CHAPTER 2

Where We Are Today

Since adoption of our previous Metropolitan Transportation Plan, Moving Forward 2050 in May 2018, our region like others around the country and throughout the world were impacted by the Covid-19 pandemic, with significant impacts to our communities, physical and mental health, the economy and the environment. The social and economic impact of the Covid-19 pandemic have been particularly detrimental to member of groups in the most vulnerable situations, and continues to affect populations, including people living in poverty, older persons, persons with disabilities, youth, and black, indigenous and people of color (BIPOC). The lasting effects and how the pandemic will shape our future are just beginning to be understood.

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Image Source: GBNRTC (2020)

The May 14, 2022 racist hate fueled attack in Buffalo, which killed 10 innocent people and terrorized the community, has brought another level of fear and uncertainty to our community. It once again brings to focus the urgent need to address social injustices that have plagued our country for far too long.

The Jefferson Avenue Tops Market in the City of Buffalo. Image Source: Google Earth (2023)

Different places, different needs

Our region is made up of many communities, each with its own distinct character and transportation needs. Planning our regional transportation system forces us to think about the different types of places that make up our region and what transportation can do to bolster their future. There are no clear lines between these places, but across our region there are clear differences in the way the land is used that make some transportation alternatives more viable than others in different areas. As transportation options continue to change, they will need to be applied differently in different types of communities to improve quality of life across the region, while maintaining the unique character of every community.

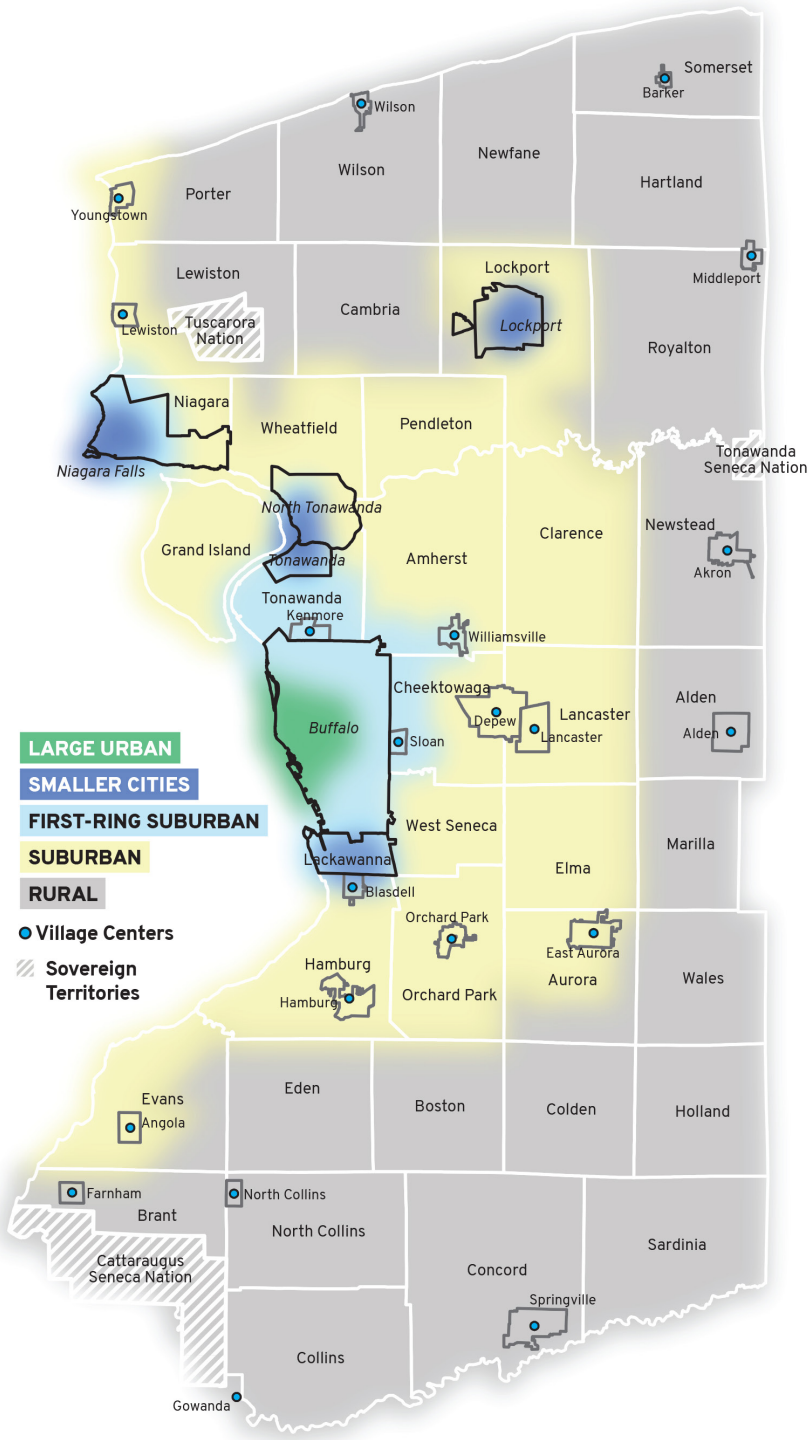
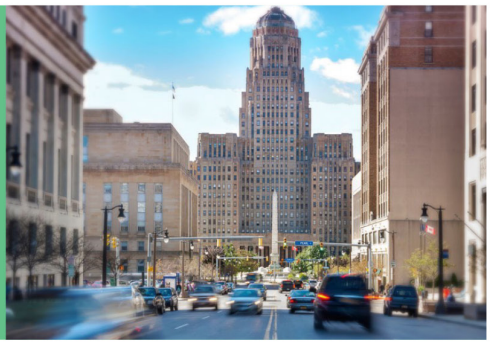


Figure 2.1 | Place Types within Erie and Niagara Counties as Identified in Moving Forward 2050 (2018)

LARGE URBAN

These places have the largest concentrations of jobs and people in the region. Here, many individuals can easily get to work, home and fulfill most daily needs by walking or biking. These places support frequent public transit service thereby providing flexibility via access to multiple modes of transportation. Accommodating high traffic volumes is a primary concern here. Multi-modal access to jobs and other opportunities outside of large urban areas remains a challenge.



SMALLER CITIES

A few smaller cities, like Niagara Falls, Lockport and the Tonawandas, are key centers of the region. While many neighborhoods in smaller cities are somewhat walkable, individuals in these places often require cars to get to daily needs. Beyond main streets and other major corridors, public transit service is often not financially feasible in these cities. Access to services, shopping and other amenities within these smaller cities is limited. Transportation investments present a way to revitalize these places.

FIRST-RING SUBURBAN

Older suburbs were built to accommodate automobiles, but other transportation options do exist. Since these communities are relatively densely populated, with homes close to jobs and services, transit service can be feasible in most places. First-ring suburbs have commercial strips that are inconvenient for pedestrians, as well as village centers suitable for walking, biking and taking transit. The increasing suburbanization of poverty means these areas have a growing transit-dependent population.

SUBURBAN

These areas are more spread out than older suburbs. Walking and biking for daily travel is not feasible in most places. However, there are some strong village centers where people can take local trips without needing a car, but are difficult to connect to frequent transit service. Major commercial strips concentrate services, but walking and biking along these corridors is unsafe. Suburban residents lack multi-modal options to jobs, healthcare and other services located closer to the urban core.

RURAL

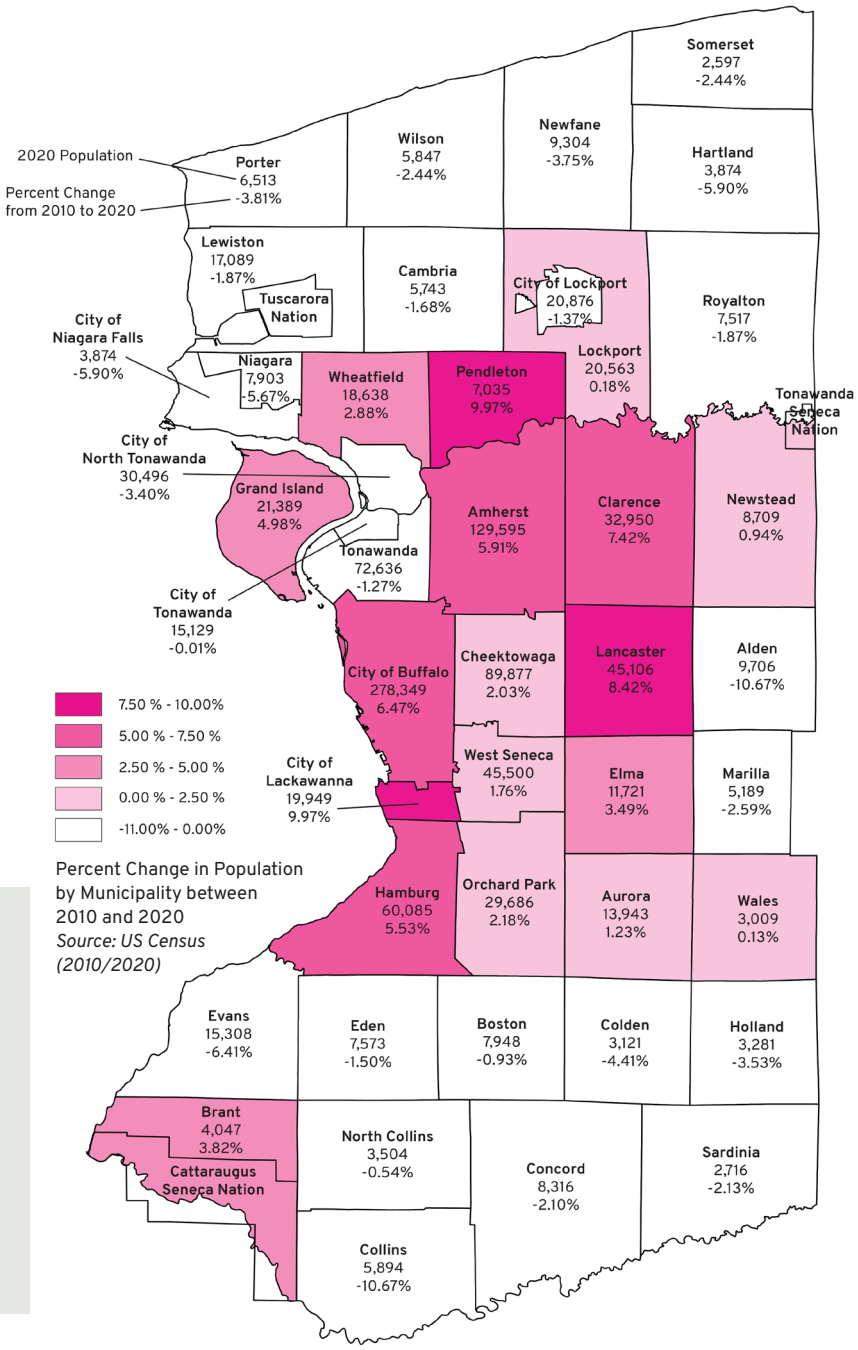
With large distances between homes, businesses and other destinations, a car is needed for most rural travel. Access to jobs, education and healthcare remains a challenge for rural residents—including seniors aging in place and people with disabilities. Farming activity adds to transportation demands in rural areas. Providing access to recreational trails and environmental assets can promote tourism and physical activity.

Our Communities

After years of population decline parts of the region are experiencing a growth in population according to the most recent 2020 US Census. Erie County's population is more than 954,000, up more than 35,000 since the 2010 Census. The City of Buffalo saw an increase of more than 17,000 people, with the current population close to 280,000. The map shows the percent change in total population from the 2010 Census to the 2020 Census for Erie and Niagara counties.

Parts of our region are rebounding after decades of population decline and stagnant growth.

Figure 2.2 | Where We Are Growing



Past planning efforts and investment decisions have often negatively impacted Communities of Concern resulting in inequitable land-use patterns and disproportionate health and economic impacts.

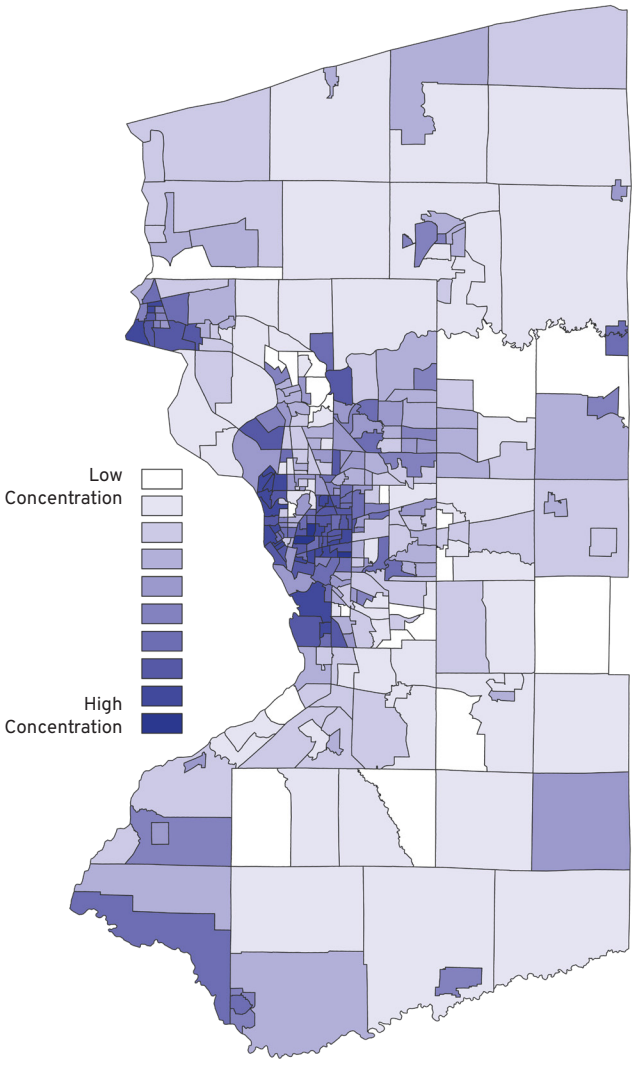
To establish a transportation system that benefits all people, the region will continue to work towards the equitable deployment of investments and to prioritize the mobility needs of Communities of Concern.

Negative health effects related to the transportation system can fall hardest on vulnerable members of the community, such as low-income residents, minorities, children, persons with disabilities, and older adults. Households in low-income areas typically own fewer vehicles, have longer commutes, and have higher transportation costs.

Inadequate or substandard infrastructure in low-income and minority communities can prevent people from using active transportation. It can also make walking and bicycling unsafe for those who do rely on these modes to get around, leading to higher incidences of collisions involving pedestrians and cyclists.

Low-income and minority communities are more likely to be located near highways and other transportation facilities that produce local reduced air quality, and to suffer from negative health effects such as asthma. These communities are also less likely to have convenient access to parks, healthcare, and healthy food.

Figure 2.3 | Concentrations of Communities of Concern



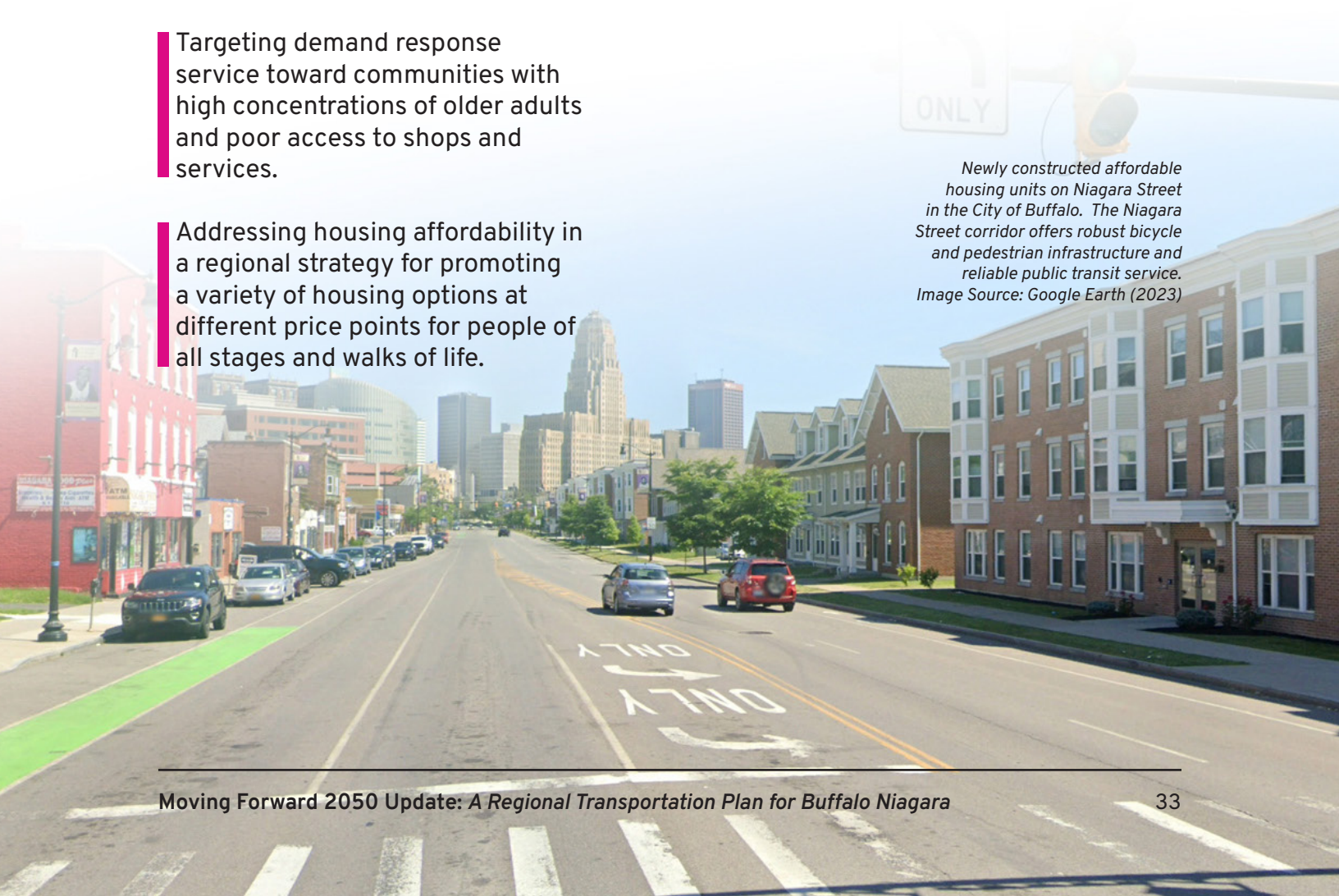
Source: American Community Survey 5-year estimates 2016-2020

See Appendix H for details on how Communities of Concern are defined.

Many of the strategies that transportation agencies can take to increase active transportation, improve safety, improve air quality, and improve connectivity can improve equity if they are targeted in low-income and minority communities.

Examples of some of these strategies include the following:

- Improving pedestrian infrastructure or increasing public transportation service in low-income and minority communities to improve connectivity.
- Using roadside barriers, vegetation, or bottleneck removal to reduce the impacts of pollution on communities located near high-volume roads.
- Targeting demand response service toward communities with high concentrations of older adults and poor access to shops and services.
- Addressing housing affordability in a regional strategy for promoting a variety of housing options at different price points for people of all stages and walks of life.



Newly constructed affordable housing units on Niagara Street in the City of Buffalo. The Niagara Street corridor offers robust bicycle and pedestrian infrastructure and reliable public transit service. Image Source: Google Earth (2023)

Our Economy

Recent unemployment data shows that the region has rebounded after the economy all but shut down due to the Covid-19 pandemic.

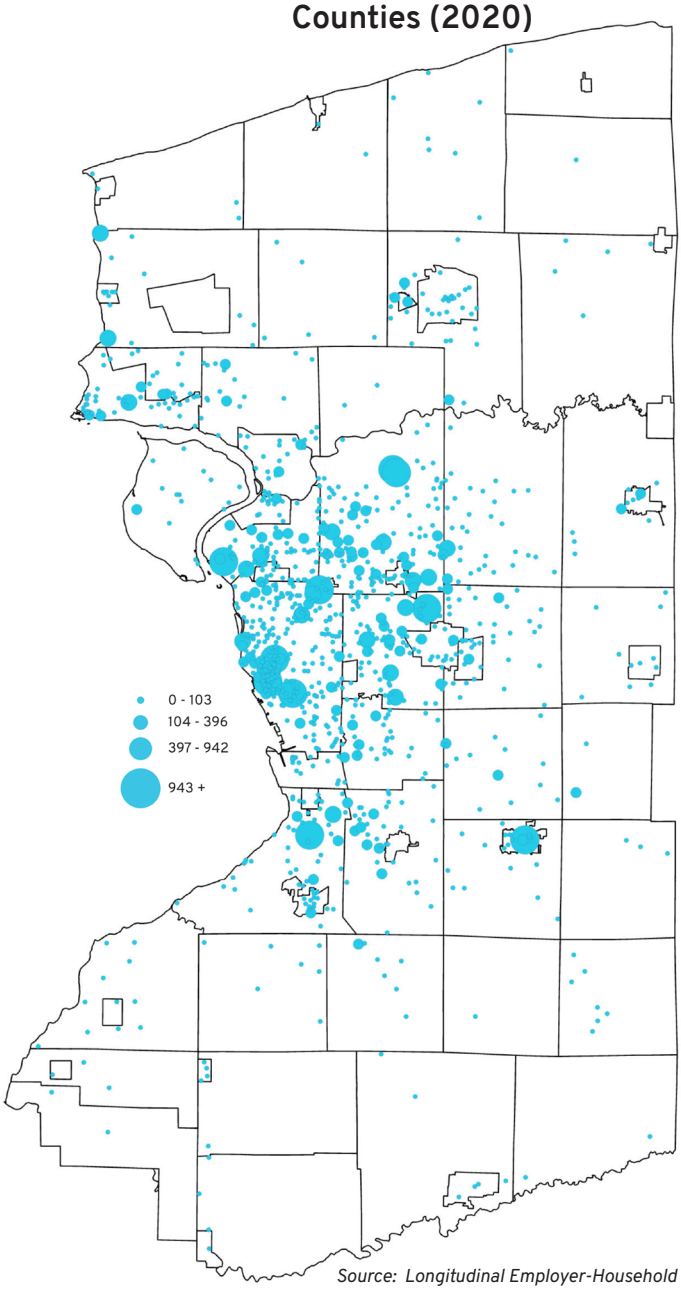
While the pandemic has allowed some jobs to be performed remotely, still many workers continue to commute to work daily.

In recent years, the region has seen private sector job growth, however, these jobs are often difficult to reach without an automobile.

For those who do not own a car, either by choice or for other reasons, access can be limited. There are a growing number of households, including those without a car, living in auto-dependent places where vehicles are necessary to get to most jobs and services.

Our transportation system needs to ensure that today's workers have access to this emerging employment centers, along with those that already exist, via multiple, reliable modes. Our system also needs to keep goods and services flowing to, from and throughout our region, while helping to attract new workers and businesses to keep our economy growing.

Figure 2.4 | Concentration of Private Sector Jobs in Erie and Niagara Counties (2020)



Source: Longitudinal Employer-Household Dynamics (LEHD), (2019)

Our region's economic development strategy focuses on priority sectors to support economic prosperity.

Our region continues to invest in a diverse range of industries to build off of local strengths and make us competitive in a global economy. To support the work of the WNY Economic Development Council, our transportation system must ensure that businesses have access to the transportation services they need in the places they are needed most.

Advanced Manufacturing

Advanced manufacturing remains a key driver of the WNY economy, but the sector faces retirement cliffs and hiring gaps. In a recent survey of WNY businesses, 16% of employers said people not interested in the type of work made positions difficult to fill, pointing to a major need for awareness and training in the skilled trades.

Agriculture

Agriculture is a small, but critical industry to future regional prosperity. Agriculture is the heart of the economy in rural communities across WNY that drives job growth in related sectors like tourism and logistics. Retirements, limited wages, and the loss of agricultural land challenge the sector and may signal a need for workforce development.

Health and Life Sciences

Health and Life Sciences is a diverse and sizable sector of the economy. Health care workers, like nurses, are some of the most in-demand and hard to fill positions in WNY, based on recent job postings and a DOL survey of businesses.

Tech

Technology drives today's economy. Tech is cross- cutting, as tech workers and tech skills are needed by employers across every sector. Tech jobs offer higher-paying opportunities for workers and the potential for significant economic growth for the region.

Tourism

Tourism is a key driver of the region's economy that brings new dollars in the economy through visitor spending.

Source: Regional Economic Develop Council (REDC), Progress Report 2022.

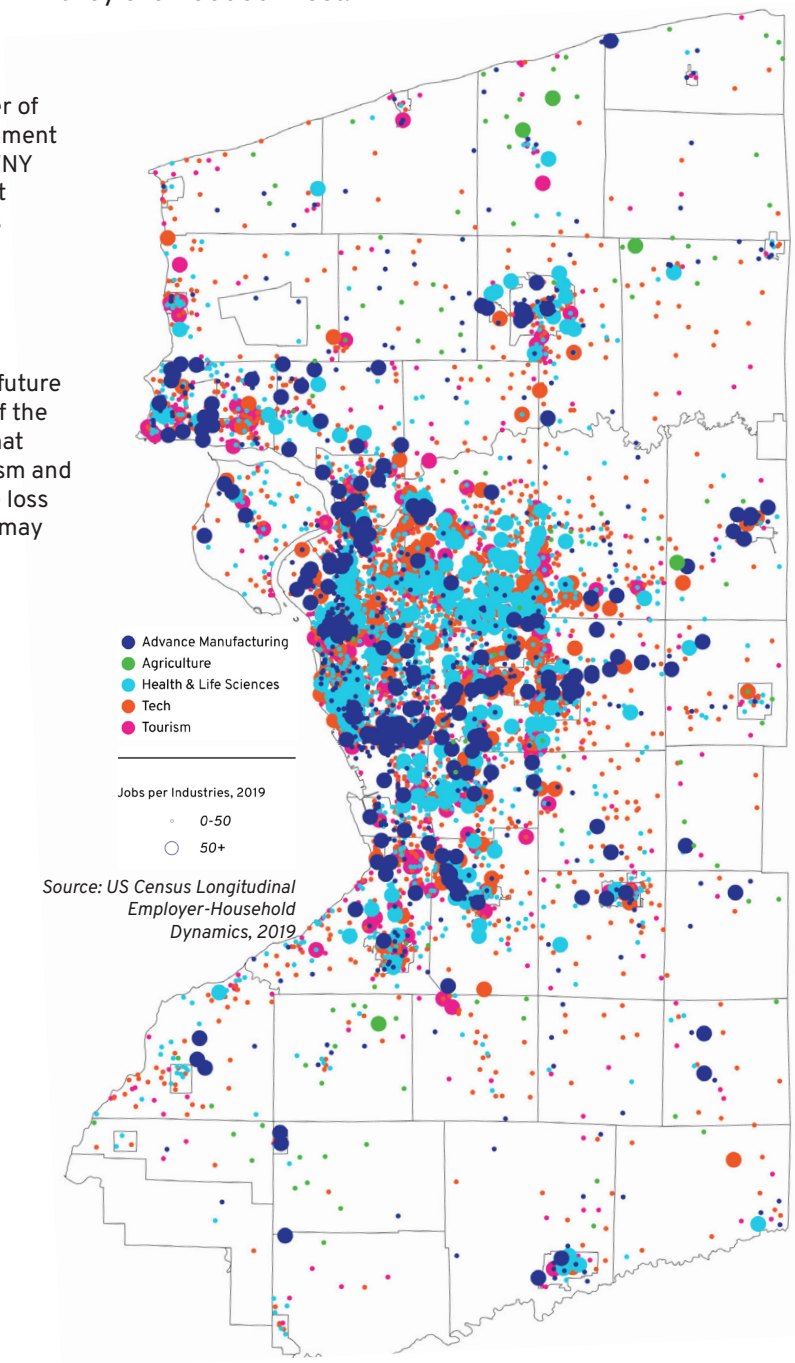
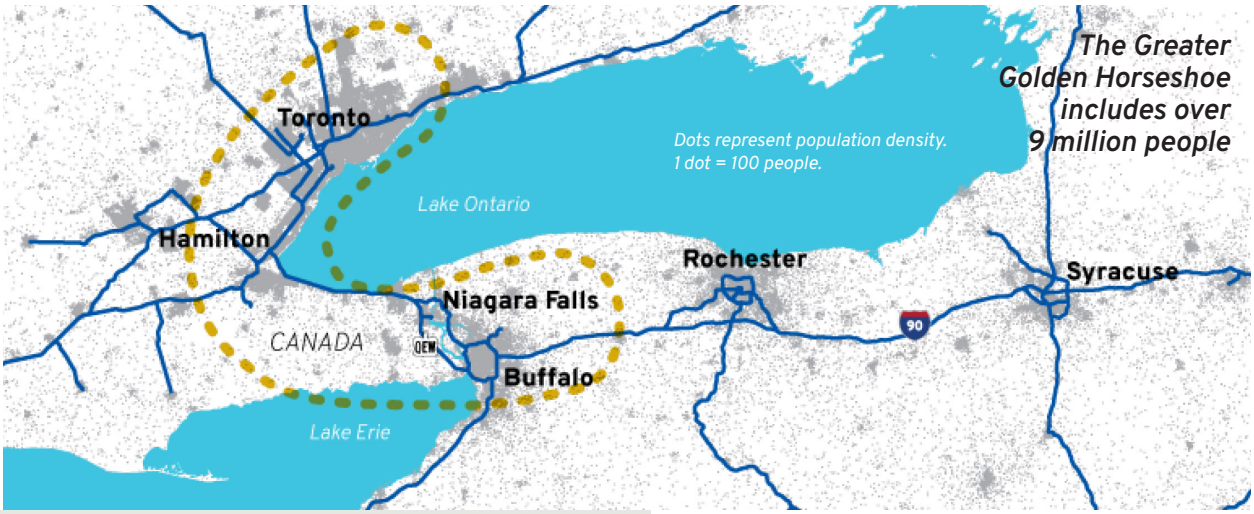
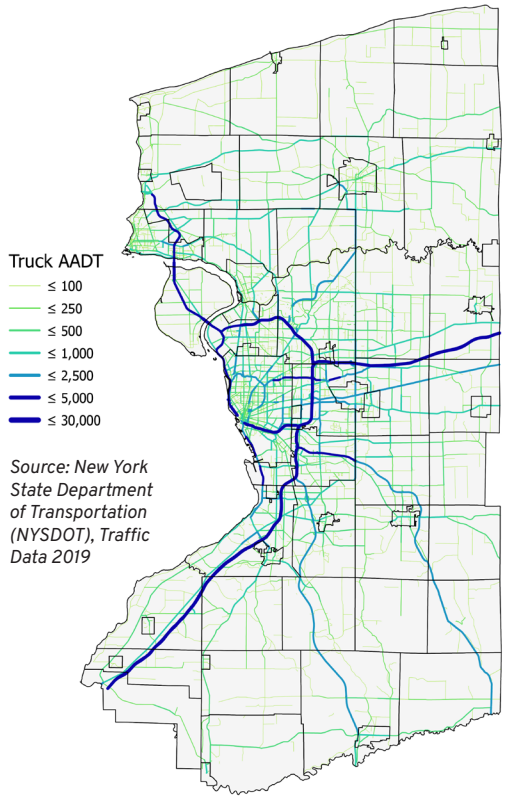


Figure 2.5 | Major Economic Sectors



An international gateway, the Buffalo Niagara region is the second largest port of entry on the U.S.-Canadian border.

Figure 2.6 | Regional Truck Annual Average Daily Traffic



Source: New York State Department of Transportation (NYSDOT), Traffic Data 2019

Prior to the Covid-19 pandemic, nearly 2 million commercial trucks and 11.5 million vehicles crossed between the Buffalo Niagara region and Canada every year.

The Greater Golden Horseshoe (GGH) region that stretches around Lake Ontario and connects Toronto, Hamilton, Niagara Falls and Buffalo, represents one of the largest concentration of people in North America with a population of over 9 million.

Buffalo Niagara continues to serves as a critical link in this megaregion. Fifteen percent of the trade between Canada and the U.S. moves across the Niagara River, making it the second largest port of entry on the U.S.-Canada border. Ensuring quick, effective and secure movement of freight and travelers through the region and across the border is imperative to building a robust, dynamic economy in Buffalo Niagara. This requires enhanced cross-border coordination, embracing innovative technologies and adaptive transportation management systems.

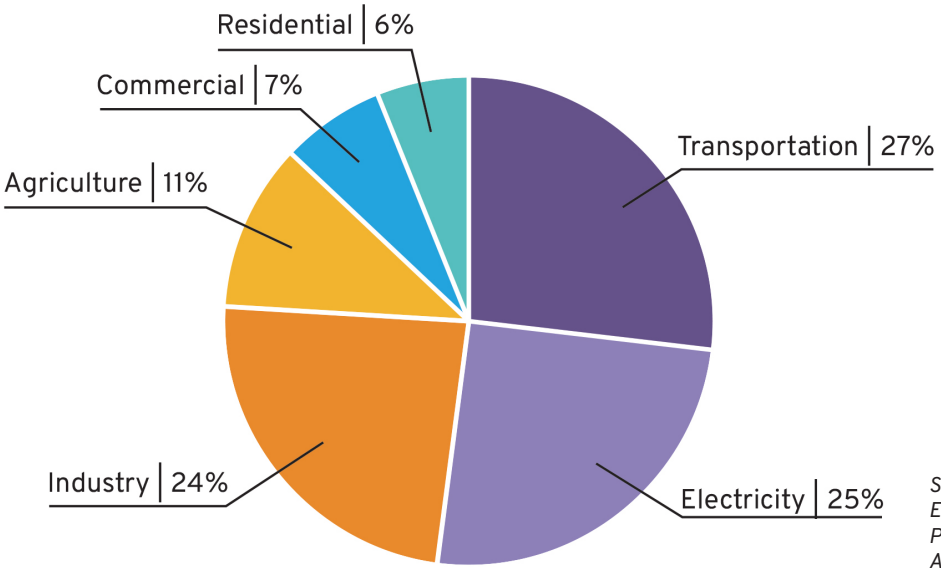
Our Environment

Greenhouse gas (GHG) emissions from transportation account for about 27 percent of total U.S. greenhouse gas emissions, making it the largest contributor of U.S. GHG emissions.

Between 1990 and 2020, GHG emissions in the transportation sector increased more than any other sector. Burning fossil fuels like gasoline and diesel releases carbon dioxide, a greenhouse gas, into the atmosphere. The buildup of carbon dioxide (CO2) and other greenhouse gases like methane (CH4), nitrous oxide (N2O), and hydrofluorocarbons (HFCs) is causing the Earth's atmosphere to warm, resulting in changes to the climate we are already starting to see today.
While transportation continues to contribute a large percentage of U.S. emissions, there are many opportunities for the sector to deliver greenhouse gas reductions. Low-carbon fuels, electric vehicles and other improved vehicle technologies, strategies to reduce the number of vehicle miles traveled, and operating vehicles more efficiently are all approaches to reducing greenhouse gases from transportation.

The greatest overall contributor to transportation GHG emissions is single occupancy vehicle use. According to the 2017 National Household Travel Survey, 87% of trips in the Buffalo Niagara region are made using private vehicles of which 44% are single occupancy. With recent population growth in the region for the first time in a few decades, this presents an opportunity to focus on building community resilience, promoting equity, and reducing GHG emissions through improvements in public transportation and land use.

Figure 2.7 | 2020 U.S. Greenhouse Gas Emissions by Sector



Source: Environmental Protection Agency (2020)

Future trends in public and multimodal transportation and land use will have transformative impacts on our environment, our health, and our quality of life. Expanding and improving transportation options, increasing affordability, and connectivity, and educating the population on transportation options available, will allow for improved air quality, more efficient use of land, and the creation of recreational, educational, and economic opportunities for all.

Creating an efficient, attractive, and affordable transportation system will promote increased utilization, reduce the use of highly polluting, car-focused modes of transportation, and ultimately, reduce GHG emissions, making it key to achieving an equitable and zero-emission transportation system.

Blue Economy

Our region is actively working to create economic revitalization through the restoration of the health and integrity of its freshwater system. This model is referred to as our "Blue Economy". Clean water is a vital asset and the value will increase as global climates change. Buffalo Niagara Waterkeeper has worked for 30 years to restore and revitalize our freshwater. With our partners, ready to lead the surge into a "blue economy," based on this invaluable natural asset.

The Niagara River flows between Lakes Erie and Ontario.
Source: Google Earth (2023)

Local Initiative to Climate Change

A number of local initiatives are underway to address the impact of climate change.

Climate Leadership and Community Protection Act (CLCPA)

New York's Climate Scoping Plan is the framework for how New York will reduce greenhouse gas emissions and achieve net-zero emissions, increase renewable energy use, and ensure all communities equitably benefit in the clean energy transition. The MTP aligns with the transportation strategies in New York's Climate Scoping Plan and Erie County's Climate Action Plan (see below) to promote smart growth and efforts to reduce GHGs.

Climate Smart Communities (CSC)

Climate Smart Communities (CSC) is a New York State program that supports local governments in leading their communities to reduce greenhouse gas emissions, adapt to the effects of climate change, and thrive in a green economy. Erie County has achieved a Silver Certification, currently the highest level, in New York State's Climate Smart Communities program by demonstrating the extensive work being done across the county to reduce greenhouse gas emissions and prepare for the changing climate. The City of Buffalo received is bronze-level Climate Smart Community certification.

Clean Energy Communities (CEC)

The Clean Energy Communities (CEC) program promotes ten "High Impact Actions" to help local communities reduce energy costs, create jobs, and improve the environment. When a community completes at least four actions, it becomes designated by New York State Energy Research and Development Authority (NYSERDA) as a "Clean Energy Community."

Erie County Climate Action Plan

Erie County Climate Action is Erie County's green initiative to develop an equity-centered Community Climate Action Plan, to identify actions we can take to reduce greenhouse gas emissions, and help the community adapt to our changing climate.

NFTA Clean Fuels

NFTA's Clean Fuels program supports emerging clean fuel and advanced propulsion technologies for transit buses and markets for those technologies. Twenty five percent of the NFTA bus fleet is expected to be electric by 2025 and 100% over the next decade.

Environmental Mitigation

Transportation infrastructure has a large footprint in the Buffalo Niagara region, and can be either beneficial or harmful to the natural environment. GBNRTC is committed as an organization to leveraging funding for transportation system preservation and enhancement to avoiding, and where necessary mitigating, environmental impacts.

Environmental mitigation is incorporated throughout the transportation planning processes undertaken by GBNRTC and partner agencies in the Buffalo Niagara region. Public engagement and expert evaluation serve to identify potential environmental impacts early in the project-development process, minimizing the potential for unnecessary delays and cost-escalation.

The nature of environmental-mitigation activities that may be undertaken for the projects in this Plan's fiscally constrained project listing varies across the different project types.

In some cases, GBNRTC and partners are investing in projects that are motivated by the goal of undoing decades-old environmental harm, such as the project to reconnect the neighborhoods severed by the depressed section of the Kensington Expressway and re-establish the green space originally provided by the Humboldt Parkway. Likewise, GBNRTC's support for zero-emission forms of transportation (e.g. enhancing the walking and cycling networks) will also have positive impacts environmental impacts in the region.

For other projects, environmental mitigation activities are likely to include stormwater management activities, such as highway projects that impact how much area is covered by pavement that is impervious to water and where it is located. Examples are likely to include incorporating bioswales into both large projects (e.g. redesign of interchanges on the freeway network) and smaller ones (e.g. Complete Streets projects on arterial streets). In all cases, construction using funding through GBNRTC will use state-of-the-art measures to minimize environmental impacts during construction, such as sediment fences.
GBNRTC will continue deepening its understanding of how the changing climate will affect the region's transportation infrastructure, and take action where warranted. The Project Listing, for instance, contains Bridge/Culvert Improvements that will upgrade existing structures to accommodate heavier water flows, to mitigate flooding.

Finally, GBNRTC will take actions to support the electrification of the region's vehicles, both private fleets and the hundreds of thousands of automobiles owned by the public. This transformation of the energy used in the region's transportation system will contribute to achieving NYS and national objectives to reduce climate-changing emissions.

The transportation agencies of the Buffalo Niagara region are committed to enhancing the resilience of the region's transportation infrastructure to natural disasters. The transportation system also plays a key role in other aspects of hazard mitigation, including providing corridors for public evacuation and helping emergency-service assets reach the locations in which they are needed.

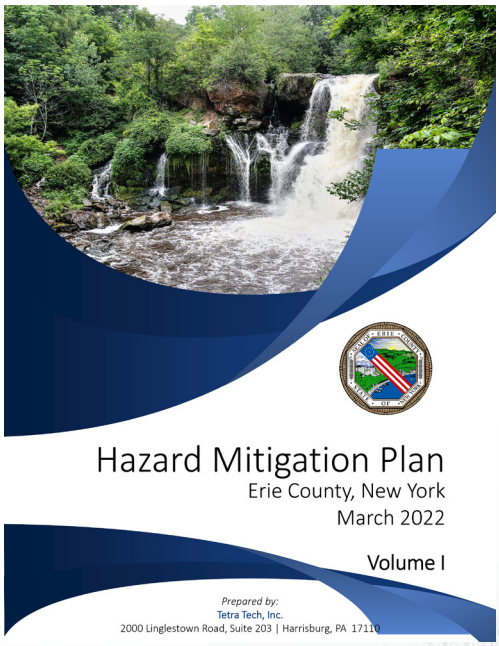
Natural Disaster Risk Reduction

Both Erie[1] and Niagara[2] counties have adopted Hazard Mitigation Plans; some of the key types of natural hazards identified as relevant to the region include:

- Coastal Erosion
- Earthquakes
- Expansive Soils
- Extreme Temperatures
- Flooding
- Landslides
- Pandemics
- Severe Storms
- Wind damage

The risk of damaging flooding in the region is exacerbated by climate change – GBNRTC's member agencies therefore take increased hydraulic loadings into risk in designing bridges and culverts.

Additionally, compared to many US regions, Lake Effect snows present routine wintertime hazards that threaten lives and property, as well as core social and economic activities. The region's transportation agencies incorporate the need for routine clearing of large snow volumes into project planning, as well as system maintenance/operations. GBNRTC's overriding principle with respect to natural hazards is to incorporate risk-reduction into all aspects of its transportation planning activities.



Erie County's Hazard Mitigation Plan (2022).

1. https://www3.erie.gov/dhses/hazmit
2. https://niagara.mitigateny.org/

Photo by Tom Fisk (www.pexels.com)

Our Transportation System

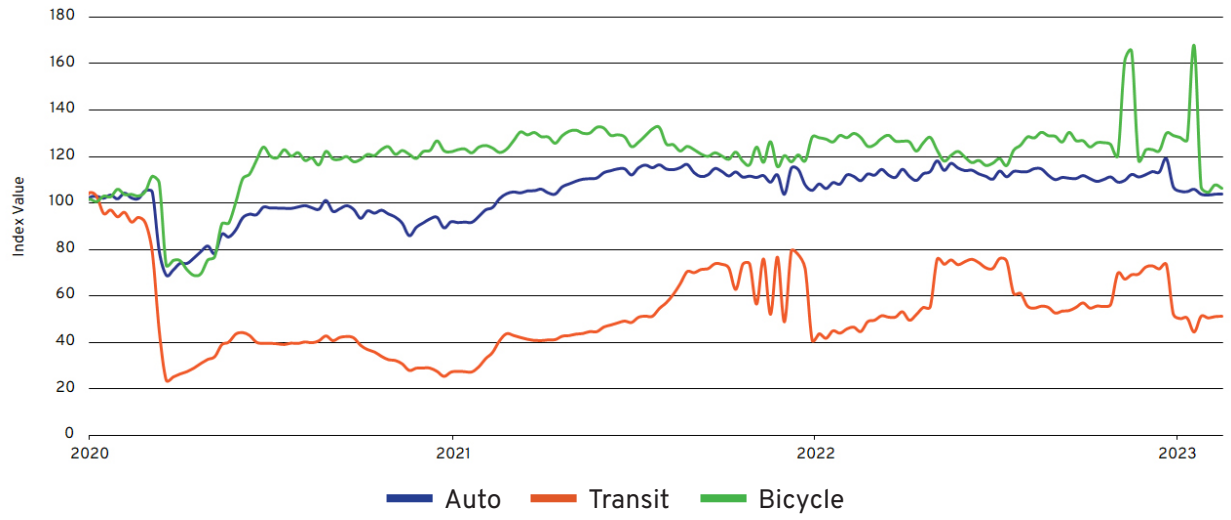
Our transportation system ties our communities together and connects our region with the nation and the world.

Like all US regions, Covid-19 hit the Buffalo Niagara region hard both in terms of direct medical impact and associated disruption to social and economic activities. Many schools and businesses were closed for extended periods, and there was a step-change in "virtual" activities including shopping and work-from-home (for certain types of workers). In order to serve growing consumer demand for online shopping, the region has seen growth in the warehousing and logistics sector, and in the number of delivery vehicles on the road.

The region's recovery from Covid-era lockdowns is well underway, as can be seen in new "Big Data" resources now being used by GBNRTC to monitor travel in the region. Along with the GBNRTC's peer metropolitan planning organizations across all of New York State, GBNRTC has access to data from the Replica provider which is generated in part from passively collected and anonymized location-based services (LBS) data from people's smartphones and other electronic devices.

Among other possibilities, Replica data allows GBNRTC to track the impact over time of Covid-19 and the region's recovery. The chart below (Figure 2.8) shows the time-trend in travel by automobile, transit, and cycling in the region starting at the onset of the Covid-19 lockdowns in March 2020.

Figure 2.8 | Indexed Trips by Three Modes: Auto, Transit, & Bicycles (2020-2023)



Source: Replica data for Erie and Niagara Counties (2019-2023)

Cycling experienced something of a 'boom' nationally – and by Summer 2020 bicycling in the Buffalo Niagara region had increased to pass its pre-pandemic level (and remains higher some 3 years later). For automobile travel, pre-pandemic traffic levels were first exceeded in early 2021, roughly a year after the first Covid-19 wave. However, traditional commuting patterns have been impacted, and the "where" and "when" of traffic patterns are now different.

Unlike cycling and car travel, transit ridership has trended upwards much more slowly and remains below the levels of the pre-pandemic era. Similar findings have been reported by transit agencies nationally, and efforts are underway to determine how this pattern can be reversed, particularly given the challenge of covid-era emergency federal funding assistance coming to an end.

GBNRTC will continue to engage with Replica and other data providers to ensure that the best-available data resources are brought to bear on the region's transportation planning efforts.

Roads and Highways

Strengthening our network of roads, bikeways, greenway trails, rail lines, airports and more can move us towards a future aligned with our regional vision. This section provides an overview of the components of Buffalo Niagara's transportation system—the infrastructure we have and its' condition. This broad understanding of transportation infrastructure, programs and performance is critical in making effective plans for the future of our transportation system.

The Buffalo Niagara region is connected by over 7,800 miles of roads and highways that make up the backbone of our transportation system. The region's roadways are comprised of both the National Highway System, which includes interstates, expressways, and major state routes, and local roads which are operated by counties, cities, and towns.

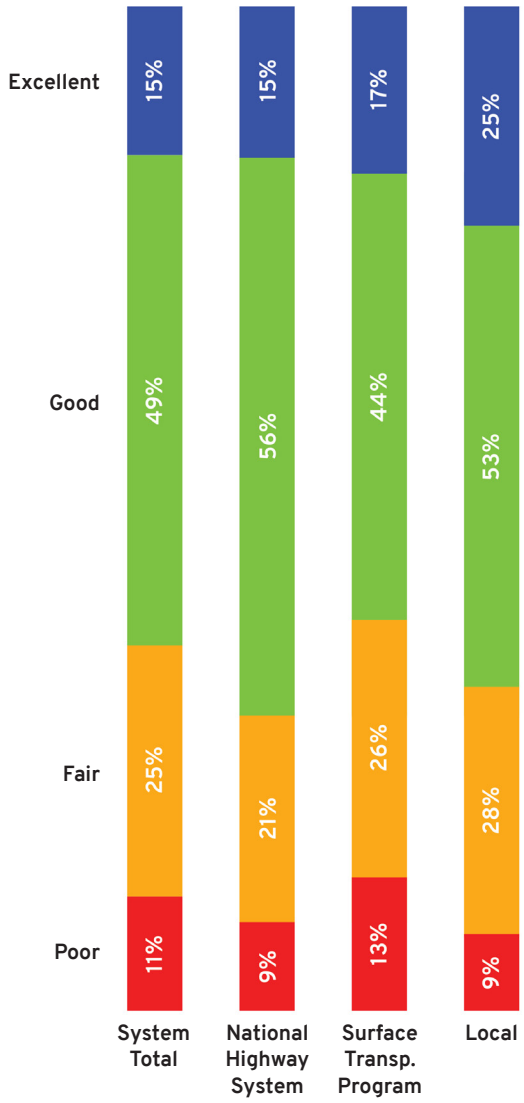
During the pandemic, the region saw a significant drop in traffic volumes as unemployment and telecommuting increased. People were using public transportation less and more private cars during pandemic. Shifts to active modes such as walking or bicycling were significant as people placed more priority on pandemic related factors when choosing how to travel.

The Buffalo Niagara Region has seen much correlation with the rest of the United States after 2020, where Average Annual Daily Traffic (AADT) and Vehicle Miles Traveled (VMT) are now currently reflective of what was recorded during pre-covid conditions. That being said, the daily peak spreading phenomena is still occurring, and prevalent on all types of facilities throughout the region. AM & PM peak travel windows have broadened, with mid-day peaks now competing with morning and evening commute volumes. The increase in flexible work schedules and work-from-home opportunities has led to an increase in shorter mid-day trips, that may have occurred before or after the work day in pre-pandemic travel. Although daily traffic patterns seem to have been altered for the foreseeable future, it is yet to be determined if daily traffic volumes will continue to climb beyond pre-pandemic thresholds in the years to come.

The condition of our roads and highways are improving but many still need repair.

As roadways age, pavement conditions deteriorate. Pavement condition ratings are based upon visual scoring procedures developed and used by the New York State Department of Transportation (NYSDOT).

Figure 2.9 | Surface Conditions of Buffalo Niagara Roadways by Funding Source (2021)



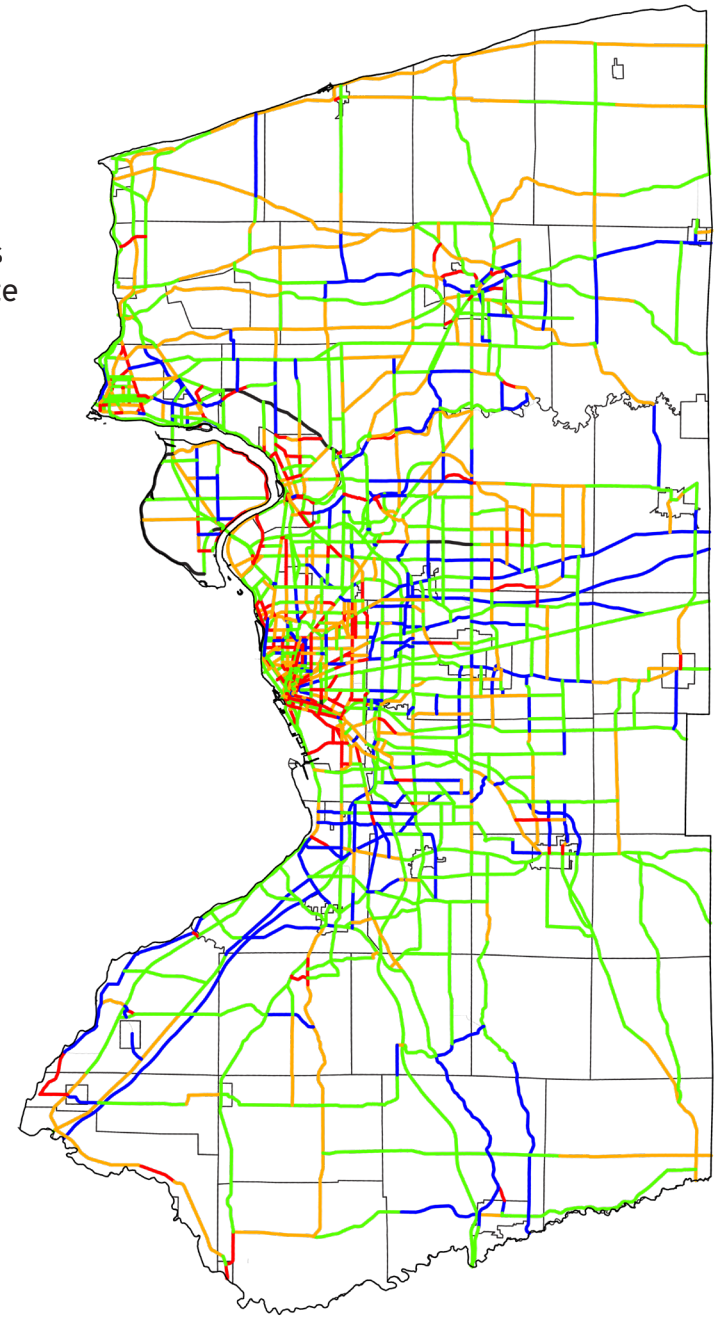


Figure 2.10 | Surface Scores on Roadways Eligible for Federal Aid (2020-2021)

- 1 - 5 *Poor*
- 6 *Fair*
- 7 - 8 *Good*
- 9 - 10 *Excellent*
- Under Construction / Not Rated

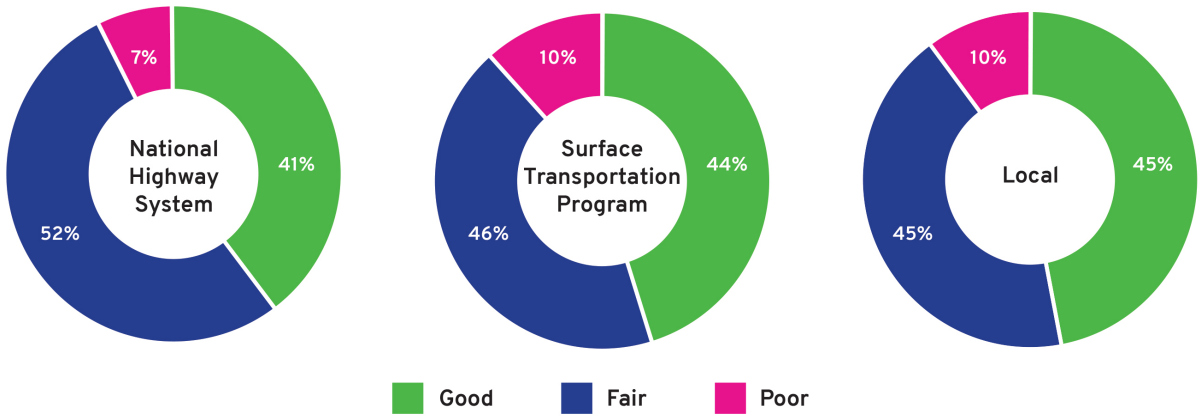
Source: GBNRTC and NYSDOT (2020-2021)

Bridges

Our region's bridges form key links in the roadway and highway system, providing access to employment, agricultural areas, schools, shopping and medical facilities, and facilitating commerce and access for emergency vehicles. There are 1,157 bridges located in Erie and Niagara Counties. Most bridges in our region remain in good or fair condition, but many need to be improved.

Around 10 percent of bridges in our region are rated in poor/ structurally deficient condition.

Figure 2.11 | Bridge Conditions in Buffalo Niagara (2021)



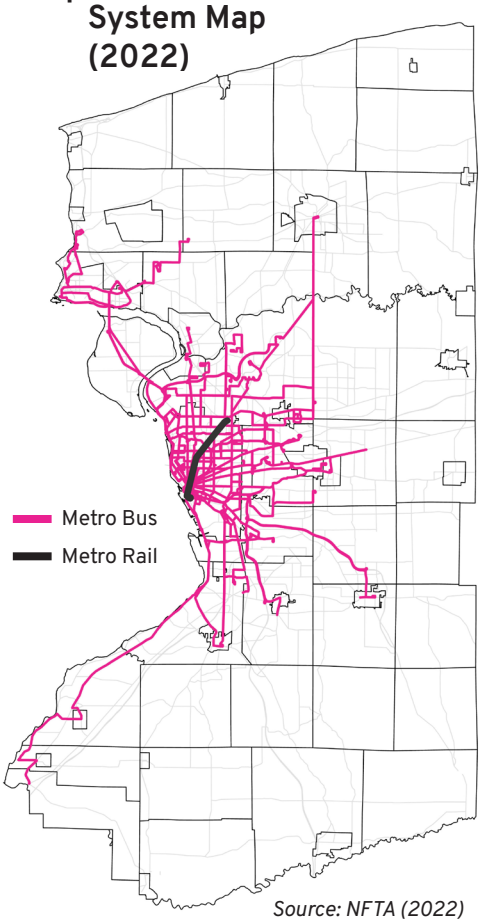
Source: National Bridge Inventory (NBI), 2022.

A bridge is rated poor/ structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid weight-restricted bridges. Redirected trips can also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

Public Transportation

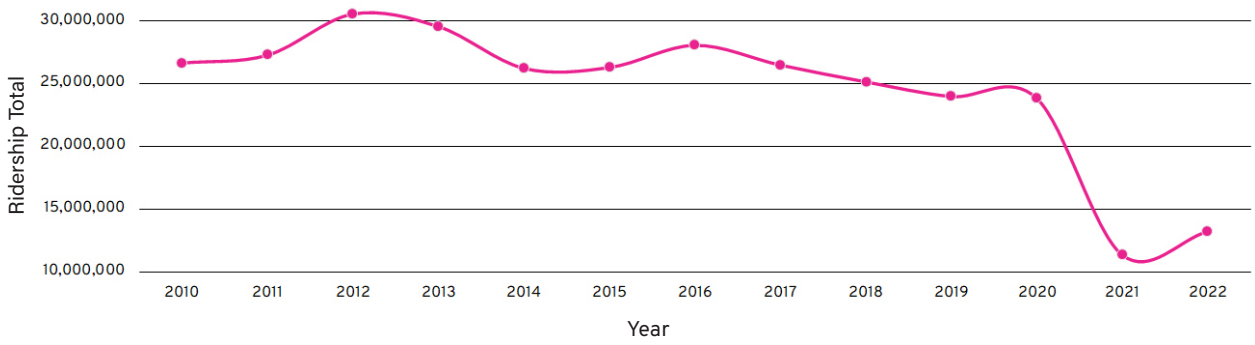
The Niagara Frontier Transportation Authority (NFTA) operates the public transit system linking Erie and Niagara counties. The system has over 60 bus routes covering cities and suburbs, and the Metro Rail runs six miles along Main Street in Buffalo. Most routes in the City of Buffalo offer frequent service during peak travel hours, but wait times are higher in suburbs where lower density and demand limits the financial feasibility of running buses frequently. NFTA also provides curb-to-curb paratransit services for passengers with disabilities. Other providers offer public transportation to and from rural areas and nearby counties, like the Seneca Transit System, Rural Niagara Transportation and Coach USA.

Figure 2.12 | NFTA Metro System Map (2022)



Source: NFTA (2022)

Figure 2.13 | NFTA System Ridership (2010-2022)



Source: NFTA (2022)

Like other transit systems around the county, the Covid-19 pandemic has had a significant impact on public transit ridership in our region.

While NFTA Metro Bus and Rail serves Erie and Niagara Counties, there are other bus transit providers in Western New York that are available to all residents.

Rural Niagara Transportation

Rural Niagara Public Transportation provides bus service to rural areas of Niagara County.

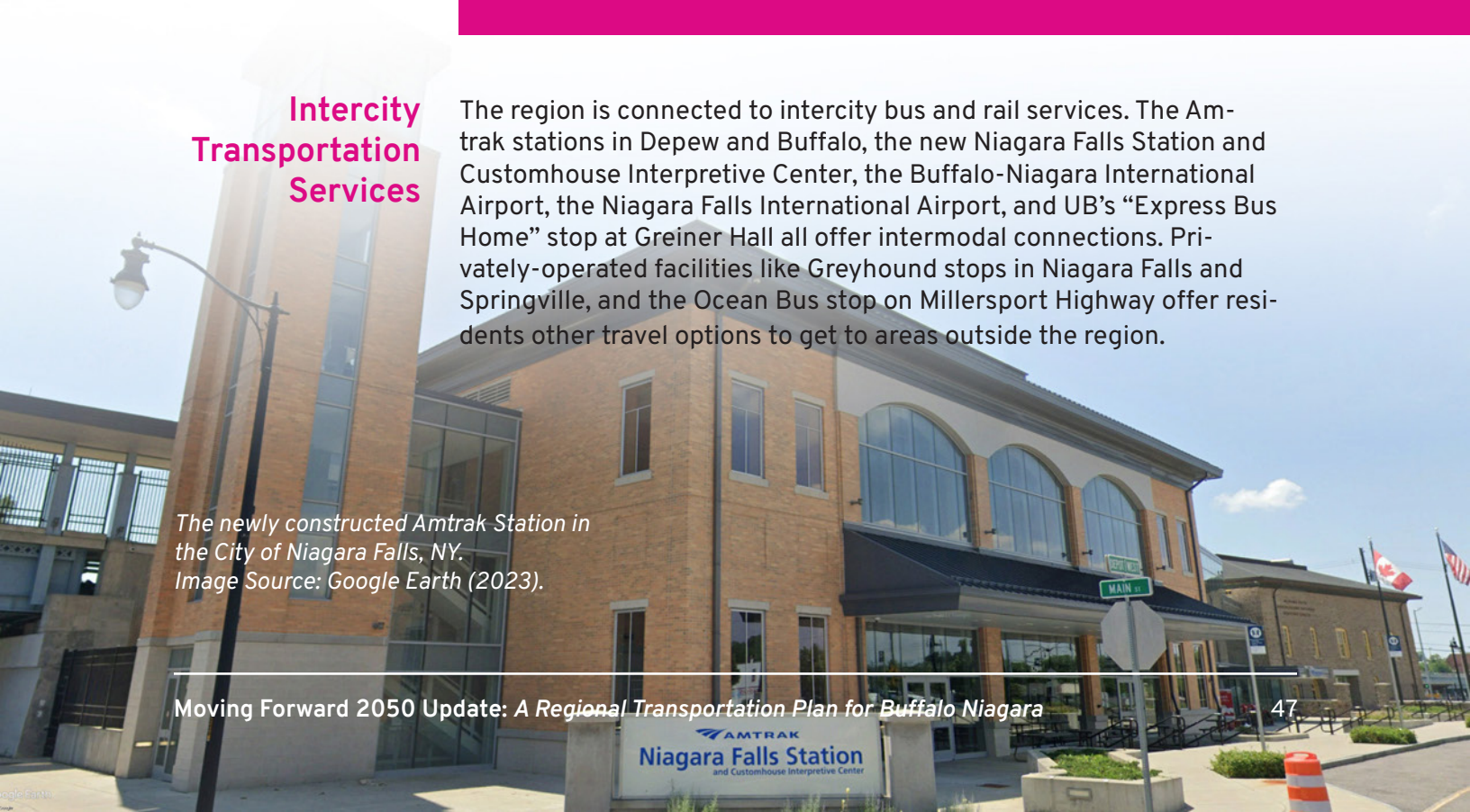
Seneca Transit System (STS)

The Seneca Transit System (STS) is a public bus service that provides transportation for all area residents on the Allegany and Cattaraugus Territories and surrounding communities of Western New York. STS provides public transportation to Nation members as well as residents and visitors to the Territories, surrounding communities and the general public.

The Seneca Nation was selected to receive a federal grant of $7,625,000 through the highly competitive Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program. The grant will fund the construction of the Southern Tier Regional Transit Hub, a state-of-the-art, transit facility comprised of a combined transit hub and bus storage facility on the nation's Cattaraugus Territory. Operated by the Seneca Nation Department of Transportation and Seneca Transit System, the facility will increase accessibility, streamline bus services and fuel economic growth across the region.

Intercity Transportation Services

The region is connected to intercity bus and rail services. The Amtrak stations in Depew and Buffalo, the new Niagara Falls Station and Customhouse Interpretive Center, the Buffalo-Niagara International Airport, the Niagara Falls International Airport, and UB's "Express Bus Home" stop at Greiner Hall all offer intermodal connections. Privately-operated facilities like Greyhound stops in Niagara Falls and Springville, and the Ocean Bus stop on Millersport Highway offer residents other travel options to get to areas outside the region.



The newly constructed Amtrak Station in the City of Niagara Falls, NY. Image Source: Google Earth (2023).

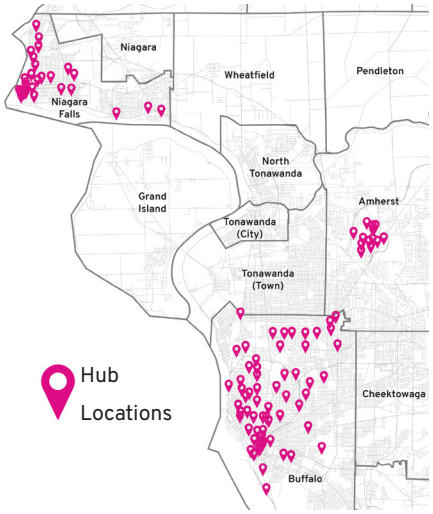
Ride Hail Services

Throughout the Buffalo Niagara Region, Transportation Network Companies (TNC's) like Uber and Lyft have expanded transportation options for residents and visitors.

Reddy Bikeshare

Reddy Bikeshare provides members with access to bicycles that are conveniently located throughout the City of Buffalo and at major college campuses around the city.

Figure 2.14 | Reddy Bikeshare Hub Locations

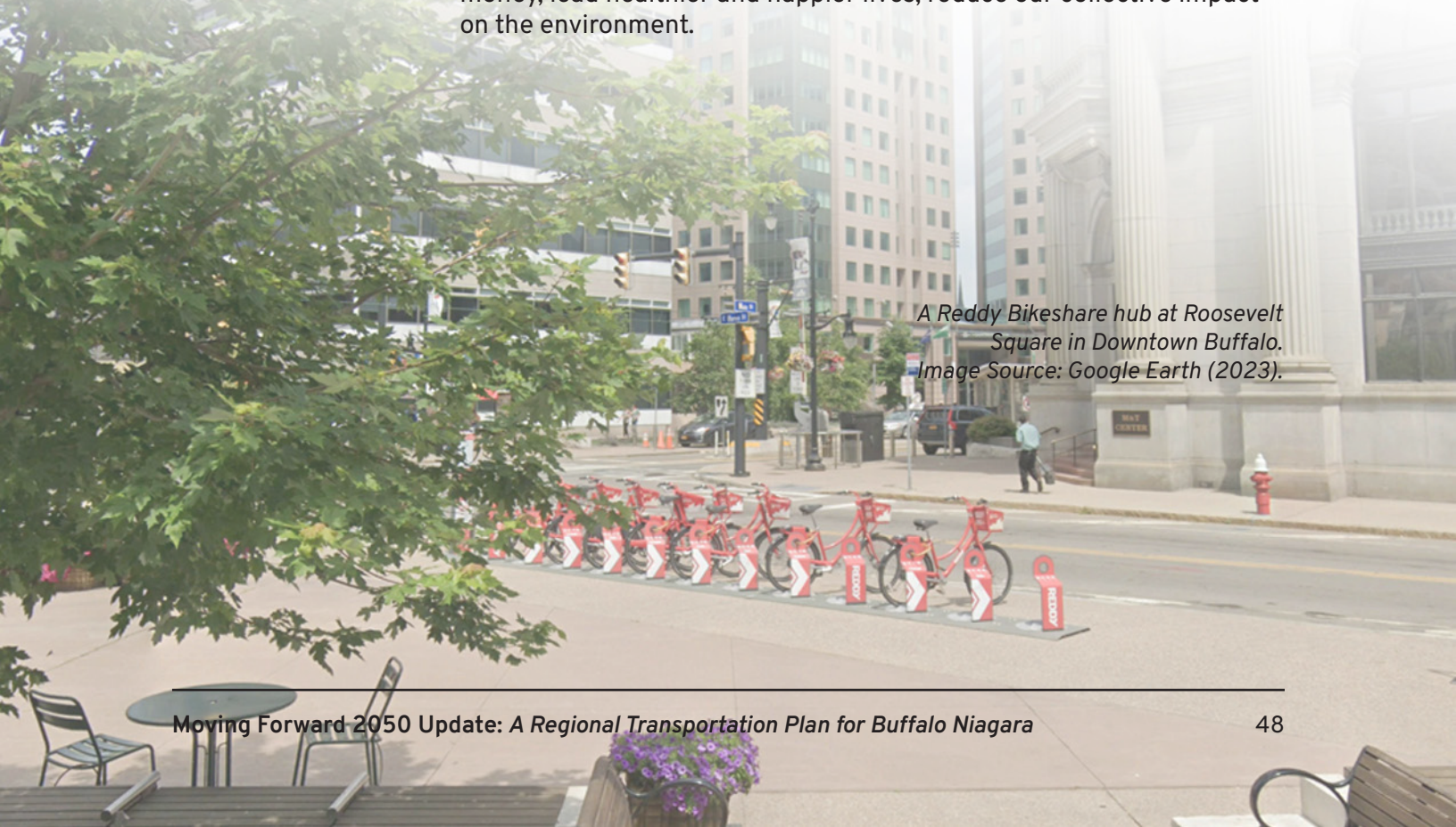


Source: Reddy Bikeshare (2022)

Go Buffalo Niagara

Go Buffalo Niagara works with commuters, employers, and property owners to promote sustainable transportation choices. As a close partner of the GBNRTC, the Buffalo Niagara Medical Campus (BNMC, Inc.), the NFTA, and 511NY Rideshare.

GO Buffalo Niagara provides free resources, tools, and rewards that help commuters in Erie and Niagara counties discover and switch to sustainable transportation such as walking, biking, public transit, carpooling, and other modes to help individuals and businesses save money, lead healthier and happier lives, reduce our collective impact on the environment.



A Reddy Bikeshare hub at Roosevelt Square in Downtown Buffalo. Image Source: Google Earth (2023).

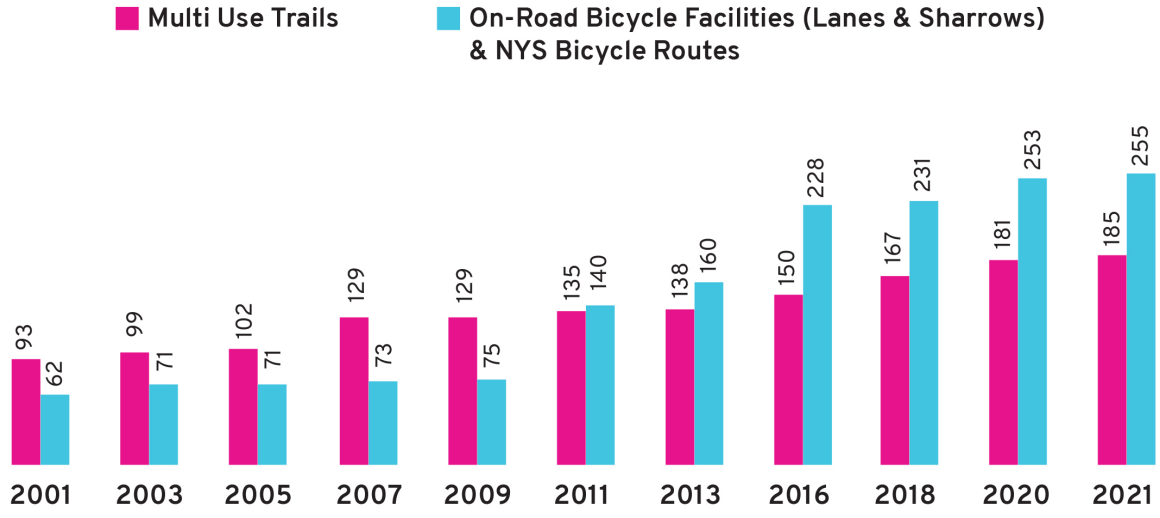
Bicycle and Pedestrian Infrastructure

A portion of the Greenway Upper River Trail in the City of Tonawanda, NY. Photo by GBNRTC (2022).

The network of bicycle infrastructure continues to grow in the Buffalo Niagara region as the total miles of bike lanes, routes and greenway trails nearly tripled since 2001. In recent years, our region has seen the development of the City of Buffalo's and City of Niagara Fall's Bicycle Master Plans, upgrades and gap closures to the Shoreline Trail, construction of the Tonawanda Rails to Trails project and the Empire State Trail. In addition, a number of municipalities throughout the region are interested in adopting complete streets policies in support of bicycle and pedestrian transportation.

Current projects on the GBNRTC TIP include the Wheatfield Scenic Byway, Niagara Falls Connection Trail and the City of Buffalo Complete Streets efforts.

Figure 2.15 | Miles of Bikeways in Erie and Niagara Counties (2001-2021)



Source: Greater Buffalo Niagara Regional Transportation Council (GBNRTC)

A high priority for the Regional Bicycle Network development is to fill gaps in the Greenway Trail Network.

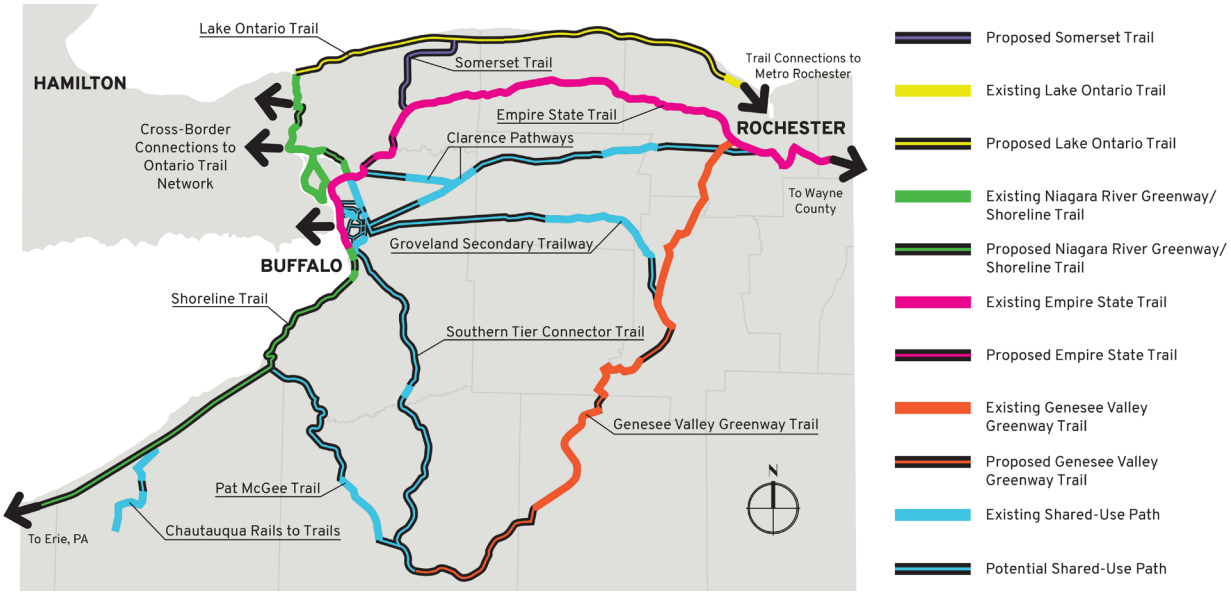


Figure 2.16 | Western New York Trail Network

The Buffalo Niagara Region has a number of local and regional trails that offer tremendous opportunities for bicycle commuting, utility trips and for recreation.

With a blueprint from Bike Buffalo Niagara, the Regional Bicycle Master Plan, the region is working to expand our bicycle network and connect the existing greenway trail system through the work of the Regional Trail Coalition and its partners. The Coalition currently comprises of governmental, nonprofit, regional park authorities, and private foundations committed to the development of the Buffalo Niagara Greenway Trail network. The role of the Coalition is to develop project priorities, advocate for new projects to deliver in a comprehensive approach and seek funding for projects and necessary partnerships for delivery.

Since adoption of the Regional Bicycle Master Plan, a number of studies and planning initiatives have been completed or are underway aimed at expanding our current network, closing critical gaps and improving the overall experience and safety for users. Examples of recent initiatives include East Side Trails, Lancaster Heritage Trail West, Southern Tier Trail, and The Riverline.

Current Coalition Membership

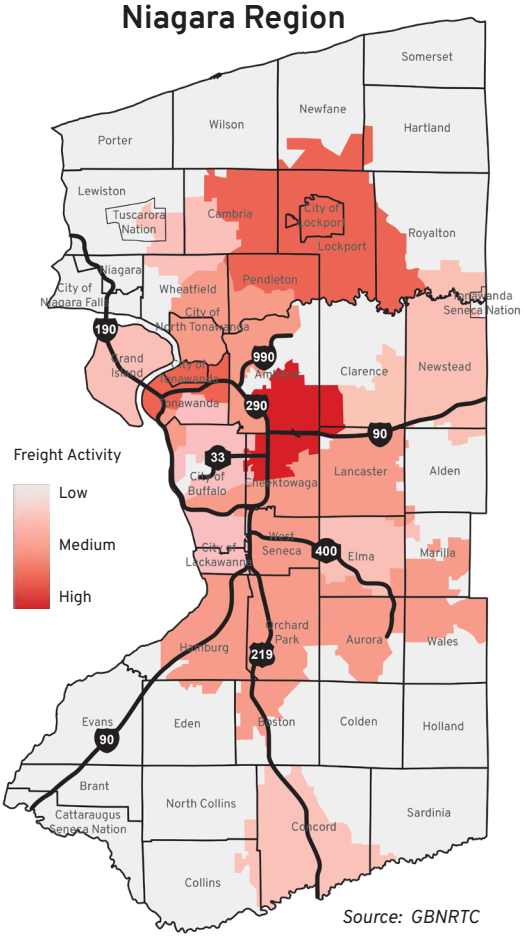
GBNRTC
City of Buffalo
City of Niagara Falls
NYSDOT
GObike Buffalo
Erie County
Niagara County
Community Foundation of Buffalo
Ralph Wilson Foundation
Western New York Land Conservancy
Buffalo Niagara Waterkeeper

Freight and Commerce

The Buffalo Niagara Regional Freight Plan, 2021 aims to promote the Buffalo Niagara Region as a premier bi-national hub for freight and logistics industries integrating "Green" or sustainable platforms and as an intermodal gateway for freight and goods traveling between the bi-national region and the Port Authority of New York/ New Jersey (PANYNJ) and other East Coast locations.

To help understand clusters of activity that are reflective of freight supply and demand in the region, available employment in key sectors that are generally associated with generating freight supply and demand were analyzed as part of the Buffalo Niagara Regional Freight Plan. These employment categories included agriculture, manufacturing, mining, retail, transportation, and warehousing/ wholesale, obtained through data generated by the U.S. Economic Census. The employment figures were used to generate a map that portrays general freight activity resulting from the supply and demand. The map helps identify areas where freight activity is generally highest and clusters of employment sectors that generate freight supply and demand in the region. The map to the right show that areas in Amherst and Williamsville experience the greatest freight supply and demand in the region. Areas in and around Lockport and in the industrial sections of the Town of Tonawanda also represent higher freight activity.

Figure 2.17 | Freight Activity in the Buffalo Niagara Region



Source: GBNRTC

The International Trade Gateway Organization (ITGO) is a collaborative initiative of the public, private, and academic sectors to create a globally known logistics center in the Buffalo Niagara region. ITGO has supported a number of freight infrastructure projects since its inception, such as the New York Gateway Connection Improvement Project and replacement of the Portageville Bridge in Livingston County that serves as a vital freight link to the region. Additionally, ITGO has established a strategic relationship with the Port Authority of New York and New Jersey (PANYNJ) to promote the Buffalo Niagara region as an "inland port" providing congestion relief and distribution capabilities. This led to a Memorandum of Understanding with PANYNJ to designate the region as a "strategic international gateway", creating a relationship based on joint marketing and sharing of resources and data.

Congestion Management

The majority of congestion on the Buffalo Niagara transportation network occurs on the facilities that comprise the GBNRTC Congestion Management Process (CMP) Network. Planning at the corridor level – either the full length of the facilities or a subset – allows for the identification of coordinated strategies that result in a synergy that can provide greater benefits than individual plans to address specific segments or intersections/interchanges.

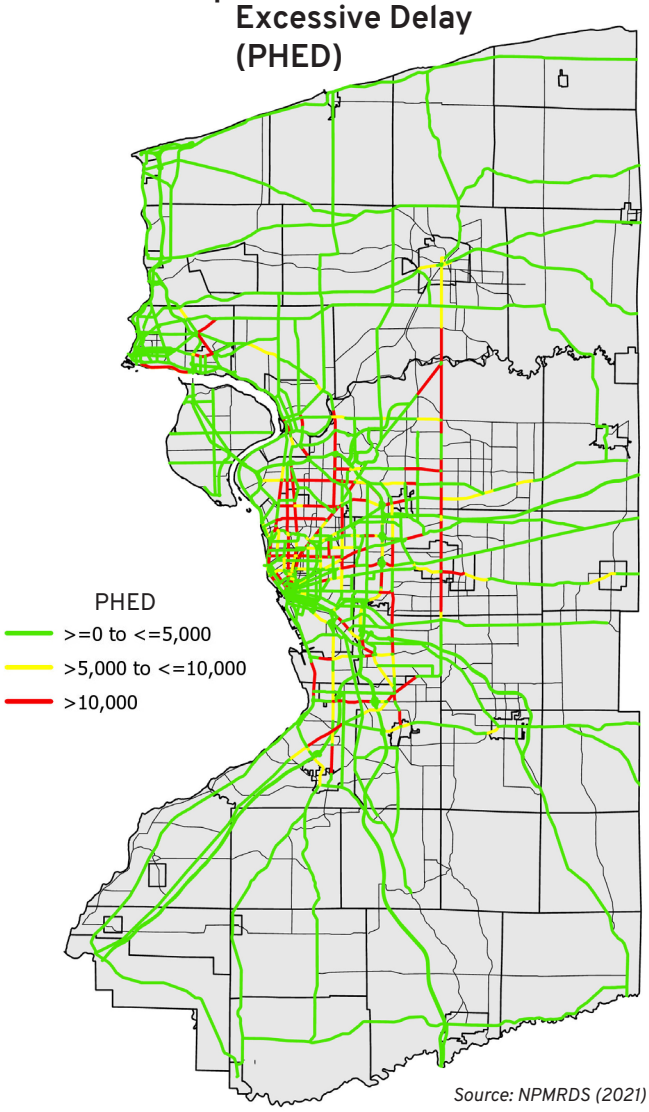
In 2021, GBNRTC updated its Congestion Management Process. The approved CMP is a systematic and regionally-accepted approach for managing congestion that identifies transportation system performance and assesses alternative strategies for congestion management meeting state and local needs.

The CMP looks at Management and Operations (M&O) and other strategies for managing congestion, focusing on developing objectives that drive performance-based planning for responding to congestion. The CMP is based upon objectives articulated in the metropolitan transportation plan (MTP). The CMP incorporates specific, measurable, agreed-upon, realistic, and time-bound objectives that reflect regional goals. The CMP feeds projects and strategies directly into the MTP and transportation improvement program (TIP).

Strategies include:

- Dynamic traveler information
- Incident detection and service patrol
- Ramp metering
- Variable speed limits and queue warning
- Variable toll pricing
- Signal coordination

Figure 2.18 | Person Hours of Excessive Delay (PHED)



Source: NPMRDS (2021)

Excessive delay means the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. The speed threshold is 20 miles per hour or 60 percent of the posted speed limit, whichever is greater.

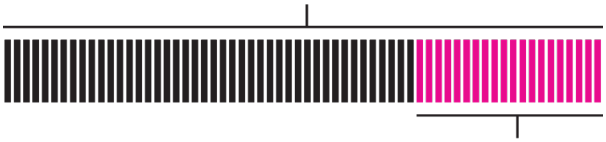
Safety

As we look to make our transportation system more efficient, safety remains a primary concern. Between 2018 and 2020, an average of 24,880 automobile-involved crashes were reported each year or 68 crashes per day in Erie and Niagara counties. These crashes result in an average of 8,293 injuries or deaths each year.

The GBNRTC successfully secured funds through the Safe Streets for All (SS4A) program for a planning grant to create a Comprehensive Regional Safety Action Plan. Once the plan is completed, the region will be eligible for future federal funding for infrastructure projects and programs that prevent roadway deaths and serious injuries.

Vehicle crashes result in thousands of injuries and fatalities every year.

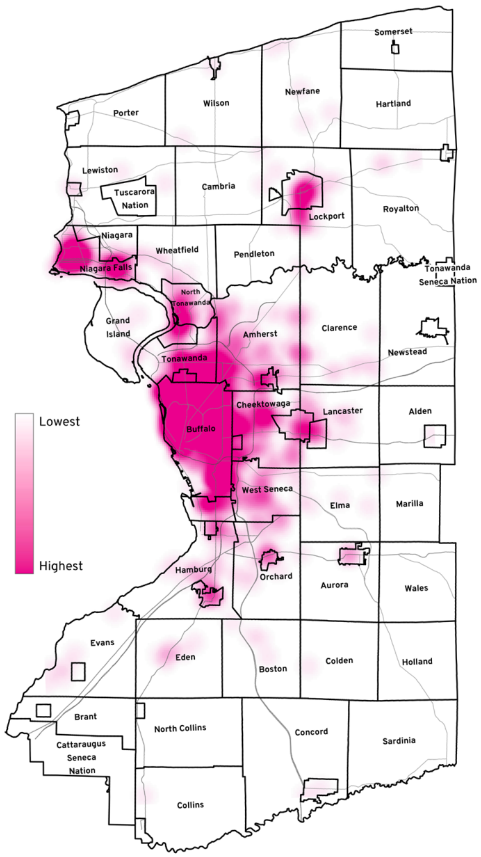
On average there are 68 crashes every day in our region...



of which 22 result in serious injury or fatality.

Every year, an average of 797 crashes involve bicycles or pedestrians, an average of 2.1 per day.

Figure 2.19 | Concentration of Crashes Involving Bicyclists (2021)



Source: New York State Department of Transportation (NYSDOT) Accident Location Information System (ALIS) and New York State Department of Motor Vehicles (DMV), Institute for Traffic Safety Management and Research (ITSMR).

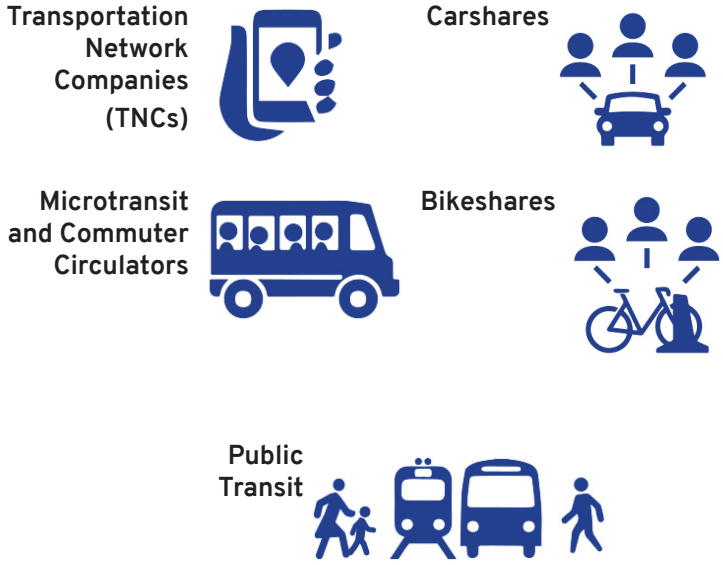
Innovation

The next generation of transportation will rely on technology to create an integrated and seamless transportation system that offers access to multiple transportation modes across various service providers. Anticipating and learning about new trends can help us harness emerging transportation technologies, data and services so we can make the most out of the evolution in transportation.

Transportation built on access, not ownership

Mobility as a Service (MaaS)

Provides a platform that treats transportation as a customizable, on-demand service with "à la carte" mobility, real-time travel information and smart payment systems across modes.



The new face of transit

To ensure equitable access to services, public subsidies will continue to be provided as transit providers look to partner with TNCs and other service options. Wheelchair accessible vehicles will be part of the available fleet of options.

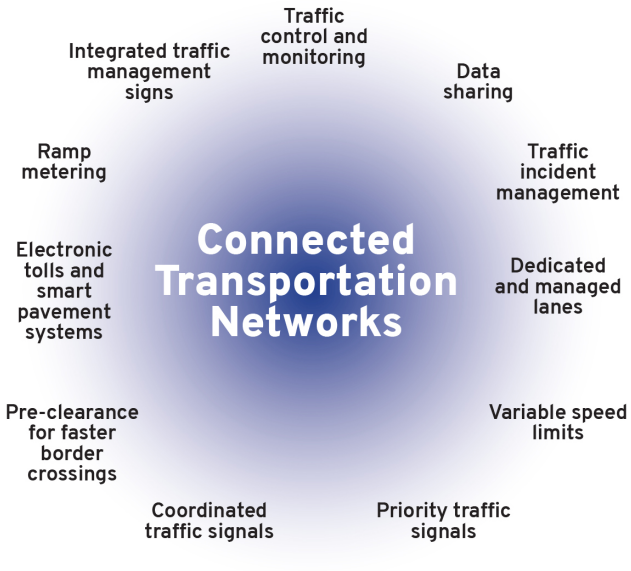
"Public transit" buses will focus on densely populated areas in the urban core and first-ring suburbs. Over time, buses could become autonomous.

Other services, like TNCs or microtransit, will integrate with the overall network and can provide services in less densely populated areas, and at times of the day when public transit is not running.

Data is the new infrastructure

"Person flow" traffic management technology

Technology will be used to make the movement of people and goods safer and more efficient through connected technologies and by upgrading infrastructure.



Mobility hubs

Mobility hubs conveniently connect all these services at one location.

Real-time travel information

- Kiosks, trip planners and message signs for real-time navigation
- Wi-fi access for on-demand trip planning on mobile devices

MaaS transportation options

- TNCs
- Bike shares
- Car shares
- Microtransit
- Public transit
- Smart parking

Mobility amenities

- Electric vehicle charging stations
- Bike repair stations
- Proximity to services, shops, restaurants and more

The future of vehicles

As the landscape of transportation services continues to evolve, carmakers are also changing the nature of the automobile by increasing the number of automated features, like parking assist, and moving toward electric, connected and driverless vehicles. These vehicle types are already evident, to some extent, but as these technologies continue to evolve and become more prevalent, the nature of our transportation system will have to embrace and plan for these changes to make the most of these new vehicle types.

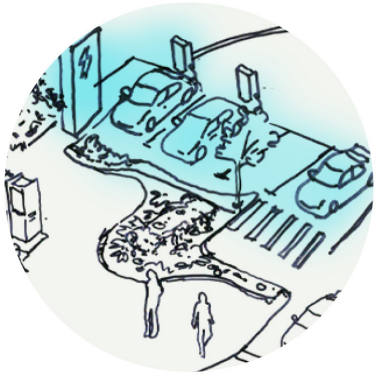
Automobiles of the future that may be owned or shared

Electric Vehicles (EVs)

Electric vehicles are a growing part of the current transportation system. From cars on our roadways to buses in the NFTA fleet, the Buffalo Niagara region is embracing this technology and planning for the infrastructure to support it.

Connected Vehicles (CVs)

Most vehicles manufactured today are connected to the Internet in ways that help keep drivers safe and comfortable. In the future CVs with vehicle-to-vehicle (V2V) communications will improve the safety and flow of people and goods.

Autonomous Vehicles (AVs)

AVs range from human-driven vehicles with automated safety features like many vehicles on the market today, to fully autonomous vehicles that are completely driverless. AVs include personal cars as well as driverless buses or shuttles, deliverybots and commercial trucks, which may travel together in AV truck platoons. All of these will be connected and most will be electric. Automated vehicles further improve the efficiency and safety of travel by using V2V and vehicle-to-infrastructure (V2I) communications technology.