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Adaptive Reuse as a Means for Socially Sustainable (Re)Development: How Reuse of Existing Buildings Can Help to Establish Community Identity and Foster Local Pride

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Adaptive Reuse as A Means for Socially Sustainable (Re)Development: How Reuse of Existing Buildings Can Help to Establish Community Identity and Foster Local Pride

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ABSTRACT

Two trends in building today are urbanization and a focus on sustainability. Concerns about sustainability, especially in building and city design, have been growing for decades now, and are being driven forward by fears over the effects of climate change. Urbanization is rapid population growth in many cities around the world caused by an influx of people from suburban, exurban, and rural communities. In some parts of the United States which experienced suburbanization during the middle part of the 20th century, this is a return of population to the city, or a reurbanization. This growth has led to a need for new development, with a focus on sustainability, in areas where past developments already exist. For these new developments to occur unused or underused buildings and sites are targeted for either adaptive reuse or slated to be demolished and replaced.

Whereas the environmental and financial sustainability of different types of building design and construction have repeatedly been the focus of studies, the effects on social sustainability have been, for the most part, neglected. This paper compares the effects of adaptive reuse development with new development on issues which pertain to the social sustainability of a community, specifically community identity and local pride. The goal is to better understand the effects of different types of development on the surrounding community to better direct future redevelopment in a socially sustainable way.

Research was conducted by surveying residents of Rochester, New York, on six selected developments, as well as their general impressions of the Rochester community. Data from the surveys was analyzed to better understand if, and to what extent, adaptive reuse and new construction developments have affected the community identity and local pride of the surrounding area. This research shows that adaptive reuse better establishes or retains community identity and does more to foster local pride than new construction, and therefore should be given extra consideration when redeveloping urban neighborhoods.

Keywords: *Adaptive Reuse, Community Identity, Local Pride, Quality of Place, Reurbanization, Sense of Place, Sense of Community, Smart Growth, Social Sustainability, Sustainability, Sustainable Development, Urban Renewal, Urbanization*

GLOSSARY OF TERMS

Adaptive Reuse	The renovation and use of a pre-existing structure for a purpose other than that which it was built or designed
Community Identity	See Sense of Place
Local Pride	Positive emotions tied to location and to the quality of place
Quality of Place	The physical characteristics of a community—the way it is planned, designed, developed and maintained—that affects the quality of life of people living and working in it, as well as people visiting it both now and in the future.[1]
Reurbanization	The movement of people from suburbs and exurbs to previously depopulated urban areas
Sense of Place	Connects to being able to identify a place and then associate feelings and perceptions with it based on history.
Sense of Community	Similar to sense of place but relates to familiar people and social interactions
Smart Growth	Designing with principles in mind that lead to community success
Social Sustainability	Livability across social strata. Supportive of the human aspect. Related to Quality of place. Encompasses political and cultural sustainability.
Sustainability	Meeting the needs of people today without compromising the needs of people in the future.
Sustainable Community	Meeting the diverse needs of existing and future residents, sensitive to their environment, and contributing to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all.[2]
Sustainable Development	Community planning and development which are responsive to human needs now and in the future.
Urban Renewal	Process of reimagining, remaking and reviving the urban environment

[1] HM Government, Communities and Local Government. *World Class Places: The Government's Strategy for Improving Quality of Place*. (London: Communities and Local Government, 2009), 16.

[2] Office of the Deputy Prime Minister (ODPM). UK Presidency: EU Ministerial Informal on Sustainable Communities Policy Papers. (ODPM: London, 2016), quoted in Nicola Dempsey et al. "The Social Dimension of Sustainable Development: Defining Urban Social Sustainability," Sustainable Development 19, no. 5, (2009), 290.

Urbanization	The movement of people from suburbs and exurbs to urban areas

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CHAPTER 1: INTRODUCTION

> Cities are at the very center of many grand challenges we face—climate change, poverty, job creation, public health, sustainable energy, and inclusive development. Urbanization promises great things—it has the power to lift living standards, to create economic opportunity, to raise gross domestic product. But left to its own devices, it cannot deliver the goods. My main message is that we have to put cities and sustainable urbanization at the top of this body's agenda.[3]
>
> —Richard Florida, 2014 summit of the United Nations Economic and Social Council

1.1 Background, Problems, and Aims

Humanity is in a transition period, shifting from a majority rural population, as it has been since its beginning, to an urban one. This has been a long, ongoing, and global process, but has rapidly picked up speed in recent decades. In 1800, only three percent of human beings lived in cities. By 1900, this was 15 percent. In 1950, 30 percent of people lived in urban environments and today about 3.5 billion, or half of the world population, are urban dwellers. By 2100, this could be as much as 85 percent, as 7 to 8 billion people are expected to relocate to cities. This surge of inhabitants will require large amounts of infrastructure and many new buildings to house the places they live and work. However, more than 60 percent of the urban infrastructure that will be needed in the next 50 years does not yet exist. While most of this phenomenon will occur in the developing nations of Asia and Africa, urban populations are expected to rise around the world.[4]

[3] Richard Florida, *The New Urban Crisis: How Our Cities Are Increasing Inequality, Deepening Segregation, and Failing the Middle Class—And What We Can Do About It* (New York: Basic Books, 2017), 167-168.
[4] Ibid, 167-169.

While the Far East and Global South are experiencing the creation of new urban centers, the developed nations of the west—which led the industrial revolution—will experience a return to the urban: a reurbanization. Parts of the Midwest and Great Lakes region of the United States will see a resurgence in cities whose populations dwindled throughout the latter half of the twentieth century. This is already occurring in former industrial powerhouses which comprise the aptly named Rust Belt—cities such as Cleveland, OH, Buffalo, NY, and Detroit, MI, along with many others—which will experience a reversal in course, as people flood into them for the first time in more than a half century. It is important to keep climate change in mind as this new age of growth and reurbanization begins.

Many of these Rust Belt cities—including Rochester, NY—are currently experiencing meager situations, suffering from decades of non-sustainable economic, environmental, and social conditions. As these cities depopulated over the last half century, they saw an erosion of their tax base, a crumbling of their infrastructure, and a destruction of many of the communities which held their social fabric together. When the built environment of a community deteriorates, the social aspects of the community soon follow. Empty storefronts, infrastructure in disrepair, and abandoned buildings are seen as hallmarks of crime ridden areas and negatively affect feelings of security. This, in turn, leads to declines in social interaction and community participation, as the residents' pride in and identification with the place fades, creating a framework which quickly becomes self-perpetuating.[5]

For some already densely packed cities in Asia, Europe, and parts of the United States, as new population arrives, they will be forced to expand outwards, or construct even taller, more

[5] Dempsey et al., 289-300.

dense buildings on the sites of current buildings within the cities. However, in cities in the United States which experienced large amounts of suburbanization, there is the possibility to infill and densify the city rather than push outwards from what is likely already a sprawling city designed around the automobile. As population returns to these cities some new buildings will need to be built in empty lots and other old buildings deemed "beyond repair" will need to be demolished to make way for the new. Other buildings with historical or landmark significance will be saved as a requirement likely becoming a museum, or similar. However, many buildings, especially former industrial and manufacturing buildings left empty by the shifting economy and deemed obsolete, will sit in a gray zone without legal protection from demolition but lacking any major structural deficiencies which would require removal.[6] These buildings are prime candidates for adaptive reuse.

The construction needed to build new cities and retrofit existing ones will undoubtedly be felt around the world, as any construction requires copious amounts of material and energy input. There is a wide range of literature on the sustainable aspects of adaptive reuse. Though new "green" buildings produced today are without a doubt more energy efficient than those of the past, they still require vast material and energy inputs to construct. It will take decades for the increased energy efficiency of these buildings to offset these inputs.[7] Professor Craig Langston of Bond University wrote "more effective… than extracting these raw materials during demolition or deconstruction and assigning them to new applications, is to leave the basic structure and fabric of

[6] Langston, Craig. "The Sustainability Implications of Building Adaptive Reuse." Sustainable Development, November 3, 2008. http://epublications.bond.edu.au/sustainable_development/4, 3. Langston deemed obsolete buildings as constating one of the following attributes: 1. Physical 2. Economic 3. Functional 4. Technological 5. Social 6. Legal 7. Political.

[7] Preservation Green Lab, *The Greenest Building: Quantifying the Environmental Value of Building Reuse* (National Trust for Historic Preservation, 2012), 75-76.

the building intact, and change its use."[8] With some retrofitting and modernization, existing buildings can be brought up to modern energy standards while retaining the large amounts of embodied energy they already contain. Furthermore, many older buildings already contain historical elements which work in a passive manner to reduce energy requirements; examples include organization of spaces to best facilitate natural ventilation, spaces designed to capture natural daylight, the employment of thermal mass to moderate heating and cooling, and other design techniques which are unlikely to be replicated today. As renowned architect, and proponent of building reuse, Carl Elefante has said, "We cannot build our way to sustainability; we must conserve our way to it."[9]

Adaptive reuse buildings have been shown to yield fewer environmental effects and, even with average energy performance, provide immediate reduction in climate change impacts when compared to new, more energy efficient construction.[10] Reusing existing buildings is also more economically sustainable because in most cases they will have a lower construction cost and greater return on investment than construction of a new building to similar quality.[11] Furthermore, since rehabilitation is more labor intensive and often requires the work of specialists, it has a more positive impact on the local economy than new construction which spends less on labor and more on the purchasing and shipping of construction materials.[12] In either case, reinvestment in and return of population to the city is likely to prompt improvements in both the built environment and the economy, as well as have a noticeable effect on the community. Whether this effect will be

[8] Langston, 1.
[9] Carl Elefante, "The Greenest Building is... The One Already Built." *Forum Journal: The Journal of the National Trust for Historic Preservation* 21, no. 4 (Summer 2007), 27.
[10] Preservation Green Lab, 61.
[11] Nart Stas, *The Economics of Adaptive Reuse of Old Buildings: A Financial Feasibility Study & Analysis* (Waterloo: University of Waterloo, 2007), 144.
[12] Ibid, 29.

positive or negative and to what extent depends greatly on the project's design and how it is undertaken.

There is no doubt both new and renovated buildings when done right will have positive effects on the community when compared to abandoned and underused buildings. Both types of developments have the potential to create beneficial financial and social change in a community because of the positive effects of increased density and increased face-to-face interactions which come with infill and creating mixed use buildings.[13] Adapted reuse has already been shown to be more economically sustainable and environmentally sustainable but is it more socially sustainable than new build?

To better decide, one must consider the definition of social sustainability and the aspects of it which pertain to community and urban development. One must also consider the definition of community. A community is a social construct, not an area defined by a set of boundaries. However, the built environment and physical boundaries can have as great an effect as those created by racial, economic, or lifestyle differences, which will be further explored in the following chapters. Bramley et al. determined five interrelated and measurable aspects of community sustainability applicable at the local community and neighborhood levels. These five dimensions are:

1. • Interaction in the community/social networks
2. • Community participation
3. • Pride/sense of place
4. • Community stability

[13] Glen Bramely et al. "Social Sustainability and Urban Form: Evidence from Five British Cities." *Environment and Planning* (September 2009), 2128.

5. • Security (crime)14

At the neighborhood level, these dimensions were shown to be influenced by features of the built environment.[15] This study will focus specifically on the effects of community pride and community identity (sense of place)[16] and how they relate to the concept of redevelopment within the city of Rochester, New York.

The aims of this research are:

1. To obtain a better understanding of the relationship between the built environment and social sustainability of the community.
2. To understand how adaptive reuse and new developments in Rochester have affected the pride and identity of the community.
3. To provide suggestions for a future approach to development in the city.

1.2 Thesis Statement

Social sustainability is a critical aspect of the triad of sustainability. Along with environmental and economic sustainability, it is a crucial component for developing sustainable communities. The hypothesis of this thesis is that the adaptive reuse of existing structures will prove better for social sustainability of communities than new construction because of the ability of these projects to strengthen community identity and foster local pride. This will be shown by a

[14] Glen Bramley et al. "What Is Sustainability and How Do Existing Urban Forms Perform in Nurturing It?" (Planning Research Conference. Bartlett School of Planning, UCL, London: April 2006), 5.
[15] Glen Bramley and Sinéad Power. "Urban Form and Social Sustainability: The Role of Density and Housing Type." *Environment and Planning B: Planning and Design*, Volume 36, Issue 1, (2009), 34-35.
[16] "Sense of Place" was rephrased to "Community Identity" to help simplify the language for those participating in the research who did not have a background in the subject.

quantitative study based on the measurable results of questionnaire responses to issues relating to six subject buildings located within the city of Rochester.

1.3 Outline

Building on the first chapter, Chapter Two looks more closely at the history of Rochester to give context to the development of the urban problems being addressed in this study. In addition, it examines the philosophical framework behind the concept of social sustainability and the aspects of previous research which informed this thesis's methodology. The chapter concludes with why an influx of people and a strategic approach to subsequent urban development would help to alleviate problems plaguing the city.

Chapter Three introduces the research methods used to test the hypothesis and their origins from the research methods of others. It discusses the development of the questionnaire used in the research and changes made to it based on early feedback. Furthermore, it describes the procedure in which the questionnaire was distributed and administered.

Chapter Four presents the data and programs used to analyze it as well as the initial findings of the research. It then delves deeper into the data to try to understand its nuances and the effects demographics played in how subjects responded. In addition, it gives potential interpretations of findings based on interconnections between the data and knowledge from the literature review.

Chapter Five summarizes the project then draws conclusions based on the data and its subsequent analysis. It provides suggestions for a future approach to development in the city based on this research. Finally, it examines areas in which this research was lacking and considers future studies which could be done to expand the research into this field.

CHAPTER 2: BACKGROUND AND LITERATURE REVIEW

The purpose of this chapter is threefold. First, this chapter looks more closely at the background and circumstances which led to the focus of this thesis. It begins by summarizing the history of Rochester from a high level to provide context for its issues today. Second, it examines the concept of social sustainability and its evolution, as well as how it relates to community development and the built environment. Finally, it connects the two to better understand how developments throughout Rochester's history had an impact on its social sustainability and contributed to the deterioration of its social fabric.

2.1 Rochester, New York

The breadth and depth of Rochester's history is too extensive to provide a thorough analysis in this paper, or in any one paper for that matter. The city's history has shaped its physical and social environments and these environments have shaped the city's history. What follows is a general outline of important dates, events, and epithets which allude to the city's place within the developing country.

On November 8th, 1803, Colonel Nathaniel Rochester, and two business associates from Hagerstown, Maryland—Major Charles Carroll, and Colonel William Fitzhugh, Jr.—purchased 100 acres of land along the Genesee River in order to establish Rochesterville, the precursor to the city of Rochester. Though the land had long been home to the Seneca tribe and had briefly been the location of a French fort in the early eighteenth century, it was not until 1811 that the first permanent European settlers arrived. Originally settled along the western banks of the Genesee River around what is today the High Falls neighborhood, in short time newcomers spread to both sides. Rochester's population and economy boomed in the 1820's following the construction of

the Erie Canal. By 1830 the population had passed 10,000 residents, more than doubling over the previous decade, prompting some to refer to Rochester as America's original boomtown and earning it the moniker, *The Young Lion of the West*. All this despite being only a few hundred miles from the Atlantic Ocean, which alludes to just how much expansion the nation still had to do.[17]

In 1834, Rochester was incorporated as a city. It continued to thrive due to a combination of natural resources including fertile surroundings, used to produce grain, and steep drops in elevation along the river, ideal for locating flour mills, as well as access to shipping because of its location on Lake Ontario. Before long, the city grew into the world's leading producer of flour and added the nickname: *The Flour City*. The fertile soil would also contribute to the establishment of a number of flower nurseries to the south of the city, some, such as Ellwanger and Barry, becoming world renown by the mid-Nineteenth Century. For this reason, Rochester's title soon transitioned from *The Flour City* to *The Flower City*, an epithet which has retained frequent usage to this day.[18]

In the mid-nineteenth century, Rochester developed a reputation for activism and became home to a number of important social movements within the emerging country. A noteworthy stop on the Underground Railroad, the city was the adopted home of Frederick Douglass, a distinguished leader of the Abolitionist Movement. It was in Rochester that he published the renowned abolitionist paper, *North Star*. Running parallel to this was the Suffrage Movement, whose notable leader, Susan B. Anthony, also resided in the city. Both of these movements would have major, long-term effects on the future of the country.[19]

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[17] Warren Kling. *Americas First Boomtown: Rochester, NY: The Early Years and the Notables Who Shaped It.* (Rochester, NY: Rochester History Alive Publications, 2008.)
[18] Ibid.
[19] Ibid.

Following the Civil War, rapid growth continued as Rochester broadened its industries. It added large amounts of manufacturing and became a major player in the garment industry. It was also during this time that some of Rochester's most famous companies were established including Western Union, R.T. French Company, and Gleason Works. However, it was the founding of Eastman Kodak and Bausch & Lomb during this time which had the greatest impact on the city's international reputation. Along with The Haloid Company (known today as Xerox[20]), founded in 1906, these companies helped to establish Rochester as *The World's Image Center*.[21]

Growth slowed after the first World War, coinciding with the abandonment of the Broad Street Aqueduct and rerouting of the Erie Canal around downtown in 1919. The aqueduct sat empty until 1927, when, predicting future growth and a need for public transportation, a railway was added to the former canal bed, and a roadway built over the top. This was the beginning of the Rochester subway. Around this time the city's population reached a peak of approximately 330,000 people before stagnating for nearly 20 years following the stock market crash in 1929. That year also marked the beginning of the end for Rochester's streetcar network as the first of four of the city's lines were closed. By 1941, the remaining 28 lines had been closed to be replaced with buses.[22]

Like many cities in the Northeast and Great Lakes regions, the city of Rochester saw its population begin to decline following World War Two.[23] New legislation and approaches to urban planning produced cultural changes which had major implications for cities. In time, these

[20] Xerox, Kodak, and Bausch & Lomb were long known as Rochester's "big three" because of the large number of citizens who worked there and the significant role these companies played in the development of the city.
[21] Ibid.
[22] Shelden S. King. *The New York State Railways*. (Elmira, New York: Whitehall Mail Service, 1975), 31.
[23] "Overview of Rochester, New York (City)." Statistical Atlas. Accessed December 01, 2017. https://statisticalatlas.com/place/New-York/Rochester/Overview.

decisions would hollow out the built environment, stifle the economy, and irrevocably harm the social well-being of these communities.

Though many factors shaped the decline of this region, the most impactful three were the implementation of Single-Use Zoning, The Servicemen's Readjustment Act of 1944, and The Federal-Aid Highway Act of 1956. Single-Use Zoning, also known as Euclidean Zoning[24], rose to prominence following the supreme court case Village of Euclid, Ohio v. Ambler Realty Co. in 1926.[25] This provided the impetus to form separate residential areas away from the manufacturing and commercial uses in the city. The Servicemen's Readjustment Act of 1944, more commonly known as the G.I. Bill, provided returning service members with low-interest mortgages allowing them to purchase new homes in the suburbs. The Federal-Aid Highway Act of 1956 allowed for greater ease of travel making commuting from the suburbs via car a viable option.[26] With all of these forces at work, it is then no coincidence that in June of 1956 the Rochester subway closed citing a decline in ridership and the city announced it would repurpose its railbed as the site of a new inner-city highway, Interstate 490.[27] This concluded the process of rail removal in Rochester. Together these three factors led to many families leaving the city for surrounding suburban communities in a process known as suburbanization.

While not the initial goal of the legislation, the enduring effect of these decisions was the rise of the automobile, creation of sprawl, fracturing of cities, and the destruction of walkable neighborhoods—all of which come with dire consequences on the sustainability of communities.

[24] the practice of dividing a municipality into zones which allowed only certain land uses – usually residential, commercial and industrial.
[25] Charles Montgomery, *Happy City: Transforming Our Lives through Urban Design* (New York, Farrar, Straus and Giroux, 2014) 66.
[26] Montgomery, *Happy City*, 74-75.
[27] King, *The New York State Railways*, 30.

These changes were heavily criticized by renowned author and urbanist Jane Jacobs. In her book, *The Death and Life of Great American Cities*, she expounds the importance of good urban design including mixed-used neighborhoods[28] with small, walkable blocks designed for pedestrian traffic.[29]

In order to find space for new car-centric infrastructure such as Interstate 490, large swaths of the built environment were demolished; whole neighborhoods—often those primarily inhabited by people of color—were removed, further depopulating the city proper.[30] The new inner-city highways provided quick and easy access for suburbanites employed in the city but severed the neighborhoods which remained, decimating their communities. The influx of vehicular traffic during the day required the construction of numerous parking lots. In time, large expanses of asphalt replaced once prominent buildings. The decrease in city residents and a lack of pedestrian traffic quickly led to the financial ruin and subsequent closure of many small, family-owned shops. Soon longstanding businesses and staples of the community began to lose the battle to new superstores and convenient shopping plazas on the fringe of the city.

As conditions worsened, large portions of the population—those with the means to do so—left the city along with their tax money.[31] This (mostly white) flight created major fiscal challenges for Northeast and Great Lakes cities with overbuilt infrastructure and dwindling tax bases. As economic investment declined, rapid urban decay took hold as many buildings sat empty and fell into disrepair. The urban deterioration brought about by this economic decline led to the dubbing of this region, shown in Figure 2.1, as the Rust Belt. Rochester is just one of many cities included

[28] Jane Jacobs, *The Death and Life of Great American Cities* (New York, Random House, 1961) 152-177.
[29] Ibid, 178-186.
[30] Robert A. Young, *Stewardship of the Built Environment Sustainability, Preservation, and Reuse* (Washington, DC: Island Press/Center for Resource Economics, 2012), 41.
[31] Montgomery, *Happy City*, 67.

in this region. Deterioration of the built environment and the abandonment of streets after dark created a general feeling of danger which led more residents to leave the city with large businesses to follow, furthering the financial hardship of the city in a self-perpetuating cycle.

Figure 2.1: Map of the Rust Belt[32]

Rust Belt cities were not only in a struggle for residents with their suburbs but also with other parts of the country. An economic shift was underway; away from northern manufacturing and towards new industries located in the south. The Sun Belt, named for its favorable weather,

[32] Mark Abadi, "The US Is Split into More than a Dozen 'Belts' Defined by Industry, Weather, and Even Health." Business Insider. Business Insider, May 7, 2018. https://www.businessinsider.com/regions-america-bible-belt-rust-belt-2018-4.

became an epicenter for new economic opportunities and an option for those fleeing the Rust Belt. Most cities in this region have yet to recover and many never will.

At first, Rochester fared better economically than other Rust Belt cities because of its focus in early technology industries rather than manufacturing. The area obtained a reputation for having a self-confident persona and an arrogant attitude when compared to other cities in the region. This attitude was mocked in the 1957 novel *Smugtown, USA*, earning it yet another epithet.[33] However, in time, the severe decline in population and subsequent urban planning mistakes took their toll. Over the following decades, aspects which supported vibrant walkable communities slowly began to disappear giving way for more automobile-oriented infrastructure. Family owned shops gave way to large suburban super stores, public infrastructure fell into disrepair, and empty buildings were replaced by barren parking lots.

Shifting economic conditions made things worse as Rochester's "Big Three" saw their market share begin to decline as production moved overseas. The darkest moments came as the ubiquity of film began to dwindle as digital photography rose to prominence, and with it, Eastman Kodak's dominance over the camera industry came to an end. The company that once employed more than 60,000 people in the city began to downsize, eventually filing for Chapter 11 bankruptcy protection in 2012.[34] Former employees found themselves jobless and many without a tie to the city would go on to leave the area.

[33] Curt Gerling, *Smugtown U.S.A.* (Rochester, NY: Plaza Publishers, 1993).

[34] Kodak's employment in the Rochester area maxed out at 60,400 in 1982. That is greater than the region's current three largest local employers—the University of Rochester, Rochester Regional Health and Wegmans Food Markets Inc.—combined. The company's employment worldwide peaked at 145,300 in 1988." (Mike Dickinson, "Kodak's Decades of Decline," Rochester Business Journal, September 13, 2017, accessed October 24, 2018, https://rbj.net/2017/09/13/kodaks-decades-of-decline/).

Though investment has started to return in recent years, Rochester, like other Rust Belt cities, still suffers from an abundance of urban blight. Today the region is still known for advances in the fields of optics, photonics and imagining as well as the quality of its universities and developments in the medical field, but it has fallen far from the notoriety it once possessed. Recent high rankings for livability and quality of life[35] are somewhat dubious as the city is also a leader in childhood poverty[36] along with a number of other unflattering statistics. There is a focus on urban renewal and redevelopment within the city, including filling in of the eastern portion of the Inner Loop, the Rochester 2034 comprehensive plan, and Roc the Riverway, among others, though things have been slow moving thus far.

2.2 Social Sustainability

Since the beginning of humanity, communities and cultures have lived sustainably without any thought given to the notion of sustainable living. However, as mankind expanded across the globe and civilization developed, people began to use more resources than the land could naturally replenish. This was exacerbated by the rapid population growth as well as the development of technologies and processes during the industrial revolution. Pollution and resource depletion occurred on a grand scale leading industrialized nations turned their eyes to the resources of yet to be developed areas of the world. This continued for many decades without attention to the long-term consequences of mass pollution and resource exhaustion. However, the effects of much of the pollution which occurred during this time were not immediately evident as large quantities of

[35] Devon Thorsby, "The 25 Best Places to Live in the U.S. for Quality of Life in 2019," U.S. News & World Report. U.S. News & World Report (2019).
[36] Mary A. Towler, "Rochester's 'Report Card': Poverty Still a Major Challenge." *City Newspaper* (Rochester, NY: City Newspaper, 2019).

greenhouse and ozone depleting gases were released which would affect the world's climate for centuries to come.

The earliest origin of the environmental movement grew out of the concerns of the long term environmental effects of nuclear power, which resulted in research being done in Rochester as early as 1943 as part of the Manhattan Project.[37] Awareness grew in the 1960's following the Santa Barbara Oil Spill. In 1969, the US government passed the National Environmental Policy Act (NEPA) and one year later the Environmental Protection Agency (EPA) was founded.[38] Though this was not the very first time concepts of pollution reduction and conservation had been considered, it was a major step in emphasizing the issue and making it known on a large scale. In 1987, the United Nations World Commission on Environment and Development published the Brundtland Report. It was in this report that the term sustainable development was first coined and defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[39]

Throughout the 1980's this movement was concentrated primarily on the concept of environmental sustainability—how to diminish the impact of civilization and humankind on the planet's resources. The goal was to reduce pollution of the environment as well as expand conservation of wild areas and natural resources. In the late 1990's, this was expanded to look at the long-term financial implications of these new policies on the economy. The emphasis became

[37] Ned Ballatori, Victor G Laties, and Thomas A Gasiewicz. "Toxicology at the University of Rochester: From the Manhattan Project to the Environmental Basis of Human Diseases," *Toxicology Training Center*.
[38] United States Senate and House of Representatives. Public Law 91-190 - National Environmental Policy Act. Washington, DC: United States Government Printing Office, 1970. 852-56.
[39] Suzanne Vallance, Harvey C. Perkins, and Jennifer E. Dixon. "What Is Social Sustainability? A Clarification of Concepts." *Geoforum* 42, no. 3 (April 2011): 342-48.

how to implement change in a fiscally efficient and effective way in order to save more money or produce more value in the long run—what is known today as economic sustainability.[40]

Since the middle of the twentieth century, a plethora of research has been conducted on these first two aspects of sustainability and some policy has been enacted. Yet, it was not until more recently that focus has begun shifting to the effects on people and the systems that they rely on—the concept of social sustainability. Social sustainability prioritizes people, communities, and society as a whole—finding ways to implement the other two legs without having a negative effect on quality of life. Today these three pieces comprise what is known as the sustainability tripartite, or triple bottom line—commonly referred to as "planet, profit, people." In order to have a truly sustainable society, these three aspects must work in unison.[41] Figure 2.2 summarizes the evolution of priorities within sustainability over time.

Though social sustainability can be defined in numerous ways depending on the context, it is most simply described as livability across social strata; it is supportive of the human aspect and produces conditions which can be sustained and built upon over time. Social sustainability is intimately entwined with the other members of sustainability tripartite, despite being the least studied of the three. This is perhaps because it is the most ambiguous, as it is difficult to quantify the experiences and perceptions of individuals.

[40] Andrea Colantonio. "Social Sustainability: An Exploratory Analysis of its Definition, Assessment Methods, Metrics and Tools," *Measuring Social Sustainability: Best Practice from Urban Renewal in the EU*, (Oxford, UK: Oxford Brooks University, Oxford Institute for Sustainable Development (OISD), 2007) 3-4.
[41] Ibid., 3-4.

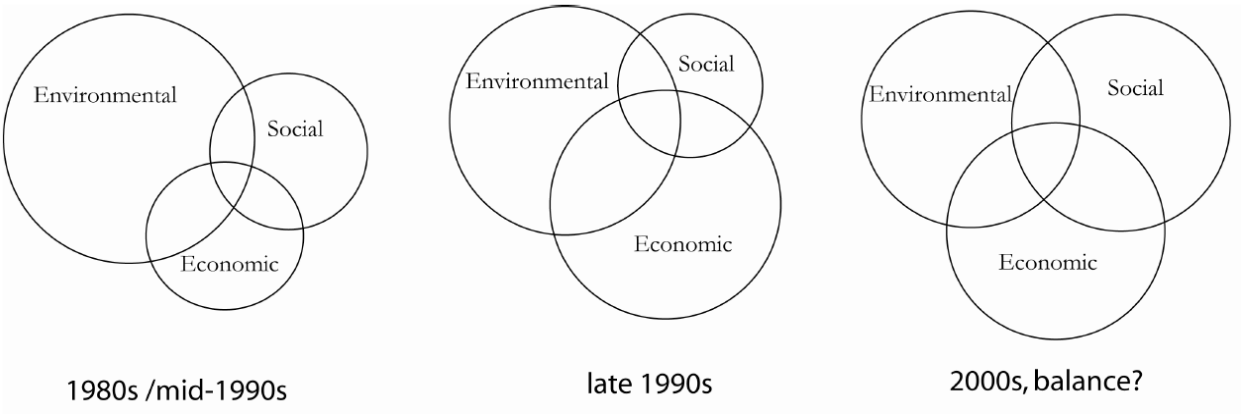

Figure 2.2: Changes in the focus of sustainability overtime [42]

A study completed by James Baines and Bronwyn Morgan identified the six primary objectives of social sustainability as:

1) overcoming disadvantage attributable to personal disability;
2) fostering personal responsibility, including social responsibility and regard for the needs of future generations;
3) maintaining and developing the stock of social capital, in order to foster trusting, harmonious and cooperative behaviors needed to underpin civil society;
4) attention to the equitable distribution of opportunities in development, in the present and in the future;
5) acknowledging cultural and community diversity, and fostering tolerance; and
6) empowering people to participate on mutually agreeable terms in influencing choices for development and in decision-making.[43]

[42] Tamás Marghescu. "Greening the Lisbon agenda? = Greenwashing?" Presentation at the Greening of Lisbon Agenda Conference, EPSD, Strasbourg, DE: European Parliament, February 23, 2005 **found in** Colantonio "Social Sustainability: An Exploratory Analysis."

[43] James Baines and Bronwyn Morgan. "Sustainability Appraisal: A Social Perspective." In *Sustainability Appraisal. A Review of International Experience and Practice*, Dalal-Clayton B and Sadler B, (Eds), (London: First Draft of Work in Progress, International Institute for Environment and Development), 2004.

Dr. Suzanna Vallance and her collaborators explored the current body of work on social sustainability, as it applies to sustainable development, in order to develop a more elucidative concept. They drew from the prior works of Sachs (1999), Chiu (2002, 2003) and Godschalk (2004) as primary sources. Similar to how Sachs was able to divide the social into two subcomponents—cultural and political sustainability[44]—Vallance suggested a threefold schema of social sustainability with divisions based on how they function. These subcategories are development, bridge, and maintenance sustainability. This study will focus most closely on aspects of social sustainability related to maintenance sustainability.

1) Development Sustainability – Addresses basic needs, the creation of social capital, justice, and equity. Development further subdivides into tangible and intangible. It focuses on addressing basic needs through the creation of social capital and justice.
2) Bridge Sustainability – Concerns with changes in behavior to achieve bio-physical environmental goals. Bridge further subdivides into transformative and non-transformative. It focuses on changes in behavior which support environmental goals.
3) Maintenance Sustainability – Refers to the preservation of socio-cultural characteristics in the face of change, and the ways in which people actively embrace or resist those changes. Maintenance has to do with the preservation of sociocultural characteristics during this changing time, and the ways people either embrace or resist those changes.[45]

[44] The political aspect is the feeling that you have a say in what is happening in your community; it is closely tied to democracy and human rights. The cultural component is the more closely related to way of life and community traditions and the act of balancing these in the face of external influences and internal development. These two interconnected facets of social sustainability benefit from development which supports social homogeneity, equitable incomes and access to goods, services and employment.

[45] Vallance, "What Is Social Sustainability?", 342.

2.3 Socially Sustainable Communities

The concept of sustainability and its primary aspects have applications in many fields. Though communities are a social construct they exist within a physical framework—the built environment. This paper explores the concept of social sustainability and its relationship to sustainable development in order to determine the effects of the built environment on the social sustainability of communities. How different types of development—adaptive reuse and new construction—impact the social sustainability of the surrounding area will be explored. The connection between these two can be most directly seen in how the physical form of the environment—buildings and streetscape—affects *quality of place*. New development alone will not improve the social sustainability of a community, however, through thoughtful consideration of a community's unique history and needs, it is possible to create "meaningful places" which can address issues within the community and have an overwhelmingly positive influence on the lives of the people who reside there. Furthermore, Langston supports adaptive reuse because of its ability to "maintain [the community's] intrinsic heritage and cultural values."[46]

The form of a place can go a long way in influencing the quality of the place. Most urbanists today, including the Congress for New Urbanism, support form-based zoning where buildings of similar construction types are grouped together with less limits on the buildings' usage. This allows for the creation of mixed-use buildings and more walkable communities.

According to Dr. Mindy Fullilove, professor of Urban Policy and Health at The New School, "it is essential to make meaningful places."[47] Fullilove posits that meaningful places make

[46] Langston, 3.

[47] Mindy Thompson Fullilove, M.D. *Urban Alchemy: Restoring Joy in Americas Sorted-Out Cities*, (New Village Press, 2013), 196.

healthier, more resilient communities, and in order to produce them one must start with a memory. Shared memories, especially those of familiar spaces, connect individuals to one another allowing for the formation of places and socially sustainable communities. Old buildings are a prime example of physical aspects of urban environment which are retained in the memories of the community at large, often passed from generation to generation. An old building need not have historic significance to serve as a public unifier in this manner, as it carries personal significance to those who work and reside in close proximity to it. Through restoration and reuse of old buildings, more meaningful places and more resilient communities can be formed.

In her book, *Loft Living: Culture and Capital in Urban Change*, Sharon Zukin, Professor of Sociology at Brooklyn College and the City University of New York Graduate Center, describes shifting American views on old buildings following World War Two. A movement away from either "Washington Slept Here" recreation or "Tear it down—build it up," to a more European model which focused on keeping old buildings in continuous use.[48] By the 1950s, American preservationists who grasped the benefits of "changing the use of old buildings… in order to keep them socially and economically 'viable'" began to argue for their re-use.[49] Furthermore, Zukin specifies pre-World War Two as "a time when form [of buildings] still identified 'place.'"[50]

Jacobs was a forerunner in stressing the importance of "aged buildings" and adaptive reuse, doing so as early as the 1960's, a period when leading urban planning philosophy still regularly called for the demolition of whole sections of city to allow for the construction of large high-rise housing projects and broad highways. Like Fullilove, Jacobs saw these buildings as being crucial

[48] Sharon Zukin, *Loft Living: Culture and Capital in Urban Change*, (Baltimore, MD: Johns Hopkins University Press, 1982), 76.
[49] Ibid.
[50] Ibid, 59.

to ongoing development, saying, "Cities need old buildings so badly it is probably impossible for vigorous streets and districts to grow without them."[51] She continued to say that these old buildings need not be "museum-piece[s]" rather it is best to have an ample supply of "plain, ordinary, low-value old buildings, including some rundown old buildings."[52] It was Jacobs' belief that this typology of building was vital for progress of urban ecosystems because of the economic opportunity they provide. From a purely economic standpoint, new buildings will often require some sort of financing to build which drives up overhead cost for the owner and rent for the tenants. A fully paid off, or even depreciating, building has much lower overhead and therefore demands a lower rent or purchase price. Well-established operations and those with high margins can afford new spaces, whereas low-yield industries and up-and-coming businesses cannot. For this reason, aged buildings allow for the formation of diverse, dynamic economies which include small businesses, innovative startup companies, and arts and cultural organizations as well as their feeders—music stores, galleries, studio space, etc. All of which serves to better foster new ideas and incubate fledgling businesses.

Commercial diversity is not only an economic need but there also exist "Social needs for commercial diversity."[53] This diversity has positive social and economic influences not only on the businesses which choose to locate in a community but also the citizenry who live and work in the area. Even well-established operations and those with high margins which can afford new construction still require old buildings in the vicinity for the many service and support businesses such as print shops, restaurants, warehouses, etc.

[51] Jacobs, 187.
[52] Ibid.
[53] Ibid, 190.

Zukin, very much in line with Jacobs' ideology, adds that older industrial and manufacturing buildings are ideal for loft style, live-work apartments, which are quite popular today. These spaces are perfect for up and coming artists and creatives, not to mention entrepreneurs. She stresses that supply of "empty or under-utilized lofts,"[54] is a crucial resource when attracting creatives for whom "disuse… lends enchantment."[55] It is important to attract these creatives as they are a crucial aspect of thriving locales.

In his book, *The Rise of the Creative Class*, Richard Florida describes the upsurge of a new economic class which he calls the *creative* class. Based on research, it is his belief that this new class is part of yet another large-scale economic shift taking place, one that will redefine cities as we know them. He describes members of this creative class as "people in science and engineering, architecture and design, education, arts, music and entertainment."[56] It is not that these classes did not exist before, but today they make up more than 30 percent of the United States population and their influence on the nation's economy has surpassed that of both the working class and the service class.[57]

Florida goes on to describe the close relationship between identity of place and self-identity. He says that many creatives vigorously seek places that align with their personal identity and work to "actively [build] places that reflect and validate that identity"[58] This alignment is important, for when self-identity is aligned with community identity, it produces pride for the community within the residents. This pride in the community leads to greater community

[54] Zukin, *Loft Living*, 13.
[55] Ibid, 76
[56] Florida, *Creative Class*, 8.
[57] Ibid.
[58] Ibid, 230.

participation and interconnection, which in turn increases feelings of pride in a positive feedback loop.

Building on both Human Capital Theory and Social Capital Theory[59], Florida invented the Creative Capital Theory and the creative index.[60] His theory posits "creative people as being key to economic growth."[61] The people who make up this creative class have different motivations and operate dissimilarly from those who came before them. Whereas people used to find a job that suits them and relocated accordingly, creatives now find a place that suits them and seek employment near that place. Florida found that the critical aspects of choosing a city or neighborhood were determined by the quality of the "scenes"—music, art, and tech as well as the profusion of *third places*. Third places, originally coined by Ray Oldenburg in his book *A Great Good Place*, describe those places existing outside of work and home such as record shops, cafes, bookstores, and the like—all of which fit well in reused buildings.[62] As important as the existence of these third places is the feel of these locations, Florida discovered that his subjects desired authenticity of place which includes established neighborhoods with an abundance of historic buildings.[63] A little bit of "urban grit alongside renovated buildings" is now a sought after experience.[64] Together these attributes contribute to a location's unique feel, or sense of place.

In *Social Sustainability* (2007), Andrea Colantonio echoes Florida's stance on the importance of social capital and once again ties the creation of social capital and sustainable

[59] Social Capital Theory posits that social interactions and relationships are resources which can lead to the production and accumulations of human capital. This phenomenon has been credited with the economic successes and innovation seen in Silicon Valley.
[60] In 1999, Rochester ranked 29th on Florida's creativity index for metro areas with over 1,000,000 people with a creativity index of 0.803 – define aspects which go into this. Ibid, 355.
[61] Ibid, 223.
[62] Ibid, 225-226.
[63] Ibid, 226.
[64] Ibid, 228.

communities back to their urban form.[65] He specifically cites density as an attribute often credited as having positive effects on sustainability. He describes the importance of social capital and its relationship to societal norms all of which are reminiscent of the 5 dimensions originally outlined by Bramley et al. (2006).

While struggling communities may have a variety of issues, thriving communities usually have the same things in common. As mentioned in the introduction, Bramley et al (2006) determined the 5 dimensions of a socially sustainable community (shown below). They saw these as having direct ties to the urban form of the community, specifically density and housing type mix.[66]

1. interactions in the community/social networks
2. community participation
3. pride/sense of place
4. community stability, and
5. security (crime)[67]

From their research it was determined that personal interactions between community members lead to better social cohesion and overall social sustainability of the community. This ties closely to their second finding that people who participate in activities within their local community have stronger ties to the community. This goes beyond personal interaction between neighbors and includes attendance of community events and presence at community facilities.

[65] Colantonio, "Social Sustainability," 7.
[66] Bramley et al. "What Is Sustainability", 6.
[67] Ibid, 5.

They found that both of these particularly applied on the city level rather than the neighborhood level.[68]

The final three findings of Bramely et al. all apply on the neighborhood level rather than the city level. They found a major correlation between feelings of pride in one's neighborhood and of having a vested interest in the neighborhood, the idea being that if people feel attached to the locale, they will want to remain living in the area and contribute to its ongoing development. This directly influences the next finding of community stability. They concluded that community stability is substantially entwined with greater levels of social cohesion. High levels of turnover within a community produce the opposite effect and are often perceived as undesirable.[69]

Finally, crime levels and perception of safety is a crucial aspect in communities. Communities with less crime and higher perception of community safety are seen as more stable and sustainable neighborhoods. Fear of victimization is one of the largest reasons why many refuse to live within urban communities. According to Bramley et al, a community which addresses these five points is a socially sustainable one. Of these aspects to a socially sustainable community, this paper will focus on the third as there is a significant connection between the reuse of buildings and the pride and sense of place of an area.[70]

2.4 Synthesis

Above it is shown that urban form does have an impact on the social sustainability and functioning of communities. The unique set of circumstances which led to the initial development, subsequent growth, and consequential decline of Rochester are outlined to give context to the

[68] Ibid, 6.
[69] Ibid.
[70] Ibid.

current state of the built environment and community. With an understanding of how urban form affects the community and intimate knowledge of the community, one can start applying specific fixes. For this reason, it is crucial to start by engaging the community in order to empower its members to be part of any improvements.

Urbanization, or rather reurbanization, could be a major turning point for Rochester. The city has a surplus of unused (nearly 200 at the time of this report) and underused commercial structures which are ripe for renewal as well as large swaths of land cleared for parking lots during urban renewal. New opportunities emerged as millions of square feet of land were reclaimed by the city by filling a sunken urban highway known as the Inner Loop. Of the buildings which remain, many are well-built prewar structures with character and features no longer produced today as they are now cost prohibitive.

CHAPTER 3: METHODS AND PROCEDURES

This section explores the methods and procedures used to conduct the experimentation in this thesis. First, it discusses the chosen metrics and indicators. Next, it examines the questionnaire creation and precedents from earlier studies. It then looks at the chosen subject buildings and their significance. Finally, it discusses processes and procedures followed when administering the questionnaires and tabulating the results.

3.1 Metrics and Indicators

Creation of metrics and selection of indicators is one of the most vital aspects of the experimental process. Social Sustainability can be a difficult thing to measure quantitatively. According to Colantonio, "Subjective indicators linked to surveys and questionnaires are an essential part of the sustainability assessment and implementation process because they reflect people's perceptions of where they live."[71] For this reason, the questionnaire focused heavily on the respondent's subjective experience.

Based on information gathered during the literature review, this study will use *Local Pride* and *Community Identity* (*Sense of Place*)[72] as indicators for social sustainability. Derived from one of Bramley et al. (2006) five dimensions of social sustainability, these indicators were chosen for this study because they are the ones most likely to be impacted by the built environment. Specifically, they have the greatest probability of being influenced by the adaptive reuse of an existing structure or construction of a new one.

[71] Colantonio, "Social Sustainability," 19.

[72] "Sense of Place" was rephrased to "Community Identity" to help simplify the language for those participating in the research who did not have a background in the subject

3.2 Questionnaire Design and Creation

In order to produce valid results which reflect the thesis of this research, it is of critical importance to craft a questionnaire which is poignant yet easily digestible by the majority of the population, and to use a process which allows for surveying the broadest possible swatch of the population in a consistent manner. This section will look at the process of creating the questionnaire for this study.

To better understand the relationship between the individual and the city it is essential to understand their assessment of the city, their perceptions on the subject buildings and their demographics. It is imperative to gather enough information to allow for deeper insight as to respondents' perceptions of the city and underlying rationale without overwhelming them with too extensive of a questionnaire. Furthermore, it is vital to present the questions in a manageable manner and language which the average city resident would be able to comprehend without feeling alienated. Finally, the goal was to create a survey which could be completed in 10 mins or less in order to increase the number of potential respondents.

As this experiment uses human subjects, it followed standard RIT Institutional Review Board protocol. No data was collected before obtaining IRB approval and completing the Collaborative Institutional Training Initiative (CITI) Program (certification shown in Appendix A.) The questionnaire was shortened, and the language simplified based on recommendations following the initial pilot survey and again following review by RIT's IRB.

Questions were modeled after surveys with a focus on sustainability and reuse by Professors You Ahn, PhD[73], and Robert C. Anderson, PhD[74], as well as research done by Magee, Scerri, and James[75].

In her research, Professor You Ahn, PhD, looks at the perception of adaptive reuse buildings, specifically historic churches, and the role cognition plays. These perceptions can be closely connected to the social sustainability or viability of an adaptive reuse project as well as the historic integrity of an adaptation. In order to best understand the perceptions of the structures studied, Ahn employed the use of surveys. One observation was the substantial differences in lay people compared to architects. In fact, she says "the gap of aesthetic perception between the two groups is so significant that architects should understand clients' perception and reflect it in their design procedures." [76]

Ahn's emphasis on the importance of perception on adaptive reuse projects as well as the difference in perception between architectural designers and the general public heavily influenced this study's focus and methodology. For this reason, the pilot survey was provided to both architecture students and laymen. The inclusion of laymen in the pilot survey helped to develop a more robust final questionnaire.

In his research Robert Anderson, PhD, delves deeply into the concept of authenticity in architecture, specifically as it relates to reconstruction of heritage buildings. He compares how one's culture can influence their perceptions of authenticity and appropriateness specifically when

[73] You Kyong Ahn, *Adaptive Reuse of Abandoned Historic Churches: Building Type and Public Perception*. (College Station, TX: Texas A&M University, 2007).
[74] Robert C. Anderson, *Authenticity and Architecture: Representation and Reconstruction in Context*. (Tilburg, NL: Tilburg University, 2014).
[75] Liam Magee, Andrew Scerri, & Paul James, "Measuring Social Sustainability: A Community-Centred Approach." *Applied Research Quality Life*. (Springer Verlag, 2012), 239.
[76] Ahn, 91.

related to adaptive reuse buildings. However, he still acknowledges that an individual's concepts of authenticity and appropriateness are often closely related to personal experience as well. In order to distinguish between the two, Anderson references a Venn diagram method of perception sampling used by Dominic McIver Lopes in "Shikinen Sengu and the Ontology of Architecture in Japan."[77] This method suggests that looking at the perceptions of many individuals with a similar cultural background one can begin to distinguish individual differences in perception from cultural perceptions by looking for common areas of overlap in peoples' beliefs. Anderson's Venn diagram on the Ise Shrines can be seen in Figure 3.1.

In Anderson's research, he did this by conducting a large-scale survey as well as personal interviews with groups of people with distinctly different cultural backgrounds to see if he could determine the cultural influence on these individuals' opinions. This research will use a similar method of surveying on a large scale in order to determine the cultural feelings of Rochesterians on the subject of local adaptive reuse constructions. Furthermore, as characteristic demographic data is a useful predictors for behavioral and attitudinal data, respondents were able to be subdivided into smaller groups based on demographics in order to understand if and how forces such as socioeconomic status affect one's perceptions on the subject.

[77] Anderson, 168.

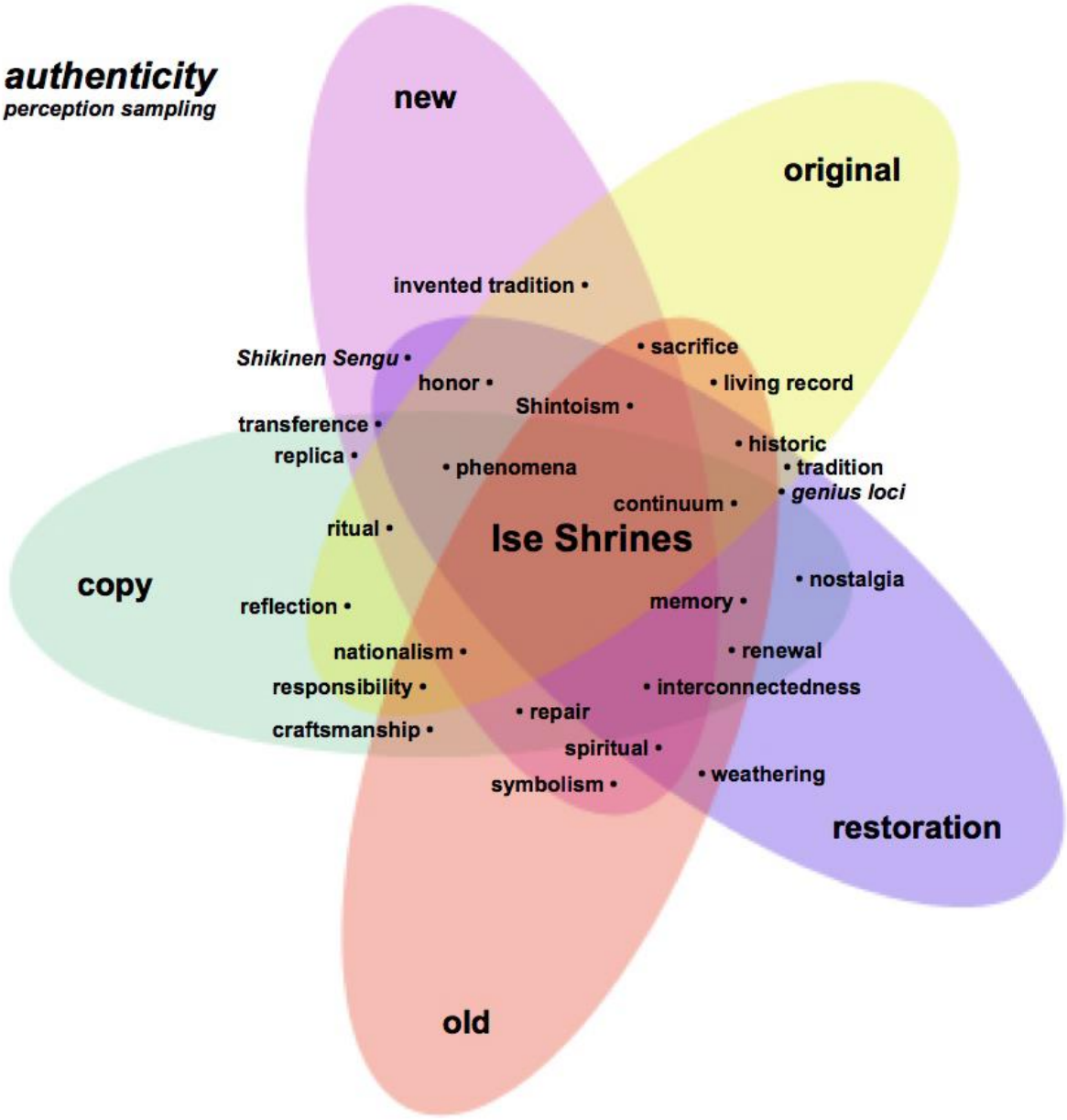

Figure 3.1: Venn diagram showing the overlap in perceptions around the Ise Shrines in Japan.[78]

In their research, Professor Liam Magee, PhD, and his associates looked closely at methods for measuring social sustainability specifically within a community. He believed that the

[78] Ibid.

community was the ideal unit to do so. For this reason, this study also uses community as the unit of study. Magee et al. says:

> Community settings often make ideal units of analysis through which to study the overlay between individual wellbeing and social sustainability in particular. Communities themselves have been widely studied, both as psychological collectives, and as strongly cohesive sociological entities.[79]

Their research focused closely on methods of collecting data and the optimal variables for which to test. They found that questionnaires were an effective means of gathering data as they can be used to capture the community's own sense of wellbeing rather than relying on general indicators sets which "tend to ignore local, community-based meanings of sustainability."[80] Magee et al. took time to carefully select variables for which to test in the posed questions, considering ways to sub-categorize the data by variable domain, kind and type. Variable domain considers the realm of the information obtained from the question. Variable kind looks at whether the question is testing intrinsic qualities of a person (Characteristic), their feelings on something (Attitude), or their actions (Behavior). Variable type refers to the level of measurement of a variable either nominal, ordinal, interval, or ratio. These are important because they help to assess the relevance of a question, how it should be framed, and how the data obtained from it should be interpreted. An example of how Magee et al. organized these, and the variables used in their own survey, are shown in Table 3-1. This study's finalized questions are found in Section 3.2.2 and a breakdown of these questions' variable domain, kind, and type can be seen in Table 3-2.

[79] Magee, 243.
[80] Ibid, 240.

Table 3-1: A list of common community / social sustainability measures from Magee[81]

Variable	***Domain***	***Kind***	***Type***
Age	Demographic	Characteristic	Interval
Gender	Demographic	Characteristic	Nominal
Ethnicity	Demographic	Characteristic	Nominal
Location	Demographic	Characteristic	Nominal
Postcode	Demographic	Characteristic	Nominal
Country	Demographic	Characteristic	Nominal
Living With	Demographic	Characteristic	Nominal
Household Size	Demographic	Characteristic	Ratio
Country of Birth	Demographic	Characteristic	Nominal
Years Lived in Current Neighborhood	Demographic	Characteristic	Ratio
Years Lived in Previous Neighborhood	Demographic	Characteristic	Ratio
Financial Assessment	Economic	Characteristic	Ordinal
Health Assessment	Culture	Characteristic	Ordinal
Level of Education	Culture	Characteristic	Ordinal
Identified Community	Culture	Characteristic	Nominal
Integration with Community	Culture	Attitude	Ordinal
Environmental Conditions	Ecological	Attitude	Ordinal
Life as a Whole	Culture	Attitude	Ordinal
Personal Relationships	Culture	Attitude	Ordinal
Sense of Safety	Culture	Attitude	Ordinal
Work Life Balance	Economy	Attitude	Ordinal
Influence Authority	Politics	Attitude	Ordinal
Decisions in Interest of Whole Community	Politics	Attitude	Ordinal
Experts can be Trusted	Politics	Attitude	Ordinal
Gov't Make Good Laws	Politics	Attitude	Ordinal
Enjoy Meeting Others with Differences	Politics	Attitude	Ordinal
Trustworthiness of Others	Culture	Attitude	Ordinal
Influence of Cultural History	Culture	Attitude	Ordinal
Importance of Technology	Culture	Attitude	Ordinal
Frequency of Use of Technology	Culture	Behaviour	Ordinal

3.2.1 Pilot Questionnaire Draft

In order to increase the internal validity of this experiment and understand the effectiveness of the questionnaire, a first draft of the questionnaire was given to approximately a dozen test respondents including RIT architecture students with intimate knowledge of the subject, as well as

[81] Ibid, 247.

peers with no architectural or urban planning experience. Both groups were important as the first could provide detailed feedback relating to the focus of the thesis while the second group provided valuable commentary on whether the questions were being interpreted properly.

In total eight people were surveyed with the pilot questionnaire during August and September of 2017. All were informed prior to taking the survey that it was preliminary and for the purpose of testing the questionnaire. No demographic information was recorded during the administration of these initial questionnaires. The feedback from this pilot study informed a number of changes in the eventual questionnaire as well as a change in the focus and scale of the project.[82] Three primary takeaways were determined from this initial experimental trial:

Takeaway 1 – Defining the Best Community Unit

a) Problem – The neighborhood may not be the best unit for defining community in this experiment. The communities in which people live rarely coincide definitively with their neighborhood's boundaries. Though proximity is a factor in community development, communities are social constructs and, therefore, are amorphous by nature. They often stretch across physical and municipal borders. A person likely belongs to a number of communities and a neighborhood often contains multiple communities.

A fair amount of the feedback had to do with confusion around neighborhood boundaries. The most common question was "why didn't you include 'X' building?", and the response was usually "because 'X' building is not in that neighborhood." Even though

[82] The initial project and questionnaire focused on comparing and contrasting adaptive reuse and "demo and replace" buildings located within the same neighborhood. In this context, "demo and replace" buildings were to mean buildings built on a site where a previous building was tore down, however it was never fully fleshed out whether the previous build was required to be removed as part of the construction of the new building or how long prior the limit to it having been removed was. Finally, all respondents were expected to be from one of the test neighborhoods selected for the study; those not from a test neighborhood were to be excluded.

a map of the selected neighborhoods was included, most people do not perceive urban spaces as they are drawn on a map, and lines of delineation are rarely clearly indicated as one passes over them in the physical world. This was usually regarding the subject building Swillburger/Playhouse, which sits on the south side of Meigs Street—the dividing border between the South Wedge and Swillburg neighborhoods. However, the feel of these neighborhoods is so similar, and their communities overlap to such an extent, that people hardly think of them as distinct districts.

b) Significance – Three other observations stood out from the feedback received from the pilot survey. These suggested this survey may be too narrowly focused or not take into account the following factors which may skew results:

   i. Life Along the Boundaries – By strictly defining the community being studied by a neighborhood boundary, a person that lives on the opposite side of a street used as a line of demarcation would be excluded from this research despite likely having more experience with the building being studied than someone who resides on the other end of the neighborhood. This is also true for buildings which lay just outside of the neighborhood's official bounds yet exerts a great influence on the citizenry of the area.

   ii. Recent Movers – Secondly, creating a neighborhood restriction fails to recognize that people often reside in different locations over time. A person who has lived in a neighborhood for an extended period, say many years, would have extensive experience with that location but would be excluded if they had recently moved to an adjacent neighborhood, or across town. The valuable insight on their former area

would not be able to be collected, yet they could provide feedback on the area where they now live but with which they have less experience.

iii. People Get Around – Finally, most people do not confine themselves to the neighborhood in which they reside. It is common for an individual to live in one neighborhood, work in another, and spend a great deal of free time in others.

c) Solution – To remedy this confusion, the community focus was expanded from a few targeted neighborhoods to include the whole city of Rochester. To set restrictions based on exactly where someone lives in the city would impede the research. However, to expand beyond the city's borders would create too large of a sample set and diminish the experiment's ability to be conclusive. Furthermore, the demographics of individuals who live in the suburbs can vary greatly from those who live in the city. Striving to obtain similar demographics as those found in the census data should be the goal. Individuals will naturally define their own communities according to their socio-spatial schema which is heavily influenced by their place of residence, demographics, background and unique personal experiences.[83]

Takeaway 2 – Building Type Selection

a) Problem – "Demo & Replace" is an inappropriate distinction for subject buildings. The second most common response to "why didn't you include x building?" was "because x building is not a demo and replace building." This was always regarding buildings built on a long empty lot, a number of people were having trouble differentiating between a demoed and replaced

[83] Nataša Bratina Jurkovič. "Perception, Experience and the Use of Public Urban Spaces by Residents of Urban Neighbourhoods." *Urbani Izziv*25, no. 1 (2014): 107-25. doi:10.5379/urbani-izziv-en-2014-25-01-003.

building and a new one—because there is no difference. A building built on the site of a former building is a new building.

b) Significance – The initial version of the questionnaire attempted to understand how respondents felt about adaptive reuse buildings as compared to new buildings which replaced historic buildings on the same site. This was an invalid approach which required the respondent to have deep knowledge of specific sites and, therefore, led to a lot of confusion.

c) Solution – Rather than using case studies of buildings constructed on sites of a recently demolished building to compare to adaptive reuse buildings, the questionnaire was rewritten for new buildings. This change also greatly increases the number of potential buildings from which to choose Subject Buildings.

Takeaway 3 – Selecting Comparable Buildings

a) Problem – The 12 buildings (16, in total, with the inclusion of the "test" neighborhood) originally chosen for the questionnaire had far too much variability between them. Initial erection dates and dates of adaptation differed greatly, as did building styles and current uses. This variation produced large amounts of divergence in responses.

b) Significance – Selected buildings had too much variation in uses, architectural style, and original dates of construction / renovation which detracts from the variables which is being tested.

c) Solution – Fortunately, by expanding the focus area and incorporating all new buildings as potential subjects, there is now a much larger pool of potential subject buildings from which to select. This allowed for the selection of only buildings of a certain age and usage type. The process of selecting six new subject buildings—three adaptive reuse buildings

and three new buildings—while controlling for building use and age is outlined in Section 3.3.1.

3.2.2 Questionnaire Final Draft

The final version of the questionnaire, which was used in the study, can be found in Appendix B. It is four pages long and is divided into three sections: (1) Community, (2) Subject Buildings, and (3) Demographic Information. In addition to the title of the study, the first page includes the name of the researcher, faculty advisor, and researching institution as well as a brief outline of the studies focus but does not include a hypothesis as to not bias respondents. In addition to the questionnaire, large print outs of the subject buildings and a city map showing the name and locations of the neighborhoods were also displayed. These items can be found in Appendix A.

The first section, Community, contains seven questions and focuses on the respondents' relationship with and perceptions of the city of Rochester as a whole. In question 1.1, they are asked to identify their neighborhood and provided with a map of this city with an overlay of the neighborhoods. People commonly spend the majority of their time in and around their place of residence. Although this question does not specifically delve into how long the respondent has lived in that neighborhood, or their familiarity with the area compared to other areas of the city, it does provide information on what neighborhood and quadrant most influenced their responses on the rest of the Community Section.

Next, question 1.2 ask whether they rent, own, live with family or friends or other. When combined with the previous question one can begin to understand the familiarity and connection with the neighborhood in which they live. Homeowners are likely to have lived in a neighborhood

for much longer than renters and have a deeper connection to and greater familiarity of the locality. Furthermore, this question ties into a better understanding of the affluence of the individual.

Question 1.3 asks the respondent how long they have lived in the city of Rochester and provides four ranges to choose from: less than one year, one to five years, five to ten years, and more than ten years. This question directly relates to the respondent's familiarity with the city and its buildings. Additionally, it can be used to help determine whether an individual is a native to the area or a transplant.

Question 1.4 asks how satisfied the respondent is with Rochester on a scale of 1 to 7, where 1 is very dissatisfied, 4 is neutral, and 7 is very satisfied. Using a similar scale, question 1.5 inquires as to how the respondent thinks the city compares to other cities of similar size with 4 being average, 1 far below and 7 far above. Together these questions provide understanding as to how positively the respondent feels about the city and helps to contextualize their response by understanding how they feel about other similarly sized cities. From this, one can obtain information on whether the respondent is someone who generally feels negative or positive about things, or if their negative or positive feelings about Rochester are more than just their personal outlook on life and are tied to deeper feelings about the city as a whole. Henceforth, it is possible to determine an individual's pride in the city, one of the key metrics of this study.

Question 1.6 uses the 1 to 7 scale to understand how identifiable the respondent thinks Rochester is by its buildings, 4 remains neutral while 1 is very difficult to identify and 7 is very easy to identify. This question also directly relates to one of the key metrics of this research which is community identity, or sense of place. When considering this question, it is important to weigh it based on the response to question 1.3. The longer a person has lived in the city, the more weight that should be given to this question.

The final two questions of this section, 1.7 and 1.8, are open ended, asking what physical aspects of their community they both like and dislike, respectfully. This helps to clarify what specific issues relating to city design and urban planning have the greatest impact on citizens' feelings about the city. Although, originally an attempt was made to make this a closed question, the decision to open it up was made for three reasons: (i) not to restrict the potential responses of those taking the survey, (ii) to not lead or bias potential respondents with pre-chosen answers, and finally (iii) to be mindful of the overall length of the questionnaire.

The second section, Subject Buildings, contains fourteen questions pertaining to six case study buildings.[84] The first six questions, 2.1 through 2.6, ask the respondent to rate the six case studies on how they affect their pride in their community again using a 1 to 7 scale where 1 is greatly takes away from, 4 is neutral, and 7 is greatly adds to. Additionally, the respondents were given the option to place a "U" on the line for any buildings for which they were unfamiliar. The goal of these questions was to directly understand the influence of the Subject Buildings on the key metric of respondent's pride. The inclusion of an "unfamiliar option" was important to provide cleaner data by having those without knowledge of the Subject Buildings self-remove. Furthermore, this option relates directly back to the second key metric of community identity by judging identifiability, a requirement to establish a community identity. Additionally, this provides further understanding on whether, and which, buildings' designs and locations influence identifiability. This is built upon with the next six questions, 2.7 through 2.12, which use the exact same scale as the first six, but ask the individual taking the survey to respond based on how the case studies affect the identity of their community.

[84] The selection process for these case study buildings is outlined in section 3.3, Subject Building Selection.

The final two questions of this section, 2.13 and 2.14, are again open-ended questions which inquire about aspects of the case studies which they both like and dislike, respectfully. These questions are critically important as they contain the answers to "why" respondents feel the way they do. From looking at these responses one can determine whether and to what extent adaptive reuse affects the respondent by understanding which features they identify and whether they are related to Subject Building's general design or its character defined by its history.

The third and final section, Demographic Information, was included to gather more information about the respondents in order to understand how variations in their lives and backgrounds influence their responses to the questionnaire. This section was placed last to prevent priming respondents and diminish the effect of one's demographic identity on their responses. This section contains six questions.

Question 3.1 asks them to identify their age range:18-29, 30-49, 50-64, or 65+. Next, question 3.2 asks the gender identity of the respondent, either male, female, prefer not to identify, or other with a blank space to indicate their gender identity. The decision to include the latter two options was to allow individuals who identify as neither male nor female would feel able to fully participate. In the responses, both of these options were used. Question 3.3 asks the respondent's ethnicity and provides seven options: African American or African-Origin, Asian/Pacific Islander, Hispanic/Latino, Middle Eastern, Native American, White, and other with a blank. Respondents were asked to check all which apply. Question 3.4 inquires as to the highest level of education attended and includes High School or Equivalent, Trade/Technical/Vocational Training, College, Grad School, and other with a blank as options.

Question 3.5 again asks the respondent to choose all the apply and asks about the respondents' employment status giving the options of Student, Employed, Unemployed, Self-

Employed, Retired, Disabled, and other with a blank as options. Finding disabled respondents was an important part of this study as they often view the physical world from a very different point of view as able-bodied individuals. The majority of the disabled respondents were not found until later in the surveying effort and took a focused attempt to identify and find.

The final question, 3.6 inquired as to the respondents' annual household income and gave five ranges based on the actual earning quintiles in the city of Rochester.[85] These ranges were less than $11,500, $11,500 to $23,600, $23,600 to $39,700, $39,700 to $66,500, and greater than $66,500. This was by far the question that individuals were most uncomfortable answering, requiring—on multiple occasions—reassurance that the study was completely anonymous. It helped that the questionnaires were inserted into a collection box by the respondents where they were mixed in with others so that not even the researcher could identify which survey belonged to which respondent.

Drawing from and expanding on the variable analysis done by Magee, Table 3-2 shows all the variables tested by these questions as well as their domain, variable kind, and variable type. Close attention was paid to how the type of questions being used and how they were phrased. It was important for later data analysis that certain questions were ordinal while others were nominal. This can be compared to the table from Magee of suggested variables for community sustainability shown in Table 3-1. Specifically, the breakdown of the variable domain, kind, and type of the demographics questions almost directly draws from Magee.

[85] "Overview of Rochester, New York (City)." Statistical Atlas. Accessed December 01, 2017.

Table 3-2: Questionnaire Variables - A adapted and expanded from Magee. For the purpose of simplicity, all Likert scales were treated as ordinal variable types.

Variable	***Domain***	***Kind***	***Type***
Neighborhood	Demographic	Characteristic	Nominal
Residence Status	Demographic	Characteristic	Nominal
Years Lived in Neighborhood	Demographic	Characteristic	Ordinal
Satisfaction with City	Culture	Attitude	Ordinal
Comparison of Rochester	Culture	Attitude	Ordinal
Identifiability of Rochester	Culture	Attitude	Ordinal
Liked Aspects	Culture	Attitude	Nominal
Disliked Aspects	Culture	Attitude	Nominal
Case Studies' Effect on Pride	Culture	Attitude	Ordinal
Case Studies' Effect on Identity	Culture	Attitude	Ordinal
Case Study Liked Aspects	Culture	Attitude	Nominal
Case Study Disliked Aspects	Culture	Attitude	Nominal
Age	Demographic	Characteristic	Interval
Gender	Demographic	Characteristic	Nominal
Ethnicity	Demographic	Characteristic	Nominal
Education	Culture	Characteristic	Ordinal
Employment	Economic	Characteristic	Nominal
Household Earnings	Economic	Characteristic	Ordinal

3.3 Subject Building Selection

This section will look at the process of selecting buildings as subjects to be used in the questionnaire. It will focus on an analysis of the building stock in Rochester, and the criteria used to narrow the list including dates of construction, building usage and typology. Finally, it will provide a breakdown of the selected case studies and their unique history.

3.3.1 Analysis of Current Building Stock

To better understand the makeup of Rochester's current building stock, the city's Bureau of Architecture and Engineering was contacted to see if they possessed information on the average and median age of commercial buildings in the city. Senior GIS (Geographic Information System) Analyst, Pamela Delany, provided a list of all commercial structures in the city—nearly 6,000 in

total. She suggested the city's BuildingBlocks GIS web application also be used.[86] This application provided access to information on all the buildings in the city and could be used to filter them by usage, construction type, and occupancy status.[87] A map of these buildings is shown in Figure 3.3.

From the initial list, converted residences were filtered out as they do not make ideal mixed-use structures on any meaningful scale. The remaining 5,675 buildings were then sorted by decade, so the time periods in which they were built could be better understood. Using this data, the median age of buildings (78), the mean age (73), the mode age (93) was determined, as was the percentage of the commercial building stock originating from each decade—1800's through the 2010's. Table 3-3 and Figure 3.4 show the number of commercial buildings remaining from each decade, the percentage of the building stock that decade represents, and the decades rank compared to the others.

[86] "BuildingBlocks." City of Rochester. Accessed March 04, 2018. https://www.cityofrochester.gov/buildingblocks/.
[87] Spot testing of dates later revealed inconsistencies in the city's records. Building dates were found to be off multiple times, often rounded to the nearest five- or ten-year mark but were sometimes off by as many as ten years. All dates represented in this study have been doublechecked and are accurate to the best of the researcher's knowledge.

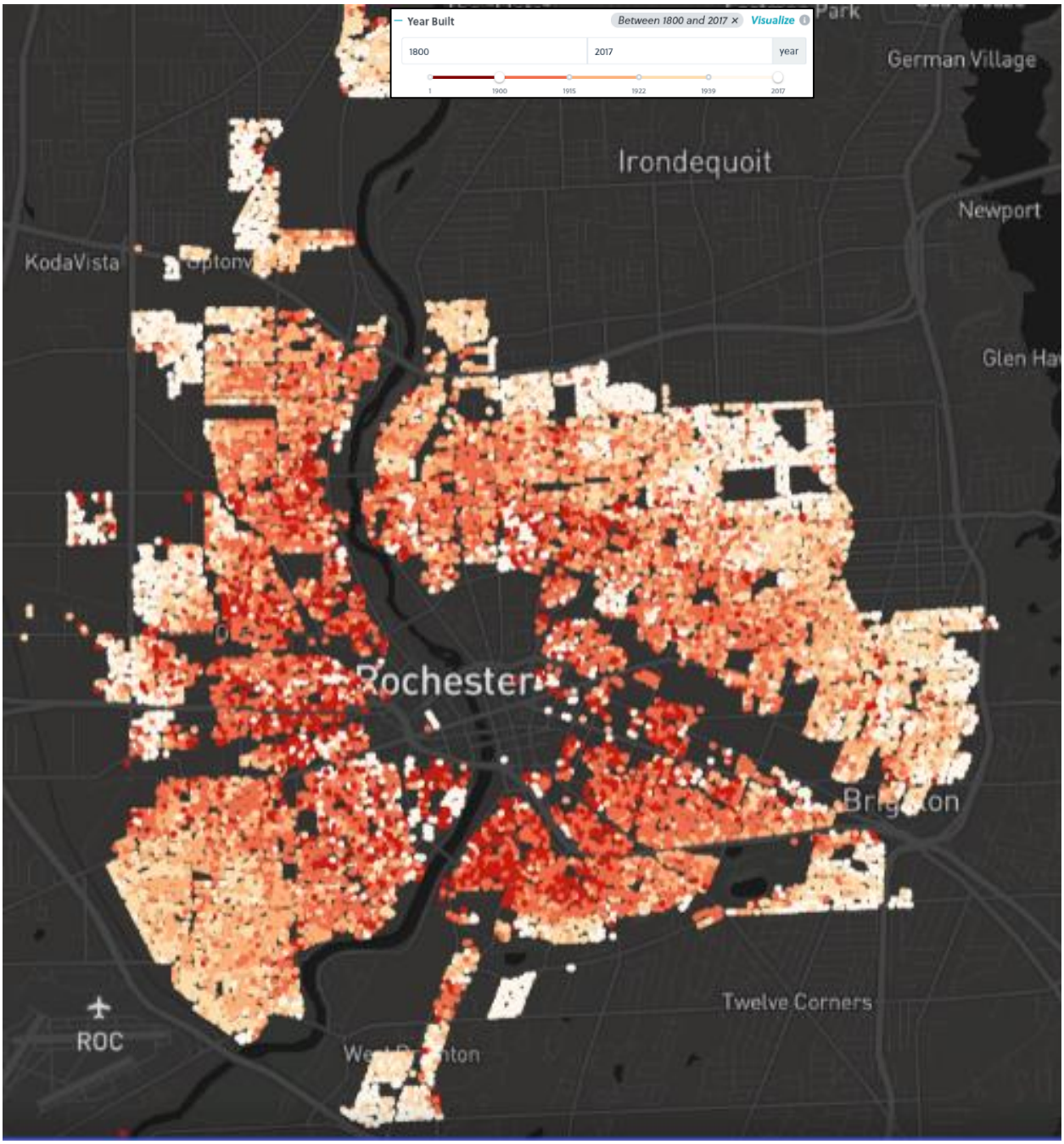

Figure 3.2: Rochester Buildings by Construction Year[88]

[88] Produced by the online BuildingBlocks application.

Table 3-3: Commercial Buildings by Decade

Decade	*1820*	*1830*	*1840*	*1850*	*1860*	*1870*	*1880*	*1890*	*1900*	*1910*	*1920*	*1930*	*1940*	*1950*	*1960*	*1970*	*1980*	*1990*	*2000*	*2010*
Number	1	1	7	12	14	18	68	81	483	397	829	662	483	558	572	412	422	281	229	145
Percent	0.0	0.0	0.1	0.2	0.2	0.3	1.2	1.4	8.5	7.0	14.6	11.7	8.5	9.8	10.1	7.3	7.4	5.0	4.0	2.6
Rank	19	19	18	17	16	15	14	13	5	9	1	2	5	4	3	8	7	10	11	12

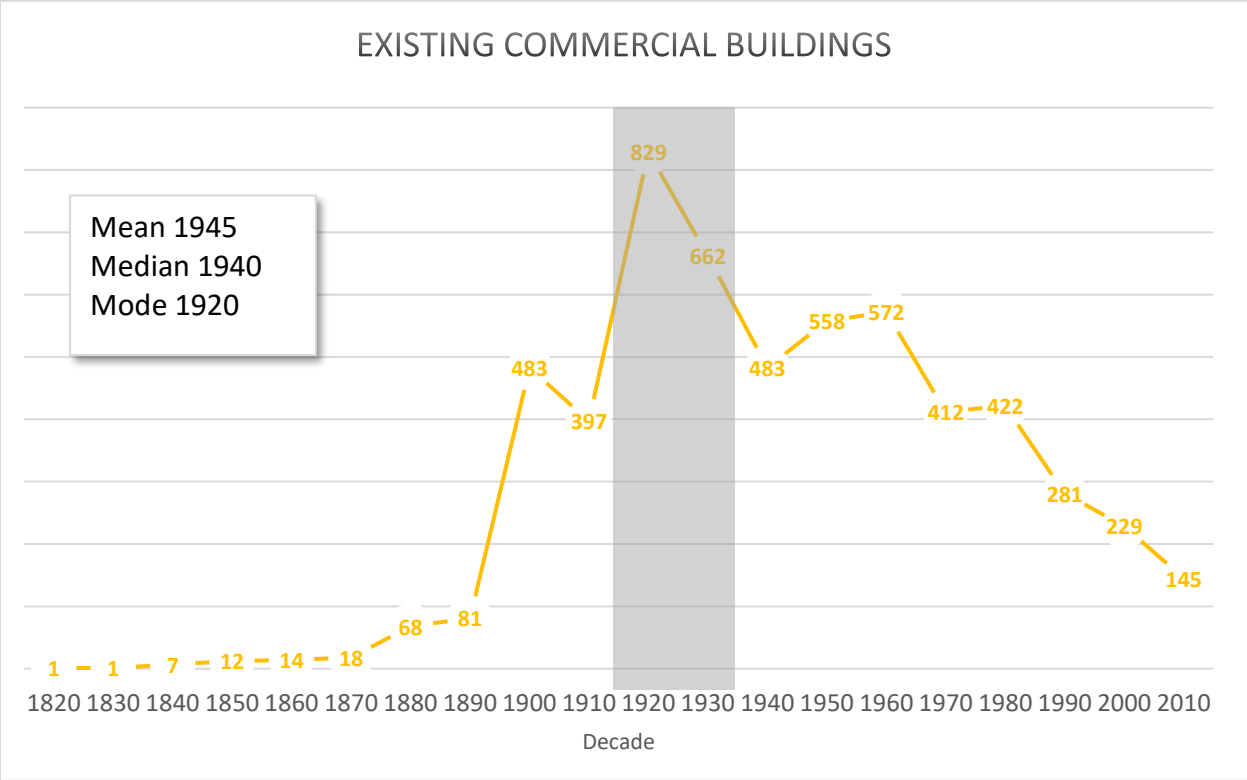

Figure 3.3: Existing Commercial Buildings by Decade

Based on this data more than a quarter, 26.3% of Rochester's current commercial building stock was built in the 20-year period between 1920 and 1940. This corresponds with the interwar period when the economies of many cities in the North East were booming because of an influx of immigrants and new technological advances. The fact that so many remain standing to this day speaks to the large number which were built during this short time span. Furthermore, the subsequent decrease in commercial buildings constructed during each decade tracks with the

depopulation of the city due to suburbanization, outlined in Chapter Two, despite a higher percentage of those buildings remaining today because of their relatively young age.

3.3.2 Narrowing by Original Date of Completion and Adaption

To further narrow the adaptive reuse buildings, it was important to set a focused original construction date requirement which best represented the majority of the commercial building stock within the city. These construction dates also give insight into the architectural style and construction type of these structures, which is important to note as these have varied greatly over the past 200 years. For example, what served as a department store at the turn of the 20th century is almost unrecognizable from what served as a department store at the turn of the 21st century. This is examined more closely in Section 3.3.3 *Impacts of Building Typology and Usage*.

To understand which buildings are in the greatest need of rejuvenation, the number of remaining commercial structures which are currently vacant were totaled for each decade. Although figures on the number of buildings which are underutilized, or in some amount of disrepair, were not able to be obtained it is reasonable to assume it correlates with the number of buildings sitting vacant. Table 3-4 and Figure 3.5 show the number of commercial buildings from each decade which are currently vacant, the percentage of the total number of buildings which that decade represents, and the decade's rank compared to the others.

Table 3-4: Vacant Commercial Buildings by Decade

Decade	***1820***	***1830***	***1840***	***1850***	***1860***	***1870***	***1880***	***1890***	***1900***	***1910***	***1920***	***1930***	***1940***	***1950***	***1960***	***1970***	***1980***	***1990***	***2000***	***2010***
Number	0	0	0	0	3	0	1	7	29	22	40	28	14	19	11	7	8	0	0	0
Percent	0.0	0.0	0.0	0.0	1.6	0.0	0.5	3.7	15.3	11.6	21.2	14.8	7.4	10.1	5.8	3.7	4.2	0.0	0.0	0.0
Rank	13	13	13	13	11	13	12	9	2	4	1	3	6	5	7	9	8	13	13	13

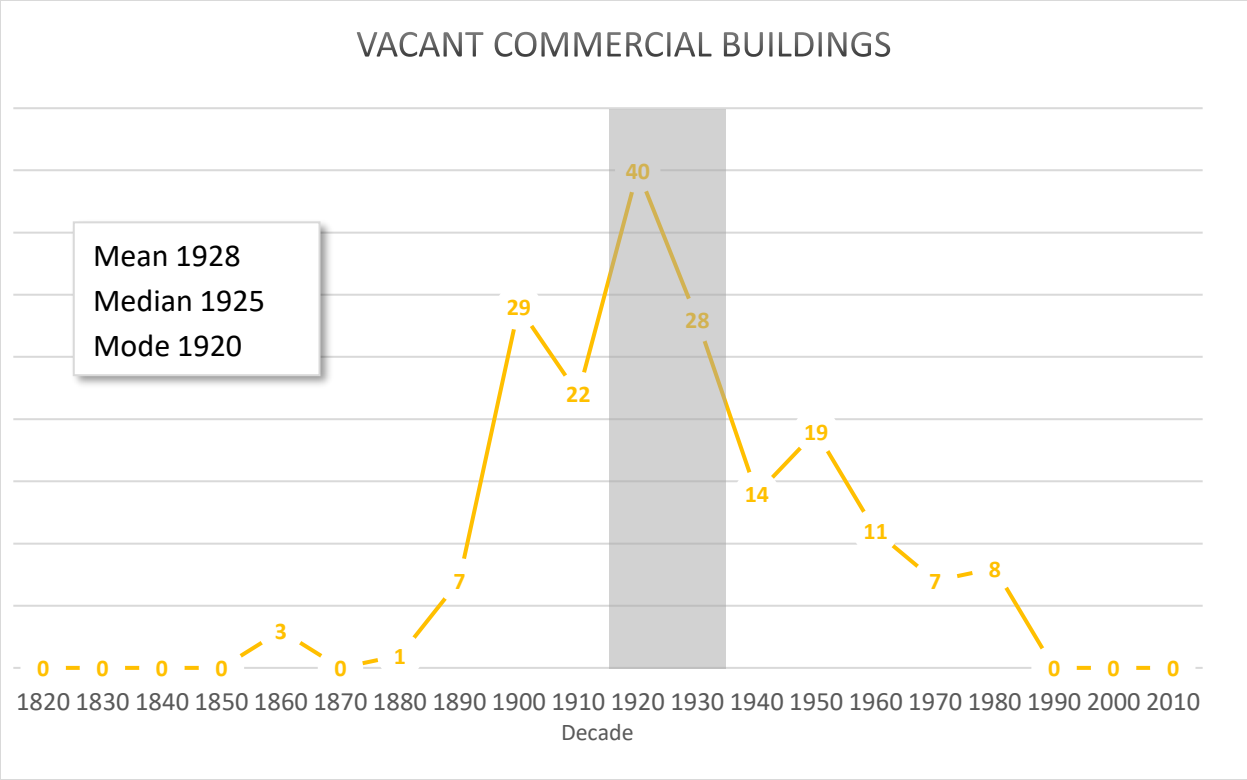

Figure 3.4: Vacant Commercial Buildings by Decade

From this breakdown, we can see that a plurality of the vacant buildings come from the 1920s, followed closely by the 1900s and the 1930s. It's reasonable to assume that since there are more buildings from this period there would also be more vacancies, an assumption which the data supports. However, the buildings from this period are overrepresented as the percentage of vacancies exceeds the percentage of buildings. This shows that not only are there more buildings from this time span, but also that they are more likely to be empty than those built in other time periods. This is logically consistent, as buildings built in the latter half of the twentieth century are more modern, better suited for today's uses, and therefore less likely to be vacant. In addition, buildings remaining from the 19th century are fewer in number and more likely to have already been targets of conservation. This study will be focusing on this 20-year span to select subject buildings because it provides the greatest number of buildings in need of restoration. These

buildings are also the most likely to have a deleterious effect on communities because they are most likely to be vacant.

Additionally, since building technology and trends change over time, it is important that all the buildings which have been adapted were adapted in the same general time period as the construction of the new Subject Buildings they are being compared to. For example, a building from the 30's adapted in the 60's would likely feel dated today and in need of adaptation once again. Popular trends in building including décor choices, material usage, and space layout (e.g. open vs closed concept), among other things, have a substantial impact on the updates and adaptations required. For this reason, in addition to having been built between 1920 and 1940, all Subject Buildings have been built or adapted—in a manner which changed their function—within the past fifteen years.

3.3.3 Impacts of Building Typology and Usage

In order to further narrow the list of potential subjects and assure like buildings were being compared, a common typology was selected—low-rise mixed-use structures. Due to backing from experts and organizations such as the Congress of New Urbanism, mixed-use developments are a rising trend. Mixed-use buildings have been shown to be more environmentally and economically sustainable in addition to being overwhelmingly beneficial for the communities in which they are located.[89] Much of these improvements in social sustainability are because mixed-use buildings allow for more walkable neighborhoods and foster interpersonally relations by allowing people to live where they work and spend free time.[90]

[89] Jacobs, 152-177.

[90] Jeff Speck. *Walkable City: How Downtown Can Save America, One Step at a Time.* (New York, NY: Farrar, Straus and Giroux, 2012), 105.

The most common usage of buildings built, or adapted, in the past 20 years in Rochester, is mixed-use commercial and residential—by a significant amount. The commercial is usually light retail or food service and the residential space is often referred to as a loft. As both Zukin and Florida showed in the literature review, the creation of loft spaces is an important part of building sustainable communities.

3.3.4 Selected Case Studies

The initial list of potential sites included over 100 locations. This list was narrowed using age, renovation date, typology and occupancy restrictions to these final six buildings. The final Subject Buildings selected were College Town, Edge of the Wedge, South and Hickory, Hive @ 155, the Sagamore on East, and Village Gate Square. Three of these have been adapted within the last 15 years and three have been newly constructed within the last 15 years. Table 3-5 provides a high-level overview of these buildings while Figure 3.6 shows their locations within the city.

Table 3-5: Select Building Summary

A	B	C	D	E	F	G
1	College Town	1331 Mt. Hope Ave	New	2014	n/a	247,684
2	Edge of the Wedge	739 S. Clinton Ave	Adapted	1930	2014	28,732
3	South & Hickory Place	661-663 South Ave	New	2009	n/a	37,200
4	Hive @ 155	155 St. Paul St.	Adapted	1920	2016	29,160
5	Sagamore on East	130 East Ave	New	2006	n/a	~140,000
6	Village Gate Square	274-376 N. Goodman St.	Adapted	1940	2015	241,870

Key
A – Identification Number
B – Name
C – Address
D – Type of Construction
E – Date of Original Construction
F – Date of Most Recent Renovation
G – Building Size (sf)

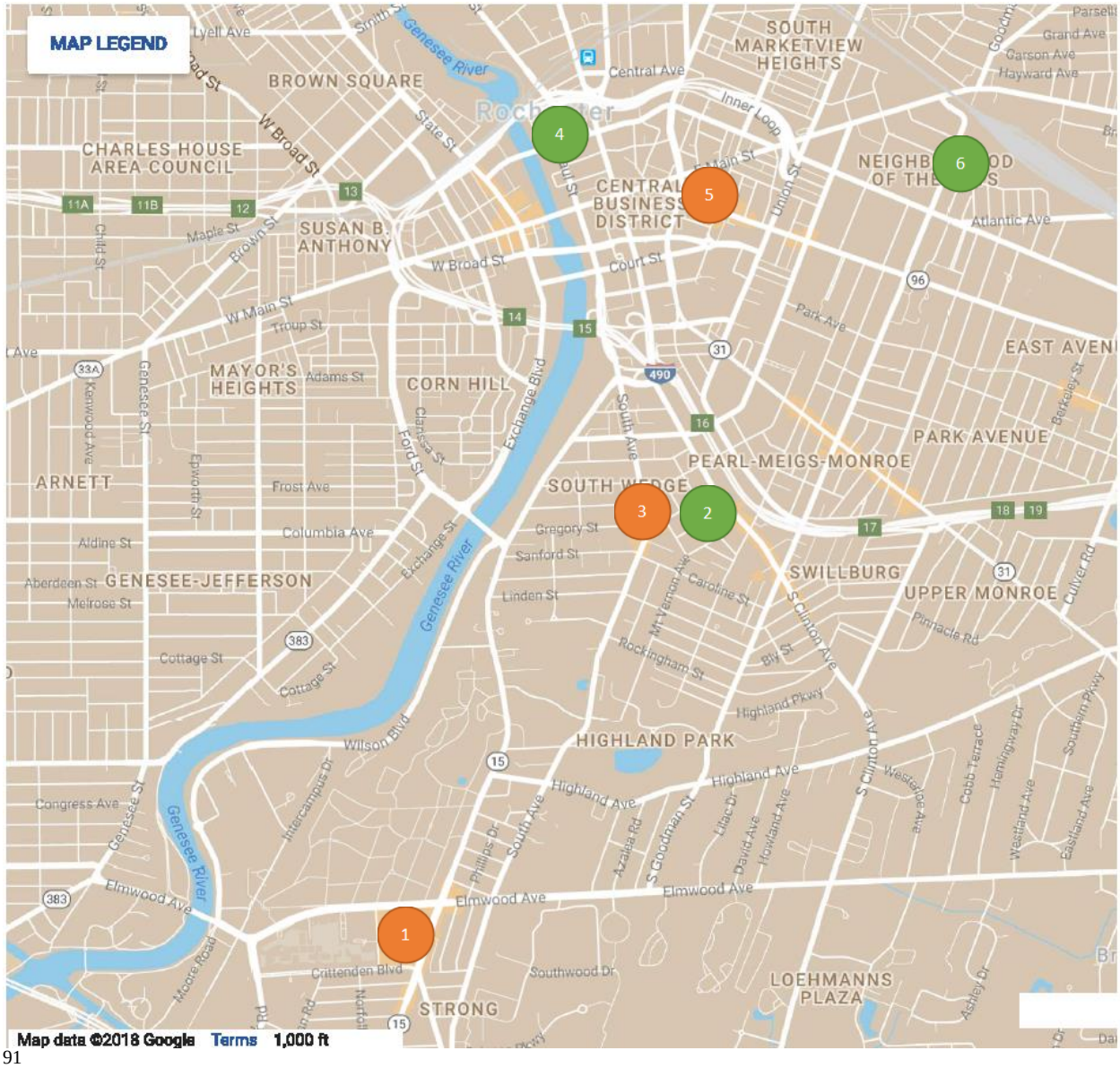

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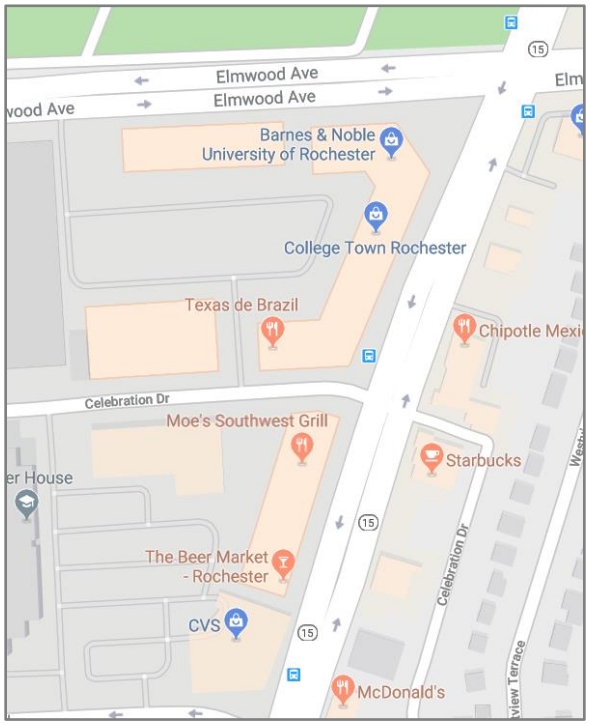
Figure 3.5: Case Study Locations – Orange represents new buildings while green represents adaptive reuse buildings.

[91] Google Maps. "Rochester, NY." Accessed February 04, 2018. https://goo.gl/4DB4M9;Although all of the Selected Buildings are located in either the Southeast Quadrant or close to Center City this was not done by accident or due to bias from the researcher. The central and southeastern parts of the city have seen greater investment and revitalization that other parts of the city to date—possibly due to bias in the investors—which means there were a greater number of new and adapted buildings than located in other areas of the city. The goal when choosing building as case studies was to select the ones which best fit the criteria laid out above and these just so happened to be grouped together. It is also important to note that the Select Buildings were chosen in 2017 and since then new developments have gone up in other parts of the city which were not available at the time of this study. A potential future study would be to look at new and renovated buildings in other areas of the city.

Subject Building 1

Name	College Town
Address	1331 Mt. Hope Avenue
Construction	New
Year Built	2014
Year Renovated	n/a
Size	247,684 sf
Cost of Living[92]	$$
Original Use	n/a
Current Use	Residential, retail, food service



History of Note: Former location of an inn, most recently used for University of Rochester graduate housing, a gas station, and a parking lot which until 2003 hosted one of the first Wegmans stores.

Notable Features: Adjacent to University of Rochester and Strong Hospital.

[92] Cost of living was determined by comparing rent prices for comparable units as well as the cost of a hamburger at the nearest restaurant.

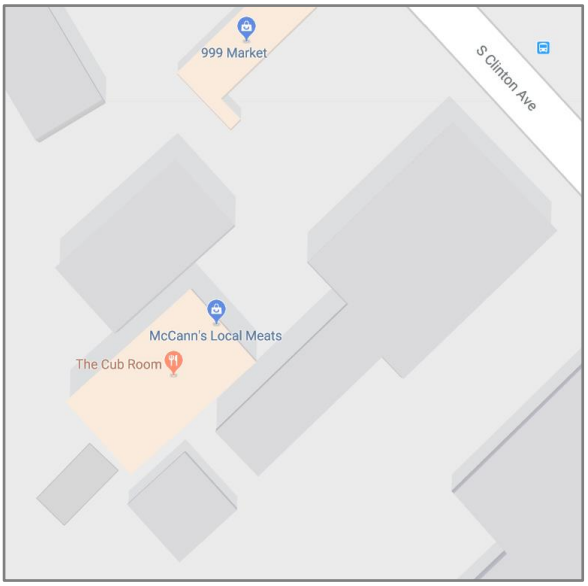

THE BEER MARKET
THE BEER MARKET


COLLEGE TOWN
www.collegetownrochester.com
MT. HOPE LOFTS
AT COLLEGE TOWN
BUILDING 3
Constantino's Market
University of Rochester Offices
Retail
BUILDING 6
Retail
TIAA
BUILDING 4
5 story parking garage
EAST DRIVE
BUILDING 1
Hilton Garden Inn
Hilton Garden Inn
ROCHESTER
Offices
Levels 2&3
bourbon
HAIRZOO
GNC
CELEBRATION DR.
BUILDING 5
Retail
Mount Hope Lofts Apartments
MOUNT HOPE AVENUE
UR FLAUM
SAXBYS
ELMWOOD AVENUE
BUILDING 2
Barnes & Noble Bookstore
Retail
Mount Hope Lofts Apartments
BARNES & NOBLE
BOOKSELLERS
Gilbane
FAIRMOUNT

Subject Building 2

Name	Edge of the Wedge
Address	739 S. Clinton Avenue
Construction	Adapted
Year Built	1930
Year Renovated	2014
Size	28,732 sf
Cost of Living	$$
Original Use	warehouse
Current Use	Residential, food service

History of Note: A city plat map shows a building on this location constructed around 1900. The building which later held Gundlach Optical Co., then numbered 761 South Clinton Avenue, was described as "at various times act[ing] as the home of other companies, including the Rochester Panoramic Camera Company (1905), the Seneca Camera Company (1903-1910), and the Ilex Optical Company (1912-1916)."[93] However, this conflicts greatly with the city's records and it is unclear if the structure at any point in time was replaced. Most recently, the building housed Ward Plumbing Supply and the Sodus Co-operative Creamery Company before that.



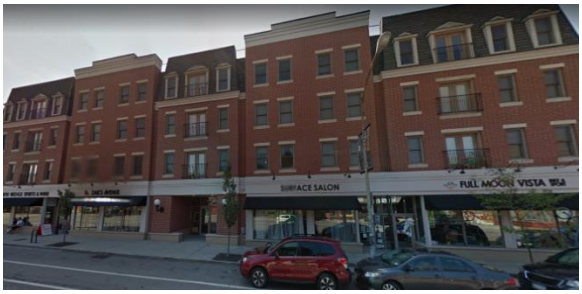
Notable Features: Features two small additions one added in the 1960's and the other the 1990's.

[93] Rudolf Kingslake, "The Rochester Camera and Lens Companies," (Rochester NY, Photographic Historical Society, 1974).


WARD
SUPPLY CO

Subject Building 3

Name	South & Hickory Place
Address	661-663 South Avenue
Construction	New
Year Built	2009
Year Renovated	n/a
Size	37,200 sf
Cost of Living	$
Original Use	n/a
Current Use	Residential, retail, food service



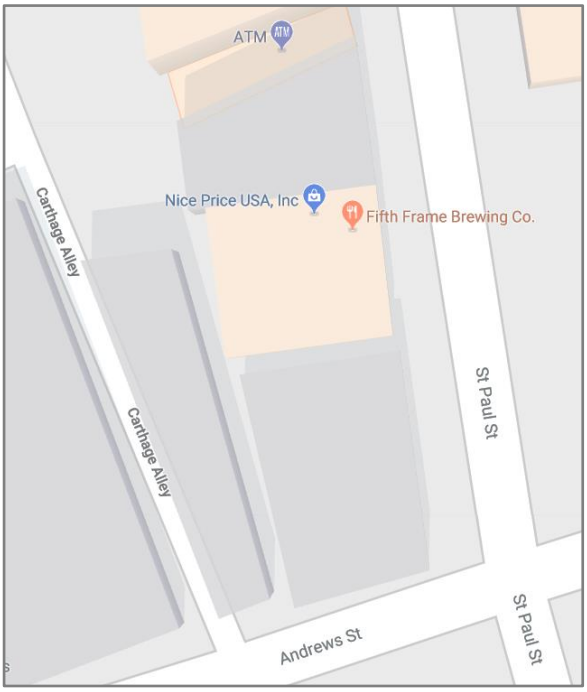
History of Note: Once home to multiple single-family residential properties, was a vacant lot for a number of years before being redeveloped.

Notable Features: A faux mansard roof.


1-STORY GARAGE
1-STORY GARAGE
TERRACE
TERRACE
ABELES BUILDING
681 SOUTH AVENUE
4-STORY MIXED-USE BUILDING
24 RESIDENTIAL UNITS
RICHARD POOLE BUILDING
655-647 SOUTH AVENUE
SOUTH AVENUE

Subject Building 4

Name	Hive @ 155
Address	155 St. Paul St.
Construction	Adapted
Year Built	1920
Year Renovated	2016
Size	29,160 sf
Cost of Living	$
Original Use	Manufacturing, offices
Current Use	Residential, food service



History of Note: Though the site was originally developed sometime around 1900, a fire on May 17, 1917 caused significant damage. The original building was subsequently purchased and renovated by the Wilson Memindex Company. In 1920, Memindex Co. more than doubled the size of the site, constructing the building seen above known as the Pilot building. [94]

Notable Features: Close to the river; currently painted a vibrant blue, yellow, and gray.

[94] "Furniture Manufacturers and Distributors Meet," (Walden's Stationer and Printer, 6AD, 48).

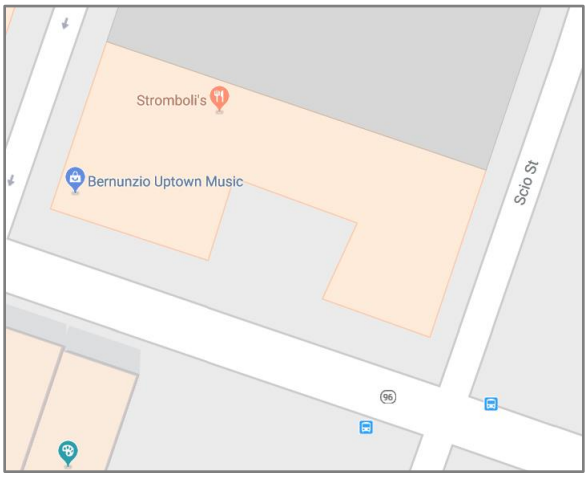

SHOE CO.

Subject Building 5

Name	Sagamore on East
Address	130 East Avenue
Construction	New
Year Built	2006
Year Renovated	n/a
Size	~140,000 sf
Cost of Living	$$$
Original Use	n/a
Current Use	Residential, retail, food service

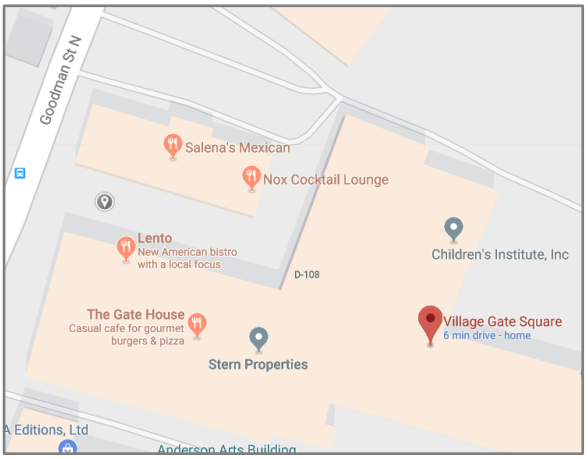
History of Note: Former vacant site, once home to the Davis Building which housed the International Apple Association, among others.

Notable Features: Large stone base and balconies.



Subject Building 6

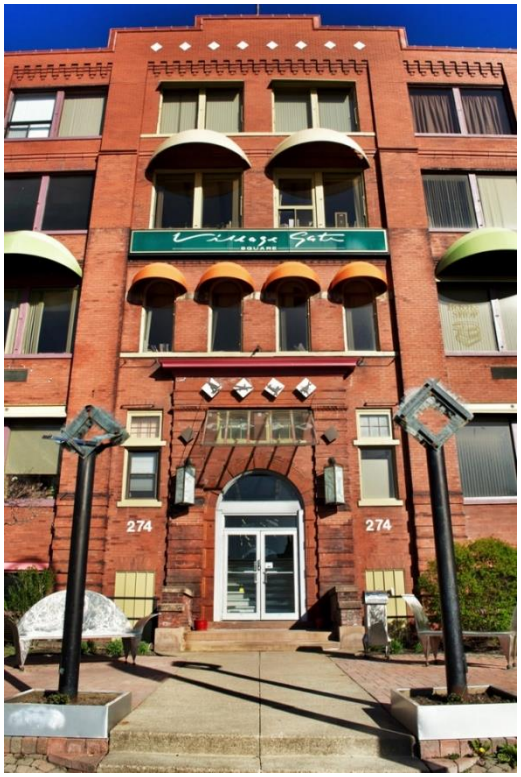
Name	Village Gate Square
Address	274-376 N. Goodman St.
Construction	Adapted
Year Built	1940
Year Renovated	1981/2015
Size	241,870 sf
Cost of Living	$$
Original Use	Manufacturing
Current Use	Residential, office, retail, food service



History of Note: One of seven buildings on the site constructed between 1900 and 1940 by Stecher-Traung Lithograph Co. The process of converting the building to retail, food service and office use began in the 1980's but the addition of apartments came in 2015. Village gate is a key component of Rochester NOTA Neighborhood. Shown on the plat map in 1935 though the city dates it to 1940. Oldest part of the complex was constructed sometime between 1900 and 1910.

Notable Features: Incorporation of art throughout building and site.


GET CAKED
BAKERY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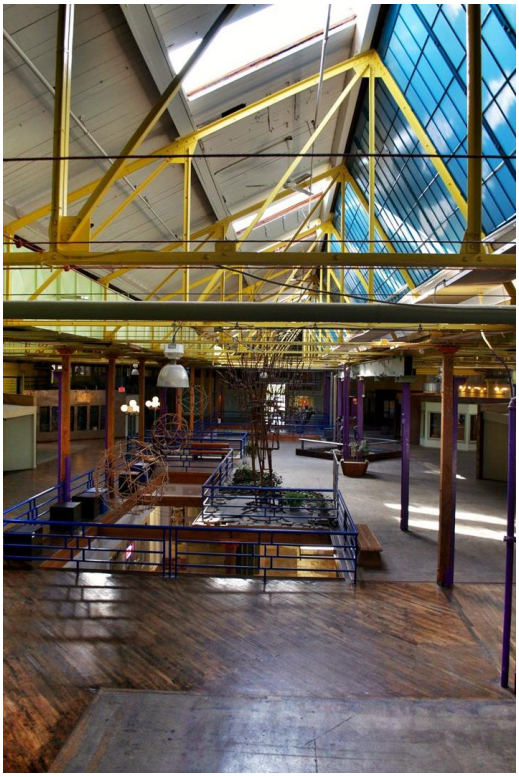

3.4 Survey Strategy and Process

All respondents who participated in this experiment did so voluntarily and anonymously. In-person surveys were chosen to gain access to communities which would otherwise be difficult to reach via online survey—such as residents who do not own a computer or have an email account—and to get a higher response percentage. This also allowed direct interaction with respondents in order to receive feedback on the survey and project in general, as well as additional insight into their experience of the city. Furthermore, an in-person survey allowed for the answering of any questions which might arise and clarification of anything the respondent found confusing. Finally, this strategy permitted a deeper explanation of the background of the project, goals of the research, and hypothesis after the questionnaire was completed.

The initial goal was to find 100 respondents; however, this was increased to 200 upon realizing that minority populations were not proportionally represented. Survey locations included: The Public Market (once in March and again in May), in front of the Transit Center, a handful of cafes in and around downtown, the Monroe Community College Downtown Campus, the University of Rochester campus, College Town, and on the street downtown—though this proved to be a difficult location as many people did not have time or want to stop. All surveying took place during the spring and summer of 2018. The locations, dates and sample sizes of surveys conducted are listed in Table 3-6.

Table 3-6: Locations, Dates and Sample Sizes

Location	***Date***	***Size (N)***	***Percent***
The Public Market	03/2018	50	25.0
The University of Rochester & College Town	03/2018	39	19.5
Cafes (Boulder, Equal Grounds, Javas)	04&05/2018	21	10.5
Randomized Street Surveying	04&05/2018	14	7.0
Monroe Community College Downtown Campus	05/2018	15	7.5
The Transit Center	05/2018	29	14.5
The Public Market	05/2018	32	16.0
Total		***200***	***100***

3.4.1 Testing Procedure

To ensure the validity of the research the same procedure was followed every time. The procedure of the tests was as follow:

1. All testing was conducted in public locations within the community.
2. Passersby were either solicited from a table containing all of the materials or directly approached.
3. They were asked if they lived in the city of Rochester and if they had a few minutes to participate in a survey for a Master's Thesis. Those who responded affirmatively to both were provided with a questionnaire, a writing implement, and all supplemental materials (neighborhood map and larger building images).
4. Questionnaires were collected when they were complete (usually after approximately ten minutes). The researcher was available throughout the testing period to answer any questions pertaining to the questionnaire.
5. After the questionnaire was collected the research offered a more detailed explanation of the research being conducted including the study's hypothesis.

CHAPTER 4: DATA AND ANALYSIS

This chapter will look at the surface level results and discuss the process of data cleansing and processing with both Microsoft Excel and IBM SPSS. It will then further explore and analyze the data to come to a comprehensive understanding of respondent's thoughts and feelings about the case studies and city, as well as factors which might have influenced those thoughts and feelings.

4.1 Processing of Data

In total, more than two hundred surveys were administered. Of these, two hundred questionnaires were processed and entered into Excel and then later transferred to SPSS. All data collected was stored digitally on a computer only accessible by the researcher. Questionnaires which were not discarded were processed the same day they were completed—in batches of about twenty at a time. Though respondents were asked if they lived in the city of Rochester before they were provided a questionnaire, some still listed a suburb of the city (e.g. Greece or Irondequoit) as a response to Question 1.1 asking in which neighborhood they reside. There were approximately five occurrences of this in total; these questionnaires were not processed and immediately discarded. In addition, approximately ten questionnaires were discarded for having incomplete data and were not figured into the final total. This was usually either because the last page (Demographics section) was totally missed or because the respondent changed their mind upon seeing the second page (Subject Buildings section), which is more complex than the first page (Community section). Additional data cleansing techniques which were used include a frequency check, cross tabbing, and logical checks.

As to neither lead nor restrict respondents' answers, questions 1.7, 1.8, 2.13 and 3.14, which pertain to aspects of the community and case studies they like and dislike, were posed as open-ended questions. This served to facilitate a broad range of responses which provide insight into participants' beliefs and values, allowing a deeper understanding of why they answered the preceding questions the way they did, and why they scored the numerical questions the way they did. The responses to these questions were then coded into overarching categories and subcategories so that they could be looked at more objectively.

4.2 Respondents

For the validity for this experiment, it was important to receive responses from a significant number of people of different backgrounds and demographics. As mentioned previously, the initial target was to find one hundred respondents, but that goal was later increased to two hundred as the first one hundred were too dissimilar from the demographics of the city as a whole.

Overall demographics of the respondents are still more educated, younger, and represent less minorities—African Americans in particular—than the city as a whole. This characterizes trends in urbanization due to gentrification, as residents of the suburbs begin to return and recent college graduates settle in cities.[95] However, the extent to which this phenomenon will occur in Rochester has yet to be seen. The final demographics of the survey respondents compared to demographics of the city are shown in Table 4-1. Further information on Rochester's demographics can be found in Appendix C.

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[95] Florida, *The New urban Crisis*, 59.

Table 4-1: Rochester and Survey Demographics

Demographics	***Rochester***	***Survey Respondents***	***Difference***
Race (18+)[96]			
White	43.7%	54.0%	+10.3%
Hispanic	16.4%	12.5%	-3.9%
Black	41.7%	31.0%	-10.7%
Asian / Pacific Islander	3.1%	5.0%	+1.9%
Mixed	4.4%	9.0%	+4.6%
Native American	0.5%	2.5%	+2.0%
Other	6.5%	4.0%	-2.5%
Income[97]			
80th Percentile	20%	23.0%	+3.0%
60th Percentile	20%	17.5%	-2.5%
Median	20%	22.5%	+2.5%
40th Percentile	20%	15.0%	-5.0%
20th Percentile	20%	22.0%	+2.0%
Gender (18+)[81]			
Male	47.5%	57.0%	+9.5%
Female	52.5%	40.5%	-12.0%
Other & Prefer Not to Identify	N/A	2.5%	
Age (18+)[81]			
18-29	31.2%	48.5%	+17.3%
30-49	35.1%	22.0%	-13.1%
50-64	21.6%	25.0%	+3.4%
65+	12.0%	4.5%	-7.5%
Highest Level of Education[98]			
High School or less	46.8%	18.5%	-20.8%[99]
Technical / Trade School	N/A	7.5%	
Some College or Grad	45.6%	52.0%	+6.4%
Some Grad School or Grad	8.3%	21.5%	+13.2%
Other	N/A	0.5%	

[96] U.S. Census Bureau, "Profile of General Population and Housing Characteristics: 2010," 2010 Demographic Profile Data, accessed June 1, 2018, https://factfinder.census.gov.

[97] U.S. Census Bureau, 2010 Census. Statistical Atlas. Accessed December 01, 2017. https://statisticalatlas.com/place/New-York/Rochester/Overview.

[98] U.S. Census Bureau, "Profile of General Population."

[99] High School or Less and Technical / Trade School were combined when comparing to Rochester statistics as statics for Technical / Trade School were not provided

4.3 Presentation of Data

Table 4-2: Overall Results from the Survey

Demographic		Rating	Comparison	Identity	Pride						Identity						Combined					
					1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
All	AVE	4.8	4.4	4.6	4.7	4.8	4.7	4.7	4.9	5.7	4.6	4.9	4.4	4.7	4.6	5.7	4.6	4.9	4.5	4.7	4.8	5.7
	VAR	1.8	1.7	2.1	4.0	1.8	2.3	2.3	2.2	1.8	3.9	1.7	2.1	2.2	2.2	1.8	3.9	1.8	2.2	2.2	2.2	1.8
	STD.D	1.3	1.3	1.4	2.0	1.4	1.5	1.5	1.5	1.4	2.0	1.3	1.5	1.5	1.5	1.3	2.0	1.3	1.5	1.5	1.5	1.3
	Fam %				100	89	89	86	88	92	100	89	89	86	88	92	100	89	89	86	88	92

Overall respondents are slightly satisfied with the city of Rochester, rank it slightly above other cities of similar size, and think that it is somewhat easily identified by its built environment, specifically its buildings. There was not a large amount of variation in these rankings which shows that they are not very controversial but more universal of how people feel.

When collecting information on the case studies it was important to know how familiar individuals were with the case studies. Though having a high familiarity percentage does not correlate to a building's likability, it often correlates with its notoriety. All of the selected Subject Buildings were familiar to at least 86% of respondents, though some respondents did require the map and additional description to recall. The subject building with the highest familiarity rating was case study one, College Town. College Town was also the only case study to have a perfect 100% familiarity, most likely resulting from all the controversy and news attention around it in the years prior to the survey. The two subjects with the lowest familiarity were numbers Hive @ 155 and The Sagamore at 86%, followed closely by Edge of the Wedge and South & Hickory at 89%. Village Gate Square came in with the second highest familiarity at 92%.

Table 4-3: Subject buildings by familiarity.

Building	***Familiarity***
College Town	100%
Edge of the Wedge	89%
South & Hickory Place	89%
Hive @ 155	86%
Sagamore on East	86%
Village Gate Square	92%

In initial analysis of the general results, there does not appear to be a large amount of difference. Overall respondents felt slightly better than neutral about the case studies' effect on their pride in their community as well as the buildings' impact on their communities' identity. Comparing the average ratings for how the buildings affected pride only varies ±0.2 points (3.3%) with the exception of Village Gate Square. With an average rating of 5.7, Village Gate Square is 0.8 (13.3%) higher than the next highest ranked building and a total of 1.0 (16.7%) higher than case studies 1, 3, and 4. The differences in how the buildings affected the identity of the city were a little more distinct. The average ratings for the cases studies varied by 0.5 (8.3%), apart from Village Gate Square which was again an outlier and averaged a 5.7 once more—0.8 (13.3%) higher than the next closest and 1.3 (21.7%) more than the lowest rated case study in this category.

However, upon deeper analysis, variations begin to appear. Although, at a high-level, the perceptions of the buildings seem similar, when sorted by the respondents' demographics differences start to emerge. With this data it is possible to start to discern driving factors behind these perceptions, which can be used to inform future design. These observed demographic differences and potential reasoning behind them are explored more in Section 4.4.

Furthermore, reviewing the variance and standard deviation of the pride and identity scores for each case study shows overall score does not tell the whole story. Buildings with similar

averages might have starkly different variances. A greater variance is caused by less uniform responses and more disagreement between respondents on the high and low end. So, the case studies with higher variances are more controversial while those with low variances are more anodyne. The most controversial case study by a large amount for both pride and identity ratings was Subject Building 1—College Town. Interestingly College Town was also the only building that was 100% known by all 200 respondents. The most innocuous building was Subject Building 2—Edge of the Wedge—very closely followed by Subject Building 6—Village Gate Square. Variance and controversy are covered in more detail in Section 4.5 Aspects and Features of the Community and Subject Buildings.

4.4 Analysis of Data

This section attempts to draw conclusions from the data by looking at correlations between different sets of demographics and different combinations of responses. Through doing this one can make an educated guess as to why groups of individuals answered the way they did and their reasoning behind their rating. This is in combination with some exit interviews and conversations with respondents after their questionnaires were completed. To prepare for this data analysis, results from all the questionnaires were compiled into a one Microsoft Excel workbook, where initial analysis was performed, then transferred into SPSS for more detailed analysis. From this analysis, more than twenty findings were made. These findings along with potential explanations and significance are shown below.

Overall, the city is rated (4.8) and compared (4.4) to other cities favorably and all case studies are rated above average (4). This suggests that people are generally satisfied with the current direction of the city and view any progress favorably.

Village Gate Square is ranked highest on both pride (5.7) and community identity (5.7). Positive feedback on the Village Gate primarily revolves around inclusion of art in the space. Furthermore, it was adapted earlier than the other case studies, but was readapted to include housing more recently. For this reason, the space is well known throughout the community and carries a good reputation built over years. Additionally, as the space was first adapted longer ago it shows that reused buildings can and do have staying power.

Subject Buildings 1-5 are very similar on pride (4.7-4.9). This could mean that most people don't relate pride in their community to buildings or that the difference between adaptive reuse and new buildings is not that large; residents just want progress and functional buildings.

Subject Buildings 2, 4 & 6, the reused buildings, score a little higher on community identity (average of 5.1 vs. average of 4.5). This finding is very logical. The reused buildings have been located in the community for a longer period of time, allowing people to become familiar with them and associate them with the identity of the area. Additionally, they are more likely to fit with other existing buildings as they were built in a similar style during a similar period.

100% of respondents reported being familiar with Select College Town. College Town was the only case study to receive this distinction, the next closest being the Village Gate Square. The construction of college town was a large project; not only is it the largest space in terms of square footage it was also a huge news story. Furthermore, the pool of respondents was slightly biased towards living in the southern two quadrants of the city, so it would be expected that many of these respondents would use or pass by College Town on a regular basis.

College Town has a much higher combined variance (3.9) and standard deviation (2.0) than the other case studies despite having similar scores on pride and identity. College Town is a

point of contention, people either love it or hate it. Younger people who live close to it tend to like it more. These are likely students attending the University of Rochester. Those in favor of it are also less likely to know the other case studies and are less familiar with the city in general.

Affluent[100] individuals rate (5.1) and compare (4.7) Rochester higher than other those who are not affluent (4.7 & 4.4). They also say Rochester is more identifiable (4.7 vs. 4.3). Affluent individuals are more likely to be content in their lifestyles and therefore are more likely to be content in their surroundings. Why they also rate Rochester as more identifiable is not clear, but might be because they are more likely to have visited unique spaces in Rochester which are expensive.

Caucasians rate (5.1) and compare (4.8) Rochester higher than other racial groups (4.4 & 4.0 combined). This difference is likely connected to affluence—addressed in the previous section. Caucasians are often better off and are more likely to be content with their surroundings. However, this discrepancy goes beyond just affluence. While affluent people and Caucasians have very similar numbers for how they rate and compare the city, racial minorities rate it even lower than non-affluent people which reveals their discontent is not simply due to socio-economic status but must in some part be due to racial relations.

Minorities (African Americans + Hispanic Latinos) say Rochester is more identifiable than other racial groups (4.9 vs. 4.5). This is an interesting bit of data as minorities are often less affluent than Caucasians, so it appears to contradict the previous finding that affluent individuals find the city to be more identifiable. However, when considering the age groups and number of years in the city of those who found the city the most difficult to identify, one can see that they are

[100] "Affluent" is defined as those in the top two quintiles of annual income, $39,700 or greater. While those in the bottom 2 quintiles, $29,600 or less, are seen as "not affluent" or "poor."

primarily younger and less affluent. This points towards individuals who grew up outside the city of Rochester—whether in the suburbs or in a different city all together—and either recently moved to Rochester or are here only for a short period of time at university. The minority respondents who rate Rochester as more identifiable are far more likely to have grown up in the city.

Caucasians rate Village Gate higher (+0.2) and College Town lower (-0.3). Minorities are the opposite (-0.2 & +0.4). This is hard to explain, but it could have to do with perceptions of new buildings versus old in communities of color compared to how they are perceived in whiter, more affluent communities.

Younger individuals rate the city the lowest (4.6) and older individuals rate city better (5.3). This steps across all age ranges (4.6, 4.9, 4.9 & 5.3). The older a resident is the more likely they are to give the city a high rating. This connects back to time spent in Rochester which increases their familiarity with the city—making it more identifiable—as well as their pride in the city. It's likely an attachment formed over time. Those who are discontent with the city are not likely to remain here until old age, or chose to settle here at an older age, those who chose to are more likely to have done so because they like living in Rochester.

Older individuals[101] have greater pride in all subject buildings except College Town (-0.4, +1.2, +0.8, +0.3, +0.4, & +0.9). Feelings of pride towards the subject buildings by older individuals broadly comes from feelings of pride towards the city in general. It is unknown why this does not extend to College Town.

People who have lived in Rochester 5-10 rate (5.3) and compare (5.1) it higher than people who have lived here less than 5 years (4.6 & 4.3) or 10+ years (4.8 & 4.4). That respondents who

[101] The top age bracket, 65+.

have lived in Rochester for 5-10 years rate and compare it better than those who have been here for less than 5, logically follows the previous question. However, the data from those who have lived in the city for more than 10 years does not follow. This apparent anomaly could be because these respondents have lived elsewhere, either born elsewhere before moving to Rochester or were born in the city, left at some point then returned—a phenomenon known as boomeranging. This time spent outside of Rochester would give them a basis of comparison. People who have never left Rochester might have been experiencing a "grass is greener" phenomenon, having not yet realized that many issues are not unique to Rochester but found in all cities.

There is no difference between respondents of different genders (all within ±0.1 average). This is a good integrity check as there are few driving forces which would separate genders on these issues.

Homeowners rate (5.1) and compare (4.6) Rochester higher than renters (4.8 & 4.4) who rate it higher than people living with friends and family (4.0 & 3.9). This could be related to either affluence or time in the city / age. However, the decision to settle down, purchase a home, and join a community is a defining one. People who are unhappy with the community would not choose to buy a house in it. Furthermore, homeowners' ratings could be happiness derived from social interactions with neighbors and a sense of community.

Center City residents have greater variance in their responses. This is likely because of the diversity in racial background and socioeconomic status of Center city residents. There has been a great deal of change in this neighborhood lately with the recent addition of many high-end condos, when before it primarily consisted of subsidized Section 8 housing. New affluent arrivals and longtime residents seem to be at odds on the development taking place.

Ratings and comparisons of the city from different quadrants directly correlate with the affluency of that quadrant. Southeast is most affluent and gave the highest ratings (5.1, 4.6) while the Northwest the least affluent and gave the lowest (4.1, 4.1). The other sectors of the city fell somewhere in between—Northeast (4.6, 4.6), Southwest (4.5, 4.0), and Center City (4.6, 4.1).

College Town is rated lowest on pride by people who live in adjacent neighborhoods in the Southeast quadrant (4.3) and higher by those who live further away in the Southwest (5.2), Northeast (5.1), Northwest (5.0), and Center City (5.1). This seems to signal that this new development is causing some sort of disruption in the area, potentially related to the newly widened roadway and abrupt increase in traffic. Large roadways such as Mt. Hope Avenue by College Town were not seen as favorable when respondents described their likes and dislikes in the city. The rating of this area would also track with the differences in opinion on College Town between affluent and non-affluent individuals as well as the differences between Caucasians and racial minorities as the Southeast quadrant of the city is by far the most affluent and whitest.

The Upper Mt. Hope neighborhood, where College Town is located, rates it higher on its effect on pride (5.0) than any rest of the Southeast quadrant—comparable to the other quadrants (5.1). Furthermore, the residents of the Upper Mt. Hope neighborhood gave College Town a very high rating (6.3) on its effect on community identity however, many if not all of the respondents from Upper Mt. Hope likely live in College Town, and are far more likely to be college students without a strong familiarity with the rest of the city.

4.5 Aspects and Features of the Community and Subject Buildings

Using this data from the open-ended questions pertaining to favorable and unfavorable aspects of the built environment, a number of categories and subcategories were determined from

frequent types of responses. This was done both for the Subject Buildings and for the community as a whole—to gather additional information on aspect participants found favorable and unfavorable which are not confined to the subject buildings. From this, one can discern what type of design approaches are most and least desirable. The derived categories for community and subject buildings can be seen in Table 4-4 and Table 4-7, respectively.

Along with considering aspects people liked and disliked, how controversial different features are was also discerned. This was determined by using the combined number of likes and dislikes for a feature divided by the difference in the number of likes and dislikes. If all the responses were in agreement, either likes or dislikes, the result would equal a 1.0. However, if there were a combination of likes and dislikes this number would produce a number greater than 1.0. The more opinions on the subject there are, either likes or dislikes, and the more evenly split they are, the larger the number becomes. If there is a smaller number of people with an opinion on the subject the number remains small showing indifference and therefore low controversy. Analysis looking at the most and least desired traits as well as levels of controversy for community can be seen in Table 4-5 and Table 4-6, while Table 4-8 provides this information for the Subject Buildings.

4.5.1 Community Feedback

In total, 13 categories with a total of 77 subcategories were determined from the reactions by respondents on the subject of community design. These categories and subcategories were sorted into a list which can be seen in Table 4-4. While these open-ended responses were asked to be focused on aspects of the physical environment, some extended beyond and were still included. The totals and quantitative analysis of the respondents' feedback on these categories can be seen in Table 4-5 and the subcategories in Table 4-6.

Table 4-4: Community features and aspects derived from respondents' feedback.

Community Categories

100 Geographical Location
101 Proximity to other cities / areas
102 Weather
103 Other
200 Arts & Culture
201 Street Art/Murals
202 Sculptures
203 Music
204 Other
300 Nature
301 River/Falls
302 Lakes
303 Hills
304 Parks
305 Trees
306 Other
400 Public Space
401 Parks
402 Plazas
403 Other
500 Community Design & Pattern
501 Mixed-Use
502 Service Distribution/Proximity
503 Uniformity
504 Scale
505 Size
506 Density
507 Walkability
508 Connectivity
509 Parking
510 Other
600 Building Design
601 Aesthetics
602 Architectural Style
603 Design Diversity
604 Design Ubiquity
605 Craftsmanship
606 Materiality
607 Connection to Street
608 Authenticity
609 Other
700 History/Age
701 Iconicism
702 Historical Significance
703 Old Buildings
704 New Buildings
705 Other
800 Maintenance/ Cleanliness
801 Building Maintenance
802 Infrastructure Maintenance
802 Cleanliness
802 Structurally Integrity
802 Vandalism
802 Other
900 Utilization
901 Vacant Buildings/Lots
902 Underutilized Buildings
903 Reused Buildings
904 Other
1000 Equity & Progress
1001 Investment/Development
1002 Segregation
1003 Gentrification
1004 Accessibility
1005 Cost of Living
1006 Poverty
1007 Other
1100 Streetscape
1101 Pedestrian Infrastructure
1102 Sidewalks
1103 Bike Infrastructure
1104 Bike Lanes
1105 Bike Paths/Trails
1106 Car Infrastructure
1107 Street Layout
1108 Street Design
1109 Street Maintenance
1110 Street Parking
1111 Street Trees/Greenery
1112 Other
1200 Public Transportation
1201 Bus Infrastructure
1202 Train Infrastructure
1203 Other
1300 Security
1301 Building-Streetscape Connection
1302 Building Permeability
1303 Vacant Buildings
1304 Vandalism/Crime
1305 Other

Table 4-5 – Community Categories - A preliminary analysis showing total mentions, number of positive mentions, negative mentions, and net mentions (positive-negative) as well as the controversy of each category.

	Category	*# Mentions*	*Like*	*Dislike*	*Net*	*Controversy*
100	**Geographical Location**	13	6	7	-1	13.0
200	**Arts & Culture**	51	44	7	37	1.4
300	**Nature**	102	97	5	92	1.1
400	**Public Space**	54	52	2	50	1.1
500	**Community Design & Pattern**	141	90	51	39	3.6
600	**Building Design**	76	55	21	34	2.2
700	**History/Age**	61	46	15	31	2.0
800	**Maintenance/Cleanliness**	90	5	85	-80	1.1
900	**Utilization**	55	15	40	-25	2.2
1000	**Equity & Progress**	49	15	34	-19	2.6
1100	**Streetscape**	165	42	123	-81	2.0
1200	**Public Transportation**	19	5	14	-9	2.1
1300	**Security**	41	3	38	-35	1.2
	Grand Total	***917***	***475***	***442***	***33***	***2.7***

Table 4-6 – Community Sub-Categories - Similar to the previous table, a preliminary analysis showing total mentions, number of positive mentions, negative mentions, and net mentions (positive-negative) as well as the controversy of each sub-category Table is continued on the next two pages.

	Sub-Category	*# Mentions*	*Like*	*Dislike*	*Net*	*Controversy*
101	Proximity to Other Cities / Areas	7	5	2	3	2.3
102	Weather	5	1	4	-3	1.7
103	Other - Geographic Location	1	0	1	-1	1.0
201	Street Art/Murals	18	17	1	16	1.1
202	Sculptures	11	9	2	7	1.6
203	Music	6	6	0	6	1.0
204	Other - Arts & Culture	16	12	4	8	2.0
301	River/Falls	16	16	0	16	1.0
302	Lakes	3	3	0	3	1.0
303	Hills	3	3	0	3	1.0
304	Parks	46	45	1	44	1.0
305	Trees	19	17	2	15	1.3
306	Other - Nature	15	13	2	11	1.4
401	Parks	46	45	1	44	1.0
402	Plazas	1	0	1	-1	1.0
403	Other - Public Space	7	7	0	7	1.0
501	Mixed-Use	4	3	1	2	2.0
502	Service Distribution/Proximity	52	35	17	18	2.9
503	Uniformity	1	0	1	-1	1.0
504	Scale	6	4	2	2	3.0
505	Size	9	8	1	7	1.3
506	Density	14	9	5	4	3.5
507	Walkability	16	13	3	10	1.6

Table 4-6 (Cont.) – Community Sub-Categories

	Sub-Category (Cont.)	# Mentions	Like	Dislike	Net	Controversy
508	Connectivity	16	9	7	2	8.0
509	Parking	8	2	6	-4	2.0
510	Other - Community Design & Pattern	15	7	8	-1	15.0
601	Aesthetics	18	14	4	10	1.8
602	Architectural Style	25	20	5	15	1.7
603	Design Diversity	12	12	0	12	1.0
604	Design Ubiquity	5	0	5	-5	1.0
605	Craftsmanship	2	2	0	2	1.0
606	Materiality	4	2	2	0	4.0
607	Connection to Street	4	3	1	2	2.0
608	Authenticity	2	1	1	0	2.0
609	Other - Building Design	4	1	3	-2	2.0
701	Iconicism	16	14	2	12	1.3
702	Historical Significance	10	9	1	8	1.3
703	Old Buildings	24	20	4	16	1.5
704	New Buildings	8	3	5	-2	4.0
705	Other - History/Age	3	0	3	-3	1.0
801	Building Maintenance	31	1	30	-29	1.1
802	Infrastructure Maintenance	43	0	43	-43	1.0
803	Cleanliness	9	2	7	-5	1.8
804	Vandalism	1	0	1	-1	1.0
805	Other - Maintenance/Cleanliness	6	1	4	-3	1.7
901	Vacant Buildings/Lots	28	0	28	-28	1.0
902	Underutilized Buildings	9	0	9	-9	1.0
903	Reused Buildings	15	15	0	15	1.0
904	Other - Utilization	3	0	3	-3	1.0
1001	Investment/Development	17	8	9	-1	17.0
1002	Segregation	7	0	7	-7	1.0
1003	Gentrification	7	0	7	-7	1.0
1004	Acessibility	5	4	1	3	1.7
1005	Cost of Living	5	3	2	1	5.0
1006	Poverty	5	0	5	-5	1.0
1007	Other - Equity & Progress	3	0	3	-3	1.0
1101	Pedestrian Infrastructure	14	3	11	-8	1.8
1102	Sidewalks	9	2	7	-5	1.8
1103	Bike Infrastructure	4	3	1	2	2.0
1104	Bike Lanes	1	0	1	-1	1.0
1105	Bike Paths/Trails	8	7	1	6	1.3
1106	Car Infrastructure	42	7	35	-28	1.5
1107	Street Layout	17	3	14	-11	1.5
1108	Street Design	14	1	13	-12	1.2
1109	Street Maintenance	34	0	34	-34	1.0
1110	Street Parking	3	1	2	-1	3.0
1111	Street Trees/Greenery	16	14	2	12	1.3
1112	Other - Streetscape	3	1	2	-1	3.0

Table 4-6 (Cont.) – Community Sub-Categories

	Sub-Category (Cont.)	***# Mentions***	***Like***	***Dislike***	***Net***	***Controversy***
1201	Bus Infrastructure	10	4	6	-2	5.0
1202	Train Infrastructure	6	1	5	-4	1.5
1203	Other - Public Transportation	3	0	3	-3	1.0
1301	Building-Streetscape Connection	4	3	1	2	2.0
1302	Building Permeability	0	0	0	0	
1303	Vacant Buildings	25	0	25	-25	1.0
1304	Vandalism/Crime	10	0	10	-10	1.0
1305	Other - Security	2	0	2	-2	1.0
	Grand Total	***917***	***474***	***442***	***32***	***28.6***

Geography and Location (100)—Overall, was controversial but not a top issue. People generally liked Rochester's *proximity to other cities and areas* (101), especially natural ones such as the Finger Lakes or nature in general. Some wished it was on a coast. *Weather (102)* was only mentioned in 2.5% of surveys but 4 respondents said they disliked it because of the cold/snowy winters, and one said they liked it because of its "beautiful flowery springs." One *Other (103)* person disliked that Rochester was located in the Northeast, rather than being based on the west coast.

Arts & Culture (200)—Overall, people like the city's Art & Culture and it was not very controversial. People primarily like the *street art and murals (201)* with in 17 favor and only one detractor. About half as many, nine respondents, liked the *sculptures (202)*. But two people spoke out against what one called "weird and forgotten sculptures" like the Horses on Parade. Six people mentioned Rochester's *music (203)* scene as an Arts & Culture plus. There were 16 *other (204)* responses of which 75% said they generally liked the art and culture in the city and 25% said they generally did not.

Nature (300)—Overall, Nature was one of the most mentioned categories—mentioned by a little over half of the respondents (102)—and was by far the most positive with 92 positive comments and observations. 16 people mentioned *the river and/or the falls (301)*—usually the

river—as something they like about the city. Surprisingly no one complied about pollution in the river, though pollution and trash will be covered in a later category. Three people mentioned proximity to *Lakes (302)*—Lake Ontario and/or the Finger Lakes—as something they like. Three people also mentioned the city's *Hills (303)* as a feature of the geography which they liked. However, the hills are primarily confined to a few secluded parks and the city is known for being particularly flat. *Parks (304)* was the most brought up item in the survey being mentioned 46 times with only one detractor—who's comment was that they wished there were more. Generally, everyone is very happy with Rochester's park system. *Trees (305)* were mentioned 19 times in an overwhelmingly positive way. Most people mentioned street trees, or simply trees in general, but some identified the number of trees in city parks as being a favorite feature of the parks. Two people did say that they wish the city had even more trees. Overall, this tells us that people really like trees and they should be used wherever possible. *Other (306)* is comprised of 15 responses generically referring to nature or greenery within the Rochester. All but two were positive and the two detractors only wished to see more.

Public Space (400)—Again, *parks (401)* distinguished itself within this category. One person mentioned that Rochester has a dearth of *plazas (402)* which was surprising only due to the lack of times it was stated. The seven *others (403)* all mentioned the public market—which might be the closest thing to a major public plaza in Rochester—as a public space that they enjoy.

Community Design & Pattern (501)—One of the most popular categories, carried a fair bit of controversy which revealed very different opinions of how cities should be structured. *Service Distribution / Proximity (502)* was the most brought up topic (141) but not the most positive (parks). More people (35) thought Rochester had a good distribution of these services than not (17), but the controversy can be better understood when digging deeper. Those who thought the

services were good overwhelmingly came from the southeast quadrant of the city, or from center city, which has the best services. Those from the north and the west did not see it this way. A few detractors from the south east were just unhappy that a very specific service was not located close by. *Mixed Use (501)* was a rarely mentioned subject but ties directly into the proximity of service which everyone loved. It is probably just overlooked as an explanation for why access to these locations are so desirable. *Uniformity (503)* of the city was only brought up once saying that the city was too uniform. The *Scale (504)* of the city was somewhat controversial with most people saying they liked it and only a few saying they wish we had a more defined downtown like a large city. City *Size (505)* was not brought up often—only nine times—but generally most people liked that Rochester is a smaller city with only one person who wished it was larger. *Density (506)* was a controversial topic in more ways than one. While nine people agreed that they liked Rochester's density, only five did not. Supporters recognized Rochester as not being very dense and took that as a plus; however, the five detractors wished that the city was even less dense, saying that the residential areas were crowded. This is not the case as Rochester's residential areas enjoy a relatively low density for a city—especially one of its age. Furthermore, a lower density would be antithetical for connectivity and walkability which people also said they loved. *Walkability (507),* as mentioned previously, was a desirable aspect of living in Rochester and ties back to the city's small size. The three detractors all wanted walkability but thought that Rochester did not have it. From responses in the *Streetscape* section we see that this is most likely related to the city's urban highways and street design. *Connectivity (508)* was a highly controversial topic with nine people in favor of the current situation and seven against. Those who saw Rochester as being highly connective referenced the ease of travel by car and specifically cited the lack of traffic due to the city's small size and low density as well as the ease of access of the highway system. However,

those who saw connectivity as an issue cited that same highway system as breaking up neighborhoods and making pedestrian travel difficult. *Parking (509)* was most often mentioned as something respondents disliked about the city, saying that there is an abundance of unused surface lots. These lots are perceived as a waste of space and largely unattractive. The two people that were positive on parking said that "it is very easy to find parking" in Rochester. One person said that parking is too expensive, although evidence shows that Rochester has comparatively low-cost parking. The *Other (510)* subcategory was very controversial. In total, 15 people either said they generally liked, or did not like, the city's pattern and design. Additionally, respondents often mentioned the city's distinct neighborhoods as something of which they were fond.

Building Design (600)—14 individuals said they like the *Aesthetics (601)* of the city, most often citing beautiful old buildings. Four detractors either said they did not like these old buildings, or thought the city could use some more color, however one of the people who liked the aesthetics invoked the recent addition of colored LED lights to the city's skyline as an appealing upgrade. Multiple respondents declared the skyline was an attractive aspect of the city while one person alleges it is "ugly." When the city's A*rchitectural Style (602)* was raised it was usually in a positive light with a net +15. Many specifically cited the old building and homes as well as porches in residential areas as a favored aspect. However, there was a detractor who said they did not appreciate the city's architectural style and found old buildings unappealing. All 12 people who mentioned *Design Diversity (603)* said they liked it. On the other hand, all five times *Design Ubiquity (604)* was mentioned it was in a negative light, and always in reference to the "monotonous" design of newer buildings. *Craftsmanship (605)* or the quality of the buildings in the city was only brought up twice. *Materiality (606)*, specifically brick, was brought up with two people in favor and two who thought it was too much. On four occasions people mentioned

Connection to the Street (607), three times while praising storefronts and once to say that city buildings are too close to the street. *Authenticity (608)* of historic buildings was mentioned as a plus once, and lack in authenticity of new buildings, which are viewed as "faking old," was also brought up one time. *Others (609)* was targeted at specific aspects of building design.

History/Age (700)—Overall, respondents like *Iconic (701)* buildings and structures with 14 in favor; specifically, the Times Square Building and the Fredrick Douglas & Susan B. Anthony Bridge were mentioned most often, followed by Kodak Tower. Two people thought that the city did not do a good job of preserving its iconic buildings of the past, explicitly mentioning the former Midtown building. Nine people liked the *Historical Significance (702)* of buildings and locations in Rochester while one person said the city has not done a good enough job preserving historical sites. *Old Buildings (703)* in the city had a net +16 with 20 in favor, specifically old houses were most liked with respondents citing their charming character. Four people stated that they disliked old buildings and referenced upkeep as the primary reason. This divides along neighborhood and socioeconomic status as people in affluent areas largely like old houses and people impoverished areas did not. This probably speaks to the condition of older buildings in these areas. The inverse is true for *New Buildings (704)* with three in favor and five against for a net negative two. Respondents from less well-off areas like newer buildings likely cause of the condition and those who dislike them did so because of their bland ubiquitous design. *Other (705)* has to do with people thinking the city is generally outdated and needs modernization.

Maintenance/Cleanliness (800)—By far individuals think that the city's *Building Maintenance (801)* is poor with a -29. Residential buildings we frequently acknowledged as being in disrepair and "slumlords" were commonly named as the cause. One individual, however, said that they liked that the houses on East Avenue were in impeccable condition and made no mention

of other areas being worse off. One of the most expressed issues in any category was *Infrastructure Maintenance (802)* with a unanimous net -43. The prevailing view was that the state of infrastructure in Rochester—primarily roads and sidewalks—was ghastly. *Cleanliness (803)* was not a top issue, but seven respondents complained about issues with trash. Two people, however, did remark on how pristine the city's parks are. One person mentioned *Vandalism (804)*, specifically graffiti as an issue. *Other (805)* respondents who voiced issues around cleanliness and maintenance focused on buildings lacking structural integrity.

Utilization (900)—28 individuals mentioned V*acant (901)* and zombie buildings in a unanimously bad light. Two specifically referenced empty lots as being off-putting. Nine people mentioned *Underutilized Buildings (902)*, particularly empty storefronts in commercial buildings. All 15 respondents who mentioned refurbished and *Reused Buildings (903)* were in favor of them, there were no critics. *Other (904)* was primarily individuals protesting inappropriate utilization/usage of buildings.

Equity & Progress (1000)—Investment (1001) is controversial. Eight people were happy with recent investment however, nine thought there has not been enough and needs to be more. Seven people pointed to economic *Segregation (1002)* as a serious issue in the city while seven also cited *Gentrification (1003)* as a concern that they believed was tied to, or apparent in, the physical environment. Four people believed the city has good *Accessibility (1004)* but did not explain in what way. The one contrarian, in this case, happens to be one of only a handful of disabled people to complete the questionnaire and therefore may deserve a greater weighting. In future research more will want to be done to reach those with a variety of disabilities to better understand the impact. Three people mentioned the relative affordability and *Cost of Living (1005)* in the city. Two of these thought that things like rent, in particular, have become unaffordable,

though data[102] on affordability shows that Rochester has one of the lowest costs of living for a major metropolitan area in the country, especially when it comes to housing. Five people mentioned issues revolving around *Poverty (1006)* and homeless as things they disliked about the city. For *Other (1007)* three respondents mentioned that they did not like the public's attitudes towards progress and development, or that the type of development being undertaken is inappropriate.

Streetscape (1100)—Three people thought the city had good *Pedestrian Infrastructure (1101)* while 11 pointed out maintenance issues primarily with the *Sidewalks (1102)*. Three people said they generally liked the *Bike Infrastructure (1103)* when one said that it was bad. One person specifically targeted the lack of *Bike Lanes (1104)* in Rochester as an issue. Though people have issues with bike lanes, seven are happy with *Bike Trails (1105)* especially along the river. One person said that they wished there were more bike trails in and around the city. *Car Infrastructure (1106)* was primarily negative with a net rating of -28, though there were a few supporters. The seven supporters of car infrastructure liked the ease of access to the highway system and its general functionality as well as the number of car corridors in the city. The opposition often called out physical problems with the infrastructure such as maintenance issues as well as how car infrastructure divides neighborhoods and impedes pedestrian infrastructure. Though a few liked the *Layout of the Streets (1107)* in Rochester, 14 described them as confusing or as troublesome because of the division they caused leading to a net rating of -11. Most respondents who mentioned *Street Design (1108)* were unhappy, primarily citing the size of the streets and lack of pedestrian infrastructure, resulting in a net rating of -12. The lone person in favor liked the "wide streets"

[102] Marcia L. Turner, "Rochester Is One of the Best Places to Live in America." *U.S. News & World Report.* (U.S. News & World Report, 2019).

however this was specifically contrasted by two people who said they disliked how narrow many of the secondary and tertiary streets are. *Street Maintenance (1109)* was an overwhelmingly negative issue with all 34 taking issue primarily with the potholes as well as snow removal in the winter. One person was in favor of S*treet Parking (1110)* in the city saying it is readily available and easy to find while two people were unhappy because of issues again revolving around snow removal. As mentioned in the nature category people are generally very happy with Rochester's S*treet Trees (1111)* with only two people going out of their way to say they wish there were more. *Other (1112)* detractors had commentary on confusing signage and intersections while one person said that they were generally pleased by the design of the streetscape.

Public Transportation (1200)—Bus Infrastructure (1201) was not brought up often but was contentious when it was. Four people thought that RTS busses were perfectly adequate one referencing cleanliness and another speed and proximity to stops. However, six others saw it differently, believing that the bus system, and public transportation in general, within the city to be woefully inadequate. This displeasure with the bus system bled into commentary on the city's *Train Infrastructure (1202),* or lack thereof. However, one person was excited by the recent construction of the Louis Slaughter Train Station. Three which fell into *Other (1203)* were generally unhappy with the city's public transportation but did not give specific examples.

Security (1300)—Three people mentioned liking storefronts on city streets, a major component of *Building-Streetscape Connection (1301),* and a key factor in street security. One person thought that many buildings were too close to the street and needed to be set back further, though this would diminish that connection. No one mentioned *Building Permeability (1302),* or windows on the street, though it did come up often as things liked about the subject buildings. Building permeability also closely relates to connection to the street and allows building occupants

to monitor the street and increase safety. However, in many so-called "bad neighborhoods' windows on lower levels are often gated, boarded up, or bricked in to prevent vandalism in effect destroying the occupants' connection to the street and having the inverse effect on security. One of the largest issues identified by respondents was blighted, *Vacant Buildings (1303)*, whether commercial or residential. All who broached this topic saw them as a major problem giving it a net -25. *Vandalism and Crime (1304)* were cited as issues ten times, however it is important to note that half of the people to cite this as a problem reside in neighborhoods known for being more affluent—Highland, South Wedge, Park Avenue, etc. Furthermore, many of these respondents were also college students who have not lived in the area long. It is likely they were only responding to hearsay about crime, or news reports, rather than actual issues of this sort. Two people generally referenced feelings of unsafety in the city as *Other (1305)* issues they were concerned about relating to the built environment.

4.5.2 Subject Building Feedback

For building design, 65 variables which fit into eight broad categories were determined. These are shown in Table 4-6. Unlike the design of the city as a whole each of these responses also applies to the six case studies. While some respondents listed everything they liked and disliked about every building, some only listed things they like, while others only listed things they disliked. Many others used this as a space to make general statements which referred to all of the case studies at once, such as "I like that they are masonry," which were recorded as positive feedback under materiality for each Subject Building.

Table 4-7: Subject Building Features and Aspects

Subject Building Categories

100	**Community Design & Pattern**
101	Scale
102	Density
103	Uniformity
104	Mixed-Use
105	Connectivity
106	Car Infrastructure
107	Walkability
108	Proximity to City Center
109	Surrounding Buildings & Uses
110	Neighborhood
111	Other
200	**Building Design**
201	Size
202	Height
203	Architectural Style
204	Traditionality
205	Modernity
206	Aesthetics
207	Color
208	Craftsmanship/Details
209	Materiality
210	Fenestration
211	Building Features
212	Building Permeability
213	Building-Streetscape Connection
214	Design Uniqueness
215	Design Ubiquity
216	Congruency/Incongruency
217	Authenticity
218	Other
300	**History/Age**
301	Historical Significance
302	Old
303	New
304	Other
400	**Condition**
401	Maintenance
402	Cleanliness
403	Building Integrity/Quality
404	Other
500	**Arts & Culture**
501	Arts & Culture
502	Other
600	**Nature**
601	Outdoor Space
602	Green Space
603	Other
700	**Utilization**
701	Reuse
702	Underutilized
703	Other
800	**Equity & Progress**
801	Investment/Development
802	Gentrification
803	Segregation
804	Accessibility
805	Other

Table 4-8: Subject Building Categories and Sub-Categories - The number of times that feature was invoked as a response to the question, for which subject building, and whether it was in a positive or negative light (like/dislike). Controversy looks at whether the responses on a subject were generally in agreement or not. A "1.0" represents no controversy either due to agreement or indifference; a higher number represents increasing controversy. A color code has been included to highlight highs/ lows in each category and for each subject building. Continued on next page.

		Like							***Dislike***							***Net***							***Controversy***						
	Subject Building -->	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum
100	**Community Design & Pattern**	39	34	36	34	36	36	215	18	8	10	9	9	8	62	21	26	26	25	27	28	153	2.7	1.6	1.8	1.7	1.7	1.6	1.8
101	Scale	3	3	3	3	3	3	18	0	0	0	0	0	0	0	3	3	3	3	3	3	18	1.0	1.0	1.0	1.0	1.0	1.0	1.0
102	Density	4	4	4	4	4	4	24	1	0	0	0	0	0	1	3	4	4	4	4	4	23	1.7	1.0	1.0	1.0	1.0	1.0	1.1
103	Uniformity	6	4	6	4	5	4	29	3	2	3	3	2	2	15	3	2	3	1	3	2	14	3.0	3.0	3.0	7.0	2.3	3.0	3.1
104	Mixed-Use	6	6	6	6	6	6	36	0	0	0	0	0	0	0	6	6	6	6	6	6	36	1.0	1.0	1.0	1.0	1.0	1.0	1.0
105	Connectivity	2	2	2	2	2	2	12	1	0	1	0	1	0	3	1	2	1	2	1	2	9	3.0	1.0	3.0	1.0	3.0	1.0	1.7
106	Car Infrastructure	1	1	1	1	1	1	6	4	1	1	1	1	1	9	-3	0	0	0	0	0	-3	1.7	2.0	2.0	2.0	2.0	2.0	5.0
107	Walkability	1	1	1	1	1	2	7	1	0	0	0	0	0	1	0	1	1	1	1	2	6	2.0	1.0	1.0	1.0	1.0	1.0	1.3
108	Proximity to City Center	2	1	1	1	1	1	7	4	2	2	2	2	2	14	-2	-1	-1	-1	-1	-1	-7	3.0	3.0	3.0	3.0	3.0	3.0	3.0
109	Surrounding Buildings & Uses	8	6	6	6	7	7	40	4	3	3	3	3	3	19	4	3	3	3	4	4	21	3.0	3.0	3.0	3.0	2.5	2.5	2.8
110	Neighborhood	6	6	6	6	6	6	36	0	0	0	0	0	0	0	6	6	6	6	6	6	36	1.0	1.0	1.0	1.0	1.0	1.0	1.0
111	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	**Building Design**	112	126	106	154	119	134	751	68	36	57	49	49	41	300	44	90	49	105	70	93	451	4.1	1.8	3.3	1.9	2.4	1.9	2.3
201	Size	7	6	6	6	6	7	38	3	1	1	1	1	1	8	4	5	5	5	5	6	30	2.5	1.4	1.4	1.4	1.4	1.3	1.5
202	Height	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	0.0	0.0	0.0	1.0	0.0	1.0
203	Architectural Style	41	38	39	39	40	39	236	19	13	15	10	11	12	80	22	25	24	29	29	27	156	2.7	2.0	2.3	1.7	1.8	1.9	2.0
204	Traditionality	2	16	2	17	3	18	58	0	0	0	0	0	0	0	2	16	2	17	3	18	58	1.0	1.0	1.0	1.0	1.0	1.0	1.0
205	Modernity	2	0	2	0	2	0	6	1	0	1	0	1	0	3	1	0	1	0	1	0	3	3.0	0.0	3.0	0.0	3.0	0.0	3.0
206	Aesthetics	7	10	8	10	8	10	53	2	1	1	1	1	1	7	5	9	7	9	7	9	46	1.8	1.2	1.3	1.2	1.3	1.2	1.3
207	Color	1	0	0	30	0	0	31	0	0	0	15	0	0	15	1	0	0	15	0	0	16	1.0	0.0	0.0	3.0	0.0	0.0	2.9
208	Craftsmanship / Details	3	8	3	7	3	8	32	4	0	4	0	4	0	12	-1	8	-1	7	-1	8	20	7.0	1.0	7.0	1.0	7.0	1.0	2.2
209	Materiality	10	10	9	10	11	10	60	8	8	8	8	8	8	48	2	2	1	2	3	2	12	9.0	9.0	17.0	9.0	6.3	9.0	9.0
210	Fenestration	3	2	2	2	2	3	14	0	0	0	0	0	0	0	3	2	2	2	2	3	14	1.0	1.0	1.0	1.0	1.0	1.0	1.0
211	Building Features	2	1	1	1	6	6	17	2	0	0	0	0	3	5	0	1	1	1	6	3	12	4.0	1.0	1.0	1.0	1.0	3.0	1.8
212	Building Permeability	13	12	12	11	11	12	71	1	1	1	1	1	1	6	12	11	11	10	10	11	65	1.2	1.2	1.2	1.2	1.2	1.2	1.2
213	Building-Streetscape Connection	7	6	6	6	11	7	43	1	1	1	1	0	0	4	6	5	5	5	11	7	39	1.3	1.4	1.4	1.4	1.0	1.0	1.2
214	Design Uniqueness	7	8	8	7	7	7	44	0	0	0	0	0	0	0	7	8	8	7	7	7	44	1.0	1.0	1.0	1.0	1.0	1.0	1.0
215	Design Ubiquity	1	1	1	1	1	1	6	12	6	12	7	10	10	57	-11	-5	-11	-6	-9	-9	-51	1.2	1.4	1.2	1.3	1.2	1.2	1.2

Table 4-8 (Cont.): Subject Building Categories and Sub-Categories

		Like							*Dislike*							*Net*							*Controversy*						
	Subject Building -->	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum	**1**	**2**	**3**	**4**	**5**	**6**	Sum
216	Congruency / Incongruency	5	7	6	6	6	5	35	6	2	4	2	5	2	21	-1	5	2	4	1	3	14	11.0	1.8	5.0	2.0	11.0	2.3	4.0
217	Authenticity	1	1	1	1	1	1	6	8	2	8	2	6	2	28	-7	-1	-7	-1	-5	-1	-22	1.3	3.0	1.3	3.0	1.4	3.0	1.5
218	Other	0	0	0	0	0	0	0	1	1	1	1	1	1	6	-1	-1	-1	-1	-1	-1	-6	1.0	1.0	1.0	1.0	1.0	1.0	1.0
300	**History/Age**	10	8	7	9	9	8	51	0	0	0	0	0	0	0	10	8	7	9	9	8	51	1.0	1.0	1.0	1.0	1.0	1.0	1.0
301	Historical Significance	0	5	0	7	0	6	18	0	0	0	0	0	0	0	0	5	0	7	0	6	18	0.0	1.0	0.0	1.0	0.0	1.0	1.0
302	Old	0	3	0	2	0	2	7	0	0	0	0	0	0	0	0	3	0	2	0	2	7	0.0	1.0	0.0	1.0	0.0	1.0	1.0
303	New	10	0	7	0	9	0	26	0	0	0	0	0	0	0	10	0	7	0	9	0	26	1.0	0.0	1.0	0.0	1.0	0.0	1.0
304	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
400	**Condition**	11	12	11	11	12	12	69	3	4	4	2	3	2	18	8	8	7	9	9	10	51	1.8	2.0	2.1	1.4	1.7	1.4	1.7
401	Maintenance	4	5	4	4	4	5	26	1	3	1	1	1	1	8	3	2	3	3	3	4	18	1.7	4.0	1.7	1.7	1.7	1.5	1.9
402	Cleanliness	2	2	2	2	2	2	12	0	0	1	0	0	0	1	2	2	1	2	2	2	11	1.0	1.0	3.0	1.0	1.0	1.0	1.2
403	Building Integrity / Quality	5	5	5	5	6	5	31	2	1	2	1	2	1	9	3	4	3	4	4	4	22	2.3	1.5	2.3	1.5	2.0	1.5	1.8
404	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
500	**Arts & Culture**	1	1	1	1	1	4	9	0	0	0	0	0	0	0	1	1	1	1	1	4	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
501	Arts & Culture	1	1	1	1	1	4	9	0	0	0	0	0	0	0	1	1	1	1	1	4	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
502	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
600	**Nature**	4	4	4	4	4	6	26	2	2	2	2	2	2	12	2	2	2	2	2	4	14	3.0	3.0	3.0	3.0	3.0	2.0	2.7
601	Outdoor Space	4	4	4	4	4	5	25	1	1	1	1	1	1	6	3	3	3	3	3	4	19	1.7	1.7	1.7	1.7	1.7	1.5	1.6
602	Green Space	0	0	0	0	0	1	1	1	1	1	1	1	1	6	-1	-1	-1	-1	-1	0	-5	1.0	1.0	1.0	1.0	1.0	2.0	1.4
603	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
700	**Utilization**	0	24	1	22	0	23	70	5	2	2	2	2	2	15	-5	22	-1	20	-2	21	55	1.0	1.2	3.0	1.2	1.0	1.2	1.5
701	Reuse	0	24	1	22	0	23	70	0	0	0	0	0	0	0	0	24	1	22	0	23	70	0.0	1.0	1.0	1.0	0.0	1.0	1.0
702	Utilization / Underutilization	0	0	0	0	0	0	0	5	2	2	2	2	2	15	-5	-2	-2	-2	-2	-2	-15	1.0	1.0	1.0	1.0	1.0	1.0	1.0
703	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
800	**Equity & Progress**	12	12	10	12	10	13	69	12	10	9	10	9	10	60	0	2	1	2	1	3	9	24.0	11.0	19.0	11.0	19.0	7.7	14.3
801	Investment / Development	11	12	10	12	10	13	68	0	0	0	0	0	0	0	11	12	10	12	10	13	68	1.0	1.0	1.0	1.0	1.0	1.0	1.0
802	Gentrification	0	0	0	0	0	0	0	8	7	6	7	6	7	41	-8	-7	-6	-7	-6	-7	-41	1.0	1.0	1.0	1.0	1.0	1.0	1.0
803	Segregation	0	0	0	0	0	0	0	1	0	0	0	0	0	1	-1	0	0	0	0	0	-1	1.0	0.0	0.0	0.0	0.0	0.0	1.0
804	Acessibility	1	0	0	0	0	0	1	3	3	3	3	3	3	18	-2	-3	-3	-3	-3	-3	-17	2.0	1.0	1.0	1.0	1.0	1.0	1.1
805	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Grand Total	189	221	176	247	191	236	1260	108	62	84	74	74	65	467	81	159	92	173	117	171	793	3.7	1.8	2.8	1.9	2.3	1.8	2.2

Overall, respondents were positive on all of the Subject Buildings; however, some were seen as being far more desirable than others. The overall likeability of each subject building in any one category or subcategory can be seen by looking at its net rating, while the level of disagreement amongst respondents is reflected in the controversy score, with higher numbers being the most controversial.

Community Pattern & Design (100) was one of the most commented on and positive categories with a net +153 rating and a controversy score of 1.8. Overall, College Town had the most liked and disliked community pattern and design leading to a combined rating of 21, four points lower than the next building Hive @ 155, and seven points lower than the top scoring building—Village Gate. For this reason, College Town had the highest level of controversy with 2.7, while Edge of the Wedge and Village Gate were tied for lowest with a 1.6 in this category.

Scale (101) was not a very commented on or important issue, with three respondents saying they liked the scale of all the subject buildings, despite the scale varying between buildings. However, this can be taken in comparison to much larger scale buildings like skyscrapers of which there were none. The medium *Density (102)* of the subject buildings was liked most times it was mentioned, with the exception of one respondent who thought that College Town was too wide open. *Uniformity (103)* carried a bit of controversy with it, a 3.1 for all buildings combined. This came from approximately two thirds of respondents on the topic liking the uniformity of these subject buildings and one third disliking that uniformity. The Hive @ 155 had the lowest net rating in this category due to its lack of color uniformity with the surrounding structures, rather than a massing reason. *Mixed-Use (104)* was another non-controversial issue, though not a very important one, as only six respondents mentioned it, but all agreed that they liked the fact that all the subject buildings were mixed-use. *Connectivity (105)* was another non-important subject when it came to

these buildings as it was only mentioned a total of 15 times with a bit of controversy on whether they were actually well connected to the city, or not. While for most of the subject buildings *Car Infrastructure (106)* was a mixed non-issue, College Town received a -3 net rating on the subject as some felt that it had too much car infrastructure and that the road on which it sits is far too wide. *Walkability (107)* was another mixed issue of low importance. It was very rarely mentioned, though Village Gate received a +1-net rating compared to the other buildings and College town received a -1-net rating compared to the others. *Proximity to City Center (108)* was a topic that many chose not to mention; the few who did, gave slightly more negative feedback for these buildings not being closer to center city. College Town received the most negative feedback for this as it is the furthest away, although some respondents liked it more for that reason. *Surrounding Buildings & Uses (109)* was slightly more topical with 59 respondents, approximately two-thirds of which were content with the surrounding buildings and uses, with one-third being unhappy with them. This was consistent for all Subject Buildings. Respondents who commented on the *Neighborhood (110)* in which these buildings lay, were unanimously positive liking none more than the others.

Building Design (200) was the most frequently invoked category by respondents, with more comments—both positive and negative—than all of the other categories combined. Overall, South & Hickory Place was the least liked, while College Town was the most disliked. Furthermore, the Hive @ 155 was the most liked—specifically due to its bright colors—and Edge of the Wedge was the least disliked. Despite a great deal of controversy around its paint scheme, the Hive was one of the least controversial buildings along with the other adaptive reuse building—rating either 1.8 or 1.9 on controversy. On the other hand, the newly constructed buildings were all much more controversial, especially College Town which had a controversy rating of 4.1.

Size (201) was a generally positive category with nearly six-to-one preferring the size of these buildings over those who did not; the exception being College Town which had slightly more supporters as well as more detractors on this subject, again making it the most controversial subject building. *Height (202),* specifically, was only mentioned once and was done so in regard to the Sagamore. The respondent liked the substantial height of the building and thought that Rochester needed more tall buildings. *Architectural Style (203)* was the most commented on aspect of the subject buildings with 316 responses. While the responses for any specific building were mixed, significant differences were able to be seen. The three reused buildings were universally admired for their *Traditionality (204)* with 16 to 18 mentions a piece, and even the new buildings were given credit for their traditional styling. No respondents found the traditional feel of these buildings to be problematic. *Modernity (205)* was not often invoked but when it was there were mixed feelings. Each of the newer buildings had two respondents which appreciated their modernity and one who did not. *Aesthetics (205)* was a popular topic with a range of opinions based on the subject building. Overall, responses were generally positive. The reused buildings were found to be more aesthetically pleasing with ten admirers a piece, while South & Hickory and the Sagamore each had eight and College Town had seven. College Town also had the most detractors with two who either found it unattractive or "ugly." *Color (206)* was an issue that only affected one of the subject buildings, Hive @ 155, which features three large vertical sections of paint—grey, yellow and blue. The majority of respondents, thirty of them, found this use of color to be aesthetically pleasing, one even calling it "invigorating," while fifteen others found it either to be "overwhelming," "inappropriate," or generally unattractive. While all the subject buildings were complemented for their *Craftsmanship/Details (207),* the reused buildings were rated more favorably than the newer ones by more than two-to-one while having no detractors. Additionally,

all of the newer buildings had individuals comment that they lack historical details, leading to negative net ratings for all. *Materiality (208)* was an important issue with a great deal of controversy. While many respondents liked the use of masonry construction instead of wood, a fair number of others disliked it, particularly the abundant use of brick. The subject building with the highest net rating on materiality was the Sagamore, specifically because of its heavy masonry base, while the subject building with the lowest net rating was South & Hickory Place primarily due to its faux mansard roof. This feature was also frequently invoked in reference to authenticity. *Fenestration (209)* was a universal trait with both College Town and the Village Gate edging out the others as the most mentioned for their large windows, although some of the other subject buildings also feature similarly sized fenestration. *Building Features (210)* was a diverse category as the subject buildings have a plethora of different features. The most popular feature was the incorporation of balconies into the design which provided the Sagamore with the highest net rating of +6. The wrought iron fences and courtyard were appreciated aspects of the Village Gate, while disliked features varied. College Town had the most contentious building features with a controversy rating of 4. Its liked features include the passthrough and secured parking in the rear while the disliked aspects had to do with the size and design of the apartments located within. *Building Permeability (211)* was an overwhelmingly, though not unanimously, positive issue with College Town edging out the over subject buildings due to its large storefront windows and the inclusion of a passthrough. *Building-Streetscape Connection (212)* had a fair amount of variation based on subject building. The Sagamore was the most liked building in this subcategory because of its large storefront windows and its strong presence on the corner which separated it from the other subject buildings. Neither the Sagamore or Village Gate had any critics when it came to how the building connected or interacted with the streetscape. *Design Uniqueness (213)* was a

universally positive thing with the Edge of the Wedge and South & Hickory place edging out the others as the most appreciated for their uniqueness. *Design Ubiquity (214)* was nearly unanimously disliked by respondents. All of the Subject Buildings received criticism for being too similar to other buildings or unoriginal. The least liked for this reason were College Town and South & Hickory Place, which is notable as South & Hickory Place was also recognized for its uniqueness, though the detractors outnumbered those in favor. The least disliked subject buildings in this category were Edge of the Wedge and the Hive @ 155 with a -5 and -6 net rating, respectively. *Congruency/Incongruency (215)* was a controversial issue for almost all of the Subject Buildings, the most so being College Town and the Sagamore, each with controversy ratings of 11.0; notably, College Town had a net rating of -1 while the Sagamore received a +3. Overall, College Town was seen as not fitting in very well with its surroundings and the city as a whole, while the Edge of the Wedge was thought to be most congruent with its surroundings. All the subject buildings received negative marks for *Authenticity (216)*. While few respondents mentioned authenticity as something they liked about the buildings, most saw a lack of authenticity as an issue. This was even evident in the reused buildings which were restored in ways that some respondents found inappropriate. This is most evident with feelings on the paint job at the Hive @ 155. Of the newer buildings, College Town and South & Hickory Place led with the most negative net ratings, each receiving a -7. For South & Hickory Place, the most cited inauthentic feature was the faux mansard roof. There were a total of six *Other (217)* remarks which did not fit into a category but were all interpreted as building design issues.

Overall *History/Age (300)* was not a very important category as it was only mentioned 51 times in total; however, it is interesting to note that every time any of the subcategories were mentioned, it was in a positive light. No respondent disliked any of the buildings for being old or

new; rather, commenters often did not like historical features or modern designs, but never disliked the quality of being old or new. Overall, the newer buildings had more positive feedback about their age than the reused, with 26 positive mentions compared to the reused building's seven.

All the reused subject buildings received praise for their *Historical Significance (301)*. Hive 155 received the most positive feedback in this category with seven proponents. The reused buildings also received a small amount of positive feedback for being *Old (302)*. Despite all being the same approximate age, Edge of the Wedge received slightly more affirmation for this than the Hive @ 155 or Village Gate. The newer buildings had some variation in advocacy for being *New (303)*. Respondents most recognized and praised College Town for being new with 10 responses, while the Sagamore received nine, and South and Hickory Place received seven.

Overall *Condition (400)* came with some disagreement. *Maintenance (401)* had a fair number of responses 34 in total, 26 of which were positive. In total, the Village Gate edged out the other with a net +4 rating while edge of came in last with a net +2 rating due to three respondents expressing concern about its maintenance. *Cleanliness (402)* was a nearly universally positive issue for the subject buildings with the exception of one respondent who found the areas immediately around South and Hickory Place to be littered. *Building Integrity/Quality (403)* came up the most in this category, with 40 responses in total and moderate levels of controversy. Overall, the subject buildings were found to be well-built with the Sagamore edging out the others with positive comments because of its "strong base." However, all of the Subject Buildings did have detractors, the newer ones received twice the amount of criticism as the reused primarily because of concerns about durability over time with one respondent referring to "flimsy" modern construction.

Arts & Culture (500/501) was not a very frequently mentioned category with only a total of nine mentions which is strange as it was mentioned often in the section on community. However, one subject building did receive four times the positive feedback than the others and that was Village Gate. Village Gate, located in the aptly named Neighborhood of the Arts, is known for featuring a great deal of art on and around its premises.

Nature (600) was another infrequently brought up subject which was, again, unusual as it was one of the most popular categories when discussing the city as a whole. This might be due to the Subject Buildings poorly representing buildings which feature nature, or because they are simply being overshadowed by the cities well-known parks. *Outdoor Space (601)* was a mostly positive issue with most people expressing they were fond of outdoor seating in the summer. The Village Gate edged out the others because of its incorporation of a courtyard between buildings. All detractors were primarily commenting on the quality of the outdoor space, either it being too small, or, in the case of South and Hickory Place, too dirty. *Green Space (602)* for these buildings did not receive the most positive feedback. The Village Gate received one positive comment for the inclusion of trees in its courtyard, while the others all received negative feedback for their lack of trees. While all of these areas have street trees, they are much smaller and sparser than those found in residential neighborhoods, of which respondents were very fond.

Utilization (700) was a popular issue with a total of 85 responses. The older structures all received praise for their *Reuse (701)* of older commercial buildings; the Edge of the Wedge received slightly more than the others while the Hive @ 155 received slightly less. Oddly, one respondent mistook South and Hickory Place as a historic building which had been renovated and was fond of the quality of the restoration. *Utilization / Underutilization (702)* was only mentioned in a negative light looking at the underutilization of these spaces. Empty apartments and store

fronts were the largest culprits especially when it comes to College Town which received the most negative attention. The development was particularly criticized for its frequent turnover and the closing of Constantino's Market, the area's only grocer.

Equity & Progress (800) saw a large amount of discussion despite not being a physical feature of the subject buildings. *Investment/Development (801)* was a wholly positive topic with all responses being in favor of the investment and development of these sites. The Village Gate received the most admiration for this while South & Hickory Place and the Sagamore received the least. *Gentrification (802)* was invoked a fair number of times when it came to the subject buildings, and those who mentioned it were often very passionate about it. College Town received the most negative commentary, even though it is located on the site of a former university property and an empty parking lot, not in an existing neighborhood. It was often mentioned as being far too expensive, despite being somewhere in the middle for the cost of living metric. These impressions are most likely tied to the lower income of the respondents who live in the area, which are primarily full-time college students. The Sagamore and South and Hickory Place received the least accusations of gentrification with six mentions a piece. *Segregation (803)* was only brought up once in reference to these subject buildings and was focused at College Town. *Accessibility (804)*, specifically referring to ADA compliance and ease of access for those with disabilities, was brought up a handful of times. College Town received positive mention of being accessible on one occasion, while all of the subject buildings received negative feedback for not being accessible enough. This negative feedback should be heavily considered as it was leveled by people who identify as disabled and therefore likely have firsthand experience with accessibility issues that the general population often overlook.

CHAPTER 5: RESULTS AND CONCLUSION

> No research is ever quite complete. It is the glory of a good bit of work that it opens the way for something still better, and this repeatedly leads to its own eclipse.[103]
>
> — Doctor Mervyn H. Gordon

5.1 Suggestions and Recommendations for Adaptive Reuse Projects

From the data documented in this research it is possible to derive a general list of guidelines when developing a new commercial property—whether new or reused—in Rochester, NY. These design recommendations can be used to assist the future design concepts but should be taken with a grain of salt as this is only one study and further research should be conducted before producing a definitive list of design principles for the city of Rochester.

From the research it is clear that reusing an old building is not always the best approach. While reused buildings contain more embodied energy and are often more cost effective for the quality of the resulting product, they are not always the best option for the community in which they are located. There are many factors to consider when beginning a new project such as the culture, history, and needs of those who live in the area as well as the availability and quality of potential building stock in the immediate proximity. It is not enough to simply examine the demographics of an area and make a determination on the path to be followed. An in-depth study and engagement with the community must take place to obtain buy-in from the members.

To begin, one must consider the surrounding community and whether a building of the proposed use is appropriate for the location. From there, analysis of existing building stock must be conducted to determine if any properties with structures which meet the needs of the

[103] Mervyn Gordon, 'The Spirit of Research,” *St. Bartholomew's Hospital Journal*, June 1920, 128–9.

prospective project even exist. If potential sites with existing buildings are located, outreach to residents in the immediate community must take place to understand the significance of the existing structure, and to gain general feedback on the proposed new use as well the concept of adapting the structure. If the aforementioned structure holds cultural importance tied to a sense of place and local pride within residents of the community, it should be adapted in a way as respectful as possible to the original structure (where within financial reason and legally feasible). Even if the structure does not hold an innate connection to community pride or identity, its connection to the buildings around it and the existing streetscape should be considered. If, by chance, the structure has a negative effect on said aspects, adaptation should look to rebrand the identity of the building while retaining the financial and environmental aspects of reuse. If the costs of adaptation are extreme, or the building is found to be structurally insufficient and beyond repair, removal should take place as unused buildings are shown not to provide any social benefits, and in fact cause social harm by damaging sense of place and local pride.

Overall, for the Rochester community, whether it is best to construct a new building or adapt an existing building cannot be definitively determined. When done right, in the case of Village Gate, it seems the resulting building can have an overwhelming positive effect on the community identity and local pride, and therefore the social sustainability of the locale. Adaptive reuse tends to provide a more uniform reaction from the community while construction of a new building can produce strong feelings on either side—either for or against—as in the case of College Town.

In either case, whether building a new building or adapting an existing one, it is not only important to consider the actual design of the building but also the design of the whole site and its effect on the surrounding community. From the community portion of the survey a fair amount of

information was provided by residents on aspects which they like and dislike about the community as well as things they would want in future developments.

These respondents were most outspoken about the Streetscape and Community Design & Pattern. All developers must consider how a project will affect each of these areas. If the project helps to bring important services closer to residents, or places residents closer to desired services, it is likely to be embraced as this was something survey respondents often relished when they had and desired what they did not. Additionally, walkability is important. Projects located in walkable areas, or help to make an area more walkable will likely produce positive social outcomes.

Furthermore, respondents emphasized the importance of the streetscape, not just the individual building. How the building interfaces with and affects the streetscape should be carefully considered. This includes the number of, size, and location of curb cuts as well as features like drive through windows which increase vehicular traffic and decrease pedestrian traffic. From the questionnaire it is clear that projects which bring more traffic and car infrastructure are more liable to hurt community identity and less likely to inspire local pride, while those which result in an improvement in the pedestrian infrastructure will undoubtedly have the opposite effect. Additionally, while any project will cause disruption, the sheer amount of materials required when constructing a new structure can cause significant damage to roadways and other infrastructure. Survey respondents revealed great displeasure with the condition of public infrastructure, so maintenance issues arising during the project should be closely monitored. As expected, cleanliness and maintenance issues detract from community identity and hurt local pride.

Another important consideration is a project's effect on local greenery. A new project which is built on a former greenfield, or open space, may generate resentment as nature and public spaces were shown to be highly sought after in the survey. On the other hand, any project which

comes with the addition of greenspace, especially publicly accessible greenspace, is far more likely to be accepted.

Based on the findings of the study on physical aspects and features of the subject buildings, there are many aspects which apply to both new and existing buildings that produced positive public sentiment within the Rochester community. Generally, new or renovated buildings are appreciated for their condition, maintenance, and utilization. However, choosing the right location, site, and building usage and design are all critically important. The location within the city and neighborhood which a building was located in played a major role in respondents' attitudes. This ties back to knowing the location which you plan to build in and if there is a fit between the proposed use and the locale. Additionally, consideration must be given not only to how the new building fits with its neighborhood, but also how it can contribute to this neighborhood. All of the Subject Buildings were rated positively as much for the neighborhoods in which they were located as for the building itself. This may be due to these neighborhoods being further along in their redevelopment, or could be correlated with other aspects of these neighborhoods such as proximity of services and perceived safety of the area. While the neighborhoods of the Subject Buildings are great areas to build or adapt in, it is important to try to advocate for positive development throughout the city.

Architecture style and design was the most important aspect of any building; good design in general was appreciated, though the definition of what constitutes "good" design of course varies from one person to the next. Generally, more respondents expressed they were fond of traditionality, whether in a new or existing building, than modernity. Materiality is also an important aspect of design; while many expressed that they preferred masonry construction over wood, the use of brick in particular was a controversial topic, with many responding that the city

has an overabundance of brick already. Building permeability through the use of large windows especially storefront windows at the ground level was highly sought after. It is clear that unique designs are sought over ubiquitous, repetitive ones. Whether a building is old or new, it is important not to fake historic features; it was clear that respondents do not like faux-historical elements such as the pseudo-mansard roof on South and Hickory Place.

When it comes to how a design fits into the surrounding community pattern and design, appropriate scale and uniformity with surrounding buildings is important. Rochester's current level of density was also appreciated and should be maintained where possible. Skyscrapers in Rochester are rare and confined to a specific section of the city; people would not like to see unproportionally large buildings being constructed in other neighborhoods. Commercial and residential mixed-use construction has been shown to be beneficial for communities and was highly desired by respondents.

Respondents unanimously approved of investment and development, but also indicated that any such development must be undertaken in a way in which it is affordable and done so with the existing community in mind. The most net negative response on all of the case studies was that they contributed to gentrification and economic segregation.

When choosing a building to adapt, it is most important to find one which fits the needs of the desired project's end usage. Where possible, developers should look for existing buildings which exemplify the desired features previously described. Specific examples include historical details and craftsmanship, as these are highly desired when original but not when added later. Other important inherent features include large windows, specifically storefront, and the use of original building material.

When adapting a building it is important to be as true as possible to the original building as well as the new usage. This is easiest when an appropriate building has been chosen for the project. As mentioned previously, it is seen as in poor taste to fake traditional features and detailing, so it is best to work with the existing or go without. Additionally, it is likely best to avoid using bright, non-traditional colors on historic buildings. While such color schemes were positively received by some respondents, they were highly contentious, and disliked by many others.

To summarize what must be chiefly considered in determining new construction:

- Reduce car infrastructure
- Increase and support pedestrian infrastructure
- Preserve appropriate scale compare to surroundings
- Maintain building and property
- Emphasize original features and aspects
- Don’t fake historical details
- Avoid use of bright, not-traditional colors
- Make as accessible and equitable as possible, even beyond local codes and laws

5.2 Discussion/Conclusions

The adaptive reuse of buildings is a global topic of utmost importance. The construction industry has a significant impact on the environment of the entire planet. From the perspective of sustainable development, adaptive reuse of existing structures has the potential for substantial reduction in greenhouse gases and pollution produced during construction. Adapted buildings are not only more environmentally friendly, they often cost less and produce a greater return on investment. It is for these reasons that Langston believes “adaptive reuse is the future of

the construction industry."[104] This study has shown in addition to these benefits, adaptive reuse buildings also have a meaningful impact on the social sustainability of the communities they are located in.

Based on the foregoing, the hypothesis presented at the beginning of the paper is partially supported, and the following results can be obtained: (1) a community identity/sense of place is an essential aspect of "placemaking," (2) local pride is a necessary component of creating a "sense of community," (3) both of these factors work together to create a more socially sustainable community.

While some might seek to average the scores of the reused and new in order to elevate the reused, that approach does not provide sound analytical results. With the exception of Subject Building 6, Village Gate Square, all of the buildings were rated similarly but positively in that they all represent progress and renewal. A new building or an adapted building are both significant improvements over an empty lot or an unused structure. Yes, Subject Building 1, College Town, is more controversial but long-term attitudes may change if the citizenry become accustomed to and, potentially, embrace it. Even the Eiffel Tower was initially despised, and many sought its removal for decades after the 1889 World's Fair.

The survey responses definitely showed evidence for a divided community or at least the presence of multiple communities co-inhabiting the same space. One more affluent, educated and generally whiter than the other, though none of these factors by themselves distinguished the two communities. The division line appears to instead be drawn along socioeconomic status which is a derived agglomeration of these other factors combined. It would be interesting to see how these

[104] Langston, 11.

different groups of people, or communities, fit within the city as a whole and specifically where they are located.

Of particular significance is an examination of why Village Gate Square rates so well, and an attempt to understand the implications for the surrounding area. A large part of the success of the building in the minds of people today may have to do with its original adaptation date being much earlier than the other buildings (1981). This adaptive reuse of an old, unused factory in what was a "bad" neighborhood spurred the adaptation of other adjacent buildings. Development of the immediate area leading to adaptation and renovation of adjacent buildings, and the erection of new structures on nearby plots of land.

Cities are complex living organisms. Residents' circumstances change day-to-day, and no building exists on its own. They are all part of a shared urban fabric made up of buildings of various ages and uses, all existing together, and reacting to one another. When working to renew and revive Rust Belt cities during this contemporary period of reurbanization, one must consider all options, recognizing that sometimes adapting an old, unused building may be the better approach, while at other times constructing a new building might be the best option for promoting social sustainability. It remains important, though, whether with new or adaptative construction, to follow the principles of good design and empower the people of the community to provide input. The eight findings of this research may provide the city of Rochester, NY, with meaningful considerations that will allow for positive constructive changes through which community residents can benefit both economically and socially.

5.3 Suggestions for Future Research

All research comes with areas which can be improved, subjects which can be built upon, and shortcomings which can be remedied. The research in this paper is no exception. It is the

nature of a researcher to continually ask questions and perpetually seek deeper understanding. Suggestions for future research include expanding on this study, going back to address limitations and flaws of this research, applying this research to a new context, or adjusting the focus of this research.

The first way to expand this research should be to survey more members of the community. The original study had a sample size of 200, or about 0.1%, of the population. This should be expanded to an N of 1000, or more, to reduce margin of error. This expansion should also focus on addressing limitations of the initial study by reaching respondents which are more representative of the city's population as a whole. Though this research strived to find a diverse group of respondents, the final demographics are still wealthier, more educated, and include less people of color than Rochester's demographics.

Another expansion of this research should include adding additional subject buildings. This study focused on six Subject Buildings, three built within the last 15 years, and three built between 1920 and 1940 but adapted in the past 15 years. More examples of similar buildings could be used to better understand how individual differences in the buildings affect respondents' perception of them. On the other hand, other typologies of buildings, or structures erected at different periods of time, could be selected to recontextualize the results from the first study.

Another possibility is to examine other factors which influence the social sustainability of communities, such as those proposed by Bramley et al. but not included focused on in this study: (1) interaction and social networks, (2) participation, (3) stability, and (4) security (crime).[105] A reexamination of the literature could produce additional bodies of work in which other researchers

[105] Bramley et al. "What Is Sustainability and How Do Existing Urban Forms Perform in Nurturing It?" 5.

have identified further factors which influence social sustainability. Furthermore, a comparison of responses from a large number of individuals may result in the identification of new aspects which influence community social sustainability and wellbeing.

Lastly, this study could be expanded beyond Rochester to other Rust Belt cities, or to non-Rust Belt cities. A comparative study across cities to understand factors which remain constant and those which vary by locale, especially when compared to cities located outside of the United States, may further inform and improve constructive practices that will provide both economic and social benefit to city residents.

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Appendix A: IRB Certificate

CITI PROGRAM

Completion Date 08-Nov-2017
Expiration Date 07-Nov-2020
Record ID 25094344

This is to certify that:

Ian Gauger

Has completed the following CITI Program course:

Students conducting no more than minimal risk research (Curriculum Group)
Students - Class projects (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Rochester Institute of Technology

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w96f817d0-7fce-40b0-ab9b-eaae97338760-25094344

Appendix B: Questionnaire

Questionnaire for ARCH 790 - Thesis Studio

Adaptive Reuse as a Means for Socially Sustainable (Re)Development: How Reuse of Existing Buildings Can Help to Establish Community Identity and Foster Local Pride

This study is researching the impact of reusing existing buildings on the social fabric of the surrounding community, specifically as it relates to community identity and local pride. The goal is to better understand how buildings affect the surrounding community, so that future development can occur in a way which better support the lives of people which live in that community. If you decide to participate you will be asked to complete a short, anonymous questionnaire which will take about 5 minutes. This study involves no foreseeable risk for participants. There are also no foreseeable personal benefits from participating in this study, however others may benefit in the future from the information found by this study. To protect the confidentiality of personal information collected today, no information that could be used to identify you will be collected. Data collected will only be used by the researcher and the researching institution. Participation in this study is voluntary. You have the right not to participate at all or to leave the study at any time. Deciding not to participate or choosing to leave the study will not result in any penalty and it will not harm your relationship with the researcher or researching institution. Email Ian Gauger at ieg4449@rit.edu if you have questions or concerns relating to the study. Contact Heather Foti, Associate Director of the HSRO at (585) 475-7673 or hmfsrs@rit.edu if you have any questions or concerns about your rights as a research participant.

Researcher - Ian Gauger
Thesis Advisor - Jules Chiavaroli
Researching Institution - Rochester Institute of Technology

R·I·T ARCHITECTURE

Section 1 - Community

What neighborhood do you live in? _____

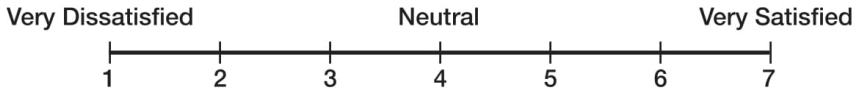
Residence Status?

○ Own ○ Rent ○ Live with Family/Friends ○ Other

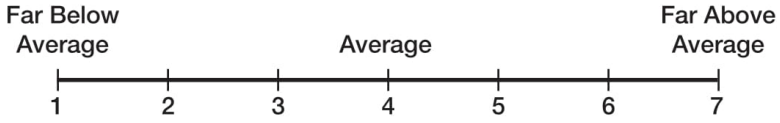
How long have you lived in the city of Rochester?

○ Less than a year
○ 1 to 5 years
○ 5 to 10 years
○ More than 10 years

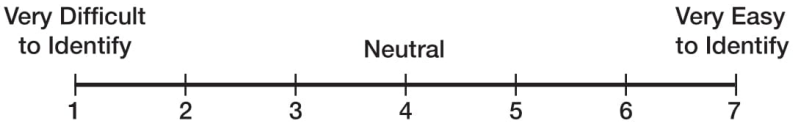
How satisfied are you with the City of Rochester?



Overall, how do you think Rochester compares to other cities of similar size?



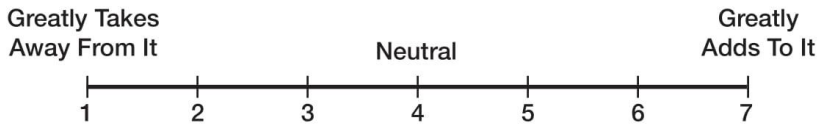
How identifiable is Rochester by its buildings?



Which are some physical aspects of your community that you like?

What are some physical aspects of your community that you dislike?

Section 2 - Select Buildings



Using the numbers 1-7, based on the scale above, how do each of these case studies affect your pride in your community? *(Write "U" if you are unfamiliar with the building)*

Case Study 1 _____ Case Study 2 _____

Case Study 3 _____ Case Study 4 _____

Case Study 5 _____ Case Study 6 _____

Using the numbers 1-7, based on the scale above, how do each of these case studies affect your community's identity? *(Write "U" if you are unfamiliar with the building)*

Case Study 1 _____ Case Study 2 _____

Case Study 3 _____ Case Study 4 _____

Case Study 5 _____ Case Study 6 _____

Which are some physical aspects of these buildings that you like?

What are some physical aspects of these building that you dislike?

Section 3 - Demographic Information

Age:

○ 18-29 ○ 30-49 ○ 50-64 ○ 65+

Gender:

○ Male ○ Female ○ Other _____

○ Prefer not to identify

Ethnicity: *(Check all that apply)*

○ African American or African Origin
○ Asian/Pacific Islander
○ Hispanic/Latino
○ Middle Eastern
○ Native American
○ White
○ Other _____

Highest Level of Education:

○ High School or Equivalent
○ Trade/Technical/Vocational Training
○ College
○ Graduate School
○ Other _____

Employment: *(Check all that apply)*

○ Student
○ Employed
○ Unemployed
○ Self-Employed
○ Retired
○ Disabled
○ Other _____

Annual Household Earnings:

○ Less than $11,500
○ $11,500-$23,600
○ $23,600-$39,700
○ $39,700-$66,500
○ More than $66,500

Case Studies

1 - College Town

2 - Edge of the Wedge

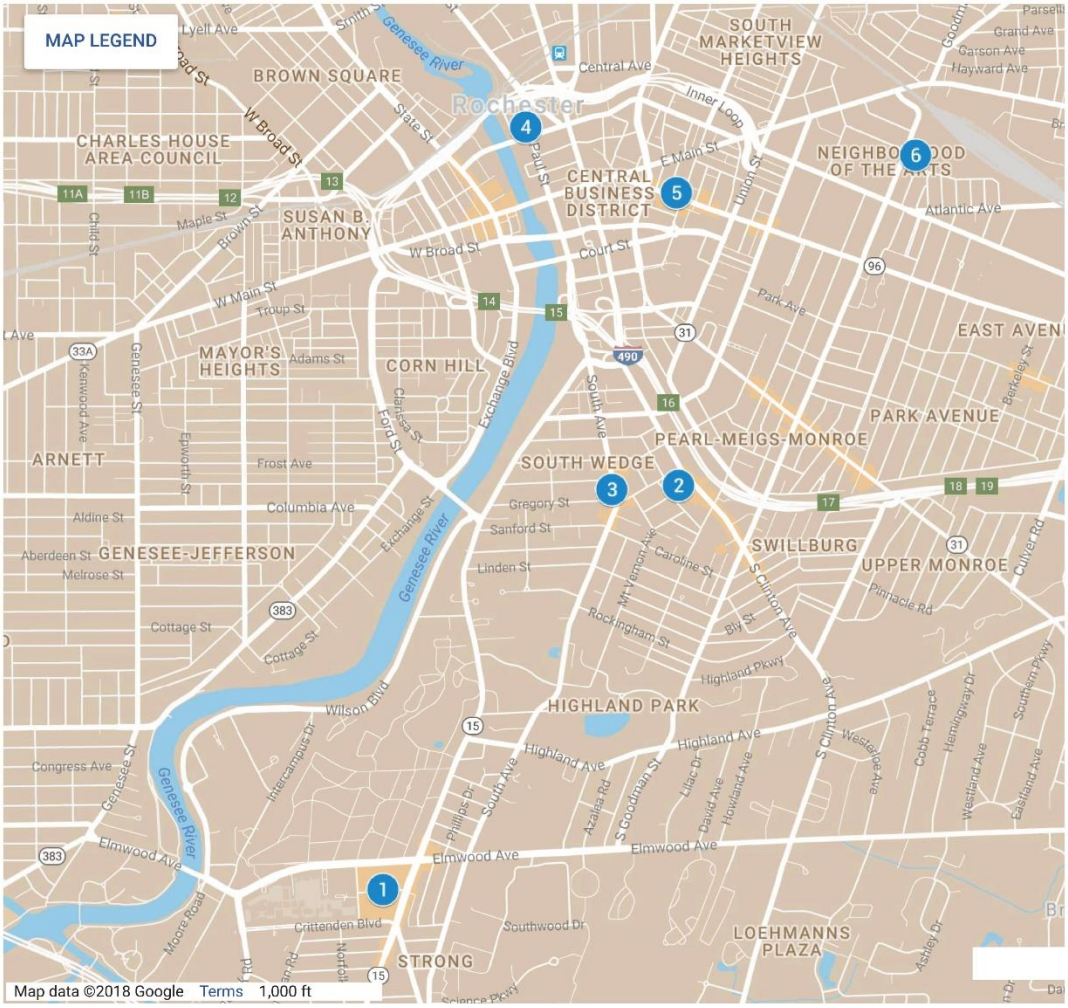
3 - South & Hickory Place

4 - Hive 155

5 - The Sagamore on East

6 - Village Gate Square

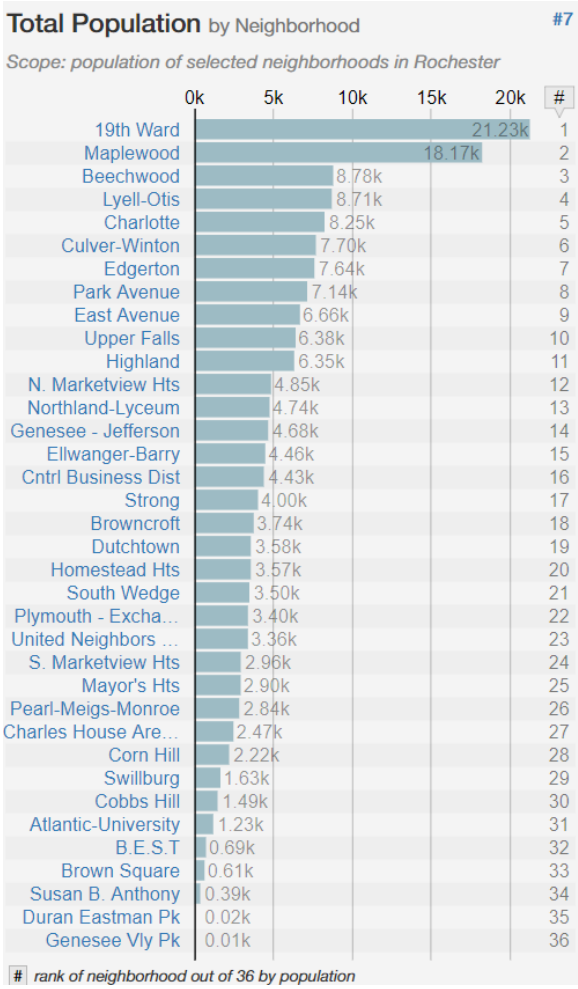
Case Study Map

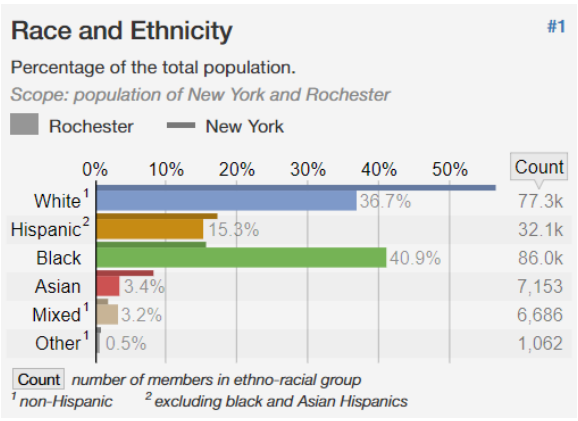


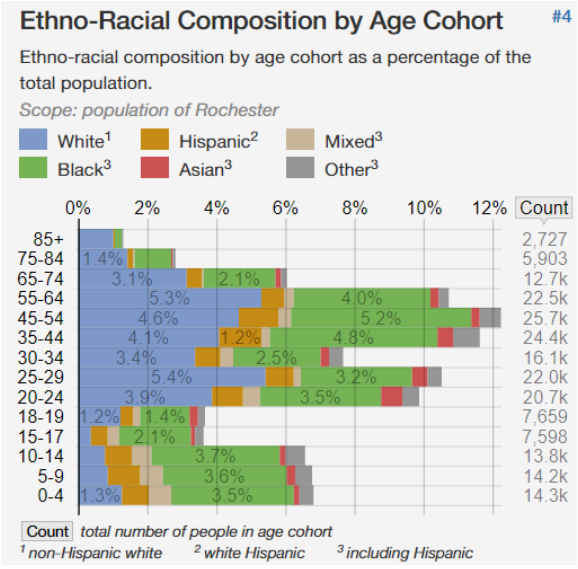

Rochester
Neighborhood
Map
Charlotte
Maplewood
Lyell-Otis
Edgerton
14621
Northland -
Lyceum
Upper Falls
Marketview
Heights
Homestead
Heights
Beachwood
Lincoln Park
Dutch-
Town
JOSANA
Brown
Square
High
Falls
Bull's
Head
Susan B.
Anthony
Center
City
Mayor's
Heights
Corn Hill
NOTA
EMMA
North Winton
Village
19th Ward
Genesee
Jefferson
PLEX
South
Wedge
Monroe
Village
Park Ave
Browncroft
Swillburg
Upper
Monroe
Cobbs Hill
Highland Park
Upper
Mt. Hope

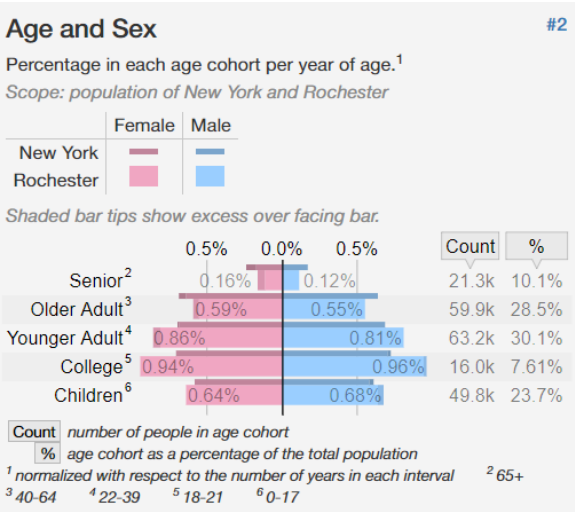
Appendix C: Rochester Demographic Information

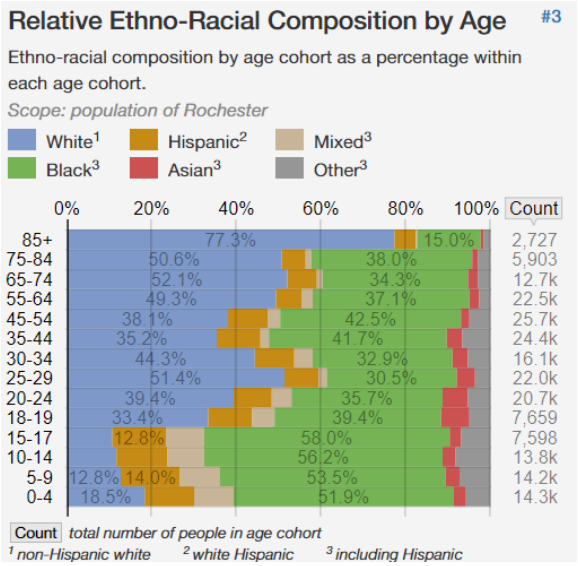
Source: Statistical Atlas (statisticalatlas.com)

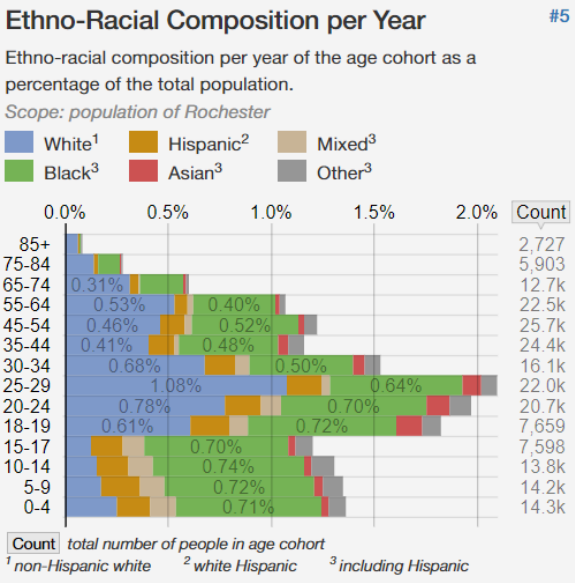


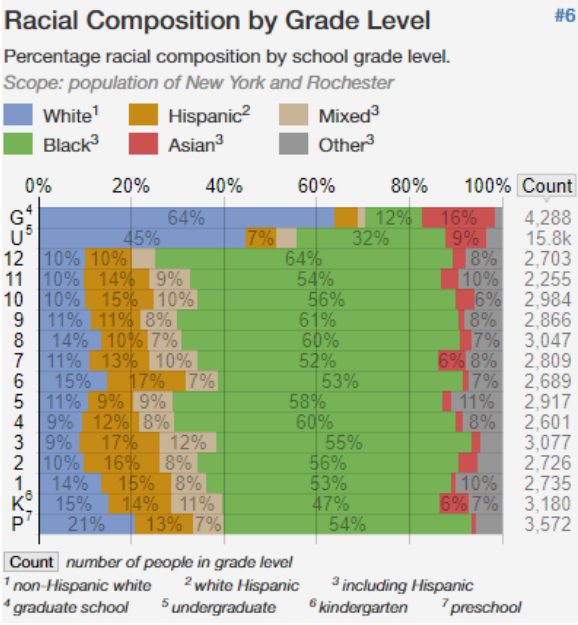


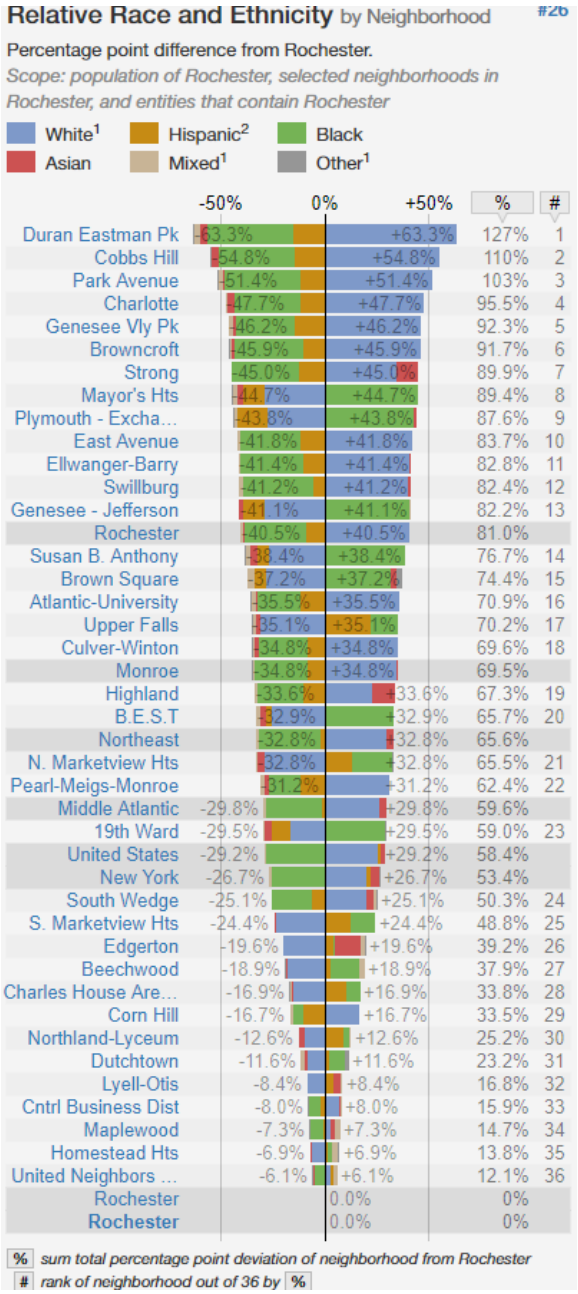







Ethno-Racial Composition per Year
#5
Ethno-racial composition per year of the age cohort as a percentage of the total population.
Scope: population of Rochester
White[1] Hispanic[2] Mixed[3]
Black[3] Asian[3] Other[3]
0.0% 0.5% 1.0% 1.5% 2.0% Count
85+ 2,727
75-84 5,903
65-74 0.31% 12.7k
55-64 0.53% 0.40% 22.5k
45-54 0.46% 0.52% 25.7k
35-44 0.41% 0.48% 24.4k
30-34 0.68% 0.50% 16.1k
25-29 1.08% 0.64% 22.0k
20-24 0.78% 0.70% 20.7k
18-19 0.61% 0.72% 7,659
15-17 0.70% 7,598
10-14 0.74% 13.8k
5-9 0.72% 14.2k
0-4 0.71% 14.3k
Count total number of people in age cohort
[1] non-Hispanic white [2] white Hispanic [3] including Hispanic


Racial Composition by Grade Level
#6
Percentage racial composition by school grade level.
Scope: population of New York and Rochester
White[1] Hispanic[2] Mixed[3]
Black[3] Asian[3] Other[3]
0% 20% 40% 60% 80% 100% Count
G[4] 64% 12% 16% 4,288
U[5] 45% 7% 32% 9% 15.8k
12 10% 10% 64% 8% 2,703
11 10% 14% 9% 54% 10% 2,255
10 10% 15% 10% 56% 6% 2,984
9 11% 11% 8% 61% 8% 2,866
8 14% 10% 7% 60% 7% 3,047
7 11% 13% 10% 52% 6% 8% 2,809
6 15% 17% 7% 53% 7% 2,689
5 11% 9% 9% 58% 11% 2,917
4 9% 12% 8% 60% 8% 2,601
3 9% 17% 12% 55% 3,077
2 10% 16% 8% 56% 2,726
1 14% 15% 8% 53% 10% 2,735
K[6] 15% 14% 11% 47% 6% 7% 3,180
P[7] 21% 13% 7% 54% 3,572
Count number of people in grade level
[1] non-Hispanic white [2] white Hispanic [3] including Hispanic
[4] graduate school [5] undergraduate [6] kindergarten [7] preschool


Relative Race and Ethnicity by Neighborhood
#26
Percentage point difference from Rochester.
Scope: population of Rochester, selected neighborhoods in Rochester, and entities that contain Rochester
White[1] Hispanic[2] Black
Asian Mixed[1] Other[1]
-50% 0% +50% % #
Duran Eastman Pk -63.3% +63.3% 127% 1
Cobbs Hill -54.8% +54.8% 110% 2
Park Avenue -51.4% +51.4% 103% 3
Charlotte -47.7% +47.7% 95.5% 4
Genesee Vly Pk -46.2% +46.2% 92.3% 5
Browncroft -45.9% +45.9% 91.7% 6
Strong -45.0% +45.0% 89.9% 7
Mayor's Hts -44.7% +44.7% 89.4% 8
Plymouth - Excha... -43.8% +43.8% 87.6% 9
East Avenue -41.8% +41.8% 83.7% 10
Ellwanger-Barry -41.4% +41.4% 82.8% 11
Swillburg -41.2% +41.2% 82.4% 12
Genesee - Jefferson -41.1% +41.1% 82.2% 13
Rochester -40.5% +40.5% 81.0%
Susan B. Anthony -38.4% +38.4% 76.7% 14
Brown Square -37.2% +37.2% 74.4% 15
Atlantic-University -35.5% +35.5% 70.9% 16
Upper Falls -35.1% +35.1% 70.2% 17
Culver-Winton -34.8% +34.8% 69.6% 18
Monroe -34.8% +34.8% 69.5%
Highland -33.6% +33.6% 67.3% 19
B.E.S.T -32.9% +32.9% 65.7% 20
Northeast -32.8% +32.8% 65.6%
N. Marketview Hts -32.8% +32.8% 65.5% 21
Pearl-Meigs-Monroe -31.2% +31.2% 62.4% 22
Middle Atlantic -29.8% +29.8% 59.6%
19th Ward -29.5% +29.5% 59.0% 23
United States -29.2% +29.2% 58.4%
New York -26.7% +26.7% 53.4%
South Wedge -25.1% +25.1% 50.3% 24
S. Marketview Hts -24.4% +24.4% 48.8% 25
Edgerton -19.6% +19.6% 39.2% 26
Beechwood -18.9% +18.9% 37.9% 27
Charles House Are... -16.9% +16.9% 33.8% 28
Corn Hill -16.7% +16.7% 33.5% 29
Northland-Lyceum -12.6% +12.6% 25.2% 30
Dutchtown -11.6% +11.6% 23.2% 31
Lyell-Otis -8.4% +8.4% 16.8% 32
Cntrl Business Dist -8.0% +8.0% 15.9% 33
Maplewood -7.3% +7.3% 14.7% 34
Homestead Hts -6.9% +6.9% 13.8% 35
United Neighbors ... -6.1% +6.1% 12.1% 36
Rochester 0.0% 0%
Rochester 0.0% 0%
% sum total percentage point deviation of neighborhood from Rochester
# rank of neighborhood out of 36 by %

Median Household Income by Neighborhood #20

Scope: households in Rochester, selected neighborhoods in Rochester, and entities that contain Rochester

	$0k $20k $40k $60k $80k	%	#
Cobbs Hill	$84.3k	+166%	1
Northeast	$62.3k	+96.7%	
Middle Atlantic	$61.0k	+92.6%	
New York	$60.7k	+91.7%	
Park Avenue	$59.8k	+88.7%	2
Genesee Vly Pk	$58.8k	+85.4%	3
Browncroft	$58.0k	+83.1%	4
United States	$55.3k	+74.6%	
Monroe	$53.6k	+69.1%	
Rochester	$53.5k	+68.8%	
Ellwanger-Barry	$50.6k	+59.6%	5
Homestead Hts	$49.6k	+56.6%	6
Culver-Winton	$49.0k	+54.7%	7
Swillburg	$48.9k	+54.4%	8
Strong	$48.6k	+53.4%	9
East Avenue	$44.2k	+39.5%	10
Corn Hill	$43.3k	+36.6%	11
Atlantic-University	$38.3k	+20.9%	12
Cntrl Business Dist	$37.1k	+17.0%	13
Charlotte	$36.4k	+14.8%	14
19th Ward	$36.2k	+14.4%	15
Pearl-Meigs-Monroe	$35.6k	+12.3%	16
Northland-Lyceum	$35.3k	+11.4%	17
Maplewood	$34.4k	+8.61%	18
Rochester	$31.7k	0%	
Rochester	$31.7k	0%	
United Neighbors ...	$30.9k	-2.50%	19
South Wedge	$30.8k	-2.66%	20
Lyell-Otis	$29.8k	-5.96%	21
Beechwood	$27.6k	-13.0%	22
Highland	$27.2k	-14.2%	23
Genesee - Jefferson	$23.3k	-26.4%	24
Brown Square	$22.8k	-28.0%	25
N. Marketview Hts	$22.5k	-29.1%	26
Dutchtown	$20.9k	-33.9%	27
Susan B. Anthony	$19.9k	-37.1%	28
S. Marketview Hts	$19.8k	-37.6%	29
Mayor's Hts	$19.6k	-38.2%	30
Charles House Are...	$19.1k	-39.6%	31
B.E.S.T	$17.9k	-43.5%	32
Plymouth - Excha...	$17.7k	-44.1%	33
Upper Falls	$17.4k	-45.1%	34
Edgerton	$17.2k	-45.8%	35

% *percentage above or below median household income of Rochester*
\# *rank of neighborhood out of 35 by median household income*

Median Household Income by Race #8

Scope: households in New York and Rochester

Rochester — New York

	$0k $20k $40k $60k	%
Non-Hispanic White	$42.0k	133%
All White[1]	$39.0k	123%
All[2]	$31.7k	100%
Asian	$31.0k	98%
Mixed	$27.8k	88%
Black	$25.1k	79%
Other	$23.1k	73%
Hispanic	$22.8k	72%
Hawaiian[3]	$22.2k	70%
American Indian[4]	$21.6k	68%

% *as percentage of median household income of the entire population*
[1] *including Hispanic whites* [2] *entire population*
[3] *and other Pacific Islander* [4] *American Indian and Alaska Native*

Household Income Percentiles #1

Scope: households in New York and Rochester

Rochester — New York

	$0k $50k $100k $150k $200k	%
95th Percentile	$124.4k	392%
80th Percentile	$67.4k	213%
60th Percentile	$40.4k	127%
Median	$31.7k	100%
40th Percentile	$24.0k	75.9%
20th Percentile	$11.8k	37.1%

% *as percentage of median household income*

Employment Status #1

Percentage of population aged 25 to 64 years old.

Scope: population of New York and Rochester

Rochester — New York

	0% 10% 20% 30% 40% 50%	Count
Armed Forces	0.0%	22
Employed[1]	53.9%	89.1k
Unemployed	8.1%	13.3k
Other[2]	38.0%	62.9k

Count *population with given employment status*
[1] *excluding armed forces* [2] *not in the labor force*

Median Earnings by Educational Attainment #10

Among population 25 years old and over with earnings.

Scope: population of New York and Rochester

Rochester — New York

	$0k $20k $40k $60k	Count	%
Graduate Degree[1]	$50.8k	12.7k	9.63%
Bachelor's Degree	$39.6k	18.5k	14.0%
Some College	$28.5k	38.3k	29.0%
H.S. Diploma[2]	$22.9k	37.1k	28.1%
No H.S. Diploma[2]	$17.2k	25.4k	19.2%
Total	$29.0k	132k	100%

Count *number of people with given highest level of educational attainment*
% *percentage of people with given highest level of educational attainment*
[1] *or professional degree* [2] *H.S. = High School*

Educational Attainment #1

Highest level of education among people aged 25 years and older.

Scope: population of New York and Rochester

Rochester — New York

	0% 10% 20% 30% 40%	Count
Higher Degree[1]	33.8%	44.6k
H.S. Diploma[2]	47.0%	62.1k
No H.S. Diploma[2]	19.2%	25.4k

Count *number of people in category*
[1] *Post-Secondary Degree* [2] *H.S. = High School*

Detailed Educational Attainment #3

Highest level of education among people aged 25 years and older.

Scope: population of New York and Rochester

Rochester — New York

	0% 5% 10% 15% 20% 25%	Count
Doctorate[1]	1.3%	1,668
Professional[1]	1.5%	1,924
Master's[1]	6.9%	9,122
Bachelor's[1]	14.0%	18.5k
Associate's[1]	10.1%	13.3k
Some College	18.9%	25.0k
High School[2]	28.1%	37.1k
Some H.S.[3]	13.1%	17.4k
Less than H.S.[3]	3.9%	5,189
None	2.2%	2,863

Lacking High School Diploma By Race #14

Percent of racial or ethnic group lacking a high school diploma (or equivalent).

Scope: population of New York and Rochester

	Female	Male
New York		
Rochester		

Shaded bar tips show excess over facing bar.

	20% 0% 20%	M	F
White[1]	9.4% 10.1%	3,090	2,747
Black	22.2% 25.9%	5,527	6,006
Asian	36.3% 35.5%	700	718
Hispanic[2]	32.6% 39.2%	3,379	3,335
Other[1]	26.1% 32.0%	1,288	1,320

M *number of males in category*
F *number of females in category*

School Enrollment Sex Ratio #2

Percentage more males or females enrolled in school among people aged 3 and older.

Scope: population of New York and Rochester

	More Females	More Males
New York		
Rochester		

	40% 20% 0% 20% 40%	F	M
Graduate School	6.3%	2,209	2,079
Undergraduate	40.2%	9,239	6,592
High School	17.9%	4,960	5,848
Grades 5-8	7.4%	5,936	5,526
Grades 1-4	18.8%	5,091	6,048
Kindergarten	0.3%	1,588	1,592
Preschool	24.8%	1,589	1,983

F *number of females in category*
M *number of males in category*

School Enrollment #1

Percentage of people aged 3 and older by grade level.

Scope: population of New York and Rochester

Rochester — New York

	0% 1% 2% 3% 4% 5% 6% 7%	Count
Graduate School	2.12%	4,288
Undergraduate	7.83%	15.8k
High School	5.35%	10.8k
Grades 5-8	5.67%	11.5k
Grades 1-4	5.51%	11.1k
Kindergarten	1.57%	3,180
Preschool	1.77%	3,572

Count *number of people in category*

No H.S. Diploma by Neighborhood #42

Percent of population 25 years of age and older without a high school diploma (or equivalent).

Scope: population of Rochester, selected neighborhoods in Rochester, and entities that contain Rochester

	0% 10% 20% 30% 40%	Count	#
Brown Square	43.6%	135	1
Upper Falls	36.0%	1,203	2
Dutchtown	33.5%	702	3
S. Marketview Hts	33.5%	499	4
Plymouth - Excha...	31.7%	630	5
Charles House Are...	31.1%	412	6
Genesee - Jefferson	29.4%	794	7
B.E.S.T	28.8%	113	8
Edgerton	27.4%	1,186	9
N. Marketview Hts	27.1%	663	10
Lyell-Otis	26.2%	1,348	11
Beechwood	25.1%	1,155	12
Susan B. Anthony	24.8%	61	13
United Neighbors ...	22.1%	480	14
Mayor's Hts	21.7%	355	15
Northland-Lyceum	20.6%	650	16
Rochester	19.2%	25.4k	
Rochester	19.2%	25.4k	
Maplewood	19.1%	2,250	17
Cntrl Business Dist	18.2%	588	18
Homestead Hts	16.5%	326	19
19th Ward	16.0%	2,090	20
New York	14.1%	1.90M	
United States	13.0%	27.8M	
South Wedge	12.9%	331	21
Ellwanger-Barry	12.7%	460	22
Middle Atlantic	12.3%	3.51M	
Northeast	11.6%	4.49M	
Atlantic-University	10.7%	97	23
Corn Hill	10.2%	156	24
Swillburg	9.9%	124	25
Rochester	9.8%	72.0k	
Monroe	9.6%	48.8k	
Charlotte	9.5%	645	26
East Avenue	7.7%	386	27
Strong	7.6%	85	28
Browncroft	7.5%	210	29
Pearl-Meigs-Monroe	6.6%	131	30
Highland	6.6%	237	31
Culver-Winton	6.6%	394	32
Park Avenue	4.9%	264	33
Genesee Vly Pk	4.1%	0	34
Cobbs Hill	2.8%	33	35
Duran Eastman Pk	0.0%	0	36

Count *number of people in category*
rank of neighborhood out of 36 by percentage of population 25 years

Bachelor's Degrees by Neighborhood #43

Percent of population 25 years of age and older with a bachelor's degree or higher..

Scope: population of Rochester, selected neighborhoods in Rochester, and entities that contain Rochester

	0% 20% 40% 60%	Count	#
Cobbs Hill	77.2%	926	1
Park Avenue	59.9%	3,246	2
Highland	59.5%	2,146	3
East Avenue	55.5%	2,775	4
Atlantic-University	51.7%	467	5
Strong	51.2%	570	6
Swillburg	50.3%	632	7
Corn Hill	41.4%	637	8
Ellwanger-Barry	40.8%	1,480	9
Browncroft	40.3%	1,132	10
Culver-Winton	39.9%	2,397	11
Pearl-Meigs-Monroe	38.7%	762	12
Monroe	36.7%	186k	
Northeast	34.8%	13.4M	
South Wedge	34.8%	891	13
New York	34.7%	4.69M	
Middle Atlantic	33.6%	9.58M	
Genesee Vly Pk	33.3%	2	14
Rochester	33.0%	243k	
United States	30.3%	64.8M	
Homestead Hts	26.9%	533	15
Cntrl Business Dist	26.0%	841	16
Charlotte	25.2%	1,706	17
Rochester	23.7%	31.2k	
Rochester	23.7%	31.2k	
Mayor's Hts	17.3%	282	18
Maplewood	16.5%	1,944	19
19th Ward	15.9%	2,079	20
Susan B. Anthony	15.5%	38	21
Brown Square	15.0%	46	22
Northland-Lyceum	14.6%	462	23
United Neighbors ...	13.6%	296	24
Beechwood	10.1%	467	25
Lyell-Otis	9.3%	478	26
Upper Falls	9.0%	300	27
Charles House Are...	8.8%	116	28
Edgerton	8.6%	373	29
B.E.S.T	8.2%	32	30
Genesee - Jefferson	7.0%	190	31
N. Marketview Hts	6.7%	165	32
S. Marketview Hts	6.1%	90	33
Plymouth - Excha...	6.0%	120	34
Dutchtown	5.1%	106	35
Duran Eastman Pk	0.0%	0	36

Count *number of people in category*

\# *rank of neighborhood out of 36 by percentage of population 25 years*

Very Advanced Degrees by Neighborhood #44

Percent of population 25 years of age and older with a professional or doctorate degree (e.g., MBA, PhD, or MD).

Scope: population of Rochester, selected neighborhoods in Rochester, and entities that contain Rochester

	0% 5% 10% 15%	Count	#
Cobbs Hill	18.9%	227	1
Highland	15.1%	546	2
Strong	9.9%	110	3
Atlantic-University	7.2%	65	4
East Avenue	7.2%	359	5
Cntrl Business Dist	6.9%	223	6
Park Avenue	6.7%	363	7
Browncroft	5.7%	161	8
Pearl-Meigs-Monroe	5.7%	112	9
Swillburg	4.9%	62	10
New York	4.2%	571k	
Monroe	4.2%	21.3k	
Ellwanger-Barry	4.2%	151	11
Northeast	4.1%	1.58M	
South Wedge	3.9%	101	12
Middle Atlantic	3.9%	1.11M	
Culver-Winton	3.7%	222	13
Rochester	3.6%	26.4k	
Corn Hill	3.6%	55	14
Brown Square	3.4%	10	15
United States	3.3%	7.13M	
Rochester	2.7%	3,592	
Rochester	2.7%	3,592	
Genesee Vly Pk	2.4%	0	16
Charlotte	2.1%	140	17
Homestead Hts	1.6%	31	18
Susan B. Anthony	1.5%	4	19
19th Ward	1.5%	194	20
Northland-Lyceum	1.3%	42	21
Mayor's Hts	1.3%	21	22
Edgerton	1.1%	46	23
B.E.S.T	0.9%	4	24
Dutchtown	0.8%	17	25
Maplewood	0.7%	84	26
Lyell-Otis	0.5%	24	27
Charles House Are...	0.3%	4	28
S. Marketview Hts	0.3%	4	29
Upper Falls	0.2%	8	30
United Neighbors ...	0.2%	4	31
Genesee - Jefferson	0.1%	4	32
Beechwood	0.1%	3	33
Plymouth - Excha...	0.0%	0	34
N. Marketview Hts	0.0%	0	35
Duran Eastman Pk	0.0%	0	36

Count *number of people in category*

\# *rank of neighborhood out of 36 by percentage of population 25 years of age and older with a professional or doctorate degree (e.g., MBA, PhD, or MD).*

College Graduates By Race #15

Percent of racial or ethnic group with a bachelor's degree or higher.

Scope: population of New York and Rochester

	Female	Male
New York		
Rochester		

Shaded bar tips show excess over facing bar.

	40% 20% 0% 20% 40%	M	F
White[1]	38.6% | 39.3%	12.0k	11.2k
Black	9.9% | 8.7%	1,864	2,685
Asian	37.2% | 32.7%	645	736
Hispanic[2]	8.5% | 8.7%	747	869
Other[1]	13.3% | 11.3%	455	675

M *number of males in category*

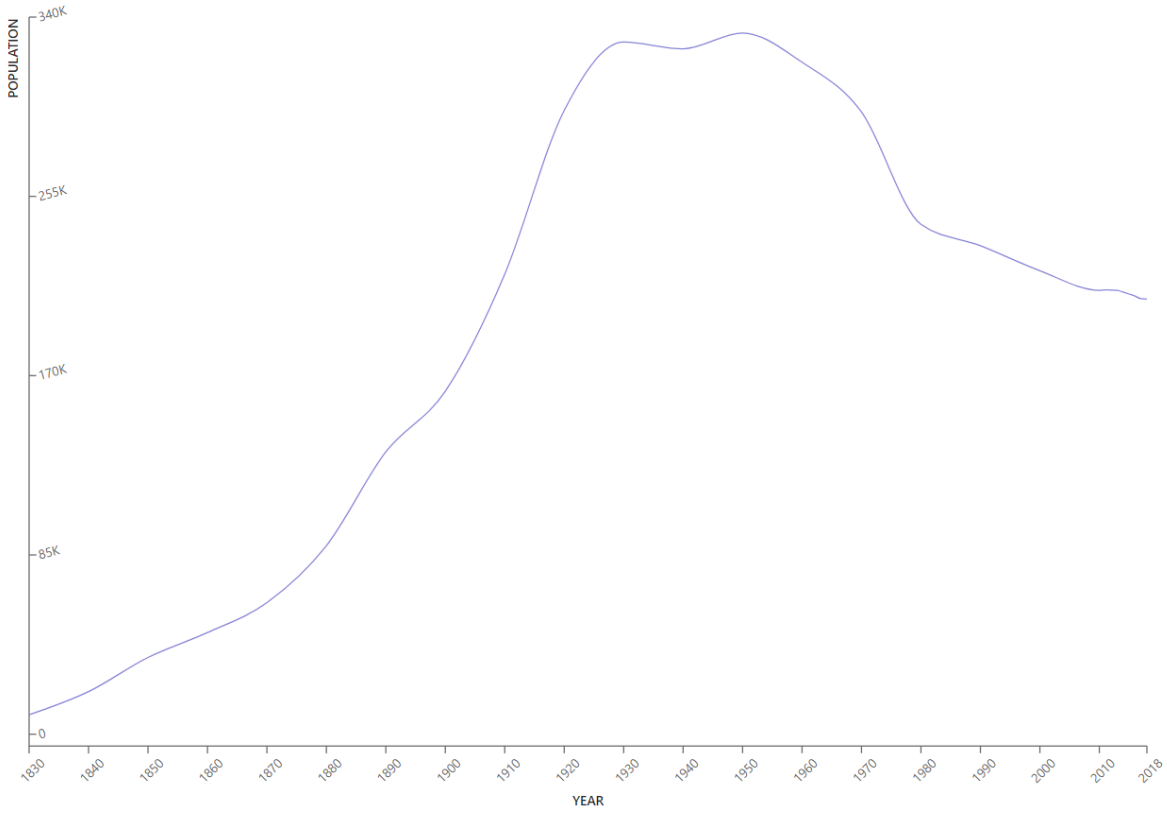
F *number of females in category*

[1] *non-Hispanic* [2] *excluding black and Asian Hispanics*

Source: Fact Finder (factfinder.census.gov)

Rochester Population by Year

2018 Annual Estimates of the Resident Population
United States Historical City Populations

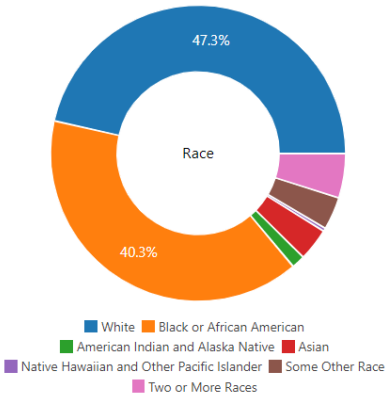


Rochester Population by Race

Source: US Census 2018 ACS 5-Year Survey (Table B03002)

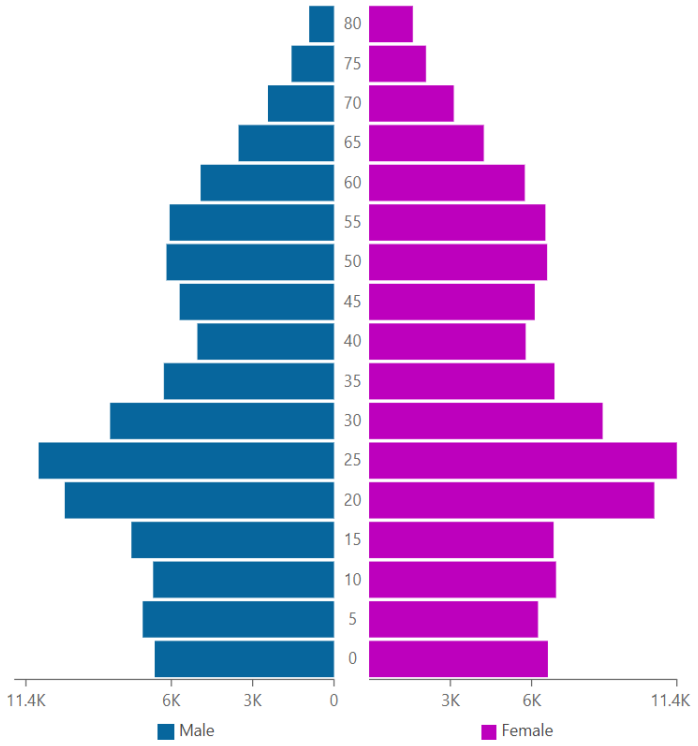
Population by Race Total | Hispanic | Non-Hispanic

Race	Population	Percentage
White	98,320	47.32%
Black or African American	83,740	40.30%
Two or More Races	9,578	4.61%
Some Other Race	6,899	3.32%
Asian	6,855	3.30%
American Indian and Alaska Native	2,374	1.14%
Native Hawaiian and Other Pacific Islander	12	0.01%



Rochester Population by Age — Source: US Census 2018 ACS 5-Year Survey (Table S0101)

Rochester Population Pyramid 2020



Rochester Median Age

Total	Male	Female
31.9	30.8	33

Rochester Adults

There are 160,461 adults, (22,079 of whom are seniors) in Rochester.

Rochester Age Dependency

50.1 Age Dependency Ratio

16 Old Age Dependency Ratio

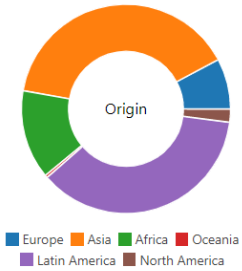
34.2 Child Dependency Ratio

Rochester Sex Ratio

Female	107,484	51.73%
Male	100,294	48.27%

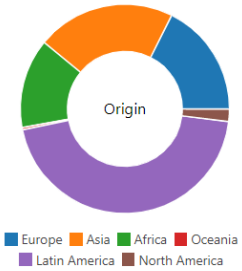
Rochester Place of Birth — Source: US Census 2018 ACS 5-Year Survey (Table B05002)

Origin of Non Citizens



Non citizens include legal permanent residents (green card holders), international students, temporary workers, humanitarian migrants, and illegal immigrants.

Origin of Naturalized Citizens

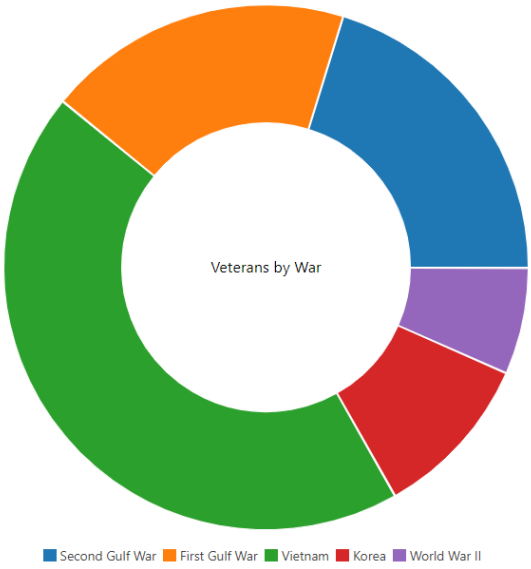


67.19%	Born in New York
90.77%	Native Born
9.23%	Foreign Born
5.23%	Non Citizen

Place of Birth

90.77% of Rochester residents were born in the United States, with 67.19% having been born in New York. 5.23% of residents are not US citizens. Of those not born in the United States, the largest percentage are from Latin America.

Rochester Veterans by War **Source:** US Census 2018 ACS 5-Year Survey (Table S2101)

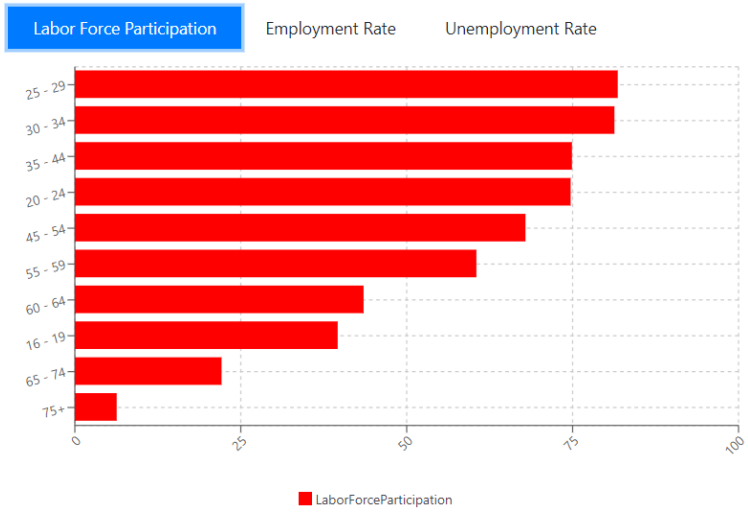


6,718	Number of Veterans
6,026	Male Veterans
692	Female Veterans

CSV JSON

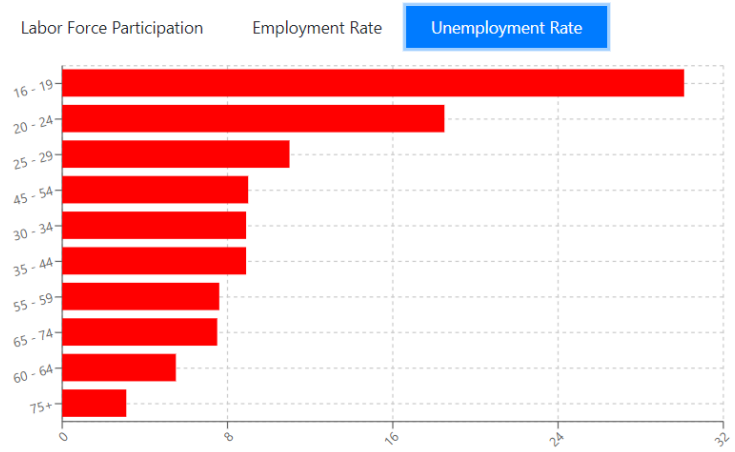
War	Veterans
Vietnam	2,256
Second Gulf War	1,028
First Gulf War	955
Korea	509
World War II	321

Rochester Employment by Age **Source:** US Census 2018 ACS 5-Year Survey (Table S2301)



61.9%	Labor Force Participation
54.9%	Employment Rate
11.3%	Unemployment Rate

Rochester Employment by Age **Source:** US Census 2018 ACS 5-Year Survey (Table S2301)

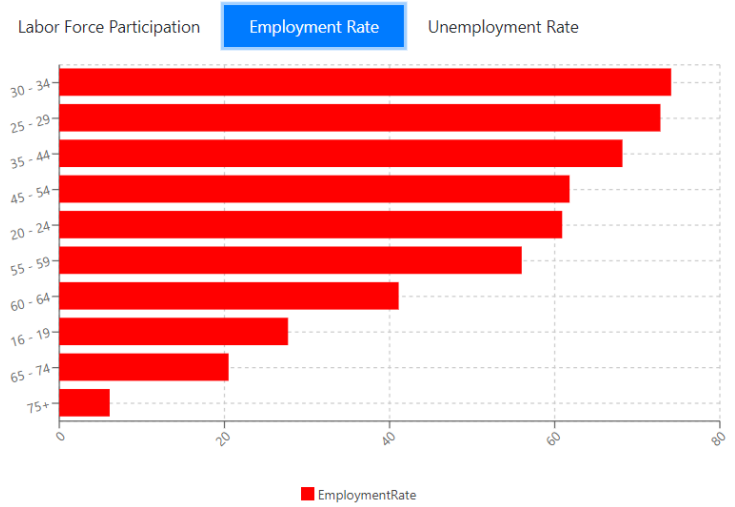


61.9% Labor Force Participation

54.9% Employment Rate

11.3% Unemployment Rate

Rochester Employment by Age **Source:** US Census 2018 ACS 5-Year Survey (Table S2301)

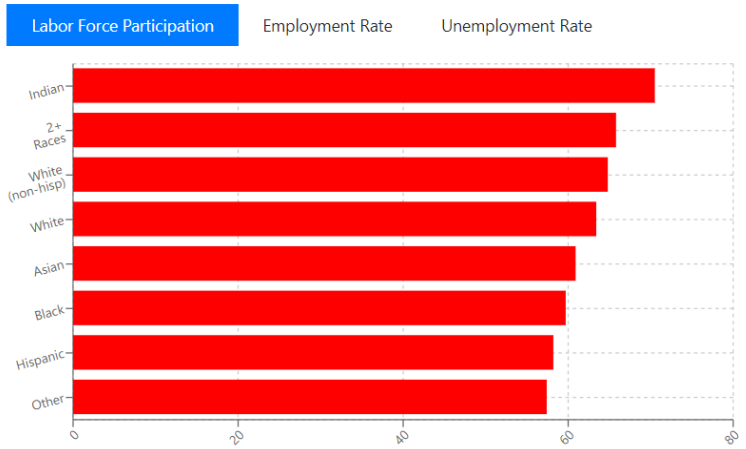


61.9% Labor Force Participation

54.9% Employment Rate

11.3% Unemployment Rate

Rochester Employment by Race **Source:** US Census 2018 ACS 5-Year Survey (Table S2301)



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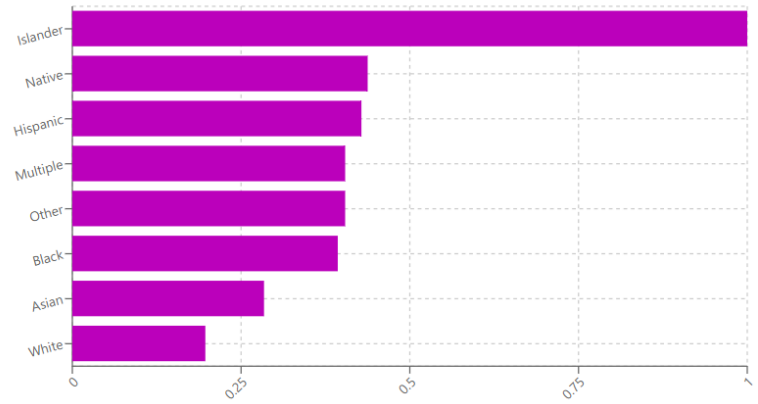
Name	Total	In Poverty	Poverty Rate
Black	82,152	32,308	39.33%
Hispanic	37,315	15,982	42.83%
White	71,177	14,026	19.71%
Multiple	9,408	3,803	40.42%
Other	6,786	2,743	40.42%
Asian	5,803	1,648	28.40%
Native	2,370	1,037	43.76%
Islander	12	12	100.00%

Rochester Poverty by Race



32.60% Overall Poverty Rate

30.58% Male Poverty Rate

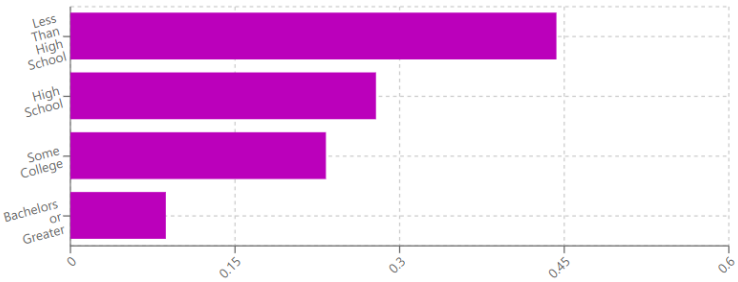
34.47% Female Poverty Rate

Poverty in Rochester

The race most likely to be in poverty in Rochester is Islander, with 100.00% below the poverty level.

The race least likely to be in poverty in Rochester is White, with 19.71% below the poverty level.

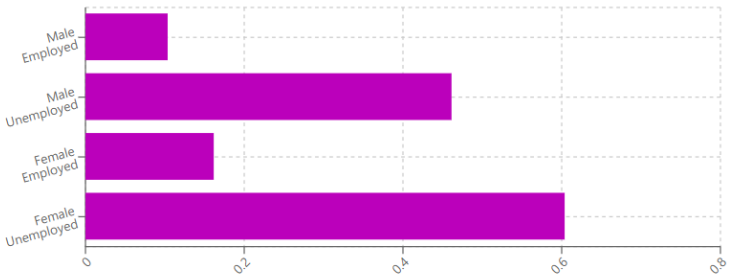
Rochester Poverty Rate by Education Source: US Census 2018 ACS 5-Year Survey (Table S1701)



CSV JSON

Name	Poverty
Less Than High School	44.29%
High School	27.84%
Some College	23.28%
Bachelors or Greater	8.69%

Rochester Poverty Rate by Employment Status and Sex Source: US Census 2018 ACS 5-Year Survey (Table S1701)



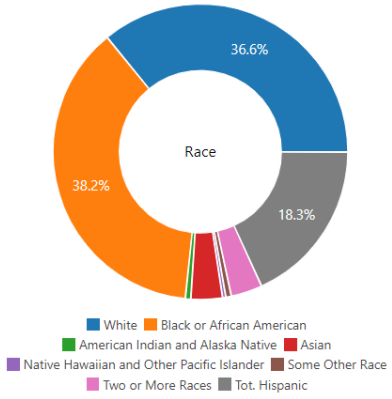
CSV JSON

Name	Poverty
Female Unemployed	60.37%
Male Unemployed	46.12%
Female Employed	16.16%
Male Employed	10.35%

Rochester Population by Race Source: US Census 2018 ACS 5-Year Survey (Table B03002)

Population by Race Total Hispanic Non-Hispanic

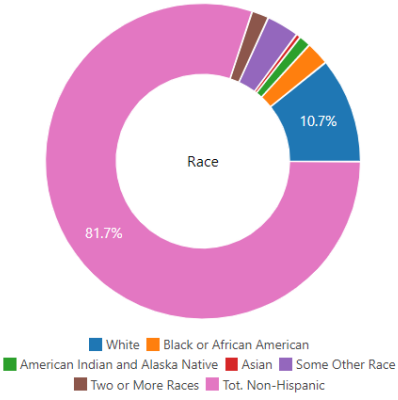
Race	Population	Percentage
Black or African American	79,344	38.19%
White	76,054	36.60%
Asian	6,637	3.19%
Two or More Races	6,610	3.18%
Some Other Race	548	0.26%
American Indian and Alaska Native	518	0.25%
Native Hawaiian and Other Pacific Islander	12	0.01%



Rochester Population by Race Source: US Census 2018 ACS 5-Year Survey (Table B03002)

Population by Race Total Hispanic Non-Hispanic

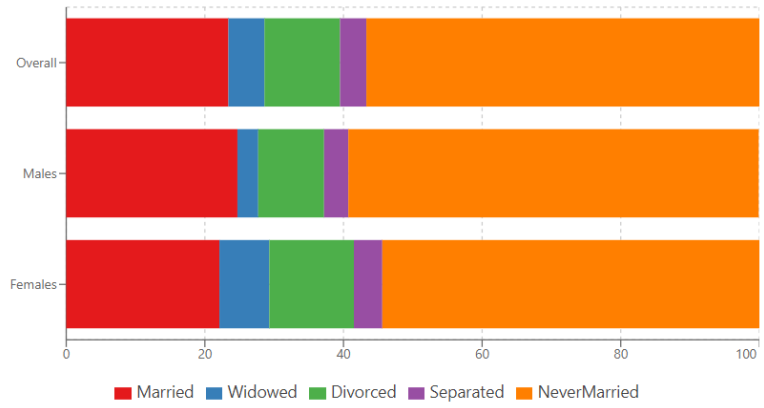
Race	Population	Percentage
White	22,266	10.72%
Some Other Race	6,351	3.06%
Black or African American	4,396	2.12%
Two or More Races	2,968	1.43%
American Indian and Alaska Native	1,856	0.89%
Asian	218	0.10%



Rochester Marital Status

Source: US Census 2018 ACS 5-Year Survey (Table S1201)

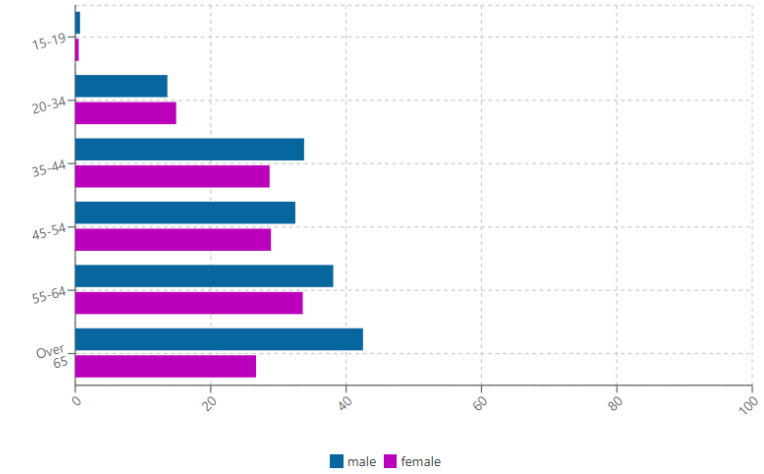
Rochester Marital Status



Marriage Rates

23.4%	Overall Marriage Rate
24.7%	Male Marriage Rate
22.1%	Female Marriage Rate

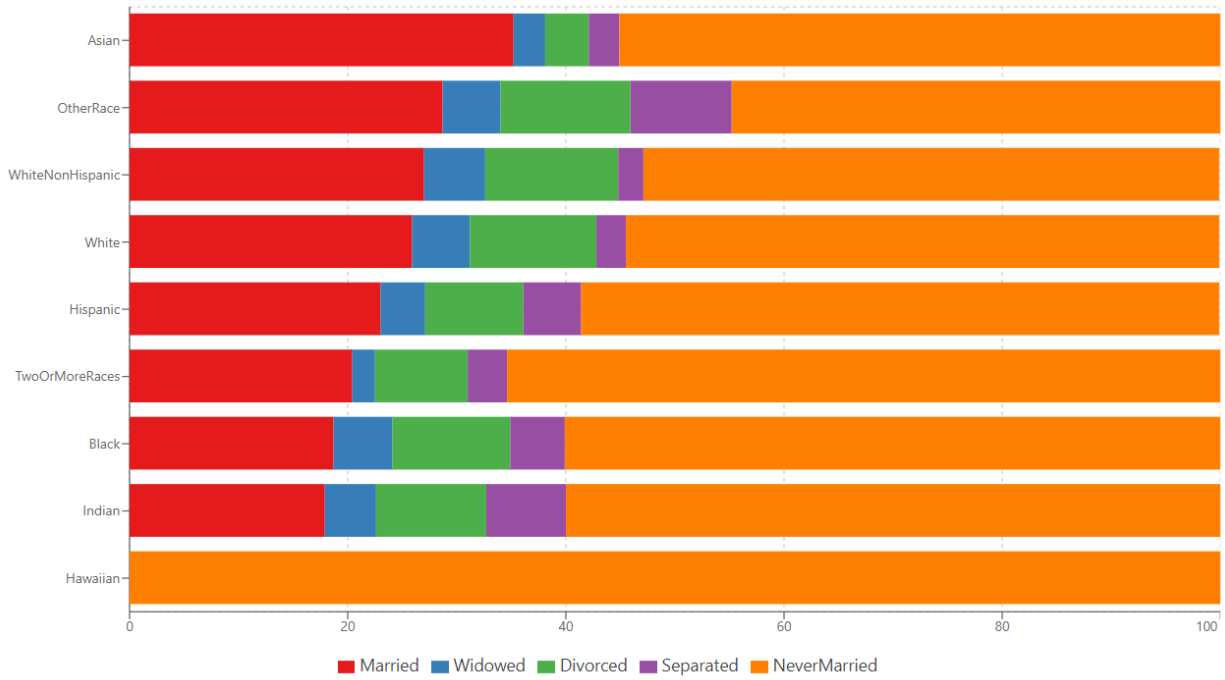
Rochester Married by Age and Sex



Rochester Marriage

The age group where males are most likely to be married is Over 65, while the female age group most likely to be married is 55-64.

Rochester Marital Status by Race



CSV JSON

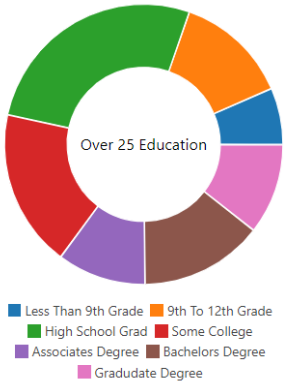
Name	Total	High School	Bachelors
White	58,822	53,001	24,569
Black	49,116	37,061	4,677
Hispanic	19,832	12,996	1,769
Other Race	4,178	2,806	463
Asian	3,829	2,586	1,345
Multiple Races	3,679	3,053	695

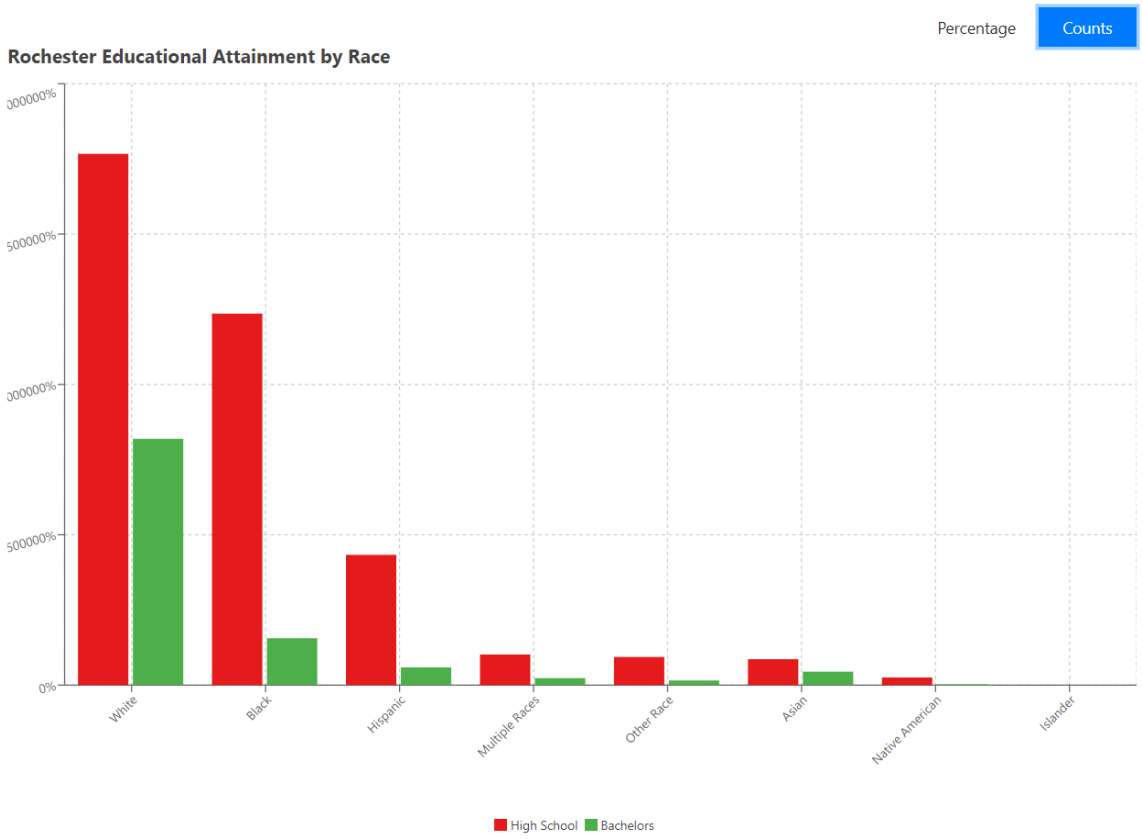
The highest rate of high school graduation is among islander people with a rate of 100.00%.

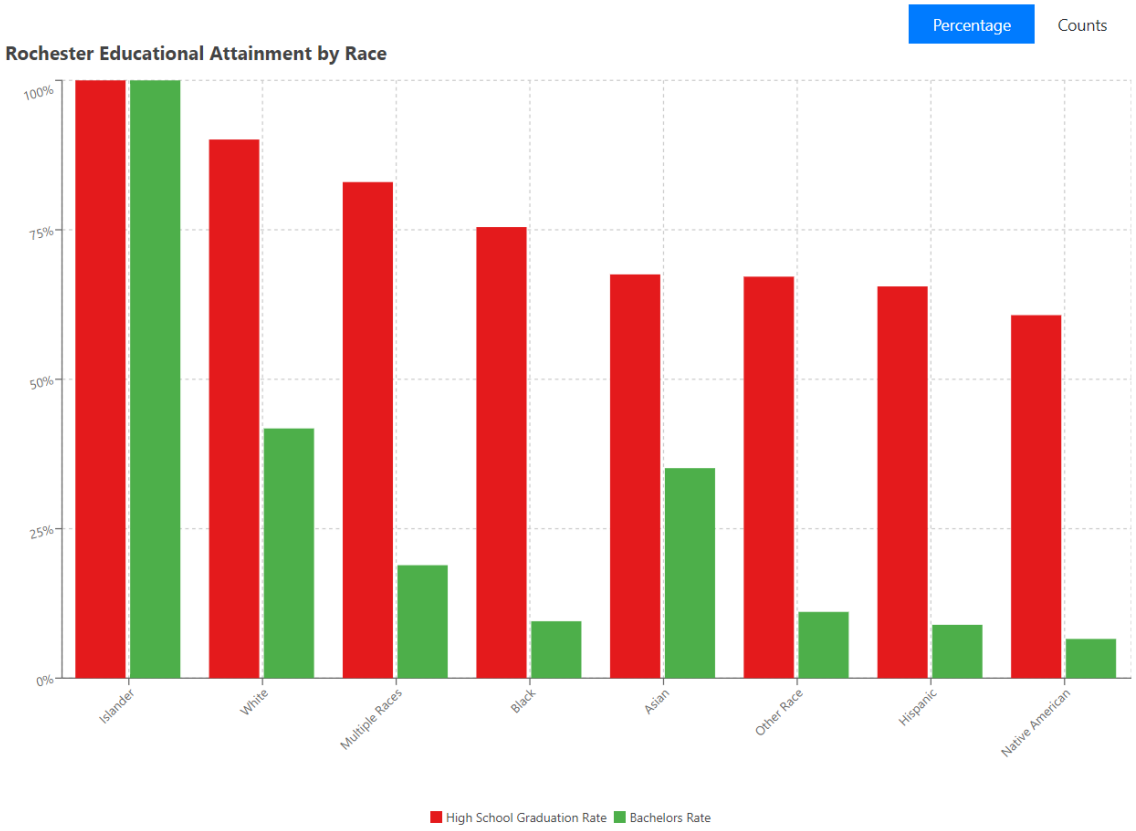
The highest rate of bachelors degrees is among islander people with a rate of 100.00%.

CSV JSON

Education Attained	Count	Percentage
Less Than 9th Grade	8,453	6.36%
9th to 12th Grade	17,463	13.13%
High School Graduate	36,246	27.26%
Some College	24,356	18.32%
Associates Degree	13,579	10.21%
Bachelors Degree	19,050	14.33%
Graduate Degree	13,810	10.39%

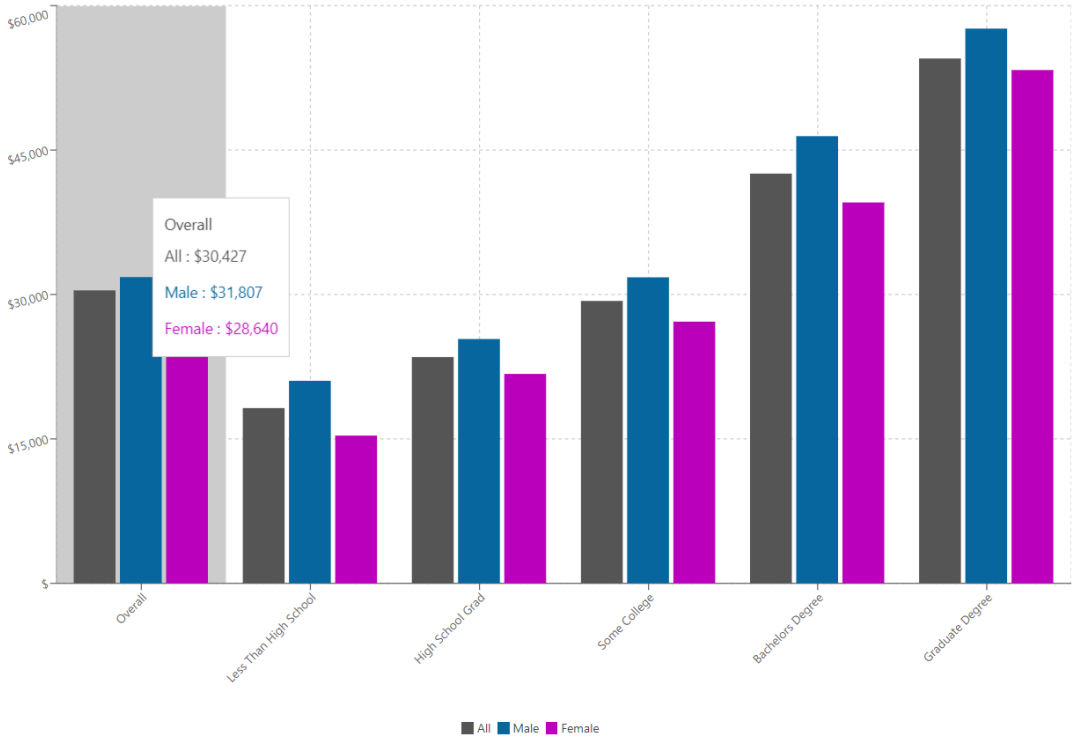



Percentage
Counts
Rochester Educational Attainment by Race
000000%
500000%
000000%
500000%
0%
White
Black
Hispanic
Multiple Races
Other Race
Asian
Native American
Islander
High School
Bachelors


Percentage
Counts
Rochester Educational Attainment by Race
100%
75%
50%
25%
0%
Islander
White
Multiple Races
Black
Asian
Other Race
Hispanic
Native American
High School Graduation Rate
Bachelors Rate

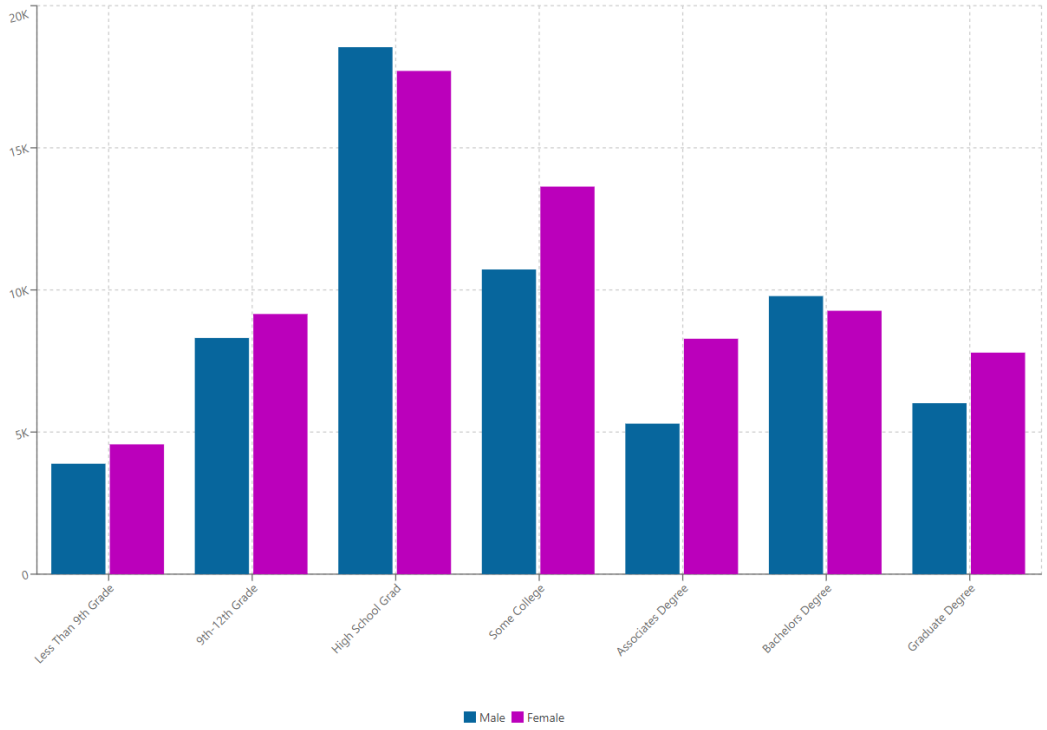
Rochester Earnings by Educational Attainment

Source: US Census 2018 ACS 5-Year Survey (Table S1501)



Rochester Educational Attainment by Sex (over 25)

Source: US Census 2018 ACS 5-Year Survey (Table S1501)



CSV JSON

Name	Average	Male	Female
Overall	$30,427	$31,807	$28,640
Less Than High School	$18,202	$21,034	$15,346
High School Grad	$23,501	$25,375	$21,750
Some College	$29,332	$31,782	$27,177
Bachelors Degree	$42,554	$46,445	$39,557
Graduate Degree	$54,514	$57,618	$53,313

$30,427 Average Earnings

$31,807 Average Male

$28,640 Average Female