# TONAWANDA STREET CORRIDOR
# Brownfield Opportunity Area

## Step 2 Nomination Document

## CITY OF BUFFALO

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BUFFALO greencode

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# 1 OVERVIEW

## 1.1 Project Description

In 2011, the City of Buffalo was awarded funding from the New York State Department of State to establish a Tonawanda Street Corridor Brownfield Opportunity Area. This funding allows recipients to plan for the revitalization of underutilized, vacant, and brownfield sites by establishing a vision for their redevelopment, and strategies to return the sites to productive use.

The Tonawanda Street Corridor BOA encompasses 650 acres – roughly one square mile – in the northwest section of the city. It contains a large number of brownfields and underutilized parcels; a legacy from the industries that were once located along the Belt Line rail corridor that serves as the geographic basis for the BOA.

Redevelopment of this area will be based on its strategic location. Highways and rail lines connect to destinations in both the United States and Canada. The Niagara River and Scajaquada Creek offer access to natural settings. Ongoing efforts to restore waterfront lands, improve public amenities, and leverage nearby neighborhood attractions will bolster interest in the area and create opportunities for land uses that match the needs of the community.

The BOA builds on the work of the Tonawanda Street Corridor Plan, which recognized the potential for brownfield redevelopment, while simultaneously integrating neighborhood, commercial, and institutional assets that serve as regional attractions. Few areas in the city offer such a mix of activity and well-positioned assets.

This BOA is being evaluated as part of a Generic Environmental Impact Statement that will review the impacts of adopting four Brownfield Opportunity Area Plans (Buffalo Harbor, Buffalo River Corridor, South Buffalo, and Tonawanda Street Corridor), the Local Waterfront Revitalization Plan, changes to existing Urban Renewal Plans, and an updated Land Use Plan and Unified Development Ordinance.

The Common Council was declared lead agency, and a Positive Declaration and draft scope of work prepared. The GEIS will be submitted to the Common Council for review and approval, and a public comment period will take place in the fall of 2015.

## 1.2 Vision, Goals, and Objectives

The BOA process seeks to initiate, prioritize, and guide land remediation and redevelopment by identifying economic, social, and cultural opportunities. A vision for the future must be guided with broad-based community, municipal, and state support; and solidly grounded in current and emerging challenges, initiatives, and opportunities.

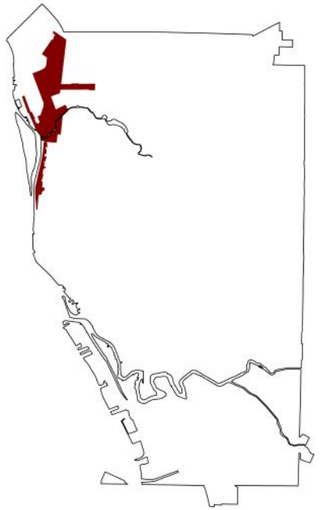
The long-term goal is to pursue both environmental enhancement and sustainable development by creating a plan designed by stakeholders, including area residents, businesses, environmental advocates, and government. Consensus building began at project inception, by ensuring that the various concerns and goals were discussed in an open fashion. Community contributions and acceptance are vital to the success of any redevelopment plan.

Planning is essential to ensure that future development does not compromise recent gains. The need to generate employment opportunities and tax revenues must be balanced with strengthening neighborhoods, expanding recreational opportunities, preserving industrial heritage, ensuring waterfront access, and improving habitats and watershed ecology.

## 1.3 Boundaries

The boundaries were selected to include heavy industrial areas along the Belt Line rail corridor. These include Aurubis Buffalo, Chandler Street, the Buffalo Free Trade Complex, Tonawanda Street, Scajaquada Creek, and the Niagara Street corridor. A number of mixed-use neighborhoods surround these employment centers, including Black Rock, Grant-Amherst, Riverside, West Hertel, and Upper Rock. [Map 1.1]

The northern boundary is Skillen Street; the eastern boundary includes rail and industrial properties which form the edge of residential areas; the southern edge extends along Niagara Street to Albany; and the western boundary links to the Niagara River via the Black Rock Channel and the International Railroad Bridge.



## 1.4 Community Participation

A community participation plan was designed to enable input at a variety of levels and stages during the development of the Nomination Document. The plan was organized around project tasks to provide timely inputs to deliverables. A range of opportunities for community involvement were identified, from public open houses to small stakeholder sessions. The project website also provided opportunities for interested parties to submit comments.

The consultation process employed numerous outreach methods to ensure robust public and private participation. The design and production of accessible materials, and the provision of multiple opportunities for feedback were seen as essential to a successful communication strategy.

Several different audiences were engaged during the planning process. In order to effectively communicate with each group, contact lists were developed and updated with names, addresses, phone numbers, and e-mail addresses. These lists included residents, block clubs, non-profits and community groups; advocacy organizations, educational institutions, businesses and developers; county, state, and federal agencies; city departments and boards; elected officials; and steering committee members. Opportunities for community participation included:

### Stakeholder Sessions

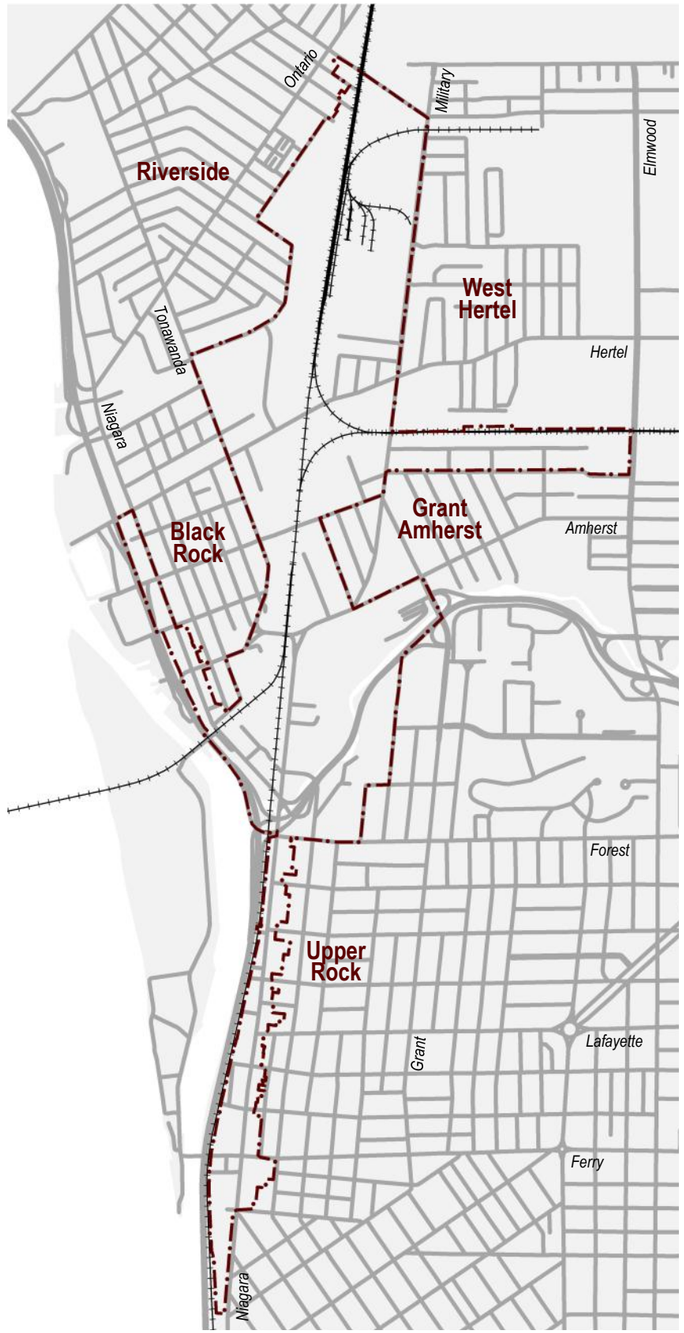
A series of stakeholder sessions were held in November 2011 and January 2012, to assist the consultant team in understanding the dynamics of the study area. These sessions included developers and investors, businesses and large landholders, non-profits and community-based organizations, regulatory agencies, and city departments that serve the community.

These early consultations were designed to:

- Inform stakeholders about the study process and objectives;
- Discuss issues and opportunities, along with policy and development concerns; and
- Identify potential projects and initiatives that would benefit the community.

A “Business Breakfast” was also held in June 2012, to provide business owners and developers with an opportunity to more openly discuss their objectives outside of a public forum.

**Map 1.1 Boundaries**



### Steering Committee Meetings

A 20-member steering committee was appointed to review material prepared by the consultant team, provide input regarding project direction, and serve as liaisons to the larger community. Members included representatives from local businesses, developers, community-based organizations and other non-profits, institutions, and the general public. Staff from agencies providing project support were also invited to attend steering committee meetings. A total of five meetings were held during the course of the Step 2 process:

- **December 2011** – the initial meeting introduced the project team; provided overviews of the BOA program and study process; and included breakout sessions to allow participants to brainstorm key issues, challenges, opportunities, and goals and aspirations.
- **January 2012** – the second meeting reviewed consultant analysis and findings to date; introduced the visioning process that would be employed at the first open house; and included breakout sessions to discuss types of desired uses and locations, infrastructure needs, and phasing of proposed improvements.
- **June 2012** – the third meeting reviewed and discussed three alternative scenarios for future development.
- **February 2014** – the fourth meeting reviewed the draft Nomination Document and initial strategic sites, discussed concerns, and proposed changes.

### Open Houses

A total of four open houses were held over the course of the planning process to share information with the public and solicit comments and feedback:

- **January 2012** – the first open house introduced the project objectives, provided an overview of the analysis conducted to date, and then broke out into visioning sessions to allow participants to discuss emerging principles and their vision for the BOA over the next two decades.
- **June 2012** – the second open house started with a brief review of the community input from the prior meeting, discussed the economic analysis for the BOA, and laid out a set of emerging principles to guide redevelopment. The consultants provided workbooks outlining the three alternative development scenarios, and asked participants to mark these up with their thoughts and comments. The meeting concluded with a facilitated discussion on initial reactions to the alternative scenarios.
- **April 2014** – the third open house provided the community with a brief recap of project status, and reviewed the key findings of the draft Nomination Document. The consultants identified the strategic sites that are being proposed, and accepted input on their redevelopment potential.



# 2 ANALYSIS

## 2.1 Community and Regional Setting

Buffalo is the regional center of Western New York, which consists of Erie, Niagara, Orleans, Genesee, Wyoming, Allegany, Cattaraugus, and Chautauqua counties. Erie and Niagara are the most urbanized, and together form the Buffalo-Niagara Falls Metropolitan Statistical Area.

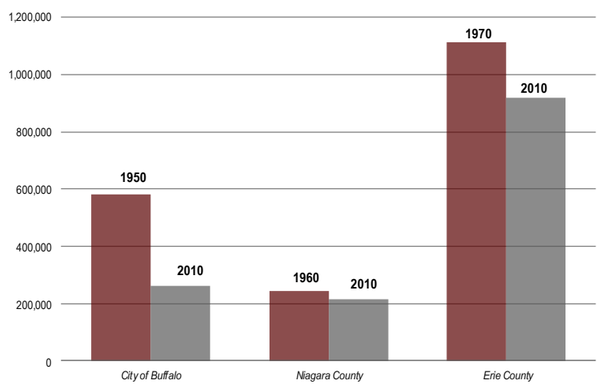
The regional setting reflects long-term trends in Erie and Niagara counties. Buffalo's population peaked in 1950, and had fallen 55 percent by 2010; Niagara County peaked in 1960, and had fallen 11 percent by 2010; while Erie County peaked in 1970, and had fallen 17 percent by 2010. [Figure 2.1]

These declines reflect the lack of economic growth in Western New York over the past 60 years. The region was historically dependent on manufacturing and trade for its job base. Manufacturing underwent a major restructuring in the second half of the 20th century, which led to industrial facilities relocating from the Northeast and Midwest to the West and South, and later overseas. Population growth mirrored these trends, which also had a significant impact on the region's role as a shipping hub, as markets shifted further away from Western New York.

Beyond the impacts of manufacturing decline, cities were also beginning to experience the effects of suburbanization. The rise of bedroom communities in the 1950s initiated a massive shift in population. Yet Buffalo remains the regional center in terms of government, finance, medicine, education, and the arts; providing the city with a strong foundation for future growth.

The region's transition from manufacturing to a service-based economy has been slow, but is now firmly underway. The University of Buffalo is a major research institution that advances the technological capabilities of the region. The training offered by UB and other higher education providers represents a significant resource; while the Buffalo Niagara Medical Campus reinforces Buffalo's position as a center for biomedical technology to drive the region's growth in the service-based economy.

**Figure 2.1** Population change




Western New York also benefits from its relationship with Toronto and Southern Ontario, which offers significant opportunities for development on both sides of the border. Increasing international trade and cross-border relationships have been a long-term trend. Initially spurred by the North American Free Trade Agreement, the region has become a portal for Canadian businesses seeking to access US markets.

Economic activity resulting from bi-national trade is expected to be a continuing source of regional growth. As Canadian firms seek greater operational efficiencies and access to the larger US market, more facilities and jobs will be located on this side of the border, with Buffalo positioned to capture a significant portion of this investment.

The goal is to turn Western New York into a place where people choose to live, rather than leave. In the industrial economy, locational decisions were based on factors such as access to raw materials, proximity to markets, and the cost of transporting goods. Today, employment flows to places with workforce synergies and a high quality of life. Where people want to live plays an increasing role in regional success.

Quality of life is a broad, somewhat abstract concept that includes economic opportunities, cost of living, education, public safety, housing options, environmental health, arts and culture, and recreation. No single place can excel in all areas; but the purpose of all efforts must be to enhance the quality of life within the city and region.

### Opportunities

- Use the area's **skilled workforce** and **higher education** institutions to provide the capacity for renewed economic growth.
- Build on **cultural diversity** by welcoming and integrating the growing numbers of immigrants and refugees into the economic and social networks.
- Leverage the **tourism** focused on Niagara Falls with complementary assets such as architecture, industrial heritage, arts and music, food and beverage, sports and recreation, and fishing and hunting.
- Take advantage of excess **transportation** capacity while restructuring the existing system to become more multi-modal and responsive to urban form.
- Enhance the city's unique **urban form**, dictated by the confluence of Lake Erie with the Niagara and Buffalo rivers, and guided by the subsequent efforts of Joseph Ellicott and Frederick Law Olmsted.
- Maximize **natural resources** by making recreation and natural beauty part of the regional lifestyle, and by restoring ecosystem function and resilience.
- Emphasize **history and heritage** to enhance a sense of place and increase regional appeal.



### Challenges

- **Economic diversification** is well underway, but needs to be accelerated to achieve net growth.
- Disinvestment has outpaced private sector investment in recent decades. **Barriers to investment** must be overcome to address issues such as legacy industrial and commercial contamination.
- The region suffers from both misconceptions and real concerns regarding quality of life. Positive demonstrations are needed to **enhance the image** of the city and region.
- The economic restructuring of the region will require a **physical restructuring**, including new land use patterns, revitalized neighborhoods, and updated transportation systems.
- Without sacrificing its heritage, the region must **address obsolescence** and upgrade its housing, transportation, and community facilities; and employ best practices and state-of-the-art urban design for ensuring ecosystem prosperity.

## 2.2 Community and Regional Trends

Demographic, employment, and real estate trends all impact the potential for future redevelopment. There are a number of options that could reasonably be considered for the BOA, yet most market and economic indicators are still relatively weak, both within the city and the region. Therefore, the rate of new development for any selected use should be expected to unfold over a period of years. Low demand for residential and non-residential land uses also suggests that subsidies and incentives may be required to attract developers and investors, at least in the near term.

### Demographic Trends

Population and household growth within the region have been constrained over the past few decades by a general lack of economic opportunities. Recent population changes between 2000 and 2014 reflect overall net losses at both the city and county levels; although estimates since 2010 indicate that the county has grown by roughly 4,100 persons, while the city's rate of decline has slowed considerably, with a loss of just 2,500 residents over the past four years. As with population, the city experienced a loss of 12,600 households between 2000 and 2014; although the rate of decline has also been slowing recently. [Figure 2.2]

The county's median age of 40.8 is well above the city's median of 32.7. Although the city had 28 percent of the total county population in 2014, this was not evenly distributed among age groups. [Figure 2.3] The city had 33 percent of all persons under age 24, and 32 percent of those between 25 and 44. But as persons age, they are more likely to live in the suburbs, as just 23 percent of those 45 to 64, and less than 22 percent of those over 65 reside in the city.

The two largest age cohorts in the United States are Millennials (currently ages 15 to 35) and Baby Boomers (ages 51 to 69). The city has a unique opportunity to retain a greater share of Millennials as they reach the age when persons typically begin leaving cities for the suburbs; as well as the potential for drawing back empty nesters among Baby Boomers looking to downsize.

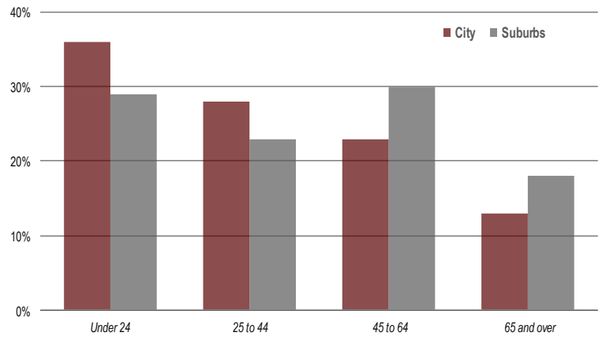
When adjusted for inflation, median household income in Erie County declined by 5.4 percent between 2000 and 2014, going from $53,400 to $50,500. There are various factors contributing to this, including a growing number of households being headed by retirees, as well as the continuing increase in one-person households, which therefore have just a single income. Median household incomes in the city also decreased between 2000 and 2014, from $35,100 to $32,100. Household incomes in the city have traditionally been below those of the county, and fell slightly from 66 to 64 percent of the countywide median during this period.

## Figure 2.2 City of Buffalo demographic trends

| | *1950* | *2000* | *2014* | *2014 County* |
|---|---|---|---|---|
| **PERSONS** | **580,100** | **292,600** | **258,700** | **922,800** |
| Density | 14,100 | 7,200 | 6,500 | 890 |
| White alone | 94% | 55% | 47% | 78% |
| Black alone | 6% | 37% | 37% | 13% |
| Other races | 0% | 8% | 16% | 9% |
| Latino | NA | 8% | 11% | 5% |
| Foreign born | 12% | 4% | 9% | 7% |
| College grads | 5% | 18% | 24% | 32% |
| Poverty rate | NA | 27% | 31% | 15% |
| Median income | $30,900 | $35,100 | $32,100 | $50,500 |
| **HOUSING UNITS** | **166,700** | **145,600** | **131,600** | **421,200** |
| Occupied | 164,700 | 122,700 | 110,100 | 383,700 |
| Household size | 3.5 | 2.4 | 2.2 | 2.2 |
| For sale | <1% | 6% | 4% | 2% |
| For rent | <1% | 14% | 7% | 6% |
| Vacant | 1% | 7% | 11% | 6% |
| Homeowners | 44% | 44% | 40% | 65% |
| Median value | NA | $84,900 | $70,400 | $132,700 |

*Source: US Census Bureau*

## Figure 2.3 Age distribution in 2014






## Employment Trends

Total employment in Erie County rose by over 13,000 between 2000 and 2014, from 431,180 to 444,470. [Figure 2.4] Private sector jobs represented about 80 percent of the 2014 total. The region has seen this number increase by 5.5 percent since 2000, while government employment has declined by 3.7 percent. The largest number of employees work in education and health care, retail trade, manufacturing, and accommodations and food services; with professional services and management, and finance, insurance, and real estate also accounting for a significant number of jobs.

Like many regions across the country, the manufacturing sector recorded the greatest losses since 2000, with a decline of over 15,000 jobs. These losses are projected to continue, although efforts to promote advanced manufacturing are designed to slow this trend. While the overall losses were not as great, wholesale trade declined 41 percent (7,700 jobs) and information declined 29 percent (2,900 jobs). On the other side of the ledger, education and health care gained 15,000 jobs, accommodations and food service grew by almost 11,000, and finance, insurance, and real estate were up over 6,000.

## Figure 2.4 Erie County employment trends

| | *2000* | | *2014* | | *Change* | |
|---|---|---|---|---|---|---|
| **CLASSIFICATION** | **431,180** | | **444,470** | | **13,290** | **3%** |
| Private | 335,580 | 78% | 354,190 | 80% | 18,610 | 6% |
| Government | 75,170 | 17% | 72,380 | 16% | (2,790) | -4% |
| Self-employed / family | 20,430 | 5% | 17,900 | 4% | (2,530) | -12% |
| **SECTOR** | **431,180** | | **444,470** | | | |
| Education and health care | 110,320 | 26% | 125,470 | 28% | 15,150 | 14% |
| Retail trade | 50,930 | 12% | 54,780 | 12% | 3,850 | 8% |
| Manufacturing | 62,250 | 14% | 46,680 | 11% | (15,570) | -25% |
| Accommodation and food service | 32,340 | 8% | 43,080 | 10% | 10,740 | 33% |
| Professional and management | 34,660 | 8% | 41,100 | 9% | 6,440 | 19% |
| Finance, insurance, real estate | 28,690 | 7% | 34,970 | 8% | 6,280 | 22% |
| All other | 111,990 | 26% | 98,390 | 22% | (13,600) | -12% |
| **OCCUPATION** | **431,180** | | **444,470** | | | |
| Management and business | 149,730 | 35% | 170,530 | 38% | 20,800 | 14% |
| Sales and office | 121,260 | 28% | 111,640 | 25% | (9,620) | -8% |
| Service | 67,290 | 16% | 82,050 | 18% | 14,760 | 22% |
| Production and transportation | 62,790 | 15% | 51,020 | 11% | (11,770) | -19% |
| Construction and maintenance | 30,110 | 7% | 29,230 | 7% | (880) | -3% |

*Source: US Census Bureau*

Similar to the gains and losses among sectors, the number of persons employed in production and transportation occupations declined by more than 11,000, while employment in management, business, and science occupations rose by 20,800, and service occupations increased by almost 15,000. Employment growth in sectors with significant shares of lower wage workers, such as health care, accommodations, and food service, coupled with ongoing losses in higher-paying manufacturing jobs, have also contributed to the decline in median household income.

With respect to the city, total employment dropped by 3,910 between 2000 and 2014, from 114,060 to 110,150. [Figure 2.5] This reflects a loss of over 4,800 government positions, which was only partially offset by a gain of 2,000 private sector jobs.

The largest employment sectors in the city are similar to those in the county as a whole, although losses in manufacturing were more severe (down 38 percent), and gains in accommodation and food service more robust (up 44 percent).

Given the decline in manufacturing, the loss among production and transportation occupations outpaced that of the county, falling by 25 percent between 2000 and 2014. Sales and office occupations also fell; although management, business, and science rose by 8 percent, and service occupations were up 14 percent.

**Figure 2.5 City of Buffalo employment trends**

| | *2000* | | *2014* | | *Change* | |
|---|---|---|---|---|---|---|
| **CLASSIFICATION** | **114,060** | | **110,150** | | **(3,910)** | **-3%** |
| Private | 87,400 | 77% | 89,410 | 81% | 2,010 | 2% |
| Government | 22,180 | 19% | 17,370 | 16% | (4,810) | -22% |
| Self-employed / family | 4,480 | 4% | 3,370 | 3% | (1,110) | -25% |
| **SECTOR** | **114,060** | | **110,150** | | | |
| Education and health care | 32,380 | 28% | 33,480 | 30% | 1,100 | 3% |
| Retail trade | 12,170 | 11% | 12,710 | 12% | 540 | 4% |
| Manufacturing | 14,910 | 13% | 9,210 | 8% | (5,700) | -38% |
| Accommodation and food service | 9,490 | 8% | 13,700 | 12% | 4,210 | 44% |
| Professional and management | 9,770 | 9% | 10,600 | 10% | 830 | 8% |
| Finance, insurance, real estate | 6,510 | 6% | 6,720 | 6% | 210 | 3% |
| All other | 28,830 | 25% | 23,730 | 22% | (5,100) | -18% |
| **OCCUPATION** | **114,060** | | **110,150** | | | |
| Management and business | 33,290 | 29% | 35,920 | 33% | 2,630 | 8% |
| Sales and office | 30,770 | 27% | 26,200 | 24% | (4,570) | -15% |
| Service | 24,050 | 21% | 27,410 | 25% | 3,360 | 14% |
| Production and transportation | 19,560 | 17% | 14,660 | 13% | (4,900) | -25% |
| Construction and maintenance | 6,390 | 6% | 5,960 | 5% | (430) | -7% |

*Source: US Census Bureau*



Stagnant population growth and an aging workforce represent economic development challenges, since these will force businesses to be more aggressive in attracting workers. This suggests that efforts to retrain the existing workforce to support shifts into new and emerging industry sectors as part of on-going economic diversification planning will be required.

Employment sectors that offer the best potential for growth include producer services, information technology, biomedical, industrial machinery and services, food and materials processing and distribution, back office and outsourcing, and travel and tourism.

- Professional and technology establishments are potential users of business parks, particularly if relationships can be established with area research centers to help support growth in these sectors. These firms require both office space and specialized flex-building space for research and development activities. High-speed internet linkages are critical, and electric demand may also be high.
- Biomedical includes the manufacturing sector producing pharmaceutical, nutraceutical, and cosmeceutical products; research and development of physical, engineering, and life sciences; as well as medical equipment development and manufacturing. New or expanding firms in this cluster will most likely want to locate near research centers and existing campuses.
- Industrial machinery has been a mainstay of the region's manufacturing base, but national trends suggest that this cluster is not expected to be a source of significant future employment growth. However, the labor force from this cluster provides an asset for diversifying the sector towards advanced manufacturing with industries that produce high technology goods or use advanced technologies to produce goods, such as SolarCity.
- Processing and distribution represent several industry sectors that combine to offer a dynamic relationship between processing facilities and the distribution network. These rank relatively low in terms of regional employment, but offer growth potential based on national trends. Sustaining and expanding these clusters will depend on a number of factors, one of which is a strong and integrated distribution network. Buffalo is well-located to become more of a logistics hub due to its access to rail, water, road, and air transportation systems. Increases in energy costs are fostering a resurgence of rail as a means of moving goods over long distances. The region occupies a strategic position on an international border, with the potential for developing logistics facilities.
- Back office and outsourcing includes telephone answering centers, telemarketing, and credit bureau operations. These uses could be readily integrated into a professional office park or within renovated commercial or industrial buildings. These types of jobs do not generally require a high skill level, so could potentially draw from the large number of service sector employees in the area.
- Travel and tourism is the third largest source of employment in the region. This cluster is one of the most diverse, encompassing accommodations; cultural, recreational, and amusement facilities; food service facilities; passenger transportation services; and travel-related retail sales.

## Real Estate Trends

Based on data provided by CBRE, the **industrial market** in Erie and Niagara counties included an inventory of 64.7 million square feet in 2014. [Figure 2.6] Manufacturing uses occupied half of this inventory, with warehouses accounting for another 36 percent and flex space the remaining 14 percent. For 2014, net absorption totalled just over 900,000 sf. This led to a decline in the overall vacancy rate from 5.7 at the end of 2013 to 4.5 percent, which represents the lowest rate since 2005. The current vacancy rate among industrial buildings is less than half the national rate of 10.6 percent, which is the tenth consecutive year that the national market has been outperformed locally.

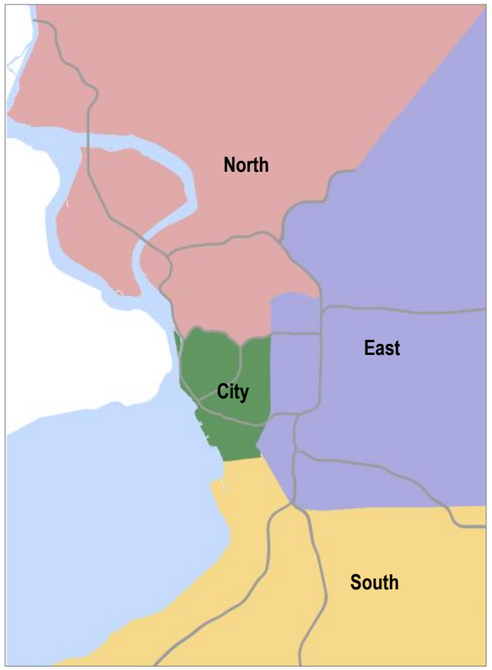
Just 88,000 sf of new industrial space was added in 2014, which is well below the average of 240,000 sf that has been added annually since 2000. The lack of new construction has had positive impacts, however, as tenants have been absorbing older, existing industrial space. The addition of 1.2 msf of space when Solar City is completed in 2016 will have a significant impact on the industrial inventory.

Only 14 percent of the region's industrial inventory consists of owner-occupied buildings, indicating that supply is primarily driven by developers. As a result, new

**Figure 2.6** Industrial market; 2014 Q4

| | Inventory | Available | Vacancy |
|---|---|---|---|
| **TOTAL** | **64,694,000** | **2,893,000** | **4.5%** |
| Flex | 8,840,000 | 729,000 | 8% |
| Manufacturing | 32,558,000 | 1,173,000 | 4% |
| Warehouse | 23,296,000 | 991,000 | 4% |
| **City** | **12,080,000** | **361,000** | **3.0%** |
| Flex | 523,000 | 0 | 0% |
| Manufacturing | 7,755,000 | 262,000 | 3% |
| Warehouse | 3,802,000 | 99,000 | 3% |
| **North** | **18,690,000** | **847,000** | **4.5%** |
| Flex | 2,921,000 | 363,000 | 12% |
| Manufacturing | 10,383,000 | 260,000 | 3% |
| Warehouse | 5,386,000 | 224,000 | 4% |
| **East** | **23,546,000** | **1,202,000** | **5.1%** |
| Flex | 3,713,000 | 285,000 | 8% |
| Manufacturing | 7,503,000 | 504,000 | 7% |
| Warehouse | 12,330,000 | 413,000 | 3% |
| **South** | **10,375,000** | **484,000** | **4.7%** |
| Flex | 1,682,000 | 81,000 | 5% |
| Manufacturing | 6,916,000 | 148,000 | 2% |
| Warehouse | 1,777,000 | 255,000 | 14% |

*Source: CBRE*




construction will likely require pre-leasing or financial incentives, since speculative development will be limited due to slow projected employment growth over the near-term.

The city submarket, which encompasses the areas within the Scajaquada and Kensington Expressways, contains 12.1 msf of industrial space, and had a 2014 vacancy rate of 3.0 percent, down from 6.3 percent in 2013. Over 400,000 sf was absorbed during the past year, leaving just over 360,000 sf available.

The land supply in Buffalo and the region is presumed to be adequate to support demand for new industrial construction. However, much of this land is not in premier locations, and will need upgraded infrastructure as well as financial incentives to compete with more marketable, shovel-ready locations such as Buffalo Lakeside Commerce Park.

Based on employment projections and targeted sectors, flex buildings and other small-scale spaces appear to offer reasonable industrial development potential. These types of facilities can be planned and developed incrementally, allowing the building supply to grow as market demand dictates. The city currently has only six percent of the regional inventory of flex buildings, but no vacancies within this sector.

Industry growth projections and anticipated support from state and regional agencies for businesses in these clusters suggests that they could provide a viable component of future land use. Flex buildings are also more easily integrated into mixed-use business parks since they are less obtrusive than traditional manufacturing facilities.



The availability of rail access is also likely to be a positive factor for supporting new construction, as well as the re-use of any remaining manufacturing and warehousing facilities, if regional economic plans to promote food and materials processing and multi-modal distribution facilities continue to receive support and incentives.

**Figure 2.7** Office market; 2014 Q4

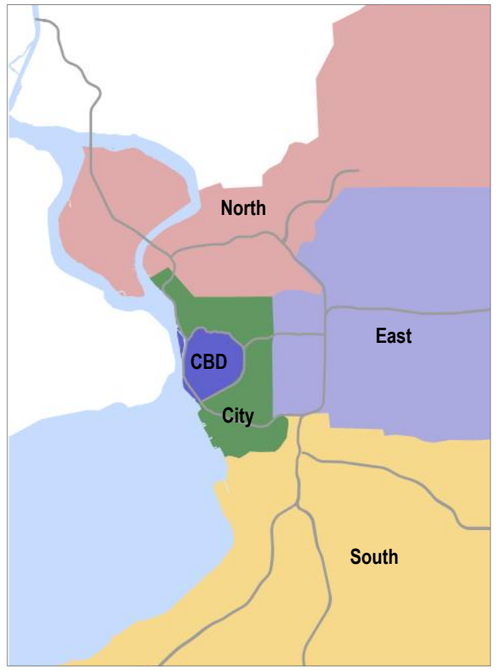
| | Inventory | Available | Vacancy |
|---|---|---|---|
| **TOTAL** | **26,951,000** | **3,766,000** | **14.0%** |
| Class A | 8,473,000 | 1,414,000 | 17% |
| Class B | 12,794,000 | 1,685,000 | 13% |
| Flex | 5,684,000 | 667,000 | 12% |
| **CBD** | **9,129,000** | **1,713,000** | **18.8%** |
| Class A | 4,408,000 | 963,000 | 22% |
| Class B | 4,569,000 | 750,000 | 16% |
| Flex | 152,000 | 0 | 0% |
| **City** | **2,624,000** | **352,000** | **13.4%** |
| Class A | 797,000 | 0 | 0% |
| Class B | 1,044,000 | 230,000 | 22% |
| Flex | 783,000 | 122,000 | 16% |
| **North** | **8,279,000** | **985,000** | **11.9%** |
| Class A | 2,117,000 | 404,000 | 19% |
| Class B | 3,356,000 | 308,000 | 9% |
| Flex | 2,806,000 | 273,000 | 10% |
| **East** | **5,001,000** | **459,000** | **9.2%** |
| Class A | 809,000 | 18,000 | 2% |
| Class B | 2,581,000 | 224,000 | 9% |
| Flex | 1,611,000 | 217,000 | 13% |
| **South** | **1,919,000** | **257,000** | **13.4%** |
| Class A | 342,000 | 29,000 | 8% |
| Class B | 1,245,000 | 172,000 | 14% |
| Flex | 332,000 | 56,000 | 17% |

*Source: CBRE*

The regional **office market** had an inventory of approximately 27 million square feet in 2014, with almost half in Class B, 31 percent in Class A, and 21 percent in Flex. [Figure 2.7] Over the past several years the regional office market has been relatively stable from a vacancy perspective. The overall vacancy rate for all classes (A, B, and Flex) rose from 13.6 percent in 2013 to 14.0 percent in 2014. This places it in line with the national vacancy rate of 13.9 percent, which is its lowest level since 2008.

The city's office inventory includes almost 11.8 msf, or 44 percent of the regional supply. Over three-quarters of the city's inventory is located in the Central Business District, with over 9.1 msf. The CBD had a vacancy rate of 18.8 percent in 2014, which is an increase over prior years. Much of this can be attributed to One Seneca Tower, which currently has almost 900,000 sf of unleased space on the market, constituting over 90 percent of the city's available Class A space.

The overall quality of downtown office space is improving through both new construction and redevelopment activity. Recently completed and ongoing projects at One Canalside, Catholic Health, Compass East, Conventus, and 250 Delaware indicate continued faith in this market.



The rest of the city outside the CBD performed well, with vacancies dropping from 16.0 percent at the end of 2013 to 13.4 percent in 2014. New projects in pockets such as the Larkin District have also led to an increase in rental rates. Suburban markets remain stable, with an overall vacancy rate of 11.2 percent, compared to a national rate of 15.5 percent in suburban locations. However, it's been reported that some long-time tenants have begun to look at downtown as a feasible relocation option as leases expire.

While this market remains relatively strong, demand for new construction will be limited over the next few years. Based on recent absorption levels, the CBD has a 10 to 12 year supply of available space, and continued renovation of the existing inventory into higher quality space may lessen demand for new construction. Vacancy in the remainder of the city is currently 350,000 sf, but this predominantly Class B inventory will need to continue to offer competitive lease rates in order to sustain occupancy levels.

Given these market conditions, the demand for conventional office buildings is expected to be relatively modest. Competition for office development would come from existing and future development in the city's Larkin District which is successfully attracting office and mixed-use projects.

The regional **retail market** had an inventory totaling approximately 26.6 million square feet in 2014. [Figure 2.8] This includes freestanding stores, shopping centers, and malls. The overall vacancy rate across all these facilities was 10.2 percent, which represents the lowest rate since 2000, and is below the national average of 11.5 percent. Across the region, net absorption over the past year increased by over 360,000 sf.

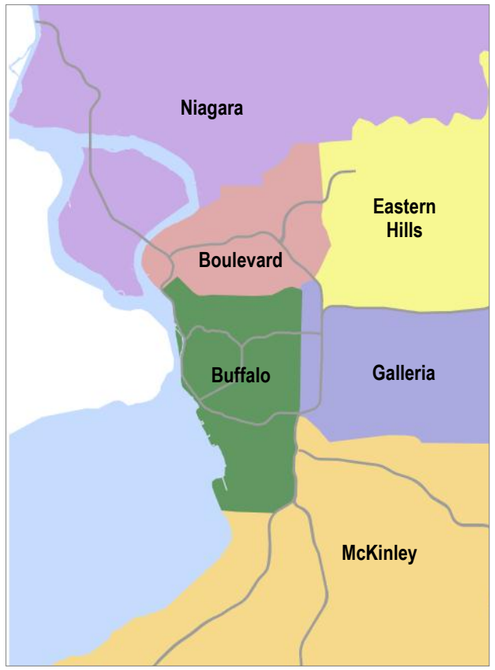
In contrast to industrial and office markets, the city contains less than 10 percent of the regional retail inventory. Retail in the city underperformed the rest of the region, with a vacancy rate of 16.4 percent, compared to 9.5 percent in suburban Erie County, and 11.0 percent in Niagara County. On the positive side, the Elmwood and Hertel shopping districts continued to do well, HarborCenter and One Canalside are bringing new retail to the city, and traditional retailers have begun joining bars and restaurants in expressing interest in the CBD.

However, the beneficial impacts of Canadian shoppers on local retail faces uncertainty. Some retailers around the

**Figure 2.8 Retail market; 2014 Q4**

| | *Inventory* | *Available* | *Vacancy* |
|---|---|---|---|
| **TOTAL** | **26,625,000** | **2,727,000** | **10.2%** |
| Buffalo | 2,087,000 | 341,000 | 16% |
| Boulevard | 5,497,000 | 540,000 | 10% |
| Eastern Hills | 4,065,000 | 221,000 | 5% |
| Galleria | 5,454,000 | 611,000 | 11% |
| McKinley | 5,402,000 | 560,000 | 10% |
| Niagara | 4,120,000 | 454,000 | 11% |

*Source: CBRE*




Galleria Mall and in Niagara County report that up to 40 percent of sales are to Canadians, but the exchange rate for the Canadian dollar is currently at its lowest level since 2004. This is being reflected in a decrease in border crossings between 2014 and 2015 – down 5 percent at the Peace Bridge, 15 percent at the Rainbow Bridge, and 20 percent at the Whirlpool Bridge. If these shoppers decide to stay home, a significant portion of the regional retail market could be affected.

As a result, the demand for any sizeable square footage of additional retail is probably the most questionable among commercial uses. The CBD is the city's strongest retail area, but it appears as though demand there will remain moderate in the near term, with renovated space offering more opportunities than new construction.

Some retail nodes could potentially be added at locations with highway access. These would not be totally dependent on local households for support, especially if prior levels of Canadian shoppers can be recaptured. Any new retail facilities offering general merchandise would likely be created at the expense of existing businesses, since total retail demand is not expected to increase substantially given the low projected growth in regional population and employment.

The **residential market** has remained stable regionally, with the median value for owner-occupied housing in Erie County rising from $88,200 to $131,800 between 2000 and 2014. The average annual increase has been between 2 and 4 percent, with only a few years where growth either exceeded or fell below this rate. In constant 2015 dollars, countywide values increased by 2.1 percent, going from $126,200 in 2000 to $132,700 in 2014. This compares to a national increase of 6.6 percent during this 14-year period. [Figure 2.9]

Countywide appreciation has been affected by declining values in the city. Suburban housing values increased by 3.9 percent in constant 2015 dollars, going from $134,900 to $140,100; but city values fell from $84,900 to $70,400, representing a decline of 17.1 percent. There were wide variations among city neighborhoods, however. Median values ranged from a low of $24,200 to a high of $347,100 in 2013 (the most recent year that figures are available at the census tract level); and some areas appreciated by up to 65 percent between 2000 and 2013, while others declined by over 50 percent in constant 2015 dollars.

Rental housing represents almost 60 percent of the city's stock [Figure 2.2]. Among the almost 65,700 rental units that were on the market in 2014, 4,640 – or 7 percent – were being offered for rent or awaiting occupancy. While this is a bit higher than the 5 percent target that indicates a healthy balance between supply and demand (and much improved from the 14 percent figure in 2000), the citywide average again masks wide variations among neighborhoods. In some, apartment vacancies were under one percent in 2013; while in others the rate topped 10 percent, with a handful exceeding 20 percent.

The city issued building permits for 1,680 new housing units between 2000 and 2014, including 750 single-family and 930 multi-family units. [Figure 2.10] Yet Buffalo's building activity represented only 7 percent of the 22,740 permits issued in Erie County during this period, meaning that over 13 units went up in the suburbs for every one built in the city. Permit activity has also been steadily declining in both the city and suburbs. While the city permitted an average of 287 units annually during the late 1990s, that number has dropped to an average of 88 since 2010. [Figure 2.11]

**Figure 2.9 Median housing values (in 2015 dollars)**

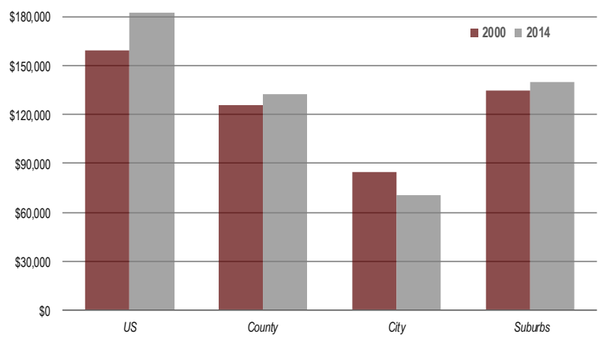


**Figure 2.10** Erie County building permits issued

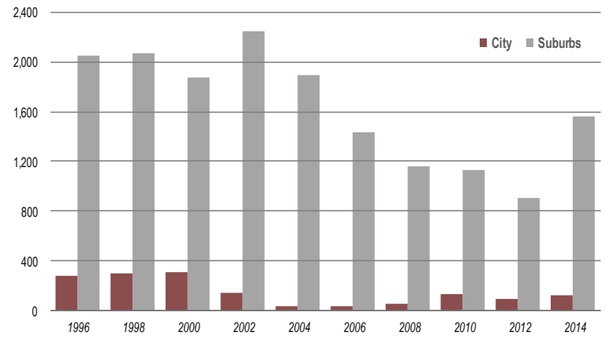



**Figure 2.11** Building permits by decade

| | *City* | *Suburbs* | *Ratio* |
|---|---|---|---|
| **1996 to 2014** | **149** | **1,624** | **11 to 1** |
| 1990s | 287 | 2,027 | 7 to 1 |
| 2000s | 124 | 1,646 | 13 to 1 |
| 2010s | 88 | 1,257 | 14 to 1 |

*Source: US Census Bureau*

Compensating for this lack of new construction has been a rise in the number of units created through the adaptive reuse of non-residential structures. It is estimated that over the past decade more than 800 new rental units have been completed, and another 200 are in the planning or construction stages.

Census data indicates that the city experienced a net loss of 14,000 housing units between 2000 and 2014, a decrease of almost 10 percent of its stock. [Figure 2.2] Despite the removal of these abandoned units, the number of vacant housing units that are not being marketed for sale or rent still climbed from 7 to 11 percent during this period. It is unlikely that the current balance of over 15,000 vacant units – some of which have been pulled from the market by owners who do not wish to rent at this time, others that have been abandoned – can be absorbed in a region that continues to add 1,500 new suburban units annually.

As a result, demand for new residential development in the city will continue to be moderate, and limited regional population growth is not expected to result in any marked impacts on this trend in the near-term. Given the anticipated population changes over the next few years – where growth will be concentrated in the near-retirement and retirement age groups, with only modest increases in younger households – potential regional demand is likely to be focused within the following niches:

**Senior housing**: An estimated 7,000 households will be entering this market segment countywide over the next 10 years. Projected increases in income levels for these age groups suggest that they may be able to afford somewhat higher housing costs if they choose to downsize into a retirement-oriented living facilities.

**Rental housing**: An estimated 2,000 households will be added in the 25 to 34 age group over the next five years. Although this does not represent a huge increase in demand, the city currently has a larger share of its population in these age groups, and could build on this base.

**Luxury housing**: Although a small share the city's housing market, high-end apartments and condominiums have met with success downtown and along the waterfront. Absorption is likely to remain slow, and may need to be part of a mixed-use development to attract private investment.



## 2.3 Tonawanda Street Corridor Trends

For this analysis, the BOA was extended to encompass adjacent portions of the five neighborhoods that are located within its boundaries: Black Rock, Grant Amherst, Riverside, Upper Rock, and West Hertel. [Map 2.1]

Like the city as a whole, the total population of these five neighborhoods peaked in 1950 and had declined by over 40 percent by 2000. [Figure 2.12] But between 2000 and 2013 (the most recent year for which neighborhood data is available) the population has stabilized, falling by less than one percent, in contrast to an 11 percent decline citywide.

The number of households has also declined recently, but at a slightly higher rate than the population. This has led to a rise in average household size between 2000 and 2013, from 2.4 to 2.6 persons. This trend differs from what's happening in the rest of the city and the county, where average household size continues to fall. This may be due to the dramatic increase in the number of foreign-born residents (2,030 in 2000 and 5,600 in 2013), who are more likely to live in extended families.

Combined with this increase in foreign-born residents, the racial composition is also changing. In 1950, these neighborhoods were essentially all white, with less than 100 residents listed as either black or "other" race. The white share of the population had fallen to three-quarters of the total by 2000; and 59 percent in 2013. Blacks, those of other or mixed races, and Latinos now each make up at least 20 percent of the population.

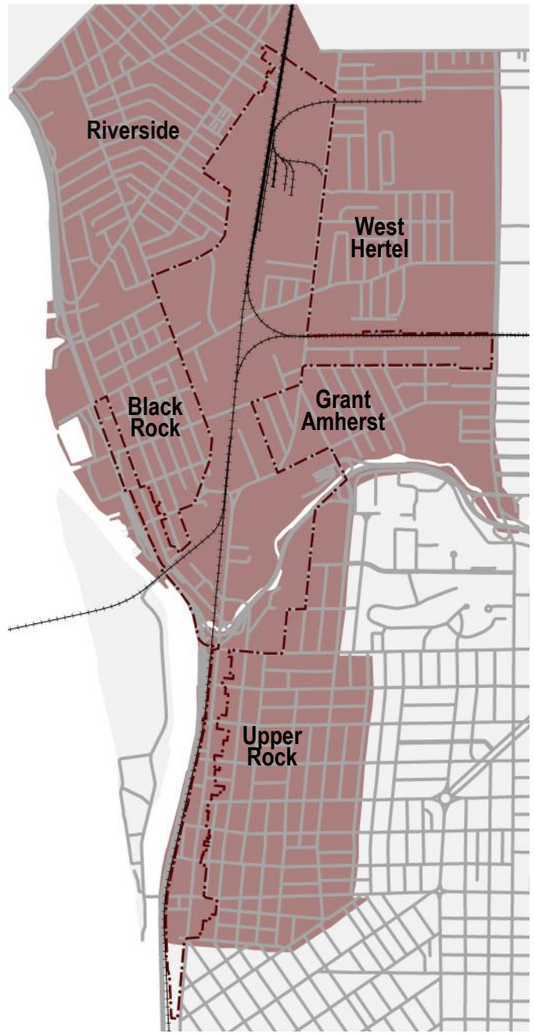
Although educational attainment has improved over time, college graduation rates were well below citywide totals in 1950, 2000, and 2013. This is reflected in the median household income, which was above the citywide median in 1950 when factory jobs were still plentiful; but had fallen 10 percent below the citywide median in 2000, and was over 20 percent lower in 2013.

Along with the decline in median household income, which fell 20 percent in constant 2015 dollars between 2000 and 2013, the poverty rate increased from 31 to 41 percent during this period. Both the 2000 and 2013 poverty rates are higher than those citywide, and the rate of growth over this period increased faster than in the city as a whole.

The five neighborhoods lost of a total of 1,000 housing units since 1950, although this 6 percent decline is substantially lower than the 33 percent loss citywide.

Occupancy has also fallen over this period, leading to a rise in the number of vacant units. Like the rest of the city, these neighborhoods had virtually no vacancies in 1950. With little housing built during the Great Depression and World War II, the immediate post-war years saw tremendous pressures placed on the existing stock.

**Map 2.1** BOA neighborhoods



Bursting at the seams and with little developable land available, Buffalo began witnessing a massive shift of its population to the surrounding suburbs, which were experiencing a building boom. Yet as the suburbs grew, many city neighborhoods began to face increasing abandonment as residents moved away but were not replaced. The number of vacant housing units in the city not being marketed for sale or rent climbed from just 1,200 in 1950 to almost 10,000 in 2000, and added another 2,000 units by 2014. Within these neighborhoods, the number of vacant units went from 115 in 1950 to 1,960 in 2013, as the vacancy rate rose from less than 1 percent to 13 percent.

The median value of owner-occupied housing has consistently fallen below the citywide median. In 2000 it was 15 percent lower, and by 2013 was 25 percent lower. And like the citywide median, it fell by 27 percent between 2000 and 2013 when measured in constant 2015 dollars.

Almost 70 percent of renters in these neighborhoods paid between $300 and $800 per month in 2013, with a median rent of $640. Given the low household incomes, however, 57 percent of all renters paid more than 30 percent of their income for housing; and 38 percent were paying over half of their income for rent. Just 420 households (or about 6 percent of all renters) had a monthly rent of $1,000 or more, and half of these were located in Upper Rock.

Due to high vacancies and relatively low rents and values, no new residential construction was completed in these neighborhoods between 2000 and 2012. But over the past couple of years, a number of adaptive reuse projects have either been completed or announced, all of which include a market-rate housing component.

A pair of mixed-use projects have transformed long-vacant structures on Elmwood Avenue: Houk Lofts consists of 22 apartments and a tattoo parlor; and Foundry Lofts includes 48 apartments, 21 hotel rooms, a banquet facility, yoga studio, and office space.

Work is underway at 960 Busti, which will feature 18 apartment units and commercial space; 1088 Niagara, with apartments, a Tim Horton's, and additional retail; and 1502 Niagara, where the Cresendo will add 41 lofts and commercial space. Plans are pending for recent acquisitions of 1360 Niagara, a 67,000 square foot daylight factory that previously housed Garrett Leather; and 1469 Niagara, an 8,400 square foot mixed-use structure.

**Figure 2.12** BOA demographic trends

| | *1950* | *2000* | *2009/13* |
|---|---|---|---|
| **PERSONS** | **55,200** | **32,200** | **32,000** |
| Density | 13,600 | 7,950 | 7,700 |
| White alone | 100% | 76% | 59% |
| Black alone | 0% | 11% | 21% |
| Other races | 0% | 13% | 20% |
| Latino | NA | 8% | 20% |
| Foreign born | 17% | 6% | 18% |
| College grads | 3% | 8% | 14% |
| Poverty rate | NA | 31% | 41% |
| Median income | $32,000 | $31,700 | $25,400 |
| **HOUSING UNITS** | **15,900** | **15,750** | **14,900** |
| Occupied | 15,700 | 13,400 | 12,300 |
| Household size | 3.5 | 2.4 | 2.6 |
| For sale | <1% | 5.6% | 1.9% |
| For rent | <1% | 11.8% | 6.9% |
| Vacant | 1% | 6% | 13% |
| Homeowners | 45% | 42% | 38% |
| Median value | NA | $72,200 | $52,900 |

*Source: US Census Bureau*



# 3 INVENTORY

The purpose of this inventory is to provide a better understanding of existing conditions; clarify the regulatory framework; recognize opportunities and potential barriers to redevelopment; and identify assets and opportunities that can leverage investments.

Scajaquada Creek and the Niagara River have served as the location of concentrated industrial development since the 1830s. Commodore Oliver Hazard Perry oversaw a naval yard in Scajaquada Creek during the War of 1812.

Mills had been located along both the creek and the river since the 1830s and included Frontier Mills, Globe Mills, and Enos' Flour Mill. While its industrial past has dramatically altered the ecological function of the creek, it remains the key natural resource within the BOA. Although active commercial, industrial, and residential uses occupy the majority of the study area, numerous vacant sites and valuable environmental resources remain.

## 3.1 Natural Resources

### Geology and Soils

The BOA is comprised of two distinct bedrock formations. The portion west of Military Road and Tonawanda Street (54 percent of the study area) is generally mapped as Camillus Shale, a soft bedrock. The bedrock within the eastern portion (40 percent of the study area) is comprised of Akron Dolostone, a fine grained sedimentary rock. South of Breckenridge Street, the bedrock is Onondaga Limestone, which makes up 6 percent of the study area. The Camillus Shale and Akron Dolostone bedrock stretch in thin bands across Western New York. The depth to bedrock is generally 400 to 700 feet below grade.

The BOA is comprised entirely of lacustrine silt and clay, which are laminated layers of silt and clay deposited in glacial lakes historically found throughout New York State. Lacustrine silt and clay contains low permeability soils, resulting in the potential for land instability on parcels not previously graded or sufficiently compacted. As most land has already been disturbed, concerns for future development resulting from the instability of the lacustrine silt and clay are relatively low.

According to the Soil Survey of Erie County, there are a number of distinct soil types within the BOA. Since limited site-specific information is available and on-site conditions can vary among properties, investigations will be needed to confirm site suitability prior to development.

The majority of soil (98.5 percent) is mapped as urban land, a miscellaneous soil type which is generally characterized by 80 percent or more of the surface having been disturbed through previous residential, commercial, and industrial construction activities. In most cases, the soil coverage consists of buildings, paved surfaces, demolition fill, capped remediation areas, or other man-made materials. Areas in the BOA include landfills, former marshes, and floodplains. Generally, soils underlying these impervious urban land areas have not been identified. Therefore, careful onsite investigation is essential to determine the suitability and limitations for any proposed use.

A small portion of the BOA, between Hertel Avenue and Sayre Street, east of the CSX rail right of way, is mapped as Urban Land-Cayuga Complex. Soils in this series are generally covered with urban residential, commercial and industrial development. However, they also contain pockets of the well-drained Cayuga soils. Slopes in this soil series are generally flat, ranging from 0 to less than 3 percent. Cayuga soils are composed of silty loam and are generally not well-suited for building construction.

Several small portions of the BOA in the vicinity of Skillen Street, Austin Street, Tonawanda Street and Chandler Street are mapped as Urban Land-Odessa Complex. Soils in this series are primarily disturbed urban land, with small pockets of poorly drained Odessa soils dispersed throughout the soil complex. Slopes vary between 0 and 3 percent. Odessa soils are composed of silty loam with a high organic content and are subject to a high water table. Areas of undisturbed Odessa soils are not suited for development and may contain unmapped wetlands.

Four small portions of the BOA are mapped as Urban Land-Schoharie Complex; a small area along Tonawanda Street north of Hertel Avenue; a small area along East Street south of Amherst Street; a small area north of Forest Ave; and the northern Niagara Street corridor north of Parish Street. Soils in this series are flat (0 to 3% slopes) and primarily comprised of developed urban land, with small pockets of well drained Schoharie soils. Schoharie soils are composed of silty clay loam with a seasonally high water table. Due to the clayey composition of the Schoharie soils, building construction is generally limited.

Small portions of the southern extent of the Niagara Street corridor are classified as Urban Land-Lima Complex. These areas are located east of Niagara Street north of West Delevan Avenue, Lafayette Avenue, and south of West Ferry Street along the easternmost edge of the project boundary. This soil class makes up less than one percent of the total project area. Soils in this complex consist of nearly level to gently sloping areas (1 to 6 percent) of Urban land and moderately well drained Lima soils. This land is typically characterized by 60 percent urban land that is mostly covered by concrete, asphalt, buildings or other impervious surfaces; 30 percent Lima soils; and 10 percent other soils. Lima soils have a perched seasonal high water table in the lower part of the subsoil in the spring. Undisturbed areas in this class are generally suited to lawns, shrubs and vegetable gardens. Larger areas are suited to parks and recreational uses. Onsite investigation is necessary to determine the suitability and limitations of this complex for any proposed use. [Map 3.1]

## Topography

Slopes throughout the BOA are generally flat, having been physically altered over the past century by residential, industrial and commercial development. Scajaquada Creek sits at the lowest elevation in the BOA at 571 feet above mean sea level. The elevation of the BOA increases gradually to a high point of approximately 630 feet above mean sea level along the CSX railroad embankments north and west of the Aurubis baseball fields in the northern portion of the BOA. The majority of the study area (90 percent) is characterized by slopes of less than 2 percent. Steeper slopes are generally present in areas along the Scajaquada Creek corridor, and highways located in the study area (Interstates I-190 and I-198) where retaining walls exist. In addition, there are steeper slopes located in the vicinity of the raised rail corridor in the northern portion of the study area. These areas, primarily associated with the study area's transportation networks and waterways, would not be suitable or likely targeted for redevelopment.

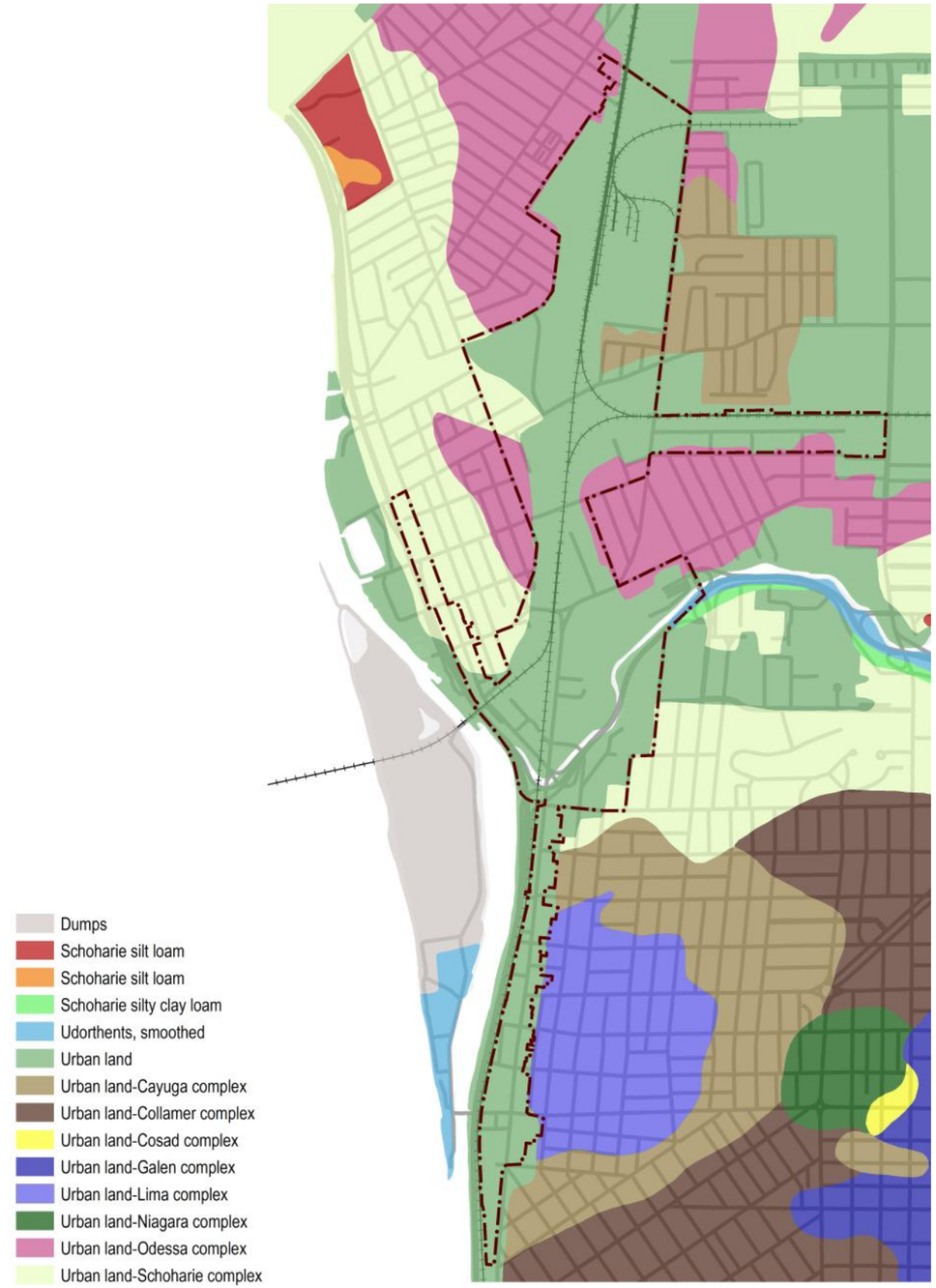
## Surface Water

The BOA is located in the southwestern portion of the 160-square mile **Niagara River** sub-watershed, the waters of which ultimately drain into the Black Rock Canal and the Niagara River. The Niagara River has been designated by the International Joint Commission as an "Area of Concern" due to the severe environmental degradation that has occurred within and adjacent to the waterway. The US -Canada Great Lakes Water Quality Agreement defines AOCs as "geographic areas that fail to meet the general or specific objectives of the agreement where such failure has caused or is likely to cause impairment of beneficial use of the area's ability to support aquatic life." As required under the Great Lakes Water Quality Agreement, all AOCs must complete a Remedial Action Plan. The NYSDEC has appointed a 12-member Remedial Advisory Committee representing government officials, public interest groups, and private citizens to advise and assist in implementing the Niagara River RAP.

**Scajaquada Creek** bisects the BOA, intersecting at the location where Niagara Street turns to the northwest. Nearly 4,400 linear feet of the creek traverse the BOA between Grant Street and the mouth of Scajaquada Creek at the Black Rock Canal. The headwaters of the creek are located 13 miles east in the Town of Lancaster.

The segment of Scajaquada Creek in the BOA is classified as a Class B waterbody. NYSDEC describes the best use of Class B waters as primary and secondary contact recreation and fishing. These waters are also suitable for fish, shellfish, and wildlife propagation and survival. This segment is also considered to be impaired. Impaired segments are waterbodies that have well documented water quality problems that have resulted in precluded, impaired or stressed uses. The precluded or impaired uses in Lower Scajaquada Creek include public bathing, aquatic life, and recreation. Habitat, hydrology and aesthetic uses are considered to be stressed. The known or suspected pollutants of concern include odors, floatables, dissolved oxygen, phosphorus nutrients, pathogens and silt/sediment. Identified pollutant sources include Combined Sewer Overflows, urban stormwater runoff, habitat and hydrological modification and toxic contaminated sediment.

**Map 3.1** Soil types



The creek serves as the drainage point for approximately 29 square miles. By the early 1900s, it had become a waste receptacle for the residences and businesses located along its shoreline. This resulted in a portion of the creek, from the city line to Main Street, being culverted in the Scajaquada Drain and buried underground in an attempt to limit dumping and control flooding. Today, Scajaquada Creek still serves as a CSO waterbody, where combined stormwater and wastewater discharge directly into the creek without treatment during heavy rainfall or snow melt events. The creek's sewer overflows, coupled with the level of environmental degradation caused by surface water contamination, present serious problems for future recreational use of the creek, and for the redevelopment potential of the neighboring parcels.

Scajaquada Creek has been identified as one the most polluted tributaries contributing to the Niagara River AOC. The preparation of the Scajaquada Creek Watershed Management Plan in 2004 enumerates the past degradation and contamination along the creek, and outlines a general framework for improving water quality and protecting the watershed in the future. The Scajaquada Creek Initiative Working Group was formed to focus on identifying contributing factors and contaminant sources affecting the creek. It is comprised of representatives of natural resource agencies, elected officials, municipalities, local non-profits, and community members who are concerned with the health of the watershed and who are determined to ensure that appropriate management measures can be implemented that will control these sources of pollution.

**Black Rock Channel** is where Scajaquada Creek ultimately empties into the Niagara River. The channel extends north from Buffalo Harbor before entering the Black Rock Lock and emptying into the Niagara River west of Austin Street. The existing Black Rock Channel was completed in 1913 as part of the Erie Canal system, in an effort that enhanced the channel that had been originally constructed in 1833. It is operated and maintained by the United States Army Corps of Engineers, whose mission ensures safe passage for commercial and recreational vessels traveling north and east between Lake Erie, Lake Ontario, and the Erie Canal System.

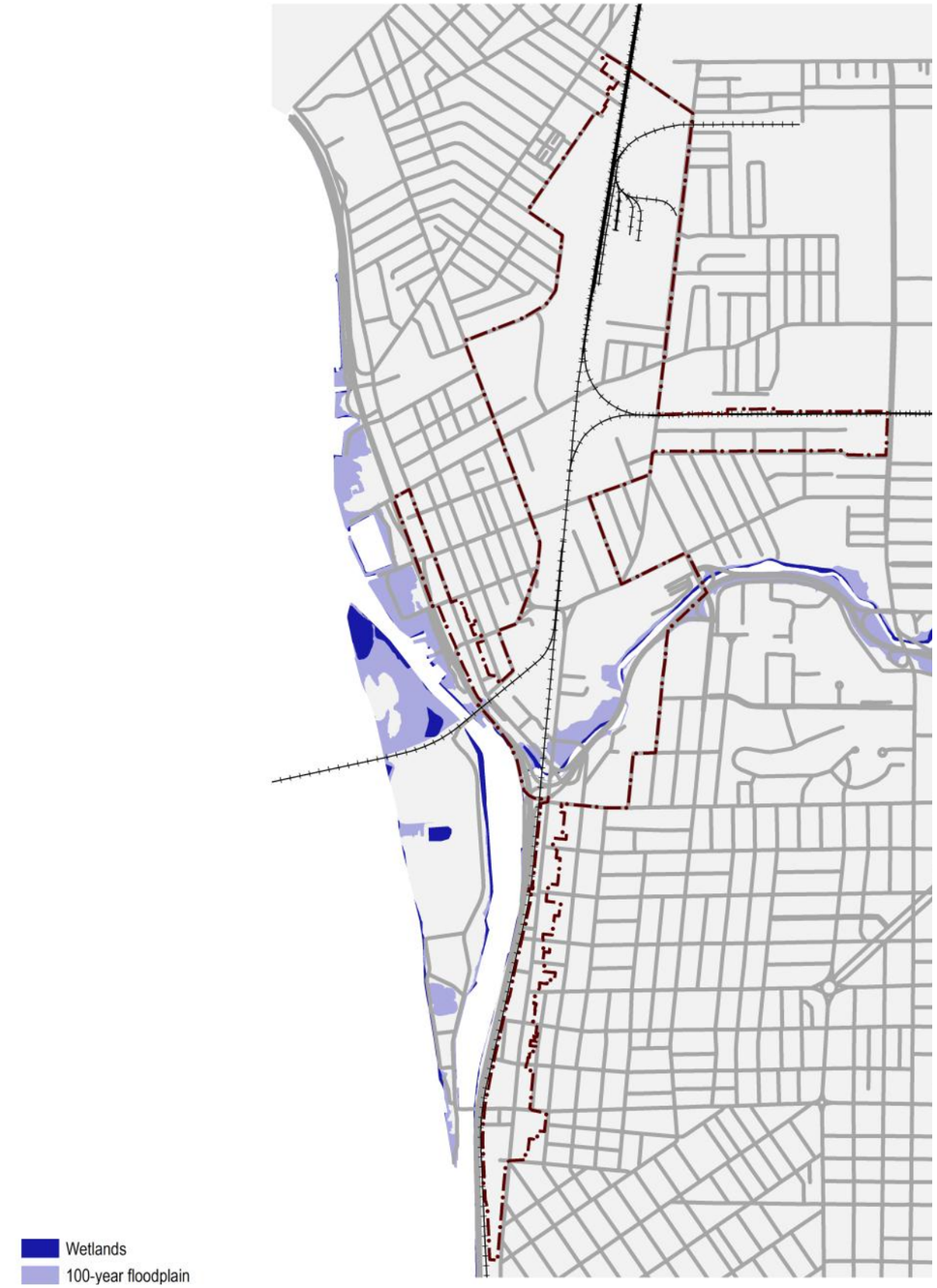
**Cornelius Creek** runs underground parallel to Hertel Avenue, emptying into the Niagara River between Arthur Street and the Interstate 190 ramp. The entire creek was piped underground in the early 1900s, leaving the only exposed section at its Niagara River terminus. According to NYSDEC regulations Cornelius Creek is categorized as Class C fresh surface water, the best usage of which is fishing and fish, shellfish, and wildlife propagation and survival. The water quality is suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. Outside of the BOA, at the mouth of Cornelius Creek, the USACE is studying the feasibility of various alternatives to restore aquatic habitat.

NYSDEC and USEPA aquifer mapping indicates that the BOA is not located within a primary, principal or sole source **groundwater** aquifer. Information obtained from the United States Geological Survey indicates the portion of the study area located south of Parish Street and Amherst Street is located over a New York and New England carbonate-rock aquifer, which is classified as a principal aquifer. According to the USGS, a principal aquifer is defined as "a regionally extensive aquifer or aquifer system that has the potential to be used as a source of potable water." The City of Buffalo uses Lake Erie for all potable drinking water, with water treatment and distribution managed by the Buffalo Water Authority. Most groundwater within the BOA is not suitable as a potable water source, as most groundwater within the BOA contains known or perceived contamination. However, properties within the BOA are able to connect to the City of Buffalo municipal drinking water system and therefore drinking water exposure to contaminated groundwater is not likely.

## Wetlands and Floodplains

Wetlands provide many vital functions – flood and storm water control, wildlife habitat, and filtration – that generally improve the quality of groundwater. The USACE is the federal agency entrusted with regulating all jurisdictional wetlands within the United States. The NYSDEC also provides regulatory oversight of wetlands larger than 12.4 acres or with special environmental characteristics. According to National Wetland Inventory mapping maintained by the U.S. Fish and Wildlife Service, one NWI wetland is located in the vicinity of Scajaquada Creek. USFWS NWI data primarily relies on the digital preparation of GIS wetland data and mapping based on aerial photography. As a result, field delineations are often required to confirm the presence or absence of wetlands and to affirm jurisdictional wetland boundaries. Unmapped wetlands may also be present in larger undeveloped parcels, such as the inactive CSX rail corridor. [Map 3.2]

**Map 3.2** Wetlands and floodplains



According to FEMA mapping, 94 percent of the BOA is located within the 500-year flood inundation area, where chances of flooding in a given year are minimal. The land within and adjacent to Scajaquada Creek (3 percent of the BOA) is located within the 100-year flood inundation area, and have a 1 percent annual chance of flooding. Properties in this area include a portion of the Tops Supermarket property on Grant Street, as well as portions of the former Pratt & Lambert, Pratt & Letchworth, and Tee-to-Green properties.

Future development within the BOA should comply with Chapter 31 of the City Charter, which regulates development within 100-feet of mapped floodplains. A Floodplain Development Permit must be obtained from the city prior to building on areas within mapped floodplains.

## Erosion Hazard Areas

There are no designated Coastal Erosion Hazard Areas within the BOA. Many properties along Scajaquada Creek and the Black Rock Canal are protected from erosion by concrete bulkheads or stone fill. As Scajaquada Creek is nearly flat within the BOA and flow within the creek is typically slow, potential for erosion along the creek is low. A small portion of the creek beneath the Scajaquada Expressway contains steeper slopes that are not well vegetated. In this location, stormwater discharge is generated from the Expressway above where it is piped untreated through downspouts and directly discharged onto the shoreline and into the creek. In these shoreline downspout discharge locations, there is evidence of erosion.

## Fish and Wildlife Habitats

Fish and wildlife habitats are concentrated along the Niagara River and Scajaquada Creek. A variety of aquatic, terrestrial and vegetative species are associated with these waterways, and various initiatives are underway to restore and enhance their supporting habitats.

**Habitat Restoration and Conservation Initiatives** The Niagara River is listed by the USEPA as a Great Lakes Area of Concern, with Scajaquada Creek recognized as a contributing source of pollution.

**Niagara River Fish and Wildlife Habitat Conservation Strategy** Buffalo Niagara Riverkeeper is coordinating a Technical Advisory Committee in the development of a fish and wildlife habitat conservation strategy for the Niagara River watershed. This project, funded through the Great Lakes Restoration Initiative, will focus on the concept of an "Active River Area" (the areas of the watershed that support river and stream function) and will utilize the Conservation Action Planning model, that will lead to the identification of vital areas where habitat restoration and conservation actions should be implemented. A complementary effort, funded by New York Power Authority Greenway Ecological funds, is also being conducted within the boundaries of the "Niagara River Greenway."

**Niagara River Watershed Management Plan** In addition, the Buffalo Niagara Riverkeeper is conducting a regional, community-based initiative to develop a Niagara River Watershed Management Plan ("Healthy Niagara") that focuses on action steps to protect and restore ecosystem water resources in Western New York. The NYSDOS funded this effort through Title 11 of the Environmental Protection Fund. The process will include a review of existing data, a summary of existing conditions, and the identification of problems and opportunities. A final report will provide citizens with information about the health of the watershed and will educate the public about actions that can be taken regarding ecosystem water resource restoration. Over 30 community members and agency representatives are participating in the effort.

**Scajaquada Creek Initiative Working Group** Since Scajaquada Creek has been identified as one the most polluted tributaries contributing to the Niagara River AOC, a coalition has been recently been formed called the "Scajaquada Creek Initiative Working Group" which is focused on identifying contributing factors and contaminant sources affecting the creek.

**Significant Coastal Fish and Wildlife Habitats Program** This program, administered through the NYSDOS, serves to protect important fish and wildlife habitats that contain a unique combination of environmental and biological conditions that fish and wildlife need for survival. No designated habitats are located within the BOA, but two are located nearby, including the Grand Island Tributaries and Strawberry Island/Motor Island Shallows.

**Aquatic Species** According to the Scajaquada Creek Watershed Management Plan, most surviving species are macro invertebrates that have adapted to the contaminated condition of the creek. However, due to gradually improving conditions in the creek, fish species such as bass, trout, bluegills, perch, sunfish, carp, bullhead, shad, shiners and other baitfish have also been documented. Due to the high concentration of contaminants, fish and wildlife presence in and along Scajaquada Creek are considered to be impaired. In some instances, the NYSDEC has observed and recorded the presence of tumors in fish, an indicator of toxic contamination in water. The New York State Department of Health has placed a general health advisory on local fish species, as they may contain traces of mercury, PCBs, Dioxine, Mirex and other unidentified contaminants.

**Terrestrial Wildlife** In addition to aquatic wildlife, areas along the Niagara River and Scajaquada Creek provide habitat for terrestrial wildlife. The river and creek are also key locations within the North American Flyway for bird migration, and lie along the direct path of a globally significant Important Bird Area. Habitat areas along the water's edge are crucial for many avian species as they pass through on their migration pattern.

According to the New York State Department of Environmental Conservation, two rare animals have historically been identified as present within the BOA; the midland clubtail, a dragonfly last observed in the area in 1906, and the American Burying Beetle, listed as endangered with no known last observation date. According to the United States Fish & Wildlife Service Inventory of Threatened and Endangered Species, no federally-listed species are currently found in Erie County.

Beaver and mink have been observed along the creek. Swallows, sparrows and red-winged blackbirds, along with fishing birds such as herons and kingfishers indicate that the health of Scajaquada Creek is slowly improving. Of note, mallard ducks and other waterfowl have been adversely affected during a few recent incidents whereby high levels of botulism have been present in the Creek. During these incidents the waterfowl feed on the contaminated microorganisms in the creek and the result can often be fatal.

While the Tonawanda Street Corridor BOA is mostly developed, opportunities for additional wildlife habitats do exist. In addition to areas along Scajaquada Creek, a large portion of open space area associated with the former CSX rail corridor provides wildlife habitat. Approximately two miles in length, the CSX corridor was once a bustling thoroughfare for freight rail in and out of Canada. A portion of the corridor immediately west of the active CSX rail line was left to "re-naturalize," allowing wildlife to once again inhabit this large portion of the BOA (approximately 66 acres). Wildlife observed in this area includes deer, other small mammals, amphibians and many avian species.

**Vegetative Species** The majority of the project area consists of urbanized areas with little vegetative cover. For the most part, vegetative cover consists of maintained lawns, associated with commercial, industrial, and vacant parcels present throughout the study area. In addition, natural areas exist along the Scajaquada Creek and in areas along the Niagara River.

In more recent years, controlling and managing invasive species has been a focus of the natural areas that exist throughout the city of Buffalo. Invasive species are species that are not native to a particular ecosystem and that are likely to adversely impact the economy, human health and/or the environment. The most prevalent invasive plants found along Scajaquada Creek include Japanese Knotweed, Purple Loosestrife, Common Reed, Tree of Heaven, European Buckthorn, Honey Suckle, and Garlic Mustard. These plants degrade natural ecosystems by competing with and overtaking native habitat. Some invasive plants can block passages to waterways and upland forests. Restoration efforts on Scajaquada Creek should include invasive species removal and restoration with native and naturalized plant species.

## Air Quality Maintenance Areas

The Federal Clean Air Act establishes National Ambient Air Quality Sandards (NAAQS) for six criteria contaminants, including ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxides and lead. The federal Environmental Protection Agency designates nonattainment areas as those that "persistently exceed the national ambient air quality standards" for one or more of the six criteria pollutants. The EPA designation of attainment and nonattainment area informs air quality planning on a state-by-state basis. As part of the Clean Air Act, states are required to develop State Implementation Plans (SIP) for all nonattainment areas and periodically evaluate the effectiveness of the strategies prescribed in each SIP.

The Buffalo-Niagara region has been designated a nonattainment area 10 times since 2000, most recently in 2013. The region has experienced non-attainment status related to 8-hour ozone. Ground level ozone is emitted into the air through chemical reactions between nitrogen oxides and volatile organic compounds. Major sources of nitrogen oxides and volatile organic compounds include emissions from industrial facilities, gasoline vapors, and chemical solvents.

### Visual Quality

The Jesse Kregal Pathway provides pedestrians and bicyclists with numerous opportunities to observe the natural communities present along the Niagara River and Scajaquada Creek. The section of the Seaway Trail along Niagara Street also provides framed views of the river between structures and beneath the elevated I-190.

Existing infrastructure, such as rail viaducts and the elevated portions of the Scajaquada Expressway and I-190, obscure scenic vistas and views of historic structures such as church spires. In much of the BOA, views are limited to existing residential, commercial and industrial enterprises. This existing development often serves as a visual barrier to scenic resources such as Lake Erie, the Buffalo skyline, the Black Rock Canal, and the Niagara River. Numerous unmaintained and unimproved vacant parcels are also present and detract from the overall visual quality.

### Upland Natural Resources and Open Space

In addition to park land and trails, the BOA contains a fair amount of upland open space despite a concentrated development pattern. The former CSX rail corridor that bisects the BOA offers the largest amount of undeveloped land. This corridor runs for nearly two miles between Military Road in the north and Niagara Street to the south.

Dormant CSX land accounts for approximately 66 acres of upland open space where nature has reclaimed the inactive rail corridor over the past few decades, and remains one of the few upland open space resources in the BOA.

Smaller open spaces include former industrial sites that have reverted back to a natural state, such as the Pratt & Letchworth, Pratt & Lambert, and Tee-to-Green parcels. Once a vibrant and bustling industrial- commercial district situated on the historic Belt Line, much of the southern portion of the BOA currently lies vacant. Upland open space on these parcels is limited to scrub-shrub species, which are interspersed between dilapidated buildings and remnant foundations remaining after building demolition.

Narrow strips of upland buffer exist along the banks of Scajaquada Creek, including between the creek and the Jesse Kregal Pathway. The city encourages a minimum of 100-foot upland buffer between Scajaquada Creek and future development in an effort to improve water quality and increase green space.

### State and Federally-Designated Resources

The Great Lakes Seaway Trail, a 518-mile long National Scenic Byway established in 1978, follows Route 266 (Niagara Street) through the BOA.

## 3.2 Infrastructure

This section of the city was largely built-out by the early 1900s, and benefits from an infrastructure network that provides nearly complete coverage for electric, natural gas, water, and sewage disposal.

### Electric

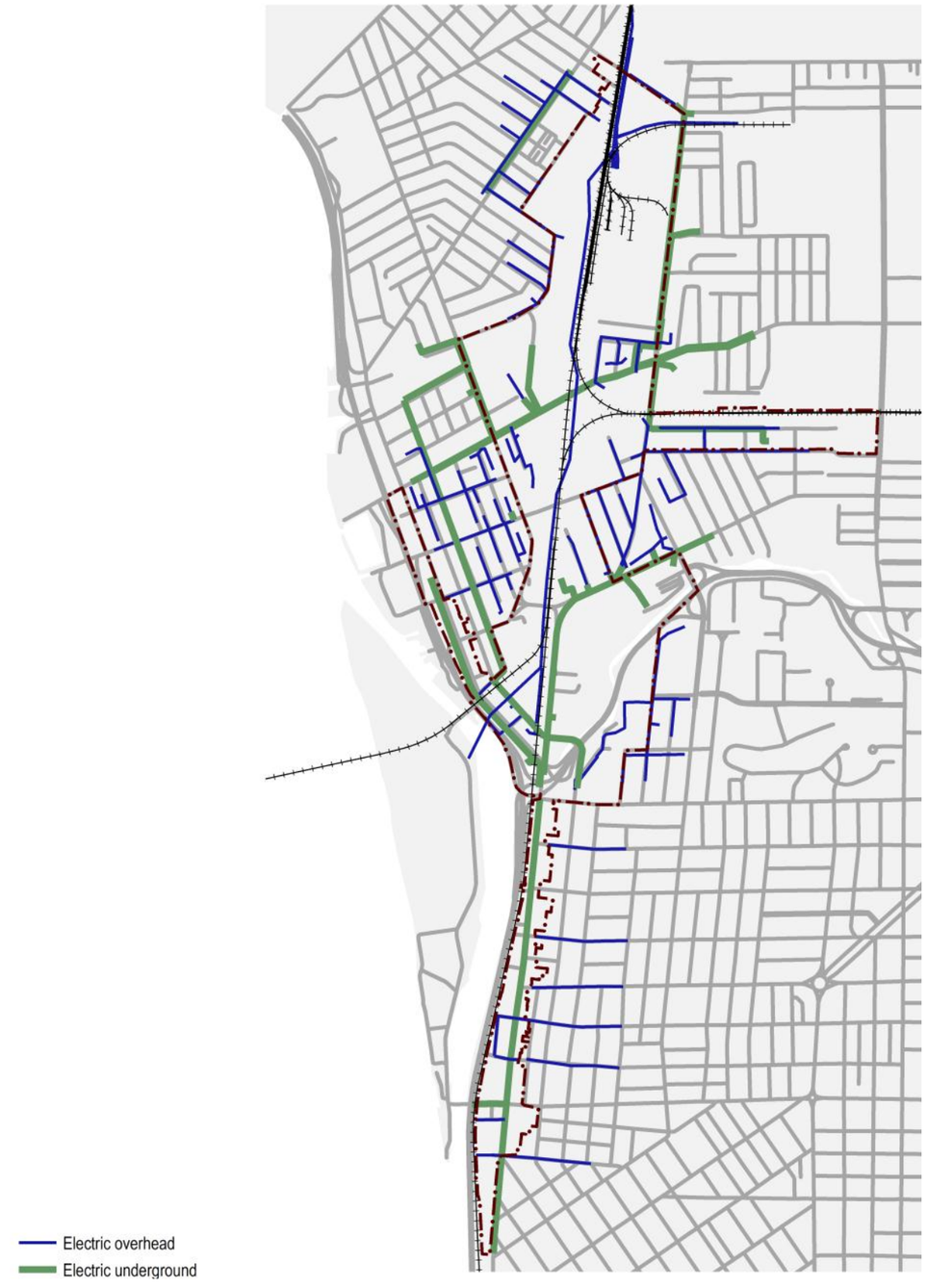
Mapping and information for the privately owned and managed electrical network was obtained from National Grid. The BOA is serviced by several distribution feeders providing overhead and underground electrical service. According to system records, the distribution network consists of 5 kV overhead and buried feeders. There are also 23 kV sub-transmission and 115 kV transmission overhead lines that follow the railroad corridor. These high voltage transmission lines service private industry in the study area and the waste-water treatment plant on Bird Island.  [Map 3.3]

An electrical substation and associated facilities are located at the southern end of the BOA on the west side of Niagara Street. This substation connects to high voltage overhead transmission lines that traverse the Niagara River to Canadian facilities.

Aurubis on Military Road is classified as a primary customer, with significant energy demands that exceed normal capacities. As a result, it has its own electrical substation step down transformer to convert the electricity from the high-voltage transmission lines along the rail corridor into energy more sufficient for its use.

Secondary customers, such as commercial, office, retail and residential structures utilize electricity from the 5 kV distribution network.  Lines are stepped down further via small pole/ground-mounted transformers into safe, usable 120 and 240 volt power to operate lighting and standard electrical circuits.

**Map 3.3** Electric infrastructure



The presence of both the 5 kV distribution and 23/115 kV transmission lines greatly expands the opportunity for high demand industrial development within the BOA. This corridor has historically been utilized by high electrical demand customers, such as metals manufacturing and electroplating companies. Over the past 40 years, extensive mergers and consolidations in the steel, copper and other metals industries have led to plant closings. However, the supporting infrastructure remains and is available for use by other high energy demand industries.

## Natural Gas

Correspondence with the engineering department at National Fuel indicated that all parts of the BOA are within sufficient distance of an existing supply main with available capacity to support future redevelopment.

## Water

The Buffalo Water Authority provides potable water to properties in the city. The water system in the BOA consists of public and private infrastructure, ranging in size from 6 inches to 48 inches in diameter. All public water for the city is obtained from the Niagara River via the Colonel Ward Pumping Station, located on Porter Avenue just to the south of the study area. [Map 3.4]

The BOA is well-serviced by potable water, which is available to all properties. Two private 10-inch diameter water lines are located along Military Road north of Hertel Avenue and serve the Aurubis facility.

The study area is looped by a series of water mains supplied by a primary 48-inch diameter line that is located along Niagara Street south of Tonawanda Street, continuing beyond the southern boundary of the BOA. Included within the western and eastern portions of the Niagara Street right-of-way are two parallel water lines ranging in size from 10 to 16 inches in diameter. Several laterals, running in an east-west direction and ranging in size from 4 to 16 inches in diameter, serve commercial and industrial facilities along Niagara Street and residential areas to the east. The 48-inch diameter water main continues north from Niagara Street along Tonawanda Street and Amherst Street to a branch point at the intersection of Amherst Street and Military Road. From this intersection, a 36-inch diameter water main is located north along Military Road, serving adjacent properties and neighborhoods, to a junction point at Skillen Street at the northeast corner of the study area. A 20-inch diameter main continues west along Skillen Street, which branches off to a 16-inch diameter line along Ontario Street and south along Tonawanda Street to Hertel Avenue.

Two water mains, located on Niagara Street north of Tonawanda Street, run parallel in the western and eastern portions of the right-of-way and range in size from 8 to 10 inches in diameter. Several laterals, running in an east-west direction and ranging in size from 6 to 12 inches in diameter, serve commercial and industrial facilities along Niagara Street and residential areas to the east.

## Sanitary Sewer

Sanitary sewers in the BOA include combined storm and sanitary sewers, combined sewer overflows and large interceptor sewers. Service is provided by the Buffalo Sewer Authority, which operates a waste water treatment plant on Bird Island to the immediate west of the BOA. [Map 3.5]

**Separate Sanitary Sewers** There are no separate sanitary sewers within the BOA.

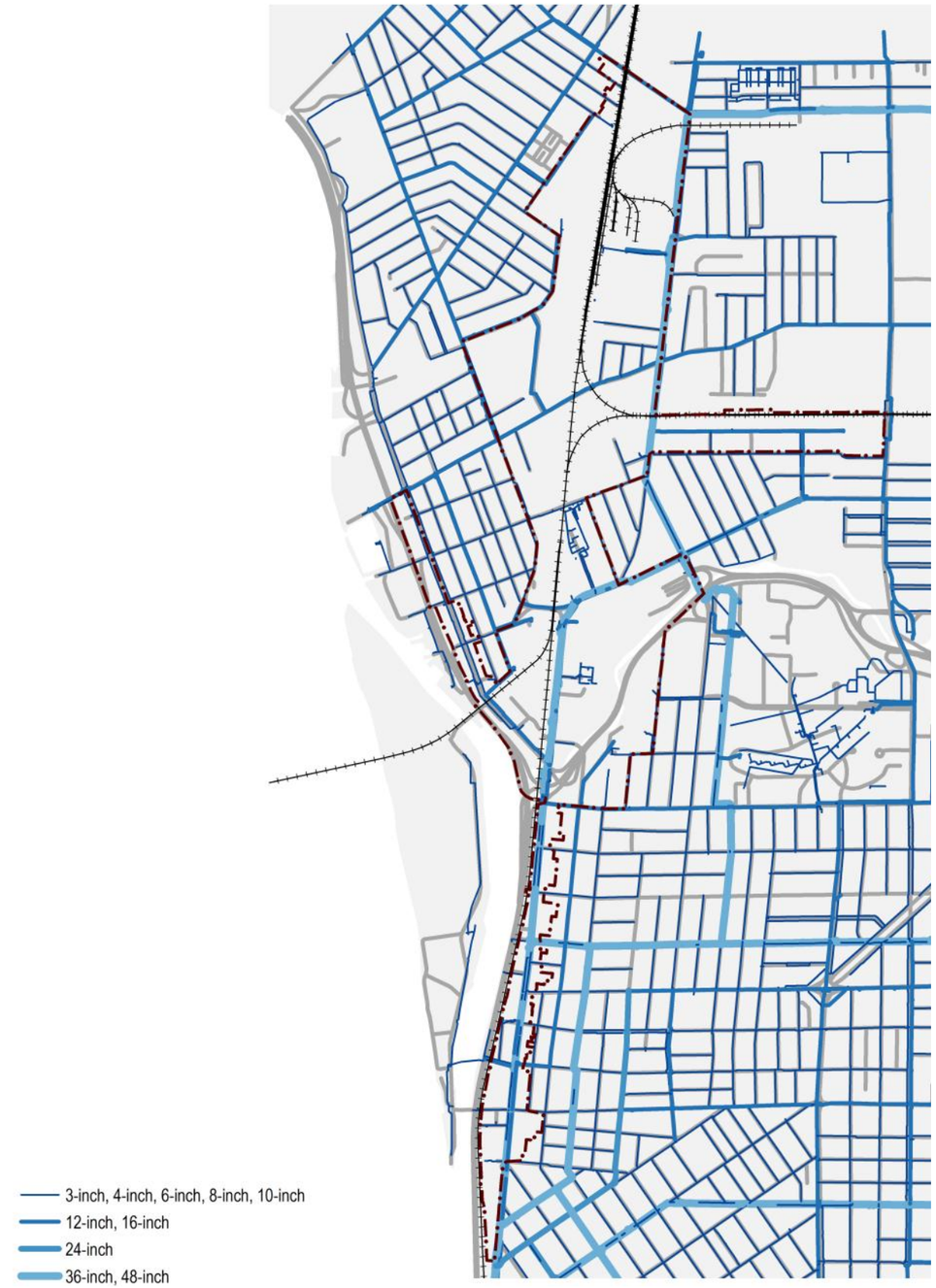
**Combined Sewers** Sanitary sewer service in the study area is provided by a system of combined sanitary and storm sewers. The system receives sanitary inflows from building sewers and stormwater inflows from streets, parking lots and building roof drains. These localized systems transfer flows to large mainline sewers beneath Niagara Street, Military Road, Hertel Avenue, and Ontario Street (outside of the BOA) to a large interceptor sewer within the Interstate 190 corridor. The interceptor sewer gathers flows from large portions of the city and conveys the combined sewage to the wastewater treatment plant.

During intense rain, the combined sewer and interceptor systems do not have the capacity to convey the significantly increased flows. To mitigate the lack of capacity in these instances, combined sewer outfalls are used to prevent storm water and sanitary sewage from backflowing into buildings.

The BOA is served by several miles of combined sewer ranging from six to 114 inches in diameter. There are several areas where the combined sewer system is connected to a Combined Sewer Overflow, which indicates that the sewer service in this area is insufficient to meet peak demands during a rainfall event.

The largest CSO is located to the north, beneath Hertel Avenue, and serves as a major outfall for storm sewer/

**Map 3.4** Water infrastructure



combined sewer overflows in the Black Rock neighborhood to the east. Two large brick and concrete storm overflow structures, approximately 8'-6" in diameter each, cross the railroad tracks along Hertel Avenue and turn north along Tonawanda Street, eventually heading west to an outfall in the Niagara River. These main storm overflow drains are also fed from smaller CSOs located along Military Road and Grant Street which serve the BOA study area east of the railroad tracks and portions of the Black Rock neighborhood to the east.

Along the Niagara Street corridor south of the Scajaquada Expressway, several large CSO sewers cross Niagara Street and/or I-190 and discharge through CSOs along the Black Rock Channel.

**Combined Sewer Outfalls** Combined sewer outfalls are points where wastewater and storm water from a combined sewer system are discharged directly into surface waters. Generally, these discharges occur without prior treatment during periods of heavy precipitation or snow melt. In the BOA, storm water is carried from streets and properties and wastewater is carried directly into the Niagara River through the combined sewer system. CSO outfalls 057, 058 and 059 are located along Scajaquada Creek in the central portion of the BOA. CSO 057 is located near the Niagara Street/Scajaquada Expressway interchange. CSO 058 is located along a closed portion of West Ave near its intersection with the Jesse Kregal Pathway. CSO 059 is located west of Dart Street, behind the former Contract Pharmaceuticals plant. Currently available data documents that the CSO 058 sewershed covers 30.3 acres and s wholly within the BOA.

Numerous CSOs are located immediately west of the BOA, along the Niagara River. These include 003, 004, 005, 006, 007, 008, 009, 054, 055, 061 and 062. Other CSOs are associated with the wastewater treatment plant on Bird Island. Available data documents that CSO 055, which outfalls at the mouth of Cornelius Creek, has a sewershed that covers 4,195.1 acres, and produces 814 MG of Predicted Annual Total Overflow Volume, representing the most CSO discharge volume in the Buffalo Sewer Authority (BSA) system, comprising 20.9% of the total system overflow volume. Efforts have been undertaken over the past decade to improve water quality by reducing or eliminating combined sewer overflows. Through its Long-Term Control Plan, the BSA has been actively identifying project opportunities to abate CSOs. In addition to traditional grey infrastructure storm water/sanitary sewer pipe separations, proposed projects include a host of green infrastructure initiatives.

**Interceptor Sewers** There are no significant interceptor sewers traversing the BOA study area. However, an adjacent large (seven-foot diameter) interceptor sewer is located along the Interstate 190 corridor from Black Rock Harbor south to the Bird Island Wastewater Treatment Plant. Although this interceptor receives nearly all the sanitary flows from the study area, this sewer only cuts through a small portion of the southern corner of the BOA near the terminus of Scajaquada Creek.

**Pump Stations** There are no pump stations located within the BOA. All sewers maintain positive gravity flow south to the treatment plant on Bird Island.

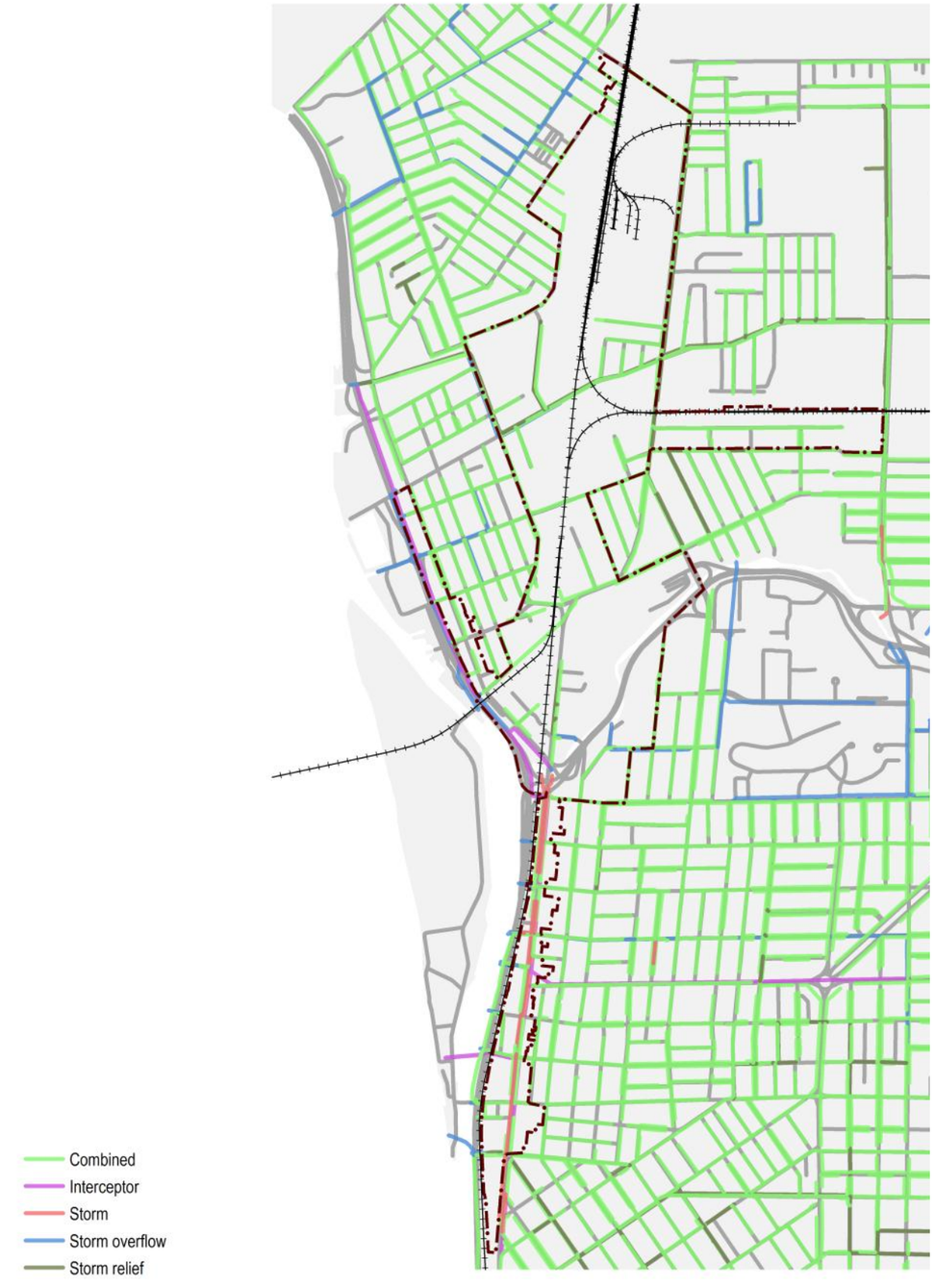
**Storm Sewer** The BOA storm sewer system is comprised primarily of combined sewers, combined sewer overflow sewers and storm sewer outfalls. Storm sewers are managed by the Buffalo Sewer Authority, which has adopted a storm water management plan pursuant to New York State and Federal requirements. [Map 3.5]

Generally, the areas of greatest need for storm sewers have the highest levels of impervious surface coverage. Impervious surfaces in the BOA capture rainfall and convey it directly into the combined system, with an ultimate outfall to the Niagara River. The areas with the most significant percentages of impervious cover are those between Military Road and the railroad tracks north of Hertel Avenue (Aurubis), and areas along the Niagara Street corridor to the north and south. Areas to the north are not served by separate storm sewers but the southern portion of the Niagara Street corridor includes separate storm overflow sewers installed in 1986.

**Separate Storm Sewers** There are a limited number of separate storm sewers in the study area. Storm overflow sewers are located along I-190 and in the Niagara Street right-of-way between Forest Avenue/NYS Route 198 on/off ramps and the southern end of the study area. There are no publicly owned or maintained separate storm sewers serving the remainder of the BOA; all storm water is managed within the combined sanitary sewer system.

**Storm Sewer Outfalls** The Black Rock Channel, Scajaquada Creek, and Niagara River are outfall locations for significant portions of the city. During large rainfall events, significant flows of combined storm water and sewage enter these water bodies, negatively impacting water quality. Although there are only five storm sewer outfalls within the BOA, the study area contributes to five additional outfalls to adjacent bodies of water.

**Map 3.5** Sewer infrastructure



## 3.3 Transportation

The BOA is readily accessible by highway and rail. It is located at the intersection of two major transportation routes: Interstate 190 (running north-south), and the Scajaquada Expressway/NYS 198 (running east-west). The study area is also transected by the International Railway Bridge, which serves as a primary connection point for freight rail transport between Canada and the US.

### Pedestrian and Bicycle Infrastructure

In 2008, the city adopted a Complete Streets policy to encourage street design that enables safe, comfortable, and convenient travel patterns for all users, particularly emphasizing use by cyclists, pedestrians, and the mobility impaired. As streets are reconstructed, the impacts of this policy will become increasingly evident. In conjunction with the Complete Streets policy, the Bicycle and Pedestrian Master Plan prepared by the Greater Buffalo Niagara Regional Transportation Council proposes on-road bicycle routes along Hertel Avenue, Amherst Street, Grant Street, Tonawanda Street, Niagara Street, Military Road, and Forest Avenue. [Map 3.6]

### Public Transportation

Public transportation within the BOA consists of bus routes operated by the Niagara Frontier Transportation Authority. The NFTA operates portions of 15 bus routes within the BOA, primarily along Niagara Street, Grant Street, Amherst Street, Hertel Avenue, Military Road, and Tonawanda Street. There are 101 bus stops within the study area, connecting the main bus routes with smaller local roads, and providing easy public transportation access to most residential parcels. Bus stops located along Military Road and Hertel Avenue also provide public transportation access to commercial and industrial facilities.

The NFTA is currently working on design of the "Niagara Street Corridor Project," which calls for construction of a neighborhood transit center and 25-space park-and-ride lot at Niagara and Ontario streets, a public transportation bus loop, bicycle parking, and a pedestrian pathway to the Niagara Riverwalk/Seaway Trail System. Funding will also be used to purchase five hybrid buses equipped with traffic signal technology that will synchronize bus approaches with signals, finance four new bus shelters lit by solar power, and install bus arrival notification technology at existing bus shelters. These elements along Niagara Street will create a sustainable transportation corridor and add to the area's assets. [Map 3.7]

### Roads

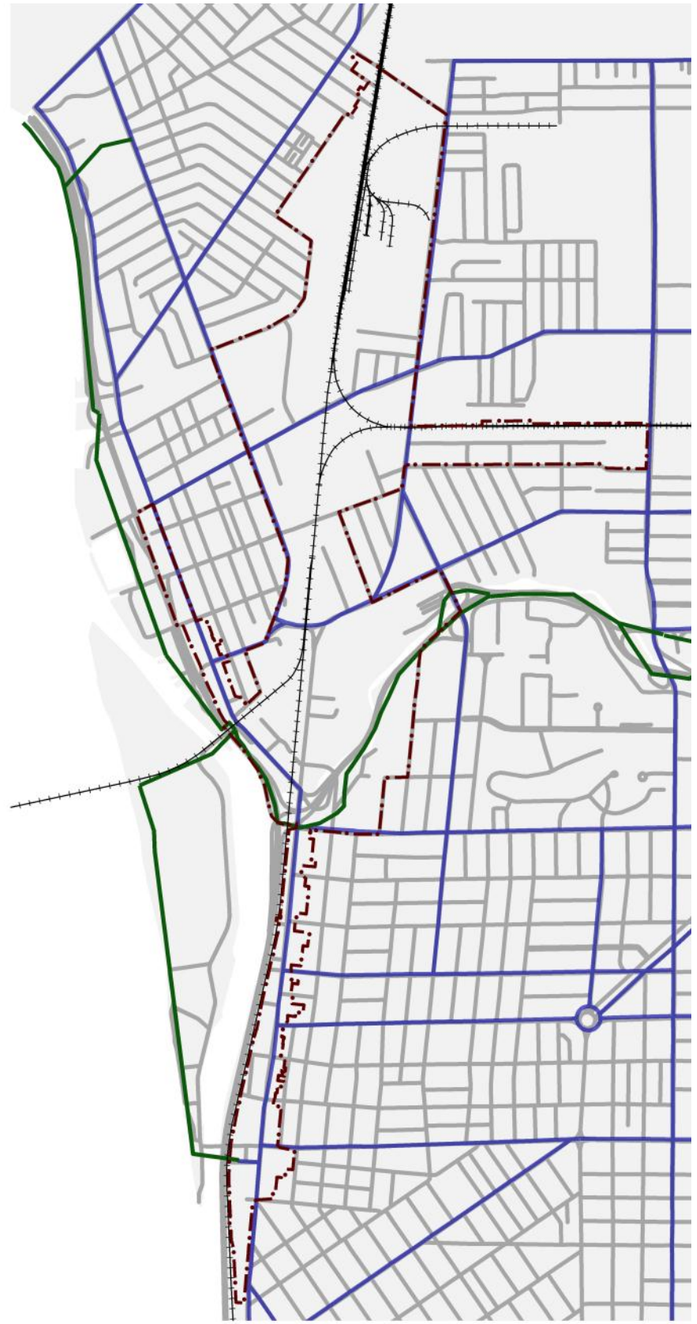
The BOA includes a comprehensive network of roads and expressways. The existing network is generally classified by traffic volume and road capacity. Volume-to-capacity ratios provide a measure of the mobility and quality of travel by comparing roadway demand with the roadway supply available at the time. Within the study area, the majority of roadways are considered to have adequate capacity to support additional traffic volumes, with the exception of the area around the I-190/Scajaquada Expressway interchange, which has a lack of roadway capacity. However, it is possible that volumes on the Scajaquada have changed with the recent reduction in the speed limit from 50 to 30 mph. These two highways serve as the major limited access thoroughfares within the study area, connecting it south to downtown Buffalo, north to Niagara Falls, and east to the Kensington Expressway.

The intersection of Busti Avenue and Hampshire Street, both local roadways, form the southern boundary of the BOA, and the I-190 parallels its western edge. A number of interchanges along the I-190 provide connections with the local road network, particularly at the intersections of Amherst, Austin, Hertel, and Ontario.

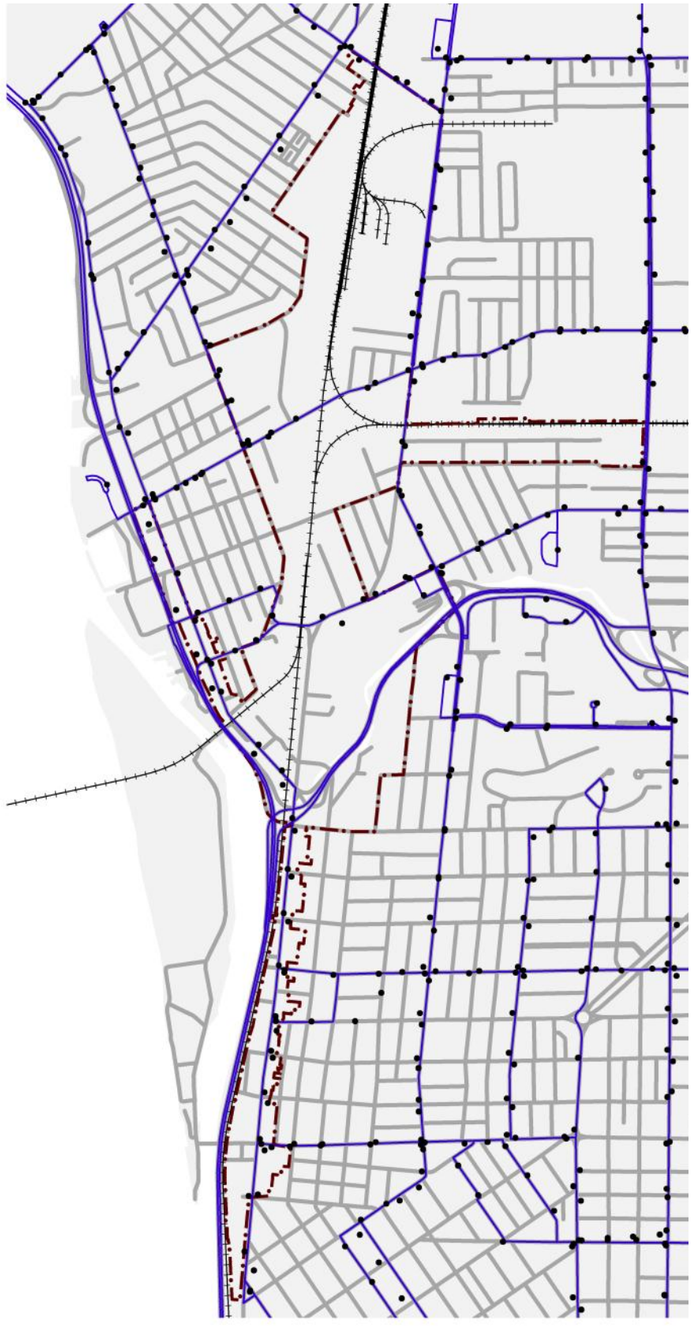
Two interchanges connect the Scajaquada Expressway to the study area, one at the interchange with the I-190 and one at Grant Street. Speed limits on the Scajaquada have recently been reduced to 30 mph, and the New York State Department of Transportation is studying additional measures to enhance safety and improve the compatibility of the expressway with the surrounding neighborhoods.

The remaining roads primarily include arterials and collectors that move traffic to and from the I-190 and Scajaquada Expressway. The main secondary roads include West Ferry Street, West Delavan Avenue, Niagara Street, Tonawanda Street, Amherst Street, and Grant Street. The remaining roads are local streets that provide access from residential neighborhoods to the larger arterials and collectors. Nearly all roads within the BOA have sidewalks, which provide pedestrian access to community services, recreational amenities, and public transportation options. [Map 3.8]

**Map 3.6** Pedestrian and bicycle infrastructure



**Map 3.7** Public transportation



- NFTA metro bus stops
- NFTA metro bus routes



**Map 3.8** Roads

- Interstate / Expressways
- Principal arterials

### Rail Infrastructure

All of the main rail lines within the BOA are owned by CSX, which provides service to multiple industrial sites adjacent to or connected by other rail lines, sidings, or spurs. These lines are operated by CSX (7.4 miles), Aurubis (1.2 miles), and Canadian National Railway (0.6 mile). Amtrak has track rights as well. There are also 11 rail bridges, including the International Railway Bridge, which carries approximately 10 trains per day and $9 billion worth of goods annually.

There are many opportunities to capitalize and expand upon existing rail service. The major north-south rail corridor includes up to four parallel tracks, and there is an existing wye in the middle that provides access to the east. There are also two connection points at the south of the BOA, including the International Railway Bridge. There are numerous industrial sites adjacent to rail lines, sidings, spurs, and abandoned rail corridors that could be put back into service. [Map 11]

### Navigable Waterways

There are no commercially navigable waterways within the BOA, although the Niagara River and Black Rock Canal to the immediate west are navigable waterways that accommodate water-based commercial transportation.

## 3.4 Parks and Open Space

The BOA contains many parks, open spaces, recreational resources, community centers, and trails. A number of regional parks are also located nearby.

### Parks

The BOA is home to two public parks, with several other parks and playgrounds located within a quarter-mile of its boundaries. This generally represents the distance a pedestrian will walk to a park, so these outside facilities serve as additional recreational resources for the community. [Map 3.10]

**Shaffer Village Park** is a 4-acre green space located along Isabelle Street. It serves the residents of Shaffer Village, an adjacent public housing development, and is also used by the Northwest Buffalo Community Center for programming and activities. The park is primarily comprised of maintained green space enclosed by fencing. Its only amenity is a jungle gym, which is in good condition and used regularly.

**Market Square Park** is a municipal park located at 1859 Niagara Street. The park is less than an acre in size, and is located at the entrance of the Market Square Historic District, which was designated in 2011 and is listed on both the State and National Registers of Historic Places. The District has retained its village center character and is noted for grassy medians and shade trees that connect the public spaces and compliment the built form. The Market Square Park forms the gateway to the District, and consists of passive recreational space with few improvements aside from pedestrian pathways and select plantings.

### Recreational Resources

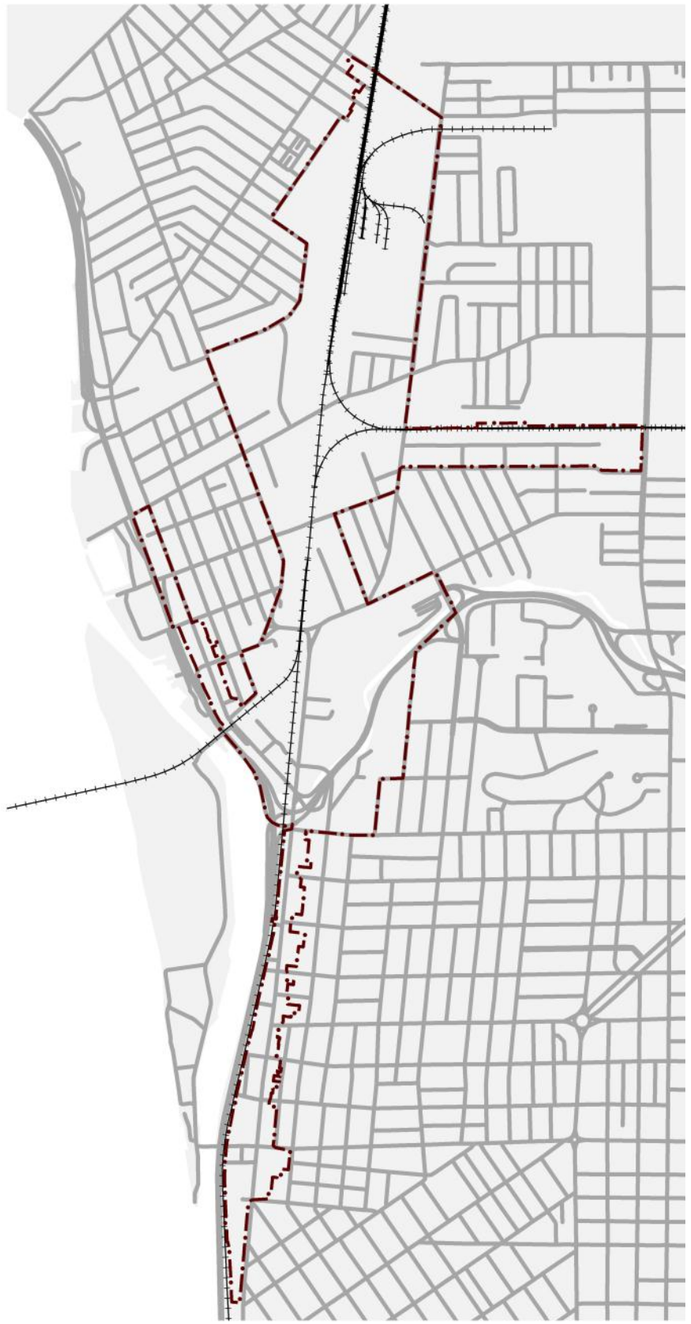
Although the BOA itself contains few parks and open spaces, the study area benefits from proximity to an array of recreational resources and open spaces, including pathways, pocket parks, playgrounds, and regional parks.

**Barrett Playground** is a 2.5-acre park with play areas and a maintained soccer field, adjacent to the Nortwest Buffalo Community Center. It is within easy walking distance of the surrounding neighborhoods.

**Delaware Park** is the signature piece of Frederick Law Olmsted's park system. The 350-acre facility is connected to the BOA by the Jesse Kregal Pathway. It is primarily comprised of open green space and designated walking paths, but also contains an 18-hole golf course, baseball diamonds, soccer fields, tennis courts, basketball courts, playgrounds, and picnic areas.

**Riverside Park** was also designed by Olmsted, and connects to the BOA through the Niagara Riverwalk. Although the 36-acre park no longer resembles its original design, it remains a popular destination. It offers baseball diamonds, tennis courts, basketball courts, an ice rink, swimming pool, picnic area, and playground, as well as a scenic overlook of the Niagara River.

**Map 3.9** Rail infrastructure



**Map 3.10** Parks and open space




**Black Rock Canal Park** is a 4.7-acre county park on the Niagara River, which was recently created by merging the Ontario Street Boat Launch and Cornelius Creek Park.

**Tow Path Park** is a 4.5-acre county park located at the foot of Hertel Avenue. It offers a waterfront promenade with benches for nature watching and fishing, as well as a walking loop.

**Unity Island Park** is across the Black Rock Channel from the BOA. A strategic location during the War of 1812, the island later became home to a landfill and incinerator. The city and NYSDEC spent $13 million to remediate the 60-acre landfill and transform the northern portion into a park. It is primarily used for passive recreation, including hiking and fishing, and is connected to the BOA through the Niagara Riverwalk.

**Broderick Park** is located on the southern end of Unity Island. Buffalo Niagara Riverkeeper received state funding in 2012 to develop a master plan for the park, and partnered with the city and a consultant team to implement improvements including an amphitheater, gardens, and walkways.

**Bird Island Pier** is located further south of Broderick Park, this narrow stone pier extends under the Peace Bridge to the mouth of the Niagara River. It was constructed in 1860, and recently saw $1 million in improvements completed. The pier serves as a popular fishing and walking destination for the surrounding neighborhoods.

## Community Centers

**Northwest Buffalo Community Center** is adjacent to the study area. As one of the largest human service providers in the area, it offers an array of programs ranging from medical and dental services, youth and senior citizen programming, education, crime victim assistance, and daycare. A second day care center is located on Tonawanda Street, just outside the BOA.

**Asarese-Matters Community Center** is also located outside the study area, and offers sports facilities, recreation areas, a public pool, a computer lab, and a study area. Community programming in the form of sports leagues, arts, tutoring, and other after school programs is provided.

## Trails

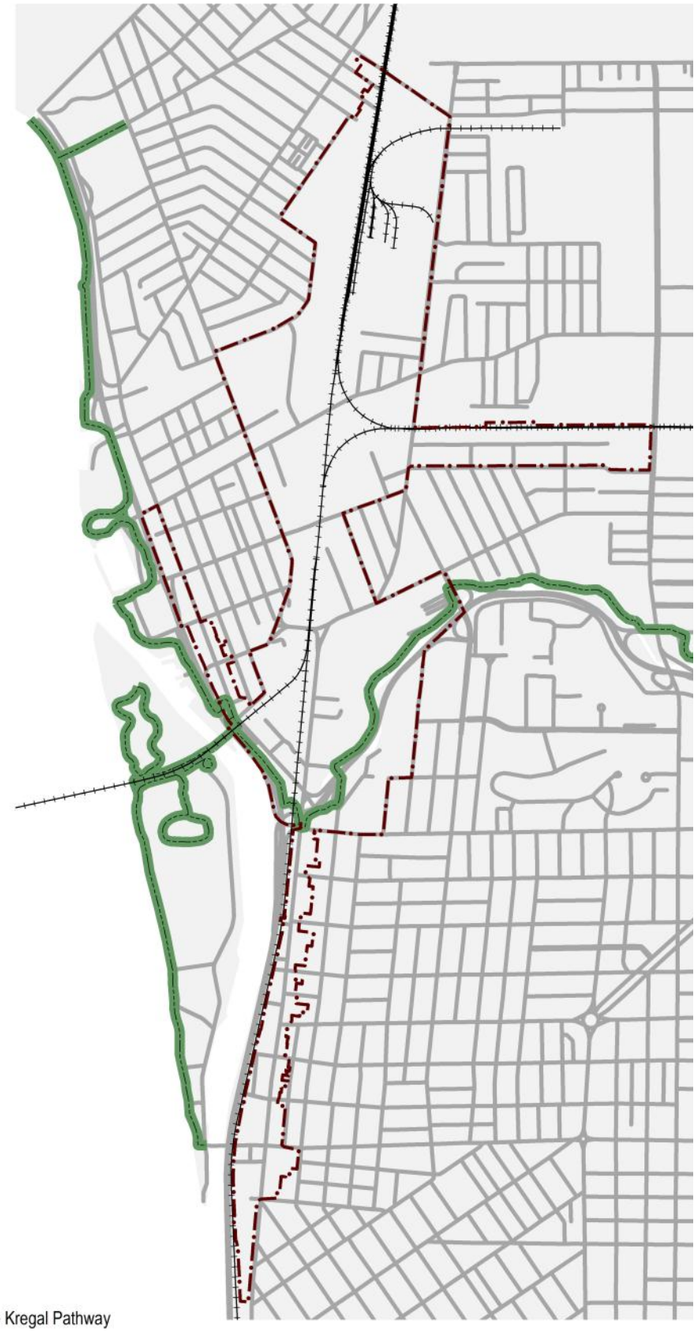
**Jesse Kregal Pathway** is a bike and pedestrian trail that begins in Delaware Park, enters the study area near Grant Street, and continues west along Scajaquada Creek before connecting to the Shoreline Trail at the International Railway Bridge. The pathway is paved and marked along its entire length, although a lack of adequate lighting coupled with areas where vegetation can become overgrown present safety concerns for users. [Map 3.11]

**Shoreline Trail** is a bike and pedestrian trail that connects a variety of parks and recreational areas along the Niagara River. The 14-mile trail stretches from the City of Tonawanda to downtown Buffalo, and briefly passes through the BOA where it connects with the Jesse Kregal Pathway.

## Water Access

Despite a general lack of water access in the BOA, there are several locations along Scajaquada Creek that are used informally as hand launch locations for canoes and kayaks: the Jesse Kregal Pathway trail head at Niagara Street, West Avenue, and the Tops parking lot. Buffalo Niagara Riverkeeper is also preparing a site at 1660 Niagara Street for a publicly accessible paddle launch and micro park.

**Map 3.11 Trails**






## 3.5 Archeological and Historical Resources

### Archaeological Resources

The BOA is located near the confluence of Scajaquada Creek and the Niagara River, which made it an ideal location for early settlement. The first industrial uses consisted of shipbuilding, and were later replaced by foundries, manufacturing, and commerce along the canal. Due to its strategic location across from Canada, the area also marked an important crossing for African-Americans using the Underground Railroad to escape slavery. This history continues to be celebrated through an annual Underground Railroad Reenactment at Broderick Park.

The State Historic Preservation Office maintains a database of archaeological sites, which indicates that 92 percent of the project area is in an area of archaeological sensitivity. Small areas surrounding Chandler Street and along Military Road in the northern portion of the study area are the only areas not considered archaeologically sensitive.

Although most of the area has the potential for archeological resources, intensive use by railroads and industry, and significant historic ground disturbance indicate that limited resources remain. There may be portions of historic neighborhoods with the potential for archaeological remains. Areas identified as archaeologically sensitive do no prohibit future development, but consideration may be required when a project or development involves state or federal funding, permitting, or approvals.

### Historical Resources

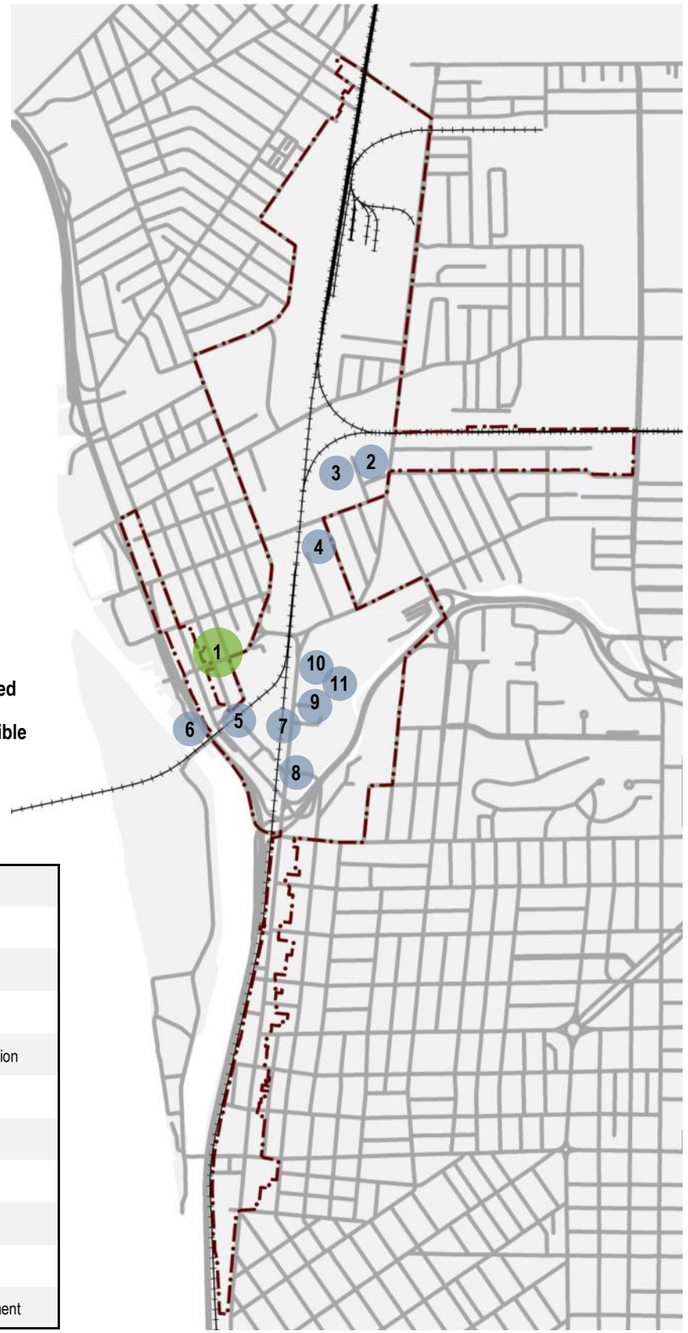
Preserving historic resources benefits communities by improving the appearance of the public realm and contributing to the unique character and identity of neighborhoods. In addition, restoration and rehabilitation efforts celebrate the rich history associated with these areas, promote local pride, and encourage economic development by encouraging reinvestment in the local economy. There are several types of designations, including local, state, and federal.

The BOA includes one locally-designated landmark, 44 Breckenridge Street, located at the corner of Mason Alley between Niagara Street and the I-190. Formerly the Union Meeting House, the building was erected in 1827 on land donated by Major General Peter Porter, an important figure in the War of 1812, the first congressman from Buffalo, and John Quincy Adams's secretary of war. The building was designated a local landmark by the city in 1992.

Properties that are listed or eligible for listing in the State and National Registers of Historic Places (S/NRHP) as well as certified local historic districts are afforded consideration and some protection under preservation law. The BOA contains a single property on the S/NRHP—the Market Square Historic District, which was listed in 2011—along with 10 others that are eligible for listing. [Map 3.12]

In addition, a Reconnaissance Level Historic Resources Survey for the Black Rock neighborhood surveyed more than 500 structures, and prioritized the most significant buildings and sites, including many that are among the oldest in the city. This inventory will provide a useful resource for future historic preservation initiatives in support of neighborhood revitalization.

**Map 3.12** Historical resources




| | |
|---|---|
| 1 | Market Square Historic District |
| 2 | First Hungarian Baptist Church |
| 3 | Police Station No. 13 |
| 4 | 102 Kail Street (residential) |
| 5 | Canadian National RR Freight Station |
| 6 | International Swing Bridge |
| 7 | NY Central Freight House |
| 8 | Fedder Manufacturing |
| 9 | Hard Manufacturing |
| 10 | US Hames Company |
| 11 | US Hames Company; Heat Treatment |



## 3.6 Land Use

The BOA covers a total of 650 acres, including 8 acres of water. Roughly 100 acres is taken up by right-of-way for streets and sidewalks. The remaining 541 acres consist of a variety of uses, with industrial being the most prevalent, covering 192 acres. This encompasses a range of activities, including factories, warehouses, and junk yards.

Vacant land accounts for 130 acres, and can be found throughout the BOA. Rail and utilities cover 122 acres, largely due to the many active and inactive rail lines. Residential uses total only 35 acres, but constitute 41 percent of the 838 individual parcels in the BOA. [Map 3.13]

Understanding the distribution and configuration of land **ownership** is essential for making sound reuse decisions. Ownership can be viewed from two different perspectives: public versus private; and large versus small parcels.

Of the 792 parcels with identified owners, 94 percent are privately held, indicating that redevelopment decisions will largely be based on market and financial considerations. Publicly-owned parcels are primarily vacant lots, in addition to a few sites where title to the land under privately owned and operated facilities is held by the Erie County Industrial Development Agency. [Map 3.14]

Ownership and control of **large parcels** (over 5 acres) can facilitate redevelopment by reducing or eliminating the need for extensive land assembly. There is a single public owner, and 11 private owners with holdings of five or more acres. Combined, these large landowners control 202 acres, or 37 percent of the total acreage.

Of the large holdings, six owners are actively using their land; while six sites – accounting for 88 total acres – are currently inactive. This may change if proposals to subdivide and reuse the former Contract Pharmaceuticals site for student housing are realized. Also, the single publicly-owned large site is currently being used as the city's auto impound, but could become available for redevelopment if this facility were relocated. [Map 3.15]

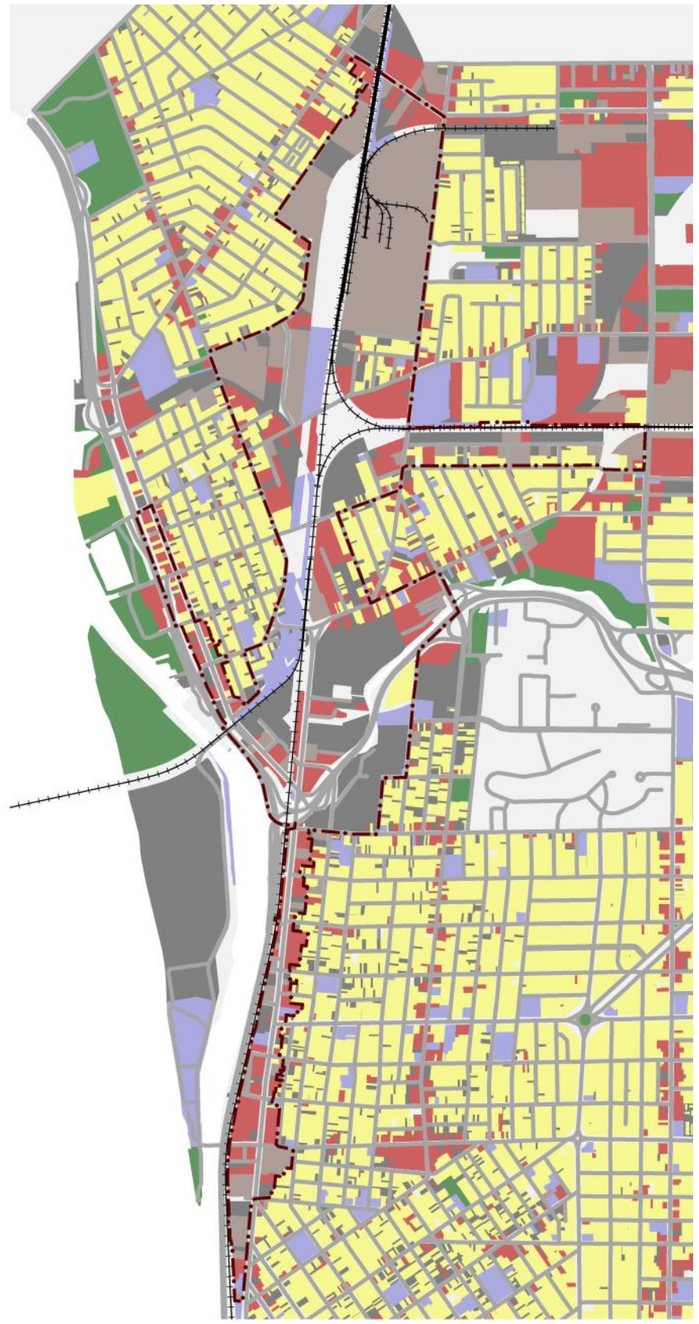
**Current zoning** within the BOA is dominated by industrial classifications, generally either M1-Light Industrial or M2-General Industrial. It also contains small portions of residential and commercial zones that are primarily located outside the study area boundaries.

The majority of land was historically used for industry and rail transportation. Areas that have been out of active industrial use for years, or that encroach upon residential neighborhoods or natural resources, should be examined to determine whether the zoning should be changed. [Map 3.16]

**Figure 3.1** Land use

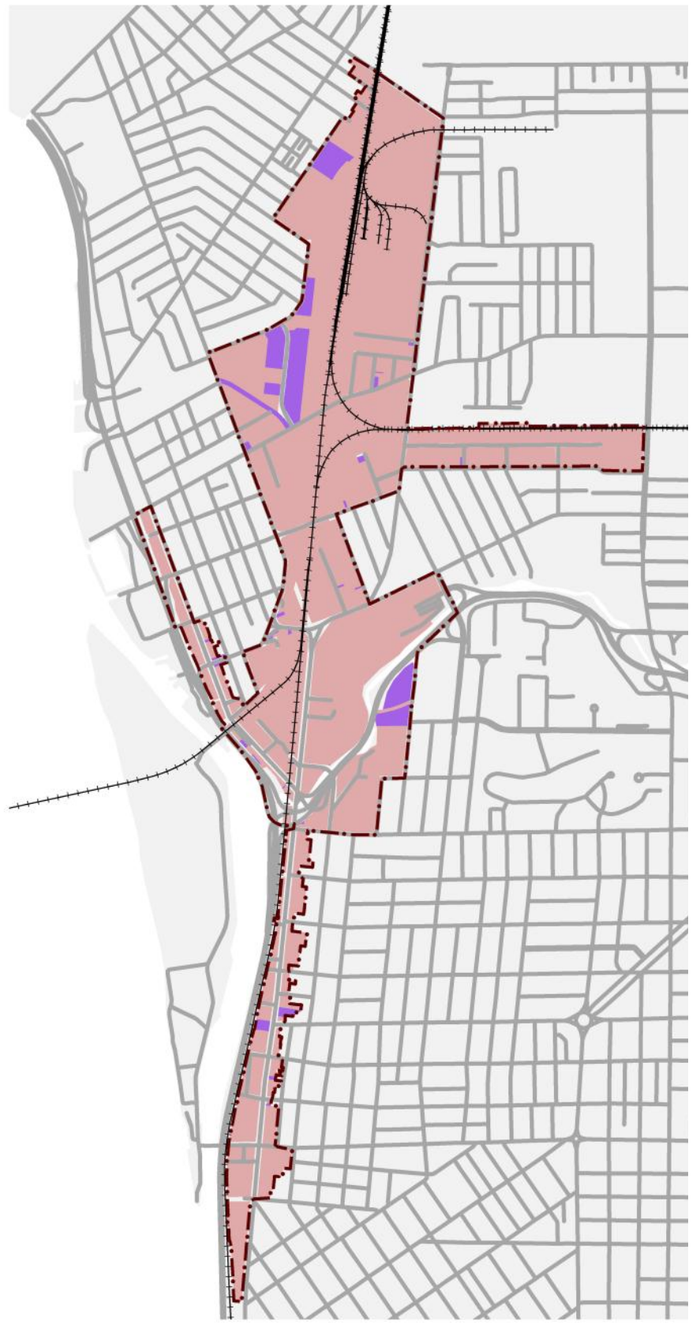
| | *Acres* | | *Parcels* | |
|---|---|---|---|---|
| **Total** | **650** | | | |
| Water | 8 | 1% | | |
| Right-of-way | 101 | 16% | | |
| Under ownership | 541 | 83% | 838 | |
| Residential | 35 | 6% | 341 | 41% |
| Parks / open space | < 1 | 0% | 5 | 1% |
| Community facilities | < 1 | 0% | 4 | 0% |
| Commercial | 59 | 11% | 125 | 15% |
| Industrial | 192 | 36% | 111 | 13% |
| Rail and utilities | 122 | 23% | 60 | 7% |
| Vacant | 130 | 24% | 192 | 23% |

**Map 3.13** Land use

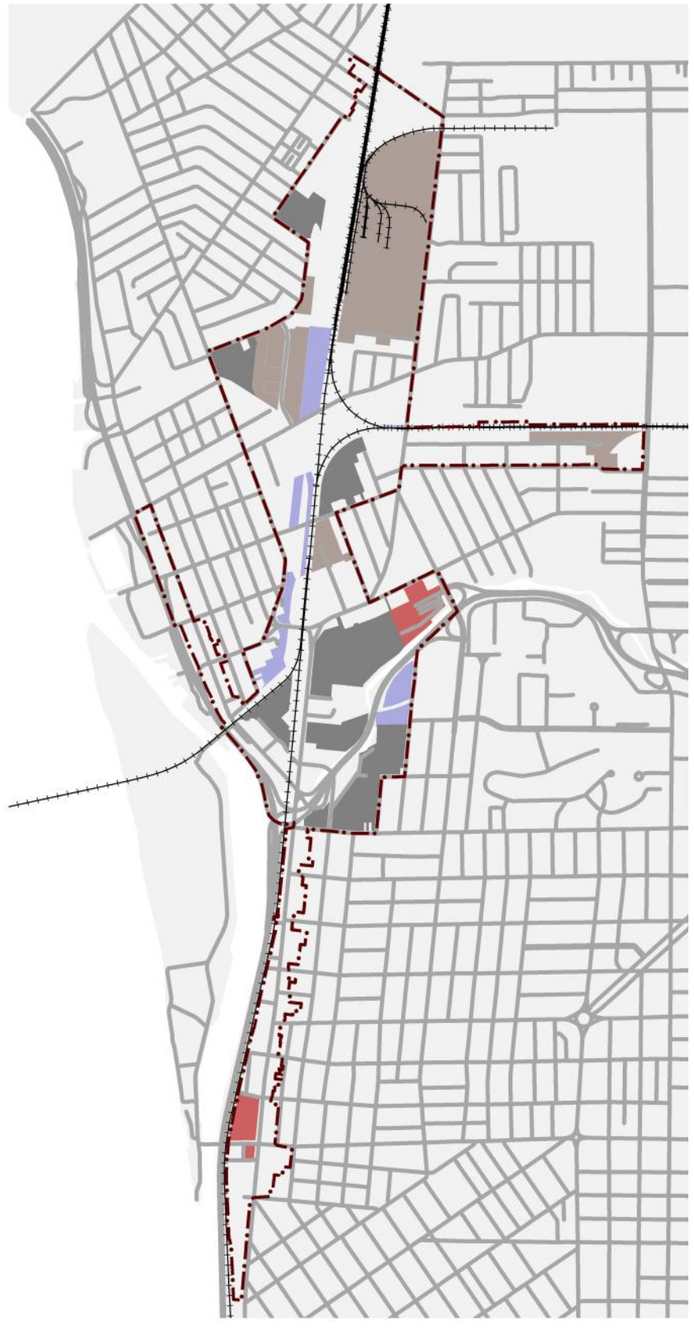





**Map 3.14** Ownership



**Map 3.15** Large parcels



Commercial
Industrial
Transportation/Utilities
Vacant



**Map 3.16** Current zoning

Residential
Commercial
Industrial

**Key buildings** are typically older, former industrial structures that are increasingly providing redevelopment opportunities. These 20 structures were identified based on their location, current use, potential for contributing to area-wide revitalization, and anticipated redevelopment potential. [Map 3.17]

**Major commercial and industrial facilities** generally consist of active industrial operations on properties that may or may not be considered brownfields, and properties that may contain key buildings. These 13 facilities were identified based on active site operations, revenue generated, and employment capacity, and include Dival Safety, Rich Products, Tops Supermarket, Aurubis and buildings located along River Rock and Rano drives. [Map 3.18]

**Vacant structures** are properties that are either vacant or are not being utilized to their highest potential based on their location, zoning, and level of development. The 68 vacant structures within the BOA are generally located adjacent to rail corridors along Tonawanda Street and Chandler Street, or in former industrial areas near the Scajaquada Expressway. [Map 3.19]

**Vacant parcels** were initially identified through the NYS Office of Real Property Services classification codes, and refined through site evaluations. These sites may have recorded tax arrears or be in foreclosure. Within the BOA, the majority of the 21 vacant sites are associated with the rail corridor along Tonawanda Street, or former industrial sites on Chandler Street. [Map 3.19]

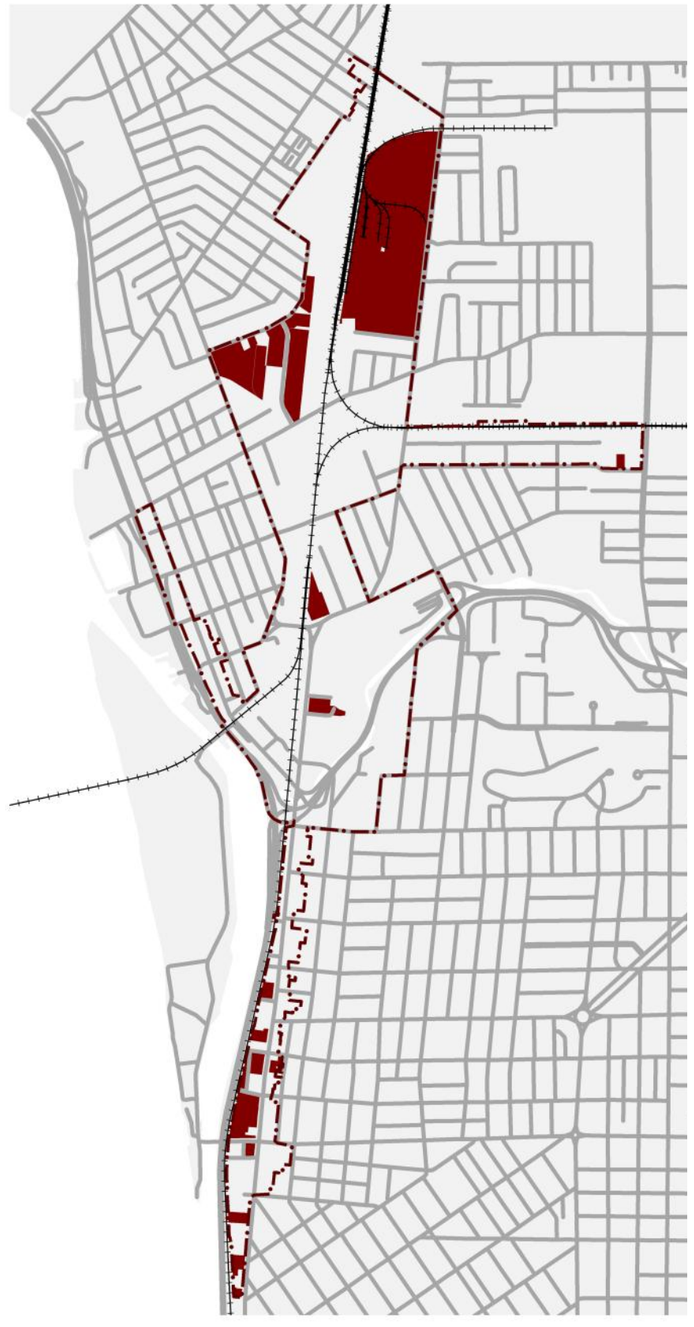
**Potential brownfields** may consist of active, vacant, or underutilized sites. As defined by the US Environmental Protection Agency, they include any real property where the expansion, redevelopment, or reuse is complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant. Brownfields are generally considered sites where previous operations have impacted the property's environmental integrity. Many times these are large former industrial sites, but they may also include smaller commercial sites such as dry cleaners, gas stations, and auto repair shops. Brownfields can have a variety of adverse impacts on a community—signifying disinvestment, posing environmental and public health threats, and impacting the local economy.

The 46 potential brownfields within the BOA were identified based on a variety of databases, including the NYSDEC's Remediation Site Database, Spills Inventory, and Bulk Storage Facility Database, as well as the USEPA's Envirofacts database. In addition, windshield surveys were conducted to evaluate any apparent recognized environmental concerns that may indicate on-site contamination issues. [Map 3.20]

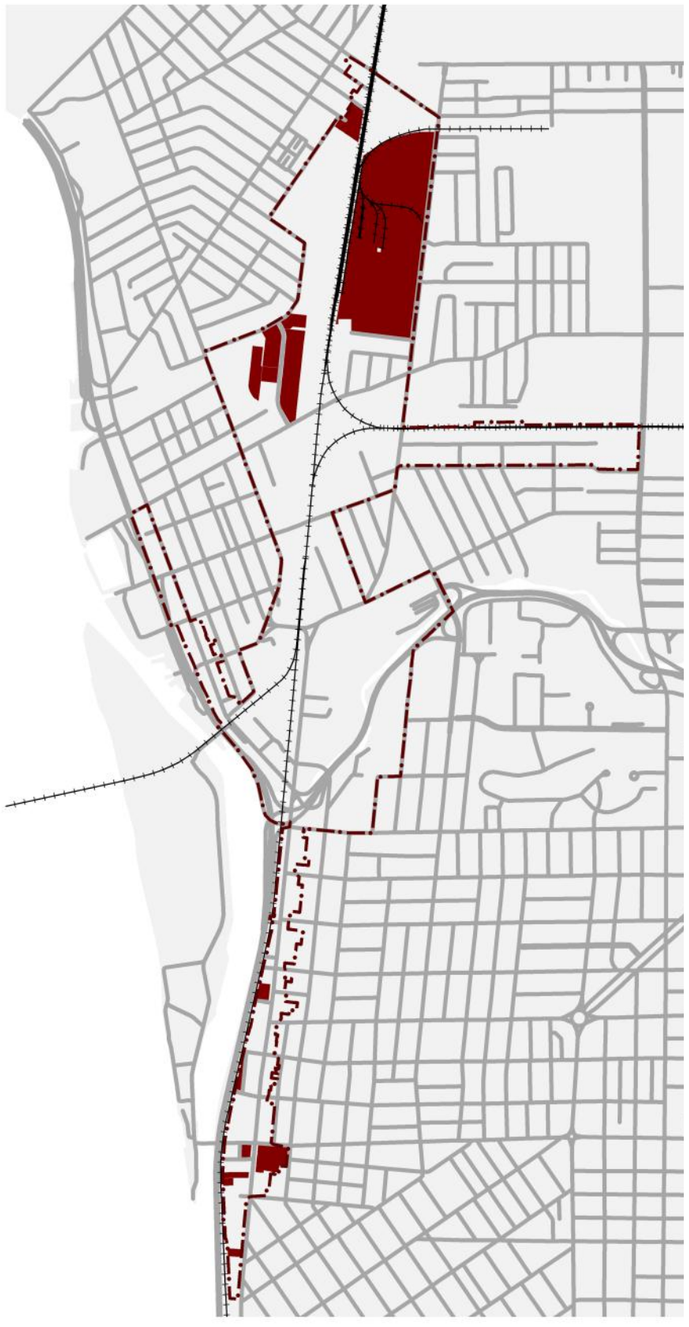
Vacant brownfield properties often present the community with the greatest opportunities for transformation. These may offer short-term redevelopment opportunities, and attract additional investment and contribute to long-term revitalization.

A complete listing of key buildings, major facilities, vacant structures and parcels, and potential brownfields is in the Appendix.

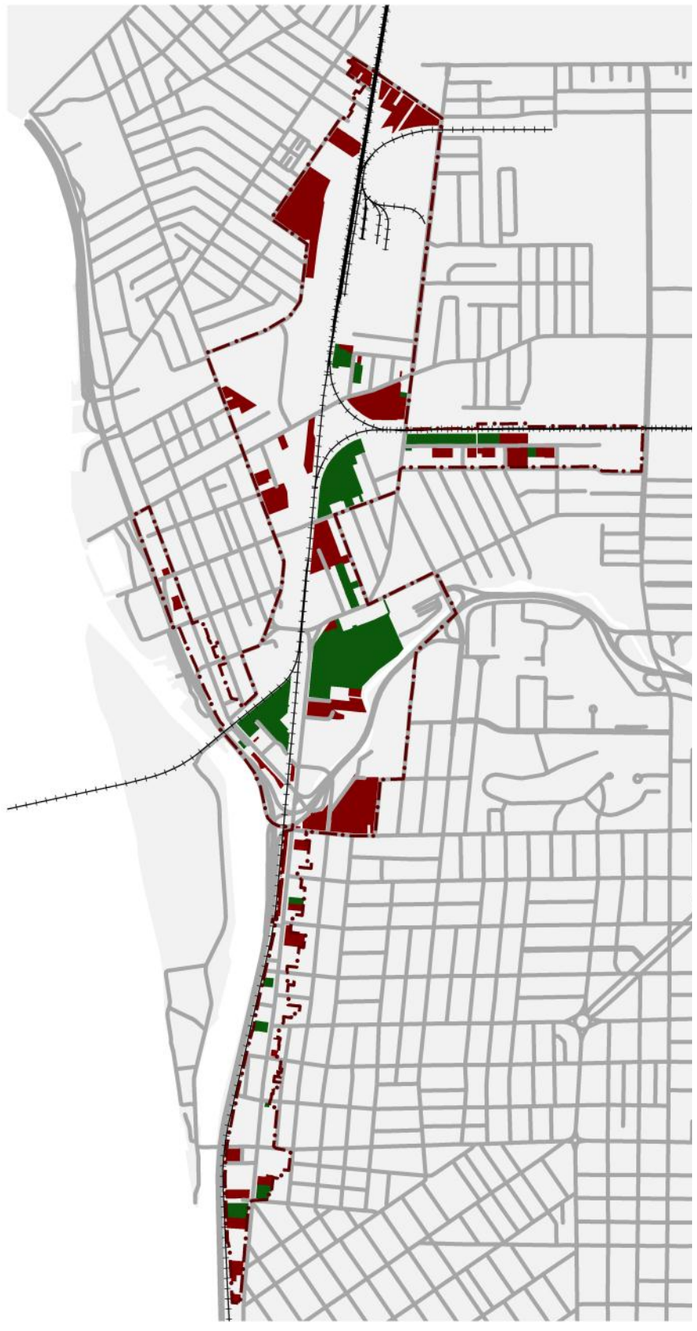
## Map 3.17 Key buildings



**Map 3.18** Major facilities



**Map 3.19** Vacant structures and land



**Map 3.20** Potential brownfields



# 4 STRATEGIES

The analysis of demographic characteristics and market potential, along with the inventory of assets, form the basis for establishing a vision for the Tonawanda Street Corridor. In undertaking this process, priorities must be set, since some land may not be development ready for many years. To ensure success that ultimately reaches all corners of the BOA, initial efforts need to create critical mass by focusing on targeted areas and strategic locations.

The goal of Step 2 process is to develop an understanding of the BOA's long-term potential, which can then be translated into the city's proposed Land Use Plan and Unified Development Ordinance. These documents will guide the city's development over the next 20 years, and are designed to make long-neglected areas more attractive to investment and redevelopment.

## 4.1 Alternative Scenarios

As the first step in this process, the consultant team prepared three alternative scenarios for guiding future development within the BOA. These were presented to the public to determine how much support there was for each. This feedback was then used to inform the city's Land Use Plan and Unified Development Ordinance. Public input also assisted with the selection of strategic sites for further study under Step 3 of the BOA process.

To help frame the discussion of the alternative scenarios, a set of visioning directions and emerging principles were prepared:

### Visioning Directions

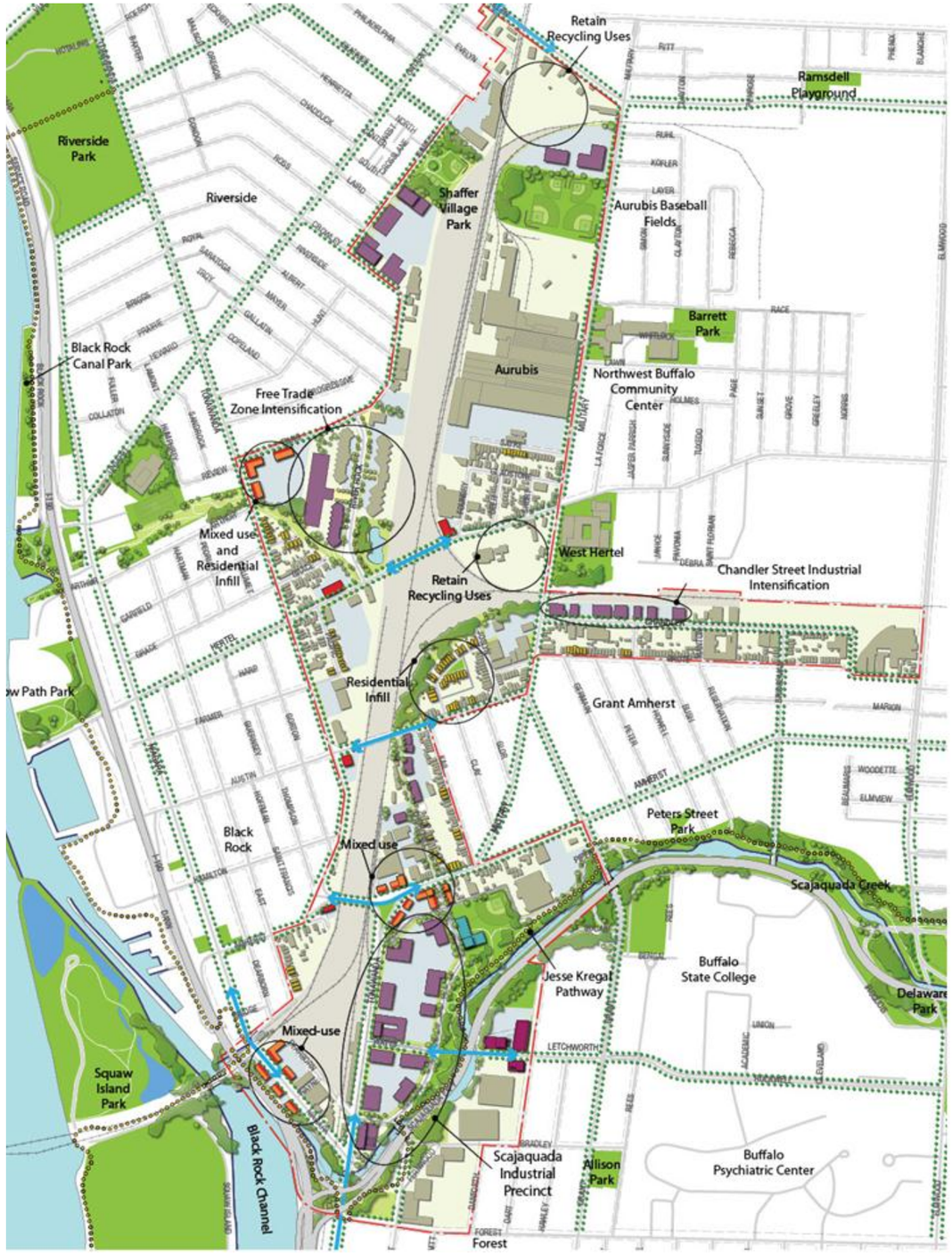
- The residential neighborhoods surrounding the BOA are important and should be strengthened.
- Significant historic resources exist and are a defining characteristic of the area.
- Emerging commercial strips serving local neighborhoods should be encouraged.
- Conflicting land uses have resulted in weakened neighborhood edges, and should be addressed.
- Buffalo State College is an important asset that should be better connected to the community.

### Emerging Principles

- Restore environmental quality and improve community health.
- Enhance employment opportunities by redeveloping brownfields.
- Improve access and connectivity to destinations within and beyond the BOA, particularly to the water.
- Celebrate and enhance the character and history of the area.
- Promote housing revitalization and target residential infill.
- Examine opportunities for enhanced recreational amenities.
- Recognize Buffalo State College as an important community anchor, employer, and educator.

## Industrial Expansion Scenario

- General expansion of industrial uses adjacent to Shaffer Village and along lower Tonawanda Street
- Additional flex industrial uses in the Chandler Street corridor and Free Trade Zone
- Retention of recycling uses
- Modest residential intensification supported by environmental, park, and waterfront access improvements



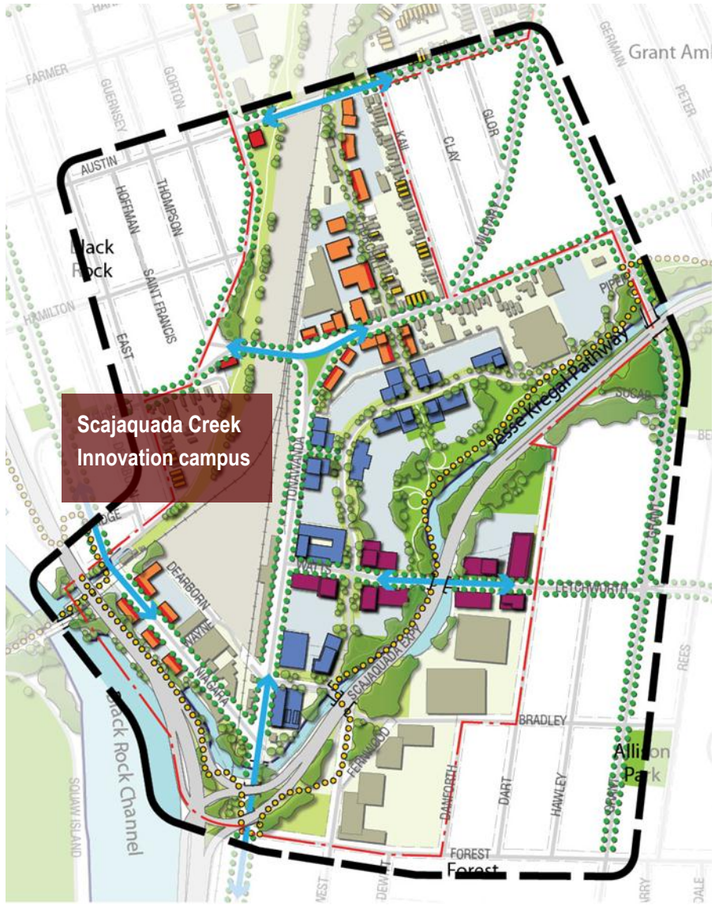

Scajaquada Creek
flex industrial
Jesse Kregal Pathway
Grant Amherst
Forest
Barrett Park
Allison Park
Rock Channel

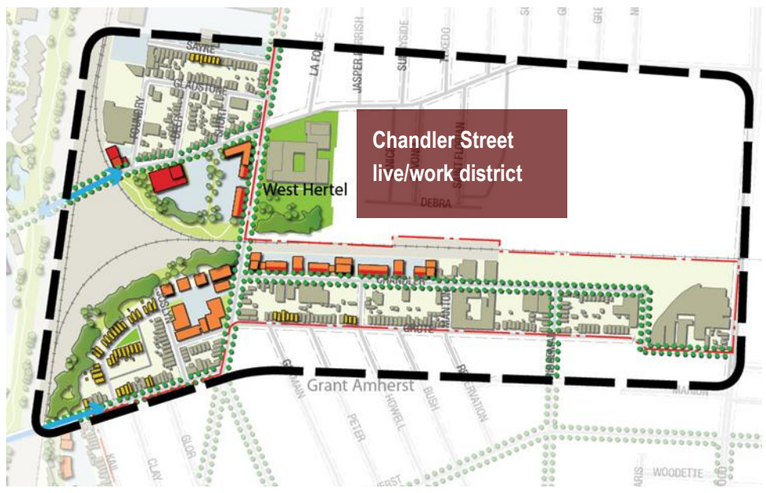

Chandler Street
light industrial
West Hertel
Grant Amherst

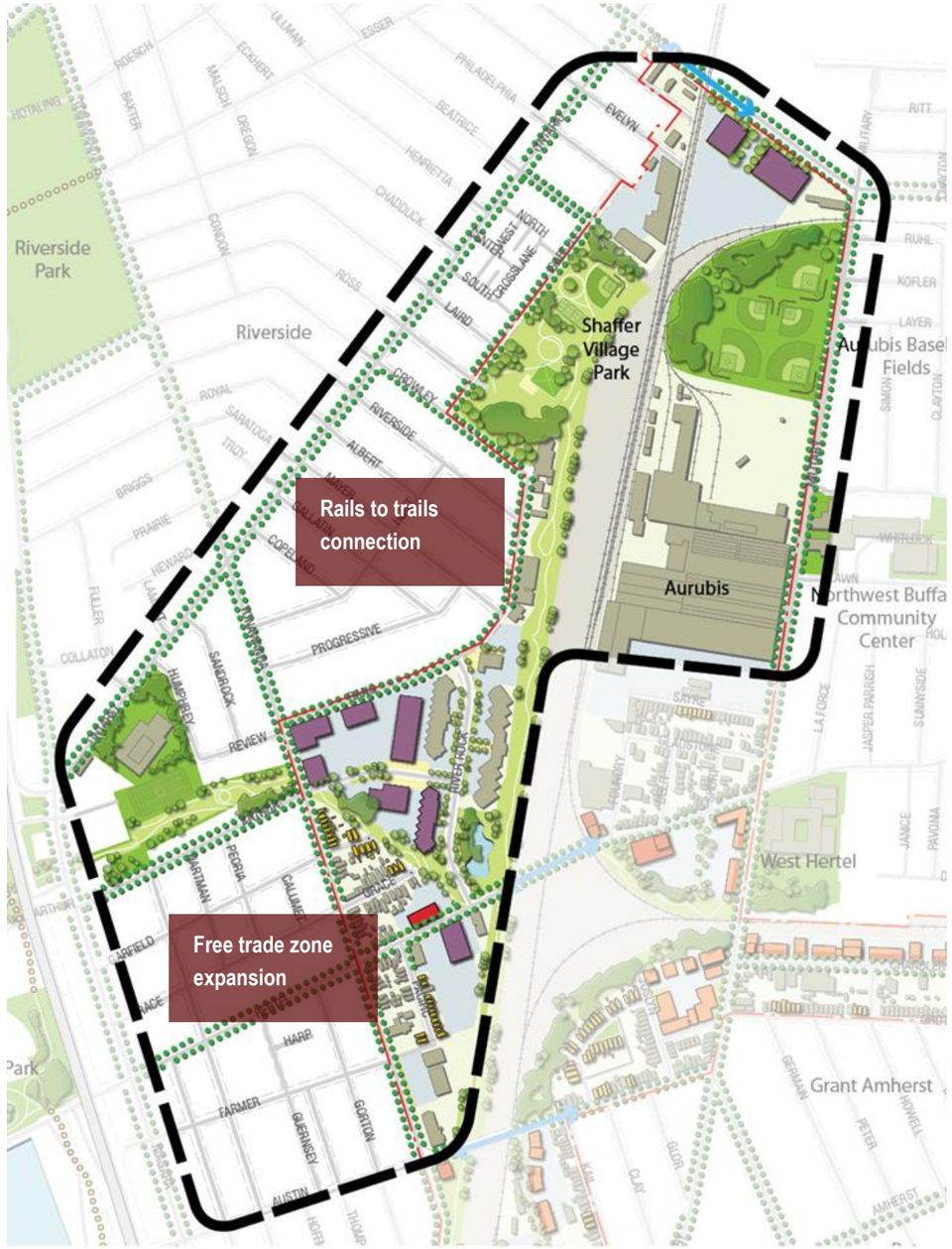

Flex industrial infill
Free trade zone
expansion
Riverside Park
Riverside
Shaffer Village Park
Aurubis
West Hertel
Grant Amherst

## Employment Diversification Scenario

- Development of innovation campus adjacent to Scajaquada Creek, connected to Buffalo State College
- Expansion of flex industrial /commercial at Free Trade Zone and along Chandler Street
- Redevelopment of recycling sites
- Mixed-use, live/work, and small scale retail opportunities along key east-west corridors
- Greater levels of environmental, park, and waterfront access improvements; with new rail corridor trail linked to expanded Shaffer Village Park


Scajaquada Creek
Innovation campus
Jesse Kregal Pathway
Black Rock Channel
Forest


Chandler Street
live/work district
West Hertel
Grant Amherst

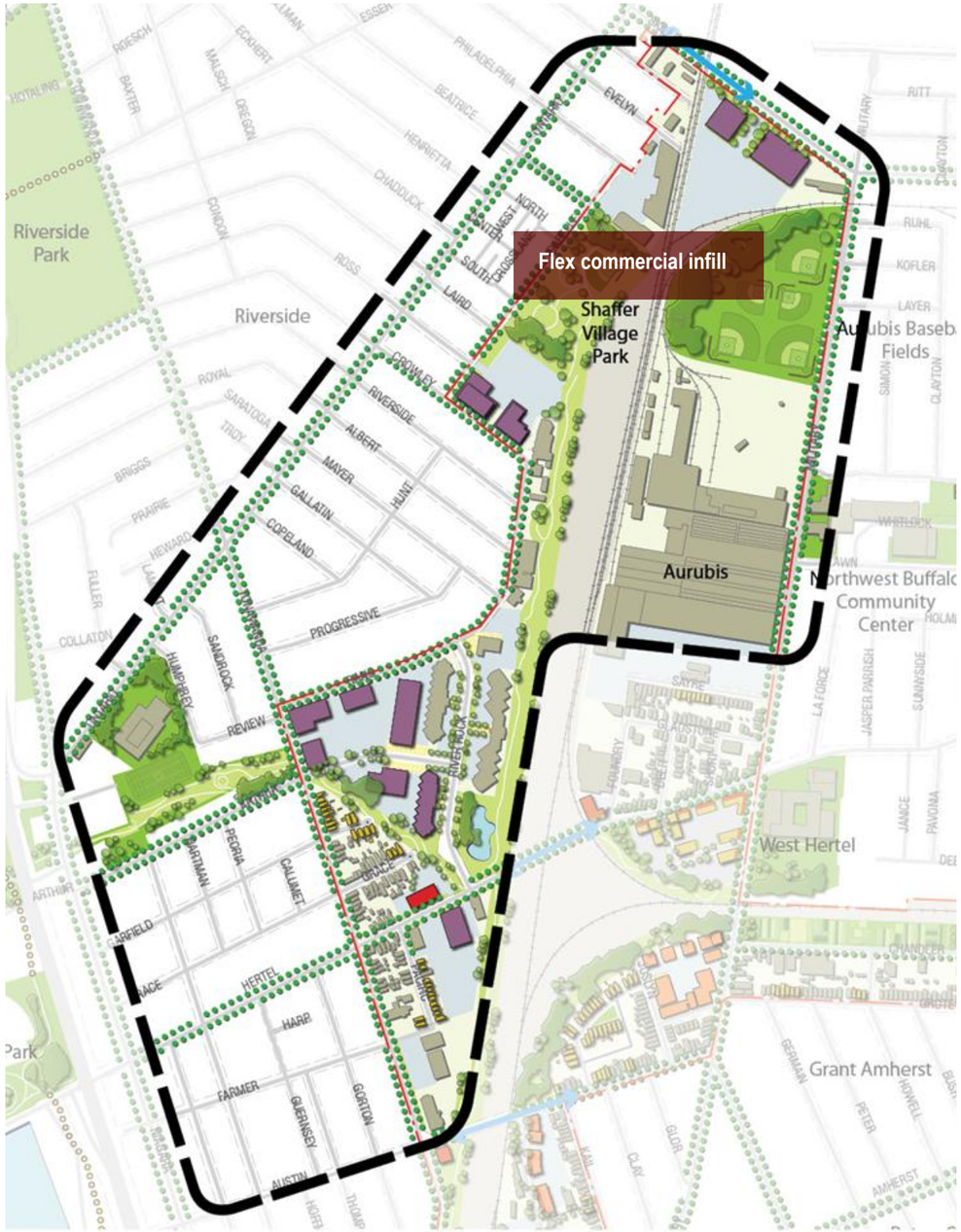

Rails to trails
connection
Free trade zone
expansion
Riverside Park
Riverside
Shaffer Village Park
Aurubis
Aurubis Base Fields
Northwest Buffa Community Center
West Hertel
Grant Amherst

## Campus Employment and Residential Scenario

- Mixed-use campus along Scajaquada Creek, featuring highest levels of environmental, park, and waterfront access improvements
- Expansion of employment opportunities at Free Trade Zone and adjacent to Shaffer Village
- Full redevelopment of recycling sites with mixed-use and open space
- Greater incorporation of mixed-use, live/work opportunities
- Highest levels of park, community garden, and trail improvements


Residential infill
Black Rock
Forest
Jesse Kregal Pathway
Black Rock Channel
Grant Am
Allison Park


Residential infill
Community gardens
West Hertel
Grant Amherst


Flex commercial infill
Riverside Park
Riverside
Shaffer Village Park
Aurubis
Aurubis Baseball Fields
Northwest Buffalo Community Center
West Hertel
Grant Amherst

## 4.2 Community Feedback

Highlights from the input provided by residents who attended the open house include:

- Desire for a cleaner economy, restoration of Scajaquada Creek, improved waterfront access, and new linkages – green and otherwise – within neighborhoods.
- Very strong support for environmental improvements to Scajaquada Creek, including repair of the watercourse and expansion of riparian areas.
- Improvements, new connections, and better access to the Jesse Kregal Trail was the quintessential "no-brainer" of the plan.
- Support for both the Scajaquada Village innovation and educational campuses, but significant opposition to the development of an industrial precinct.
- Housing infill concepts were seen as means to reweave the fabric of the overall district.
- Chandler Street drew both support and opposition to all three options for this contaminated, rail-side corridor.
- Support for proposals to improve safety, security, and comfort of railway underpasses connecting different sides of the community.
- Scattered support for ideas such as daylighting Cornelius Creek, and creating a new recreational facility to relocate the pools and ice rink from Riverside Park.
- "Campus Employment and Residential" had the support of 54 percent of open house participants, while 38 percent favored "Employment Diversification," and just 8 percent selected "Industrial Expansion."

| | *Industrial Expansion* | *Employment Diversification* | *Campus Employment and Residential* |
|---|---|---|---|
| **Likes** | Environmental improvements | Scajaquada innovation campus | Scajaquada parkland |
| | Mixed-use nodes | Rails to trails expansion | Scajaquada Village |
| | Scajaquada industrial precinct | Park and trail improvements | Hertel-Military mixed-use |
| | Free Trade Zone intensification | Letchwork-Watts connection | Community gardens on Chandler |
| | Job creation | Live/work opportunities | Residential infill |
| | Street trees | Free Trade Zone expansion | Live/work opportunities |
| | Live/work opportunities | Cornelius Creek daylighting | Rails to trails expansion |
| | Residential infill | Shaffer Village Park expansion | Shaffer Village Park expansion |
| | Connectivity improvements | Aurubis baseball fields expansion | Free Trade Zone intensification |
| | Public art | | |
| | Retention of recycling uses | | |
| **Dislikes** | Too much industrial | Chandler live/work | Community gardens on Chandler |
| | Retention of recycling uses | Scajaquada innovation campus | Hertel-Military mixed use |
| | Lack of rails to trails | Shaffer Village Park expansion | Too costly, not feasible |
| | Chandler industrial intensification | Rails to trails for security reasons | Lack of boat launch |
| | Scajaquada industrial precinct | Free Trade Zone expansion | Free Trade Zone expansion |
| | | Commercial development | Residential infill |



## 4.3 Land Use and Zoning Recommendations

As the final component of the Step 2 process, the consultant team and city took the community feedback that was provided for the alternative scenarios, and translated these into land use and zoning recommendations. These represent the core elements of Buffalo's proposed Green Code, which employs a place-based planning approach to address issues of form and character.

In addition to the public input received during the BOA process, nearly 1,000 residents attended separate Green Code meetings that were held at various locations throughout the city. The resulting land use and zoning recommendations reflect this input, along with the city's existing and desired development character, and the market trends that drive investment.

The land use and zoning recommendations proposed for the BOA will provide guidance for the next 20 years. These designations generally offer more flexibility than the existing zoning. The Green Code is designed to lay the foundation for future development, so that the market can determine what investments make sense and where, within the parameters agreed upon by the community.

It is expected that this approach will be more adaptable and encourage greater levels of private investment. The result of this planning process will be a Tonawanda Street Corridor that balances its remaining manufacturing sites with emerging employment, recreational, and natural uses that will increasingly drive its future.

### Place-Based Planning

The conventional approach to land use planning and zoning divides places into mutually exclusive single-use zones. Place-based planning takes a different approach by addressing form and character, recognizing that great places typically have a mix of uses—residential, retail, office, civic, recreational, and natural—that make neighborhoods lively, interesting, and safe.

To initiate this planning process, historic development patterns were evaluated in the Tonawanda Street Corridor and across the city. Legal records indicated when different areas were subdivided and developed, and property maps showed street patterns and lot sizes. Windshield surveys then provided measurements of development character such as building setbacks and heights, uses, design characteristics at an even greater level of detail.

The existing neighborhood fabric—buildings, parks, streets—provides the foundation for future development, and was an important factor in assigning place types. The proposed place types were ultimately determined by a combination of three factors: what existed in the past, what is there now, and what residents indicated they wanted their neighborhoods to become.

Buffalo's land use pattern is built around three distinct place types:

**Neighborhoods** are locations with a mixture of homes and businesses that are generally compact and walkable; support a mix of activities and a range of housing types; have streets that accommodate pedestrians, bicycles, and motor vehicles; and place priority on creating public space and locating civic buildings.

Neighborhoods are identifiable by their intensity. Characteristics such as building type and height, lot occupancy, and the mix of uses can be measured to provide an understanding of the different types of neighborhoods where we live, work, and play—going beyond simply how land is used.

Buffalo's neighborhoods are divided into four basic types, familiar to residents because they are based on existing neighborhood character. They developed during different eras in the city's history and have evolved over time, ranging from old to new, dense to open.

- Downtown neighborhoods house a range of uses—offices, shops, restaurants, theaters, and apartments—with structures that are built to the sidewalk. They work best when there is activity on the ground floor that attracts pedestrians and keeps streets safe. Examples include the Central Business District and secondary employment centers such as the Larkin District and Niagara Street in Upper Rock.
- Central neighborhoods are Buffalo's oldest, first developed in the 1800s and mostly adjacent to downtown and the waterfront. The lots are small—typically 25 to 35 feet wide. Homes are close together and setbacks from the street mini-

mal. Mixed-use, walkable centers are dense and have an array of uses in smaller buildings. Examples include Black Rock, Fruit Belt, and Old First Ward.

- Streetcar neighborhoods were developed along streetcar lines at the turn of the 20th century, have strong mixed-use centers at their cores, and are located near the outskirts of the city. These neighborhoods have slightly larger lots—typically 35 to 50 feet wide. Homes have more space between them with deeper setbacks, and building heights rarely exceed three stories. Examples include Kaisertown, Riverside, and University Heights.

- Edge neighborhoods are characterized by large lot sizes, spacious front yards, and single-family homes, often developed around parks and parkways. While they contain no retail activity, they are usually within walking distance of denser neighborhoods with a mix of commercial uses. Examples include Central Park, Kensington Heights, and Rebecca Park.

**Districts** are single-use areas such as employment centers or green spaces, where development patterns were created specifically for that use. There are three basic types, each with a pre-dominant use. Although districts are often separate from the prevailing street grid, their structure parallels the adjacent neighborhoods, sometimes with an identifiable focus that provides orientation, identity, and clear boundaries.

- Open space districts include natural conservation areas such as Tifft Nature Preserve; the Olmsted Park and parkway system; parks such as Unity Island and Tow Path; and civic spaces such as Market Square Park.

- Campus districts can be residential, medical, or educational. They function separately from surrounding activities, and are often served by an internal circulation system apart from the adjacent street grid. Examples include Shaffer Village, Marine Vista, Erie County Medical Center, and Buffalo State College.

- Employment districts include auto-oriented shopping centers, office parks, and light and heavy industrial facilities. They are often separated from, but within walking or transit distance of, residential neighborhoods. Examples include Delaware Consumer Square, the Free Trade Zone, and Aurubis.

**Corridors** are linear connections that form the borders of and connect neighborhoods and districts. Corridors are composed of natural and man-made components, including waterways, trails and green spaces, limited access highways, and rail lines.

- Transportation corridors have long been organizing elements for the city, serving as both connectors and boundaries that define neighborhoods. Examples include active rail lines and the Metro Rail.

- Waterfront corridors are bodies of water that connect neighborhoods, industrial areas, and employment centers. They also define the edges of neighborhoods and give identity to the city. Examples include Lake Erie, the Buffalo and Niagara Rivers, Black Rock Canal, and Scajaquada and Cazenovia Creeks.



## Proposed Place Types

By applying these place-based planning principles, the entire city was mapped by place type. All of the city's 90,000 parcels (including over 800 in the Tonawanda Street Corridor) were assigned a specific place type. This allowed residents and stakeholders to establish tailored goals for each, while encouraging mixed-use places with a combination of functions—the foundation for creating walkable neighborhoods and employment centers.

Within the BOA, the boundaries reflect the rail lines that drove its initial growth. Most of the land was originally used for manufacturing, warehousing, and shipping; although recent efforts have begun to repurpose some of these abandoned industrial facilities into mixed-use developments of housing, offices, and retail.

The northern section of the BOA follows the rail corridor from Amherst up to Skillen, and includes a connection to the Belt Line that runs parallel to Chandler Street. The rail corridor consists of a single active line, so the plan calls for converting the abandoned rail lines on the west side of the corridor into open space, which would eventually link into the regional trail system.

Aside from this open space, land on both sides of the rail corridor are largely industrial. The only site in the BOA designated as Heavy Industrial – the Aurubis facility – is located to the east of the rail line. To the west and bounded by Rano, Crowley, and Isabelle is Light Industrial, including the Free Trade Zone and a series of free-standing manufacturing, warehousing, and distribution facilities. There are also a couple of small residential sections, including a triangular parcel on Austin Street that is currently vacant land; and a commercial strip along Tonawanda Street.

| **N-1D: Downtown Hub** |
|---|
| Within walking distance of Main Street, and directly accessible to Metro Rail service and several Metro Bus lines. |
| Able to support high densities, with building heights that exceed the width of the adjacent right-of-way. New construction should be at least four stories, to protect the scale and character of the neighborhood and support a range of transportation options. |
| Appropriate for an intense mix of residential and commercial uses, to encourage all-day pedestrian activity as the regional center. |
| On blocks of between 200 and 400 feet. |
| **N-1C: Mixed-Use Core** |
| Accessible to either Metro Rail or more than two high-frequency Metro Bus lines. |
| Able to support higher densities, with building heights that match the width of the adjacent right-of-way. New construction should be at least two stories, to protect the scale and character of the neighborhood and support a range of transportation options. |
| Appropriate for an intense mix of residential, commercial, and industrial uses, to encourage pedestrian activity. |
| On blocks of between 200 and 400 feet. |
| **N-1S: Secondary Employment Center** |
| Accessible to least one high-frequency Metro Bus line. |
| Located in an industrial heritage area of significant density, with warehouses and factories developed in clusters adjacent to rail or water shipping routes. |
| Able to support high densities, with building heights of up to six stories. |
| Occupied by industrial structures that are appropriate for redevelopment into an intense mix of industrial, commercial, and residential uses. |
| Amenable to design standards contributing to the reuse of heritage structures, without imposing an unreasonable burden on industrial uses. |
| On blocks of up to 1,200 feet. |

### N-2C: Mixed-Use Center

Accessible to at least one high-frequency Metro Bus line.

Located along a neighborhood main street, characterized by small-scale, mixed-use buildings placed close to the sidewalk and designed for pedestrian access.

Able to support density at a human scale, with buildings of up to four stories. New construction should be at least two stories, to protect the scale and character of the neighborhood and support a range of transportation options.

Appropriate for development as a consistent streetscape of pedestrian-oriented shop fronts.

Amenable to design standards promoting walkability to attract pedestrian activity and boost retail sales.

On blocks of between 200 and 400 feet.

### N-2E: Mixed-Use Edge

Accessible to at least one Metro Bus line.

Located at less intensely developed areas, where a diverse set of building types and setbacks reflects a mixed residential and commercial character.

Able to offer a transition between a neighborhood main street and principally residential areas.

Able to support density at a human scale, with buildings of up to four stories.

Amenable to design standards promoting walkability, while providing flexibility to respond to a more residential context.

On blocks of up to 800 feet.

### N-2R: Residential

Located in a predominantly residential area with a variety of housing options (single-family to multi-family), occasional civic structures (schools, places of worship), and mixed-use buildings on corner lots.

Able to support density at a human scale, with buildings of up to three stories (four stories along frequent transit routes).

On lots of between 18 and 60 feet.

On blocks of up to 800 feet.

### N-3C: Mixed-Use Center

Accessible to at least one high-frequency Metro Bus line.

Located along a neighborhood main street, characterized by small-scale, mixed-use buildings placed close to the sidewalk and designed for pedestrian access.

Able to support density at a human scale, with buildings of up to three stories. New construction should be between one and three stories, to protect the scale and character of the neighborhood and support a range of transportation options.

Appropriate for development as a consistent streetscape of pedestrian-oriented shop fronts.

Amenable to design standards promoting walkability to attract pedestrian activity and boost retail sales.

On blocks of between 200 and 400 feet.



### N-3E: Mixed-Use Edge

Accessible to at least one Metro Bus line.

Located at less intensely developed areas, where a diverse set of building types and setbacks reflects a mixed residential and commercial character.

Able to offer a transition between a neighborhood main street and principally residential areas.

Able to support density at a human scale, with buildings of up to three stories.

Amenable to design standards promoting walkability, while providing flexibility to respond to a more residential context.

On blocks of up to 800 feet.

### N-3R: Residential

Located in a predominantly residential area with a variety of housing options (single-family to multi-family), occasional civic structures (schools, places of worship), and mixed-use buildings on corner lots.

Able to support density at a human scale, with buildings of up to three stories.

On lots of between 30 and 75 feet.

On blocks of up to 800 feet.

### N-4-30: Single Family

Located in a predominantly single-family residential area, with occasional civic structures and no mixed-use or commercial buildings.

Able to support density at a human scale, with buildings of up to three stories.

On lots of between 30 and 75 feet.

On blocks of up to 800 feet.

### N-4-50: Single Family

Located in a predominantly single-family residential area, with occasional civic structures and no mixed-use or commercial buildings.

Able to support density at a human scale, with buildings of up to three stories.

On lots of at least 50 feet.

On blocks of between 800 and 1,200 feet.

**D-OS: Square**

Intended for a formal public square, designed as a largely hardscape area.

Less than two acres.

Appropriate for an intense mix of civic and commercial uses, to support a lively public realm.

**D-OG: Green**

Intended for a formal civic green, often identified as a public park.

Appropriate for some civic and commercial uses, in support of its primary use as a public space.

**D-ON: Natural**

Intended to be set aside as protected areas principally used for the conservation of natural habitat.

At least a quarter acre.

Characterized by wetlands, flood plains, or sensitive habitats.

Inappropriate for intensive use by the public, and appropriate only for passive recreation that is compatible with natural habitat.

**D-R: Residential Campus**

Located in a predominantly residential area, usually under single ownership, with occasional civic and commercial uses that support campus residents.

Able to support a range of building types and heights.

On blocks of up to 1,200 feet.

**D-E: Educational Campus**

Located within an integrated college or university campus with clearly defined boundaries.

Directly accessible to Metro Rail or at least one high-frequency Metro Bus line.

Able to support high densities, with buildings of up to six stories (12 stories with special review).

Appropriate for an intense mix of residential and commercial uses to support campus development.

**D-M: Medical Campus**

Located within an integrated medical or research campus with clearly defined boundaries.

Directly accessible to Metro Rail or at least one high-frequency Metro Bus line.

Able to support high densities, with buildings of up to six stories (16 stories with special review).

Appropriate for an intense mix of residential, commercial, and industrial uses to support campus development.



**D-S: Strip Retail**

Located at a highway interchange or along a major arterial with little or no on-street parking.

Developed for large-scale retail establishments that draw upon markets beyond the immediate neighborhood.

Appropriate for an intense mix of residential and commercial uses, but not for industrial uses.

Over 10,000 square feet in area, and more than 200 feet deep.

On blocks of up to 1,200 feet.

**D-C: Flex Commercial**

Located at a highway interchange, along a major arterial with little or no on-street parking, or along a truck route.

Identified as an appropriate transition area between industrial and residential zones.

Appropriate for a mix of uses, including industrial in some cases.

Over 10,000 square feet in area, and more than 200 feet deep.

On blocks up to or exceeding 1,200 feet.

**D-IL: Light Industrial**

Appropriate for light industrial uses.

Accessible to a truck route, rail or water

Over 10,000 square feet in area, and more than 200 feet deep.

On blocks up to or exceeding 1,200 feet.

**D-IH: Heavy Industrial**

Appropriate for heavy industrial uses, without reasonable likelihood of producing conflicts with established uses nearby.

Buffered from residential neighborhoods by either distance or a rail, highway, or water barrier.

Accessible to a truck route, rail or water.

Over 10,000 square feet in area, and more than 200 feet deep.

On blocks up to or exceeding 1,200 feet

**C-R: Rail**

Owned by an entity that actively provides intercity freight or passenger rail service, or that previously provided service but maintains importance as a rail link.

Considered critical to supporting transportation access, and set aside and protected exclusively for that use.

Parcels north of Chandler Street adjacent to the rail line are all zoned Light Industrial; while the south side of the street is a mix of Light Industrial, Secondary Employment, and Residential.

The central portion is bisected by Scajaquada Creek, and includes an extension of Niagara Street to the north. The lower section of Niagara Street surrounded by rail lines is zoned Light Industrial; while most of the upper part is split between Mixed-Use Center and Mixed-Use Edge, reflecting the small buildings along these blocks that often combine retail with residential, and serve the Black Rock neighborhood to the east.

There is Strip Commercial at the intersection of Grant and Amherst, while the balance of Amherst Street is zoned Mixed-Use Center. Land to the west of Scajaquada Creek is zoned Light Industrial and Secondary Employment, largely based on the presence of existing buildings that could be repurposed. Across the creek, the land is zoned Light Industrial, with a section at the southern edge set aside as Residential Campus, in anticipation of future re-use. Local Waterfront Revitalization Program guidelines call for a setback along the water's edge, which would apply to any parcels fronting Scajaquada Creek.

The southern section of the BOA runs along both sides of Niagara Street, from Forest south to Hampshire. This is largely zoned as Secondary Employment, which is the primary designation for areas adjacent to the Belt Line. There are a handful of parcels zoned Light Industrial, in recognition of existing uses such as manufacturing, gas stations, and used car lots; and the fact that the building stock would not support redevelopment as a Secondary Employment Center. There are also a few Mixed-Use Center designations, for smaller buildings that typically have retail on the ground floor with residential above. [Map 4.1]

**Figure 4.1** Select place-type characteristics

- Industrial loft clusters at Black Rock Yards and Great Arrow are mapped N-1S
- Neighborhood centers along Amherst, Grant, Hertel, Niagara, and Tonawanda are mapped N-2C, N-2E, N-3C, or N-3E, depending on intensity
- The oldest residential sections of Black Rock, adjacent to Scajaquada Creek and Black Rock Harbor, are mapped N-2R
- Newer residential sections of Riverside and West Hertel are mapped N-3R, with some lower-intensity areas mapped N-4-30
- Black Rock Harbor is mapped N-2E and D-OG
- Riverside Park, Unity Island, and the banks of Scajaquada Creek are mapped D-OG
- Vacant rail corridors are mapped D-OG
- Various parcels adjacent to rail facilities are mapped D-IL
- The east side of Military, north of Hertel, is mapped D-IH



**Map 4.1** Proposed place types