: Martinez, D., Life Remodeled. Retrieved at The Jewish Detroit News, Youtube on March 15, 2022, March 8, 2022. Based on:

Life Remodeled (2022). *Top Ten Ways Life Remodeled Strengthens Community at the DIS*. Life Remodeled. <https://liferemodeled.org/durfee-innovation-society/>.

Life Remodeled (2021, Feb. 10). *Tour the DIS* [Video]. Youtube. <https://www.youtube.com/watch?v=sgpSDclPqA>.

## Ch. 7 Figures

**Figure 7.1.** *Bagley History*, based on:

Bagley Community Council (2017). *Bagley History*. Bagley Community Council. <https://bagleycommunity.org/about/history/>.

Live 6 Alliance (2022). *Live 6 Alliance: The crossroads of culture, commerce, and community*. Live 6 Detroit. <https://live6detroit.org/#allthings>.

**Figure 7.2.** *Bagley Demographics*, based on:

Statistical Atlas (2018, Sep. 14). *Race and Ethnicity in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Race-and-Ethnicity>.

Statistical Atlas (2018, Sep. 14). *Age and Sex in Bagley, Detroit, Michigan (Neighborhood)*. Statistical Atlas. <https://statisticalatlas.com/neighborhood/Michigan/Detroit/Bagley/Age-and-Sex>.

**Figure 7.3.** *Bagley Assets Map*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Google Earth Pro.

**Figure 7.4.** *Bagley Assets*. Photo Credits: Google Earth Pro. Retrieved at Google Earth Pro. on January 30, 2022.

**Figure 7.5.** *15-Min Bike Ride Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

**Figure 7.6.** *15-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.

Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.

**Figure 7.7.** *9-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Alves, F., Cruz, S., Ribeiro, A., Bastos Silva, A., Martins, J., & Cunha, I. (2020). *Walkability Index for Elderly Health: A Proposal*. MDPI. <https://www.mdpi.com>.

**Figure 7.8.** *5-Min Walk Pathways From Bagley Elementary School*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

**Figure 7.9.** *Bagley Walkability, Bike-friendliness, & Transit-friendliness*, based on:

WalkScore (2022). *Bagley, Detroit Apartments for Rent and Rentals- WalkScore*. Walkscore. <https://www.walkscore.com/MI/Detroit/Bagley>.

**Figure 7.10.** *Bagley Site Observations*.

**Figure 7.11.** *Bagley Programs & Infrastructure.* Photo Credits: Natalie Wilson. Based on:

Bagley Elementary School of Journalism And Technology (2022). *Program & Activities.* Detroitk12.  
<https://www.detroitk12.org/domain/7169>.



## Ch. 8 Figures

**Figure 8.1.** *Bagley Vacancies*. Photo Credits: Google Earth Pro. Retrieved at Google Earth Pro on March 3, 2022.

**Figure 8.2.** *Programmatic Opportunities for Residential Vacancies Flow Chart*, based on:

Google Earth Pro.

**Figure 8.3.** *Programmatic Opportunities for Commercial Vacancies Flow Chart*.

**Figure 8.4.** *Diagrammatic Examples of Adapted Homes*.

**Figure 8.5.** *Programmatic Opportunities for Residential Vacancies Flow Chart*, based on:

Google. (n.d.). [Bagley, Detroit, MI]. Retrieved Dec. 13, 2021, from <https://www.google.com/maps/place/Bagley,+Detroit,+MI+48221/@42.426149,-83.1597497,15z/data=!3m1!4b1!4m5!3m4!1s0x8824cea7730c68cb:0xfb268bb5fc831581!8m2!3d42.4242879!4d-83.1515629?hl=en&authuser=0>.

Google Earth Pro.

**Figure 8.6.** *The Age(ful) Community & Precedent Walkable Neighborhoods Frameworks*, based on:

8-80 Cities (2016, Feb. 22). *What is an 8 80 city?* [Video]. Youtube. <https://youtu.be/9Ni32qPrGmM>.

Adrien Coquet from NounProject .com(2017, Jun. 8). *School* [Icon]. Noun Project. <https://thenounproject.com/icon/school-1099568/>.

Adrien Coquet from NounProject.com (2019, Aug. 4). *Work* [Icon]. Noun Project. <https://thenounproject.com/icon/work-2941895/>.

Alexander Skowalsky from NounProject.com (2015, Aug. 18). *Exercise* [Icon]. Noun Project. <https://thenounproject.com/icon/exercise-200526/>.

Berkah Icon from NounProject.com (2018, Apr. 2). *Sell House* [Icon]. Noun Project. <https://thenounproject.com/icon/sell-house-1672584/>.

Cuputo from NounProject.com (2021, Jun. 28). *Bike* [Icon]. Noun Project. <https://thenounproject.com/icon/bike-4303164/>.

- Dima Lagunov from NounProject.com (2013, Nov. 22). *Walking* [Icon]. Noun Project. <https://thenounproject.com/icon/walking-26898/>.
- Duany, A. (2021). *Defining the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Kid* [Icon]. Noun Project. <https://thenounproject.com/icon/kid-3393691/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *Old Person* [Icon]. Noun Project. <https://thenounproject.com/icon/old-person-3393706/>.
- Florent Lenormand from NounProject.com (2020, Jun. 1). *People and Old* [Icon]. Noun Project. <https://thenounproject.com/icon/people-and-old-3393688/>.
- Johanna from NounProject.com (2017, Mar. 17). *Talk* [Icon]. Noun Project. <https://thenounproject.com/icon/talk-947027/>.
- Linda Wati from NounProject.com (2019, Jun. 7). *Shop* [Icon]. Noun Project. <https://thenounproject.com/icon/shop-2729660/>.
- RD Design from NounProject.com (2018, Nov. 30). *Food* [Icon]. Noun Project. <https://thenounproject.com/icon/food-2190546/>.
- Stanard, V. (2020). *Complete Neighborhoods*. City Form Detroit and University of Detroit-Mercy.
- Steuteville, R. (2021, Feb. 16). *Guiding principles of the 15-minute city*. Congress for the New Urbanism. <https://www.cnu.org/publicsquare/2021/02/16/guiding-principles-15-minute-city>.





