

# **ANCHORING ABANDONMENT**

Lowering Allostatic Load  
through the Health Impacts of  
Community Education

By Nyvey Perryman

# **Architecture Thesis**

## **Research by Nyvey Perryman**

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# ACKNOWLEDGEMENTS

Thank you to my family and friends and thesis advisors

*This is for **us**.*

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# 01

**CHAPTER 01:**

## **ABSTRACT THESIS STATEMENT**

Abstract

Neighborhood health disparities are a widespread issue in Detroit and many other cities in the United States. Opportunity indexes mapped in American neighborhoods prove that neighborhood location and design affect the health and socioeconomic success of residents. Typology assessment in the Airport Sub neighborhood explores strategies that can be used to reprogram vacancies and encourage neighborhood health. Interviews with Detroit residents show the need for architectural programming that will enhance community and individual health. City-wide health disparities and injustices largely affect the lives of Black residents on a physical and mental level; thus, this thesis explores a solution that could reverse the harsh effects of unhealthy neighborhood infrastructure. Addressing land use and the quality of the built environment can reduce environmental and lifestyle stressors. Various forms of education within neighborhood communities can combat negative stress perception and lifestyle choices. Land reprogramming solutions found in this research could benefit residents by building generational health and promoting healing through vacancy re-allocation.

Thesis Statement

Introduction

The built environment can enhance, prevent, or disturb living experiences based on the context of its relationship with humanity. The health of a neighborhood is determined by the neighborhood’s history along with social and political climates. Neighborhood conditions affect the lives of its inhabitants and the future generations of people who are born and raised in a certain neighborhood. Poor neighborhood conditions across the city of Detroit have vastly influenced the health statistics amongst its majority African American population. The qualities of the built environment can yield positive health outcomes when addressing the human needs for health and wellness. This research is based to analyze the generational and cyclical nature of neighborhood unhealthiness and livelihood health despair caused by historical discrimination. This health despair includes denial of access to proper health-sustaining elements within a neighborhood. This thesis investigates the capacity of mitigation through neighborhood resource re-allocation and programming that interacts with various forms of education..

Background

In a University of Dundee and Cambridge investigation of healthy neighborhoods, multiple influences of neighborhood despair were identified. Through studying Dahlgren and Whitehead’s 1991 Rainbow model and Barton and Grant’s 2006 model, factors were used to define neighborhood and personal health metrics. This research, along with various other studies, encompasses the identifying factors of an unhealthy neighborhood and helps to inform the decisions made for better health in communities. In the Vox documentary “Does My neighborhood Determine My Health?” researchers analyze the connection between people’s surroundings and their health using concepts of allostatic load. This proves that an unhealthy neighborhood can have serious long-lasting effects on those who grow, live, and die in those neighborhoods. These findings are purposeful to this research because they show specific interviews and offer objective data from researchers in America.

Research Questions

Due to the historical context of Detroit’s neighborhood abandonment, the questions guiding the solutions in this thesis are as follows:

- When and How did the conditions of Detroit become unhealthy?
  - Why has the abandonment in Detroit proved to be a detriment to its residents?
  - In what ways can neighborhoods in Detroit be amplified to encourage the ultimate amount of health?
  - What does it mean to be healthy and have a state of ultimate wellbeing?
  - How does a neighborhood environment affect health and lifestyle outcomes?
  - Can various forms of education improve the allostatic load?
- Thesis
- This thesis attempts to design a planning solution and process for mitigating allostasis and environmental stressors based on metrics of personal and neighborhood health. The solution addresses the dimensions of health and wellness on a neighborhood level. This includes solutions that reprogram vacancies to interact with determinants of health in specified Detroit neighborhoods. The goal of this thesis is to use parcel reprogramming to enhance the living conditions and livelihood of the people

Figure 1: Jefferson Neighborhood Collage





that live in its context. Addressing both the socioeconomic and psychological aspects of health encourages residents to live longer and healthier lives.

Evidence

The methodology in this study uses a mix of historic research, observation, diagramming, and surveying to propose a design solution. The findings of this study required a timeline history of the city and the Airport Sub neighborhood to understand the context of its conditions. This includes an understanding of the socioeconomic, political, and architectural history of the general area. The observations of the Airport Sub neighborhood made through analysis, mapping, observation, documentation, and various quantitative and qualitative methods proved the area to be one of vacancy on a large scale. Neighborhood analysis and observation paired with the neighborhood health determinants defined in this research were used to engage community leaders and residents during the interviewing process. The interviews confirmed a need for neighborhood improvement and education while informing conceptual design solutions in the project.

Critique of the thesis

This thesis implies that residents have high rates of allostatic load and desire neighborhood change. Lack of homeownership is one of the leading causes of poverty and debt and the solutions in this study rely on ownership for wealth-building mitigation. Lack of ownership along with other neighborhood elements like food access, transportation, and more was not addressed in this study, but also are factors of allostatic load. The solutions in this thesis are assumed to be a part of a larger plan for neighborhood reprogramming

Concession and limitations of the study

The effectiveness of vacancy reallocation is limited by the likelihood of community desire and usage. The concepts and solutions of this thesis rely on various government-funded models and municipal aid to sustain vacancy re-programming efforts. Funding is a limitation that questions the feasibility of mass land reprogramming in the Airport Sub neighborhood. Additionally, the location of major industrial elements and cemetery space within the neighborhood limit the future development of certain areas in the neighborhood. This thesis is limited by the assumption that residents of the neighborhood will participate in the implemented land and building programs resulting in lowered allostatic load.

Conclusion

This thesis is intended to encourage autonomy in healing while providing proper tools that ease daily living. This topic is relevant because neighborhood health disparities are a widespread issue in Detroit and many other cities in the United States. Not only could this research contribute to identifying specific problems within the field, but it could also be beneficial in finding a solution to reverse the harsh effects of unhealthy neighborhood infrastructure caused by systemic racism and unfair policy. Solutions found in this research could benefit residents and build generational health and promote healing. This project is not strictly architectural, it is a multidisciplinary work that strives to be beneficial to the practice of architecture while addressing its role in public health on a socioeconomic and psychological level.

Figures

Figure 1: Jefferson Neighborhood Collage illustrated by Nyvey Perryman



# 02

**CHAPTER 02:**

## **What Is Unhealthy Neighborhood Syndrome?**

# Chapter 2: What is Unhealthy Neighborhood Syndrome?

The socioeconomic effects of unhealthy neighborhood conditions help determine personal metrics of health amongst residents in inner city neighborhoods. This study acknowledges neighborhood health as a metric synonymous with public health. Unhealthy neighborhood syndrome is a term used to define neighborhood conditions and the symptoms that cause a decline within the neighborhood. The design of healthy neighborhoods starts with analyzing symptoms that determine “health” or “unhealth” in neighborhood typologies.

**Health** is the condition of an environment in relation to its state of wellbeing; or the condition of being mentally or physically free from illness or injury.

**Wellbeing** is the state of being comfortable, happy, or robust.

A neighborhood can be defined as both a social and spatial construct that has a substantial impact on results in personal health and wellbeing. In recent neighborhood health determinacy studies, the word syndrome was used to describe the state of assessed health in the neighborhoods. Syndrome is defined in the study as a set of medical signs or symptoms which are correlated with each other and often associated with disease or disorder.<sup>1</sup> The presence of disorder and disease is what makes the quality of the neighborhood decline resulting in overall unhealthiness. Disorder causes negative results in public health and dismay within neighborhood physical and social qualities. Disorder and decline are symptoms of unhealthiness that help determine neighborhood health. An unhealthy neighborhood is likely to

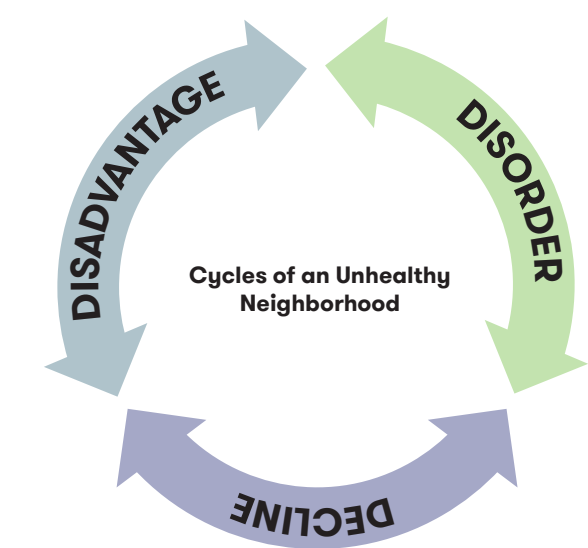


Figure 2.1: Cycles of An Unhealthy Neighborhood

be showing at least one of these two symptoms. Disorder is often a result of an initial occurrence of disadvantage within a neighborhood. Disadvantages don’t have to start on a neighborhood level, however, the consequences of disadvantages can infiltrate neighborhoods which also affect personal determinants of health. Disadvantages can be categorized racially, socially, economically, and physically while the symptoms that stem from these categories usually result in disorder and the eventual decline of neighborhood entities. The cyclical nature of disadvantage, disorder, and decline in many predominantly Black cities is what causes generational hardship and even early death. What does disadvantage look like? Disadvantages or unfavorable circumstances happen when forces (natural or unnatural) create a condition that reduces the likelihood of success. This means that neighborhood conditions in Black neighborhoods were planned to perpetuate disadvantage and poverty. The disadvantages in many Black neighborhoods start with homeownership denial, business loan denial, food deserts, and many more government-planned efforts at access denial. Disadvantages within Detroit’s neighborhoods also include

## DISADVANTAGE

- Economic factors
- Social Exploitation
- Neighborhood Degradation

## DISORDER

- Abandonment
- Crime Increase
- Drug and Alcohol abuse
- Noise
- Filth
- Loitering

## DECLINE

- Lack of trust
- Increased Fear
- Flight For Better Conditions

Figure 2.2: Disadvantage, Disorder, Decline

the economic failures that changed the lives of people in Detroit. The damages of disadvantage leave room for disorder within neighborhoods and often yield divestment and neighborhood abandonment.

**Disadvantage** - Neighborhood Disadvantage has been used to describe a neighborhood that lacks economic, infrastructure, and social resources.<sup>2</sup>

**Disorder**- Neighborhood Disorder is marked by exposure to observable cues that social control has broken down in a neighborhood (e.g., vandalism, abandoned and rundown buildings, drug use), creating a sense of danger.<sup>2</sup>

**Decline**- Neighborhood Decline has been conceptualized as both a degradation of the housing stock and a decline of household income <sup>2</sup>

Questions that guide the investigation and understanding of neighborhood health in this study included :

What are the factors that determine positive neighborhood health?

What are the factors that determine neighborhood unhealthiness?

Which variables shift the neighborhood’s health status?

## The Health Effects of Gentrification

According to the Center for Disease Control, the health implications of displacement contribute to disparities within vulnerable populations. Vulnerable populations are those in danger due to an existing disadvantage. These special populations include the poor, women, children, the elderly, and members of racial/ethnic minority groups. These special populations are at increased risk for the negative consequences of gentrification. Studies indicate that vulnerable populations typically have shorter life expectancy; higher cancer rates; more birth defects; greater infant mortality; and higher incidence of asthma, diabetes, and cardiovascular disease.<sup>3</sup> Studies also report that these populations often have an unequal likelihood of experiencing residential exposure to hazardous substances like lead. Amongst these special populations, there is limited access to; affordable and healthy housing, healthy food options, public transportation options, quality education, bicycle and walking paths, exercise facilities, and social networks. The absence of these elements causes changes in stress levels, injuries, violence, crime, mental health, social and environmental justice

The immediate access to resources is represented in the 20-minute neighborhood



Figure 2.3: Neighborhood Movement Questions

model. This model is representative of the elements needed in a neighborhood at a 20-minute walking or biking distance. (figure 2.4) The objectives of this thesis focus on education and access to nature as a means to combat environmental stressors from failed neighborhood infrastructure and abandonment. In theory, a neighborhood that has each of the qualities of a 20-minute neighborhood model would be a neighborhood that was planned to influence the health and well-being of its residents.

## Neighborhood Conditions and Health

Poorer neighborhoods generally have more crime, pollution, fast-food outlets, and ads promoting tobacco and alcohol use and often lack safe places to play and exercise.<sup>4</sup> These are factors that have the largest

impact on health outcomes. Economic, social, service, and environmental contributors to neighborhood health tend to impact affluent and impoverished neighborhoods differently. The qualities of physical relationships, resources, and social environments determine neighborhood health. Negative assessments in neighborhood health can negatively influence personal health outcomes, but positive neighborhood assessment can result in positive personal health outcomes.

## Detroit Neighborhood Health

Detroit's riverside location was a great asset to its upward economy during the beginning of its establishment and vast uprise. During the industrial period, Detroit was home to many automotive plants which had workers who needed housing, businesses, and

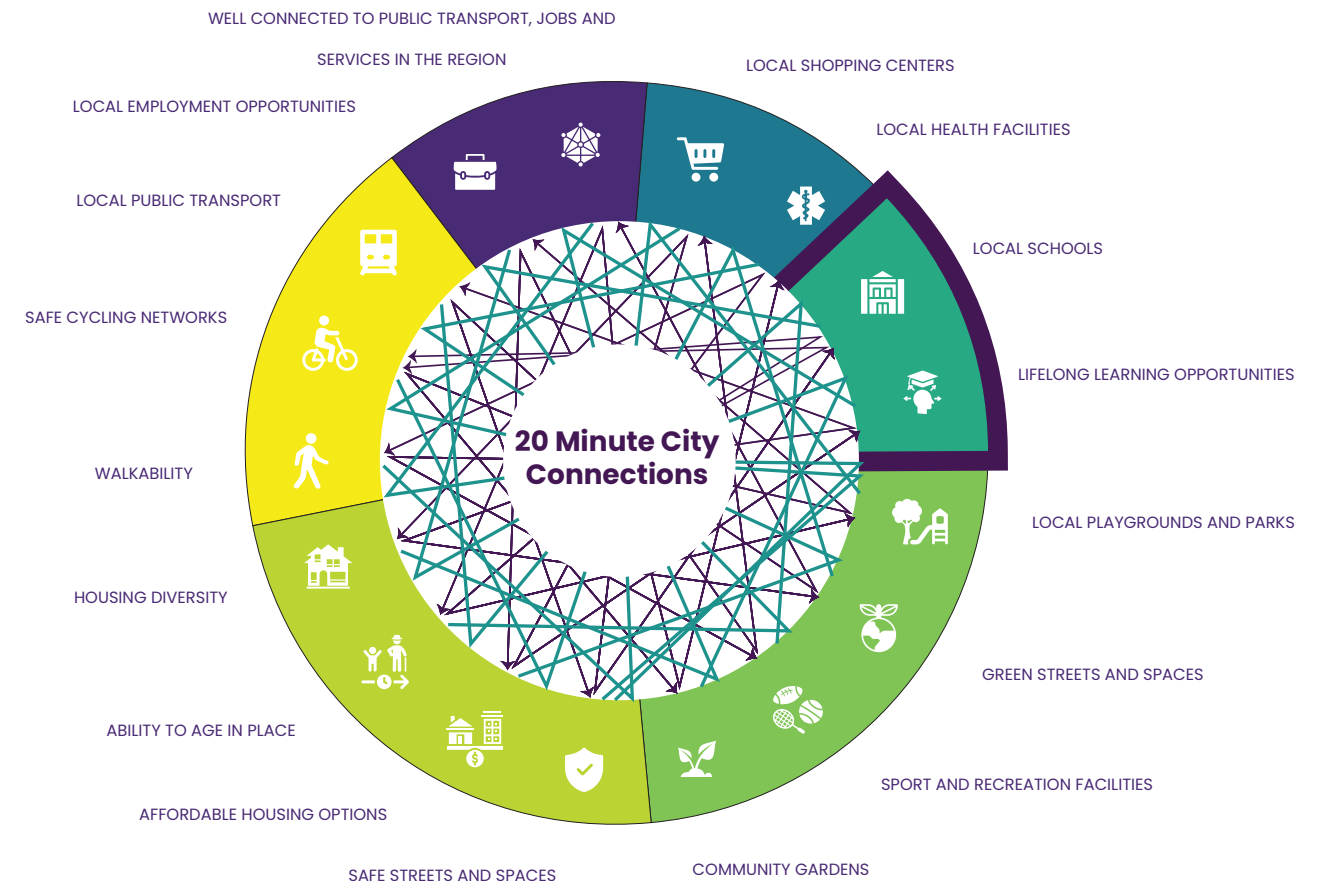


Figure 2.4: 20 Minute City Connections

services. Detroit was a place where war materials were manufactured during the great world wars. The booming economy in Detroit provided many jobs for Black people and the city began to be populated by the millions. These jobs were an important part of the economy and helped the people fund their lives and support the local businesses that they needed for everyday goods and materials.

After a huge shift in the automotive industry, many plants began closing and became a detriment to the rest of the city. This economic downfall led to a serious decline in the population and quality of the city. This downfall along with the prevalent racial tensions caused white flight and black middle class flight out of

the city of Detroit. This left large multi family homes, businesses, churches, and schools abandoned and left to decay. Parts of the inner city that were left abandoned on a large scale created many opportunities for disorder in Detroit's neighborhoods. After many years of constant decline Detroit hit rock bottom when its officials filed for complete bankruptcy in 2013. Since then, revitalization efforts have been being sought out to bring the city above the poverty line. This includes various municipal efforts in the city's rehabilitation. This economic disadvantage resulted in disorder in Detroit neighborhoods and the decline of neighborhood health.

Detroit is not the only rust belt city who experienced a major decline. Other cities



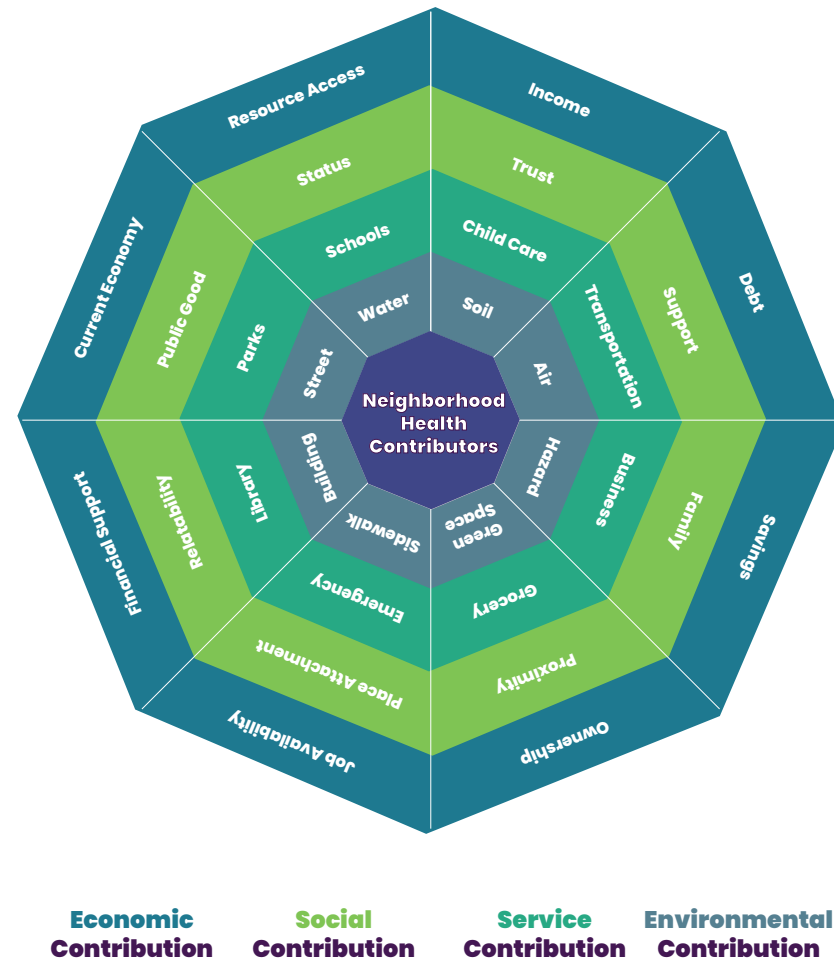


Figure 2.5: Neighborhood Health Contributors

who were also a part of the industrial surplus also experienced steep decline. This has happened in cities like Cleveland, Chicago, Pittsburgh, and Philadelphia and a list of other industrial powerhouses across the Midwest. Though many of these cities still operate below the poverty line, some have started mitigating wealth gaps by way of job opportunities and housing stock.

## American Rescue Plan Act

In response to the COVID-19 pandemic, Detroit is being granted \$826 million in federal funds through the American Rescue Plan Act (ARPA). The city will be the fifth largest amount granted among American cities. This is an opportunity for the city to

make transformational changes programs and policies. This figure highlights specific funding appropriated to neighborhood and public health. This includes programs and initiatives that the money will help fund across the city of Detroit. Detroit city council voted to approve Mayor Mike Duggan's plan, informed by the public, to spend the federal dollars and any money left unspent will go back to the federal government. The city must work towards a solution that can address many of the changes that were produced by the pandemic. This is a strategy that uses government funding to improve opportunity status in Detroit and shows the possibilities of neighborhood change through reinvestment.<sup>5</sup>

## Detroit American Rescue Plan Funding

**\$105 Million**

### Jobs

Skills for Life Employment (Work and Education); Intergenerational mentoring and senior employment; and IT jobs and careers access

**\$45 Million**

### Digital Divide

• Devices; Internet access; Technology support initiatives

**\$67 Million**

### Housing

Home repairs to seniors, low income, and disabled community

• Create a city locator service to find affordable housing and provide financial and legal counseling services

• Foreclosure and homelessness prevention outreach and housing initiatives; credit repair and restoration initiatives; down payment assistance; Veterans' housing programs, including home repairs

**\$168 Million**

### Neighborhoods

Vacant property cleanouts and Alley activation

• Grants to block clubs and neighborhood associations; Neighborhood sign; Community-driven expenditures: 7 projects located in each Council District and 2 for Citywide projects

• Community Health Corps and Targeted employment and wraparound services, including community-based gun violence intervention initiatives

• Addressing the elimination of commercial and industrial blight through demolition, remediation, and land reuse

**\$40 Million**

### Small Business

Landlord support; Small business recovery programs, including interest reduction and credit support programs; Small business capacity building; Development stimulus programs; and Corridor investments

**\$71 Million**

### Parks and Recreation

Green initiatives; Parks; Walking paths; Joe Louis Greenway; Streetscape; and Arts & Cultural investments

• New or expanded improvements for recreation centers

**\$50 Million**

### Public Safety

Traffic enforcement; Gun violence initiatives; DPD Training facility improvements and EMS bays at firehouses

**\$280 Million**

Set Aside to address budget shortfalls and match funding

**\$826M**

5th LARGEST funding amount given to a city  
Funds must be allocated and spent by 2026



Figure 2.6 American Rescue Plan Funding

End Notes

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Figures

Figure 2.1: Cycles of An Unhealthy Neighborhood illustrated by Nyvey Perryman

Figure 2.2: Disadvantage, Disorder, Decline illustrated by Nyvey Perryman

Figure 2.3: Neighborhood Movement Questions illustrated by Nyvey Perryman

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Figure 2.5: Neighborhood Health Contributors illustrated by Nyvey Perryman

Figure 2.6: American Rescue Plan Funding illustrated by Nyvey Perryman

# 03

## CHAPTER 03:

## What is Allostatic Load?

# Chapter 3: What is Allostatic Load?

Allostatic Load refers to the cumulative burden of chronic stress and life events affected by environmental challenges and coping abilities. Unhealthy neighborhoods produce higher rates of allostatic load among their residents. Studies indicate that allostatic load and overload are associated with poorer health outcomes.<sup>1</sup> Chronic or repeated exposure to psychosocial stressors has been linked to prolonged activation of the allostatic systems, with detrimental physiological consequences — allostatic load and its more severe form, allostatic overload.<sup>2</sup>

Vulnerable populations like the poor, women, children, the elderly, and members of racial/ethnic minority groups suffer from heightened rates of allostatic load. Amongst this group of vulnerable populations, the most affected group is statistically Black women. The poorer health of African American women compared with other groups may be explained by allostatic load, or cumulative physiologic stress, due to chronic socioeconomic disadvantage.<sup>3</sup> Studies report that Educational attainment modifies the effects of race/ethnicity and gender on allostatic load. In an article interview, Parker Dominguez says, “whether it’s with the police or elsewhere. Your level of threat perception in the environment is higher.” That threat perception leads to hyper vigilance, which leads to heightened allostatic load.<sup>4</sup> Black people have higher rates of allostatic load due to the harsh consequences of residential segregation and racism. Allostatic load is a representation of the level of stress that results from adapting to environments that aren’t safe.

Findings also suggest that allostatic load may give rise to faster cellular aging, but these detrimental effects of allostatic load



Figure 3.1: Social and Economic Opportunity Index

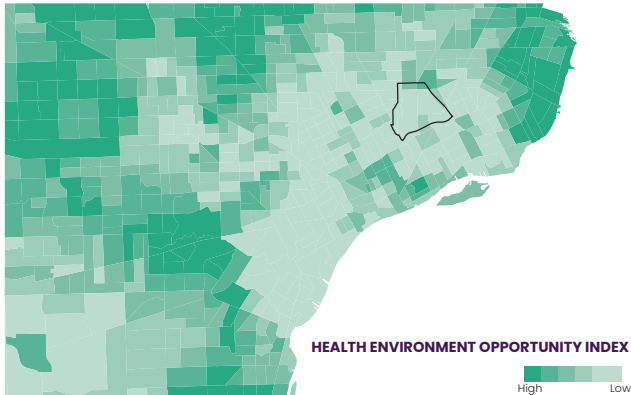
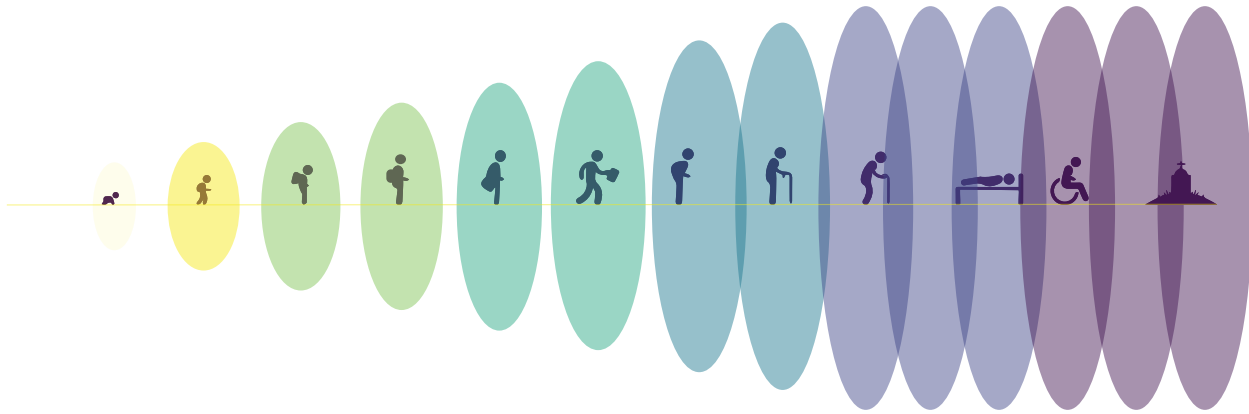


Figure 3.2: Health Environment Opportunity Index

can be offset by young adults’ effective use of attachment figures.<sup>5</sup> This means that the influences of strong and healthy relationships can offset the dangerous outcomes of stress. Influences are formed by place attachment, community investment, familial relationships, lifelong friendship. This means that the influences of strong and healthy relationships can offset the dangerous outcomes of stress. Studies evaluate how attachment styles may moderate the link between African American adolescents’ exposure to neighborhood poverty and accelerated cellular aging in young adulthood. Analyses revealed that allostatic load at age 19 mediated the association between neighborhood poverty in adolescence and changes in cellular aging from age 20 to 27.<sup>5</sup>



**Allostatic load growth** can start as early as **early childhood** and continues to grow and stabilize until it leads you to death or major health ailments.

People at higher **economic disadvantages** have higher rates of allostatic load

Figure 3.3: Allostatic Load Growth

Allostatic load can be used to understand the reason Black people in urban neighborhoods live shorter life spans than White people who live in suburban areas. Allostatic load starts as a build-up and continues to grow, interfering with aging and development on a cellular level, encouraging major health complications and early mortality. Addressing various age groups in this research is a strategy to mitigate allostasis at critical years of life development. Dr. Thomas Armstrong’s study of the 12 stages of life, define the phases that each human goes through over a typical 80+ year life span. The 12 stages of the human life cycle include pre birth and even death.<sup>6</sup> Allostatic load can compile at any of these stages and may even delay or accelerate some of these phases over a lifetime due to its connection to cognitivity and brain development. Allostasis and allostatic load can jointly affect vulnerability to brain-dependent and stress-related mental and physical health conditions.<sup>7</sup> While every stage of growth is important over a person’s lifespan, childhood and early adulthood tend to be the stages that allostasis grow and accumulate.

## The 12 Stages of Life

An excerpt from Dr. Thomas Armstrong’s book, *The Human Odyssey: Navigating the Twelve Stages of Life* presents the 12 stages defined in Dr. Thomas Armstrong’s research:

**Pre Birth:** Potential – The child who has not yet been born could become anything – a Michelangelo, a Shakespeare, a Martin Luther King – and thus holds for all of humanity the principle of what we all may yet become in our lives.

**Birth:** Hope – When a child is born, it instills in its parents and other caregivers a sense of optimism; a sense that this new life may bring something new and special into the world. Hence, the newborn represents the sense of hope that we all nourish inside of ourselves to make the world a better place.

**Infancy (Ages 0-3):** Vitality – The infant is a vibrant and seemingly unlimited source of energy. Babies thus represent the inner dynamo of humanity, ever fueling the fires of the human life cycle with new channels of



psychic power.

**Early Childhood (Ages 3–6): Playfulness** – When young children play, they recreate the world anew. They take what is and combine it with what is possible to fashion events that have never been seen before in the history of the world. As such, they embody the principle of innovation and transformation that underlies every single creative act that has occurred in the course of civilization.

**Middle Childhood (Ages 6–8): Imagination** – In middle childhood, the sense of an inner subjective self develops for the first time, and this self is alive with images taken in from the outer world, and brought up from the depths of the unconscious. This imagination serves as a source of creative inspiration in later life for artists, writers, scientists, and anyone else who finds their days and nights enriched for having nurtured a deep inner life.

**Late Childhood (Ages 9–11): Ingenuity** – Older children have acquired a wide range of social and technical skills that enable them to come up with marvelous strategies and inventive solutions for dealing with the increasing pressures that society places on them. This principle of ingenuity lives on in that part of ourselves that ever seeks new ways to solve practical problems and cope with everyday responsibilities.

**Adolescence (Ages 12–20): Passion** – The biological event of puberty unleashes a powerful set of changes in the adolescent body that reflect themselves in a teenager’s sexual, emotional, cultural, and/or spiritual passion. Adolescence passion thus represents a significant touchstone for anyone who is seeking to reconnect with their deepest inner zeal for life.

**Early Adulthood (Ages 20–35): Enterprise** – It takes enterprise for young adults to accomplish their many responsibilities, including finding a home and mate,

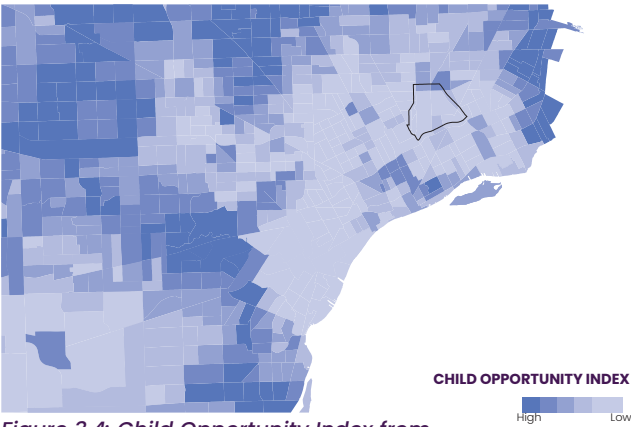


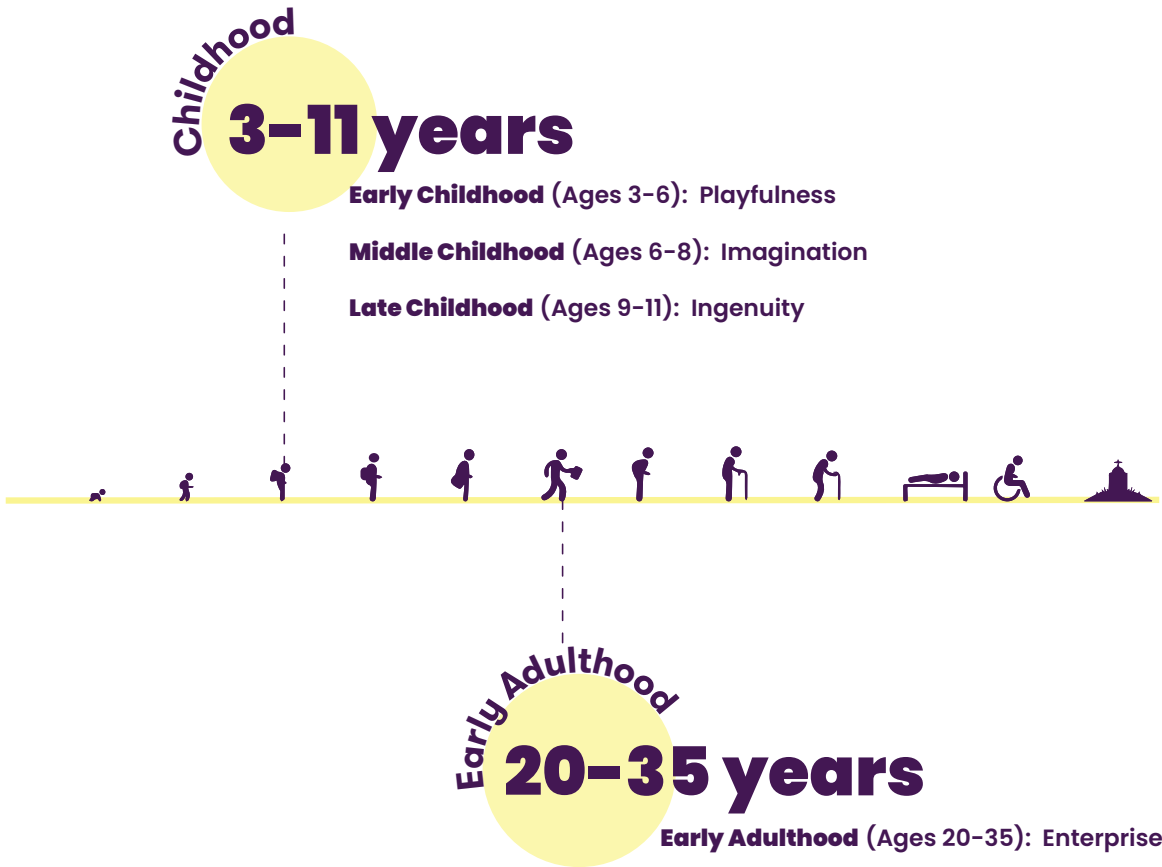
Figure 3.4: Child Opportunity Index from

establishing a family or circle of friends, and/or getting a good job. This principle of enterprise thus serves us at any stage of life when we need to go out into the world and make our mark.

**Midlife (Ages 35–50): Contemplation** – After many years in young adulthood of following society’s scripts for creating a life, people in midlife often take a break from worldly responsibilities to reflect upon the deeper meaning of their lives, the better to forge ahead with new understanding. This element of contemplation represents an important resource that we can all draw upon to deepen and enrich our lives at any age.

**Mature Adulthood (Ages 50–80): Benevolence** – Those in mature adulthood have raised families, established themselves in their work life, and become contributors to the betterment of society through volunteerism, mentorships, and other forms of philanthropy. All of humanity benefits from their benevolence. Moreover, we all can learn from their example to give more of ourselves to others.

**Late Adulthood (Age 80+): Wisdom** – Those with long lives have acquired a rich repository of experiences that they can use to help guide others. Elders thus represent the source of wisdom that exists in each



**Stages of Life During Allostatic Load**

Figure 3.5: Age Stages

of us, helping us to avoid the mistakes of the past while reaping the benefits of life’s lessons.

**Death & Dying: Life** – Those in our lives who are dying, or who have died, teach us about the value of living. They remind us not to take our lives for granted, but to live each moment of life to its fullest, and to remember that our own small lives form of a part of a greater whole.<sup>6</sup>

**Childhood, Adulthood, and Allostasis**

Adverse childhood experiences could

induce significant biological changes in children (biological embedding), modify the maturation and responsiveness of allostatic systems and, thus, exert long term effects on health. Adverse childhood experiences mark the start of allostatic load and its biological effects can cause issues in growth and development.<sup>8</sup> This development interference alters perception and can continue to grow to the point of allostatic overload in adulthood. Allostatic overload is the over saturation of allostasis due to chronic environmental stressors. Allostatic overload is heightened in the adult stages due to the compilation of stress over a person’s life. Allostatic mitigation could happen during the early childhood phase and could be halted and potentially



**Contributors and Outcomes of Allostatic Load**

Figure 3.6: Contributors and Outcomes of Allostatic Load

reversed in the adult stages.<sup>9</sup>

Allostatic load has internal and external effects that concern people's mental and physical conditions. When the activity of allostatic systems is sluggish, ineffective, prolonged, or not terminated promptly, allostatic systems can impair mental and physical health through their maladaptive effects on brain plasticity and metabolic, immune, and cardiovascular pathophysiology (allostatic load)<sup>7</sup> The Internal factors and determinants include things like education, adaptability, habits ,toxic exposure, hazardous conditions,

stability, and cohesion. External factors of allostatic load include sleeping patterns, illness, nutrition, strain, and more. Causal factors of allostatic load tend to happen through individual and family differences, environmentally and institutionally. These causes of allostatic load are often consequences that involve poverty, neighborhood design and public health. Though there is no direct link between higher education and allostasis in some instances, various forms of education can greatly impact the likelihood of adversity.

## INDIVIDUAL / FAMILY

### Physiological

- Age
- Nutrition
- Disability
- Gender
- Immunity

### Behavioral

- Risk taking
- Occupation
- Education
- Risk perception

## ENVIRONMENTAL

### Physical

- Air
- Water
- Soil
- Energy
- Pollutions
- Building Quality
- Abandonment
- Occupied Structures

### Social

- Family
- Community
- Culture
- Crime
- Neighbor Relationships

### Financial

- Employment
- Investment

## INSTITUTIONAL

### General Public Care

- Police
- Transport
- Public Works
- Municipal Authorities
- Local Government
- Project Sector Ministry
- Local Community Organizations
- Non Government Organizations
- Emergency Services

### Policy

- Regulations
- Jurisdictions
- Laws
- Priorities
- Municipalities

### Health Care

- Primary Health Care
- Specialist Services

### Socio-economics

- Poverty
- Unemployment

Figure 3.7: Allostatic Contributors 2

End Notes

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Figures

*Figure 3.1: Social and Economic Opportunity index from arcgis illustrated by Nyvey Perryman*

*Figure 3.2: Health Environment Opportunity index from arcgis illustrated by Nyvey Perryman*

*Figure 3.3: Allostatic Load Growth illustrated by Nyvey Perryman*

*Figure 3.4: Child Opportunity index from arcgis illustrated by Nyvey Perryman*

*Figure 3.5: Age Stages illustrated by Nyvey Perryman*

*Figure 3.6: Contributors and Outcomes of Allostatic Load illustrated by Nyvey Perryman*

*Figure 3.7: Allostatic Contributors 2 illustrated by Nyvey Perryman*

# 04

**CHAPTER 04:**

## **ALLOSTATIC HISTORY IN DETROIT NEIGHBORHOODS**







## Reflection Summary: Racism and Detroit's Built Environment

Perryman, N. (2022). Environmental Justice, University of Detroit Mercy Detroit: MI: (Excerpted from Reflection Summary: Racism and Detroit's Built Environment, 2022 February)

Issues of race are a prevalent driver in American infrastructure. Residential segregation has worked generationally to marginalize communities of color on a grand scale. Urban civilization and its political constructs, such as race, have manipulated the stories of American living. To be American means to be a working part of an economy that thrives on Black and Brown exploitation and White capitalism. The political recognition that Black anguish has been a principal in the American economy and its prevail could change the American way of living. Public policy has partaken the most essential function of enforcing specific life outcomes and conditions of lineages traveled, born, or shipped to America. Socioeconomics is a vital entity in what we call civilization due to its capacity to change with political influences. These concepts are what dictate health outcomes across cities in America. These cities are the same cities that have long been controlled by colonizers and capitalists who denied Africans material access since they unwillingly set foot on American soil.

Material access is guided by acts, laws, statutes, and ordinances. The absence of material access has lifelong consequences and has led to heightened mortality rates amongst Black people in major American cities."In keeping with the definition of a fundamental cause, the withdrawal of economic resources from older, racially segregated urban areas reduce access to those resources essential to prevent disease and promote health." (Schulz) Even after policies change, generations are still affected

by previous racist enforcements. It is pertinent for the true success of the United States that people of color gain material access and resources. Society is beyond the point in pretending that the racial barriers within its constitute have gone away. To deny racism in America is to deny one's sense of self as each person on American soil has a relationship to racist principles. Whether in an advantaged, exploitative, or marginalized way, each person's relationship to racism is what sustains their livelihoods and influences lifestyle choices.

The driving force behind lifestyle choices is subjective because different amounts of environmental stress could play a part in the way a person lives their life. The will for survival in urban civilization has the ability to influence lifestyle choices. These choices often are reflective of day-to-day living and environmental conditions and may have negative long-term effects as opposed to the lifestyle choices of a person who is doing more than simply surviving. The ability of leisure time allows more time for activities that promote health and wellness. This includes time to rest, exercise, read, or cook. For example, an inner-city person working multiple jobs, or overtime to strictly pay for necessities may have less time or energy throughout the day than the average 9-5 worker whose income funds more than just necessities. The lack of homeownership has a lot of blame for these conditions, but it is a product of design. Neighborhood planning and urban design policy are components of African American access denial. As defined by the National Aeronautics and Space Administration, food, water, air, and shelter are listed as the basic necessities for survival. Black people have nationally gone through generations of not having quality access to any of these basic needs. Concentrated populations of African Americans in inner cities experience living in food deserts in their neighborhood, they often lack sources of clean air and water, and these elements of survival

have been strategically denied to communities of color for centuries. This has led to a deficit in positive health outcomes and has bred African American death and disease. “If living in a poor area adversely affects health—and the evidence suggests that this is the case—then the disproportionate clustering of African Americans into very poor census tracts most likely contributes to racial disparities in health.” (Shulz)

## The Built Environment

Detroit is one of the most African American cities in America. The city has hosted generations of Black people seeking comfortable living. Instead of optimal comfort for working-class Black families in Detroit, they experienced residential discrimination which is the opposite of optimal comfort. Residential segregation in Detroit and cities alike is something that can't simply be erased. The goal is not to erase history or even try to change or reinterpret it. The goal is to define the historical context to make informed decisions on how to move forward as a society. It is in forward-thinking that Black people are allowed the opportunity to heal from generational trauma given institutionally. History bears the role of allowing us to evolve as humans and provides context to who we are culturally. No one can erase their culture or the stories of their ancestors. Rather than suppress history, we should instead use it to rid our system of political stagnation ordained by patriarchy. We've used history and previous knowledge to create technology and redefine ways of living. Depending on the way it's analyzed, it's arguable if society's evolution has truly improved the quality of life for humanity. On one hand, technological development has saved lives and provided ways to achieve living comfort and convenience. However, convenience has been slowly leading to the earth's detriment. The strong drive of the economy has suffered many people but there's always room for improvement

and redemption. This is theorized on the basis that in order to be considered improved, the most marginalized groups must be put into equitable positions. The exploitation of stolen generations on stolen land must cease by way of allocation and reparation. These things should not be forms of immediate relief, but sources of equity attempting to encourage healing.

Residential segregation in Detroit has continuously influenced the health outcomes of its predominantly Black residents but the correlation could change with resource allocation. One of the main ways to reallocate resources is by taking advantage of a large number of buildings and land that has remained in Detroit untouched since its mass population decline. Restoring vacant land and buildings benefits the entire city and its surrounding context. Getting rid of eyesores, raising property values, and diminishing the blight of Detroit neighborhoods could positively affect the health outcomes of its residents. This also bears the understanding that homeownership is one of the major drivers of success in a neighborhood, its property values, and investment. This idea of vacancy reuse is to provide reprogramming to land previously delegated in the name of racism. This should benefit the immediate community, neighborhoods, and eventually the city at large. Reprogramming land and buildings to bring health to the Black communities in Detroit yields many possibilities in the Black community. Land reimaged can address health disparities and balance the retrogression versus modernization challenges of civility. Replacing civility's negative contribution to racist principles and economic setbacks with nature's positive contribution to health and wellness will benefit overall health outcomes for many people in the city of Detroit. This can also be done while also understanding the tangible nature of civility's infrastructure. There's a necessity amongst humans to live a comfortable life and that requires some amount of economy so it is important

for inner cities to find stability within this need for comfort. Using city-wide vacancies to seek balance and equity could change the stigmas of an economically challenged city as such. Resource allocation on the redeemed vacant property should gear away from its previous foundations of segregation and move towards healing for all future generations.

Whatever resources the vacant property is programmed with should address basic necessities and bring a sense of nature into urban infrastructure. From programming abandoned properties to uplift education and wealth gain to using open space for gardens and nature reserves, all must be considered

in forward-thinking for the decaying Black neighborhoods in America.

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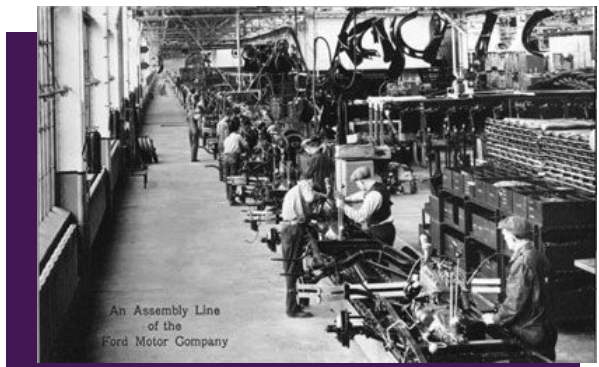


## Detroit's Allostatic History

After the great migration, Detroit became a massive hub for commerce and generated over 1 million residents at the height of its prime. The city was thriving and needed to house 1 million residents and provide spaces for businesses that would equip the people of Detroit with the necessities of everyday life. After Detroit's peak, a combination of social and economic conditions led to hundreds of thousands of people fleeing the city for better conditions. This occurrence left the city in a state of abandonment and largely affected the generations of residents who remained in the city. Since then, revitalization efforts have been being sought out to bring the city above the poverty line. This includes various municipal efforts in the city's rehabilitation.

## DETROIT'S ALLOSTATIC HISTORY

- Airport Sub Specific History
- City of Detroit Specific History



Nov. 3, 1901 Ford opens his second car company  
Detroit is America's 13th biggest city, with a population of about 286,000.  
June 16, 1903 Ford starts the Ford Motor Co. in Detroit

1901



The Great depression of the 1930s struck a devastating blow as automobile sales fell rapidly, but the city was revitalized by the Second World War as car factories were rebooted to produce tanks and planes for the US military and its allies. Detroit became the 'arsenal of democracy'.

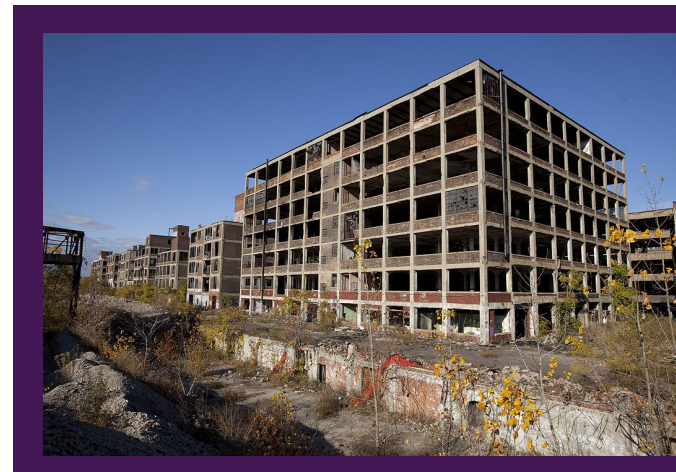
1930



1950 Detroit's population hits 1.85 million, making it America's fourth-largest city, with 296,000 manufacturing jobs.

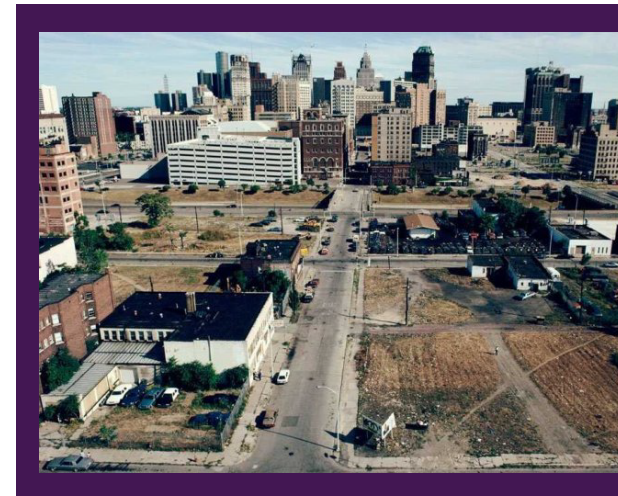
1958 The 3,500,000-square-foot Packard Motor Car Co. factory in Detroit, opened in 1903, is shuttered. It still stands today, a symbol of Detroit's long, slow decline.

1950



1973-74 The gasoline crises help give smaller, more fuel-efficient foreign-made cars a toe-hold in the U.S., signaling a long period of crisis for Detroit's Big Three automakers.

1973



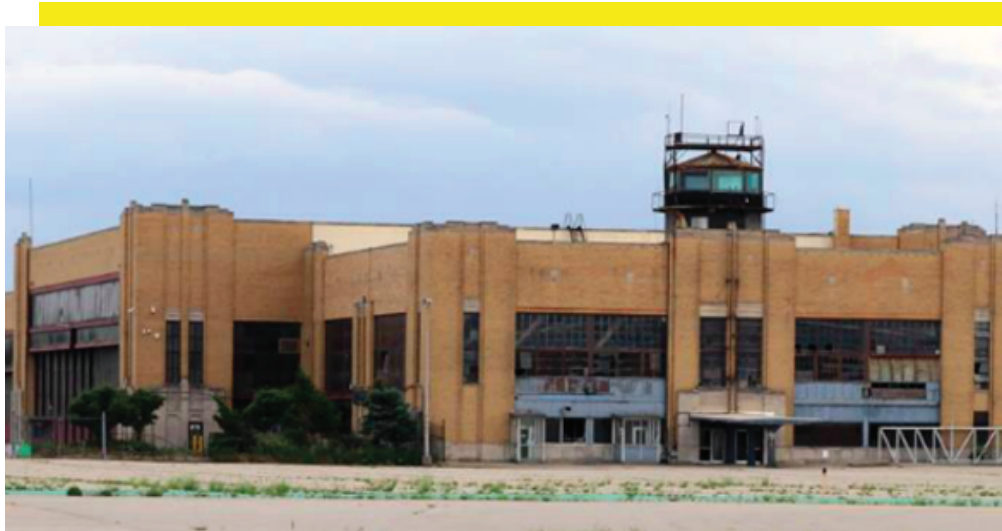
Since 2000, the City of Detroit has discontinued staffing the fire station at the airport, has not invested in major improvements to the buildings, and has not offered long-term leases to corporate aviation companies.

1990

March 2011 The U.S. Census Bureau reports that Detroit's population has fallen to 713,777, a 25 percent plummet from 2000 and the lowest level in 100 years. Detroit's finances are premised on a minimum tax base of 750,000 people. A new law, Public Act 4, that allows the state to intervene in financially troubled local governments takes effect.

July 18, 2013 Chapter 9 bankruptcy petition is filed on behalf of Detroit, marking the largest municipal bankruptcy filing in history and sending the Motor City into unknown territory.

2011



1922

In 1922, city officials conducted a search for an airport site, eventually settling on a 283-acre location near Conner Creek on the city's east side

The Detroit City Airport Terminal was formally dedicated, with the first aircraft landing at the airport on October 14, 1927. In 1929, the first hangar was erected and by the 1930s Detroit City Airport was the premiere airport in the Detroit area.



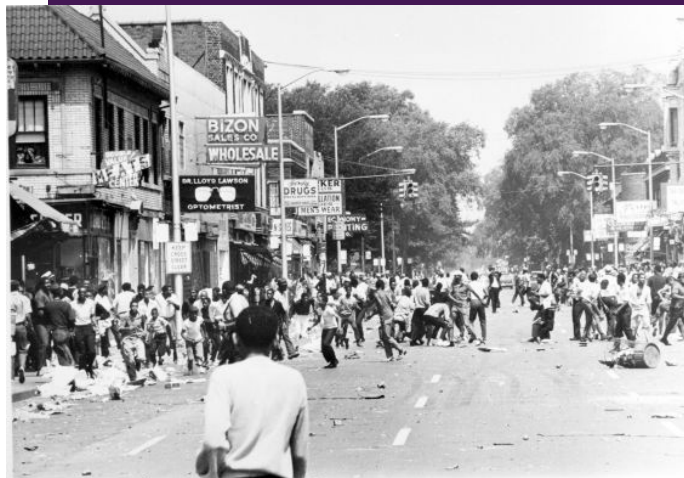
1947

It remained Detroit's primary airport until 1947 when almost all airlines transitioned their flights to Willow Run Airport, followed by Wayne County Metropolitan Airport.



1967

July 23-28, 1967 The Twelfth Street riot, one of the biggest in U.S. history, pits inner-city Black residents against police, then National Guard troops sent in by Gov. George Romney and Army soldiers deployed by President Lyndon B. Johnson. In five days of rioting, 43 people are killed, 467 injured, and more than 7,200 arrested. Some 2,000 buildings are destroyed.



1980

Detroit City Airport transitioned into a center of pilot training and one of the most concentrated locations for private and corporate aviation in the country, though it still maintained some commercial flights until 2000.

2008

December 2008 President Bush gives a provisional \$17.4 billion bailout to GM and Chrysler.

May-July 2009 Chrysler and GM declare bankruptcy, and the Obama administration provides financing and guides the automakers through expedited bankruptcy proceedings.



2020

Detroit City Airport remains home to many private and corporate jets. The airport saw an almost 40% increase in usage in 2017 with the increase in business downtown and the opening of Little Caesar's Arena.

The "Airport Redevelopment and Modernization Program" also floated closure of the runway, freeing up more acreage for industrial development and buying up about two dozen remaining properties in a nearby neighborhood.

The city is advancing plans for its municipal airport with a focus on clearing out a desolate neighborhood, reopening a long-closed road and decommissioning a runway.

Figure 4.2

## Figures

Figure 4.1: Sketch Problem illustrated by Nyvey Perryman

Figure 4.2: Detroit's Allostatic History illustrated by Nyvey Perryman



# 05

**CHAPTER 05:**

## **The Health Impacts of Wealth and Education**

# Chapter 5: The Health Impacts of Wealth and Education

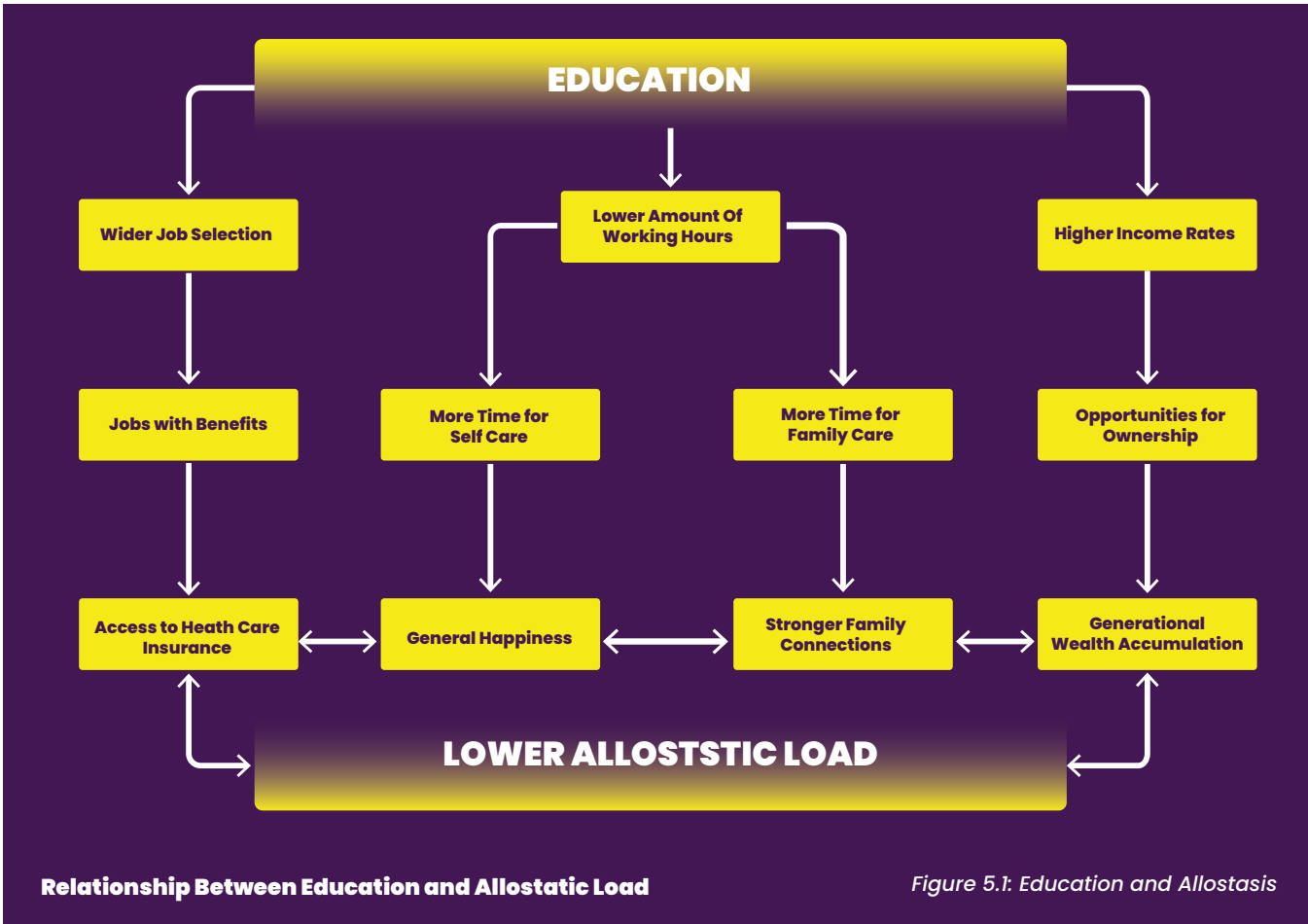
## Wealth's Influence on Health Equity

Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay; quality education and housing; safe environments; and health care. Health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups.<sup>1</sup> In this research, these marginalized groups are residents in Detroit neighborhoods, specifically the Airport Sub neighborhood on Detroit's east side. Occurrences in higher allostatic load lead to higher mortality rates shown through various studies. Studies also show that people with some type of education have a lower allostatic load than people who don't. The concentration of poverty, high vacancy rates, and lack of education in the Airport Sub neighborhood, makes this neighborhood a critical study area. This would allow design solutions to anchor the existing disadvantaged conditions to investigate means of lowering allostatic load.

Extensive evidence also indicates that both wealth and income influence the health of individuals, and inequalities in both wealth and income has repeatedly been linked at the national level with poorer average health outcomes.<sup>1</sup> The United States now has the greatest economic inequality of any affluent nation, and, despite being among the wealthiest nations overall, ranks at or near the bottom among affluent nations on almost all measures of health.<sup>1</sup> At the

national level (and, within the United States, at the state and county levels as well), better overall health—reflected by average life expectancy; infant mortality; obesity; multiple causes of mortality; and other health indicators—has repeatedly been shown to correspond to less inequality in wealth or income.<sup>1</sup>

Health stats of low-income communities reflect the area's historical marginalization. These communities lack the proper resources and income to sustain healthy living. Due to the history of redlining, Black neighborhoods in Detroit were denied opportunities for ownership. The opportunity to gain ownership is a relevant key in wealth maintenance and accumulation in the United States of America. Wealth and income are both critical to building financial security. Wealth (e.g., savings and real estate or business holdings) cushions families against emergencies, provides the means for moving up the economic ladder, potentially grows over time, and can be transferred from generation to generation. Income allows a family to pay monthly bills and build more wealth.<sup>2</sup> Families with more economic resources are better able to buy or rent homes that are free of lead, which can cause neurological damage in young children, and free of mold and cockroaches, which can trigger asthma attacks.<sup>1</sup> Black people weren't allowed to own or live in homes with better living conditions which caused generations of debt. This cycle of debt started because people needed to use a large chunk of their low income to pay for housing. This created larger debt and has an influence on generations who are born into families in debt. Homeownership is the primary tool for building wealth, especially for Black households, but homeownership has failed to benefit Black homeowners as much as it has benefited White homeowners because of a long history of unequal treatment<sup>2</sup>



## Education's Wealth Contributions

Historically marginalized neighborhoods and communities also aren't provided with the same quality of resources as suburban neighborhoods due to access denial and economic deficit. The health statistics in Detroit show that the people in marginalized neighborhoods and communities are in an economic, educational, and health deficit than people who live in the suburban neighborhoods near Detroit. Figure 5.1 depicts the areas of the metro Detroit area that have the least economic deficit. The areas highlighted in the lighter colors are the suburban areas that make more money than Detroit. These are also the areas that have the most education. (figures 5.2 & 5.4 next page) Without the Detroit borders outlined, it is clear where Detroit is located

based on the concentration of poverty and disadvantage.

To ensure that all individuals and families have access to equitable wealth building opportunities, changes must be made at the systemic and policy level nationally and in individual states.

Maintaining a healthy lifestyle encompasses a balance of social life, personal life, and workload. Working to afford housing along with lack of proximity to necessities, transportation systems, and other health influencing elements play a part in how much time and money is earned for self maintenance and personal care. The neighborhoods that have increased levels of opportunity have higher wealth and income rates. Studies have documented

strong, pervasive links between income and multiple health indicators across the life span.<sup>1</sup> The neighborhoods that have higher income and wealth also have higher rates of education. Education could be a way to increase the health of people who live in Detroit neighborhoods through its autonomous connection to income opportunities. Wealth and income provide material benefits, healthier living conditions, extended opportunities for wealth, access to health care, stability and protection from chronic stress. Countries, where wealth and income gaps are smaller, are also generally healthier. Although the United States is one of the world’s most affluent nations, it is also the most economically unequal. This large wealth gap may be one reason why Americans are less healthy than people in other affluent nations, including many that are not as wealthy as the United States.<sup>1</sup>

The connection between health and wealth shows that you need both to maintain both. There is a cyclical nature between the need for wealth and health to maintain life. Studies show that wealthier neighborhoods have better access to physical environmental health conditions and resources. This access is typically present in neighborhoods that produce residents with lower rates of allostatic load. This includes predominantly White neighborhoods that have higher rates of higher education and also higher rates of ownership and wealth. Furthermore, there are ways to encourage residents to obtain wealth while creating better neighborhood health conditions in disadvantaged neighborhoods. Through research, a scope of solutions for neighborhood disparity was identified after these assumptions:

- The public health outcomes in Detroit neighborhoods can actually be turned around.
- The health of the neighborhoods can be changed by the influences of the people

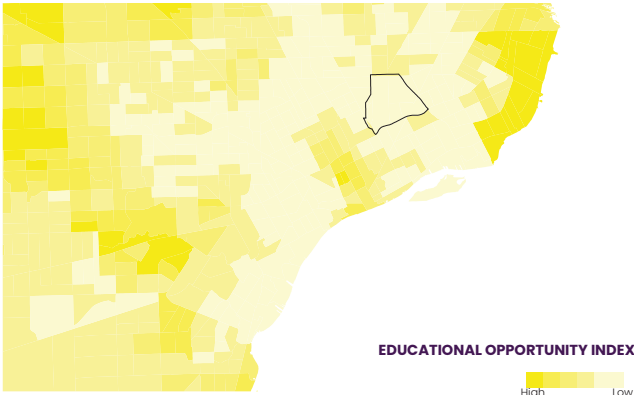


Figure 5.2: Educational Opportunity Index

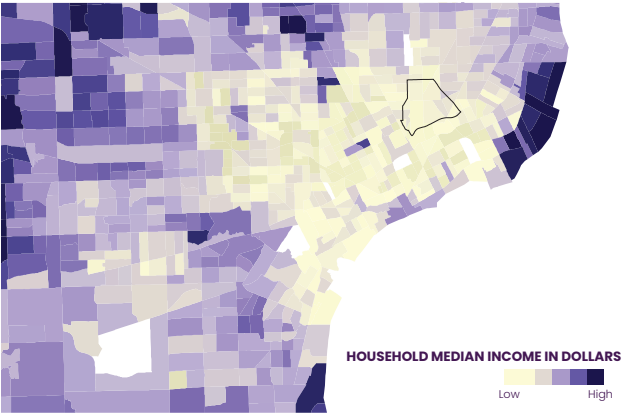


Figure 5.3: Household Median Income in Dollars

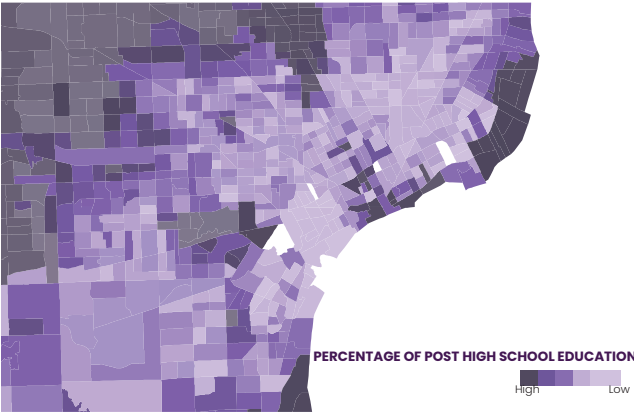


Figure 5.4: Percentage of Post High School Education

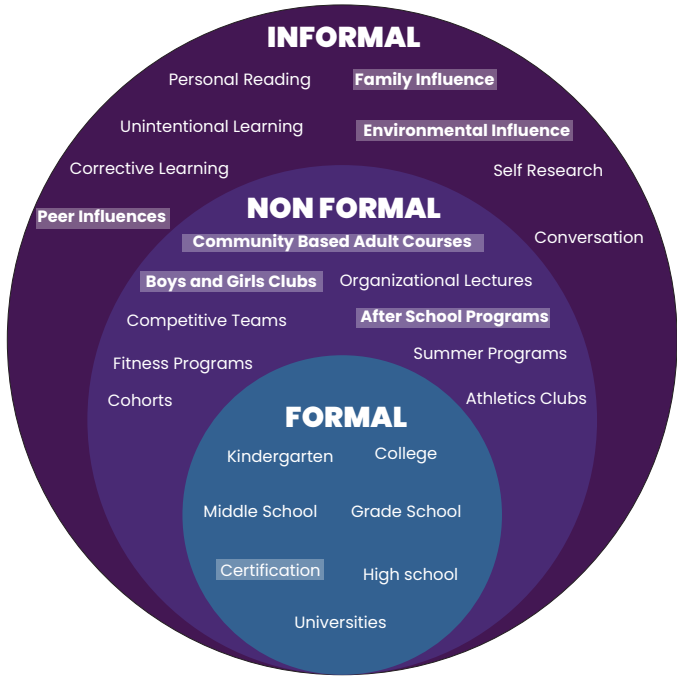


Figure 5.5: Types of Education

who live there.

Strengthening the communities to influence wealth within Neighborhoods could make people’s positive health outcomes increase.

From these assumptions, solutions within this thesis argue that various forms of education need to be a part of revitalization efforts made in inner cities, specifically Detroit. Education is an autonomous resource that could influence wealth gain amongst Detroiters. Although there is no Direct research that suggests institutional education or higher education relation to allostatic load, there is a correlation between other health indicators of education and lower allostatic load. There is also an indication that education levels contribute to greater income and wealth, which yields positive neighborhood and public health outcomes. This research argues that wealth gain can happen through various types of neighborhood parcel programming and planning. This

- INFORMAL**
- Example: Parent teaching a child how to prepare a meal or ride a bicycle.
  - Personal reading or research
  - Library visits or browsing educational websites

- NON FORMAL**
- Adult basic education or school equivalency preparation
  - Knowledge or skill-set sharpening
  - Someone (who is not in school) can learn basic skills or job skills

- FORMAL**
- Takes place in the premises of a school
  - Learning basic, academic, or trade skills
  - Usually starts at preschool or kindergarten
  - Includes Graduation, Diploma, or Certification

### Types of Education

research argues that the existing structures and social programs could be used to influence the wealth gain that leads to healthier living.

Types of Education defined by this research include formal, informal, and non-formal education.

Formal education or formal learning usually takes place in the premises of the school, where a person may learn basic, academic, or trade skills. Small children often attend a nursery or kindergarten but often formal education begins in elementary school and continues with secondary school.<sup>3</sup>

Informal education may be a parent teaching a child how to prepare a meal or ride a bicycle. People can also get an informal education by reading many books from a library or educational websites.<sup>3</sup>

Non-formal education includes adult basic education, adult literacy education or school





Figure 5.6: Airport Sub Education

equivalency preparation. In non-formal education, someone (who is not in school) can learn literacy, other basic skills or job skills.<sup>3</sup>

Education can bring better health opportunities by bringing more income. Having an education allows for a wider, above average income job selection in some instances. This helps people work less for more money by eliminating the need for secondary jobs to maintain life. Wealth gain often encompasses high wages, passive income, ownership, and zero debt. Education may not be able to build wealth in an instant but could help in future wealth building efforts. This means that if people could get the necessary training for literacy,

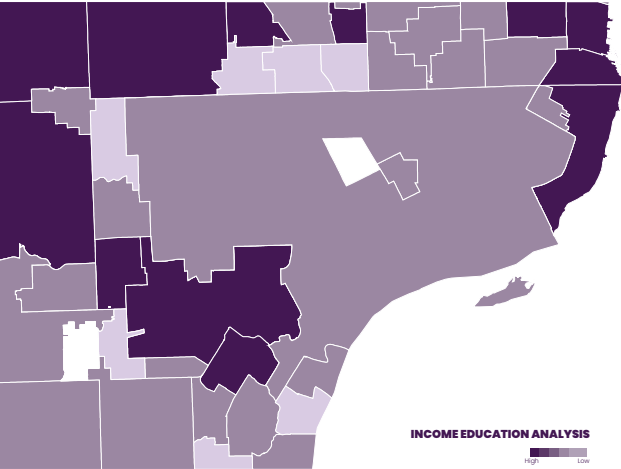


Figure 5.7: Income Education Analysis

entrepreneurship, specialties, and more through informal and non formal education, they might have a chance at better employment options that facilitate wealth accumulation. Varied educational land programming could help future generations by encouraging wealth building while also strengthening community relationships.

In terms of education's impact on the racial wealth gap, formal or institutional education must be free of charge to bring equity to Black communities. Formal education in neighborhoods may be less likely to work if it results in debt like it usually does for the average Black post-secondary student. Additional factors such as systematically worse treatment in education, health care, and in the criminal justice system also feed into the persistent Black-White wealth gap.<sup>4</sup>

The way that education is delivered is key to ensuring its positive impact on reducing inequality can be maximized. To do this, education needs to be:

- Universal
- Free
- PublicInvestment in teachers
- Inclusive
- Relevant
- Accountable to families and citizens. <sup>5</sup>

Optimistically, wealth gain can happen through various types of funded programming while using the existing structures and social programs that fuel the city. Programmed land could be used to influence the wealth gain that leads to healthier living while using nature's benefits to lower allostatic load. Education typically leads to better jobs, more money, and many other benefits, including better health insurance, which leads to better access to quality health care. Higher earnings also allow workers to afford homes in safer neighborhoods as well as healthier diets.<sup>6</sup> For example, a 2011 survey of patients in the same health system found that nearly

70 percent of college graduates ages 25-64 described their health as very good or excellent, compared to 32 percent of adults who had not completed high school.<sup>6</sup>

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Figures

*Figure 5.1: Education and Allostasis illustrated by Nyvey Perryman*

*Figure 5.2: Educational Opportunity index from arcgis illustrated by Nyvey Perryman*

*Figure 5.3: Household Median Income in Dollars from arcgis illustrated by Nyvey Perryman*

*Figure 5.4: Percentage of Post Hgh School Education from arcgis illustrated by Nyvey Perryman*

*Figure 5.5: Types of Education illustrated by Nyvey Perryman*

*Figure 5.6: Airport Sub Education illustrated by Nyvey Perryman*

*Figure 5.7: Income Education Analysis from arcgis illustrated by Nyvey Perryman*

# 06

**CHAPTER 06:**

## **Allocating Detroit Neighborhoods**

When the city of Detroit went bankrupt, many people lived without homes and jobs while properties were left out to decay. The airport sub neighborhood once housed thousands of people who owned businesses and worked in nearby plants. As Detroit declined, the airport sub neighborhood became abandoned. Most of the properties that were once occupied in that neighborhood lay untouched and unkept for decades. Not only are abandoned buildings a place that breeds crime infestation, but the presence of the vacant structures has serious health effects on the public. These effects include high cancer and diabetes risks, heart and lung complications, poor mental health, life-threatening habit formation, isolation, and more.

The airport sub neighborhood is still home to 5,000 residents and also is a neighborhood adjacent to areas with children under 14 years old. This adjacency makes this neighborhood a place that can facilitate growth for various age groups in the neighborhood and its surrounding context. With 4.42 mi.<sup>2</sup> worth of an area, this neighborhood has five schools, ten parks, zero libraries and private investment of almost half \$1 million. The education and income statistics are amongst the lowest in the city and there isn't much homeownership in the neighborhood. The majority of the properties in this neighborhood belong to the Detroit land bank authority, flagged as residential vacant, or occupied for rent. The concentration of vacancy in this neighborhood is a public health risk that can be eliminated by efforts of neighborhood grooming.

The metric for determining a design solution is a strategy that involves building and land selection, analysis, and eventual reprogramming. The first step in this design solution was to find a building that was useful for reprogramming efforts. Conducting a typology study assesses

Airport Sub

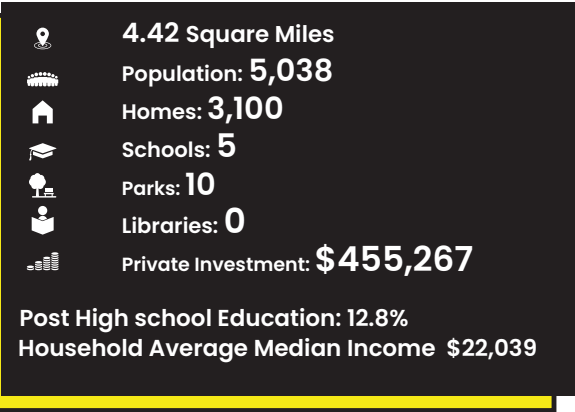


Figure 6.1: Airport sub Facts

the size, quality, upkeep, and usefulness of buildings and land within a neighborhood. Once a building is selected, according to size, it may be reprogrammed to various implementations that influence health and wellness. Buildings should be reprogrammed in effort to lower the allostatic load using existing neighborhood typologies. The airport sub neighborhood currently lives in the strategic neighborhood opportunity zones and his neighbor by strategic neighborhood funding zones and hardest hit funding areas. This shows that while it is an area that has disadvantages, it is still a potential for opportunity and reprogramming. This makes this area have a great potential for growth as it is connected to children, opportunity, and currently has existing typologies that could be used

The design solutions proposed in this neighborhood are an example of what can happen in varied neighborhoods across America. This framework will establish steps towards designing neighborhood elements that lower the allostatic load and promote health in disadvantaged areas. Programmed elements are subject to shift depending on the neighborhood scale, location, neighborhood demographics, and more. After qualitative and quantitative neighborhood analysis, health determinant

research, and historical contextualization, programming decisions in the Airport sub-neighborhood take place at various scales.

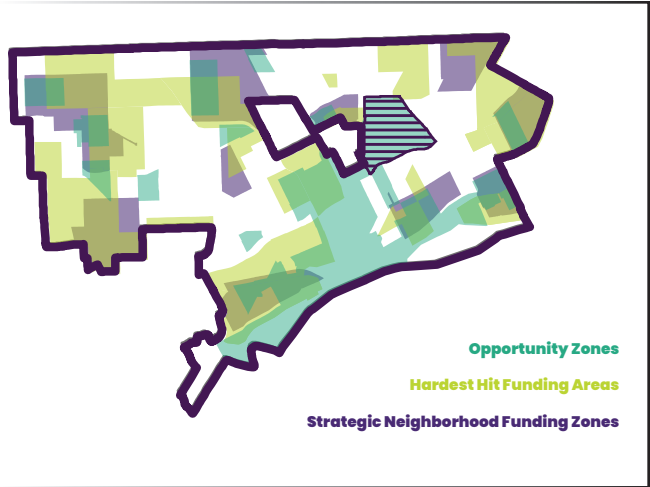


Figure 6.2: Detroit Opportunity Zones

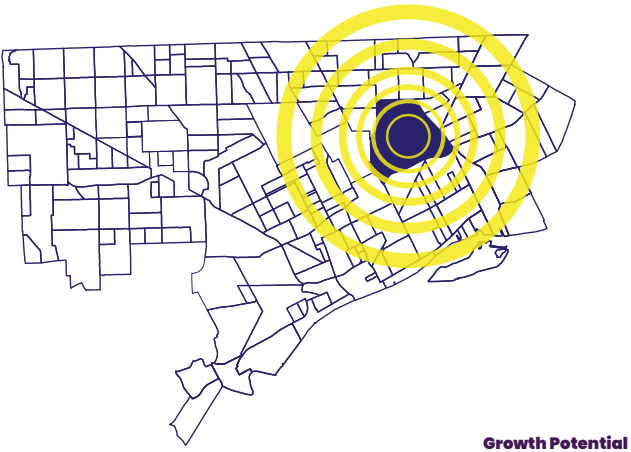


Figure 6.3: Growth Potential

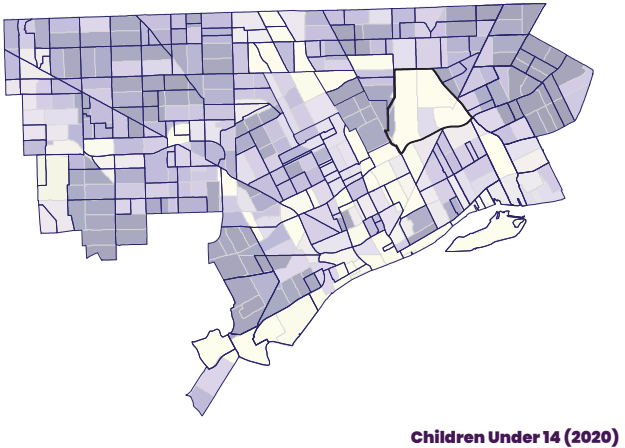


Figure 6.4: Children Under 14



PRECEDENT CONCEPT SOLUTION



Village East Neighborhood Park

Windsor, Colorado

CHILDHOOD AND VARIED AGES

Health and Wellness Contributions

- Environmental
- Emotional

NON FORMAL EDUCATION

COMMUNITY SPACE



Health And Wellness Contributions

- Spiritual
- Physical
- Social

PRECEDENT WELLNESS PROGRAMMING



Hall's Craft's Garden

Stratford-upon-Avon, England

VARIED AGES

Health and Wellness Contributions

- Environmental
- Emotional

INFORMAL EDUCATION

GREEN PATHS



Health And Wellness Contributions

- Environmental
- Emotional



PRECEDENT **HEALTH** PROGRAMMING



**Learning Landscapes**

DENVER, COLORADO  
EARLY CHILDHOOD

Health and Wellness Contributions

**Environmental**  
**Emotional**

NON FORMAL EDUCATION

**LEARNING  
LANDSCAPES**



Health And Wellness Contributions

**Spiritual**  
**Physical**  
**Social**

PRECEDENT **WEALTH** PROGRAMMING



**Southwestern High School  
Redevelopment**  
Detroit, Michigan  
EARLY ADULthood

Health and Wellness Contributions

**Environmental**  
**Emotional**

FORMAL EDUCATION

**TRAINING  
CENTERS**



Health And Wellness Contributions

**Intellectual**  
**Occupational**



TPOLOGY STUDY

The typology study conducted for this research was to gain an understanding of the quality of building vacancies within the neighborhood. The subsequent typology studies are representative of varied building scales in the business district of the airport sub neighborhood. This area was chosen to analyze what type of wealth-building programming would be implemented in the neighborhood. Initially, reprogramming attempts in the neighborhood would start with analyzing and programming a building and then programming the land and residential area around that building. Each building presented in the typology study will be graded based on the following factors: Street proximity, window boarding, building size, brick upkeep, and landscape overgrowth. The presence or lack of quality within these listed categories determines the building’s potential for use and its reprogramming potential.



1

## 8403 Harper Ave



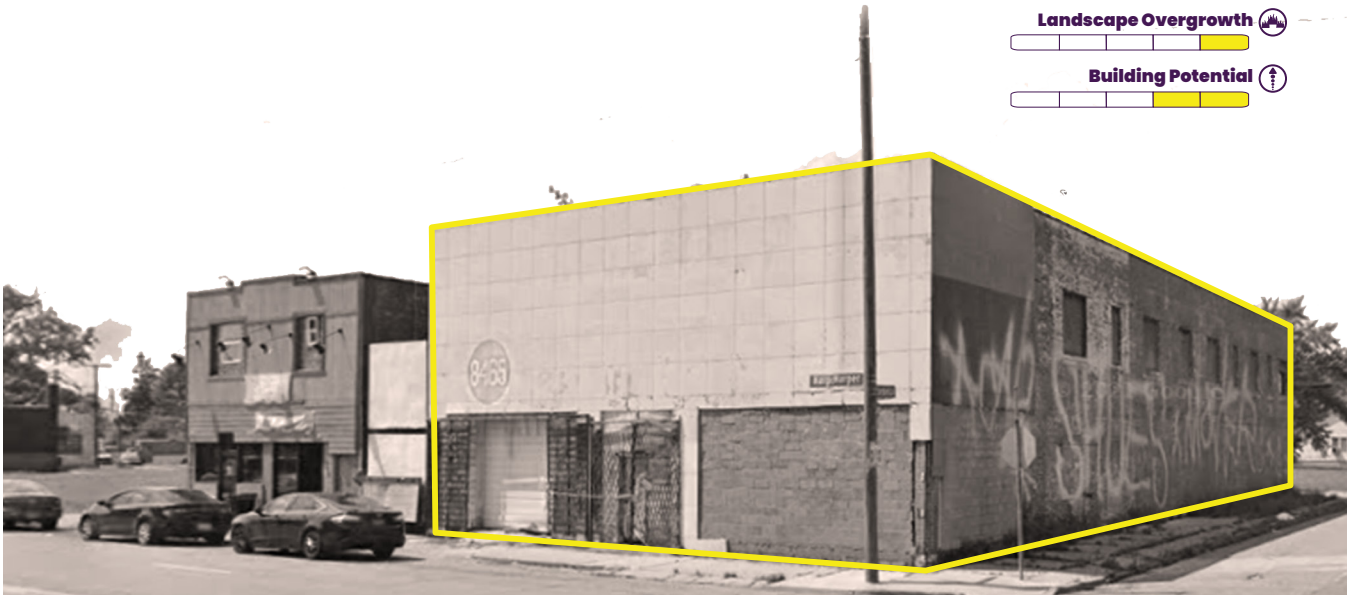
2

## 8088 Doyle St





3  
8501 Harper



4  
8266 Harper Ave



5

## 11850 Earle Memorial Hwy



Street Proximity 🏠

Boarded Windows 🏠

Building Size: Medium Scale 🏠

Brick Upkeep 🏠



Landscape Overgrowth 🌳



Building Potential 📈



6

## 8501 Earle Memorial Hwy



Street Proximity 🏠

Boarded Windows 🏠

Building Size: Medium Scale 🏠

Brick Upkeep 🏠



Landscape Overgrowth 🌳



Building Potential 📈





7

## 8027 Wisner Ave



Street Proximity 📍

Boarded Windows 🚧

Building Size: Small Scale 🏠

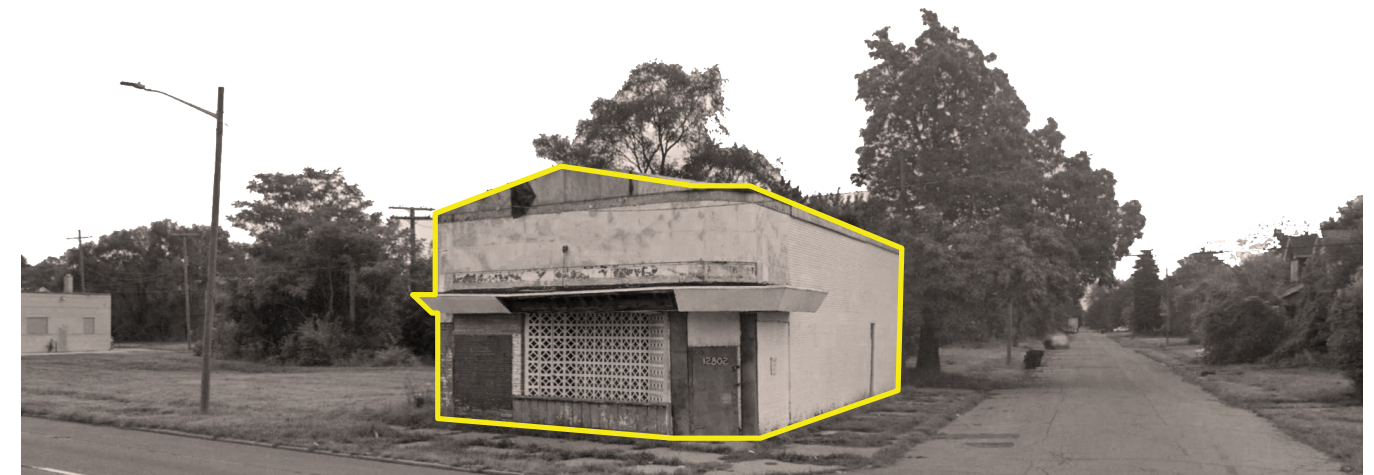
Brick Upkeep 🧱

Landscape Overgrowth 🌳

Building Potential 📈

8

## 12434 Earle Memorial Hwy



Street Proximity 📍

Boarded Windows 🚧

Building Size: Small Scale 🏠

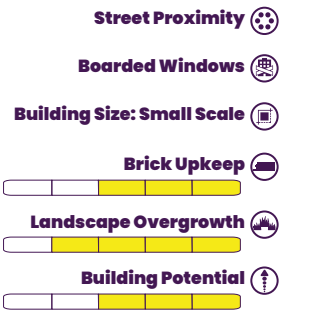
Brick Upkeep 🧱

Landscape Overgrowth 🌳

Building Potential 📈

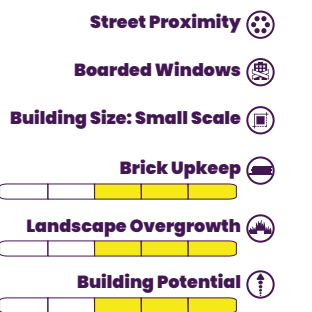
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## 10097 Gratiot Ave



10

## 9413 Harper Ave





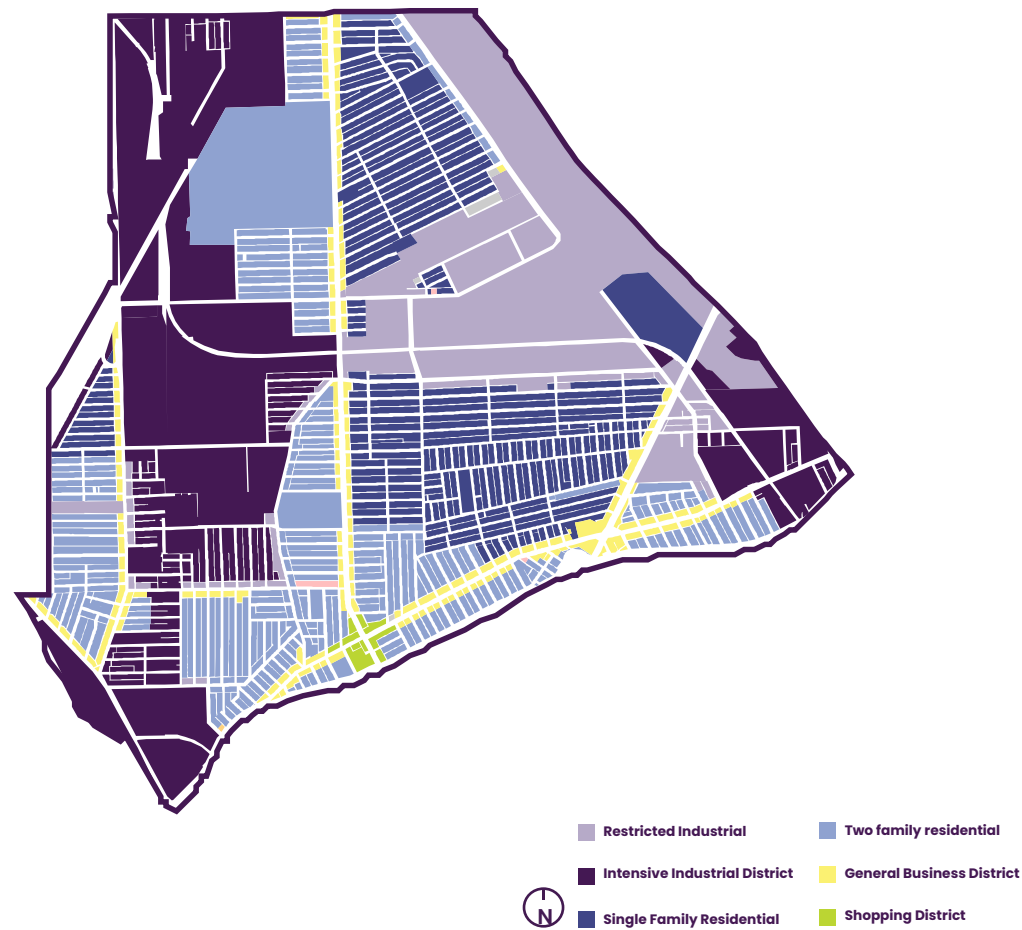


Figure 6.5: Airport Sub Zoning

## Design Solutions

Analyzing the Airport Sub's zoning maps shows that a high percentage of the neighborhood belongs to industrialization. This is due to the history of Detroit's large impact on the automotive industry and needing workers to be housed near their place of work. Living close to an industrialization area is a public health risk. Although it is a risk to the public, the airport and some of the industrial businesses in the neighborhood have purchased land surrounding their property. This was an attempt to own the blocks closest to industrialization so that no health problems could exist in such close proximity to toxic land waste or airborne chemicals. A large

percentage of this neighborhood is also single-family residential areas and two-family residential areas with business and shopping on the main streets. In the residential areas, the Detroit land bank authorities own many of the properties. Many of the lots are vacant and unkept while a few houses remain on the block. These few houses that remain on the block are either owned by lifelong residents or occupied as rental properties. There is a rehabilitation center a few blocks from the lodge playground site in the Airport Sub neighborhood. An envisioned example of neighborhood resource allocation happens on the lodge playground and Crockett high school site in this neighborhood. This example shows



Figure 6.6: Detroit Land bank Owned Properties



# phase 01 REMEDIATION

-  **Pleasantness**
-  **Walkability**

# phase 02 REPROGRAMMING

-  **Nature**
-  **Playscapes**

# phase 03 REPROGRAMMING

-  **Resources**
-  **Growth**

Figure 6.7: Strategy Elements

what can happen in a large building typology, large lot typology, and residential vacancy parcels. Exploring the various types of vacancy allow for the ultimate benefit of reprogramming results in the neighborhood. Design strategies within this solution incorporate the use of vacant residential partials as circulation to larger buildings and lands that are open to the public. The first phase in vacancy allocation is remediation. The objective of remediation is to bring pleasantness and walkability to the site. This includes sidewalk remediation and derelict building restoration or

## STRATEGY 1: REMEDIATION



### Remediation Plan Phase 1

- Sidewalk remediation for walkability
- Building restoration/ Destroy old properties
- Alley Clearout

Figure 6.8 Implementation Plan Strategy 1

## STRATEGY 2: REPROGRAMMING



### Implementation Plan Phase 1

- Wellness Paths in selected vacant land parcels, leading to the larger site
- Grooming Vacant Land, Replacing grass with pavers, benches, natural plants and grasses
- Park benches to be placed initially near existing homes

### Implementation Plan Phase 2

- Learning landscapes placed in adjacencies to children under 14
- Various paved court spaces for activity outdoors
- Hooded park bench spaces added
- Track added

### Implementation Plan Phase 3

- Occupy the Crockett Site
- Reprogram for Housing and Training facilities
- Develop Lodge site with amenities
  - Restrooms
  - Water Fountains
  - Benches
  - Bike Racks
  - Parking
  - Playgrounds

Figure 6.9 Implementation Plan Strategy 2

destruction of expiring building typologies. In the remediation strategy of the first phase, alley clear out will allow for possible walkability and useability of alley space within residential neighborhoods. This helps bring a sense of safety as alleys will be open and well lit in this strategy. The second strategy is reprogramming. While still being in the first phase of vacancy allocation, the reprogramming strategy in phase one incorporates nature and playscapes into the site. The first implementation during the re-programming strategy of phase one is the placement of wellness paths in selected vacant land parcels that lead to the larger

site. The use of education here is non-formal education that happens through influence. Influences from the environment as well as communal interaction can help lower the allostatic load. There is a rehabilitation center a few blocks from the large playground and the vacant land parcels between the rehabilitation center and the large playground will allow for neighborhood Greenway space. (figure 6.6) Interactions with nature and neighbors allow influence to impact livelihood. The more time people spend in nature and with each other on these wellness paths will help to lower the allostatic load by building relationships.

## NEIGHBORHOOD WELLNESS PATH

7377  
GENOA

NON FORMAL EDUCATION

EARLY ADULthood  
20-35 YEARS

- Lot Size: Large Scale
- Land Upkeep
- Landscape Overgrowth
- Land Potential

Health and Wellness  
Contributions

Environmental  
Emotional  
Physical

Program Potential

Nature Trails  
Public Art Paths  
Cultural Landscape



## BUILDING PROGRAM POTENTIALS

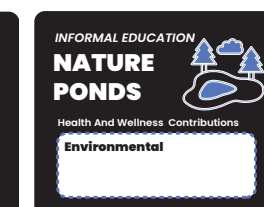
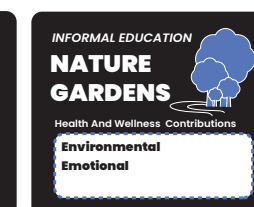
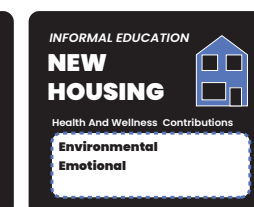
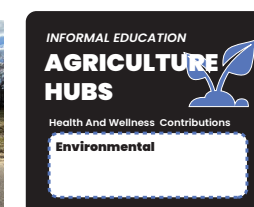
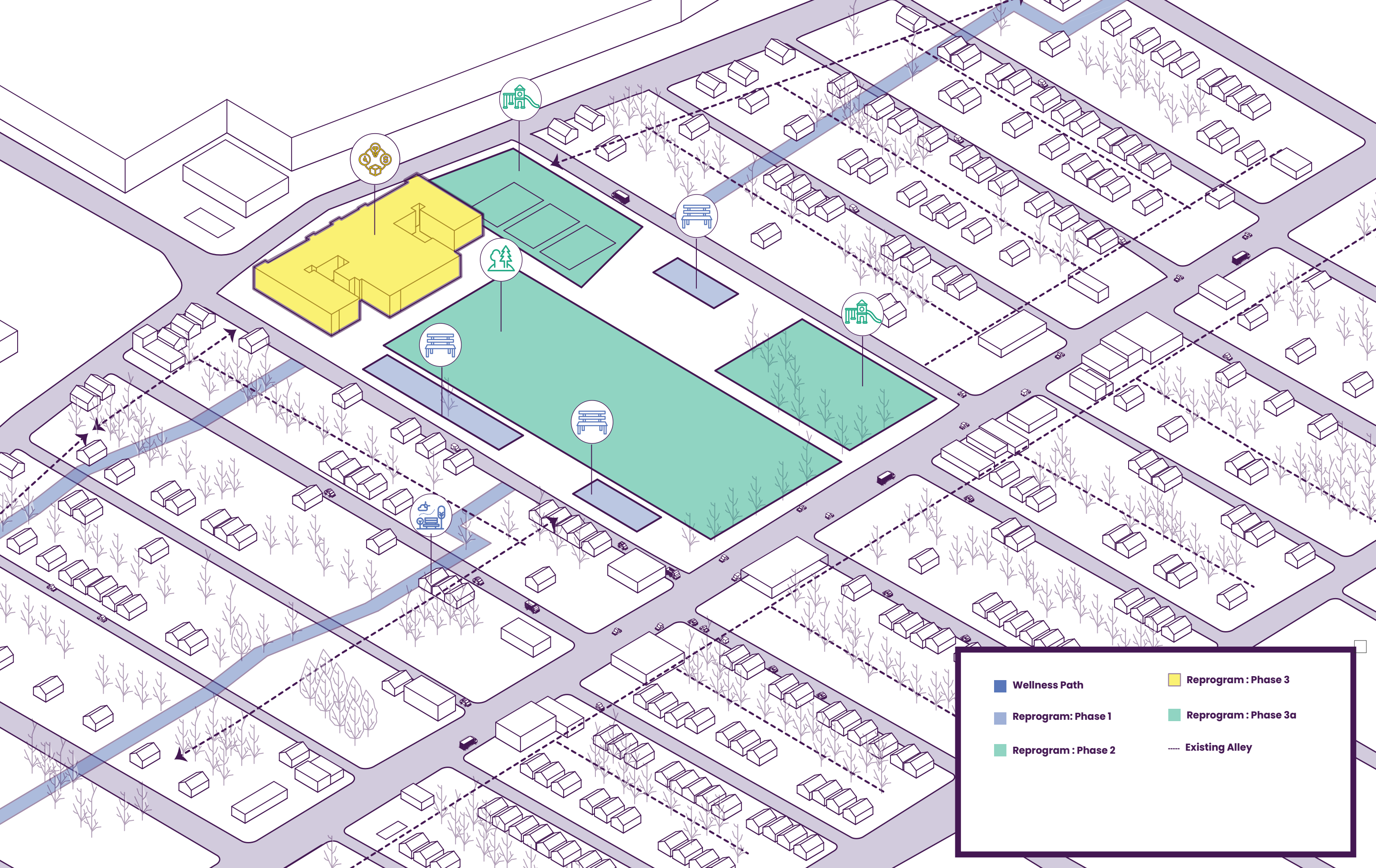






Figure 6.10 Neighborhood Wellness Path





- |   |  |
|---|--|
|  Wellness Path       |  Reprogram : Phase 3  |
|  Reprogram: Phase 1  |  Reprogram : Phase 3a |
|  Reprogram : Phase 2 |  Existing Alley       |



This wellness path has vegetation, and seating and is an experiential pathway that uses nature to interact with wellness. The reprogramming strategy allows nature to be placed in substitution of ungroomed vacancy space.

The second phase within the reprogramming strategy incorporates learning landscapes in the adjacencies to children under the age of 14. In this case, there’s a nearby daycare that facilitates children that are under the age of 14. Here, incorporating various forms of education allows for the children to interact with one another, and build communal relationships,

while still learning aspects of formal education. The last phase in the reprogramming strategy incorporates wealth-building facilities. Because of the wealth impact on the allostatic load, the implementation plan in phase three intends to occupy the vacant Crockett high school building. This building is a large typology in good condition that could be reprogrammed for housing and training facilities. Additionally, the rest of the site would begin to be developed with amenities like restrooms and water fountains for the neighborhood in the general public. The purpose of this

program is to provide some type of training center to the neighborhood that would help them get formal education that influences income and wealth gain. The third phase in the reprogramming plan is geared towards resources and growth.

Over time, the implementation of the design strategies presented in this research should lower allostasis and bring health wellness, and wealth through education and community impact. The goal here is to have healthy living in Detroit neighborhoods by building communal relationships and influencing means of personal gain and physical growth

amongst residents. This is just one instance that remediation and re-programming could be used in a neighborhood setting. There are many typologies across the city that can be reprogrammed and this is just one solution of reprogramming that highlights education’s impact on livelihood. Ultimately, the design solutions offered in this research will reach for better social cohesion and lower rates of disadvantage within communities. Strategies as such cannot happen overnight, optimism and community effort with proper funding can allow spaces like this to exist. reprogramming potential.



Figure 6.11 Lodge Learning Playscape

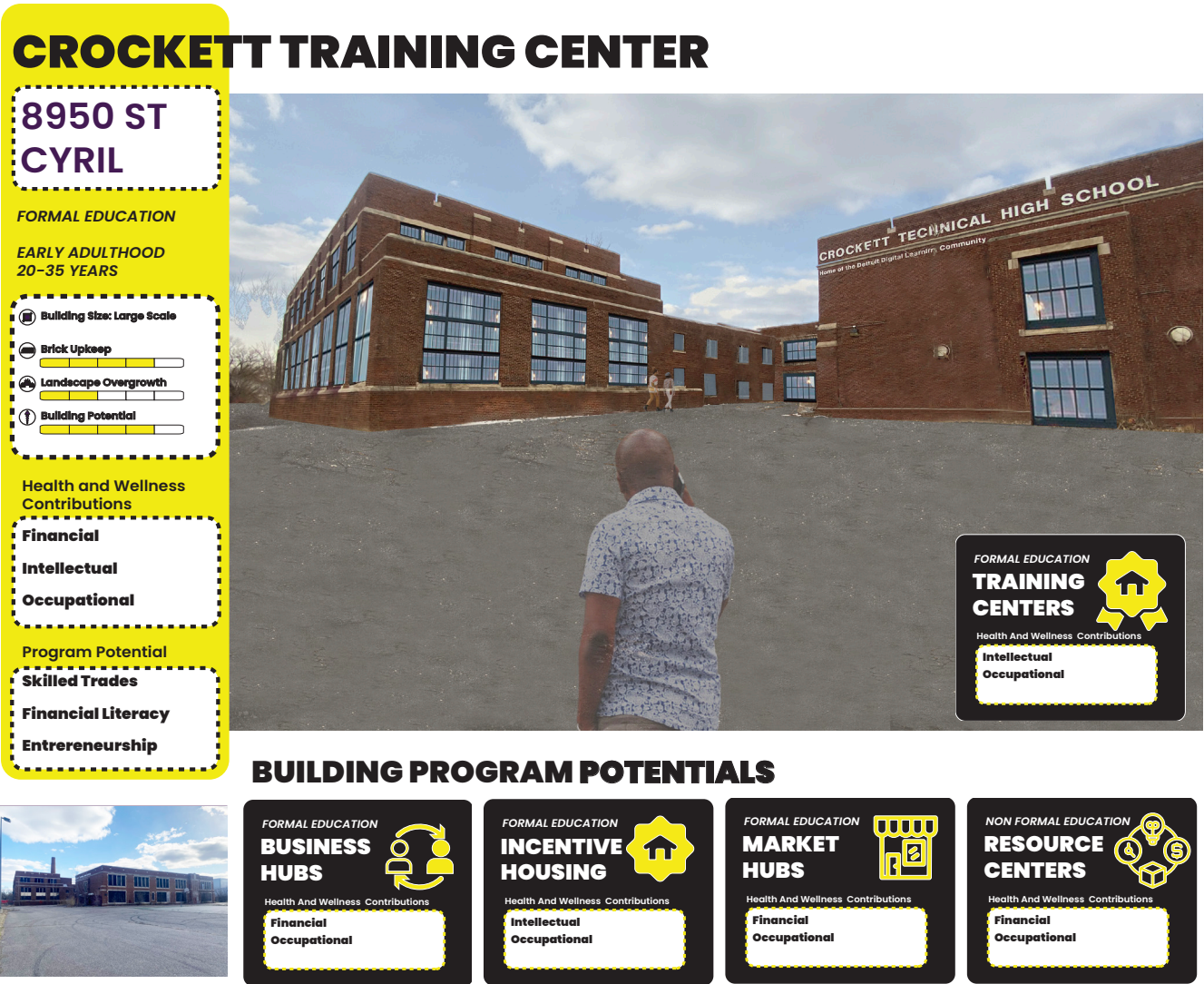


Figure 6.12 Crockett Training Center



End Notes

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Figures

Figure 6.1: Airport sub Facts illustrated by Nyvey Perryman

Figure 6.2: Detroit Opportunity Zones from arcgis illustrated by Nyvey Perryman

Figure 6.3: Growth Potential illustrated by Nyvey Perryman

Figure 6.4: Children Under 14 from arcgis illustrated by Nyvey Perryman

Figure 6.5: Airport Sub Zoning from arcgis illustrated by Nyvey Perryman

Figure 6.6: Detroit Landbank Owned Properties from arcgis illustrated by Nyvey Perryman

Figure 6.7: Strategy Elements illustrated by Nyvey Perryman

Figure 6.8 Implementation Plan Strategy 1 illustrated by Nyvey Perryman

Figure 6.9 Implementation Plan Strategy 2 illustrated by Nyvey Perryman

Figure 6.10 Neighborhood Wellness Path illustrated by Nyvey Perryman

Figure 6.11 Lodge Learning Playscape illustrated by

Nyvey Perryman

Figure 6.12 Crockett Training Center illustrated by Nyvey Perryman

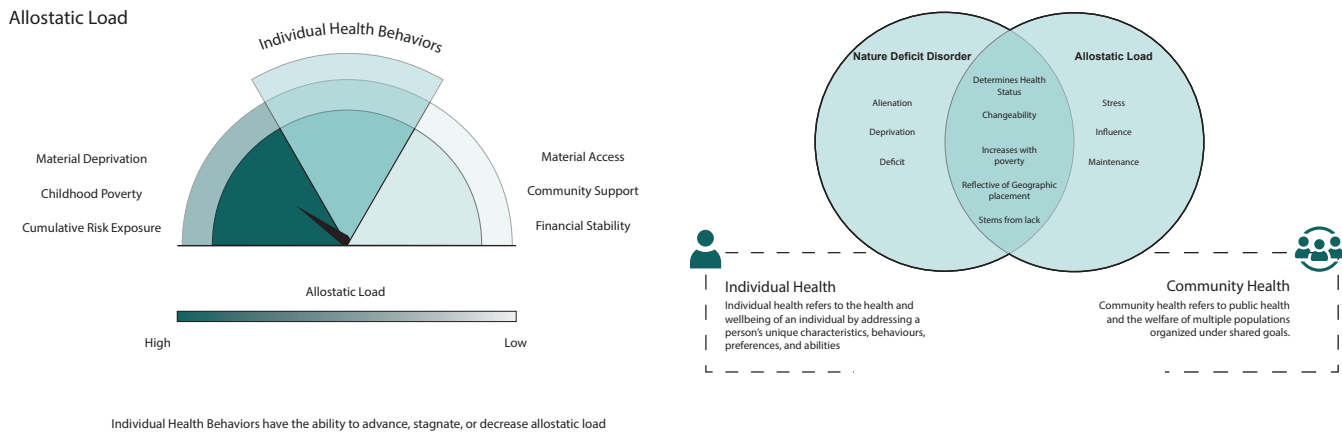
# 07

**CHAPTER 07:**

## **APPENDIX**



A. Kern Photo Stitch and Section Concept



B Crockett High School 2022 Condition

COMMUNITY FEEDBACK

**"We let the children out daily, fresh air and physical activity are important to us"**

COMMUNITY FEEDBACK

**"There is a dire need for teachers, we have a waiting list and I wish there were a way to bring teachers in"**

COMMUNITY FEEDBACK

**"We enjoy the peacefulness of the neighborhood but we miss its old livelihood"**

C. Crockett High School 2022 Condition



D. Wellness Path Rendering (full size)



F. Lodge Playground from Street



G. Lodge Playground From Daycare



E. Lodge Learning Playscape (full size)

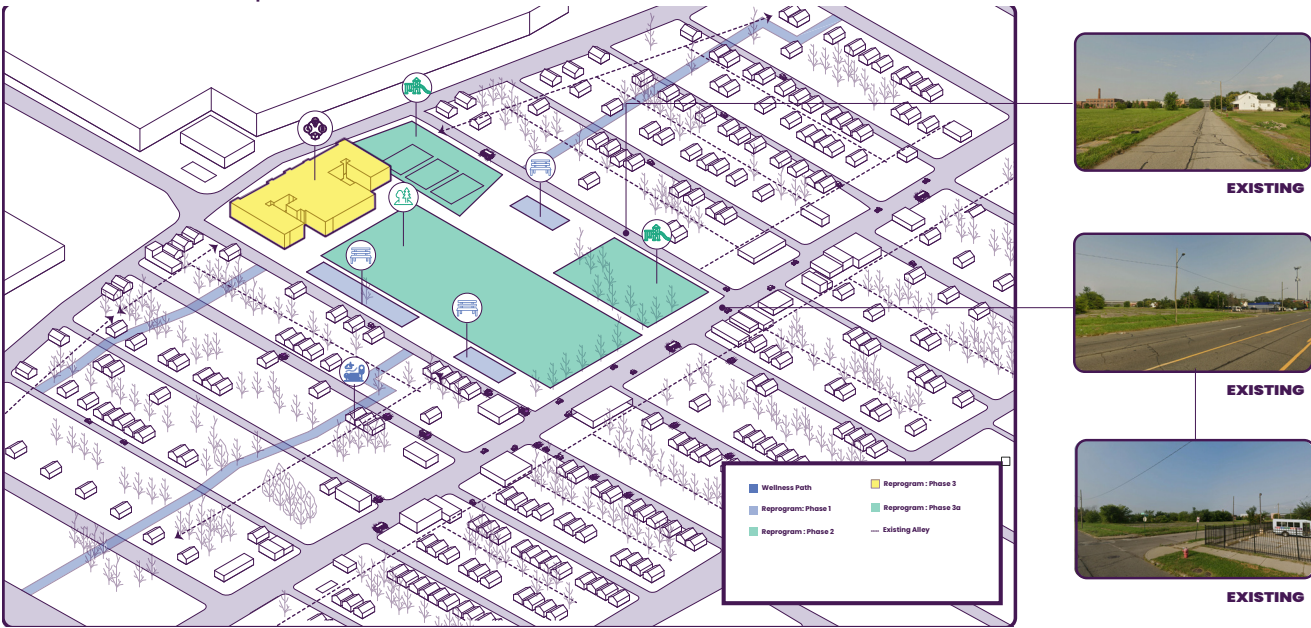


H. Crockett Training Center Rendering





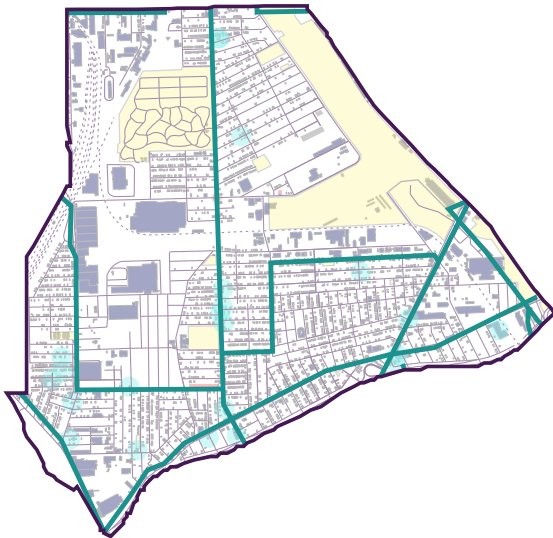
I. Crockett Site Implementation Axon



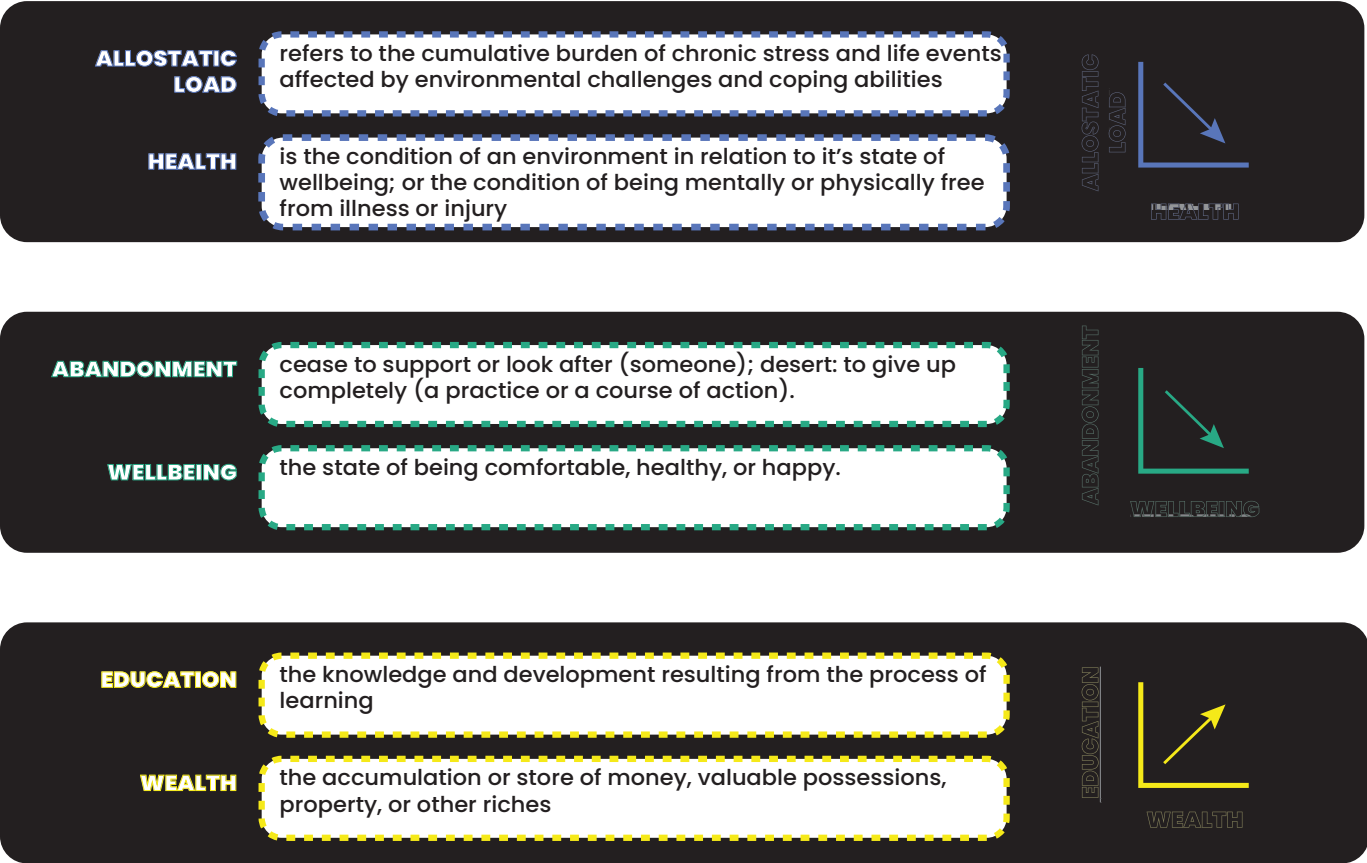
J. Crockett Training Center 2022



K. Airport Sub Bus Routes and Landmarks



L. Definitions and Correlations



**Thank You**