

THE UNIVERSITY OF DETROIT MERCY

THE NEIGHBORHOOD FOR WELL-BEING

DESIGNING A BUILT ENVIRONMENT THAT SUPPORTS THE DEVELOPMENT AND WELL-BEING OF HIGH SCHOOL STUDENTS

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01

PREFACE

1.1 ABSTRACT

Well-being is a positive mental state that helps individuals to reach their full potential, manage life's stressors, work productively, and contribute meaningfully to their communities. It also contains resilience, contentment, a sense of belonging, and a sense of purpose (CDC, 2022). As architecture and urban design continue to progress in terms of design, technology, and societal impacts, it is important to understand the influence that design has on the well-being of the user. This thesis investigates the influence that the urban fabric within Denby, Detroit has on the development and well-being of high school students. However, research from the University of Toronto, and a variety of academic studies have determined that areas described as low-income tend to have characteristics that are more likely to negatively impact well-being, which includes; increased traffic, pollution, noise levels, poor walkability, etc. What does this entail for the students who attend high school in low-income areas? How does the built environment within the Denby Neighborhood impact student's well-being compared to adults? Must these students merely accept these conditions without the ability to improve them?

The sheer lack of basic amenities, safe spaces, public connections, and environmental elements inspires an urban design project engaged in developing a neighborhood that is calibrated toward the development and well-being of high school students in Denby, Detroit. Although focused on high school students within low-income neighborhoods in Detroit, the larger goal is to generate a thriving community in which every population can be properly supported. The work examines restorative urbanism as a fundamental strategy and places mental health, wellness and quality of life at the forefront of city planning and urban design (Roe, 2021). Restorative urbanism is a recurring framing concept throughout this thesis and is used to repair, regenerate, and revitalize degraded urban environments, and aims to improve the social, economic, and environmental sustainability within Denby, Detroit.

A thorough analysis of the Denby neighborhood is completed through a variety of methods. On-site observations, census data collection, and a combination of qualitative and quantitative data are used to create a collection of maps that help visualize areas of concern and areas of opportunities within the Denby neighborhood.

The purpose of this thesis is to develop a neighborhood plan that includes a variety of improvements and site interventions that help to improve the development and well-being of high school students. With the larger goal of creating an obtainable and actionable plan to the residents and high school students of Denby, Detroit, that will create a flourishing and thriving precedent that all neighborhoods in Detroit should strive for.

1.2 THESIS STATEMENT

The general focus of this thesis investigation is trying to understand the impact that spatial elements within the built environment have on the well-being of an individual. Specifically focusing on high school students and their walk to school. As architecture and urban design continue to progress, in terms of design, technology, and societal impacts, it is important to understand the influence that design has on the well-being of high school students and the current residents. While anybody is at risk of acquiring a mental health problem, high school students are particularly vulnerable as they begin to reach the emerging adulthood period within their lives. While entering the early stages of adulthood, high school students are attempting to balance their new workload, personal and social lives, first jobs, and academic responsibilities, making them vulnerable to stress that affects their well-being.

The current issue revolves around the state of specific neighborhoods in Detroit. These neighborhoods do not support the well-being of its residents. Specifically, residents that live on low income tend to live in areas with characteristics that are more likely to impact well-being in a negative connotation. These include increased traffic, pollution, noise levels and more. It is evident that there is a sheer lack of basic amenities, safe spaces, and public connections within low-income neighborhoods in Detroit. This thesis investigates the influence that the built environment within select neighborhoods in Detroit has on the development and well-being of high school students.

Through precedent research and understanding of existing frameworks from multiple literature reviews, those of which include *Restorative Cities* by author Jenny Roe, and *Cities Alive: Toward a Walking World* from ARUP, it was determined that for this thesis, there are four critical framing concepts that will be used to address the built environment and user well-being. Well-being is a positive mental state that helps individuals to reach their full potential, manage life's stressors, work productively, and contribute

meaningfully to their communities. It also contains resilience, contentment, a sense of belonging, and a sense of purpose (CDC, 2022).

The primary research questions that are driving this thesis investigation include; "How does the surrounding context and built environment of a low-income neighborhood in Detroit affect the well-being of an individual?" This will be used to analyze the current conditions within the community and develop an actionable and executable plan to assist these students in their development and well-being.

Secondly "How does the built environment within the Denby Neighborhood impact student's well-being compared to adults?" Students are subject to vastly different situations than adults. They are particularly vulnerable as they begin to reach the "emerging adulthood" period within their lives. Understanding the difference between demographics will present more thorough research into creating spaces for these specific individuals.

Third, "How can restorative urbanism be beneficial at a smaller scale. Such as the Denby neighborhood?" The scalability of this thesis is incredibly important. This investigation aims to act as a precedent for communities facing the same scenario as Denby, but this may occur within a denser city or sparse neighborhood.

Lastly, "How does one know when a positive well-being has been achieved within the Denby Neighborhood?" These questions will be used to continue and further the research and solve complex issues that relate to the topic.

The central argument based off the framework suggests that the built environment of specific, low-income neighborhoods in Detroit, do not support the development and well-being of high school students within it. The sheer lack of basic amenities, safe spaces, public connections, and environmental elements help inspire an urban design project

engaged in developing a neighborhood that is calibrated toward the development and well-being of high school students in Detroit. Although focused on high school students within low-income neighborhoods in Detroit, the larger goal is to generate a thriving community in which every population can be properly supported. The work examines the complexities of social, environmental, and economic issues in the urban built environment, as well as their effects on the development and well-being of high school students. What does this entail for the students who attend high school in low-income areas? Must these students merely accept these conditions without the ability to improve them?

A thorough analysis of the Denby neighborhood will be completed through a variety of methods. Data, evidence, and materials will be gathered to help address the research questions presented. Firstly, on site observations of the Denby neighborhood will be conducted. This will be used to understand how the community functions and to recognize the assets and gaps within the area. Secondly, Census data will be used to analyze the demographics within the neighborhood. Additional demographic factors include household income, obesity rates, age, household size, etc. Next, surveys will be conducted to understand how residents and high school students currently feel about the community. What do they like about it? What do they need? Third, a combination of qualitative and quantitative data will be used to create a collection of maps that will help visualize areas of concern and areas of opportunities within the Denby neighborhood. Lastly, analyzing case studies and previous research on well-being will help further assess the complexities of this thesis investigation. These processes will be used to carefully develop a comprehensive analysis of the research topic, and to propose how the community can support the well-being of its high school students as they walk to school.

One opposing view regarding this investigation is "How does one know that this approach will

improve the well-being of high school students?" There have been numerous attempts within Detroit neighborhoods that have implemented parks, recreational spaces, or urban gardens, and they end up neglected and underutilized.

One aspect of the critique to this thesis position that is acceptable is that it is hard to measure well-being. Maintaining a positive well-being can be considered an aspect of perception. What one individual may view as a positive impact, may be different from another individual. The limitation of this study is time. When a space is created, it takes numerous steps. This includes connecting with local community members and students, then a planning phase with multiple iterations, and lastly, observing the space to see if it impacts the users in a positive connotation.

The topics of well-being, physical, psychological, and social health in architecture and urban design have always been relevant; however, over the past few years, this subject matter has been pushed to the forefront with the COVID-19 pandemic and numerous quarantines. Anxiety, stress, depression, and pressure are all areas of concern that have increased dramatically since the start of the pandemic. This thesis is to develop a neighborhood plan derived from complexities of the built environment and its influence on high school students' development and well-being. With the goal of creating an obtainable and actionable plan to the residents and high school students of low-income neighborhoods within Detroit that places well-being at the forefront of design.

02

BACKGROUND

2.1 INTRODUCTION

Urban design literature provides evidence of the importance of attractive public space in supporting a sense of safety and pleasurable experiences. Jenny Roe, author of *Restorative Cities: Urban Design for Mental Health and Well-Being*, believes that the promotion of social and psychological health in modern communities can benefit from the support of high-quality urban spaces. Restorative Urbanism is a tool that prioritizes mental health and well-being in urban design and should be considered when developing a 21st century community (Roe, 2021).

Individually, sustaining positive well-being allows people to better enjoy their lives and environments, have healthy connections with others, and have a greater willingness to learn and try new things. Individuals who possess a greater well-being tend to have a positive impact on society through healthier interpersonal connections as well as in the community. Individuals and communities have a higher chance of flourishing when considerable attention is paid to individual well-being (MHA, 2022). Specifically, it is essential to understand the impact that the built environment has on high school students. These individuals are in a continuous developing stage and need the proper spaces and environment to aid them in that process and support their well-being.

It is important to establish clear links between the design of the urban built environment and the promotion of positive well-being. By understanding how specific elements in the built environment impact the well-being of high school students, designers and community developers can propose strategies and interventions that not only support youth but contribute to a thriving community overall.

2.2 RELEVANCE

The topics of well-being and physical health in architecture and urban design have always been relevant; however, over the past few years, this subject matter has been pushed to the forefront with the COVID-19 pandemic and numerous quarantines. Anxiety, stress, depression, and pressure are all areas of concern that have increased dramatically since the start of the pandemic. Due to the stigma surrounding mental health, these are items that are not talked about sufficiently. Furthermore, numerous studies from the National Alliance on Mental Illness (NAMI) have showcased the harsh impacts on an individual's well-being and physical health caused by those conditions.

As seen in Figure 2.2, a study conducted by the Bell Let's Talk campaign, a campaign that aims to raise awareness and combat the stigma surrounding mental health, shows an encouraging trend of individuals becoming more familiar with these topics. However, there is still much work to be done, both in recognizing that mental health is as vital as physical health and in providing the resources required to create and preserve wellness (Reiger, 2022)

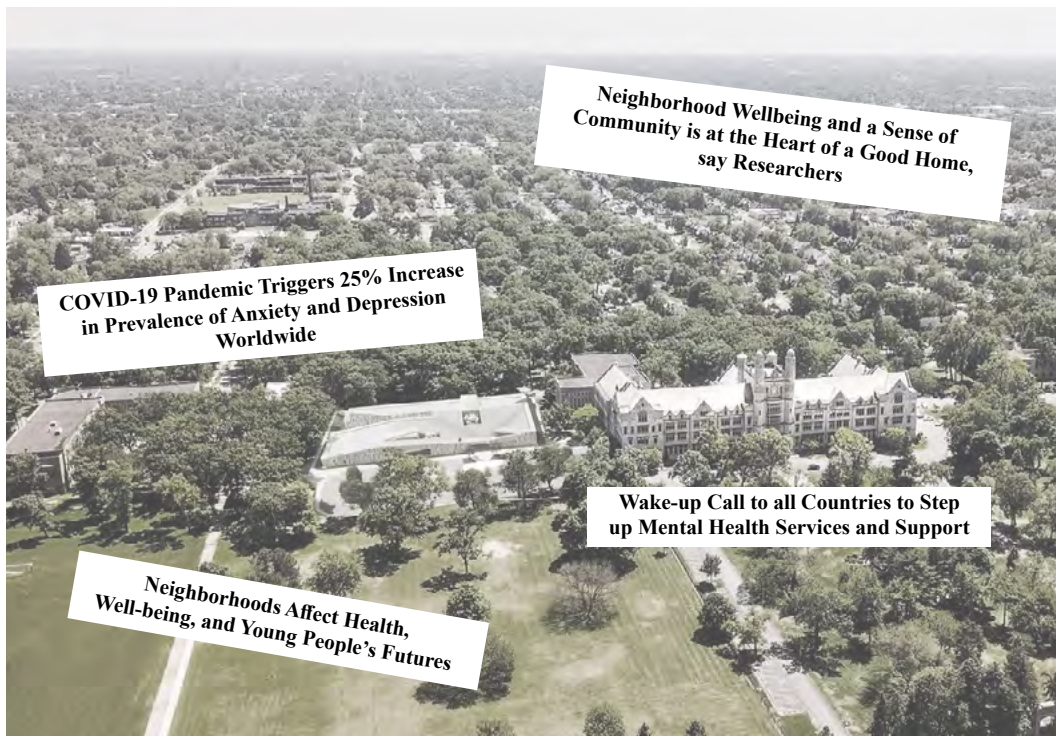


Fig. 2.1 Photo of the School at Marygrove with a variety of headlines taking from newspapers (2021).

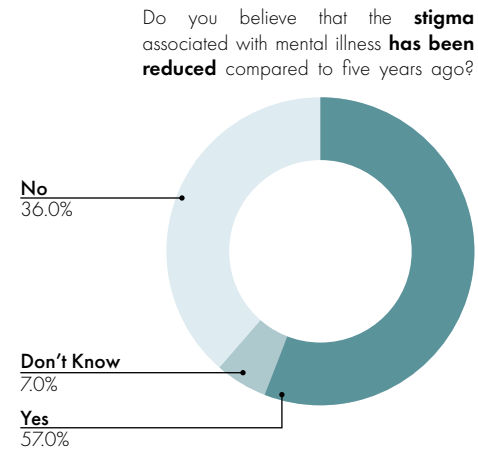
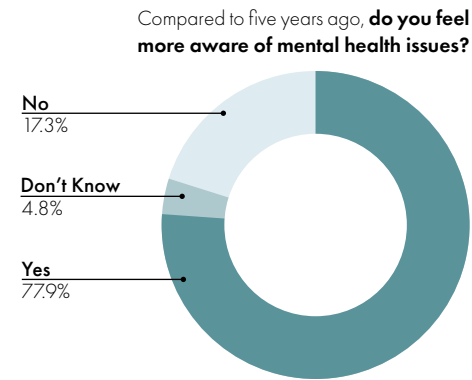
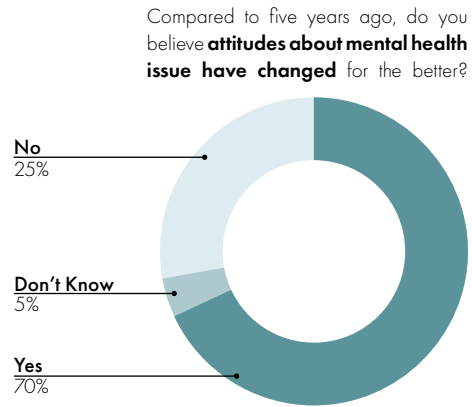


Fig. 2.2 Statistics diagram representing Canada-wide study conducted by Bell Canada in 2021 regarding the "Bell Let's Talk" campaign.

2.3 THE CURRENT ISSUE

The current issue revolves around the state of specific neighborhoods in Detroit. These neighborhoods do not support the well-being of its residents. More specifically, residents that live on low income tend to live in areas with characteristics that are more likely to impact well-being in a negative connotation. These include; increased traffic, pollution, noise levels and more. Furthermore, these neighborhoods lack access to healthy food options, increased exposure to environmental hazards, minimal access to healthcare, high crime rates, and poor housing conditions (Clarke et al., 2012).

It is evident that there is a sheer lack of basic amenities, safe spaces, and public connections within low-income neighborhoods in Detroit.

Fig. 2.3 Image to the right is a collage representing blighted and abandoned structures within low-income neighborhoods in Detroit.



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2.4 THE IMPORTANCE OF FOCUSING ON HIGH SCHOOL STUDENTS

High school is an important time for many young teens, It is considered to be a period of time where these specific individuals go from childhood and develop into adulthood. During this time they start to gain a sense of autonomy. Currently, there are not many spaces within neighborhoods that aid in the development of these students and support their well-being. It's also important to focus on high school students as studies from the World Health Organization (WHO) show that certain experiences when someone is young can be carried along and affect that individual in their later life. For example: as a child, exposure of the lung to air pollution reduces the maximum lung capacity as an adult. (WHO, 2021)

While anybody is at risk of acquiring a mental health problem, high school students are particularly vulnerable as they begin to reach the "emerging adulthood" period within their lives. While entering the early stages of adulthood, high school students are attempting to balance their new workload, personal and social lives, first jobs, and academic responsibilities, making them vulnerable to stress and other factors that affect their well-being (NAMI, 2022). In Fig. 2.3, a nationwide study conducted by the National Alliance on Mental Illness indicates that 1 in 6 individuals aged 12-17 has experienced a major depressive episode. (NAMI, 2022)

With poor well-being becoming more evident within all populations and demographics, the well-being of all individuals should be at the top of the priority list for all communities and should be the main focus when it comes to architecture and urban design.

Fig. 2.3

To the right is a statistics diagram representing a nation wide study in the United States conducted by the National Alliance on Mental Illness (NAMI), 2022.

Among U.S. Adolescents (Aged 12-17)

1 in 6 experienced a major depressive episode (MDE)



- **3 million** individuals had serious thoughts of suicide.
- **31% increase** in mental health-related emergency department visits.

Among U.S. Young Adults (Aged 18-25)

1 in 3 experienced a mental illness



- **3.8 million** had serious thoughts of suicide.
- **31% increase** in mental health-related emergency department visits.

Among U.S. Young Population (Aged 12-25)

1 in 5 young people report that the pandemic had a significant negative impact on their mental health and well-being



- **18%** of adolescents
- **23%** of young adults
- **Nearly 1/2** of young people with mental health concerns report a significant negative impact.

2.5 WHY FOCUS ON WALKING?

Walkable neighborhoods are those that are intended to make it easy for pedestrians to navigate, with an emphasis on providing safe and accessible infrastructure such as sidewalks, crosswalks, and pedestrian-friendly intersections (Lee & Buncher, 2008). For high school students, living in a walkable community can have many benefits, including:

01. Improved health: Walking is a low-impact exercise that can help students keep a healthy weight, lower their risk of chronic diseases, and improve their general physical and mental health.

02. Increased independence: Living in a walkable community can give high school students more freedom and mobility. They can walk or bike to school, and participate in extracurricular activities and social events without relying on their parents or other caretakers for transportation (Lee & Buncher, 2008).

03. Enhanced academic performance: A study by the University of Toronto indicated that physical activity can improve cognitive function, memory, and concentration. By providing high school students with easy access to physical activity, walkable communities can help them perform better academically (Lee & Buncher, 2008).

04. Reduced stress: Walking can be a stress-relieving exercise, particularly for high school students who are dealing with academic pressures, social stressors, or other challenges (Lee & Buncher, 2008).

05. Improved social connections: Walking and biking allow students to engage with their peers, make new friends, and develop social skills. It can also make them feel more a part of their society (Lee & Buncher, 2008).

Fig. 2.4
To the right is an image with motion blur of people walking on street near grey building.



“The ability of youth to freely enjoy public spaces, and to develop a sense of belonging and attachment to these environments, is critical for their physical, social, cognitive, and emotional development.” According to Shirtcliff, “young people represent a vital citizen group with legitimate rights to occupy and shape their public environments, yet they are often driven out of public places by adult users, restrictive bylaws, or hostile designs.”

Ben Shirtcliff

Landscape Architecture
Iowa State University, 2021

03

FRAMING
CONCEPTS

3.1 WELL-BEING

Well-Being is referred to as the condition of being happy, healthy, and content with life. It is a multifaceted notion that includes various aspects of a person's life, such as physical health, psychological health, social relationships, and overall life satisfaction. (CDC, 2018). There are three separate factors that work in unison and influence the overall well-being of an individual. These factors include; physical health, psychological health, and social health.

Physical health refers to the body's ability to function normally. Health, nutrition, exercise, and sufficient rest are frequently associated with physical well-being (CDC, 2022).

Psychological health refers to the ability to manage thoughts, emotions, and behaviors. Having a positive self-image, feeling confident and capable, being able to express one's feelings in a healthy way, and having a sense of purpose and direction in life are all examples of this (CDC, 2022).

Social health refers to the relationships and how individuals communicate with those around them. Culture, family background, socioeconomic position, and personal values can all have an impact on one's social health (CDC, 2022).

Overall, well-being is a complex concept influenced by a number of variables such as genetics, environment, and personal choices. Investing in one's well-being has numerous advantages, including improved physical and mental health, increased happiness and satisfaction, and a stronger sense of purpose and meaning in life (CDC, 2022).

3.2 RESTORATIVE URBANISM

Restorative Urbanism is a new concept that places mental health, wellness and quality of life at the forefront of city planning and urban design (Roe, 2021). Restorative urbanism is an urban planning and design strategy that seeks to repair, regenerate, and revitalize degraded urban environments, and aims to improve the social, economic, and environmental sustainability within a desired community (Roe, 2021). This strategy frequently includes the reuse and re-purposing of existing buildings and infrastructure, as well as the development of new green spaces, pedestrian and bike-friendly streets, and affordable housing. (Roe, 2021)

Jenny Roe, author of *Restorative Cities: Urban Design for Mental Health and Well-Being* outlines 7 pillars of design that should be incorporated into the urban fabric in order to create a restorative neighborhood. These include: green space, blue space, as well as active, playable, neighborly, sensory, and inclusive elements.

Fig. 3.4
To the right is a rendering from Tekuma Frenchman, 2019, representing a design that would improve the well-being of occupants using a variety of design techniques.





3.3 THE SEVEN PILLARS OF RESTORATIVE URBANISM

Green Space

Select programmed areas within the urban fabric, including pocket parks, lawns, street trees, residential gardens, and sport fields. Integrating nature into the city center can reduce depression and stress while also improving brain function and sleep quality. (Roe, 2021)



Blue Space

Select programmed spaces that strategically designed to interact with bodies of water, such as oceans, lakes, rivers, and even swimming pools. Blue space design has the potential to support sustainable living by incorporating features such as rainwater harvesting, renewable energy systems, and natural ventilation, in addition to providing occupants with a one-of-a-kind experience (Roe, 2021).



Active

Designing an active community means integrating physical activity into people's daily routines. Walkable, bikeable areas naturally provide physical benefits but they also offer mental health and brain function benefits (Roe, 2021).



Playable

Designing an playable community means play fosters resilience and harnesses people's curiosity. It's very important that opportunities for play are accessible in the area (Roe, 2021).



Neighborly

Designing a neighborly community means promoting social interactions in daily life. Outdoor examples include designing parks that facilitate social interactions, such as with chess boards and dog walking areas, or optimizing social opportunity by positioning a mini-park next to a market or church (Roe, 2021).





Sensory

Designing a sensory community means eliminating sensory experiences like a smell or a noise that people have deemed unpleasant. Sensory opportunities to leverage include creating a sonic refuge — a quiet place in the city — or designing a street that is visually interesting (Roe, 2021).



Inclusive

Designing an inclusive community underpins all other drivers. This pillar underpins all the others, because in order for people to make the most of the designed opportunities, they need to have a sense of belonging and meaningful access to them (Roe, 2021).

3.4 THE WELL-BEING FRAMEWORK

Factors of Well-Being

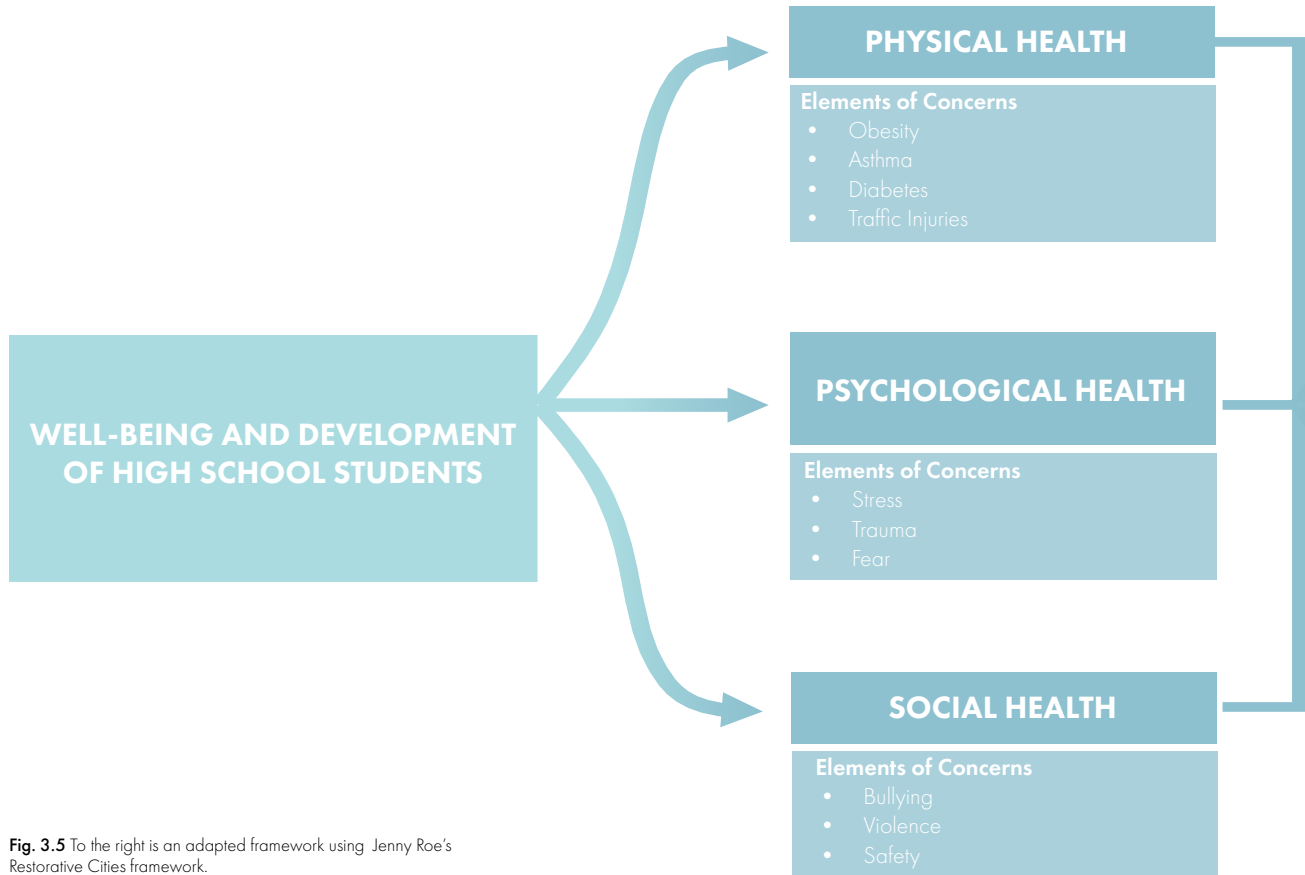


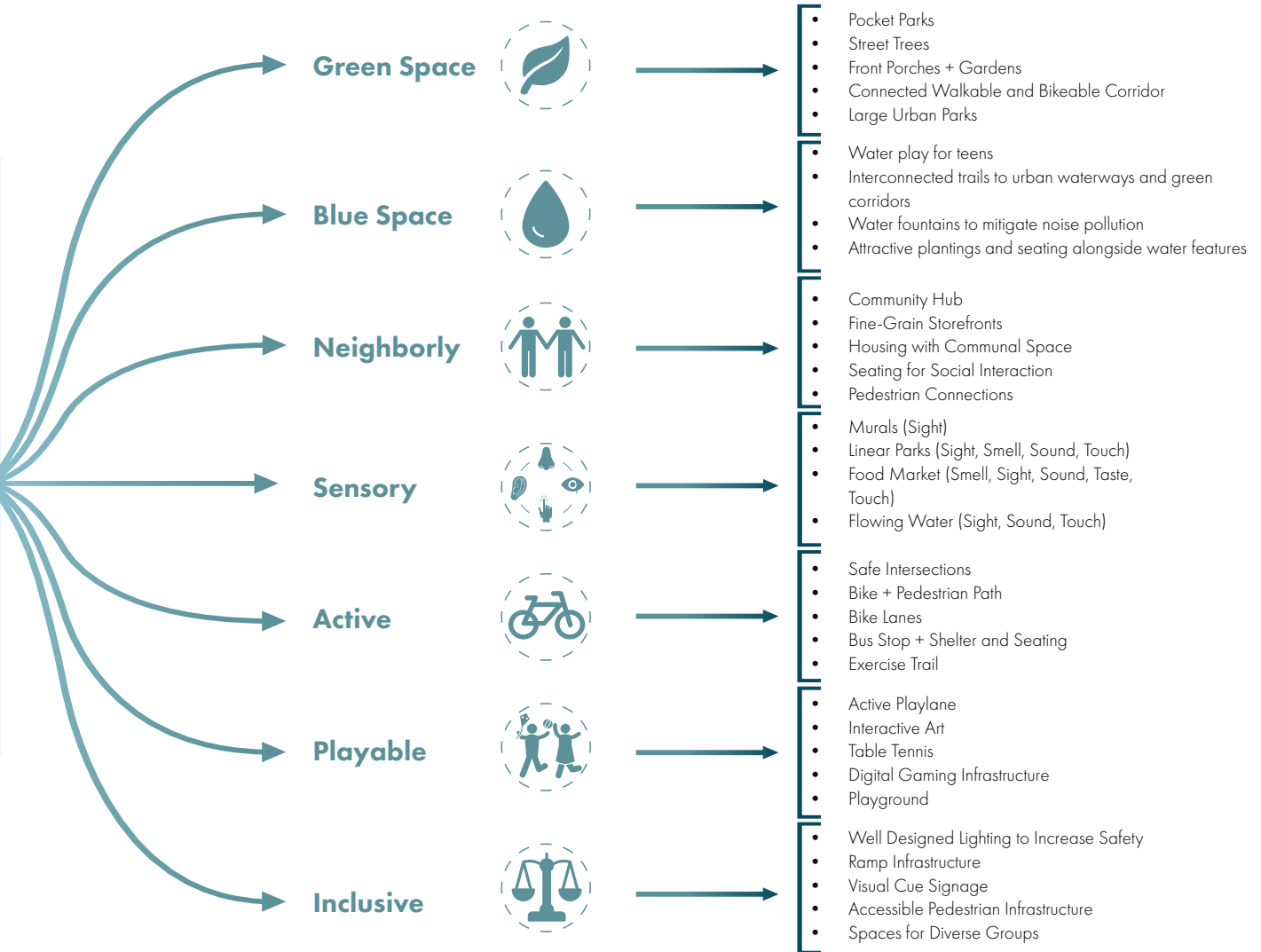
Fig. 3.5 To the right is an adapted framework using Jenny Roe's Restorative Cities framework.

Through a deep understanding of well-being, the current issue regarding the negative characteristics of low-income neighborhoods, and the importance of creating spaces for high school students, the well-being framework was developed. This framework acts as a visual representation to understand the links between the

three factors of well-being (physical health, psychological health, and social health) and how they are influenced by the seven drivers of restorative urbanism. Furthermore, a list of possible spatial improvements is listed to potentially incorporate into the urban fabric of these neighborhoods. However, this is an altered list that directly focuses on

Restorative Urbanism Pillars of Design

Elements for Spatial Improvements



high school student demographic and possible spaces that may benefit them.

well-being. It is also used as a design tool for interventions that are developed toward the end of this thesis.

This framework is used in a variety of ways throughout the entirety of this thesis. It is a crucial element used to determine what spaces positively or negatively impact

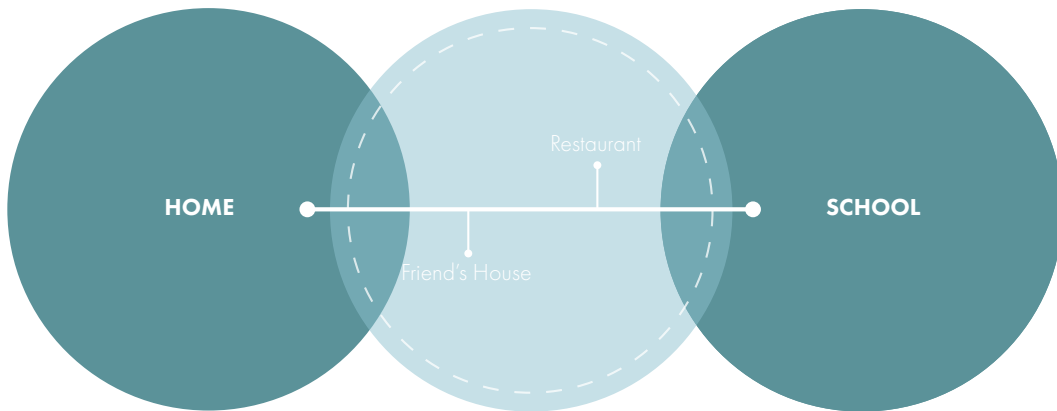
3.5 WALKABLE NEIGHBORHOODS

A walkable neighborhood is one that is intended to encourage people to walk and participate in other forms of active transportation such as biking, walking, or other means of travel. According to academic literature review, *Valuable of Walkable Communities*, walkable communities create places that are vibrant, healthy, and livable. A community's walkability is an important component of sustainable community design, and the health, social, and environmental benefits are indicators of the overall health and vibrancy of the community (Cisneros, 2015).

This thesis addresses a problem that exists in specific low-income neighborhoods in Detroit. According to research, low-income residents tend to live in areas with traits that are more likely to have a negative effect on their well-being. Furthermore, as shown in fig 3.6, the current state of specific Detroit neighborhoods does not encourage walkability. Residents in these areas only walk for necessity. Members of the community may walk to get groceries, or in the case of this thesis, students may walk from home to school and back. It is a streamlined and linear process, go to a destination and go straight back. There aren't spaces within these neighborhoods that generate excitement for people. Using the well-being framework and expanding on what a walkable community is, this thesis seeks to create a neighborhood with designed spaces that incorporate *Restorative Cities* seven design pillars. This will help to create unique and enjoyable spaces, and individuals should have immediate access to spaces that can improve their physical health and well-being.

Fig. 3.6
To the right is a diagram that represents the current walkable condition in Detroit neighborhoods and the ideal walking condition.

THE CURRENT WALKING CONDITION (LINEAR)



THE IDEAL WALKING CONDITION



3.6 DESIRED OUTCOMES

01

Create a connection between the urban built environment and the well-being of high school students.

02

Create a visible increase in the quality of neighborhood spaces and safe spaces for high school students that encourage social interaction, have environmental benefits, and improve well-being.

03

Decrease the quantity of risk factors that are associated with low-income neighborhoods in Detroit. For example, vehicular traffic, noise levels, lack of amenities, poor condition of sidewalks and homes, lack of walkability.

04

Create an understanding of possible relationships between low-income housing, education, community safety, and the urban built environment that help to support connection, safety, and well-being

04

SITE
RESEARCH
AND
SELECTION

4.1 THE IMPORTANCE OF SITE SELECTION

This thesis is heavily rooted in neighborhood design and acts as a precedent that neighborhoods should strive for to not only increase the well-being of high school students but generate a flourishing neighborhood. Site selection is an important aspect of this thesis, and through this process, it was imperative to not select a location prematurely. Every neighborhood is different, they each have their own challenges, strengths, and weaknesses.

This thesis begins by researching two different neighborhoods to determine which would act best as the fundamental basis of this investigation. The two sites were selected based on a small list of criteria. The neighborhood is classified as a low-income neighborhood within Detroit, and there is a high school rooted within the community to conduct the research with the students. This led to the selection of a western Detroit neighborhood, the

Marygrove/Fitzgerald neighborhood (See Fig. 4.1), and an eastern Detroit neighborhood, the Denby neighborhood (See Fig. 4.2).

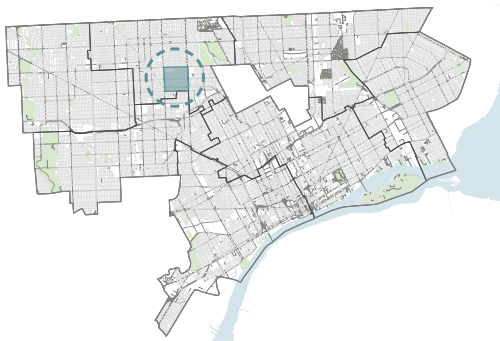


Fig. 4.1
An overall map indicating where Marygrove/Fitzgerald is located in Detroit

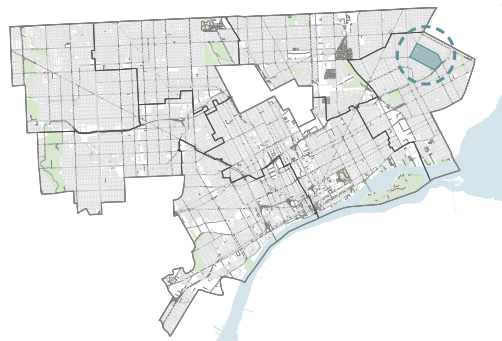


Fig. 4.2
An overall map indicating where Denby is located in Detroit

4.2 MARYGROVE/FITZGERALD NEIGHBORHOOD

The neighborhood of Marygrove/Fitzgerald is located on the city of Detroit's far west side. Marygrove/Fitzgerald is classified under the category of a low-income neighborhood, which exposes residents to traits that are more likely to negatively affect well-being. Increased traffic, noise, and pollution are examples of this.

Like many cities within Detroit, Marygrove/Fitzgerald was formerly a densely populated and flourishing neighborhood, but like many of the city's neighborhoods decimated by disinvestment and tax foreclosure, Marygrove/Fitzgerald was afflicted with blight and vacancies (Huffman, 2021). The School at Marygrove is an important community anchor for this thesis. Students at this institution play an important role and serve as the foundation for this investigation. Understanding how high school students feel about and experience their community is critical to developing a meaningful and executable plan to aid these students in their development and well-being.

Fig. 4.3
The image to the right is a satellite aerial view taken from Google Earth indicating the boundary line of the Marygrove/Fitzgerald.





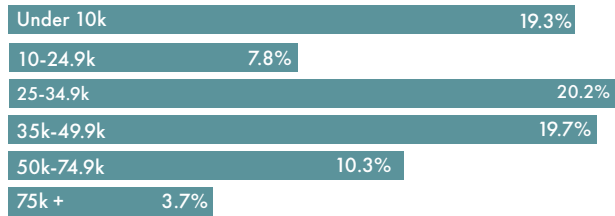
4.2.1 NEIGHBORHOOD RESEARCH

In the Marygrove/Fitzgerald neighborhood, the average household income falls short of \$33,000 a year. This classifies Marygrove/Fitzgerald as a low-income neighborhood. The neighborhood's population is predominantly African American, accounting for 95% of the 6,437 residents that reside in Marygrove/Fitzgerald. The population leans toward a younger generation, with over 2000 residents under the age of 20. To this, it is important to note that the Marygrove/Fitzgerald neighborhood begins to create a safe, walkable neighborhood for these specific populations.

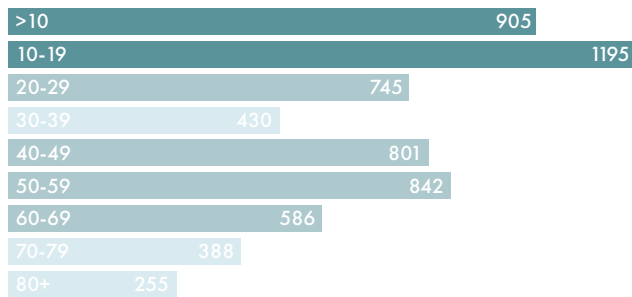
The Fitzgerald Revitalization Program strives to restore the landscapes and bring back lush, vibrant landscapes within the neighborhood with the introduction of parks, greenways, and bike lanes. All elements that are aimed toward autonomy of the younger population.

Fig. 4.4
The information to the right is a collection of data taken from the Census Bureau representing the demographics in Marygrove/Fitzgerald.

HOUSEHOLD INCOME BREAKDOWN



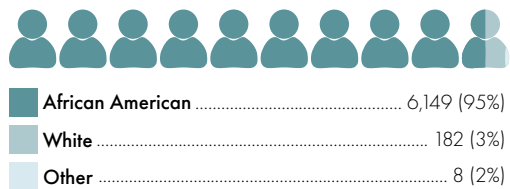
AGE DISTRIBUTION



AVERAGE HOUSEHOLD SIZE



RACIAL DIVERSITY



4.2.2 THE FITZGERALD REVITALIZATION PROJECT

The Fitzgerald Revitalization Plan envisions a new way to help distressed neighborhoods: focusing on the landscape of the entire neighborhood rather than blighted properties on a lot-by-lot basis. “The plan for Fitzgerald will preserve neighborhood character and increase density without the need to construct new structures” (Runyan, 2017). Furthermore, 200 vacant properties will be transformed into community hubs, orchards, pollinator habitats, and natural storm water management systems. Although there has been a lot of progress made within the Marygrove/Fitzgerald neighborhood, the ambitious project has slowed and there is still much more work to be done.

Fig. 4.5
The image to the right is a rendering of a portion of the Fitzgerald Revitalization Project.



4.3 DENBY NEIGHBORHOOD

The Denby neighborhood is located on the far east side of the city of Detroit. More specifically, Denby falls into the category of a low-income neighborhood that subjects those in the community to characteristics that are more likely to negatively affect well-being. This includes increased traffic, noise, and pollution. Denby was once a densely populated and thriving community, but like many of the city's neighborhoods devastated by disinvestment and tax foreclosure, Denby was plagued with blight and vacancy (Huffman, 2021). A community anchor that is significant to this thesis is Denby High School. The students who attend this school play a major role and act as the foundation for this investigation. Understanding how the students feel about their community and experiencing their community is detrimental to determining an actionable and executable plan to assist these students in their development and well-being.



Fig. 4.6
The image to the right is a satellite aerial view taken from Google Earth indicating the boundary line of the Denby neighborhood in Detroit.

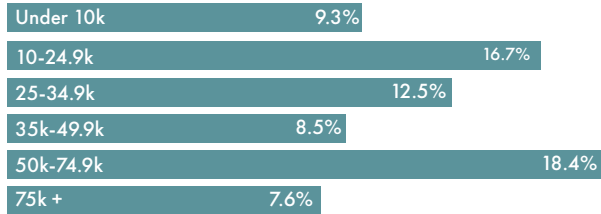


4.3.1 NEIGHBORHOOD RESEARCH

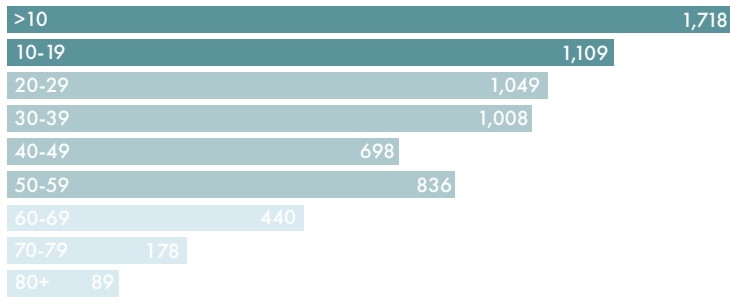
In the Denby neighborhood, the average household income falls short of \$29,000 a year. This classifies Denby as a very low-income neighborhood. To this point, in comparison to the Marygrove/Fitzgerald neighborhood, this puts Denby roughly \$4000 behind Marygrove/Fitzgerald. The population within the Denby neighborhood is predominantly African American, accounting for 97% of the 7,125 residents that reside in Denby. The population in Denby leans toward a younger generation with almost 3000 residents under the age of 20. This is an extremely important factor as this thesis aims to create a neighborhood plan that improves the well-being of high school students. There are currently no plans now or in the future to develop the community. However, there is the Denby Neighborhood Alliance which is a grassroots project championed by Denby High School and community interest partners. They have the common goal to rehabilitate and revitalize the community in and outside of Denby High School by implementing initiatives and programs that promote the economic, social, and cultural development of the community

Fig. 4.7
The information to the right is a collection of data taken from the Census Bureau representing the demographics in Denby, Detroit.

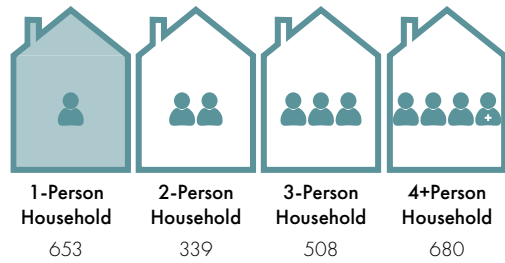
HOUSEHOLD INCOME BREAKDOWN



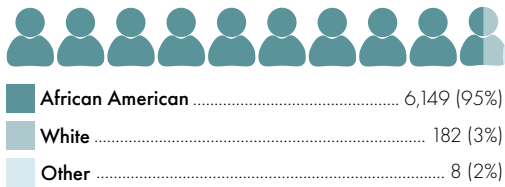
AGE DISTRIBUTION



AVERAGE HOUSEHOLD SIZE



RACIAL DIVERSITY



**PARK
CLOSES
AT 10 P.M.**

4.4 FINDINGS AND SITE SELECTION

Through this preliminary comparison, both Marygrove/Fitzgerald and Denby face a variety of challenges that both align with and distinguish them from one another. Denby is a working-class community with a blend of residential and commercial regions that has encountered challenges such as disinvestment, crime, and blight. Marygrove/Fitzgerald, on the other hand, has a history of being a more affluent community, but has seen population decline and disinvestment throughout its history. However, in recent years, there has been a great amount of effort to improve the Marygrove/Fitzgerald community. The Fitzgerald Revitalization Project is a public-private collaboration that has worked to revive the neighborhood through projects such as housing developments, sidewalk enhancements, and community involvement. The initiative has concentrated on several critical areas, such as the rehabilitation of vacant houses, the creation of green places and public art displays, and the creation of mixed-income housing choices. This is a specific category that Denby falls short in. Although Denby has seen revitalization efforts in recent years, these efforts are not on the same scale compared to the Marygrove/Fitzgerald efforts. In terms of streetscape improvements, sidewalk enhancements, and the implementation of public spaces, unlike Marygrove/Fitzgerald, there are no current plans to improve these elements.

In conclusion, it is clear that the Denby neighborhood falls short in more categories than the Marygrove/Fitzgerald neighborhood after analyzing the two locations using site observations, demographics, and knowing future plans for each neighborhood. As a result, the rest of this thesis will concentrate on the Denby neighborhood, with the aim of creating a actionable plan for the residents and community members to help improve the development and well-being of high school students in the neighborhood.

Fig. 4.8
The photo to the left is a picture taken at Skinner Playfield in Denby, Detroit.

05

ANALYZING
DENBY

5.1

INTRODUCTION

When beginning any design process, in the case of this thesis, an urban design proposal, it is crucial to understand the existing conditions of the community. This important step of the process is used to help understand the existing social, economic, and physical characteristics of Denby using a variety of techniques to create a thorough comprehension of Denby's current state. The initial analysis of Denby is created through a set of mapping studies that help outline the existing conditions and generate connections that help further evolve this thesis. This data provides a solid foundation for developing a neighborhood plan that is both successful and responsive to the needs of the community.

5.2 INITIAL STUDIES

Figure Ground

Mapping is used throughout this thesis to understand the existing conditions within the Denby neighborhood. Furthermore, it is used to understand and study specific moves that may be viewed as a fundamental and vital shift within the historic significance of the Denby community. By using mapping, there is a clear indication that the Denby neighborhood is lacking in a few different aspects. Denby was once a densely populated and thriving community, but like many of the city's neighborhoods devastated by disinvestment and tax foreclosure, Denby was plagued with blight and vacancy (Huffman, 2021). Using figure ground, there is a clear indication that the community is densely populated with smaller building typologies. There is a lack of open space between the dense housing which indicates that there is a lack of green space.

Zoning and Land-Use

Denby's zoning map shows the clear continuity of residential space that lies within the community. It also indicates the clear relationship between residential and institutional spaces. This is identical to Marygrove/Fitzgerald and is critical in determining where students may be coming from or going to. It is important to understand what these students are surrounded by when walking to school. The zoning map also reveals two main commercial corridors that run parallel to one another along the boundary of the Denby community. These main commercial corridors are on Morang Dr. and Whittier Dr. As for green space, at first glance the zoning map begins to call out a few greenspaces. However, with a neighborhood this dense, there is room to improve not only the number of greenspaces, but the quality of these spaces as well. Currently, there are no plans to create spaces for the youth population. It is important to increase the neighborhood attractiveness, and environmental factors that will increase the overall well-being of those within the neighborhood.

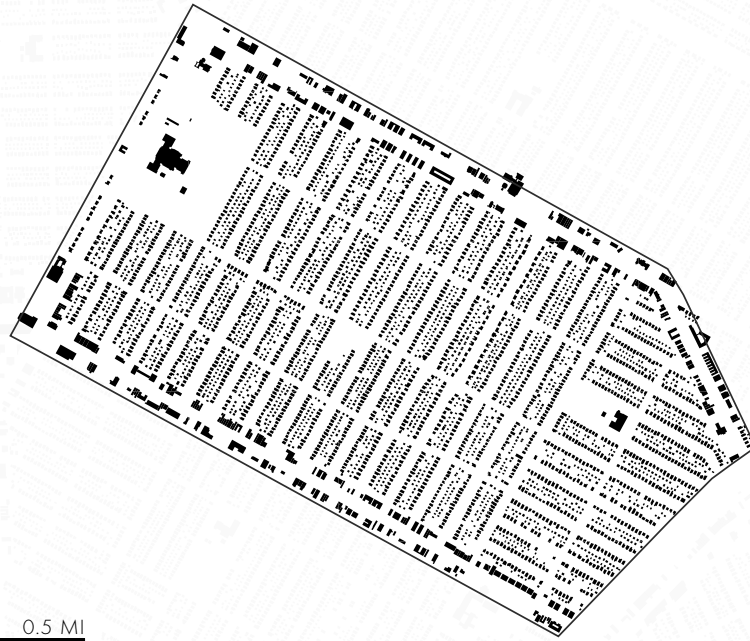
LEGEND

-  Residential
-  Mixed-Use
-  Commercial
-  Green Space
-  Institutions

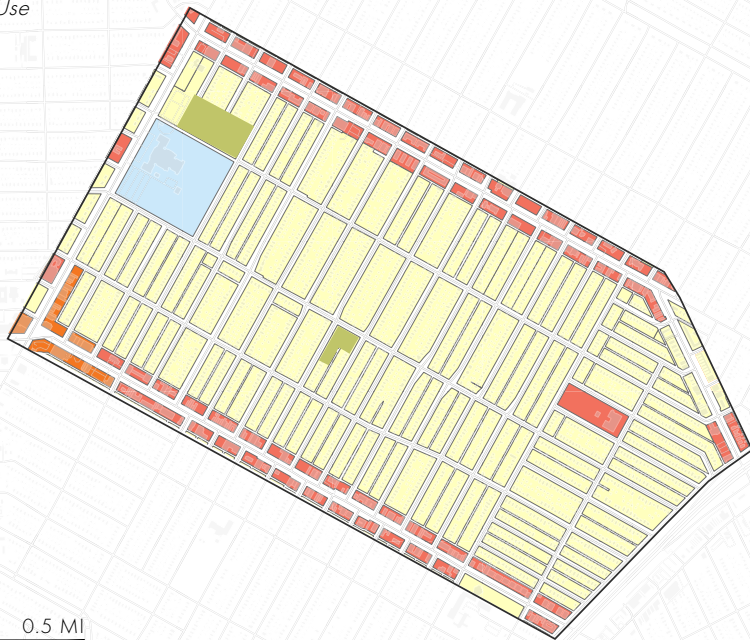
Fig. 5.1
The map to the top right represents the density of buildings in Denby, Detroit.

Fig. 5.2
The map to the bottom right represents the land-use and zoning Denby, Detroit.

Figure Ground



Zoning and Land-Use



Positive Impacts on Well-Being

Mapping elements within the neighborhood that can be deemed a positive impact on well-being or better known as assets, is a critical step within this thesis. By initially mapping the elements that generate a positive well-being for students walking to school, this begins to provide a better understanding of the neighborhood's strengths and weaknesses. This means that areas that are currently working well within the neighborhood can be enhanced, while areas that are lacking can be addressed and developed. This specific study begins to call out institutions such as the Denby High School, green spaces like Skinner Playfield and Brookins Park, libraries, places of worship, bus stops, bus routes, bike lanes, and business.

Lastly, through this exploration, the well-being framework is applied to each area within the neighborhood to determine what spatial elements are attributing to a positive well-being (see fig. 5.4-5.6).

LEGEND








-  Bus Routes
-  Retail
-  Open Green Space
-  Eating and Drinking
-  Institutions
-  Places of Worship
-  Bus Stops

Fig. 5.3
The map to the right represents the assets and the elements that positively impact well-being in Denby, Detroit.

Fig. 5.4 - 5.6
Photographic analysis of positive elements in Denby, Detroit (see page 45-46)





Fig. 5.6

Fig. 5.4

Denby High School is an institution within the Denby neighborhood and acts as a community anchor for the area. High schools function as a central hub for communities, bringing together students, parents, instructors, and other community members. This can lead to enhanced communal cohesion and a sense of belonging. Overall, schools benefit the community in several ways and can be viewed as a positive element that can improve the well-being of those who live in the community. Using the well-being framework, Denby High School addresses the following design pillars: the neighborly pillar, by providing students with opportunities to socialize and connect with their peers; the active pillar, by providing students with a track and field, a variety of sports teams, and different school activities. Lastly, the inclusive pillar is addressed by providing education and learning opportunities for students in the Denby neighborhood.

Denby High School



Fig. 5.5

Brookins Park is similar to Skinner Playfield, a planned greenspace in the Denby community. Brookins Park, on the other hand, does not have the same amenities as Skinner Playfield, nor does it have the same number of amenities. This area includes a playscape for young children as well as an open green space for activities such as soccer. Using the well-being framework, Brookins Park addresses the following design pillars: the green space pillar, by providing a programmed area within the urban fabric for Denby residents; the playable pillar, providing accessible opportunities for play in the area; the neighborly pillar, which optimizes social opportunity; and the active pillar, which provides the community with an open field that community members can use. Lastly, the inclusive pillar is achieved by creating a space where all populations can access and thrive.

Brookins Park



Fig. 5.4 - 5.6

Photographic analysis of positive elements in Denby, Detroit

Fig. 5.6

Skinner playfield, a park completed by DCDC (Detroit Collaborative Design Center), includes basketball courts, a walking path and a soccer field. This specific space addresses the following pillars of design using the well-being framework; the green space pillar by providing a programmed area within the urban fabric for the residents, the playable pillar by providing opportunities for play that are accessible in the area, the neighborly pillar for optimizing social opportunity by positioning Skinner Playfield next to Charity Lutheran Church and Denby High School, the active pillar by providing the community with a walkable and bikeable path, and lastly the inclusive pillar by creating a space that all populations can access and flourish in.

Skinner Playfield



Tertiary Streets

The last element that can be deemed positive is the current condition of the 'tertiary streets' located within Denby (see Fig. 5.8). This thesis outlines 'tertiary streets' as the third most active streets in the community. They are mainly used by residents to get to their homes and run perpendicular to the primary roads (see Fig. 5.7). These streets can be considered to have a positive impact on well-being because they offer wide sidewalks that are separated from the road by a grass buffer zone. The majority of the sidewalks along these streets were found to be in at least fair condition, making them accessible to all residents. Furthermore, using the well-being framework created for this thesis, there are traffic-calming measures in the form of speed bumps that add to the aspect of safety on these streets. Lastly, street trees create a connection between humans and nature, addressing the green space pillar of design from the framework.

KEY PLAN

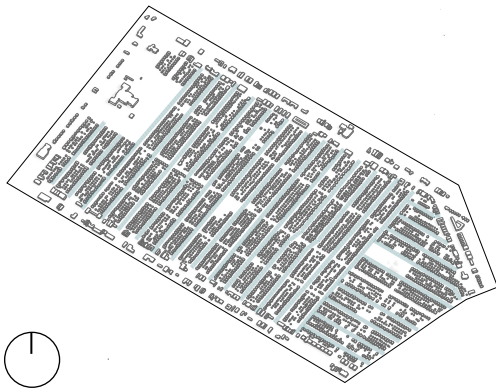


Fig. 5.7
Key plan of the tertiary streets in Denby.

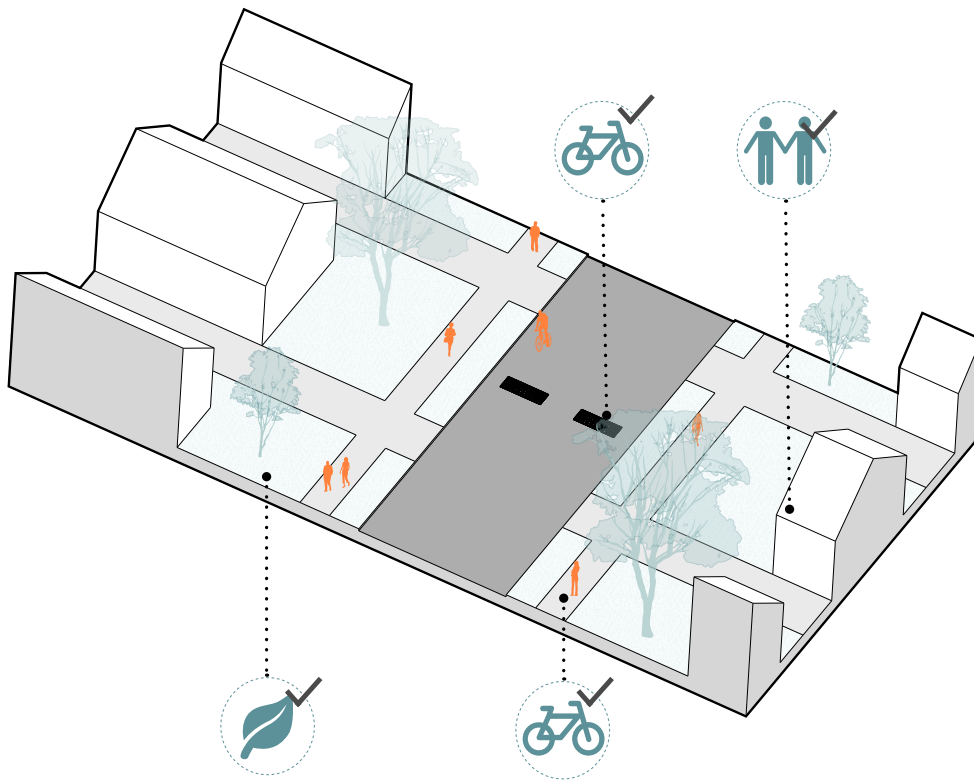


Fig. 5.8
Axon view of a typical tertiary street in Denby.

5.3

KEY TAKEAWAYS

By understanding the current condition of Denby through a variety of mapping techniques, and by looking at these studies through the lenses of well-being and high school students, there were a few key findings and takeaways that help to inform this thesis moving forward.

01

The amount of bus stops and bus routes within Denby attribute to an inclusive community. The community bus routes consider the different needs and interests of all community members. Bus routes are inclusive because they provide safe, economical, and accessible transit for all.

02

Denby's two programmed greenspaces, Skinner Playfield, and Brookins Park, both provide locations for the community to play and socialize. However, it is important to note that these spaces are not as active as they could be due to community members' safety concerns regarding crime in the region.

03

Analyzing the current food options, retail spaces, and areas where teens choose to hang out reveals that Denby falls short in this area. Burger King is one food option in the neighborhood that many Denby High School students use as a hangout spot and to eat at. Creating safe spaces for these students to gather is a priority moving forward.

06

UNDERSTANDING
DENBY

6.1 THE NEGATIVE IMPACTS ON WELL-BEING

Following the thorough study of Denby's current condition and determining which elements in the community contribute to a positive well-being, the next critical step is to identify the negative elements in the neighborhood. For this step, on-site observations, mapping, community engagement, and case studies, are all used to determine areas of concern that can be found throughout Denby.

This particular section of the analysis is critical to the thesis because it gives information about specific zones that may be designated for potential site intervention. Since this thesis focuses on the effects of the urban fabric on well-being, this section of the analysis examines vacant parcels, abandoned structures, a lack of programmed spaces, sidewalk conditions, and other factors. These are all elements that have been linked to poor well-being.

6.2 VISUALIZING DENBY

The single concept that was the focus of this exploration was, "What elements in the built environment affect the well-being of residents in the neighborhood?" Specifically looking through the lens of the walking routes that high school students take to and from school. Through on-site observation, a variety of walking routes that students took to and from high school in the Denby neighborhood were determined. These routes were documented using images and transformed into an interactive flip-book. The flip-book allowed users to move through the routes and analyze what the students were seeing and feeling. The flip book was essential for allowing the user to stop on a specific portion of the route and analyze what was either working or negatively impacting the route.

Many of the sidewalks appeared uneven and cracked, which are tremendous tripping hazards. The sidewalks were also littered with garbage and unsafe materials like shattered glass and nails. This was one element that could not be determined without visiting the site and documenting it by walking the neighborhood.

Fig. 6.1
The collage to the right is a visual representation of a typical pedestrian route through the Denby neighborhood.





6.3 MAPPING NEGATIVE ELEMENTS

Vacancies

The vacancy map (fig. 6.2) indicates the occupied and unoccupied structures within the neighborhood and represents the decline of the region's auto industry and the major effect this had on the local economy. This resulted in a population decrease as people have moved away in pursuit of better job opportunities. The area has seen high levels of crime and poverty, making it less appealing to prospective residents and investors. This has resulted in a lack of investment in the region, which has added to the neighborhood's decline. As a result, almost 17% of homes and businesses in Denby have remained vacant and abandoned. Abandoned structures and vacant parcels can have a negative impact on the health and well-being of high school students passing by. They can generate a feeling of unease, stress, and anxiety, as well as reduce the sense of community, lower property values, and attract criminal activity.

LEGEND

-  Residential
-  Mixed-Use
-  Commercial

DLBA Owned Abandoned Houses and Vacant Lots

The Detroit Land Bank Authority (DLBA) was established by the City of Detroit to handle the city's abandoned and blighted properties. The main function of the DLBA is to acquire and manage vacant, abandoned, and tax-foreclosed properties in Detroit, with the aim of returning these properties to productive use (DLBA, 2023). This mapping exercise is crucial in determining what sites may be a better candidate for intervention. City-owned lots (this includes lots owned by the DLBA) are usually intended for public use, and designing on these parcels can result in public spaces that benefit the community. Designing on a city-owned parcel may be less difficult because there are fewer legal obstacles to overcome and there are already set restrictions in place including zoning and codes (Khoai, 2022). On the other hand, designing on a privately owned parcel may require more negotiation and collaboration with the owner of that parcel (Khoai, 2022).

LEGEND

-  DLBA Owned Lot
-  Lot for Sale
-  DLBA Owned Structure
-  Side Lot for Sale
-  Accessory Structure Lot for Sale

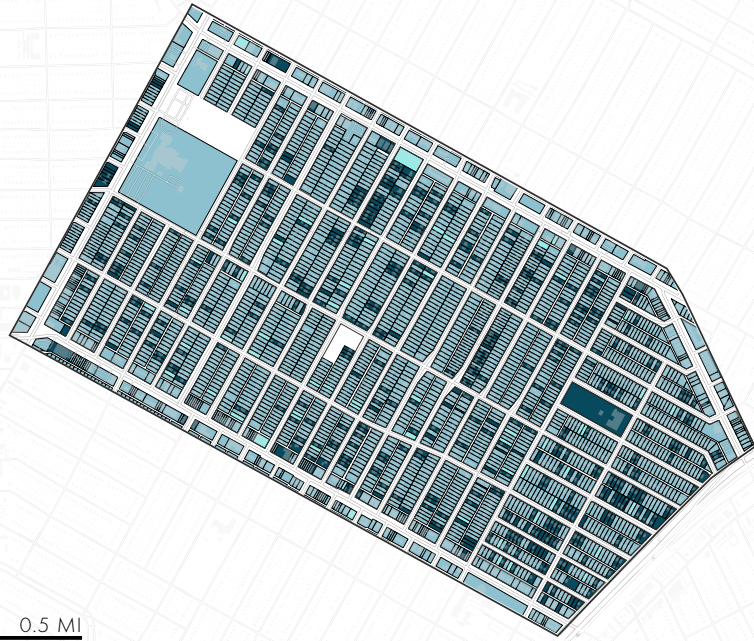
Fig. 6.2

The map to the top right represents the Vacancies in Denby.

Fig. 6.3

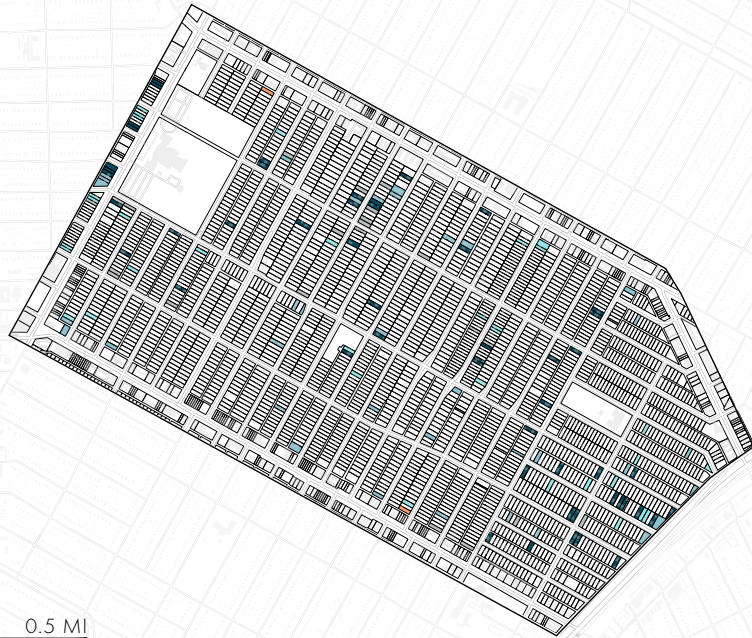
The map to the bottom right represents DLBA Owned Abandoned Houses and Vacant Lots Denby, Detroit.

Vacancies



0 0.5 MI

DLBA Owned Abandoned Houses and Vacant Lots



0 0.5 MI

Sidewalk Condition Assessment

Through on-site observation, it was determined that the sidewalks in Denby, Detroit, need repairs and improvements. Many of the sidewalks are cracked, uneven, and are in decay, making navigation difficult and dangerous for those walking. This is especially problematic for residents who depend on walking as their main method of transit, such as students going to school and seniors using public transportation. A study conducted by the Department of City Planning in New York City found that walking on uneven, cracked, or damaged sidewalks can make those traveling on them feel unsafe or anxious, particularly at night if there is not adequate lighting in that specific area. This can result in a fear of going outside or a decrease in physical exercise, both of which can lead to a poor well-being (2015). This specific study examines every sidewalk located in the Denby neighborhood and divides the condition of the sidewalk into four different categories:

- **Well Maintained:** No impeding obstacles, generally a smooth surface.
- **Maintenance Needed:** Cracks, uneven surface, and or overgrown
- **Impossible:** Significant cracks, completely overgrown

Majority of the sidewalks in Denby fall within the "maintenance needed" category. This means that many individuals walking the neighborhood are subject to a negative well-being according by the research conducted by the department of city planning in New York.

LEGEND

-  Well Maintained
-  Maintenance Needed
-  Impossible
-  No Sidewalk Present

Fig. 6.4

The map to the top right represents sidewalk condition in Denby, Detroit.

Sidewalk Condition Assessment



Negative Impacts on Well-Being

Considering the studies conducted on the previous pages on vacancies, occupancy, and sidewalk conditions, those aspects are then layered together onto this single negative impacts analysis map. This map also includes additional information, such as unsafe crossings and a lack of bike lanes. A pedestrian crossing can be deemed unsafe when there is a lack of lighting, signage, and high volumes of traffic in the area, which is an issue especially if the area sees high pedestrian traffic and has visibility issues. The letters on the analysis map correspond to a space for possible site intervention and are analyzed more thoroughly (see pages 65-66).

This mapping exercise determined that there are multiple aspects within the community that need to be considered. There are several vacant properties, abandoned structures, and poor walking conditions that students must contend with on a daily basis, and these issues must be addressed.

LEGEND










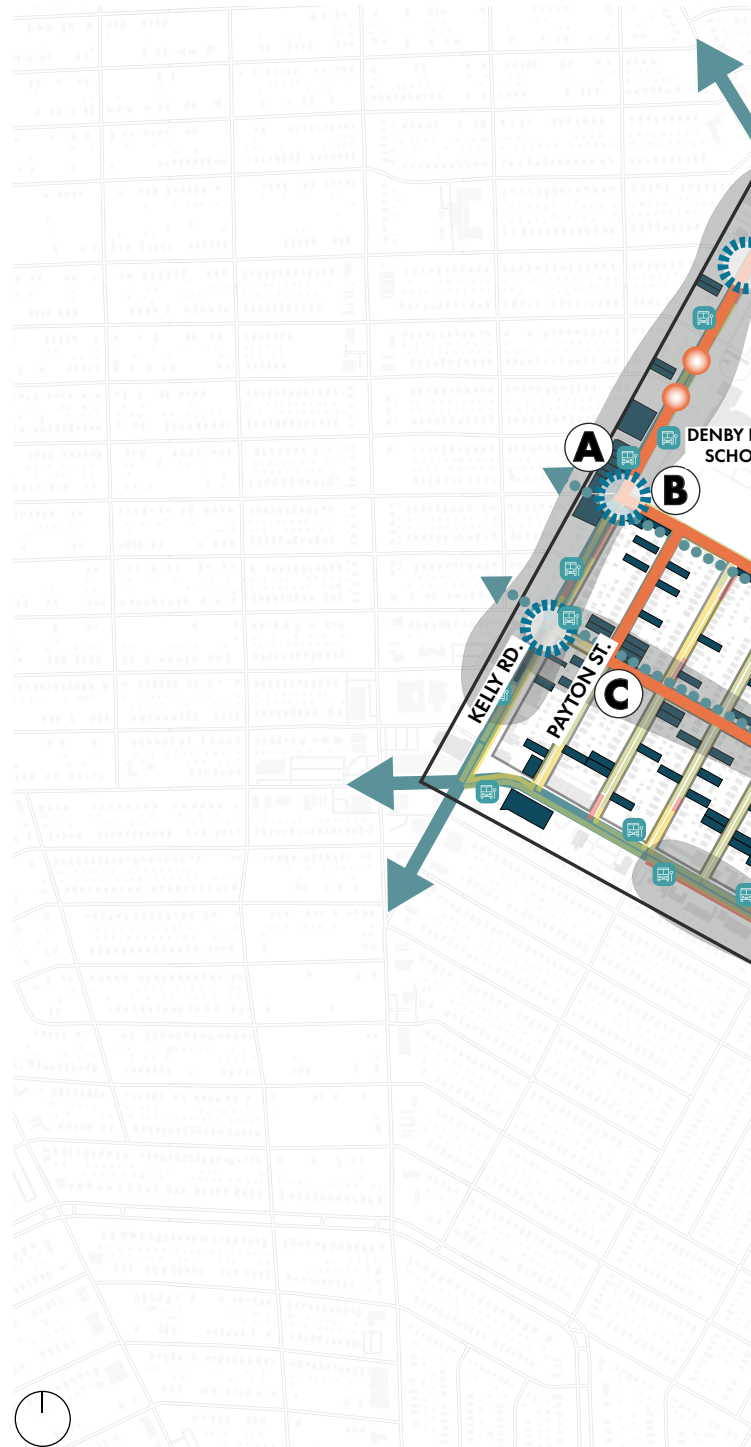
-  Primary Routes
-  Secondary Routes
-  Student Walking Routes
-  Unsafe Crossing
-  Vacancies
-  Good Condition Sidewalk
-  Fair Condition Sidewalk
-  Poor Condition Sidewalk
-  No Sidewalk Present
-  Areas of Concern

Fig. 6.5
The map to the right represents the elements that negatively impact well-being in Denby, Detroit.





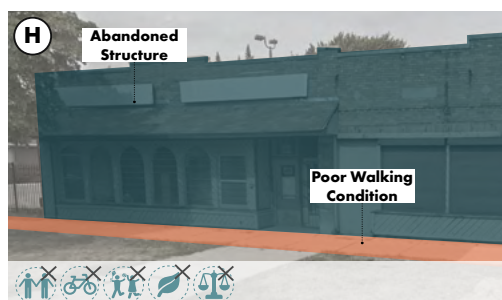
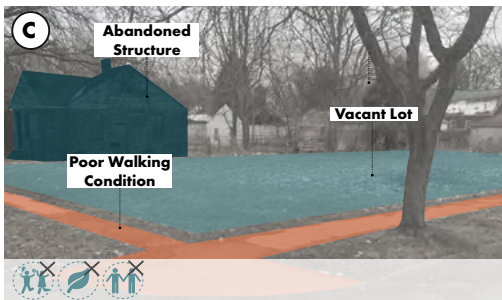
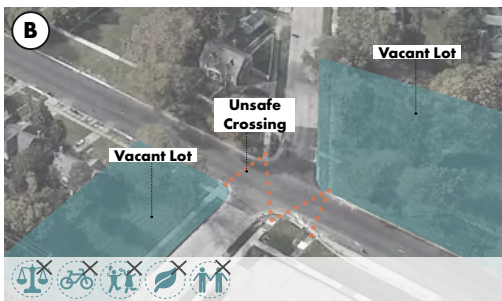
6.4 ANALYZING POSSIBLE SITE LOCATIONS

The images to the right correlate to the letters found on the analysis map (on pages 63 and 64) and are all locations for a possible site intervention. Using the well-being framework that was created for this thesis, each location was thoroughly examined. Under each image is the restorative urbanism pillar of design that is being impacted in a negative manner and helps to understand the current conditions of each location.

Furthermore, this study indicated that the majority of each location for a possible site intervention has the same negatively impacted restorative urbanism drivers, thus requiring additional reasoning when determining each site location. Section 8 outlines that the selected sites were determined based on a 1/4-mile walking radius.

Fig. 6.6-6.13

The images to the right are analysis images of potential site locations found within Denby, Detroit.



6.5

ADDITIONAL NEGATIVE IMPACTS

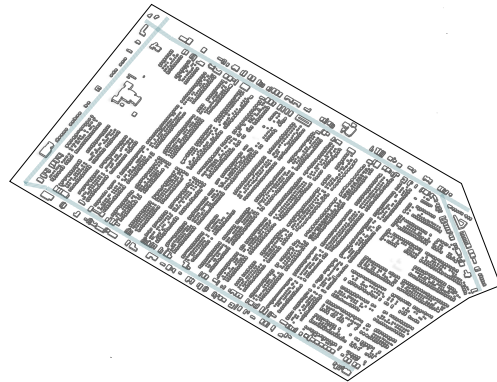
Primary Streets

The last elements that can be deemed to have a negative impact are the current conditions of the primary and secondary streets located within the Denby neighborhood (see Figs. 6.16 and 6.17). These streets both portray characteristics that can be deemed harmful to one's well-being. Firstly, analyzing the primary streets shows that these streets typically see a higher capacity of traffic and act as a main artery for the movement of vehicles in Denby. More specifically, the main roads run along the perimeter of the neighborhood (see Fig. 6.14). These streets can be considered to have a negative impact on well-being because they do not provide bike lanes for the residents, and there are unsafe crossings along these roads. Lastly, the sidewalks along these primary streets touch the storefronts of the retail spaces along the commercial corridors. In many cases, these retail buildings are abandoned and in poor condition, providing residents walking by an unpleasant experience.

Secondary Streets

The secondary streets can have a negative impact as well. These secondary streets are generally smaller and see less vehicular traffic compared to the primary streets (see Fig. 6.16). However, these streets see more traffic compared to the tertiary streets, which are oriented toward resident circulation. From the analysis conducted on pages 63 and 64, it was determined that these secondary streets see heavy foot traffic from high school students walking to and from school. However, from on-site observations, the conditions of the road surfaces and sidewalks are in extremely poor condition. There are potholes littering the road surfaces, as well as overgrown vegetation and uneven sidewalks that do not provide an inclusive walking experience to all residents.

KEY PLAN



KEY PLAN

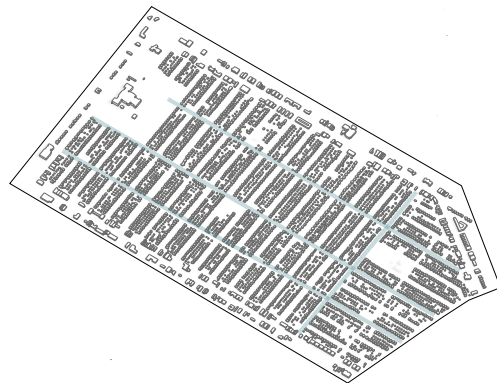
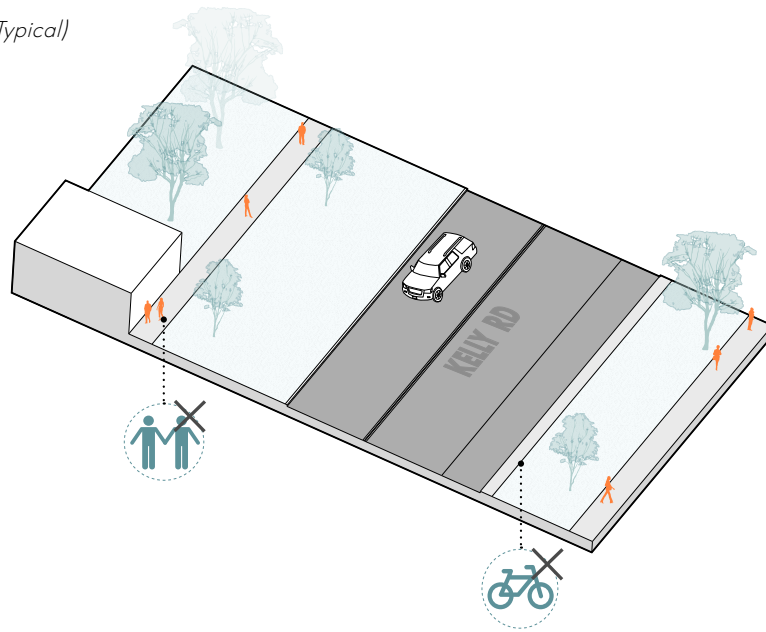


Fig. 6.14-6.15
Key plan of the street types in Denby.

Primary Street (Typical)



Secondary Street (Typical)

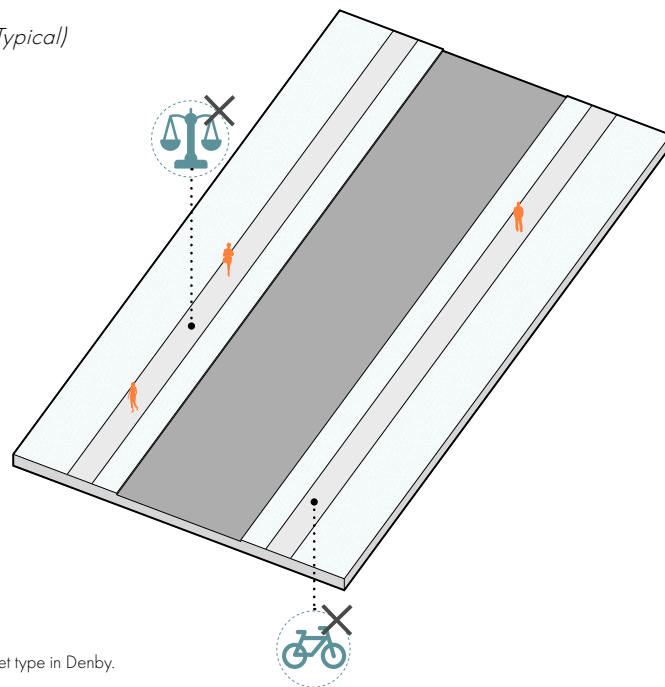


Fig. 6.16-6.17
Axon view of a typical street type in Denby.

6.6

KEY TAKEAWAYS

Understanding and determining elements that can have a negative impact on an individual's well-being in Denby through a variety of mapping techniques is an important and defining portion of this thesis. There were a few significant findings and takeaways from looking at this data through the lenses of well-being and high school students that helped shape and inform the design decisions of interventions moving forward in this thesis.

01

The primary streets within the neighborhood need to be addressed and improved. The current state of these roads is causing unsafe conditions regarding pedestrian crossings and a lack of bike lanes. This also makes the community less inclusive and accessible for those who rely on biking as a form of transportation.

02

Through the analysis conducted on pages 63 and 64, it was determined that there are no spaces within the neighborhood that provoke students to get out and walk. It was revealed that many Denby High School students use Burger King as a hangout spot and to eat at. Creating moments in the neighborhood that provide a space where teenagers feel welcomed and safe while still encouraging social interactions and a feeling of independence is a priority.

03

The secondary streets in the neighborhood, more specifically Yorkshire Rd. and Britain Ave., are in extremely poor condition in terms of road surface and sidewalk condition. Furthermore, these streets do not see heavy vehicular traffic. This is a defining factor for this neighborhood plan because these two specific roads will be converted and adapted to become pedestrian routes.

07

UNDERSTANDING
CURRENT
PERCEPTIONS

7.1 THE IMPORTANCE OF ENGAGEMENT

For this thesis, engaging community members and high school students is critical when developing an urban design and neighborhood plan because it ensures that the proposal corresponds with the interests and values of those who will be affected by the changes. Through this process, valuable information can be gathered that allows for informed decisions regarding the desired interventions that address all of the concerns and needs of the community. It is also important to “design with the people who will use the space.” Overall, these individuals, specifically high school students, will be using these spaces, so it is important that these spaces include elements that they will enjoy and use.

7.2 COMMUNITY LEADERS



SANDRA TURNER HANDY
COORDINATOR OF DENBY NEIGHBORHOOD
ALLIANCE

WHAT WOULD YOU LIKE TO SEE IN THE NEIGHBORHOOD?

*"More amenities: sit down restaurants with patios, affordable boutiques, a supermarket (Right now I have to go to Gratiot or 8 Mile). There needs to be **'life on the street'** - sidewalk sales, outside dining, etc.*

WHAT ARE DENBY'S MAJOR CHALLENGES?

"Vacant property and blight/vacant storefronts, organization, as well as visioning and planning..."

WHAT KINDS OF TRANSIT ROUTES ARE IN THE COMMUNITY?

*"Mostly motorists, and I saw one bike route. Some narrow streets, some wider. Very bumpy roads. Sidewalks are **unwalkable** in many spots. In many spots they are cracked, broken, and overgrown with weeds."*

WHAT DOES DENBY NEED?

*"**Good buffers between cars and people.** I think that they were really wide on Whittier which is wider than the rest of the side streets. Sound barriers between cars and people, also reduced visual barriers, helps to make the street feel safer (clear sight lines)"*

Fig. 7.1
Image of Sandra Turner Handy.

7.3 HIGH SCHOOL STUDENTS



SIERRA
DETROIT HIGH SCHOOL STUDENT

HOW DO YOU FEEL ABOUT WALKING?

"I actually really enjoy walking. After the pandemic myself and other people I know would prefer to walk rather than drive a car. When coming out of the lockdowns and quarantines there seemed to be a lot of cars on the road, so it seemed daunting to learn and drive with all of them."

WHAT WOULD YOU LIKE TO SEE IN THE NEIGHBORHOOD?

"Places where my friends and I can hang out. I also enjoy walking and riding my bikes with my friends. It would be nice to see walkable areas in the community."

WHAT IS LACKING IN THE NEIGHBORHOOD?

"Currently, there are no places for teens. It seems like there are spaces either for young children, or only for adults. There are no spaces for that in between age group. Also food options, specifically that are within walking distance. Having additional food options would be great."

“The spaces that are currently available in my community are either for young children or adults. This includes jungle gyms that children would use; most of my friends and I wouldn’t use this kind of space. It can be hard sometimes because there just aren’t enough places where teenagers like me can go and just hang out.”

Sierra

Student

Detroit High School, 2023

7.4 APPLYING CASE STUDIES

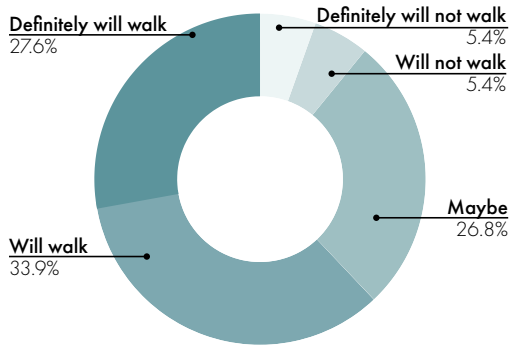
One challenging aspect that can be considered a limitation of this thesis is engaging with the student population at Denby High School. When it comes to surveys and interviews with students, in this case, many of whom are minors, there are a variety of safety concerns that come with this. Schools have extremely strict policies that protect sensitive data regarding their students. A second limitation to this specific process is time. To have a chance at conducting interviews with students, the research needs to be approved by the school board to which the school belongs. This can be a lengthy process, but with additional time, it may be achievable.

In order to combat this limitation, a study conducted by Western Washington University regarding spaces that students like to use was used to obtain valuable information. This information (see Fig 7.2) is used to influence specific design interventions that will be located within Denby's urban fabric.

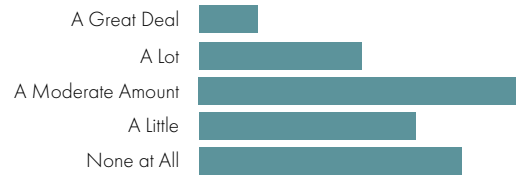


HIGH SCHOOL STUDENTS
CASE STUDIES OF STUDENTS FROM WESTERN
WASHINGTON UNIVERSITY

Frequency distribution for students' chances whether to walk or bike to school **if the route to school was improved to be safer.**



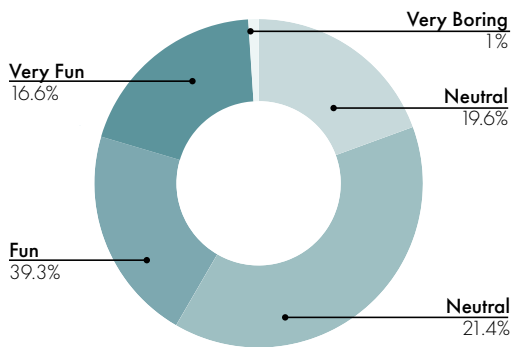
#1 - UTILIZE SKATE PARKS?



#2 - UTILIZE BASKETBALL COURTS?



How do you feel about walking?



#3 - OUT OF THE FOLLOWING ACTIVITIES, WHAT WOULD YOU PARTICIPATE IN?

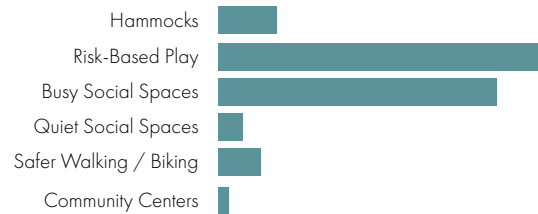


Fig. 7.2
Statistics from a study completed by Western Washington University.



7.5

RISK-BASED PLAY

Risk play is a type of play that involves some level of physical or emotional risk and can be beneficial for the development of a teenager moving into adulthood." Risky play involves kids experimenting and pushing themselves to figure out what will happen without knowing the exact outcome. If kids don't go far enough with their play, it's boring, and if they go too far, it gets too scary." (Brussoni, 2012). Researcher Mariana Brussoni suggests that there are six different ways that high school students can engage in risky play. These include:

01

Play with heights (Brussoni, 2012).

02

Play at high speeds, such as riding a bike really fast (Brussoni, 2012).

03

Play with tools (Brussoni, 2012).

04

Play near elements, such as playing near fire or water (Brussoni, 2012).

05

Play with a chance of getting lost, such as wandering the neighborhood with friends (Brussoni, 2012).

06

Rough-and-tumble play (Brussoni, 2012).

Fig. 7.3

The image to the left is a young girl and boy partaking in risk-based activities.

08

INTERVENING

8.1 INTRODUCTION

This thesis presents a comprehensive urban design strategy and neighborhood plan for the Denby neighborhood that strives to capitalize on the community's assets while also addressing the community's most pressing needs. The purpose of this proposal is to revitalize Denby and create a more vibrant, sustainable, and equitable neighborhood for all of its high school students and residents through a combination of physical improvements, community participation, and strategic planning.

8.2 UNDERSTANDING EXISTING MODELS

Barcelona Superblocks

"The Superblocks Program is one of the most ambitious urban transformations of the city, with a plan that redefines the urban order by merging blocks into bigger units. A people-centered planning that offers the opportunity to gain new public spaces by creating proximity squares in the chamfer corners and green-healthy streets where previously there were cars." (Ott, 2019).

An important factor to take away from the Barcelona Superblocks design strategy is noise levels. As stated at the beginning of this thesis, there is an increase in noise in low-income neighborhoods in Detroit, which has a negative impact on well-being. However, in the case of the Barcelona Superblocks, where there was once a high-traffic roadway, there is now a healthy street full of life and vegetation. Before, noise from the vehicles echoed through the community, but that has now been replaced by children playing and community members chatter (Ott, 2019). A much more pleasant experience that attributes to positive well-being.

Elements of this design strategy can be altered and scaled to work within Denby, creating a more enjoyable experience for community members and

Fig. 8.1
The collection of images to the right are images taken of the Superblock of Sant Antoni in Barcelona, Spain.



8.3 THE WELL-BEING LOOP

Taking everything that was uncovered through the research on well-being, student perceptions, and analyses of the current condition within Denby and using the well-being framework, a proposal for a neighborhood development plan can be created.

The well-being loop is a pedestrian-oriented pathway located in the center of the Denby neighborhood. This proposal includes completely closing off vehicular circulation along Yorkshire Rd. and Britain Ave. and converting and adapting these roads to become pedestrian-only streets, like the Barcelona Superblocks Program. Duchess St. and Balfour Rd. will have flexible blockade strategies that stop vehicular traffic through the neighborhood during peak times of the day. This is done because residents along these two streets still need to be able to get to and from their homes. All access and driveways to the residences occur on the tertiary streets (Duchess St. and Balfour Rd.), which allows for the complete closure of Yorkshire Rd. and Britain Ave.

Along the well-being loop are five site interventions; these are called 'moments'. These interventions are created through informed decisions using engagement strategies and the well-being framework. This proposal aims to create a fluent connection throughout the neighborhood while providing spaces for students to engage in, socialize, and play, with the goal of improving their well-being.

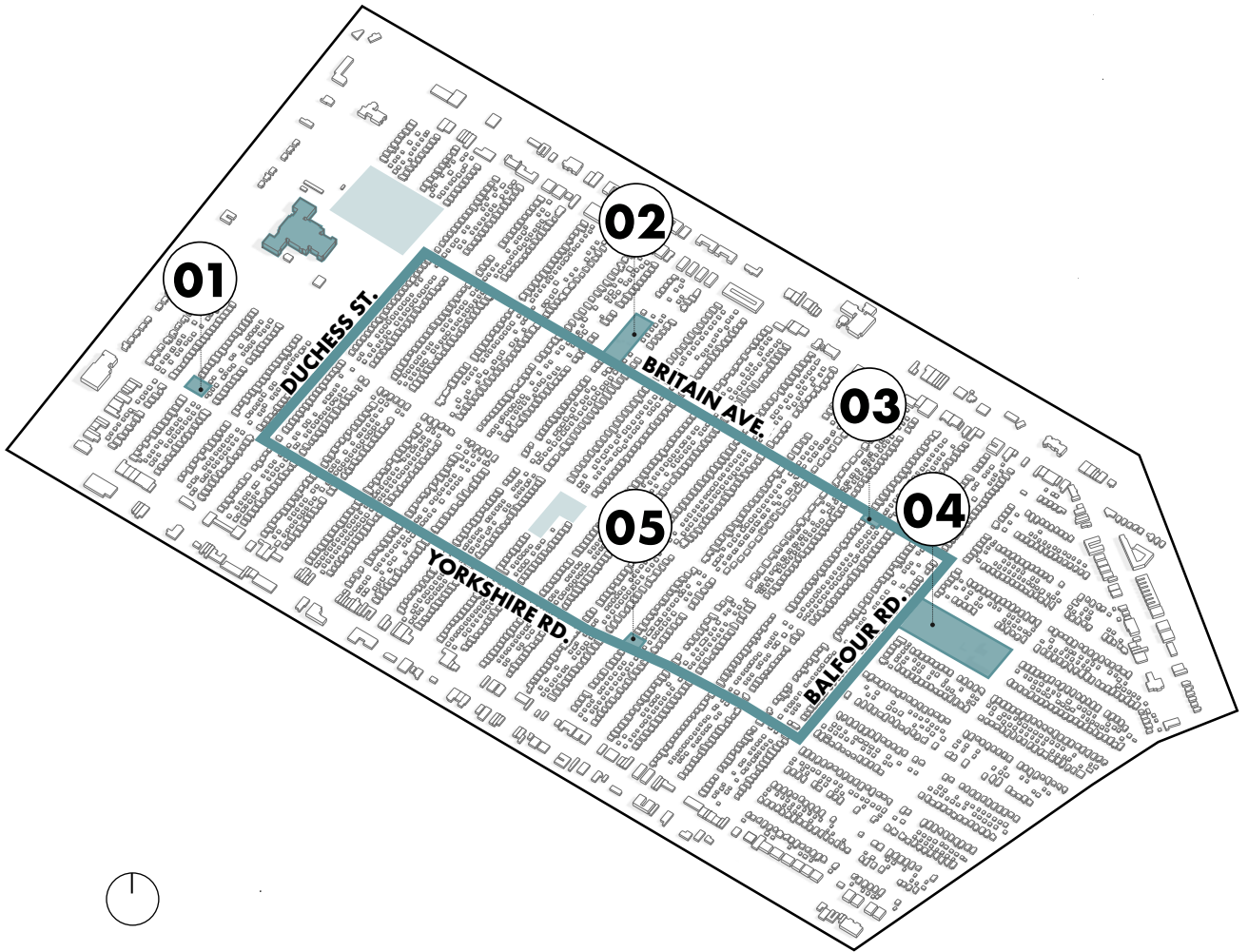
LEGEND

-  The Well-Being Loop
-  Existing Green Space
-  Well-Being Moments
-  Well-Being Moments

Fig. 8.2
The map to the right is an overall map of the well-being loop proposal.

Fig. 8.3
The next spread is a rendering of the pedestrian pathway located on the well-being loop.

The Well-Being Loop







Mobility

Vehicular circulation through the neighborhood will be used mainly through the use of tertiary streets or “through residential traffic” (see Fig. 8.4). The solid orange lines on this map depict Yorkshire Rd. and Britain Ave., both of which will be converted into pedestrian streets. Bike lanes, walking routes, vegetation, and small nodes that foster social interaction will be included in these pedestrian streets. These social nodes will provide shaded seating areas for those traveling along the path. Applying the well-being framework, these streets are inclusive, allowing all populations to travel safely throughout the community. These streets also address the neighborly pillar of design by optimizing social opportunity in Denby; and the active pillar by providing the community with a walkable and bikeable path (see page 87-88 for a visual representation of the proposed pedestrian pathway).

LEGEND

- Pedestrian Streets (Closed to Vehicles)
- Pedestrian and Vehicle Street
- Primary Vehicular Circulation
- ||||| Through Residential Traffic

Proximity

Each site intervention’s location was determined by a 1/4-mile radius, or a 5-minute walking radius. For this thesis, it was determined that no student or resident should be more than a 5-minute walk from one of these spaces. This makes the experience more accessible to everyone. Furthermore, there are other advantages to being close to one of these spaces. Being able to walk to one of these spaces is beneficial since it allows for physical activity, mental health benefits, community engagement, and economic benefits.

LEGEND

- 1/4 Mile Radius
- Existing Green Space
- Well-Being Moments

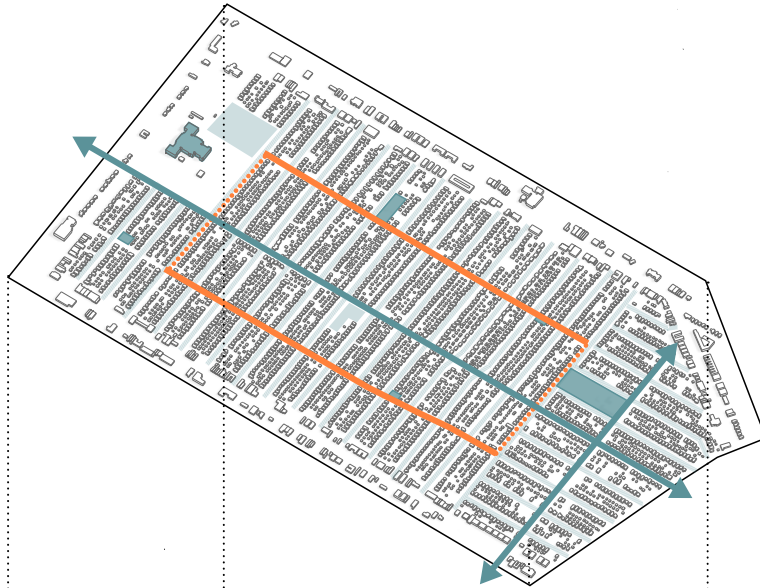
Fig. 8.4

The map to the top right represents the Vacancies in Denby, Detroit.

Fig. 8.5

The map to the bottom right represents DLBA Owned Abandoned Houses and Vacant Lots Denby, Detroit.

Mobility



Proximity



8.4 INFRASTRUCTURE IMPROVEMENTS

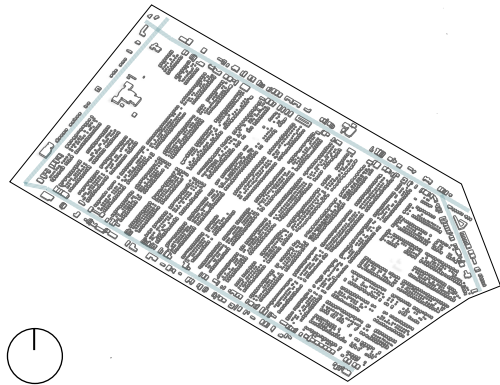
Primary Streets

As mentioned in Section 6, it was determined that the primary streets are currently having negative effects on the well-being of the Denby residents. These streets were considered to have a negative impact on well-being because they do not provide bike lanes for the residents, and there are unsafe crossings along these roads. With this proposal, all primary streets (see Fig. 8.6) will undergo streetscape improvements to make the community more walkable and accessible using the well-being framework. New features include covered bus stop shelters; bike lanes that are separated from the road by a curb, improving safety and addressing the active pillar of design by providing the community with an accessible bike route; street trees, which address the green space pillar of design by connecting community members to nature; and wider sidewalks, making them more inclusive to the residents.

Secondary Streets

The secondary streets will undergo a smaller-scale streetscape improvement. As mentioned in Section 6, it was determined that the conditions of the road surfaces and sidewalks are in extremely poor condition. There are potholes littering the road surfaces, as well as overgrown vegetation and uneven sidewalks that do not provide an inclusive walking experience for all residents. Since Yorkshire Rd. and Britain Ave. are being converted into pedestrian streets, there are now only two secondary streets that run through the Denby neighborhood (see Fig. 8.7). These smaller-scale improvements include the addition of traffic calming measures in the form of speed bumps increasing safety on these streets, street trees to connect humans with nature, and improved sidewalks so they become more inclusive and accessible to all residents.

KEY PLAN



KEY PLAN

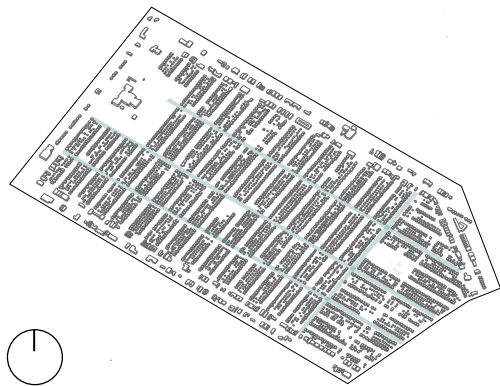
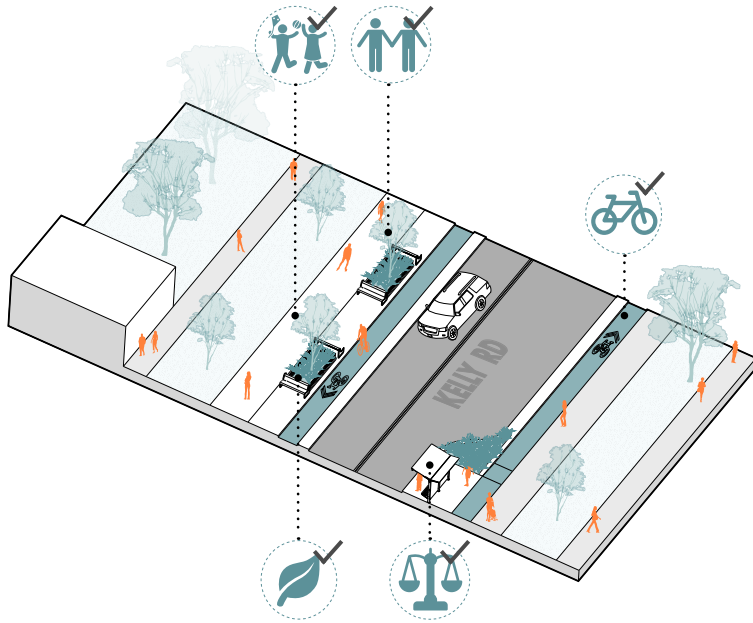


Fig. 8.6-8.7
Key plan of the street types in Denby.

Primary Street (Typical)



Secondary Street (Typical)

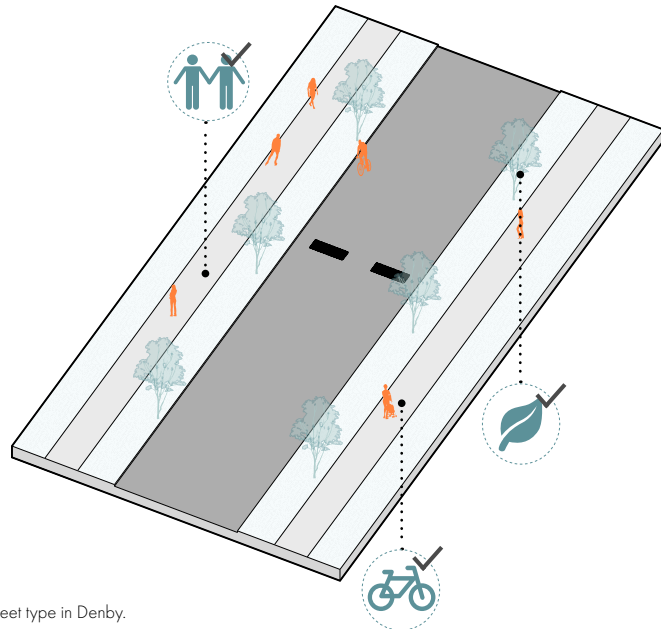


Fig. 8.8-8.9
Axon view of a typical street type in Denby.

01

**THE ENGAGEMENT
PLAZA**





01

THE ENGAGEMENT PLAZA

This specific intervention is considered to be an "engagement plaza." An engagement plaza is a public space designed to facilitate social interaction and community engagement. It typically features amenities such as seating areas, public art installations, and gathering spaces for events and activities. This moment features open fields to hold community events, a water fountain, and covered structure with hanging swings.

KEY PLAN

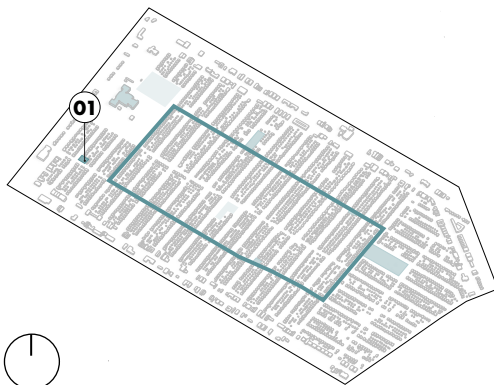
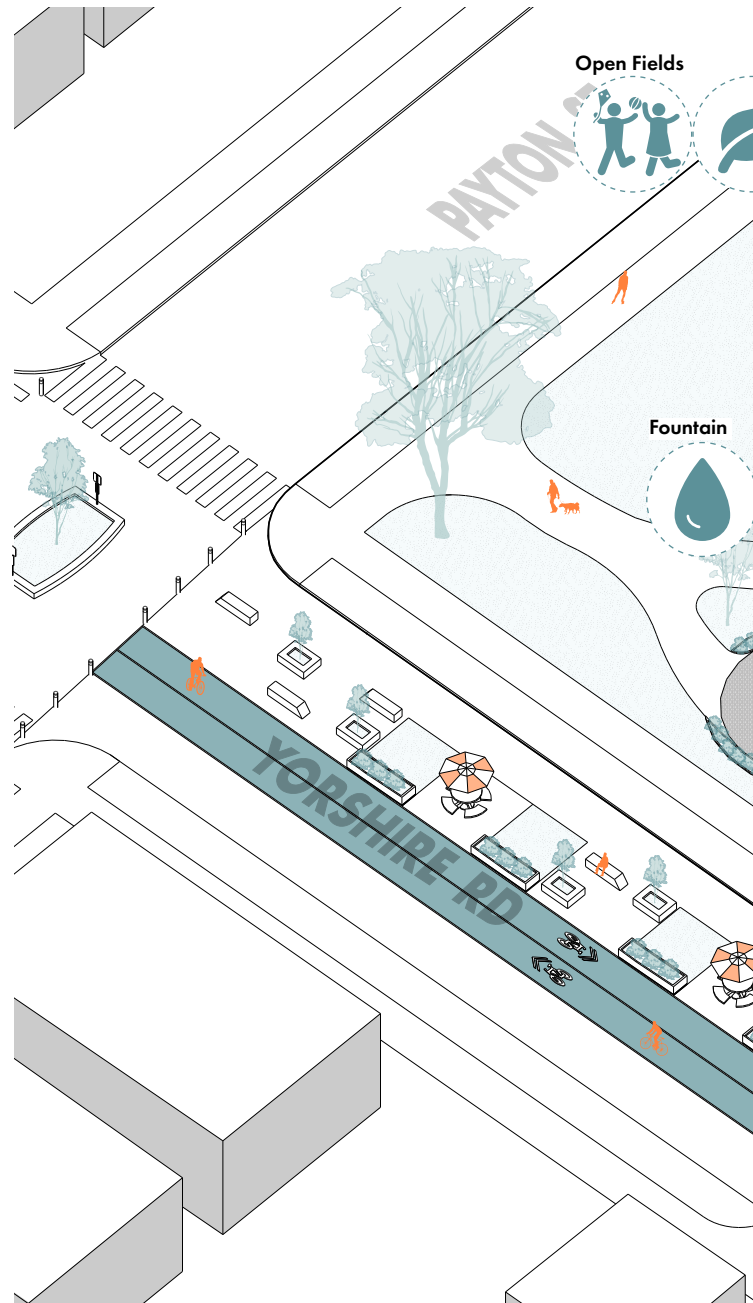
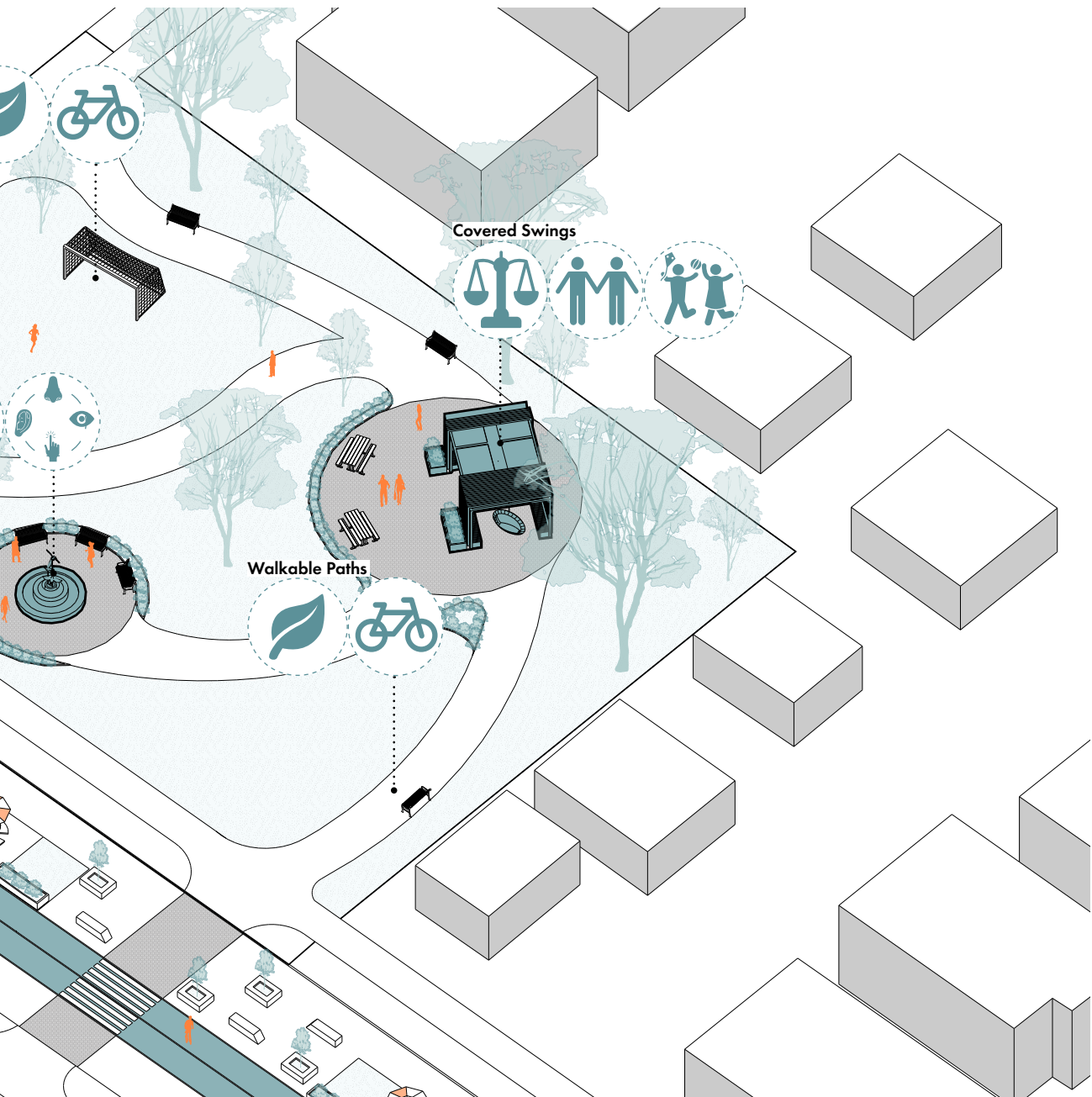


Fig. 8.10
The previous spread was a rendering of the engagement plaza.

Fig. 8.11
To the right is an axonometric view of the engagement plaza.





02

THE ACTIVE PLAZA





02

THE ACTIVE PLAZA

This specific intervention is considered to be an “active plaza.” An active plaza is a public space designed to promote physical activity and fitness. This moment features amenities such as walking paths, outdoor fitness equipment, open spaces for group exercise, and more specifically, this moment features a skate park for students to utilize.

KEY PLAN

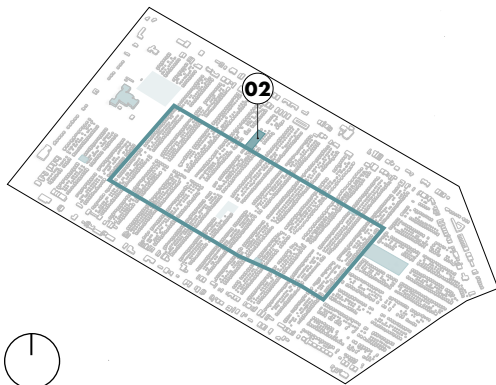
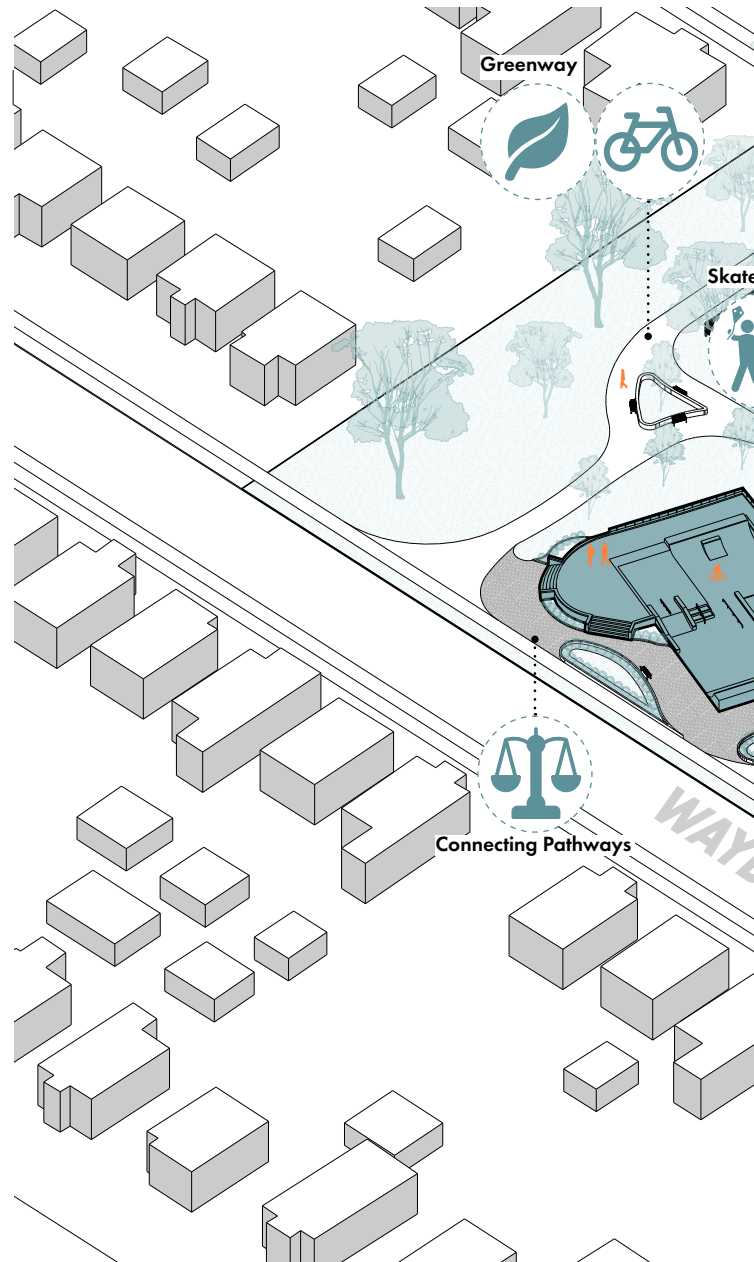
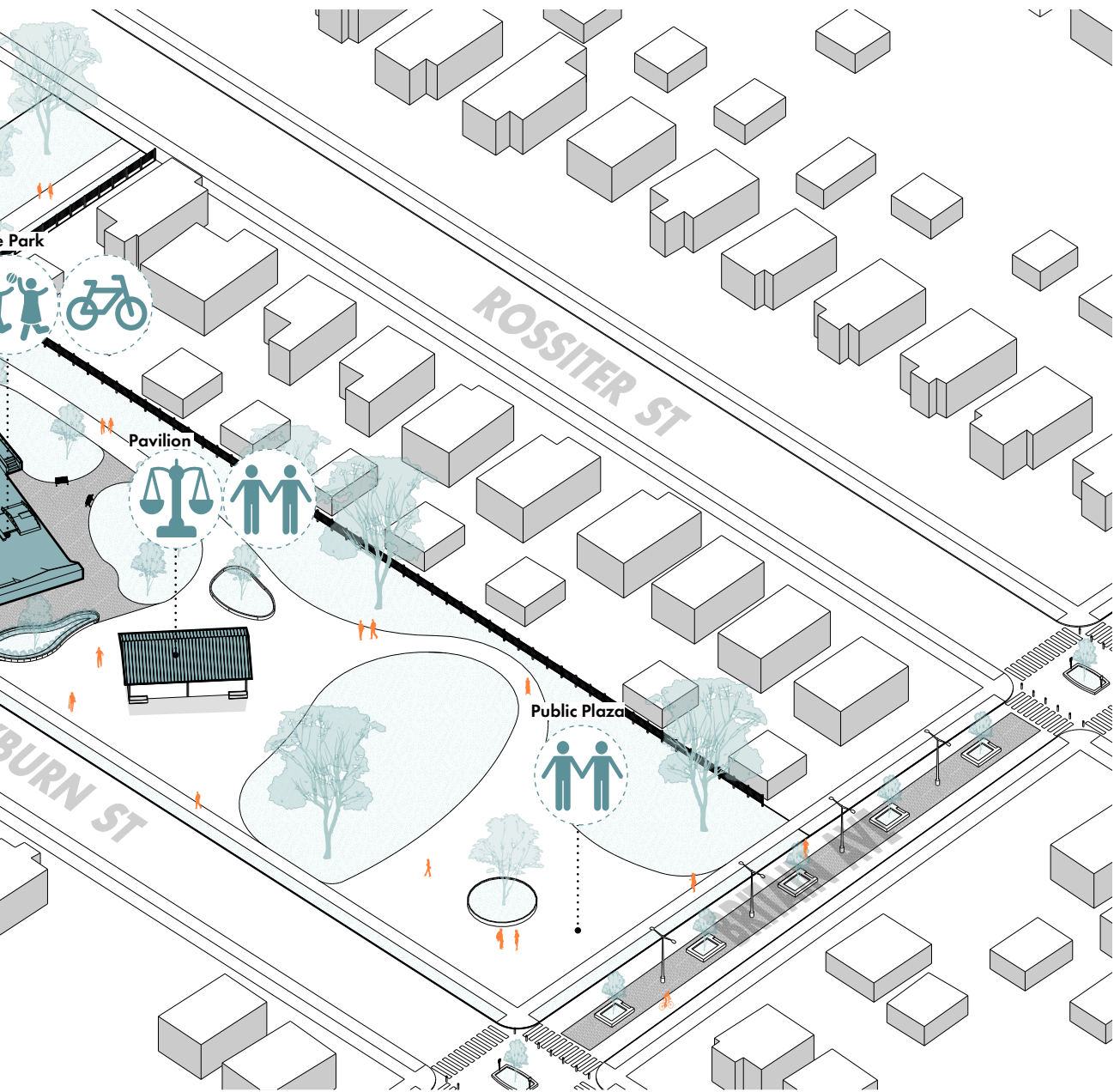


Fig. 8.12
The previous spread was a rendering of the active plaza.

Fig. 8.13
To the right is an axonometric view of the active plaza.





03

THE SOCIAL PLAZA





03

THE SOCIAL PLAZA

This specific intervention is considered to be a “social plaza.” It is a public space that is designed to be a central gathering place for students to interact, socialize, and engage in various activities. A social plaza typically features open areas for walking, sitting, and socializing, as well as amenities such as benches, tables, fountains, and sculptures. All elements that are encapsulated within this moment.

KEY PLAN

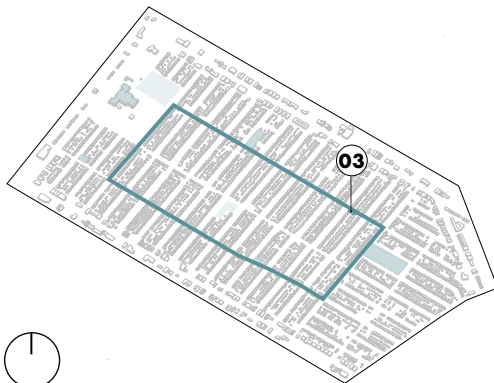
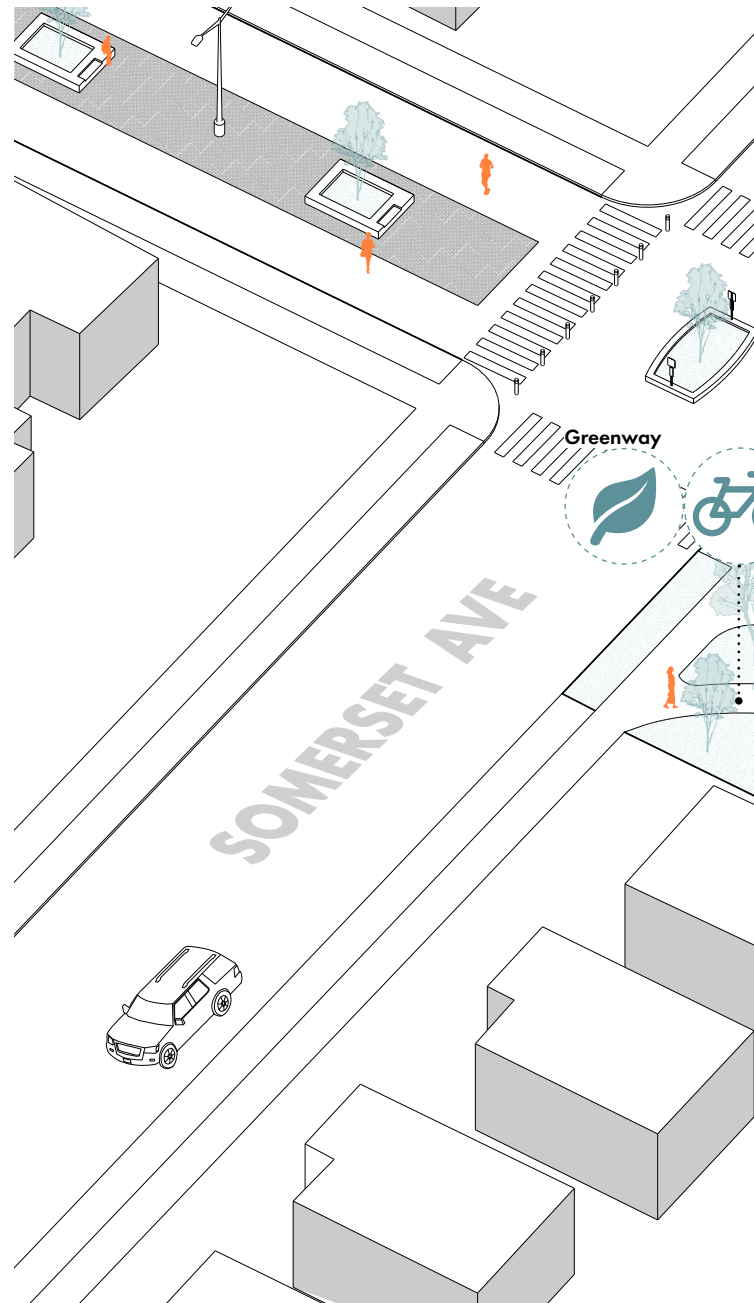
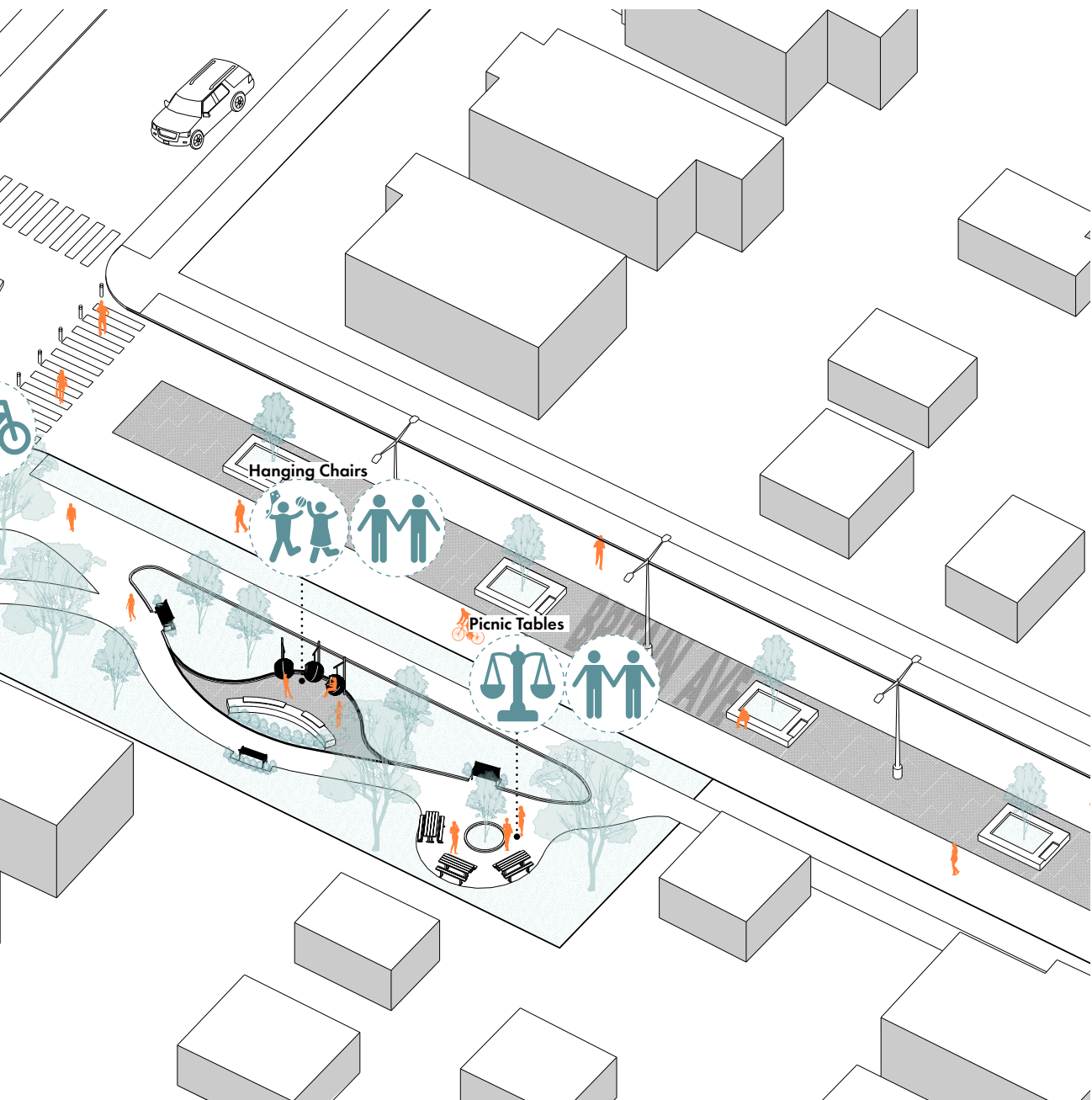


Fig. 8.14
The previous spread was a rendering of the social plaza.

Fig. 8.15
To the right is an axonometric view of the social plaza.





04

THE COMMUNITY RECREATION PLAZA





04

THE COMMUNITY RECREATION PLAZA

This specific intervention is considered to be a "community recreation plaza." A community recreational plaza is a public space designed to provide recreational opportunities and amenities for people of all ages. It typically features amenities such as playgrounds, sports courts, open spaces for picnics and games, and other recreational facilities. This moment features a structure that allows students access to water, power, and wifi. There is a large soccer field to host games, a basketball court, art installations, and more.

KEY PLAN

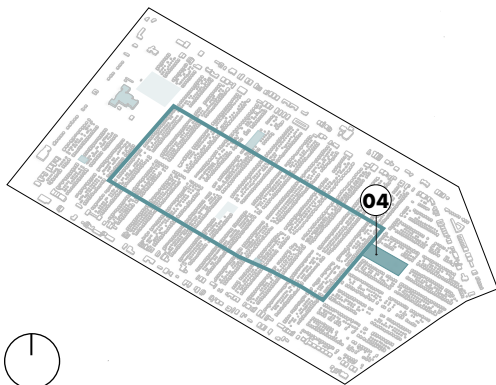
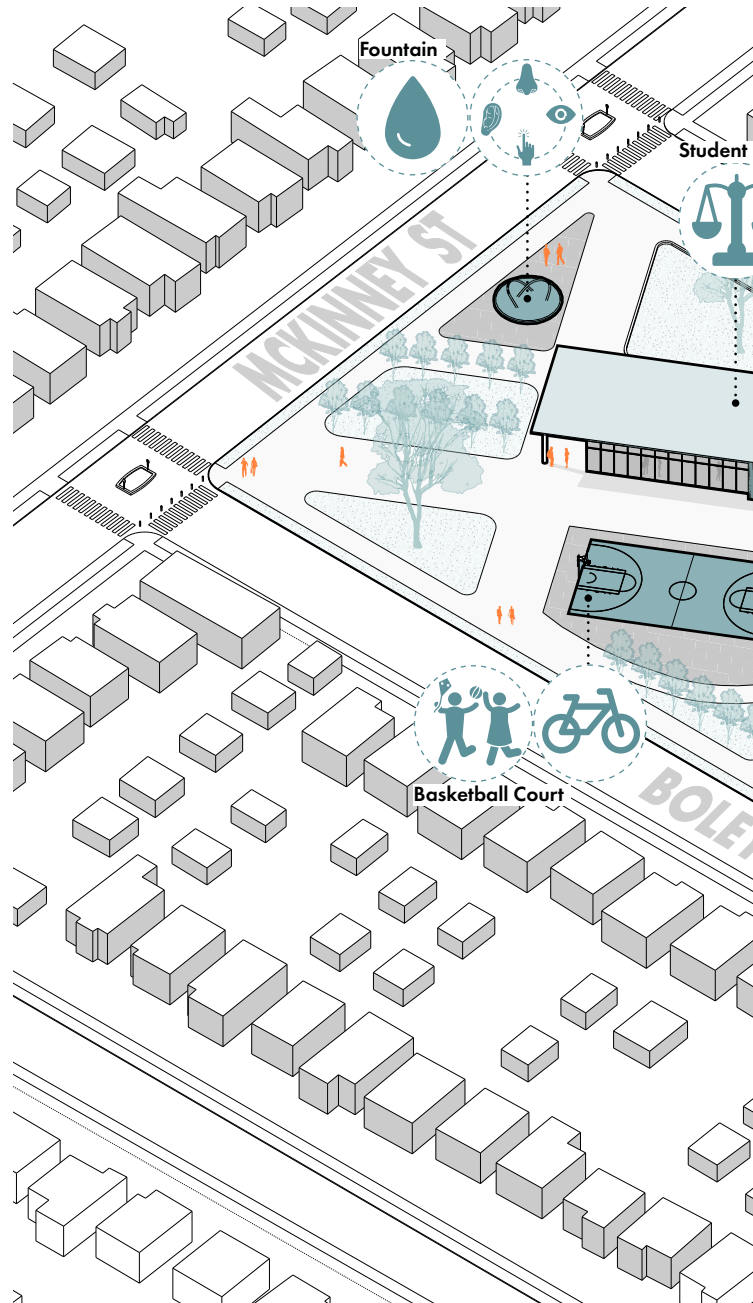
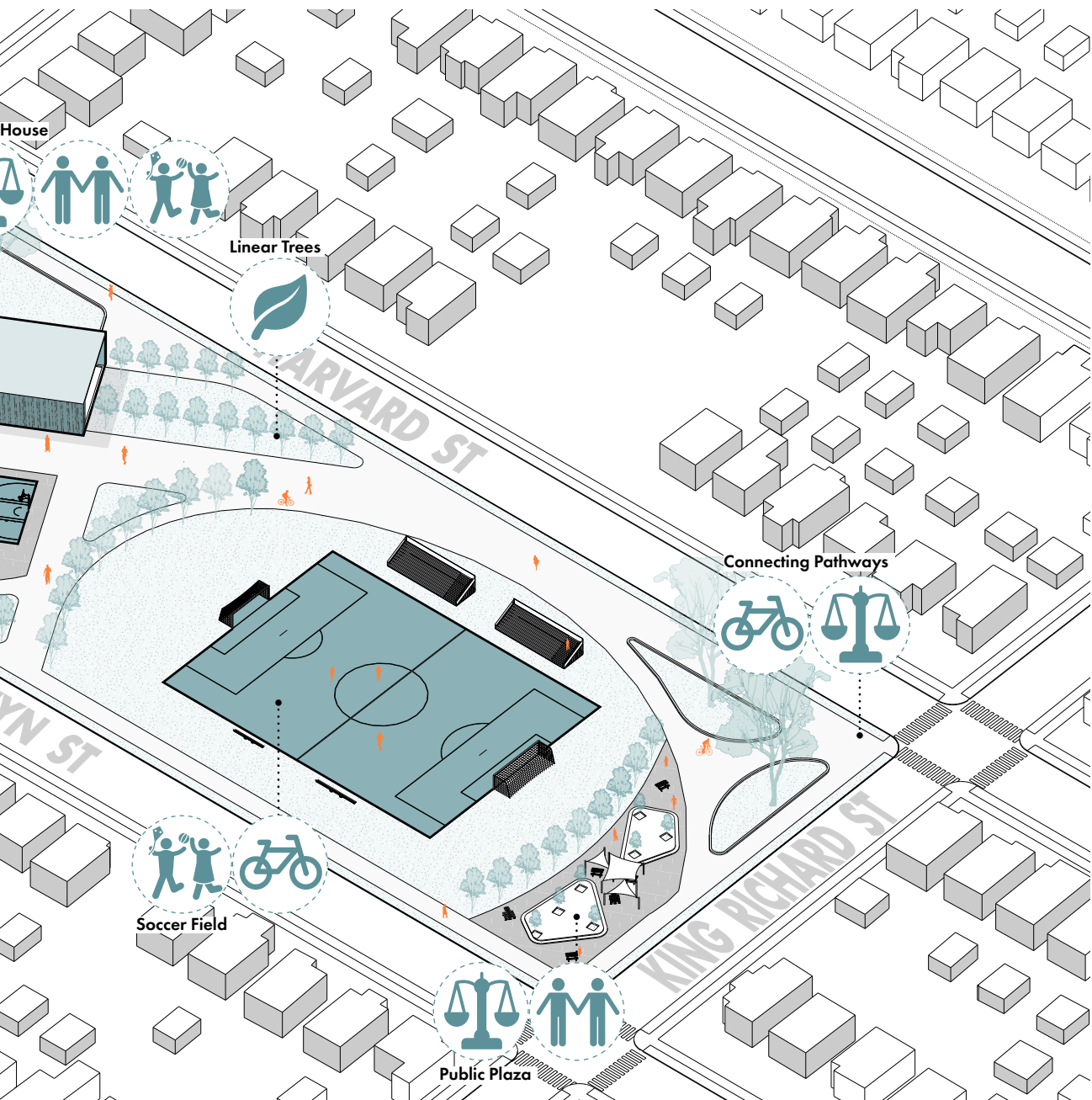


Fig. 8.16
The previous spread was a rendering of the community recreation plaza.

Fig. 8.17
To the right is an axonometric view of the community recreation plaza.





05

THE SERENE PLAZA





05

THE SERENE PLAZA

This specific intervention is considered to be the “serene plaza.” The serene plaza is a public space designed to provide a calm and peaceful environment for people to relax, unwind, and connect with nature. It features amenities such as benches, seating areas, gardens, water features, and other natural elements. There is a hill located on site that creates a barrier between people and cars, generating a sense of privacy and relaxation. There are covered canopies that generate the opportunity for individuals to read a book or work on homework.

KEY PLAN

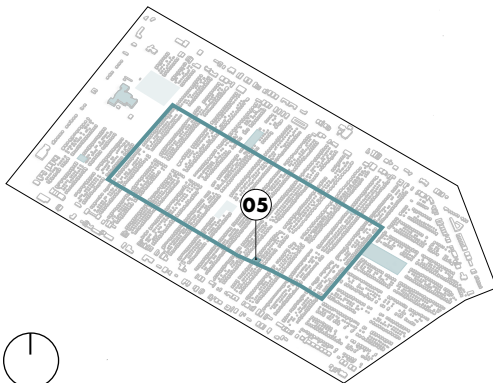
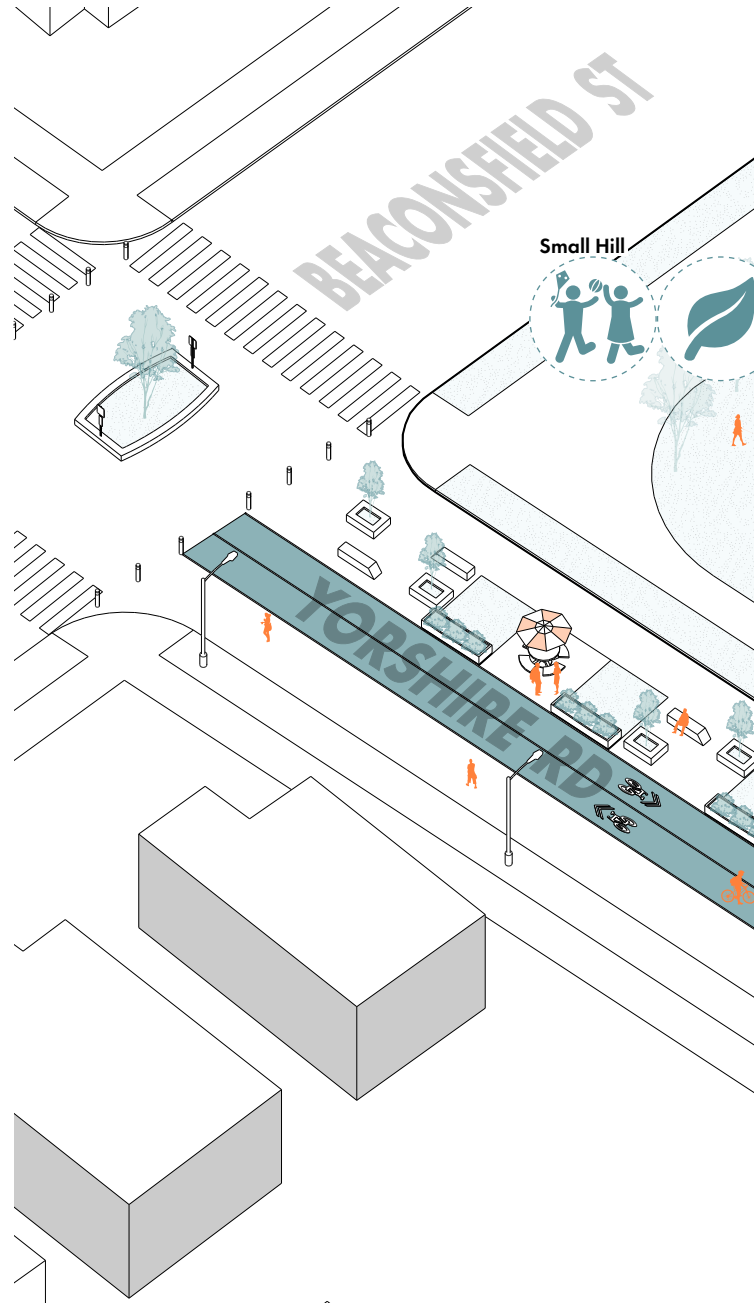
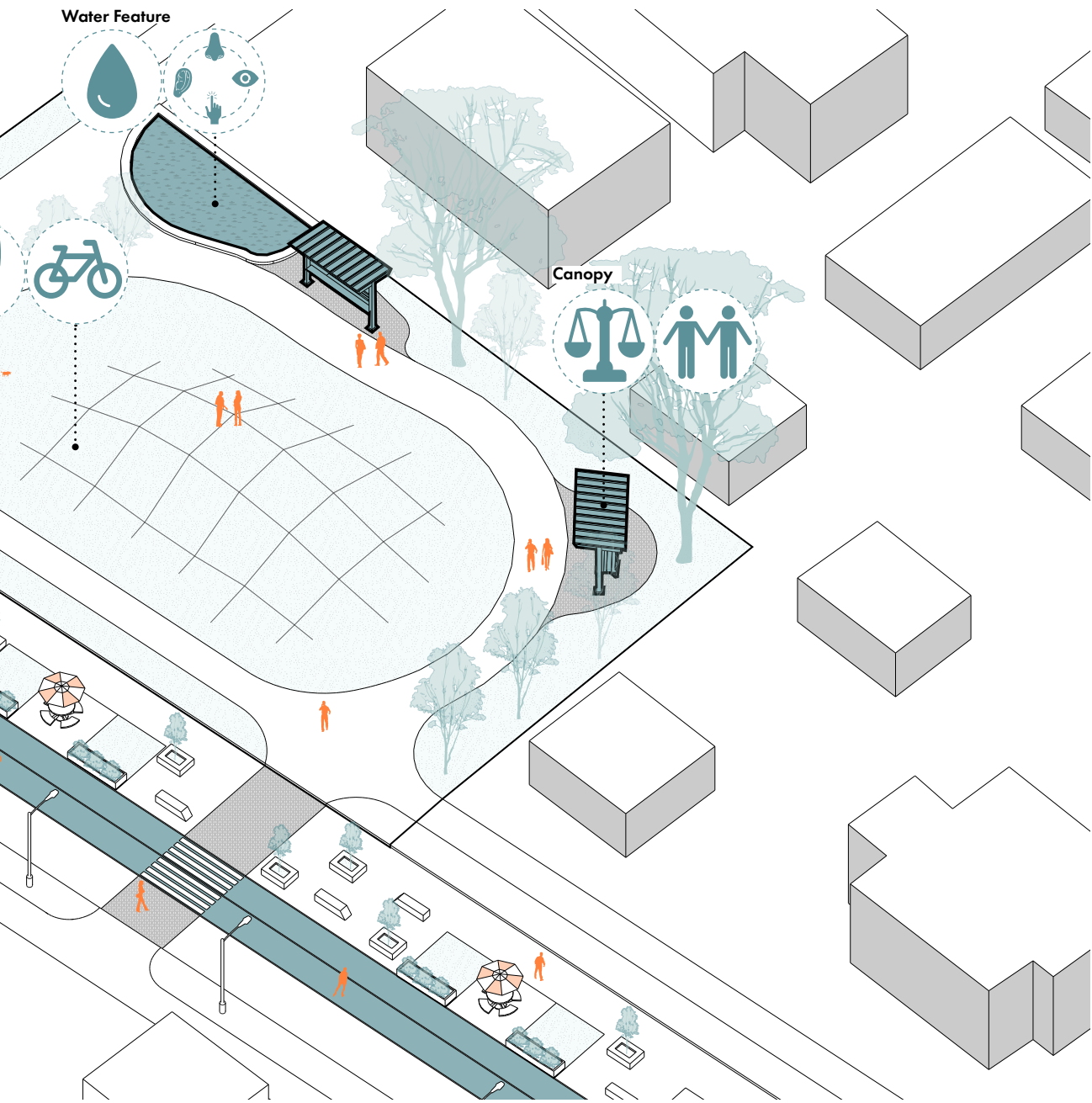


Fig. 8.18
The previous spread was a rendering of the serene plaza.

Fig. 8.17
To the right is an axonometric view of the serene plaza.





09

FINAL THOUGHTS

9.1 REFLECTION AND CONCLUSION

Overall, this thesis investigated the complexity of the urban fabric and its influence on the well-being of residents, specifically looking at high school students in low-income neighborhoods. The sheer lack of basic amenities, safe spaces, public connections, and environmental elements negatively impacts the well-being of these residents. This thesis establishes clear links between the design of the urban built environment and uses restorative urbanism as a design strategy to promote positive well-being. By understanding how specific elements in the built environment impact the well-being of high school students and proposing strategies and interventions that not only support youth but contribute to a thriving community overall.

This thesis was not intended to completely solve the complex issues regarding Detroit neighborhoods in terms of blight, vacancies, crime, and more. The goal of this thesis was to present how architectural designers can use key design strategies to improve the health and well-being of vulnerable populations. It is important to note that, as designers, one cannot force an individual to use a designed space, nor can one force someone to be happy while using that space. Through this thesis, it was uncovered that well-being is incredibly hard to measure and quantify. Happiness and well-being are subjective, and everyone's perception of this topic is completely different. What makes one person happy might make the next person feel uncomfortable. However, what this thesis begins to understand and prove is that designers should create spaces in these neighborhoods that begin to provide the opportunity for students and residents to use and encourage social interactions and healthy behaviors. Without these spaces, there is no current desire to get out and engage with the community.

An important takeaway from this thesis, specifically relating to the designed interventions, is that these spaces should be adaptable to benefit the entire community. Although these interventions are "branded" for high school students, these spaces have the opportunity to connect multiple demographics,

creating an inclusive, intergenerational, and flourishing community.

Thinking about the future of neighborhoods, these neighborhoods should be equipped with the appropriate spaces for everyone. During the peak of the COVID-19 pandemic, individuals were only allowed to leave their homes to walk or exercise alone. The future is unknown, and there is no guarantee that lockdowns and quarantines will never happen again, but if they do, these neighborhoods must have the appropriate spaces to foster the health and well-being of those who live there.

Looking back on this process, there are some things that I wish I had investigated further. For example, I wish I had the chance to speak to actual students at Denby High School. This would have enabled me to create a deeper understanding of how the students feel in their current community and use their insight to help generate the interventions that I have proposed. I also wish I had created a clear link between the needs of the students and the elements within each intervention.

With further research and thinking, it is my hope that this thesis can act as a scalable model that can be used for any community, of any size, and for a variety of demographics, not only in the neighborhoods found within Detroit but neighborhoods across the entire country.

“ If the environment that our children live in is one that helps them to thrive, to live active and happy lives in the neighborhoods where they have a sense of belonging and connection and an awareness of their importance to the wider community - then it is very likely that the whole population, all ages from infancy to the elderly, will also thrive.”

Tim Townshend

Healthy Cities? Design for Well-being, 2022



10

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LIST OF FIGURES

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