

**SUSTAINABLE NEIGHBORHOOD DEVELOPMENT AND URBAN
REVITALIZATION IN UTICA, NY: A LEED-ND CASE STUDY**

A Thesis

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by
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ABSTRACT

Cities throughout the Rust Belt of the United States are facing economic decline, population loss and urban decay. Using LEED for Neighborhood Development as an audit tool I assessed the existing sustainability and urban character conditions of a downtown area in one such city—Utica, NY. Urban sustainability has in recent years become a strategic vision in response to challenges like rapid urbanization and increasing climate change impacts. Rather than focus solely on economic development as the solution to urban decline, inequality, and infrastructure problems sustainable development aims to create resilient and livable cities by addressing environmental quality, economic opportunity, and social wellbeing as part of one system. The identification of existing strengths and weaknesses can inform future development decisions as well as provide a baseline metric to compare future improvements and development against. Utica has catalytic potential for revitalization using sustainable neighborhood development. This case study is intended to serve as an evidence-based resource demonstrating the opportunities in Utica which local leaders can use when applying for funding and lobbying officials.

BIOGRAPHICAL SKETCH

Angela Moreno-Long is currently a fourth year undergraduate student in the Urban and Regional Studies program in the Department of City and Regional Planning at Cornell University. In May 2016, she will graduate with a Bachelors of Science in Urban and Regional Studies. She was born in Mexico City, Mexico December 7, 1993 and was raised in Boulder, Colorado where she graduated from Boulder High School in 2012. In the Spring of 2015 she studied abroad in Rome, Italy where she conducted field research for an urban design and planning study of Alessandrino, a peripheral neighborhood of Rome. During her time at Cornell she has conducted both independent and guided research as a Hunter R Rawlings III Presidential Research Scholar. This thesis is the culmination of two semesters of work as a Rust to Green Creative Fellow working with an interdisciplinary group of engineering, landscape architecture and planning students and professors on sustainability issues in Utica.

In addition to academic and research pursuits, Angela served as the President of the Organization of Urban and Regional Studies and is Co-Founder of Medium Design Collective, a student organization created to initiate and sustain dialogue and collaborations between design related organizations and disciplines on campus.

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INTRODUCTION

With growing contemporary concern over climate change and the potential impacts on how humans live sustainable development has been embraced as the ultimate goal for societies and economies. While environmental concerns have been the motivating factor in adopting more sustainable practices, through the lens of urban planning sustainable development means so much more than just traditional notions of environmental sustainability. It includes development which is socially equitable, economically feasible and ecologically viable. Sustainable development also depends on increasing resilience and adaptability while also reducing hazards, risks and vulnerabilities at both the local and global scale. The aim of this study is to demonstrate the catalytic potential of sustainable city development in a downtown area in Utica, New York that is striving to revitalize and rebrand itself. Using the Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) rating system as a guide for identifying sustainable criteria I outline strengths and weaknesses in the existing urban fabric of Downtown Utica and provide some recommendations for how the city can begin to move towards a more sustainable, equitable and unique built environment.

This is an exciting time for American cities and urban planning. The complexities and interconnected nature of cities is challenging but also sets the stage for innovative change since through planning and development you impact every aspect of daily life and city functioning. Older industrial “Rust Belt” cities like Utica are even more exciting because they have nowhere to go but up and often have existing infrastructure which already exhibit characteristics necessary for sustainable

development.

The urban development of Utica, New York follows a familiar Rust Belt narrative: a once economic, social and cultural hub for its region the city has experienced industrial decline and several decades of population loss which has resulted in a drained tax base, struggling economy and deteriorating infrastructure (Czerniak et al., 2012). In their 2010 master plan Utica outlines, "a vision for Utica's growing and revitalized future—a bustling economic center amidst the beauty of Central New York—a renaissance city leading the transition of the region as an industrial center to one seeking to attract the creative class" (City of Utica, 2010). In addition to shaping a new identity which will place Utica as a city of the future rather than a city defined by its past, the city must address pressing social, economic, and environmental issues. Improving, regenerating, and reinvigorating Utica will require a multi-disciplinary and multiple-pronged approach which addresses policy, social programs and economic development; however the intent of this thesis is to illustrate how to begin revitalizing a deteriorating downtown using an audit tool (LEED for Neighborhood Development) which is founded on ideas of high quality urban design. Good design and development patterns have the potential to both promote healthier and environmentally friendly activities in the city and support a higher quality of city life and experience of place. For a city hoping to re-grow and reposition itself as an innovative urban center sustainable neighborhood development is an exciting opportunity to attract people through new and innovative design, provide a high quality of life in the city while also setting the foundation for a sustainable future. In addition Utica can play a large role in achieving regional sustainable development and be a leader in demonstrating smart growth practices

which will not only improve the city but will contribute to regional sustainability.

For this study I have focused attention on a forty seven acre area in downtown Utica which has high potential for being catalytic in spurring downtown revitalization. It is the goal of LEED-ND that neighborhoods will be places where the public feels welcome—a community—while also creating a sustainable environment in which waste and pollution is reduced. Walkability, compact development, green infrastructure and accessible housing services and amenities are all key aspects of creating these sustainable communities. The downtown area assessed in this study is well situated in a central downtown location; the assessment area is not impacted by floodplains, avoids steep slopes, is a site without imperiled species, wetlands or ecological communities and is identified by the state as a priority area for business development (New York State Empire Zones). Both inside and in close proximity (1/4 mile-1/2 mile) to the assessment area there is a neighborhood school, several parks and recreation facilities, community gardens and a farmer's market, retail stores, and restaurants. In addition there is a relatively high density for both residential and nonresidential units. The compact nature of existing structures, intersection density and close presence of services and amenities indicates a high potential for a walkable community.

Although the area performs well in the above mentioned categories the existing area needs improvements in connectivity and improved infrastructure. The prevalence of vacant lots and surface parking lots detracts from the areas potential as the blank spaces do not contribute to a safe or inviting street experience. Infill is necessary to increase the density and create a continuous frontage along streets.

Increased street trees and other vegetation will also contribute to a friendlier street environment while also reducing urban heat island effect. The area has a complete sidewalk network the maintenance of infrastructure is variable, with many sections of sidewalk being obstructed by weeds, deterioration, driveways or other obstacles. There are very few designated pedestrian crossing areas and no traffic calming measures along residential streets. Additionally there are no formal bike lanes or infrastructure. The area is served by at least 10 different bus routes and is in 1/4 mile proximity of several bus stops and central bus hub but buses do not run seven days a week. If citizens are to live and work in this area there must be a variety of convenient and accessible modes of transportation offered throughout the week.

This thesis does not intend to provide an answer or solution to the complex challenges facing Utica, it will take collaborative approach to address economic and social issues and ensure social equality. However given the opportunities for sustainable development methods and the potential for growth, Utica is sitting on a metaphorical gold mine. Downtown Utica has a wealth of beautiful historic structures which means there is an abundance of opportunities for infill, adaptable re-use of structures and increased residential density. Countless historic architectural gems along Genesee Street contribute to a unique downtown character. In addition Utica in recent decades has become a host city for thousands of refugees which has stabilized population numbers, and strengthened local economy through small businesses and home ownership.

In the following pages I outline the context of Rust Belt cities and the challenges they face, provide a brief history of Utica and its opportunities

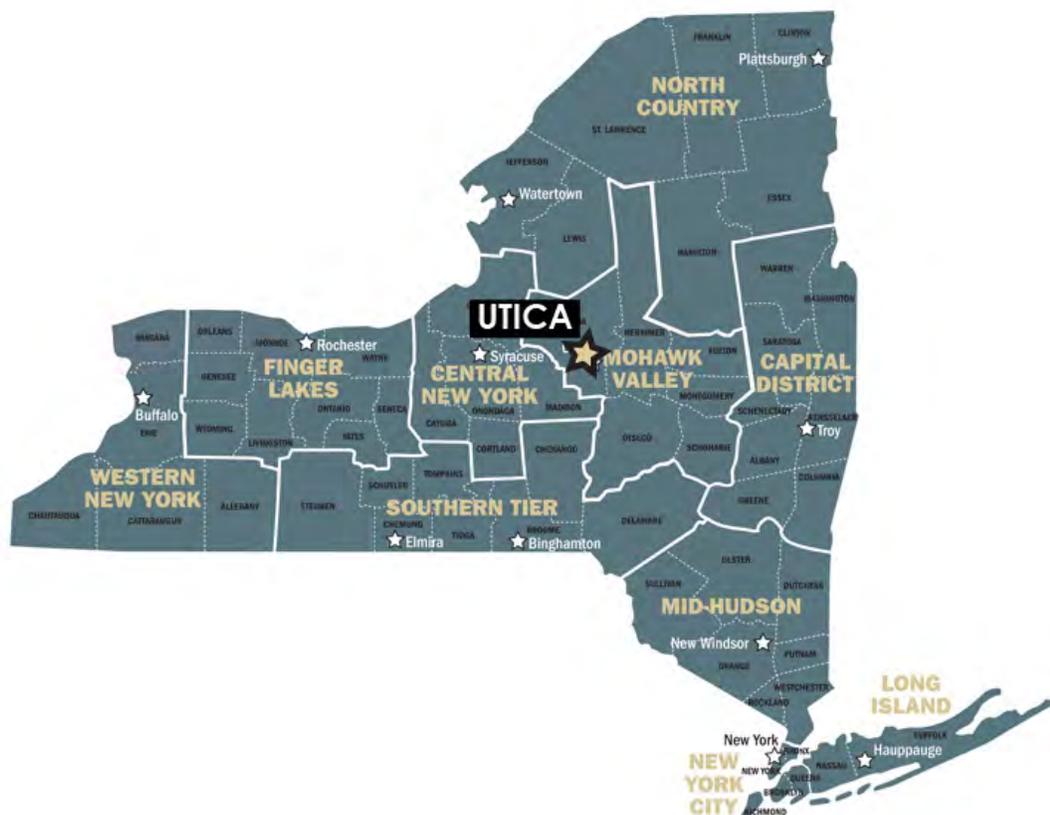
for future development, outline the origins and definitions of sustainable development, and introduce LEED-ND as an audit tool for existing conditions. The second half of this thesis is then dedicated to outlining the strengths and weakness of downtown Utica and recommendations for future sustainable development. Using LEED-ND as a guide for sustainable criteria I analyzed existing conditions using Geographic Information System (GIS) mapping. This thesis concludes with a neighborhood strategy framework which outlines targeted areas and actions for future development.

THE RUST BELT CITY CHALLENGE

In the Northeast and Midwest of the United States so-called Rust Belt cities, which used to serve as the industrial core of the country, are confronting the social and economic implications of deindustrialization and decades of suburban flight. Large older industrial centers like Cleveland and Detroit dominate mainstream conversation about urban decay in the Rust Belt—stories of abandoned neighborhoods, swaths of vacant land, and city bankruptcy plans paint a dystopian picture of a decaying American heartland. These large, former industrial cities are not the only places facing the challenges associated with decline. Countless mid-size cities, including Upstate cities in New York State continue to lose population and struggle to reinvent their identity and urban activity.

The urban development of Utica, New York follows a familiar Rust Belt narrative: a once economic, social and cultural hub for its region the city has experienced industrial decline and several decades of population loss which has resulted in a drained tax base, struggling economy and

deteriorating infrastructure (Czerniak et al., 2012). Between 1950 and 2010 Utica lost 38.7% of its population declining from 101,531 residents to just 62,235 residents in 2010 (Thomas, 2014). The most recent 2015 American Community Survey estimates place the city's population even lower at 61,332 (U.S. Census Bureau, 2015). In their 2010 master plan Utica outlines, “a vision for Utica's growing and revitalized future—a bustling economic center amidst the beauty of Central New York—a renaissance city leading the transition of the region as an industrial center to one seeking to attract the creative class” (City of Utica, 2010). In addition to shaping a new identity which will place Utica as a city of the future rather than a city defined by its past, the city must address pressing social, economic, and environmental issues.



Map 1 Regional Context. New York State Empire Development (2010). Empire State Regional Map. Retrieved from <http://esd.ny.gov>

A BRIEF HISTORY OF UTICA

Utica developed and thrived during the 19th and early 20th century as a hub for transportation and textile manufacturing. Known as “America’s Textile Center” and the “Crossroads of New York” the city served as a transit point for movement between the northern Adirondacks and southern Susquehanna valley as well as the center of water transit where the Chenango and Erie Canals met (Green, 1925). Cotton cloth manufacturing in Utica began in the early 19th century and the city grew to be an important textile manufacturing center. By the turn of the 20th century Utica had nineteen knitting mills that employed nearly 20,000 people (‘City of Utica Design Guidelines’, 2003). Manufacturing continued to expand and by 1919 there were an estimated 370 factories (Greene, 1925). With a population of 110,000 in 1925 the city was one of the fastest growing in New York State (Greene, 1925). Despite this early development which contributed to a booming urban landscape (Czerniak et al., 2012) Utica did not continue on an exponential pattern of growth, rather the city remained relatively unchanged until post World War II prosperity and a desire to escape the chaos of a manufacturing center fueled movement into suburbs. This demographic transition was facilitated by automobiles and a growing American car-centric culture which allowed for increased mobility and movement away from cities. City population continued to drain as the textile industry left the region for cheaper labor (Design Guidelines, 2003) and residents continued to move outward into suburbs. This pattern continued and only increased during the 1970s and 1980s as the aerospace and computer firms, which replaced the textile industry after initial deindustrialization in the 1950s, left the city (Thomas, 2014). The following population and city indicator tables show the large

population decline between 1970 and 1980—the peak of flight from the city—and between 1990 and 2000 when an air force base closed (Hervesi, 2004).

Table 1 Utica Population 1950-2014

	1950	1960	1970	1980	1990	2000	2010	2014
Population	101,531	100,410	91,611	75,632	68,637	60,651	62,235	61,332

Source: Hevesi, A.G. (2004). Population Trends in New York State's Cities. Office of the New York State Comptroller.

Table 2 Percent Change in Population, Utica 1950-2014

	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	2010-2014
Percentage Change in Population	-1.1%	-8.8%	-17.4%	-9.2%	-11.6%	2.6%	-1.5%

Source: Hevesi (2004).

Table 3 City Vitality Indicators

	2014-Utica-Rome Metro Region	2014 New York State	2014 US National Average Estimates
Poverty Rate (% persons in poverty)	30.7	15.9	14.8
Median household income (USD)	\$31,173	\$58,687	53,482
Unemployment rate (% of workforce)	6.5	5.8	5.6
Median home value (USD)	\$89,400	\$283,700	\$175,700

Source: Hevesi (2004).

Table 3 shows numbers reflecting “city vitality” (Vey, 2007) indicators of the impacts economic and residential decentralization have had on Utica. Decades of migration away from the urban core have left a downtown where those without the ability to leave must stay while facing increasing financial challenges and infrastructure deterioration (Vey, 2007). In addition to the problems of increasing urban poverty, deflated tax base and declining population the response to this decline in the 1970s and 1980s was often attempts to clear away the physical markers of blight and decline. Vacant buildings were replaced with parking and other infrastructure in hopes of attracting visitors and people back to the city however this only furthered a deterioration of the urban landscape which today is mostly covered in impermeable surfaces, has poor pedestrian and bicycle infrastructure, and often lacks inviting urban character.

OPPORTUNITY IN UTICA

Recent reports and scholarly investigation have suggested that investments in downtown development which increase density, transform the physical landscape and create or maintain a ‘sense of place’ are important in creating a setting which will attract people and businesses back to the city (Faulk, 2006). Revitalization is an incremental process and while a focus on having a strong downtown area does not immediately translate into overall city health and economic vibrancy (Vey, 2007) an increase in downtown activity can often demonstrate the potential of existing infrastructure and influence surrounding areas.

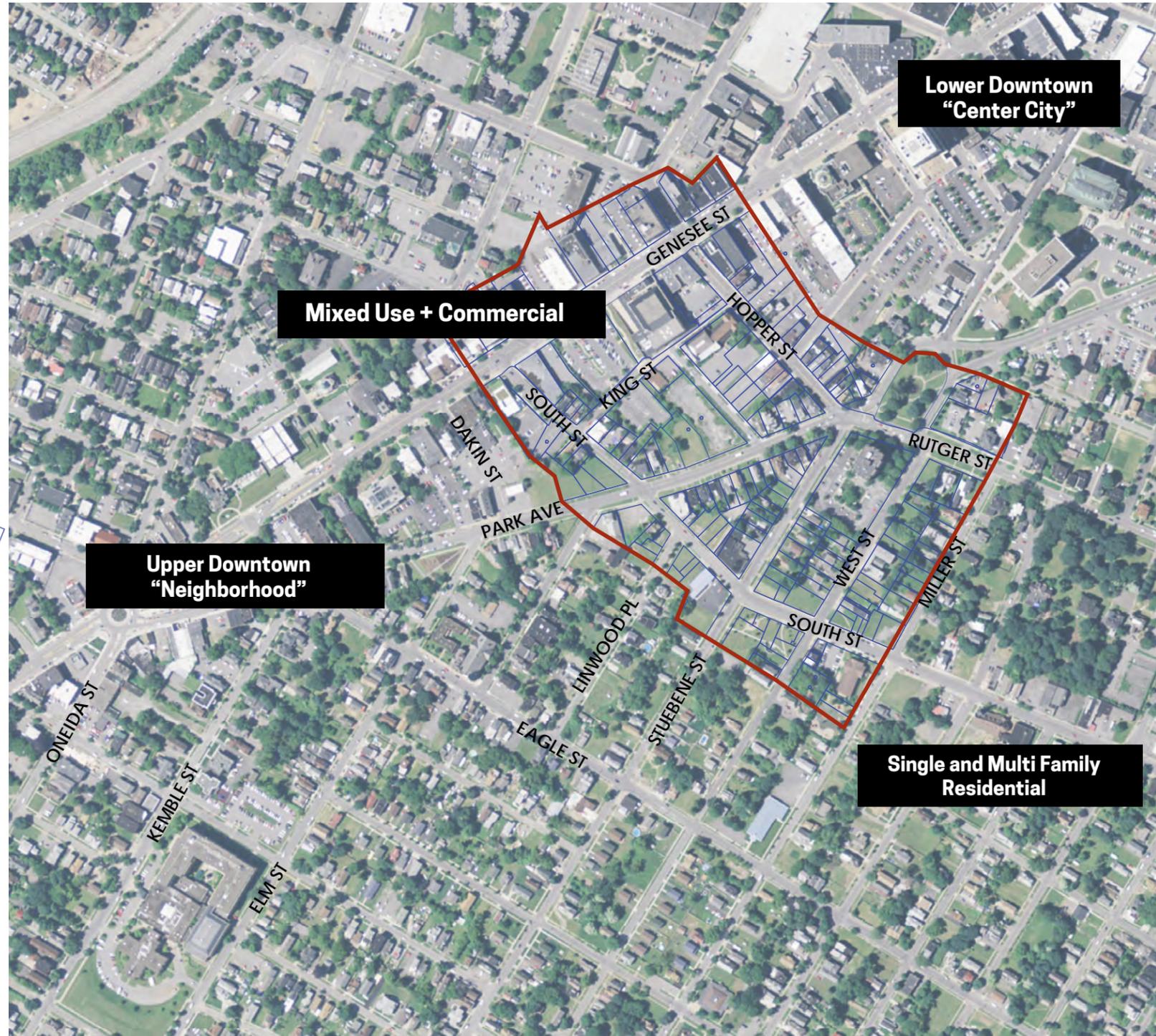
Despite the many challenges downtown Utica faces, it has several assets which can be leveraged in revitalization efforts. Downtown Utica

has a wealth of beautiful historic structures which means there is an abundance of opportunities for infill, adaptable re-use of structures and increased residential density. The urban fabric which supported a bustling and dynamic city during its heyday could once again support a denser, walkable downtown lifestyle with new human-scaled design. The 1960 Philip Johnson designed Munson-Williams-Proctor Institute Art Museum, the 1927 Baroque-Revival style Stanley Theater and countless other architectural gems along Genesee Street contribute to a unique downtown character. In addition Utica in recent decades has become a host city for thousands of refugees which has stabilized population numbers, and strengthened local economy through small businesses and home ownership ("Rust to Green ," n.d). Since 1981 the Mohawk Valley Resource Center for Refugees has resettled over 14,500 individuals from a variety of countries including Myanmar, Somalia, Sudan, and former Soviet Union Countries ("Foreign Born Populations", 2015).

For this study I have focused attention on a forty seven acre area in downtown Utica which has high potential for being catalytic in spurring downtown revitalization. The assessment study area is about a quarter mile northwest from Oneida Square and is centered around several vacant parcels identified for redevelopment into the One World Garden (a Rust to Green Project). The boundary encompasses downtown mixed use and commercial areas along Genesee Street as well as single and multi family residential areas extending southeast from Park Avenue. This is a central location with a substantial street network, proximity to parks and schools and public transportation. Downtown Utica also has several existing institutions and establishments, including the Munson Williams Art Institute and Pratt University, Mohawk Valley Community College, Utica

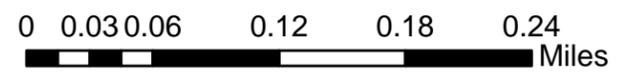
College and nearby NANO research hub at SUNY Polytechnic Institute which all could play key roles in attracting new growth, jobs and activity downtown (City of Utica, 2015).

Leveraging these assets is key in Utica's evolution from older industrial city into a "resilient, vibrant, and sustainable community" (The City of Utica, 2010). Given the wealth of opportunities in downtown Utica the area is ripe for revitalization as well as for incorporating environmentally and socially sustainable development which can aid in renewing infrastructure and downtown identity. As the city decides how to move forward, new phases of urbanization and development aimed at attracting people back downtown should mitigate the impacts of increased urbanization. While the historic trend of city development was endless growth to accommodate industry (Czerniak et al., 2012) development should be done in a way which takes into consideration environmental concerns, social equity and adaptability of the city. As Utica grows sustainable neighborhood development will be important in creating a city which is healthy, safe, and vibrant.





STUDY AREA
 (APROX. 47 ACRES)
 Map 2 Downtown Utica Study Area Context



SUSTAINABLE NEIGHBORHOOD DEVELOPMENT

DEFINING SUSTAINABLE NEIGHBORHOOD DEVELOPMENT

Today urban areas account for over seventy percent of global carbon emissions and almost seventy percent of world energy consumption (Leuderitz, Lang, & Wehrden, 2013), given these numbers and the ever growing body of research on climate change and climate change impacts, it is no surprise that sustainability and sustainable development are at the core of contemporary planning and development schemes. However, sustainable neighborhood development encompasses much more than just environmental concerns; it is an approach to communities which also takes into consideration economic prosperity and social equality. Before understanding the opportunity in sustainable development for Utica it is necessary to understand the origins, definition, and ambiguities of this concept.

It is generally accepted that the 1987 UN Report of the World Commission on Environment and Development (informally referred to as the Brundtland Report) was the beginning of a “global agenda for change” and wide-spread acceptance that human actions are directly linked to environmental decline (Lorr, 2012). According to the report sustainability is defined as “the ability to create development that meets the needs of the present without compromising the ability of future generations to meet their own need” (United Nations World Commission on Environment and Development, 1987). The basic message is clear—in order for long term quality of life, actions must be taken now to prevent further deterioration of environment and resources necessary for

humans to survive and thrive. The challenge is implementing continued growth in a way which will sustain communities and environments in the long term. This begets the question what exactly is a sustainable community? Beyond obvious environmental and ecosystem aspects is it a community which is inclusive and supportive? A setting which protects and promotes the health and wellbeing of citizens? A city which has a vibrant local economy and provides equitable access to opportunity and employment? Interpretations of urban sustainability are constantly being debated. Some scholars argue the most important issue is resolving the unequal distribution of resources, some focus on the environmental aspects of resource consumption and waste production, while others believe in bigger picture relationship “between social, economic and environmental systems in which environmental conservation enables economic development which improves social inequality” (Lorr, 2012). If effort is going to be made to preserve resources so that future generations can meet their needs then ideologically it makes sense that sustainability should also mean people today are able to meet their needs with equal access to resources and opportunities.

For this thesis I have based my study on the understanding that sustainability in city planning is a concept which not only addresses environmental issues but also serves as a framework which addresses contemporary urban issues like social inequality, economic decline, sprawl, and pollution (Berke, 2002). For Rust Belt cities working to enter a new phase of development and revitalize older industrial downtowns sustainable development is an incredibly important consideration. Urbanization promotes rapid social and economic development but at the same time leads to concentrations of populations which contribute to

pollution (emissions, noise, light) and strains on resources (Luederitz, Lang, & Von Wehrden, 2013). Communities like Utica hoping to attract people back downtown must address existing unsustainable infrastructure, urban design patterns and access to services and amenities as well as plan to mitigate impacts of increased population and activity. Cities must create a setting which is attractive and functional to draw new residents in and is also designed in a way which reduces environmental impacts of city life. Sustainable neighborhood development and urban revitalization or not two distinct ideas, rather each depends on the other for successful development which responds to the social, economic, and environmental prosperity of a city.

URBAN DESIGN FOR SUSTAINABLE DEVELOPMENT

One of the key building blocks of cities is their neighborhoods. Those familiar with the history of urban planning theory know that the neighborhood, as object and concept, has been the focus of countless theories and manifestos on city identity and life. Ebenezer Howard's Garden City, Le Corbusier's "Tower in the Park" or Frank Lloyd Wright's Broad Acre City all describe their visions for ideal urban life—physical layouts and relationships between business, industry, and housing; ideal modes of transportation and transportation infrastructure, architectural aesthetic and social interaction among residents were all taken into consideration and viewed as elements of city life which could be shaped in different ways.

Neighborhoods are often "ambiguous, loosely defined and variably interpreted entities or sub-divisions of the city" (Choguill, 2008), they serve as important groupings of people and as sites of social interaction. The

physical, built environment of neighborhoods plays a critical role in activity which occurs in neighborhoods. The ecological dimension of sustainable development involves the management of land use (preserving existing natural elements, protect environmental resources like water, soil and biodiversity), “greening” of infrastructure (stormwater runoff, permeable surfaces) and materials, and using more environmentally friendly and renewable energy sources. If these elements are implemented in conjunction with high quality urban design a city can be more successful in achieving a “high level of quality, safety, equity, and beauty” which fosters a sense of place (Kazimee, 2002). Urban design elements of a neighborhood environment are very important in addressing sustainability as the built environment influences ecosystem and environmental factors like permeable surfaces for ground water recharge or asphalt contributing to urban heat island affects as well as human scale experience of the city and neighborhood.

The most commonly used example in sustainable neighborhood discussion is the walkability of a neighborhood. If families cannot walk a reasonable distance to work or school then they will be forced to drive, contributing to emissions and detracting from sustainability goals. The generally accepted characteristics of a sustainable neighborhood are physical elements which facilitate sustainable (both environmental and social) daily activity and behaviors—like walking rather than driving, support local shopping for convenience goods, accessibility to employment opportunities, and accessibility to public spaces for social interaction and exchange of ideas (Shemirani & Hodjati, 2013). There are several urban typologies which are key in creating a sustainable urban setting. “Compactness”—urban connectivity and contiguity—promotes

development next to already existing structures and the prevention of sprawl (Jabareen, 2006). Increase proximity in a city and limited sprawl is necessary for minimizing use of resources for transportation. This also facilitates a more coherent urban fabric which is necessary for a vibrant and inviting streetscape. Sustainable transportation is another important element given the high environmental impact of pollution from cars, buses, and other forms of transport. However sustainable transportation is not just about environmental concerns, it also encompasses equitable access and safety for all city residents. Imagine an affordable housing construction designed and built beautifully, but there is no regular bus service or stops near the development and the street character and infrastructure around the development are unsafe and deteriorating. While residents may be provided with housing which fits their monetary needs they are not being provided adequate resources in all other aspects of life. Without a bus they cannot travel to jobs or leisure and with poor pedestrian infrastructure they are put in unsafe situations. In a situation like this, residents could be forced to use cars as their primary mode of transportation—contributing to further pollution and carbon emission—or become completely isolated from opportunity which is not socially or economically sustainable. Density (the “ratio of people or dwelling units to land area”) and mixed land uses (“compatible land uses located in proximity to one other”) are two other typologies which conserve resources and also encourage social interaction as people are interacting in more compact settings (Jabareen, 2006). Having a wide variety of activities and services close together reduces the amount of travel necessary for resident’s needs. Greening the city and building in ways which minimize environmental impacts are additional design

concepts for sustainable cities. Increased green space can make an area more appealing and pleasant—studies in Cleveland and Philadelphia have shown that greening of vacant lots increases the value of adjacent properties (PennPraxis, 2010; Brown, 2015). Designing new construction in a way which takes into consideration the width-height ration of buildings, materials used, and energy use of buildings can influence the warming and cooling processes of structures, pollution dispersal, and street level experience for pedestrians (Jabareen, 2006).

Architect Jan Gehl has done extensive research on human behavior and psychology to understand what human-scaled design elements make good cities. Gehl and his associates have looked at human interaction with the built environment and researched human perception and senses and have identified several fundamental urban experiences which make for a rich pedestrian experience. Gehl notes that pedestrians walk at a maximum of five kilometers per hour (about three miles per hour) which means that small units which are “rich in sensory experience” are important (Gehl, Johansen Kaefer, & Reigstad, 2006). This is why compact, dense design not only supports sustainable behaviors but is also important for creating a dynamic setting which people will want to engage with. Large expanses of blank wall or a street filled with vacant lots break up the city and do not contribute to an inviting urban landscape. The materials and details of infrastructure and buildings is also important as good materials make for a rich sensory experience, again contributing to a positive and engaging city experience. Sustainable urban design is all about designing infrastructure and activities which reduce factors contributing to climate change and environmental degradation (carbon emissions, water consumption, etc) which at the

same time create dynamic places and amenities which make city life enjoyable. For example, improved street level experience for pedestrians and bikes promotes alternatives to driving, ensures safety of citizens, promotes healthier activity and in the end adds value to an area as people find it enjoyable to use which increases opportunity for business and economic growth.

Improving, regenerating, and reinvigorating Utica will require a multi-disciplinary and multiple-pronged approach which addresses policy, social programs and economic development; however the intent of this thesis is to illustrate how to begin revitalizing a deteriorating downtown using an audit tool (LEED for Neighborhood Development) which is founded on ideas of high quality urban design. Good design and development patterns have the potential to both promote healthier and environmentally friendly activities in the city and support a higher quality of city life and experience of place. For a city hoping to re-grow and reposition itself as an innovative urban center sustainable neighborhood development is an exciting opportunity to attract people through new and innovative design, provide a high quality of life in the city while also setting the foundation for a sustainable future.

MEETING REGIONAL SUSTAINABILITY GOALS

Sustainable neighborhood development fits well for Utica as sustainability is already being considered on a regional scale in upstate New York. The Mohawk Valley Regional Sustainability Plan, produced by the New York State Energy Research and Development Authority (NYSERDA), outlines goals and metrics for the economic, social, and environmental well-being of the region. The region aims to “use

renewable energy to become more energy independent, control sprawl to reduce housing and transportation costs, invest in public transit systems to serve more people and minimize pollution, build stores, schools, and workplaces near neighborhoods to reduce vehicle miles traveled, attract businesses to neighborhoods to create jobs and keep dollars local, make walking and bicycling easy, to foster healthy lifestyles, reuse developed land to improve economic potential, adopt clean technologies to grow our 21st century economy, conserve resources to strengthen the natural environment, reduce greenhouse gases to improve and protect our environment” (NYSERDA, 2015). In 2010 the estimated greenhouse gas emissions for the Mohawk Valley Region were estimated 6.2 million metric tons with transportation (44%), residential energy consumption (23%) and commercial energy consumption(15%) being the largest contributing sectors (NYSERDA,2015). Utica and Rome are the two largest cities in the Mohawk Valley Region and make up one-fifth of the region's population and are the urban cores which contain the most intensive land uses and densities in the region (NYSERDA, 2015). Utica can play a large role in achieving regional sustainable development and be a leader in demonstrating smart growth practices which will not only improve the city but will contribute to regional sustainability.

Table 4 Mohawk Valley Regional Sustainability Goals

 Water Management (WM)	
<ul style="list-style-type: none"> ➤ Goal WM-1: Conserve water and related energy consumption. ➤ Goal WM-2: Maintain water quality. 	<ul style="list-style-type: none"> ➤ Goal WM-3: Improve existing infrastructure. ➤ Goal WM-4: Establish watershed planning.
 Land Use and Livable Communities (LULC)	
<ul style="list-style-type: none"> ➤ Goal LULC-1: Redevelop main streets, waterfronts, and brownfields. ➤ Goal LULC-2: Provide technical assistance and collaboration opportunities. 	<ul style="list-style-type: none"> ➤ Goal LULC-3: Identify, Preserve, and Protect Lands suitable for viable agriculture. ➤ Goal LULC-4: Invest in existing infrastructure and housing stock.
 Energy (E)	
<ul style="list-style-type: none"> ➤ Goal E-1: Reduce consumption of electricity and heat generated by fossil fuels. ➤ Goal E-2: Increase energy efficiency. 	<ul style="list-style-type: none"> ➤ Goal E-3: Increase renewable local energy generation and use for electricity and heat. ➤ Goal E-4: Evaluate life-cycle impacts of energy generation and use.
 Transportation (T)	
<ul style="list-style-type: none"> ➤ Goal T-1: Align transportation and land use planning and investment. ➤ Goal T-2: Improve efficiency in maintenance of transportation infrastructure. ➤ Goal T-3: Improve and connect regional multi-use trails. 	<ul style="list-style-type: none"> ➤ Goal T-4: Increase public transportation ridership. ➤ Goal T-5: Promote transportation alternatives.
 Economic Development (ED)	
<ul style="list-style-type: none"> ➤ Goal ED-1: Enhance regional concentrations to retain and create business in key growth sectors (REDC Goal – GROW). ➤ Goal ED-2: Align the region's workforce with the appropriate education and training to increase the supply of skilled workers (REDC Goal – BUILD). ➤ Goal ED-3: Create innovation enabling infrastructure that will drive entrepreneurialism (REDC Goal – CREATE). 	<ul style="list-style-type: none"> ➤ Goal ED-4: Restore infrastructure and increase spatial efficiencies that will revitalize existing urban and town centers (REDC Goal – REVIVE). ➤ Goal ED-5: Strengthen government and civic effectiveness to produce a more vibrant economy (REDC Goal – FORGE). ➤ Goal ED-6: Promote unique regional assets through a unified identity and campaign.

Source: NYSERDA (2015). Mohawk Valley Regional Sustainability Plan. Retrieved from <http://www.nyserdera.ny.gov>.

**MEASURING SUSTAINABLE NEIGHBORHOOD DEVELOPMENT:
LEED FOR NEIGHBORHOOD DEVELOPMENT**

Without evidence or metrics by which to gauge the effectiveness of revitalization efforts sustainable development is at risk of remaining just a 'buzzword' used in discourse and marketing (Lorr, 2012; Sustainable Cities International, 2012). In order to translate sustainability goals, ideas, and plans into tangible results and change indicators are necessary to identify where there is a need, track progress and demonstrate improvement. With more and more designers and planners promoting sustainability several assessment tools for urban communities have been developed, most of which follow an indicator based approach to identify baseline conditions of an area and the effects of policy or design action (Hemphill, Berry, & McGreal, 2004). In the context of sustainability, indicators can be thought of as "a policy-relevant variable defined in such a way as to be measurable over time and space" (Sustainable Cities International, 2012). Rather than just take into consideration traditional economic indicators like job growth or income, contemporary evaluation frameworks incorporate environmental and social issues into their assessment.

While there is much ambiguity in the field of sustainable development around exact definitions or defining characteristics there are several contemporary assessment tools which focus on the social, environmental and design elements of urban communities and mitigating the impacts of development projects (Haapio, 2012). Some international examples include: BREEAM Communities (Research Establishment's Environmental Assessment Method) in the United Kingdom which has 51 criteria in eight categories focused on climate and energy, ecology and biodiversity, business, and place shaping. Another tool developed

by the Institute for Building Environment and Energy Conservation in Japan is CASBEE for Cities; this tool focuses on nature conservation, local environmental quality, resource recycling, carbon dioxide absorption, living environment, social services, social vitality, industrial vitality, financial vitality, carbon dioxide trading. In the United States the Leadership in Energy and Environmental Design (LEED) certification program is the most visible assessment tool used by designers, developers, and local government in rating the success of design, operation, and construction of high performance green buildings. Within the LEED program there is also LEED for Neighborhood Development (LEED-ND). LEED-ND is a rating system developed by the Congress for New Urbanism, U.S. Green Building Council and Natural Resources Defense Council and is used to measure green neighborhood development practices. The intent of the system is to “promote healthy, durable, affordable, and environmentally sound practices in building design and construction” (LEED ND 2009 Manual).

LEED-ND is organized into three sections of analysis: Smart Location and Linkage (SLL), Neighborhood Pattern and Design (NPD) and Green Infrastructure and Buildings (GIB). The New Urbanist guidelines and values incorporated into the LEED-ND tool incorporate current, generally accepted professional perspectives on urban design elements and characteristics which value variety, permeability, security, appropriate scales, design open for future adaptations and continuing changes, human scale and compactness, legibility, visual richness, a mix of uses and activities, and a variety of accessible public spaces, ease of pedestrian, bicycle and vehicular traffic ((Shemirani & Hodjati, 2013)

The Smart Location and Linkage and Neighborhood Pattern and Design categories analyze variables like walkability, access to public

transit, access to diverse services, access to green space and recreation, and access to community gardens in order to assess the neighborhoods success in limiting automobile trips, encouraging walking, bicycling, and public transportation for daily errands and commuting. The Green Infrastructure and Building Category analyzes environmental excellence in building design, efficient use of natural resources, adaptation and re-use of existing structures, and reduction of urban heat island effects and storm water runoff. The LEED-ND belief is that green neighborhoods beget social benefits as well. The ultimate goal is an environmentally sustainable neighborhood which also has an inviting character, well-defined public spaces, and is easy to move in-out-and-around of via non-automobile modes of transit.

LEED-ND uses a point system to rank and qualify variables within each category. Projects must meet prerequisites and then obtain credits which have different point values. Certified Projects score 40-49 points, Silver Projects score 50-59 points, Gold Projects score 60-79 points, and Platinum Projects score 80-106 points.

While LEED-ND is traditionally used as a tool for assessing new projects and development after construction there are a few precedents for using LEED-ND for analyzing existing conditions in cities. LEED-ND can be an incredibly effective and useful existing conditions audit tool in Utica as the criteria in these three categories provide an important understanding of the physical reality and neighborhood design patterns of the city, which in turn provide a picture of existing environmental performance and neighborhood character. Revitalization efforts can be more directed and impactful when they can be compared to baseline conditions.

LEED-ND FOR EXISTING CONDITIONS CASE STUDIES

SALT District, Syracuse, New York

The SALT District LEED-ND Recommendations Report has been the most important precedent for understanding how LEED-ND can be used to understand the existing conditions of an area and where there are opportunities for improvement. The study began in 2008 with the goal of testing whether LEED-ND can be effectively used to guide retrofits in an existing neighborhood, use the LEED-ND criteria to identify strengths and weaknesses of the neighborhood, and use LEED-ND to recommend actions and priorities for the neighborhood plan. The recently branded SALT (Syracuse Arts, Life and Technology) district was created through coordinated efforts between non-profits, residents, local government, and the Near Westside Initiative with the goal of promoting environmental sustainability, provide economic opportunity and promote appropriate redevelopment. The study area encompassed 156 acres in 2008 and has many characteristics—like proximity to school, diversity of housing types, and a well connected street grid system—which make is an opportune setting for sustainable revitalization. This report and neighborhood are very similar to conditions in Utica; industrial decline and disinvestment in urban areas has led to socioeconomic challenges, vacant and abandoned properties, and deteriorating infrastructure (Raimi + Associates, 2011). The report first outlines existing conditions using maps and data collection then outlines neighborhood assets and challenges and then outlines recommendations and results as well as a neighborhood strategy framework. The SALT district achieved 16 points in Smart Location and Linkage, 14 points in Neighborhood Pattern and Design, 3 points for Green Construction and Technology and 2 points in Innovation and Design for a

total of 35 points.

While the points do not qualify the existing area for certification the report emphasizes that the area has “high quality urban forms that offer many opportunities for meaningful and successful investment” (Raimi + Associates, 2011). Some of the major assets of the area include” a wide diversity of land uses, proximity to downtown, existing building re-use, access to food, access to schools, diversity of building types, and architectural and historical quality. Some challenges include: a large number of vacant lots, zoning barriers to desired development, a large number of surface parking lots, and lack of street trees.

Due to a longer time-frame, more resources and more community partners the SALT report is much more extensive than this thesis, however it has provided the basic framework for analyzing downtown Utica in a systematic way in order to provide metrics and evidence which will inform future development.

Loring Park Neighborhood, Minneapolis, Minnesota

The Loring Park Neighborhood assessment is another case in which stakeholders wanted to have a better understanding of baseline conditions before a new master plan for the neighborhood is created. This report also referred to the SALT District study for guidance in how to use LEED-ND as an existing conditions audit tool. Loring Park, located Southwest of downtown Minneapolis, is “one of the most densely populated and diverse neighborhoods in Minneapolis” (DeCoursey, 2010) and already has diverse business, housing and cultural institutions, an active street life and has an extensive public transportation network. Challenges for the neighborhood include vacant structures and unsafe

bike and pedestrian areas.

The LEED-ND study was conducted in coordination with plans for a comprehensive master plan for the neighborhood. The goal of the report was to explore the potential for part of Loring Park to become LEED-ND certified—given the opportunity with a new master plan the report surveys the neighborhood in order to vision potential for future LEED-ND certifiable development. The report demonstrates sustainability assets of the neighborhood and makes recommendations for future sustainable development. Just like this thesis, the study used LEED-ND as a basic framework for data collection. The study area encompassed four sub-areas [insert map] and overall the existing area as-is could earn up to 22 points.

Based on results of the study they make recommendations to include affordable housing in new residential developments, increase the non-residential floor area ratio in the neighborhood, push for adaptable re-use of existing structures and strategically choose future project sites. In contrast to the SALT District report and this thesis study, the Loring Park study is much more focused on identifying specific project sites for future LEED accredited projects.

UTICA LEED-ND AUDIT

The following section is an assessment of existing neighborhood conditions in downtown Utica, New York based on LEED-ND criteria for sustainable neighborhoods and using the SALT District study as a guideline for using LEED-ND to analyze existing conditions. The purpose of this assessment is to provide an understanding of current neighborhood patterns and sustainability in downtown Utica. The results are organized based on the three LEED-ND categories, Smart Location and Linkage, Neighborhood Pattern and Design and Green Infrastructure and Building. After a brief description of results and points earned there is a table summary of credits for each section followed by the maps I created to analyze the area. There is then a detailed table for each section with explanations for each credit and why points were earned or not earned.

METHODOLOGY

The LEED for Neighborhood Design Manual served as the guiding framework for this investigation. I worked through the descriptions and explanations for every category and every credit and then analyzed data and created maps to determine what points the neighborhood qualified for.

All data for this report was collected and analyzed using Geographic Information Systems (GIS), Google Earth, and website information. Public transportation data was collected from the transit provider CENTRO website. Data about parking spots and ground-level conditions like sidewalk quality and facade design were estimated using Google street-view imagery. When calculating Dwelling Unit Density/Acre

(DU/acre) and Floor Area Ratios (FAR) parcel areas were collected from GIS data and compared to Gross Building Floor Areas collected from the City of Utica Assessors Department interactive database. Detailed analysis for water and energy efficiency of each building in the study area has not been conducted; instead general assumptions have been made based on energy and water usage calculated by Gloria Aguirre and Pradeep Prathibha (2015) using the Tabernacle Church, the Stanley Theater, and several older residential structures located at 1005 Park Ave, 1632 West St. and 1412 Steuben Street.

All results have been compiled into a table format which outlines the LEED-ND requirements and how the assessment area in Utica qualified or did not qualify for the points. When appropriate a map is used to show the existing conditions of the area and provide evidence for the allocation of credit points. Many of the requirements are only applicable to new construction and projects, not existing conditions analysis. In these cases I have listed either "NA" as not applicable or "MAYBE" as future development in the area may qualify the study area for more points, and in some cases have provided relevant calculations of existing conditions.

ASSESSMENT STUDY AREA

The assessment study area is located in downtown Utica, New York about a quarter mile northwest from Oneida Square and is centered around several vacant parcels identified for redevelopment into the One World Garden (a Rust to Green project). The study area encompasses both downtown businesses as well as residential areas extending southeast from Park Avenue. This area is part of the Utica Scenic & Historic District and contains the historic Stanley Theater.



Map 3 Study Area Boundary and Context

SMART LOCATION AND LINKAGE

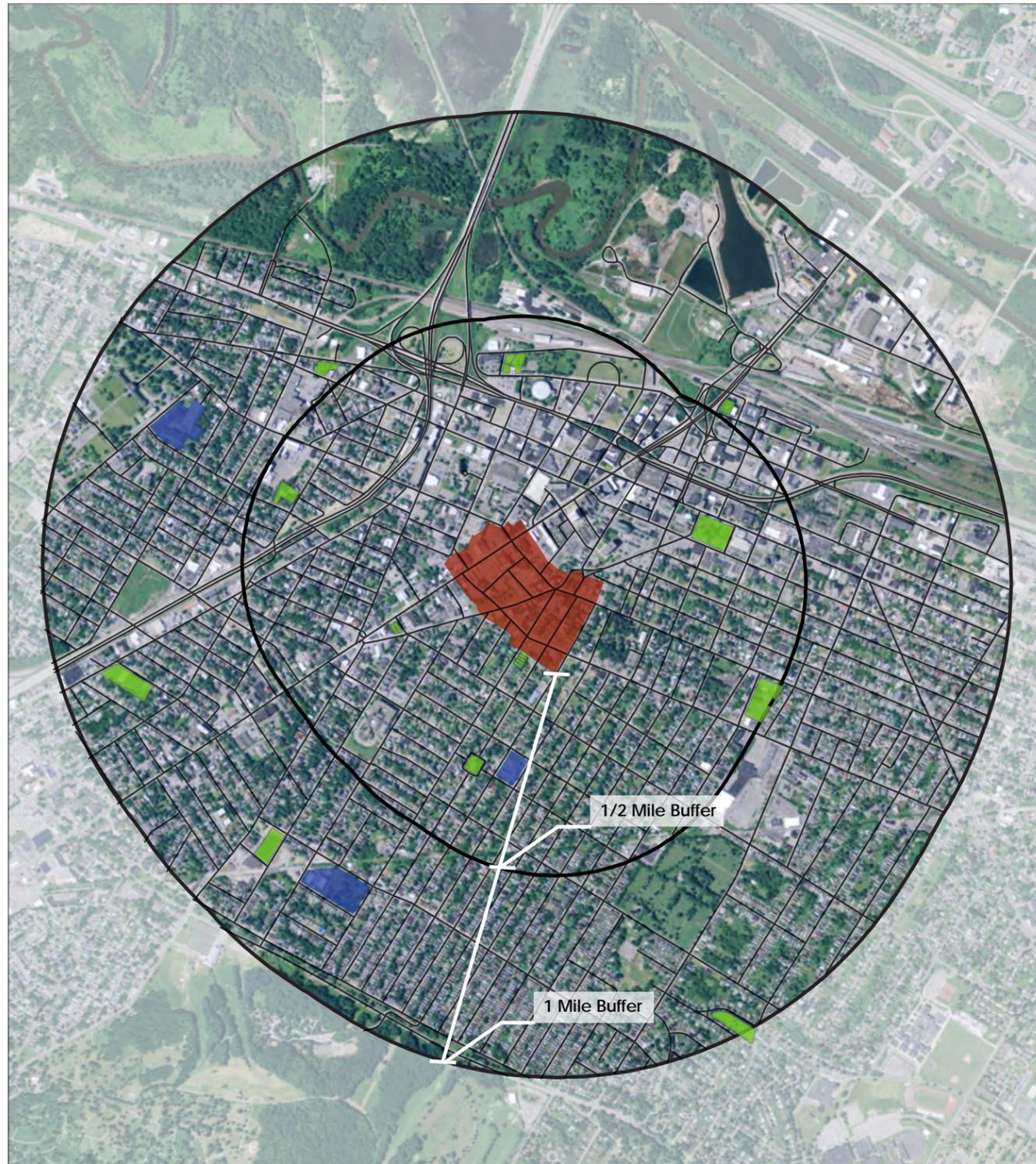
The project area qualified for 5 out of 28 points in the Smart Location and Linkage category; most of these points were gained because the assessment area is not impacted by floodplains, avoids steep slopes, is a site without imperiled species, wetlands or ecological communities and has a moderate level of connectivity. The intersection density in the project area qualifies any development inside the boundary as “infill”, however the 150 intersections per square mile is still not dense enough to qualify for the maximum points under the “Connectivity” sub-category. While the area is served by at least 10 different bus routes and is in 1/4 mile proximity of several bus stops and the CENTRO bus hub no points were given for “Reduced Automobile Dependency” because buses do not run seven days a week. Additionally there is not a formal bicycle network or infrastructure. Overall the assessment area is a well situated and connected neighborhood but could be enhanced by more comprehensive public transit hours and improved infrastructure.

The assessment area is located centrally in downtown Utica such that within a 1 mile buffer from the study boundary there is a substantial street network and proximity to parks and schools. The area is designated as an infill site based on the intersection density of the area within a 1/2 mile of the area boundary. More points for connectivity were not gained because of a relatively low intersection density. The large downtown block structure makes it difficult to increase intersection density. Although the assessment area does not qualify for LEED “High Priority” location points, the area is covered by much of the New York State Empire Zone program which provides business incentives. This indicates that the area could be attractive for future redevelopment and business growth. This

area in Utica has 46 bus stops within a quarter mile of the assessment area boundary, which connect to 10 different bus routes offering nearly 190 weekday trips and 119 trips on Saturdays. In addition the assessment area is located close to two bus hubs: the CENTRO hub on Elizabeth St. and the Utica Boehlert Transportation Center at Union Station. If bus service was offered 7 days a week this neighborhood would be eligible for up to 5 points--increased weekend service would be beneficial for citizens either working or living in the assessment area who rely on public transportation. There are a few designated bike routes in the area, mainly the Oneida County 'Connecting Roadway' and 'Utica Loop A' paths. The fairly dense nature of the downtown area also means these paths are in proximity to many "diverse uses" (services and shops) however quality bicycle infrastructure is lacking. There are not designated bicycle lanes on roads or seperated bike paths and bicycle storage is lacking.

Table 5 Smart Location and Linkage Credits

<i>Credit or Prerequisite</i>	<i>Points Earned</i>	<i>Points Possible</i>
<i>Smart Location</i>	<i>(prereq)</i>	-
<i>Imperiled Species and Ecological Communities Conservation</i>	<i>(prereq)</i>	-
<i>Wetland and Water Body Conservation</i>	<i>(prereq)</i>	-
<i>Agricultural Land Conservation</i>	<i>(prereq)</i>	-
<i>Floodplain Avoidance</i>	<i>(prereq)</i>	-
<i>Preferred Locations</i>	4	10
<i>Brownfields Redevelopment</i>	0	2
<i>Locations with Reduced Automobile Dependence</i>	0	7
<i>Bicycle Network and Storage</i>	0	2
<i>Housing and Jobs Proximity</i>	0	3
<i>Steep Slope Protection</i>	1	1
<i>Site Design for Habitat or Wetland and Water Body Conservation</i>	0	1
<i>Restoration of Habitat or Wetlands and Water Bodies</i>	0	1
<i>Long-Term Conservation Management of Habitat or Wetlands and Water Bodies</i>	0	1
<i>TOTAL</i>	5	28



- Streets
- Buffers from Study Area Boundary Edge (1/2 and 1 mile)
- Study Area Boundary
- Parks
- Schools (public)

Area of Study Area Boundary
47 acres

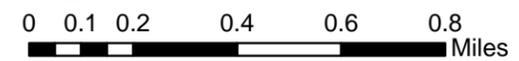
Total Street Length Inside 1Mile Buffer
100.9 miles

Total Area Within 1Mile Buffer of Project
4.34 sq. miles

Total Area Within 1/2Mile Buffer of Project
1.41 sq. miles

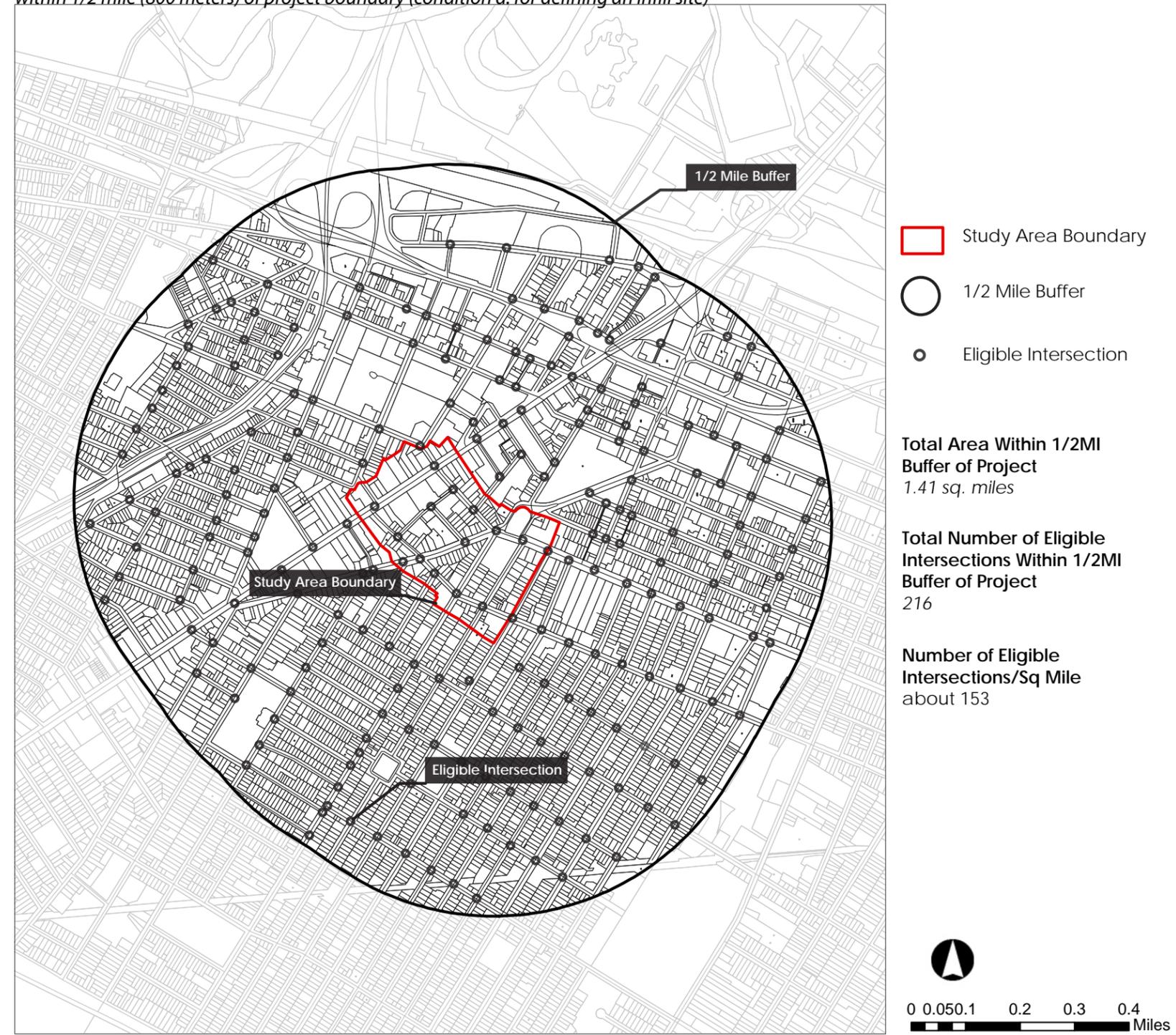
Total Area Excluded from Analysis (schools, parks)
0.05 sq. miles

Total Net Area
4.29 sq. miles



Map 4 Smart Location Context in Downtown Utica, NY

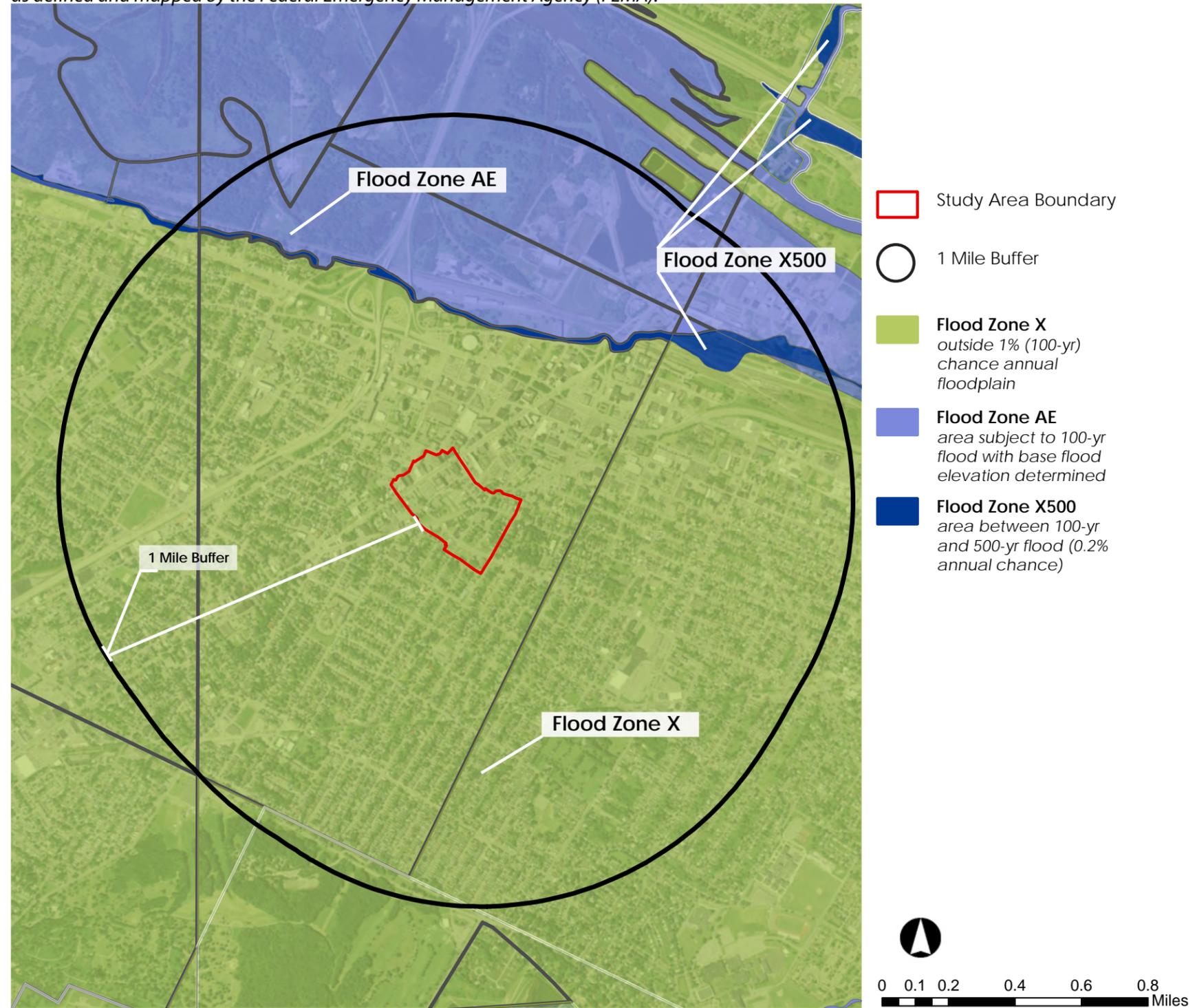
Prereq 1. Smart Location-OPTION 1 Infill Site
*Infill project site based on minimum 140 intersections/sq.mi.(54 intersections/square kilometer)
 within 1/2 mile (800 meters) of project boundary (condition d. for defining an infill site)*



Map 5 Intersection Density within 1/2 MI Buffer of Assessment Boundary

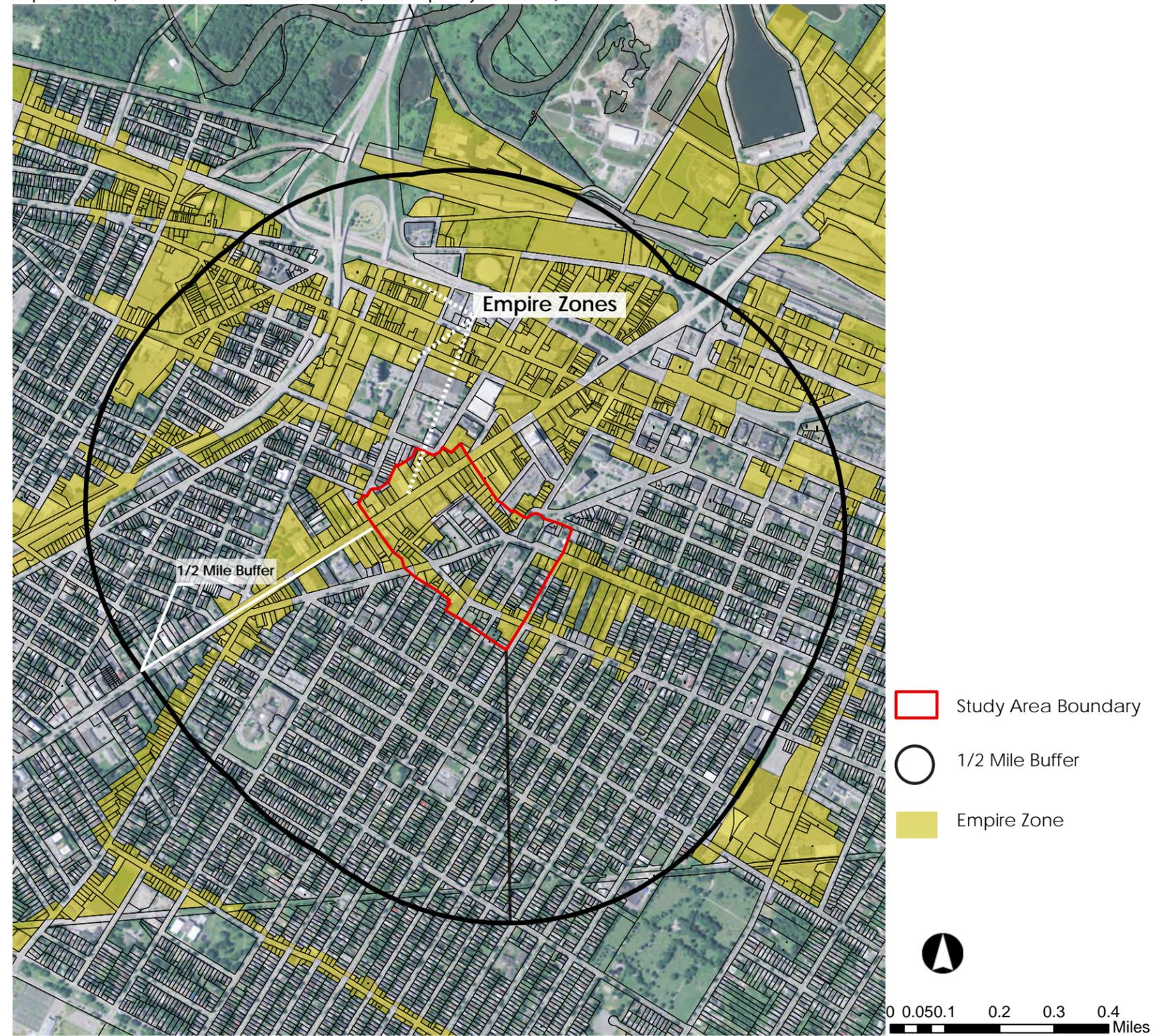
Prereq 5. Floodplain Avoidance-OPTION 1 Sites Without Floodplains

Locate on a site that does not contain any land within a 100-year [1%] high or moderate risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA).

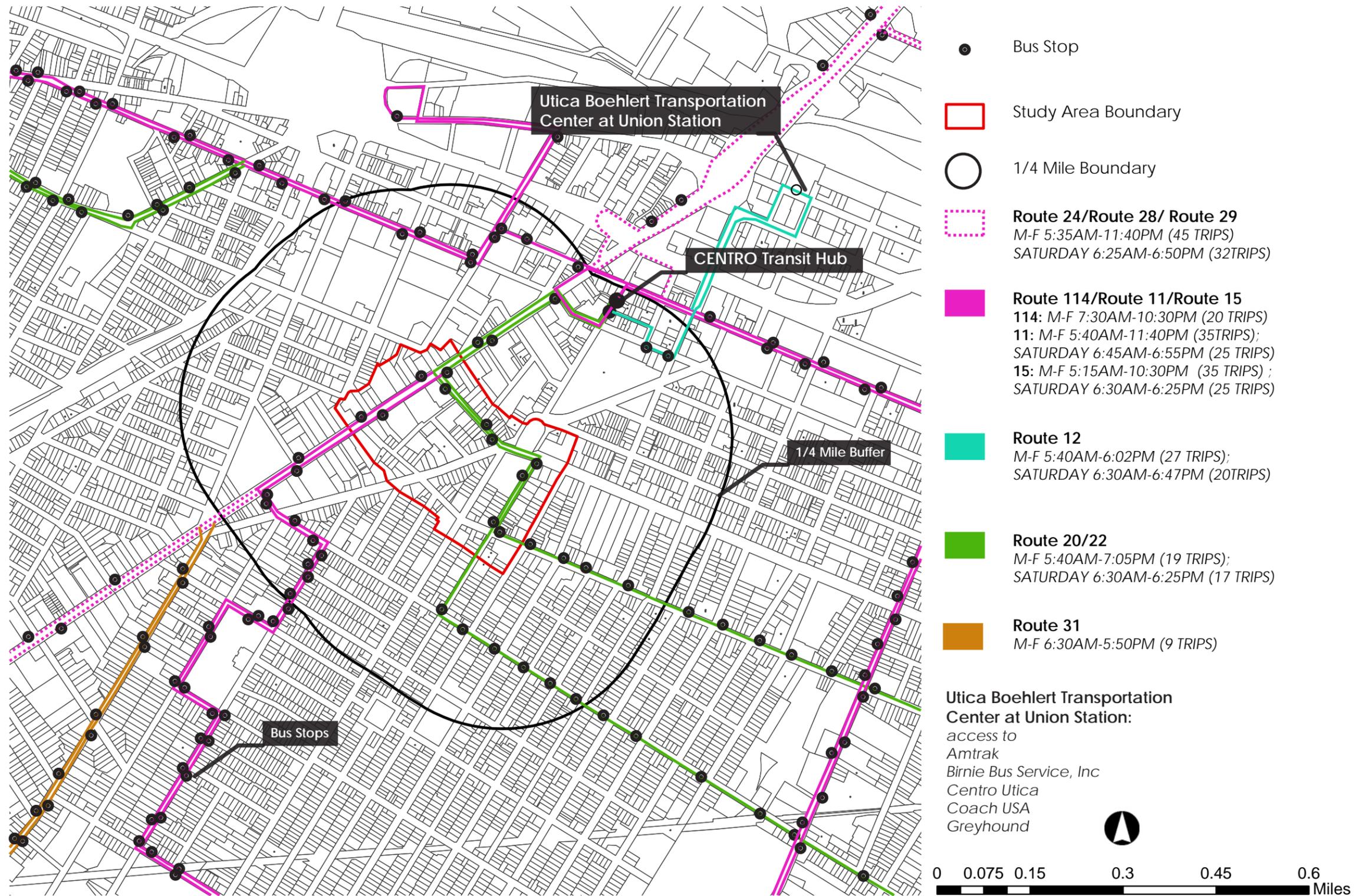


Map 6 Floodplain Location of Assessment Area

New York State Empire Zone Program: businesses in Empire Zones can apply for incentives like Wage Tax Credit, Zone Capital Credit, New York State Sales Tax Refund, Real Property Tax Credit, and Tax Reduction Credit.



Map 7 New York State Empire Zones



Map 8 Public Transit: Bus Routes and Stops Serving the Assessment Area

Table 6 Smart Location and Linkage Credit Breakdown

PREREQ 1: SMART LOCATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Either (a) locate the project on a site served by existing water and wastewater infrastructure or (b) locate the project within a legally adopted, publicly owned, planned water and wastewater service area, and provide new water and wastewater infrastructure for the project.	YES			
AND OPTION 1. Infill Sites Locate the project on a site which qualifies for one of the following: (a) 75% of its boundary borders parcels that individually are at least 50% previously developed/aggregate at least 75% previously developed (b) The site in combination with bordering parcels forms an aggregate boundary whose boundary is 75% bounded by parcels previously developed (c) At least 75% of the land area (exclusive of rights-of-way) within a 1/2 mile (800m) distance from project boundary is previously developed (d) Lands within 1/2 mile distance from project boundary have a preproject connectivity of at least 140 intersections per square mile	YES	The Utica assessment area qualifies as an infill site based on description (d). There is an intersection density of about 153 intersections/square mile in the 1/2 mile area extending from the assessment area boundary.	NA prereq	NA prereq
PREREQ 2: IMPERILED SPECIES AND ECOLOGICAL COMMUNITIES CONSERVATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Consult with the state Natural Heritage Program and state fish and wildlife agencies (or a local equivalent for projects outside the United States) to determine whether species listed as threatened or endangered under the federal Endangered Species Act, the state's endangered species act, or species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled) have been or are likely to be found on the project site because of the presence of suitable habitat and nearby occurrences	YES	There are no affected species or ecological communities near the Utica assessment area.	NA prereq	NA prereq
PREREQ 3: WETLAND AND WATER BODY CONSERVATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Sites with No Wetlands, Water Bodies, Land within 50 Feet (15 meters) of Wetlands, or Land within 100 Feet (30 meters) of Water Bodies: Locate the project on a site that includes no wetlands, no water bodies, no land within 50 feet (15 meters) of wetlands, and no land within 100 feet (30 meters) of water bodies.		The Utica Assessment area does not impact nor is impacted by any wetlands or waterbodies.	NA prereq	NA prereq

Table 6 (continued) Smart Location and Linkage Credit Breakdown

PREREQ 4: AGRICULTURAL LAND CONSERVATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Locate the project on a site that is not within a state or locally designated agricultural preservation district, unless any changes made to the site conform to the requirements for development within the district (as used in this requirement, "district" does not equate to land-use zoning).				
AND OPTION 1. Protected Soils Not Impacted Locate the project development footprint such that it does not disturb prime soils, unique soils, or soils of state significance as identified in a state Natural Resources Conservation Service soil survey.	YES	The Utica Assessment area is located in an area which does not have protected soils	NA prereq	NA prereq
PREREQ 5: FLOODPLAIN AVOIDANCE				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Sites without Floodplains Locate on a site that does not contain any land within a 100-year high- or moderate-risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) (or a local equivalent for projects outside the U.S.) or a state or local floodplain management agency., whichever is more recent.		The Utica Assessment area is located in FEMA Flood Zone X, which is classified as areas outside the 1% (100 year) flood plain.	NA	NA
CREDIT 1: PREFERRED LOCATIONS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Location Type Locate the project in one of the following locations: (a) A previously developed site that is not an adjacent site or infill site (1 point). (b) An adjacent site that is also a previously developed site (2 points). (c) An infill site that is not a previously developed site (3 points). (d) An infill site that is also a previously developed site (5 points).	YES	The Utica site qualifies as an infill site based on condition (d). There are approximately 150 intersections per square mile within a 1/2 mile area of the assessment area boundary.	3	5
AND/OR OPTION 2. Connectivity Locate the project in an area that has existing connectivity within 1/2 mile (800 meters) of the project boundary based on: less than 200 to 250 intersections per sq mi is equal to one point. Can gain up to five points if there are 400 or more intersections per sq mi.	YES	The intersections per square mile is less than 200, so the area only qualifies for one point.	1	2
AND/OR OPTION 3. Designated High-Priority Locations Earn at least 2 points under NPD Credit 4, Option 2, Affordable Housing. In addition, locate the project in one of the following high-priority redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community (a subset of the New Markets Tax Credit Program), or the U.S. Department of Housing and Urban Development's Qualified Census Tract (QCT) or Difficult Development Area (DDA), or a local equivalent program administered at the national level for projects outside the United States.	NO	While the area is designated as a Community Development Block Grant (CDBG) area there are currently no new affordable housing units in the area which disqualifies the area from earning points in this section.	0	3
TOTAL			4	10

Table 6 (continued) Smart Location and Linkage Credit Breakdown

CREDIT 2: BROWNFIELDS REDEVELOPMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Brownfield Sites Locate the project on a site which is documented as contaminated, or on a site defined as a brownfield by a local, state, or national government agency.	NO	The assessment area is not located in a brownfield area (see the NY DEC Remediation Database at http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3)	0	1
AND OPTION 2. High Priority Redevelopment Areas Qualify for option 1 and locate project in a High-Priority redevelopment area (EPA National Priorities List, Federal Enterprise Community, etc.)	NO	NA because the area does not qualify for Option 1	0	1
TOTAL			0	2
CREDIT 3: REDUCED AUTOMOBILE DEPENDENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Transit-Served Location Locate the project on a site with existing transit service such that at least 50% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a 1/4-mile (400 meters) walk distance of bus or streetcar stops, or within a 1/2-mile (800 meters) walk distance of bus rapid transit stops, light or heavy rail stations, or ferry terminals, and the transit service at those stops in aggregate meets a minimum of 60 weekday trips and minimum 40 weekend trips. Both weekday and weekend trip minimums must be met to earn points at a particular threshold. Service must be offered everyday.	MAYBE	The bus routes which pass within a quarter mile distance of the assessment area offer nearly 190 weekday trips and 119 trips on Saturday, however there is no bus service offered on Sundays which is why no points are earned in this category despite high levels of physical connectivity. (see bus schedules and interactive map in appendix and at https://www.centro.org/UticaSchedules.aspx ; http://bus-time.centro.org/bustime/map/displaymap.jsp)	0	7
OR OPTION 2. Metropolitan Planning Organization Location with Low Vehicle Distance Travelled Locate the project within a region served by a metropolitan planning organization (MPO) and within a transportation analysis zone (TAZ) where either (a) the current annual home-based vehicle distance per capita or (b) the annual non homebased vehicle distance travelled per employee does not exceed 90% of the average of the equivalent metropolitan region value.	NO	Vehicle Miles Traveled is not analyzed at a TAZ level for this area.	0	7 (OR)
TOTAL			0	7
CREDIT 4: BICYCLE NETWORK AND STORAGE				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
BICYCLE NETWORK meets at least one of the following: (a) an existing bicycle network of at least 5 continuous miles in length is within 1/4 mile (400meters) bicycling distance of the project boundary (b) if project is 100% residential, existing bicycling network begins within 1/4 mile of project boundary and connects to a school or employment center within 3 miles bicycling distance (c) existing bicycle network within 1/4 mile of project boundary connects to at least ten diverse uses within 3 miles distance from the project boundary	MAYBE	The Oneida County 'Connecting Roadway' and 'Utica Loop A' paths pass through a 1/4 mile proximity of the assessment area. (See Oneida County Map O-2 in appendix)	0	0.5

Table 6 (continued) Smart Location and Linkage Credit Breakdown

REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>AND BICYCLE STORAGE provides bicycle parking and storage capacity to new buildings:</p> <p>(a) Multi-unit residential: one secure, enclosed spot per occupant for 30% of planned occupancy but no fewer than one per unit. Secure visitor bike racks on-site with at least one space per ten dwelling units, no fewer than four spaces per project site.</p> <p>(b) Retail: One, enclosed space per new retail worker for 10% of retail worker planned occupancy. One visitor space per 5,000 square feet of retail space, at least one on-site shower for development with 100 or more new workers.</p> <p>(c) Nonresidential: one storage space per new occupant for 10% of planned occupancy. Visitor racks one space per 10,000 square feet of new commercial nonretail space with at least one on-site shower with 100 or more new workers.</p>	MAYBE	A further on-site study would need to be done to count the exact number of bicycle storage units and infrastructure in the assessment area, however for this assessment it is assumed that there is little to no bicycle storage in the surrounding area. Without adequate bicycle storage the assessment area is not eligible for this point.	0	0.5 (AND)
TOTAL			0	1

CREDIT 5: HOUSING AND JOBS PROXIMITY

REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Project with Affordable Residential Component</p> <p>Include a residential component equaling at least 30% of the project's total building floor area (exclusive of parking structures), and locate and/or design the project such that the geographic center (or boundary if the project exceeds 500 acres/ 200 hectares) is within 1/2-mile (800 meters) walk distance of existing fulltime-equivalent jobs whose number is equal to or greater than the number of dwelling units in the project; and satisfy the requirements necessary to earn at least one point under NPD Credit 4, Mixed-Income Diverse Communities, Option 2, Affordable Housing.</p>	MAYBE	Because this is a study of existing conditions and not a completed project it is difficult to assess any of the three options for this category. Would need a more thorough economic study of jobs and businesses in the area.	0	3
<p>OR OPTION 2. Project With Residential Component</p> <p>Include a residential component equaling at least 30% of the project's total building floor area (exclusive of parking structures), and locate and/or design the project such that the geographic center (or boundary if the project exceeds 500 acres /200 hectares) is within 1/2-mile (800 meters) walk distance of existing full-timeequivalent jobs whose number is equal to or greater than the number of dwelling units in the project.</p>	MAYBE		0	3 (OR)
<p>OR OPTION 3. Infill Project with Nonresidential Component</p> <p>Include a nonresidential component equaling at least 30% of the project's total building floor area (exclusiveof parking structures), and locate on an infill site whose geographic center (or boundary if the project exceeds 500 acres /200 hectares) is within 1/2-mile (800 meters) walk distance of an existing rail transit, ferry, or tram stop and within 1/2-mile (800 meters) walk distance of existing dwelling units whose number is equal to or greater than 50% of the number of new full-time-equivalent jobs created as part of the project.</p>	MAYBE		0	3 (OR)
TOTAL			0	3

Table 6 (continued) Smart Location and Linkage Credit Breakdown

CREDIT 6: STEEP SLOPE PROTECTION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
All options apply to existing natural or constructed slopes. Portions of project sites with slopes up to 20 feet (6 meters) in elevation, measured from toe (a distinct break between a 40% slope and lesser slopes) to top, that are more than 30 feet (9 meters) in any direction from another slope greater than 15% are exempt from the requirements, although more restrictive local regulations may apply.			NA	NA
OPTION 1. No Disturbance of Slopes Over 15% Locate on a site that has no existing slopes greater than 15%, or avoid disturbing portions of the site that have existing slopes greater than 15%.	YES	The assessment area and all of downtown Utica does not contain a slope larger than 3%.	1	1
TOTAL			1	1
CREDIT 7: SITE DESIGN FOR HABITAT OR WETLAND AND WATER BODY CONSERVATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Sites without Significant Habitat or Wetlands and Water Bodies Locate the project on a site that does not have significant habitat, as defined in Option 2 of this credit, or land within 100 feet (30 meters) of such habitat, and fulfill the requirements of Options 1 or 2(a) under SLL Prerequisite 3, Wetland and Water Body Conservation.	YES	The assessment area is not impacted and does not impact any wetlands or water bodies.	1	1
TOTAL			1	1
CREDIT 8: RESTORATION OF HABITAT OR WETLAND AND WATER BODY CONSERVATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Using only native plants, restore predevelopment native ecological communities, water bodies, or wetlands on the project site in an area equal to or greater than 10% of the development footprint. Work with a qualified biologist to ensure that restored areas will have the native species assemblages, hydrology, and other habitat characteristics that likely occurred in predevelopment conditions	MAYBE	A category for projects, not existing conditions For future development this is an important consideration.	0	1
TOTAL			0	1
CREDIT 9: LONG TERM CONSERVATION MANAGEMENT OF HABITAT OR WETLANDS AND WATER BODIES				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Create and commit to implementing a long-term (at least ten-year) management plan for new or existing on-site native habitats, water bodies, and/or wetlands and their buffers, and create a guaranteed funding source for management. Involve a qualified biologist or a professional from a natural resources agency or natural resources consulting firm in writing the management plan and conducting or evaluating the ongoing management.	MAYBE	Goal for any future development in or around the assessment area.	0	1
TOTAL			0	1

SMART LOCATION AND LINKAGE POINTS ANALYSIS

CREDIT 1: PREFERRED LOCATIONS

The large block structure of the area makes it difficult to increase intersection density, thus difficult to gain more points in this category. There is however opportunity to gain more points with the creation of more affordable housing in the area. It would be necessary to create a minimum 5% of total rental units priced up to 60% AMI and 10% of total rental units priced up to 80% of AMI; 5% of total for-sale units priced up to 100% AMI and 8% priced up to 120% of AMI.

CREDIT 3: REDUCED AUTOMOBILE DEPENDENCY

This area in Utica has 46 bus stops within a quarter mile of the assessment area boundary, which connect to 10 different bus routes offering nearly 190 weekday trips and 119 trips on Saturdays. In addition the assessment area is located close to two bus hubs: the CENTRO hub on Elizabeth St. and the Utica Boehlert Transportation Center at Union Station. If bus service was offered 7 days a week this neighborhood would be eligible for up to 5 points. More points could also be earned with increased weekday and weekend trips.

CREDIT 4: BICYCLE NETWORK AND STORAGE

There are a few designated bike routes in the area, mainly the Oneida County 'Connecting Roadway' and 'Utica Loop A' paths. The fairly dense nature of the downtown area also means these paths are in proximity to many "diverse uses" (services and shops) however quality bicycle infrastructure is lacking. There are not designated bicycle lanes on roads or separated bike paths and bicycle storage is lacking. The area could gain more points, and be a more bicycle friendlier environment with improvement of bicycle infrastructure.

CREDIT 5: HOUSING AND JOBS PROXIMITY

Currently the assessment area encompasses 185 parcels, 55 of which are residential and 38 are non-residential (the remaining parcels are vacant-67 parcels or parking lots-25+ parcels). The residential density is 22.17 dwelling units/acre and the Floor Area Ratio (FAR) of commercial buildings is 1.02. The high rate of vacant property provides an opportunity for future infill development which would be well situated in the downtown in proximity to public transportation and services.

NEIGHBORHOOD PATTERN AND DESIGN

The project area qualified for 12 out of 41 possible points in the Neighborhood Pattern and Design category. The existing area has relatively high access to parks, recreation and local food production (community gardens and farmer's market). It also has a good diversity of housing and high housing density—however an analysis of affordability and quality of the housing is a missing piece of this report. A majority of existing dwelling units are also within a ½ mile walk of the Martin Luther King Jr School, which qualifies this area as a more desirable, walkable neighborhood. Although the area performs well in these categories the prevalence of vacant lots and surface parking lots decreased points earned and also detracts from the desirable features of the area. While the area has a complete sidewalk network the maintenance of infrastructure is variable, there are few designated pedestrian crossing areas, there are no traffic calming measures and residential street speeds are still relatively high.

ACCESS TO PUBLIC SPACE AND RECREATION FACILITIES

Within a 1/4 mile boundary of the assessment area there are three parks totalling 2.55 acres and within a 1/2 mile boundary of the assessment area there are 8 total park/recreation areas with a total area of 12.65 acres. The recreation areas have various amenities ranging from basketball courts, swings, and playgrounds to bocce courts and tennis courts. While the area qualifies for points based on public space acreage it is important to consider that many of these areas are difficult to access by foot because of obstructions (roads, poor sidewalk infrastructure, etc.)

ACCESS TO FOOD AND LOCAL FOOD PRODUCTION

There are approximately 34,500 sq ft of dedicated growing space within a 1/2 mile boundary of the assessment area and the Utica Farmer's Market (operating June through October) is located close to the project. While there are community gardens producing fresh produce the closest supermarket with fresh produce is located over a mile away. There are also a large number and diversity of restaurants in the area.

BUILDING AND LAND USE

There are 39 nonresidential buildings in the assessment area with a total combined gross floor area of 587, 272 square feet. The Floor Area Ratio (FAR) for nonresidential buildings is calculated to be 1.02. There are 56 residential buildings with a total combined gross floor area of 299,171 square feet. The Dwelling Unit/buildable acre is 22.17. 53 parcels are dedicated to surface parking while there are 46 vacant parcels (see appendix for detailed table of residential and nonresidential building locations and square footage).

RESIDENTIAL LAND DISTRIBUTION

In order to qualify for points as a diverse and mixed community the assessment area and surrounding 1/4 mile must include a sufficient variety of housing sizes and types in the project such that the total variety of planned and existing housing within the project achieves a Simpson Diversity Index score greater than 0.5. Based on this analysis the area achieved a score of 0.67. This indicates there is a relatively high amount of diversity in housing. This analysis however does not take into consideration affordability or quality of these options.

PARKING

Parking is an important category to analyze existing conditions because of the high impact of parking on neighborhood design. There is a prevalence of off-street, surface parking lots in the existing assessment area. Nearly 7 acres of the assessment area is dedicated to surface parking with 780 total spaces. These numbers do not include on-street parallel parking spots. Much of these parking areas are located along main thoroughfares and neighborhood streets such that pedestrian paths pass by frontage which is mostly empty. A safe, inviting, interesting, and well used public space should instead have human-scaled buildings and interesting details like trees.

WALKABLE STREETS

The intent of the Walkable Streets credit is to “promote walking by providing safe, appealing, and comfortable street environments”. While a more complete site study must be done to understand the existing conditions of building frontages, facades, and sidewalk intrusions the

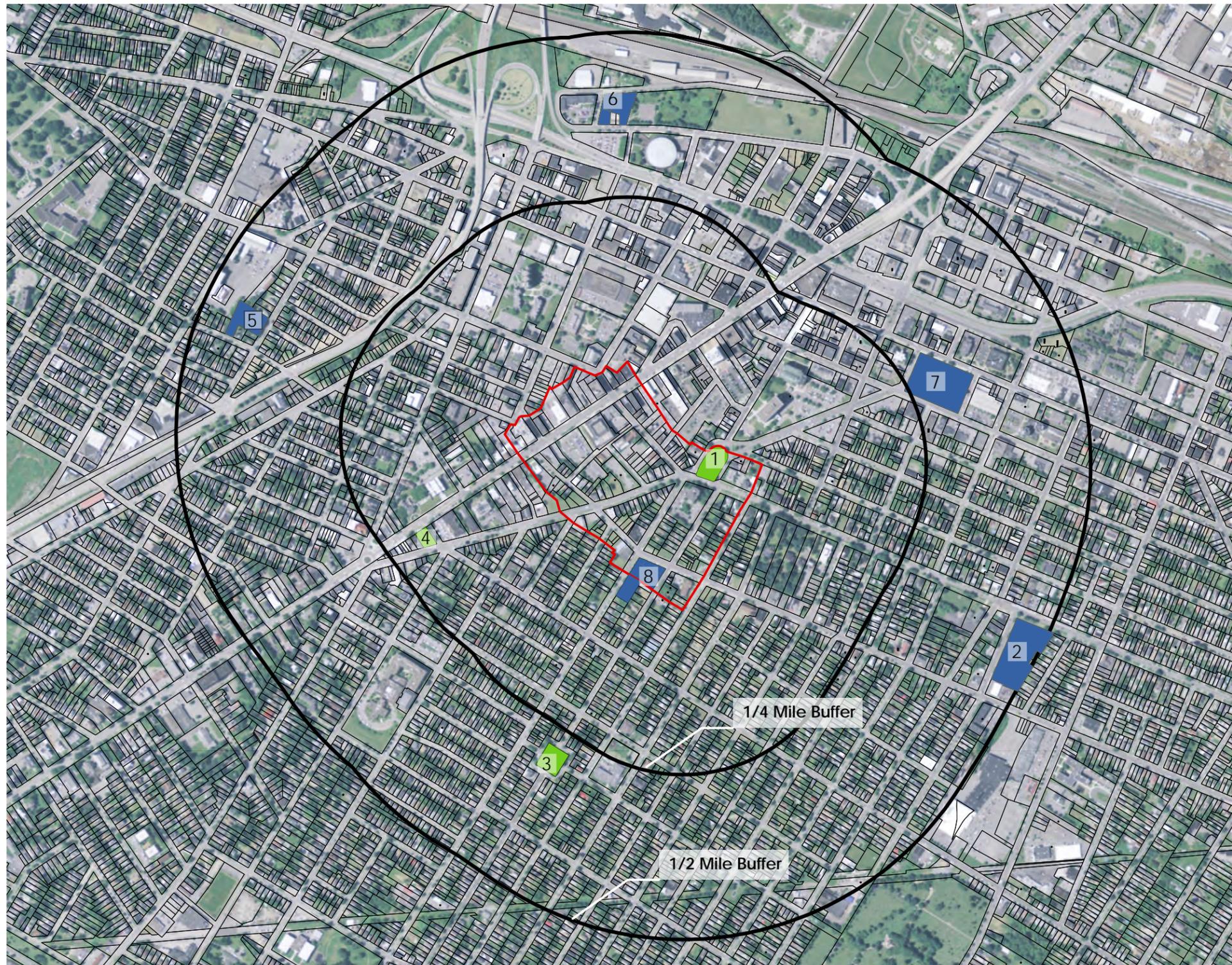
assessment area does have a complete sidewalk network, however the infrastructure quality could improve in the area to make streets more walkable. There are not marked bicycle lanes and within the assessment area boundary there are only two marked cross-walks.

TRANSIT FACILITIES

Just within the assessment area there are 11 CENTRO bus stops serving multiple bus lines. There are a high number of well-located bus stops however in order to qualify for LEED-ND points these stops must be improved to provide shelter for riders. Inside the assessment area there are only two covered bus stops, without any signage or schedules. The other stops are simple signs without seating.

Table 7 Neighborhood Pattern and Design Credits

<i>Credit or Prerequisite</i>	<i>Points Earned</i>	<i>Points Possible</i>
<i>Walkable Streets</i>	<i>(prereq)</i>	-
<i>Compact Development</i>	<i>(prereq)</i>	-
<i>Connected and Open Community</i>	<i>(prereq)</i>	-
<i>Walkable streets</i>	1	12
<i>Compact Development</i>	3	6
<i>Mixed Use Neighborhoods</i>	2	4
<i>Mixed Income Diverse Communities</i>	2	7
<i>Reduced Parking Footprint</i>	0	1
<i>Street Network</i>	0	2
<i>Transit Facilities</i>	0	1
<i>Transportation Demand Management</i>	0	2
<i>Access to Civic and Public Space</i>	1	1
<i>Access to Recreation Facilities</i>	1	1
<i>visitability and universal design</i>	0	1
<i>Community Outreach and Involvement</i>	0	2
<i>Local Food Production</i>	1	1
<i>Tree-Lined and Shaded Streetscapes</i>	0	2
<i>Neighborhood Schools</i>	1	1
TOTAL	12	41

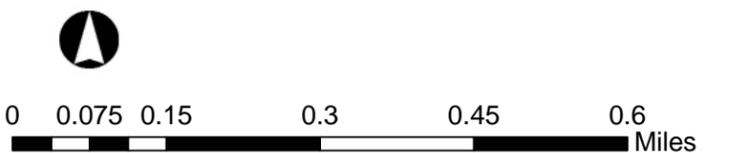


TOTAL area parks and outdoor recreation spaces within 1/2 mile boundary from project: 12.65 acres

TOTAL area within 1/4 mile boundary from project: 2.55 acres

-  Buffers from Study Area Boundary Edge (1/4 and 1/2 mile)
-  Study Area Boundary
-  Parks with Recreation Facilities
-  Parks

1. Steuben Park (0.92 acres)
2. Harry V Quinn Playground (3.29 acres)
basketball courts, swings, spray pool, jungle gym, baseball field
3. Johnson Park (0.85 acres)
4. Memorial (0.34 acres)
5. Hirt Playground (1.19 acres)
swings, basketball court
6. City Owned Tennis Courts (1.23 acres)
7. Chancellor Park (3.54 acres)
tennis courts, bocce courts, jungle gym, swings
8. South St. Neighborhood Park (1.29 acres)
basketball court



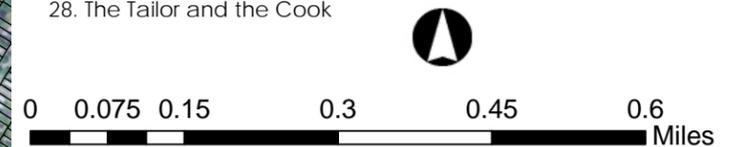
Map 9 Size and Location of Public Parks and Recreation Areas within 1/2 Mile Boundary of Assessment Area



Garden Growing Space: 100 sq ft/DU (dwelling unit)
 Approximately 34,500 sq ft TOTAL growing area within 1/2 mile of project boundary
 Closest Supermarket with Fresh Produce: 1 MI

- Buffers from Study Area Boundary Edge (1/4 and 1/2 mile)
- ▭ Study Area Boundary
- Community Food Garden
- Restaurants
- ★ Utica Farmer's Market
 Wednesdays 8am-5pm
 June 24-October 28

- Restaurants**
1. Thai Continental Restaurant
 2. Palermo Pizzeria
 3. Dunkin Donuts
 4. Joels Spanish Food
 5. House Museum Restaurant
 6. Tramontane Cafe
 7. Tiny's Grill
 8. NYC Gourmet Deli
 9. Ancora!
 10. Lotus Garden
 11. Swifty's Restaurant and Pub
 12. Stone Cellar
 13. Triangle Coffee Shop
 14. Panda House
 15. Mello's Subs
 16. Massoud's Cafe
 17. Geisha II
 18. Char-Latte Cafe
 19. The Dev
 20. Rosa's Cafe Catering
 21. Pizza Classic
 22. Mark's Coffee Cafe
 23. Utica Hotel
 24. Bank Cafe
 25. Alee's Restaurant
 26. Gerber's 1933 Tavern
 27. Master Pizza
 28. The Tailor and the Cook



Map 10 Food Access: Community Gardens and Restaurants in Proximity to Assessment Area



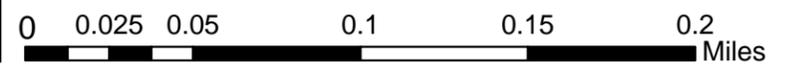
 Study Area Boundary

Building Uses

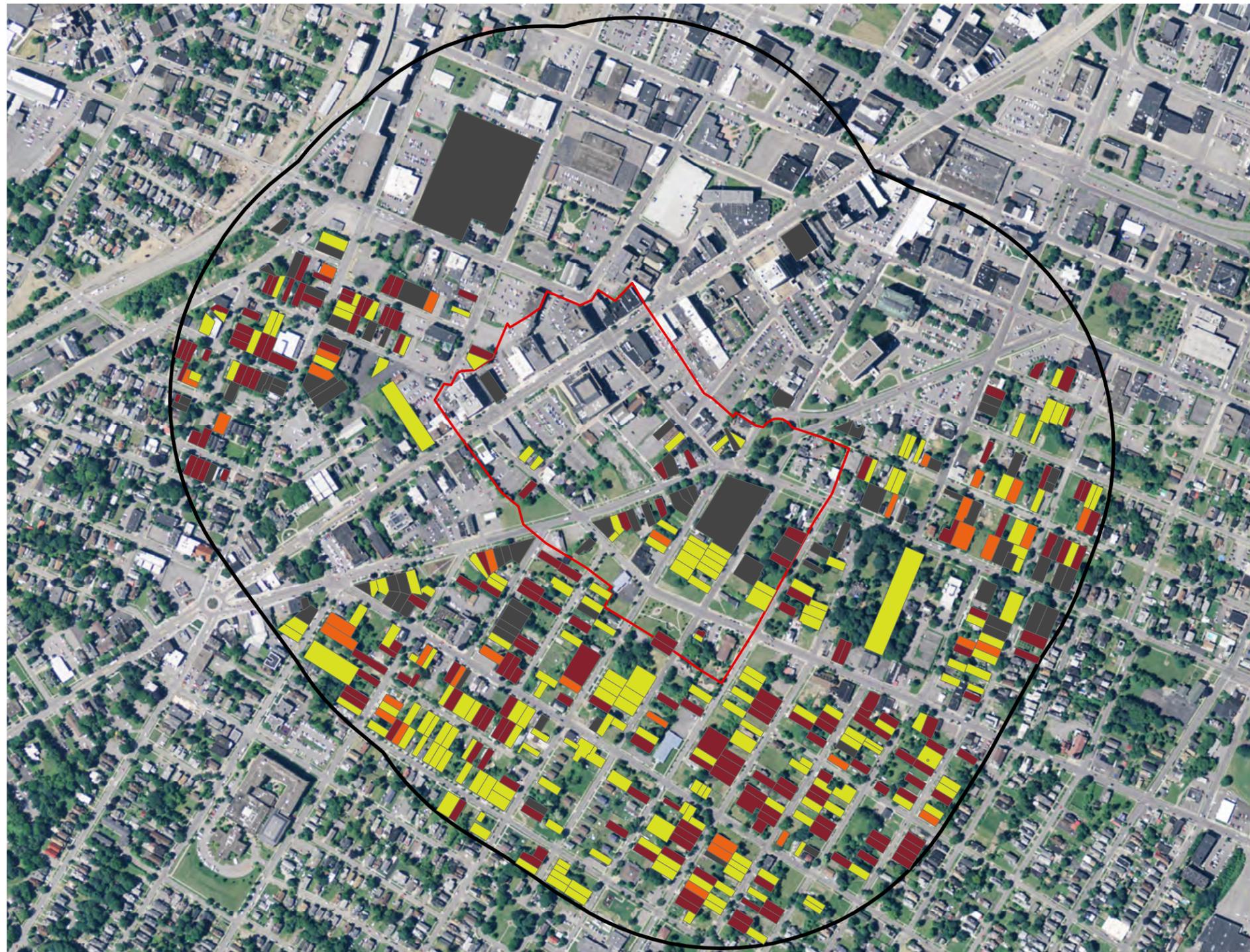
-  Apartments
-  One Family Year Round Residence
-  Two Family Year Round Residence
-  Three Family Year Round Residence
-  Converted Residential
-  Non-Residential

Land Uses

-  Parking
-  Vacant



Map 11 Assessment Area Residential and Nonresidential Buildings



 Study Area Boundary

 1/4 Mile Boundary

Residential Property Types (by parcel)

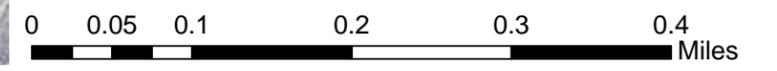
-  Apartments (89)
-  One Family Year Round Residence (204)
-  Two Family Year Round Residence (186)
-  Three Family Year Round Residence (35)

Total Residential Parcels in 1/4 Mile Boundary: 514

Simpson Diversity Score Calculation:

$1 - \sum (n/N)^2$
 when n=total number of dwelling units in a category
 and N=total number of dwelling units in all categories

Simpson Score= 0.68



Map 12 Residential Parcels Located within 1/4 Mile of Assessment Area Boundary

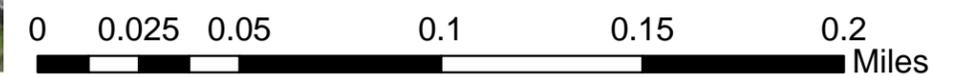


**TOTAL number of parking spaces (off street):
780 spaces**

**TOTAL area of (off street) surface parking lots:
7.4 acres**

 Study Area Boundary

 Parking Lot



Map 13 Surface Parking Lots and Number of Spots inside Assessment Area



 Study Area Boundary

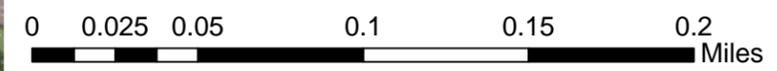
Street Speed Limits

 25 MPH
 35 MPH

 Sidewalks

Intersections

 Stop Signs
 Marked Crosswalk
 Stoplight with Pedestrian Light



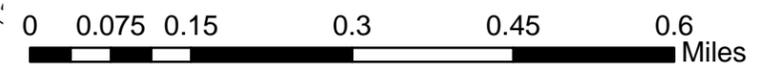
Map 14 Street Speeds and Pedestrian Amenities



TOTAL number of bus stops inside assessment area: 11

TOTAL number of covered stops: 2

- Covered Bus Stop
- Bus Stop
- Study Area Boundary
- 1/4 Mile Boundary



Map 15 CENTRO Bus Stops and Infrastructure

Table 8 Neighborhood Pattern and Design Credit Breakdown

PREREQ 1: WALKABLE STREETS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>Design and Build Project to achieve:</p> <p>(a) for 90% of new building frontage, a principal functional entry on front facade faces a public space (street, square, park, plaza), not a parking lot, and is connected to sidewalks. The public space must be at least 50 ft wide at a point perpendicular to each entry</p> <p>(b) At least 15% of existing and new street frontage within and bordering project has minimum building-height-to-street width ratio of 1:3</p> <p>(c) Continuous sidewalks along both sides of 90% of streets or frontage within the project (exclude alleys, driveways, and reconstructed existing sidewalk from calculations)</p> <p>(d) No more than 20% of street frontages within project are faced directly by garage or service bays</p>	YES/MAYBE	The existing assessment area has sidewalks on all streets. The sidewalks on Genesee St. are in accordance with 8 foot requirement for retail streets. For future development in the area the building frontage, and building-height-to-street ratio requirements must be taken into consideration.	NA prereq	NA prereq
PREREQ 2: ICOMPACT DEVELOPMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 2. All Other Projects (not in Transit Corridor-see SLL Credit 3): build any residential components of project at density of 7 dwelling units per acre of buildable residential land. AND nonresidential density at 0.50 FAR or greater	YES	The existing assessment area qualifies for this prerequisite with the Residential Density of 22.7 dwelling units per acre of buildable residential land, and a nonresidential density of 1.02 FAR.	NA prereq	NA prereq
PREREQ 3: CONNECTED AND OPEN COMMUNITY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Projects with Internal Streets</p> <p>Design and build the project such that its internal connectivity is at least 140 intersections per square mile (54 intersections/square kilometer). All streets and sidewalks that are counted toward the connectivity requirement must be available for general public use and not gated. Gated areas are not considered available for public use, with the exception of education and health care campuses and military bases where gates are used for security purposes.</p>	YES	Internal connectivity of the existing site is approximately 153 intersections per square mile.	NA prereq	NA prereq
AND Design and build the project with at least one through-street and/or nonmotorized right-of-way intersecting or terminating at the project boundary at least every 800 feet (245 meters), or at existing abutting street intervals and intersections, whichever is the shorter distance. Nonmotorized rights-of-way may count for no more than 20% of the total. This does not apply to portions of the boundary where connections cannot be made because of physical obstacles, such as prior platting of property, construction of existing buildings or other barriers, slopes over 15%, wetlands and water bodies, railroad and utility rights-of-way, existing limited access motor vehicle rights-of-way, and parks and dedicated open space.			NA prereq	NA prereq

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 1: WALKABLE STREETS				
REQUIREMENTS	YES,NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Maximum of 12 points based on how many items achieved in areas: Facade and Entries, Ground Level Use and Parking, Design Speeds for Safe Pedestrian and Bicycle Travel, Sidewalk Intrusions	YES	A more thorough on-the-ground site study of existing facade and building conditions will need to be completed in order to fully understand existing conditions of setbacks, functional entry spacing, ground level retail material use, and curb cuts.	1	12
TOTAL			1	12
CREDIT 2: COMPACT DEVELOPMENT				
REQUIREMENTS		DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Design and build the project such that residential and nonresidential components achieve a minimum of 10 DU/acre Residential (density per acre of buildable land), and 0.75 FAR nonresidential density. More points can be gained based on scale of how much density achieved in project. DEFINITION: when "buildable land" is defined as the portion of the site where construction can occur and excludes public rights-of-way and land excluded from development by law or protected by easement, deed restriction.	YES	The assessment area has a residential density of 22.17 DU/acre and a nonresidential density of 1.02 FAR. (see table for details)	3	6
TOTAL			3	6
CREDIT 3: MIXED-USE NEIGHBORHOOD CENTERS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Locate and design the project such that 50% of dwelling units are within a 1/4 mile walk distance of the number of diverse uses, including at least one use from each of the four categories. (see LEED Manual Appendix for list of diverse uses)	YES	There are many key establishments located near the assessment area because of its central, downtown location. Among these are a farmer's market, theater, churches, and numerous restaurants. More points were not earned in this category because of the clustering of diverse use locations relative to neighborhood centers.	2	4
TOTAL			2	4

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 4: MIXED-INCOME DIVERSE COMMUNITIES				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. Diversity of Housing Types Include a sufficient variety of housing sizes and types in the project such that the total variety of planned and existing housing within the project achieves a Simpson Diversity Index score greater than 0.5, (Projects less than 125 acres can calculate the Simpson Diversity Index for the area within a 1/4 miles of the projects geographic center.	YES	Taking into consideration the housing types within a 1/4 mile of the assessment area it was calculated that the area has a Simpson Diversity Index of 0.67.	2	3
AND/OR OPTION 2. Affordable Housing: Include a proportion of new rental and/or for-sale dwelling units priced for household earning below the area median income (AMI). Rental units must be maintained at affordable levels for a minimum of 15 years. For Rental Dwelling Units: minimum 5% of total rental units should be priced up to 60% AMI and 10% of total rental units should be priced up to 80% of AMI; For For-Sale Dwelling Units: 5% of total for-sale units should be priced up to 100% AMI and 8% should be priced up to 120% of AMI.	MAYBE	A more thorough study of affordable housing in the area must be done.	0	3
OPTION 3. A project may earn 1 additional point by earning at least 2 points in OPTION 1. and at least 2 points in OPTION 2.	NO	Not eligible until a further study of affordable housing completed.	0	1
TOTAL			2	7
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
CREDIT 5: REDUCED PARKING FOOTPRINT				
For new construction of nonresidential and multiunit residential buildings do not build new off-street parking or locate at side or rear of building, leaving frontages facing streets free of surface parking lots.	MAYBE		0	1
AND Use no more than 20% of the total development footprint area for all new off street surface parking facilities (includes ground-level garages), with no individual surface parking lot larger than 2 acres. On-street parking spaces are exempt	MAYBE		0	
AND Provide bicycle parking and storage to new buildings based on guidelines (see appendix for details for new multiunit, residential, retail and nonresidential construction.)	MAYBE		0	
TOTAL			0	1
CREDIT 6: STREET NETWORK				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Design and/or locate the project such that a through-street and/or nonmotorized right-of-way intersects or terminates at the project boundary at least every 400 feet or at existing abutting street intervals an intersections (whichever is the shorter distance).	MAYBE	The large block structure of the neighborhood limits the amount of through-street intersections.	0	2
TOTAL			0	2

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 7: TRANSIT FACILITIES				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Work with the transit agency or agencies serving the project to identify transit stop locations within and/or bordering the project boundary where transit agency-approved shelters and any other agency required improvements, including bicycle racks, will be installed no later than construction of 50% of total project floor. At those locations install approved shelters-must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination.	MAYBE	It will be necessary to work with CENTRO Utica, the city public transit provider, to assess future development and improvement of bus stops, signage and bicycle facilities in the area.	0	1
AND Work with transit agency to provide kiosks, bulletin boards, and/or signs that display transit schedules and route information at each public transit stop within and bordering the project	MAYBE		0	
TOTAL			0	1
CREDIT 8: TRANSPORTATION DEMAND MANAGEMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 1. TDM Program Create and implement a comprehensive transportation demand management (TDM) program for the project that reduces weekday peak-period motor vehicle trips by at least 20% compared with a baseline case, and fund the program for a minimum of three years following build-out of the project. The TDM program must be prepared by a qualified transportation professional. Any trip reduction effects of Options 2, 3, 4, or 5 may not be included in calculating the 20% threshold.	MAYBE	A category for projects, not existing conditions For future development this is an important consideration.	0	2
OR OPTION 2. Transit Passes Provide transit passes valid for at least one year, subsidized to be half of regular price or cheaper, to each occupant locating within the project during the first three years of project occupancy (or longer). Publicize the availability of subsidized transit passes are available to project occupants;	MAYBE		0	2
TOTAL			0	2
CREDIT 9: ACCESS TO CIVIC AND PUBLIC SPACE				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Locate and/or design the project such that a civic or passive-use space, such as a square, park, or plaza, at least 1/6 acre (675 square meters) in area lies within a 1/4-mile (400 meters) walk distance of 90% of planned and existing dwelling units and nonresidential building entrances. Spaces less than 1 acre (0.4 hectares) must have a proportion no narrower than 1 unit of width to 4 units of length.	YES	Within a 1/4 mile boundary of the assessment area there are three parks totalling 2.55 acres	1	1
AND For projects larger than 7 acres (2.8 hectares), locate and/or design the project such that the median size of civic or passive-use spaces within and/or contiguous to the project is at least 1/2 acre (0.2 hectares).	YES	The median size is 1.19 acres.		
TOTAL			1	1

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 10: ACCESS TO RECREATION FACILITIES				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Locate and/or design the project so that a publicly accessible outdoor recreation facility at least 1 acre (0.4 hectares) in area, or a publicly accessible indoor recreational facility of at least 25,000 square feet (2,325 square meters), lies within a 1/2-mile (800 meters) walk distance of 90% of new and existing dwelling units and nonresidential building entrances. Outdoor recreation facilities must consist of physical improvements and may include "tot lots," swimming pools, and sports fields, such as baseball diamonds.	YES	Within a 1/2 mile boundary of the assessment area there are 8 total park/recreation areas with a total area of 12.65 acres. The recreation areas have various amenities ranging from basketball courts, swings, and playgrounds to bocce courts and tennis courts.	1	1
TOTAL			1	1
CREDIT 11: VISITABILITY AND UNIVERSAL DESIGN				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Projects with Dwelling Units For each new project dwelling unit of the following residential building types, design to the applicable requirements specified:</p> <p>Single dwelling unit buildings. Design a minimum of 20% of the dwelling units (and not less than one) in accordance with ICC/ANSI A117.1, Type C, VISIBLE Unit, each of which has an open-space plan for primary functions (an area for cooking, eating, and social gathering), as well as a sleeping area and a full bathroom.</p> <p>Multiunit building with two or three dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) in accordance with ICC/ANSI A117.1, Type C, VISIBLE Unit, each of which has a kitchen, dining area, living area, full bathroom, and bedroom on the accessible level. If a project has both attached and detached single dwelling unit buildings, the requirements apply to each type separately. Similarly, if a project has both 2- and 3- dwelling unit buildings, the requirements apply to each type.</p> <p>Multiunit buildings with four or more dwelling units. This category includes mixed-use buildings with dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) to incorporate the universal design requirements stated below, or comply with</p>	MAYBE	Not all existing structures in the assessment area are built to ADA (Americans with Disabilities Act) specifications. Future construction and retrofits must take this into consideration.	0	1
<p>OPTION 2. Projects with Noncompliant Public Rights-of-Way or Accessible Travel Routes For projects with only nonresidential components, or residential components that are not within the scope of Option 1, but have public rights-of-way or other publicly accessible travel routes within the project that are not in compliance with Americans with Disabilities Act (for private sector and local and state government facilities) or the Architectural Barriers Act (for federally funded facilities), design, construct, and/or retrofit 100% of the rights-of-way and/or travel routes in accordance with the ADA-ABA Accessibility Guidelines, as applicable.</p>	NO	Existing sidewalk infrastructure, despite presence of crossing ramps, pose potential obstacles to universal accessibility.		
TOTAL			0	1

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 12: COMMUNITY OUTREACH AND INVOLVEMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Community Outreach Meet with adjacent property owners, residents, business owners, and workers; local planning and community development officials; and any current residents or workers at the project site to solicit and document their input on the proposed project prior to commencing a design. AND Work directly with community associations and/or the local government to advertise an open community meeting, other than an official public hearing, to generate comments on project design from the beginning. AND Host an open community meeting, other than an official public hearing, to solicit and document public input on the proposed project at the beginning of project design. AND Modify the project's conceptual design as a direct result of community input, or if modifications are not made, explain why community input did not generate design modifications. AND Establish ongoing means for communication between the developer and the community throughout the design and construction phases and, in cases where the developer maintains any control during the postconstruction phase.</p>	MAYBE	Not applicable for an existing conditions study. As any projects or development in the area move forward this will be a necessart step before proceeding with designs and proposals.	0	1
<p>OR OPTION 2. Charrette Comply with Option 1 and conduct a design charrette or interactive workshop of at least two days and open to the public that includes, at a minimum, participation by a representative group of nearby property owners, residents, business owners, and workers in the preparation of conceptual project plans and drawings.</p>			0	
<p>OR OPTION 3. Local Endorsement Pursuant to Evaluation Program Comply with Option 1 and obtain an endorsement from an ongoing local or regional nongovernmental program that systematically reviews and endorses smart growth development projects under a rating and/or jury system.</p>			0	
TOTAL			0	1
CREDIT 13: LOCAL FOOD PRODUCTION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Neighborhood Farms and Gardens Dedicate permanent and viable growing space and/or related facilities (such as greenhouses) within the project. Provide solar access, fencing, watering systems, garden bed enhancements (such as raised beds), secure storage space for tools, and pedestrian access for these spaces. Ensure that the spaces are owned and managed by an entity that includes occupants of the project in its decision making, such as a community group, homeowners' association, or public body.</p>	YES	There are approximately 34,500 sq ft of dedicated growing space within a 1/2 mile boundary of the assessment area.		1
<p>OR OPTION 2. Community-Supported Agriculture Purchase shares in a community-supported agriculture (CSA) program located within 150 miles (240 kilometers) of the project site for at least 80% of dwelling units within the project (exclusive of existing dwelling units) for two years, beginning with each dwelling unit's occupancy until the 80% threshold is reached. Shares must be delivered to a point within 1/2 mile (800 meters) of the project's geographic center on a regular schedule not less than twice per month at least four months of the year.</p>				
<p>OR OPTION 3. Proximity to Farmers' Market Locate the project's geographic center within a 1/2-mile (800 meters) walk distance of an existing or planned farmers' market that is open or will operate at least once weekly for at least five months annually</p>	YES	The Utica Farmer's Market is located close to the project and operates from June through October.	1	
TOTAL			1	1

Table 8 (continued) Neighborhood Pattern and Design Credit Breakdown

CREDIT 14: TREE-LINED AND SHADED STREETS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Tree-Lined Streets Design and build the project to provide street trees on both sides of at least 60% of new and existing streets within the project and on the project side of bordering streets, between the vehicle travel way and walkway, at intervals averaging no more than 40 feet (12 meters) (excluding driveways and utility vaults).</p>	MAYBE	A detailed site study of existing trees in the assessment area and surrounding areas is necessary. A preliminary study based on aerial imagery indicates that the existing condition does not meet these requirements for street trees and shading.	0	1
<p>AND /OR OPTION 2. Shaded Streets Trees or other structures provide shade over at least 40% of the length of sidewalks on streets within or contiguous to the project. Trees must provide shade within ten years of landscape installation. Use the estimated crown diameter (the width of the shade if the sun is directly above the tree) to calculate the shaded area.</p>				
TOTAL			0	1
CREDIT 15: NEIGHBORHOOD SCHOOLS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>Include in the project a residential component that constitutes at least 30% of the project's total building floor area, and locate or design the project such that at least 50% of the dwelling units are within a 1/2-mile (800 meters) walk distance of an existing or new elementary or middle school building entrance or within a 1-mile (1600 meters) walk distance of an existing or new high school building entrance. For any new school, the school district or equivalent organization must commit in a legally binding warrant that the school will be open by the time of occupancy of 50% of the project dwelling units. Streets within and/or bordering the project boundary that lead from dwelling units to the school site must have a complete network of sidewalks on both sides and either bicycle lanes or traffic control and/or calming measures. If the school is planned as part of the project, it must be designed such that pedestrians and cyclists can easily reach building entrances without crossing bus zones, parking entrances, and student drop-off areas.</p>	YES	A majority of the existing residential units are within a 1/2 mile walkpath of the Martin Luther King Jr School, located at 211 Square St. There are existing sidewalks but infrastructure could be improved and traffic calming measures need to be implemented.	1	1
TOTAL			1	1

NEIGHBORHOOD PATTERN AND DESIGN POINTS ANALYSIS

CREDIT 1: WALKABLE STREETS

The intent of the Walkable Streets credit is to “promote walking by providing safe, appealing, and comfortable street environments”. While a more complete site study must be done to understand the existing conditions of building frontages, facades, and sidewalk intrusions the assessment area does have a complete sidewalk network, however the infrastructure quality could improve in the area to make streets more walkable. There are not marked bicycle lanes and within the assessment area boundary there are only two marked cross-walks.

CREDIT 2: COMPACT DEVELOPMENT

While there is a high proportion of vacant land in the assessment area it has a strong existing retail corridor on Genesee St and a high residential density. The assessment area has high levels of potential for future infill development on the many vacant residential and nonresidential lots which would increase the amount of people living downtown in close proximity and walkability to services and amenities. Some of the existing residential structures are in poor condition--a more detailed site study is needed to confirm whether some propoerties are suitable for habitation.

CREDIT 5: REDUCED PARKING FOOTPRINT

No points are earned in this category because there is no new construction, however this is an important category to analyze existing conditions because of the high impact of parking on neighborhood design. There is a prevelance of off-street, surface parking lots in the exist-

ing assessment area. Nearly 7 acres of the assessment area is dedicated to surface parking with 780 total spaces. These numbers do not include on-street parallel parking spots. Much of these parking areas are located along main thoroughfares and neighborhood streets such that pedestrian paths pass by frontage which is mostly empty.

GREEN INFRASTRUCTURE AND BUILDING

Of the three LEED-ND categories Green Infrastructure and Building is the least applicable to existing conditions, but in the future is a category where downtown could accrue a substantial amount of points. The study area currently only qualifies for two out of 28 points mostly because other credits are specific to new construction or large infrastructure changes. Given the amount of historic structures the area could gain more points by re-using and retrofitting these structures to be more energy and water efficient. Any new construction or revitalization should also be done in a way which reduces impervious surfaces and limits pollution during the construction process. Downtown Utica also has a plethora of surface parking lots which could double as geothermal fields and support a robust district heating network in the area. The following credit breakdown for this category is intended to demonstrate the opportunity for gaining points and show target areas for development.

Table 9 Green Infrastructure and Building Credits

<i>Credit or Prerequisite</i>	<i>Points Earned</i>	<i>Points Possible</i>
Certified Green Building	<i>(prereq)</i>	-
Minimum Building Energy Efficiency	<i>(prereq)</i>	-
Minimum Building Water Efficiency	<i>(prereq)</i>	-
Construction Activity Pollution Prevention	<i>(prereq)</i>	-
Certified Green Building	0	5
Building Energy Efficiency	0	2
Building Water Efficiency	0	1
Water Efficient Landscaping	0	1
Existing Building Reuse	0	1
Historic Resource Preservation and Adaptive Reuse	1	1
Minimized Site Disturbance in Design and Construction	0	1
Stormwater Management	0	4
Heat Island Reduction	0	1
Solar Orientation	0	1
On-Site Renewable Energy Sources	0	3
District Heating and Cooling	0	2
Infrastructure Energy Efficiency	0	1
Wastewater Management	0	1
Recycled Content in Infrastructure	0	1
Solid Waste Management Infrastructure	1	1
Light Pollution Reduction	0	1
TOTAL	2	28

Table 10 Green Infrastructure and Building Credit Breakdown

PREREQ 1: CERTIFIED GREEN BUILDING				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Design Construct, or retrofit one whole building within the project to be certified through a LEED green building rating system	YES	The building located at 283 Genesee St (occupied by the Hage & Hage Law Firm) has been certified a LEED Gold Building ('Leed Certified Projects', 2016) .	NA prereq	NA prereq
PREREQ 2: MINIMUM BUILDING ENERGY EFFICIENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
90% of building floor area of all nonresidential, mixed-use, and multiunit residential buildings four stories or more are constructed as part of the project or undergoing major renovation as part of the project must demonstrate average 10% improvement over ANSI/ASHRAE/IESNA Standard 90.1-2007	NO	While a detailed analysis of energy efficiency of each building in the study area has not been conducted a majority of the building square footage in the area are historic and not retrofitted structures. I have assumed that most of these structures do not meet minimum requirements.	NA prereq	NA prereq
PREREQ 3: MINIMUM BUILDING WATER EFFICIENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 20% less than in baseline buildings	MAYBE	For future development of this area water efficiency should be taken into consideration before and during construction. Current water efficiency details have not been calculated.	NA prereq	NA prereq
AND For new single-family residential buildings and new multiunit residential buildings three stories or fewer, 90% of buildings must use a combination of fixtures that would earn 3 points under LEED for Homes 2008 WE Credit 3, Indoor Water Use.	MAYBE			
PREREQ 4: CONSTRUCTION ACTIVITY POLLUTION PREVENTION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Create and implement an erosion and sedimentation control plan for all new construction activities associated with the project.	MAYBE		NA prereq	NA prereq
CREDIT 1: CERTIFIED GREEN BUILDINGS				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 2. Projects of All Sizes Design, construct, or retrofit a percentage of the total project building floor area, beyond the prerequisite requirement, to be certified under one of the LEED green building rating systems Percentage floor area certified: greater than or equal to 10% -20% (1 POINT), 20%-30% (2 POINTS), 30%-40% (3 POINTS), 40-50% (4 POINTS), Greater than 50% (5 POINTS)	MAYBE	The Hage & Hage building at 283 Genesee St is currently the only LEED Certified building in the study area and only accounts for 1.3% of the total building floor area for the study area. (11,475 sq ft/886,448 sq ft)—see Appendix for Residential and Nonresidential Properties chart.	0	5

Table 10 (continued) Green Infrastructure and Building Credit Breakdown

CREDIT 2: BUILDING ENERGY EFFICIENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
90% of the building floor area of all nonresidential buildings, mixed-use buildings, and multiunit residential buildings four stories or more constructed as part of the project or undergoing major renovations as part of the project must demonstrate an average 18% (1 point) or 26% (2 points) improvement over ANSI/ASHRAE/IESNA Standard 90.1-2007,	MAYBE	For future development of this area energy efficiency should be taken into consideration before and during construction. Current energy efficiency details for each building have not been calculated but averages calculated by Aguirre and Prathibha (2015) indicate there is much room for improvement.	0	2
CREDIT 3: BUILDING WATER EFFICIENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
For nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more: Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 40% less than in baseline buildings. The baseline usage is based on the requirements of the Energy Policy Act of 1992 and subsequent rulings by the Department of Energy,	MAYBE		0	1
CREDIT 4: WATER-EFFICIENT LANDSCAPING				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Reduce water consumption for outdoor landscape irrigation by 50% from a calculated baseline for the site's peak watering month a. Plant species, plant density, and microclimate factor. b. Irrigation efficiency. c. Use of captured rainwater. d. Use of recycled wastewater. e. Use of water treated and conveyed by a government agency specifically for nonpotable uses. f. Use of other nonpotable water sources, such as stormwater, air-conditioning condensate, and foundation drain water.			0	1

CREDIT 5: EXISTING BUILDING REUSE

REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Reuse the existing habitable building stock, achieving the greater of the following two benchmarks (based on surface area): a. 50% of one existing building structure (including structural floor and roof decking) and envelope (including exterior skin and framing but excluding window assemblies and nonstructural roofing material). b. 20% of the total existing building stock (including structure and envelope, as defined above).	MAYBE		0	1
AND Do not demolish any historic buildings or contributing buildings in a historic district, or portions thereof, or alter any cultural landscapes as part of the project.		A substantial amount of the structures in this study area fall into the Scenic & Historic District of Utica. In addition several buildings in the study area and vicinity are listed on the National Register of Historic Places.		

CREDIT 6: HISTORIC RESOURCE PRESERVATION AND ADAPTIVE REUSE

REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
To achieve this credit, at least one historic building or cultural landscape must be present on the project site. Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project.	YES		1	1

CREDIT 7: MINIMIZED SITE DISTURBANCE IN DESIGN AND CONSTRUCTION

REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
OPTION 2. Undeveloped Portion of Project Left Undisturbed Depending on the density of the project, do not develop or disturb a portion of the land that has not been previously developed on the site, exclusive of any land preserved by codified law or a prerequisite of LEED for Neighborhood Development; or exempt areas designated as nonbuildable in land-use comprehensive plans and stipulate in covenants, conditions, and restrictions	MAYBE	Residential Density of the study area is 22.07 and Nonresidential density (FAR) is 1.02. According to manual break-down this means future development in the area should leave a minimum 15% of area undisturbed. The intent of this credit is to preserve existing noninvasive trees and native plants that are in good condition as well as pervious surfaces. Much of the property in this study area has been developed in the past (although many parcels are currently vacant) but should during future development and projects a goal should be to preserve permeable and vegetated areas.	0	1

Table 10 (continued) Green Infrastructure and Building Credit Breakdown

CREDIT 8: STORMWATER MANAGEMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Implement a comprehensive storm water management plan for the project that retains on-site, through infiltration, evapotranspiration, and/or reuse, the rainfall volumes listed in Table 1. Rainfall volume is based on the project's development footprint, any other areas that have been graded so as to be effectively impervious, and any pollution-generating pervious surfaces, such as landscaping, that will receive treatments of fertilizers or pesticides.	MAYBE		0	4
CREDIT 9: HEAT ISLAND REDUCTION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Nonroof Measures Use any combination of the following strategies for 50% of the nonroof site hardscape (including roads, sidewalks, courtyards, parking lots, parking structures, and driveways):</p> <p>a. Provide shade from open structures, such as those supporting solar photovoltaic panels, canopied walkways, and vine pergolas, all with a solar reflectance index (SRI) of at least 29. b. Use paving materials with an SRI of at least 29. c. Install an open-grid pavement system that is at least 50% pervious. d. Provide shade from tree canopy (within ten years of landscape installation).</p>	MAYBE		0	1
<p>OR OPTION 2. High-Reflectance and Vegetated Roofs Use roofing materials that have an SRI equal to or greater 78 (for roofs with slope less than 2:12) and 29 (for roofs steeper than 2:12) of 75% of the roof area of all new buildings within the project; or install a vegetated ("green") roof for at least 50% of the roof area of all new buildings within the project.</p>				
CREDIT 10: SOLAR ORIENTATION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
<p>OPTION 1. Block Orientation (For Projects Earning at Least 2 Points Under NPD Credit 2, Compact Development) Locate the project on existing blocks or design and orient the project such that 75% or more of the blocks have one axis within plus or minus 15 degrees of geographical east-west, and the east-west lengths of those blocks are at least as long as the north-south lengths of the blocks.</p>	MAYBE		0	1

Table 10 (continued) Green Infrastructure and Building Credit Breakdown

CREDIT 11: ON-SITE RENEWABLE ENERGY SOURCES				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Incorporate on-site nonpolluting renewable energy generation, such as solar, wind, geothermal, small-scale or micro hydroelectric, and/or biomass, with production capacity of at least 5% of the project's annual electrical and thermal energy cost (exclusive of existing buildings).	MAYBE		0	3
CREDIT 12: DISTRICT HEATING AND COOLING				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Incorporate a district heating and/or cooling system for space conditioning and/or water heating of new buildings (at least two buildings total) such that at least 80% of the project's annual heating and/or cooling consumption is provided by the district plant. Single-family residential buildings and existing buildings of any type may be excluded from the calculation.	MAYBE		0	2
CREDIT 13: INFRASTRUCTURE ENERGY EFFICIENCY				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Design, purchase, or work with the municipality to install all new infrastructure, including but not limited to traffic lights, street lights, and water and wastewater pumps, to achieve a 15% annual energy reduction below an estimated baseline energy use for this infrastructure	MAYBE		0	1
CREDIT 14: WASTEWATER MANAGEMENT				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Design and construct the project to retain on-site at least 25% of the average annual wastewater generated by the project (exclusive of existing buildings), and reuse that wastewater to replace potable water. An additional point may be awarded for retaining and reusing 50%. Provide on-site treatment to a quality required by state and local regulations for the proposed reuse.	MAYBE		0	2

Table 10 (continued) Green Infrastructure and Building Credit Breakdown

CREDIT 15: RECYCLED CONTENT IN INFRASTRUCTURE				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Use materials for new infrastructure such that the sum of postconsumer recycled content, on-site reused materials, and one-half of the preconsumer recycled content constitutes at least 50% of the total mass of infrastructure materials.	MAYBE		0	1
CREDIT 16: SOLID WASTE MANAGEMENT INFRASTRUCTURE				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
Provide at least four of the following five: Recycling services for residents Hazardous waste disposal services for residents Composting services for residents Recycling receptacles on every mixed-use or non-residential block Recycling or salvaging of at least 50% of construction waste.	YES	The Oneida-Herkimer Solid Waste Authority provides recycling, hazardous household waste disposal, and residential composting services (Oneida-Herkimer Solid Waste Authority, 2016)	1	1
CREDIT 17: LIGHT POLLUTION REDUCTION				
REQUIREMENTS	YES, NO, MAYBE	DESCRIPTION/QUALIFICATION	POINTS EARNED	POINTS POSSIBLE
In residential areas, at least 50% of the external luminaires must have fixture-integrated lighting controls that use motion sensors to reduce light levels by at least 50% when no activity has been detected for 15 minutes.	MAYBE		0	1

RECOMMENDATIONS AND NEIGHBORHOOD STRATEGY FRAMEWORK

As downtown Utica begins to look towards potential development the order in which interventions are implemented is very important. Density, housing and amenities are necessary elements to attract and house people downtown. Further development can then fill and add to this environment. This existing conditions study has demonstrated that there is strong opportunity to use the existing urban fabric and infrastructure in downtown Utica to revitalize the area sustainably with focused planning and investment. Outlined below are suggestions for guiding development in the short and long term.

- Strengthen the fabric of Genesee Street: increase building facades that wall the street; promote ground level uses, promote activity on the street (grocery store, commercial), construct multistory building with mixed uses
- Retrofit New Century Building into a “Green Century Building” demonstrating the potential and value of energy efficient buildings
- Support downtown life and living: increase services and amenities, increase overall residential activity, Increase employment and retail opportunities
- Increase density in residential area
- Transform vacant properties into usable public space that reflects arts and culture and provides green space for the neighborhood. One World Garden is an existing proposal for one such vacant property.
- Reclaim Park Avenue as a more park like setting and “neighborhood main street”, transform into conduit that supports residential and also bridges downtown/residential split. Achieve this through better bike

and pedestrian amenities and safer, slower traffic, increase vegetation and buffer between people and traffic

- Stueben Park: integrate the existing apartment building, make the intersection safer for non-car use,
- Maintain and Reinforce diversity of housing types: municipal housing, rental housing, and home-ownership. Increase affordable housing opportunities.
- Support walkability and connectivity through the “megablock”: connecting Genesee street to the east
- Expand arts and culture in this neighborhood and interlink cultural amenities: refugee center, Munson Proctor Institute, One World Garden, the public library.
- Solidify the network of parks, green spaces and ecological spaces: green network—landscaping and natural storm water management, community gardens, rooftops,
- Develop strategies for shared parking that has more diversity in temporal use (avoid having so many parking lots empty at night).

APPENDICES

APPENDIX A: RESIDENTIAL AND NON RESIDENTIAL PROPERTIES LIST

A list of every property inside the study area boundary which was used to calculate densities.

RESIDENTIAL PROPERTIES

STREET #	STREET NAME	PROPERTY CLASS (CODE)	BUILDING GROSS FLOOR AREA (SQ FT)	# OF STORIES	SITE USE	TOTAL UNITS	PARCEL AREA (SQ FT)
276	Genesee St	Apartment (411)	29,504	4	residential	48	9336.758
14	Hopper St	Apartment (411)	3,560	2	residential	7	4731.641
18	Hopper St	Family Residential (210-1)	1,496	2	residential	2	4342.125
23	Hopper St	Family Residential (210-1)	2,480	2	residential	2	2876.609
20	Hopper St	Converted Residential (483)	3,672	2	residential	4	4843.328
1002	Miller St	Family Residential (220-2)	3,436	2	residential	2	5695.844
1006	Miller St	Apartment (411)	6,824	2	residential	8	10304.85
1008	Miller St	Family Residential (220-2)	1,904	2	residential	2	4229
1016	Miller St	Family Residential (210-1)	1,232	2	residential	1	4320.703
1018	Miller St	Family Residential (210-1)	1,152	1.5	residential	1	9216.664

1026	Park Ave	Converted Residential (483)	3,232	2	mixed residential/non residential	1	4072.563
1000	Park Ave	Apartment (411)	4,080	2	residential	7	3459.539
1002	Park Ave	Apartment (411)	2,948	2	residential	4	6350.555
1006	Park Ave	Apartment (411)	4,722	2	residential	6	3277.195
1008	Park Ave	Family Residential (220-2)	2,560	2	residential	2	2546.961
1001	Park Ave	Converted Residential (483)	4,940	3	residential	11	6141.008
1024	Park Ave	Converted Residential (483)	2,830	2	residential	5	2909.422
1003	Park Ave	Apartment (411)	4,380	3	residential	4	3459.688
1005	Park Ave	Apartment (411)	3,096	2	residential	4	5621.492
1007	Park Ave	Apartment (411)	3,880	2	residential	4	7325.242
1011	Park Ave	Family Residential (220-2)	2,952	2	residential	2	3532.508
1015	Park Ave	Apartment (411)	3,872	2	residential	6	4562.398
1017	Park Ave	Converted Residential (483)	5,832	3	residential	4	4605.766
1019	Park Ave	Apartment (411)	4,068	2	residential	5	4526.688
1021	Park Ave	Family Residential (220-2)	3,016	2	residential	2	4070.953
1023	Park Ave	Family Residential (210-1)	2,608	2	residential	1	3931.063

1025	Park Ave	Apart-ment (411)	6,858	3	resi-dential	6	6260.766
100	Rutger St	Apart-ment (411)	98,496	12	resi-dential	120	7596.75
17	South St	Converted Residential (483)	1,668	1	mixed resi-dential/non resi-dential	2	77561.12
23/25	South St	Converted Residential (483)	3,312	2	mixed resi-dential/non resi-dential	2	3246.07
11	South St	Family Residential (210-1)	2,124	2	resi-dential	1	2389.258
15	South St	Family Residential (210-1)	1,143	2	resi-dential	1	2459.422
16	South St	Family Residential (220-2)	3,086	2	resi-dential	2	4852.813
101	South St	Family Residential (210-1)	2,016	2	resi-dential	1	6115.719
100	South St	Apart-ment (411)	4,320	3	resi-dential	2	3906.07
20	Steuben Park	Apart-ment (411)	4,554	3	resi-dential	4	1441.148
18	Steuben Park	Family Residential (210-1)	2,364	2.5	resi-dential	1	3813.063
2	Steuben Park	Apart-ment (411)	5,298	3	resi-dential	4	3315.125
1012	Steuben St	Family Residential (210-1)	1,405	2	resi-dential	1	2320.141
1016	Steuben St	Family Residential (230-3)	2,852	2	resi-dential	3	3376.813
1013	Steuben St	Family Residential (210-1)	1,008	1	resi-dential	1	4313.672
1018	Steuben St	Family Residential (210-1)	2,236	3	resi-dential	1	3077.602
1015	Steuben St	Family Residential (210-1)	1,224	1.5	resi-dential	1	4181.055

1019	Steuben St	Family Residential (210-1)	1,040	1	resi-dential	1	6095.664
1025	Steuben St	Family Residential (210-1)	1,225	1.5	resi-dential	1	6278.203
STREET #	STREET NAME	PROPERTY CLASS (CODE)	BUILDING GROSS FLOOR AREA (SQ FT)	BUILD-ING STORIES	SITE USE	TOTAL UNITS (RESIDEN-TIAL)	PARCEL AREA (SQ FT)
1029	West St	Converted Residential (483)	4,736	2	mixed resi-dential/non resi-dential	2	6506.516
1016	West St	Family Residential (210-1)	1,316	2	resi-dential	1	4271.57
1018	West St	Family Residential (210-1)	1,256	2	resi-dential	1	4619.18
1013	West St	Apartment (411)	20,913	3	resi-dential	36	13769.27
1020	West St	Family Residential (210-1)	1,316	2	resi-dential	1	4737.297
1022	West St	Family Residential (210-1)	1,256	2	resi-dential	1	4690
1026	West St	Family Residential (210-1)	1,256	2	resi-dential	1	4691.148
1103	West St	Family Residential (220-2)	1,980	2	resi-dential	2	1220.773
1108	West St	Family Residential (220-2)	2,662	2	resi-dential	2	4739.141
1105	West St	Family Residential (210-1)	1,980	2	resi-dential	1	1142.391
		TOTAL	299,176			348	333278.323
		FAR (when FAR is Gross Floor Area of Building(s)/Total Area of the Lot):	0.90				TOTAL PARCEL AREA (acres): 7.65

		DU/acre (when divide sum of dwelling units by amount of buildable acres):	22.17				TOTAL VA- CANT AREA (acres): 8.05
							TOTAL 'BUILD- ABLE LAND' AREA (resi- dential area + vacant area) 15.7

NON RESIDENTIAL PROPERTIES

STREET #	STREET NAME	PROPERTY CLASS (CODE)	BUILDING GROSS FLOOR AREA (SQ FT)	BUILDING STORIES	SITE USE	PARCEL AREA (SQ FT)
2	Clark Pl	Restaurant (421)	3312	1	non residential	9102.84
248	Gene-see St	Attached Row Building (481)	30760	4	non residential	10081.12
252	Gene-see St	Attached Row Building (481)	9472	2	non residential	8270.88
254	Gene-see St	Professional Association (691)	24182	3	non residential	10699.61
258	Gene-see St	Office Building (464)	91616	6	non residential	13904.82
268	Gene-see St	Bank (461)	26748	4	non residential	28528.16
266	Gene-see St	Bank (461)	9310	2	non residential	9106.56
270	Gene-see St	Branch Bank (462)	8400	1	non residential	38540.52
251	Gene-see St	Social Organization (534)	26328	4	non residential	8737.46
253	Gene-see St	Office Building (464)	9399	3	non residential	8433.78
255/257	Gene-see St	Office Building (464)	20193	2	non residential	27659.53
280	Gene-see St	Telecommunications (831)	78750	5	non residential	23840.42
282	Gene-see St	Attached Row Building (481)	14824	3	non residential	16491.98
273	Gene-see St	Auto Body (433)	13500	2	non residential	13715.45

283	Gene-see St	Office Building (464)	11475	2	non residential	25626.49
259	Gene-see St	Theatre (511)	20965	1	non residential (Stanley Theater)	53682.94
1	Hopper St	Detached Row Building (482)	4226	2	non residential	3907.91
3	Hopper St	Office Building (464)	4224	3	non residential	4761.44
7	Hopper St	Office Building (464)	6231	3	non residential	12451.06
11	Hopper St	Attached Row Building (481)	3504	2	non residential	4220.80
13	Hopper St	Detached Row Building (482)	7696	3	non residential	4062.71
15	Hopper St	Attached Row Building (481)	4508	2	non residential	3273.92
17	Hopper St	Attached Row Building (481)	3572	2	non residential	3576.57
16	Hopper St	Bar (425)	4460	2	non residential	4553.66
21	Hopper St	Detached Row Building (482)	3294	2	non residential	2825.77
25	Hopper St	Detached Row Building (482)	2348	2	non residential	2264.69
8	Hopper St	Religious (620)	31512	3	non residential-religious	29719.34
1100	Miller St	School (612)	12780	2	non residen-	28654.99
1026	Park Ave	Converted Residential (483)	3232	2	non residential	5621.49
1105	Park Ave	Converted Residential (483)	5318	2	non residential	7596.75

203	Rutger St	Inn/Lodge (418)	44218	3	non residential	61915.50
210	Rutger St	Inn/Lodge (418)	4272	2	non residential	10092.10
212	Rutger St	Detached Row Building (482)	5200	2	non residential	9661.49
13	South St	Converted Residential (483)	2206	2	non residential	2389.26
18	South St	Office Building (464)	4803	3	non residential	4584.51
112	South St	Office Building (464)	3776	1	non residential	27770.14
115	South St	Single Use Small Building (484)	13568	1	non residential-supermarket	14271.72
12	Steuben Park	Professional Building (465)	6032	3	non residential	9676.00
6	Steuben Park	Detached Row Building (482)	7058	3	non residential	13464.00
		TOTAL	587272			577738.38
		FAR (when FAR is Gross Floor Area of Building(s)/ Total Area of the Lot):	1.02			TOTAL PARCEL AREA (acres): 13.26

APPENDIX B: BUILDING TYPOLOGIES

The following images provide a general visual example of the variety of buildings located in the assessment area. This is not a comprehensive inventory of each building, rather a sampling in order to show general typologies.

GENESEE ST: MIXED USE RESIDENTIAL AND NONRESIDENTIAL WITH HIGH VARIABILITY IN BUILDING STYLE, SIZE, USE AND STORIES



283 Genesee St.



268 Genesee St



276 Genesee St



252 Genesee St



272 Genesee St



259 Genesee St

GENESEE ST: MIXED USE RESIDENTIAL AND NONRESIDENTIAL WITH HIGH VARIABILITY IN BUILDING STYLE, SIZE, USE AND STORIES



428 Genesee St.



258 Genesee St



251 Genesee St



282 Genesee St



253 Genesee St



270 Genesee St

SINGLE FAMILY RESIDENTIAL



1018 Miller St



1013 Stueben St



1019 Stueben St

TWO FAMILY RESIDENTIAL



18 Hopper St



1002 Miller St



1011 Park Ave

CONVERTED RESIDENCE



1026 Park Ave



1001 Park Ave



1017 Park Ave

APARTMENTS: VARIABLE IN SIZE FROM SMALL RESIDENTIAL TO HIGH RISE



14 Hopeer St



20 Stueben Park



100 Rutgers St

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