

Appendix C

Mobility Data Review

MOBILITY

-Background Reports

-Data Summary

-Modal Maps

-Funding Summary

-Next Steps



**REGION
CENTRAL**

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Background Reports

Mobility Takeaways



*Reviewed over **40 Plans, Studies and Designs** to understand vehicle, freight, transit, and multimodal patterns, network connectivity, and mobility observations to date with focus on opportunities in Region Central and along the Expressway.*

From year 2000 through Present

Plans include comprehensive corridor analysis and design (from Main St to Rte 33), regional plans and programs, community visions, and adjacent neighborhood/corridor plans

Key Takeaways

There is no consensus on a recommended design for the Expressway

No plan recommends increasing or maintaining the existing roadway capacity

Several plans state that the Expressway is overbuilt for its current activity and purpose

There is not a clear understanding of the balance between the Expressway's importance as a regional connection relative to its localized disruptive impact to vehicle patterns & congestion, air quality, housing values, and accessibility

Mobility Takeaways



Background - Multimodal

Regional and neighborhood plans have become increasingly progressive and visionary

Community reinvestment, Sustainability, Quality of Life, Neighborhood re-connection

Multimodal connectivity is increasing and is codified in plans and being built on the street

Increasing multimodal demands (bicycle lanes, transit priority, parking, wider sidewalks) are being placed on intersecting streets

Auto-centric land use undermines adoption and investment in multimodal solutions

Mobility Takeaways



Background – Corridor Operations

Traffic Volumes (on the Expressway and in Buffalo) have not seen significant growth through the last 20 years

Recent reduction in travel speed has:

effectively reduced the capacity of and activity on the Expressway

shown little noticeable regional effect in travel patterns or volumes

provided nominal benefit to local connectivity or character

reduced vehicle crashes at major congestion points and high-traffic, busy corridors

improved safety for those who drive, as well as walk and bike on and around the Expressway

Mobility Takeaways



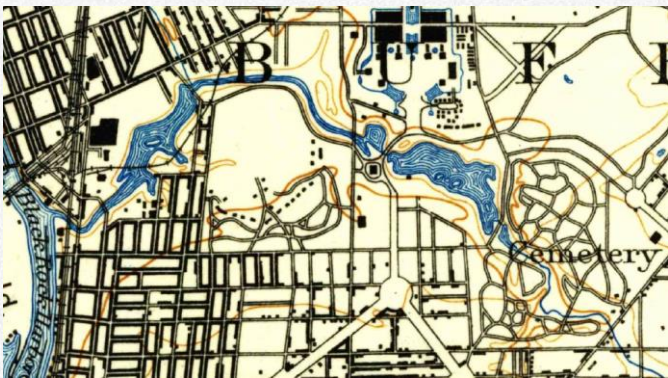
Missing Components

While the Scajaquada Expressway Corridor receives significant regional attention, other complimentary or parallel corridors are less studied

Pedestrian, bicycle and other multimodal data and analysis is largely absent from larger, detailed Scajaquada Expressway Corridor analyses

Concept designs (from community and interest groups) focus on the corridor design and history itself, NOT on how it integrates to or connects with the neighborhood, nor any evaluation of impacts from its downsizing

An inclusive analysis on the Scajaquada Corridor as a local, neighborhood, area and regional divider across all modes has not been prepared or reviewed, though there is wide-ranging acknowledgement of it



Data Summary

Mobility Data – What do we have?



• **Roadway Infrastructure**

- Roadway Characteristics (Centerlines, Speed Limit, Number of Lanes)
- Traffic Control Device Locations
- Signal Timing/Phasing Plans
- State-designated truck routes
- **Roadway Use**
 - TCDS Counts
 - AADT (Historic & Present)
 - Intersection Capacity
 - Vehicle Turning Movement Counts (2016)
 - Crash Incident Data (Bike & Ped)

• **Regional Travel**

- AirSage Origin Destination Data (decreasing granularity near study area)
- NPMRDS
- Congestion & Volumes (GBNRTC 2050 TDM Output)
- **Parking & Curbside Use**
 - EV Charging Stations
 - Park & Ride Transit Centers
 - Parking Meters
 - Roadways with Parking Permitted (On 0, 1, or 2 sides of the roadway)

Mobility Data – What do we have?



- **Facilities**
 - Existing On- & Off-Street Facilities
 - NYS Route 5 Signed Bicycle Route
 - Bicycle Infrastructure (ReddyBikeHub_Buffalo)
 - Bicycle Facilities Survey Results
- **Use**
 - Intersection Counts (GBNRTC TMC Counts)



- **Facilities**
 - Ramp Inventory (New York State-Owned Highway System)
- **Use**
 - Intersection Counts (GBNRTC TMC Counts)

Mobility Data – What do we have?



- Railroads
- NFTA Spring 2021 Transit Routes
- Daily Transit Ridership (by Stop & Route)
- On-time Performance (by Route)
- GFTA Route Schedule/Frequency
- Transit Rider Survey
- Programmed Transit Routes/Stops (TIP)

What do the data sources received contain and what are potential gaps?

2050 Model Output

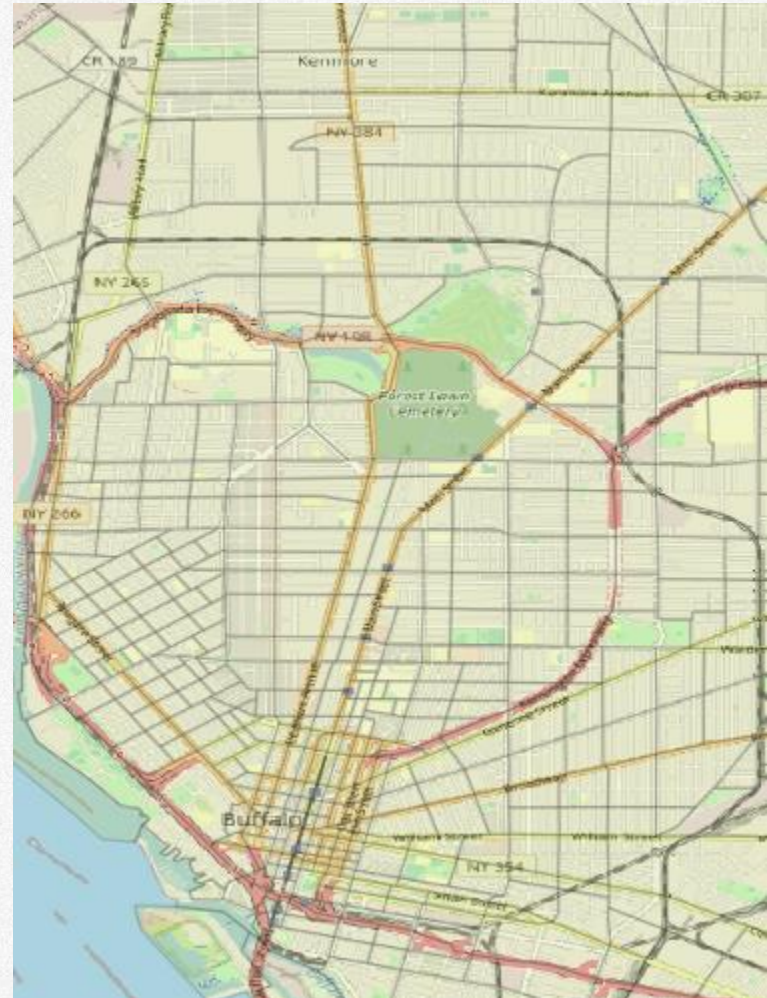
- *Volumes*
- *Speeds*
- *v/c ratios*
- *Can we extract O-D?*

AirSage

- *Additional O-D info*
- *Uneven granularity as we move away from downtown?*
- *What level of granularity best for this project?*

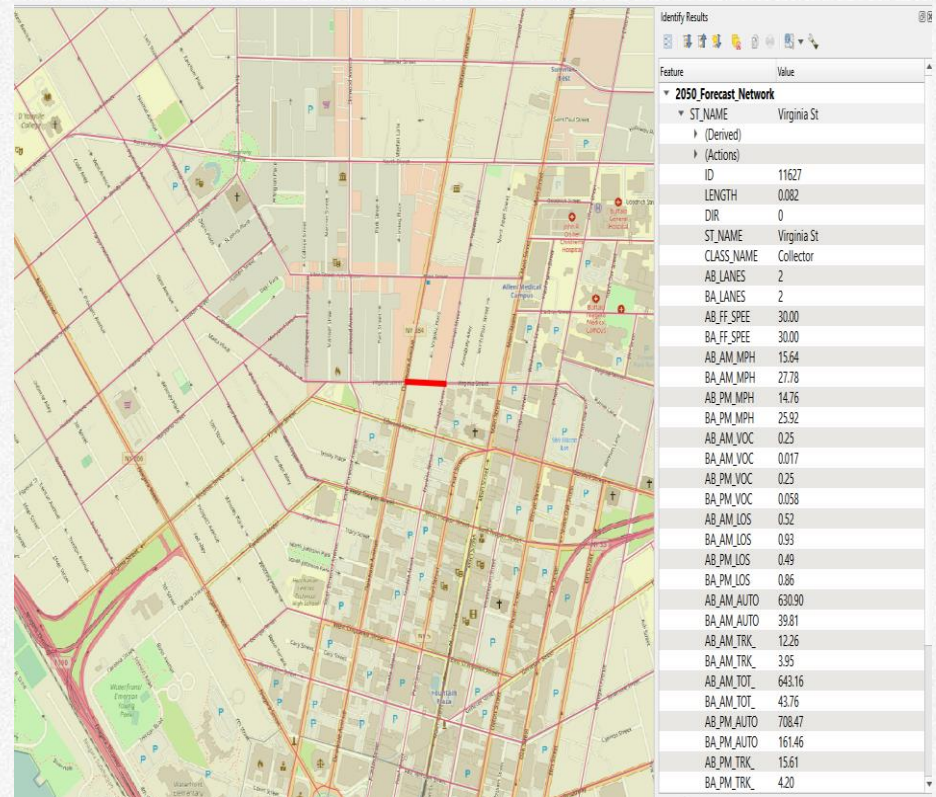
NPMRDS

- *Volumes*
- *Speeds*
- *Limited by roadways*



What are we looking to learn from the data?

- *What are the major origins and destinations in the area?*
- *Where are people moving to and from?*
- *What modes do they take to move between those locations?*
- *What routes do they use to move between those locations?*
- *How does each movement change by time of day?*
- *How do travel patterns change based on seasons or events?*
- *How do travel patterns within Region Central correlate with development patterns?*
- *What are the major freight and delivery patterns in Region Central? How do they change based on the time of day and day of the week?*
- *Where are the major loading zones and how do they impact on-street traffic patterns and curbside use?*

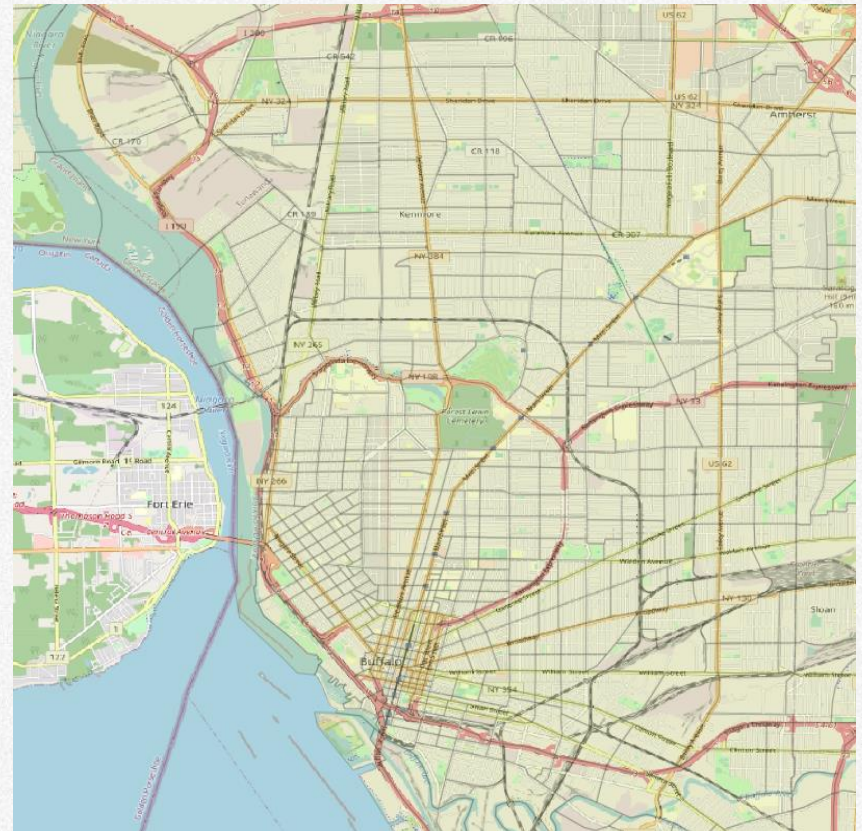


What are we looking to learn from anonymous cell phone data?

If we provide alternative travel options, how many people might take advantage of those options (including bike, ped, transit)?

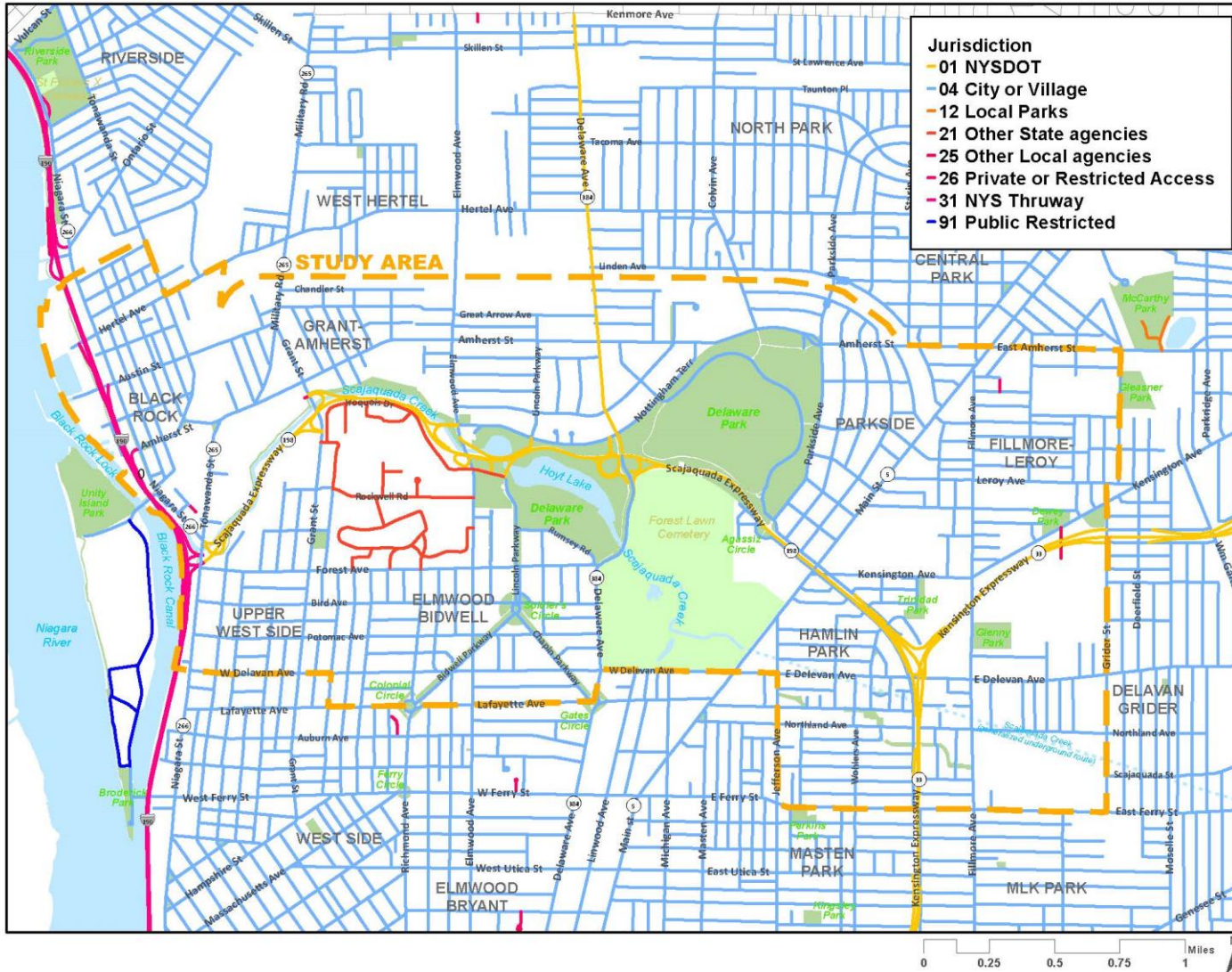
- *What are travel patterns within Region Central based on day of week? And seasonality?*
- *What would the resulting connectivity service look like, in terms of schedule, trip time, and fleet size?*
- *How much congestion relief would this provide, even if minor, and anticipating future growth patterns?*
- *Comparisons of before and during Covid-19 use patterns?*

Get additional levels of granularity to understand potential impacts and mitigation opportunities (i.e. shared mobility options) to inform final recommendations

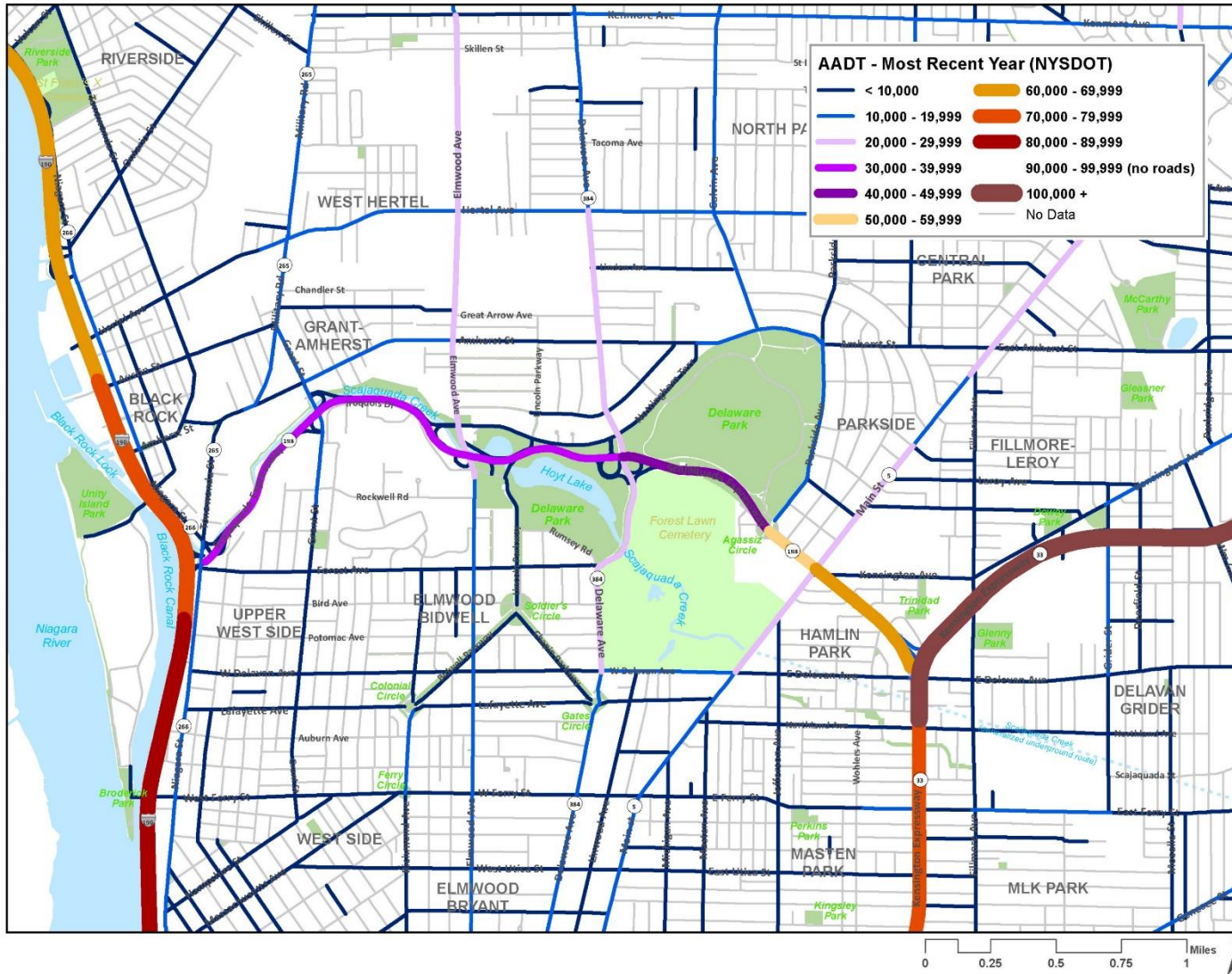


Modal Maps

Vehicle Network (Jurisdiction)



Vehicle Network (AADT – All Traffic)

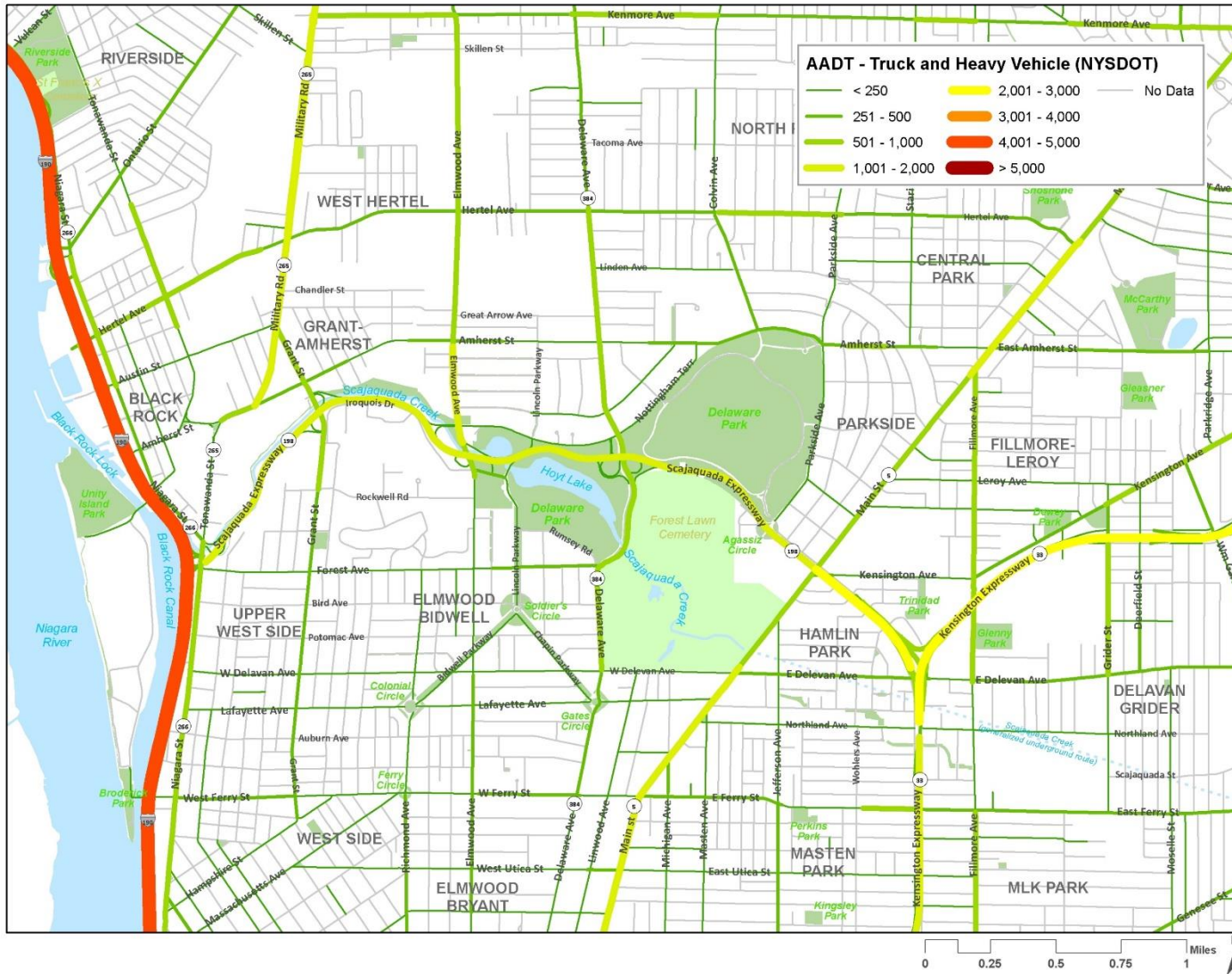


Most counts collected within past 3-4 years (pre-pandemic)

Initial sampling shows a decrease in volume on the Expressway over time

High-degree of traffic "funneling"

Vehicle Network (AADT – Truck Traffic)

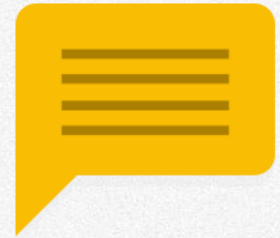
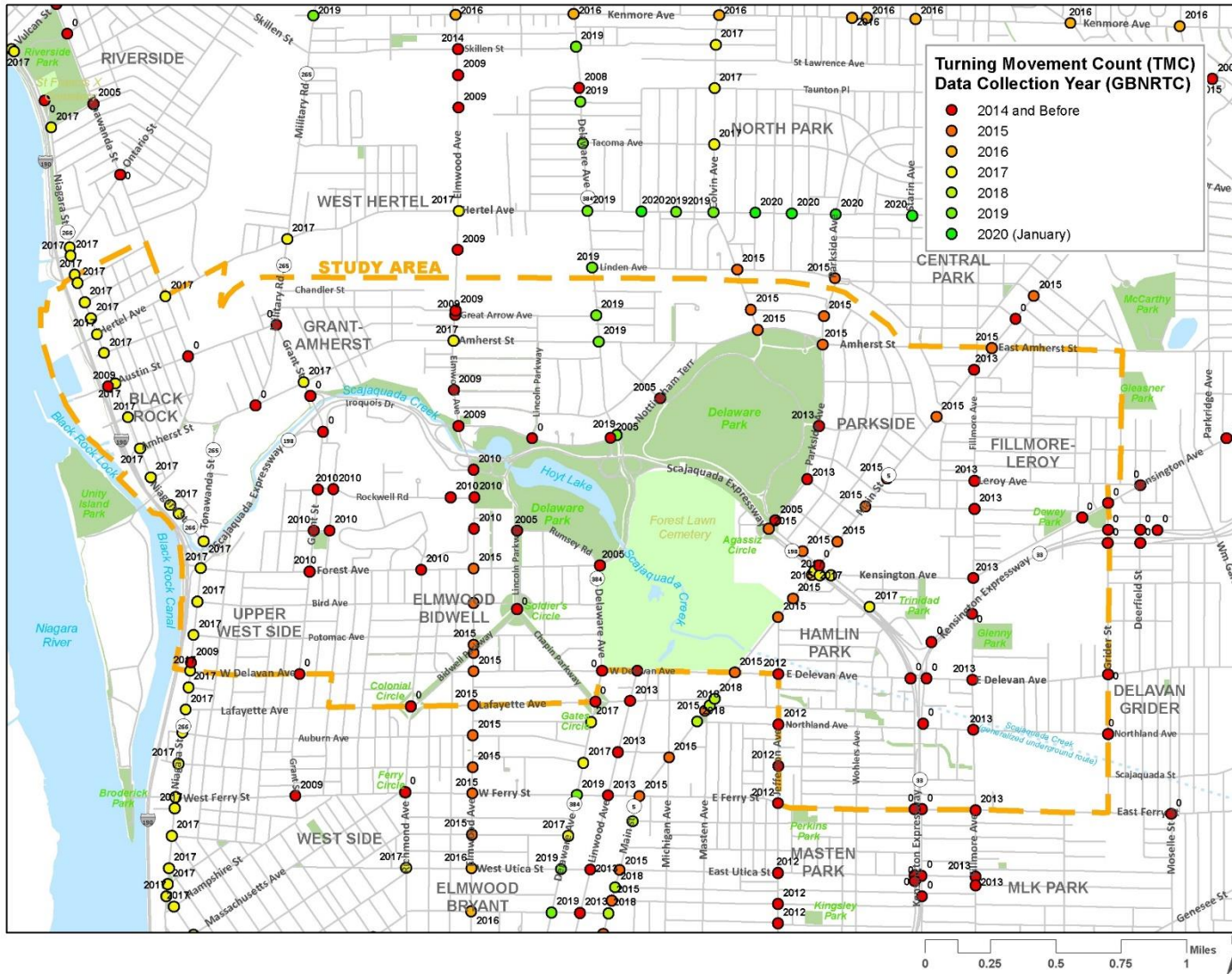


Most counts collected within past 3-4 years (pre-pandemic)

Greater dispersion of truck traffic

Comparatively greater use of Military Rd, Hertel Ave, and Niagara St

Vehicle Network (TMCs)



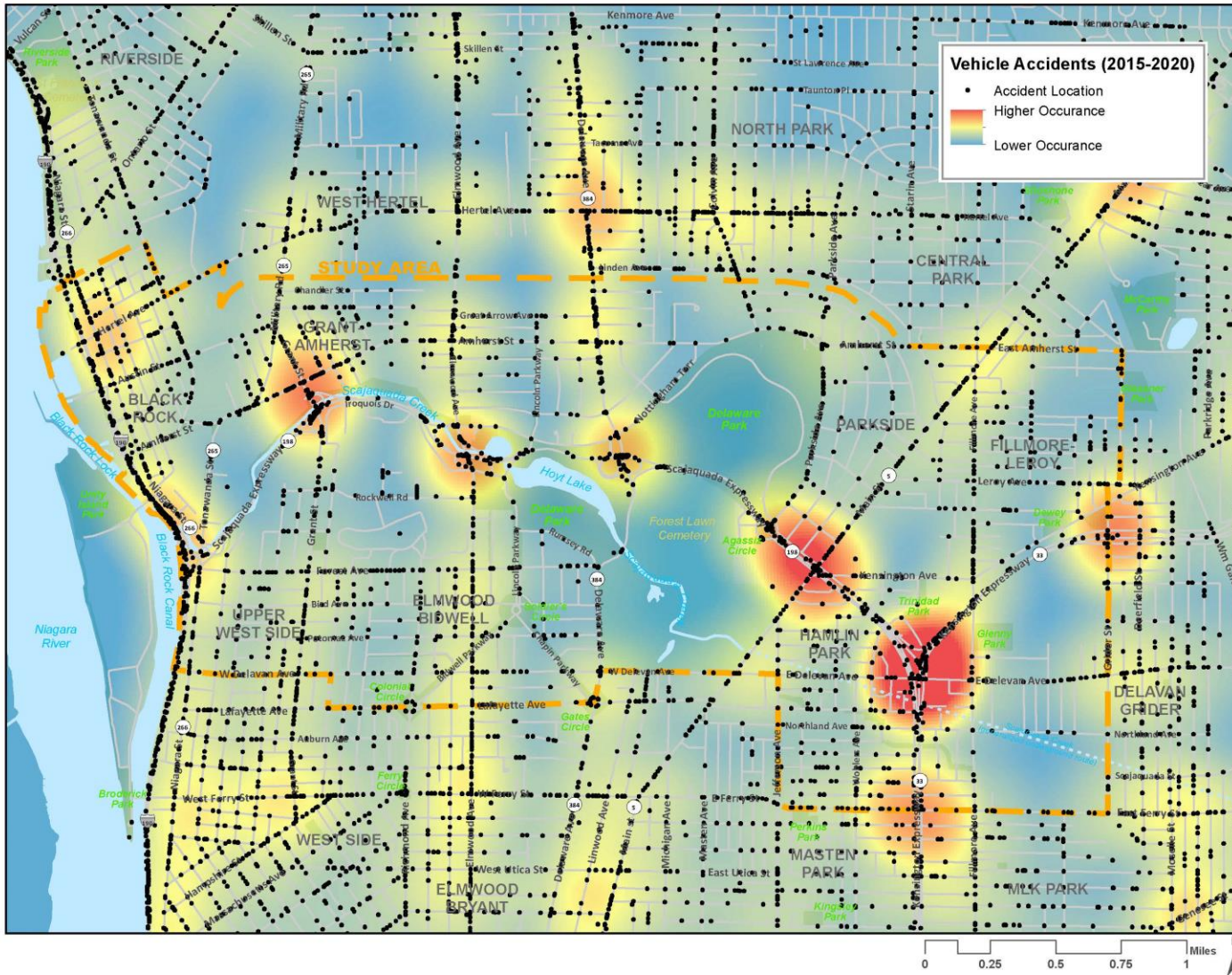
~30% of the TMC counts were collected in the past 3 years

~50% within the past 5 years

Expressway ramps have several counts over 5 years old and some have unknown collection years

More ramp / intersection data in FEIS

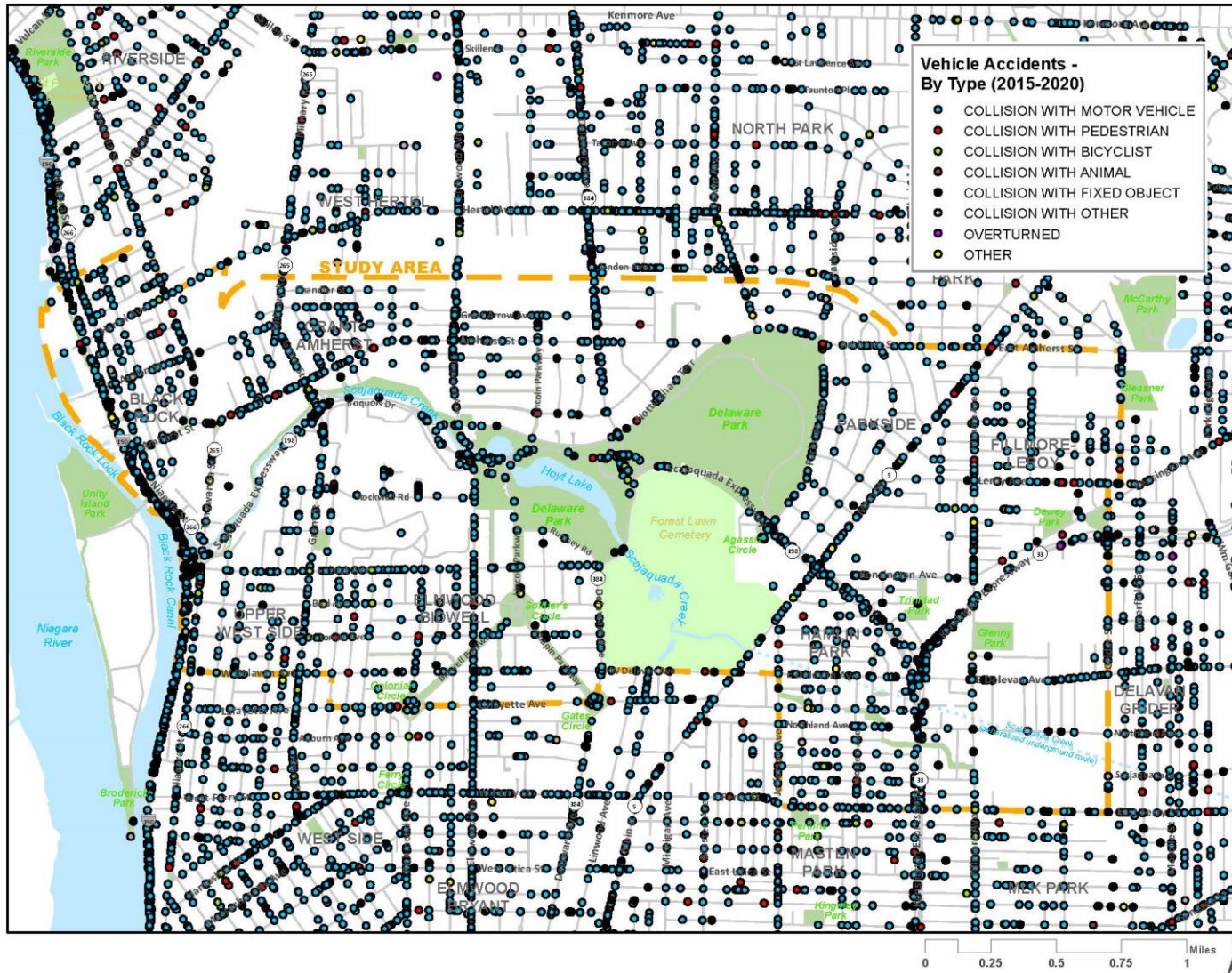
Vehicle Accidents 2015 - 2020 (Density)



High density of crashes along the eastern portion of the Expressway and at critical merge points with State Rte 33

Crash congestion points occur on the Expressway around Buffalo State College, the State Hospital, and Park Meadow/Delaware Park

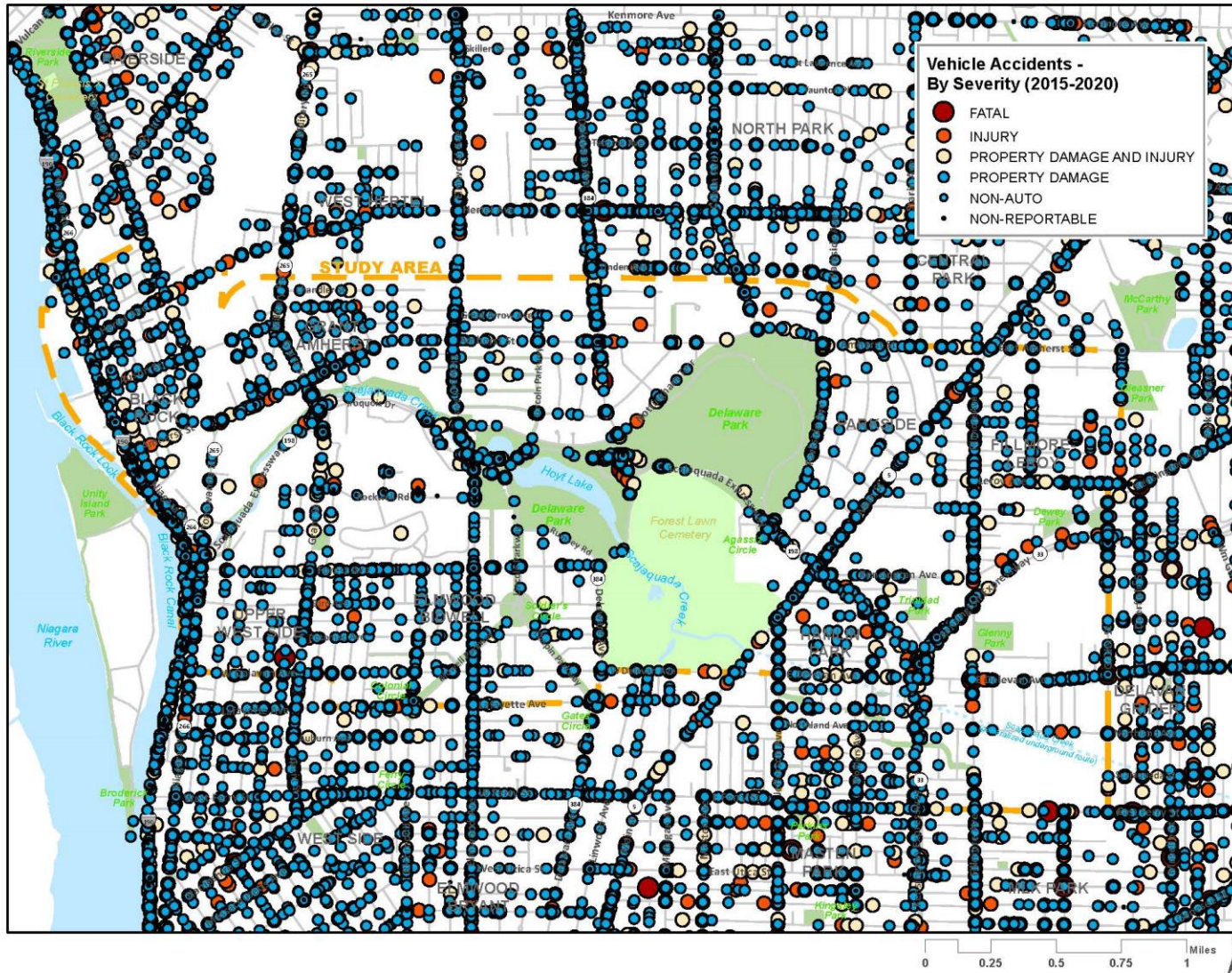
Vehicle Accidents 2015 - 2020 (by Type)



The Expressway experiences a high rate of crashes involving collisions with motor vehicles

Crashes involving bicyclists and pedestrians are clustered around the Expressway at the meeting point of Hoyt Lake, Delaware Park, and the Forest Lawn Cemetery

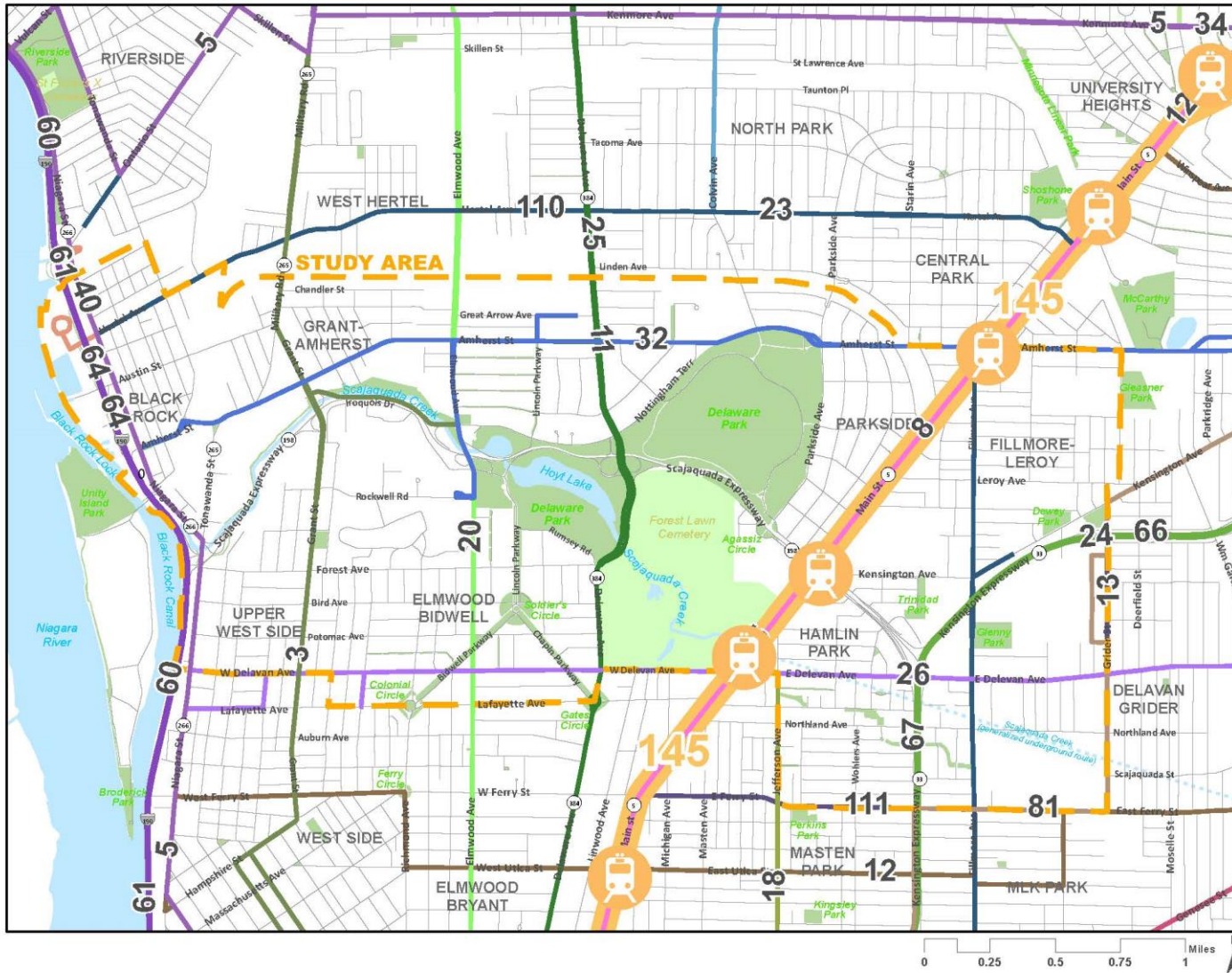
Vehicle Accidents 2015 - 2020 (by Severity)



High cluster of crashes involving property damage and injuries adjacent to the State Hospital and Buffalo State College

The Expressway at Hoyt Lake and Delaware Park experiences a higher density of fatal crashes and crashes that result in injury

NFTA Transit Routes (Spring 2021)

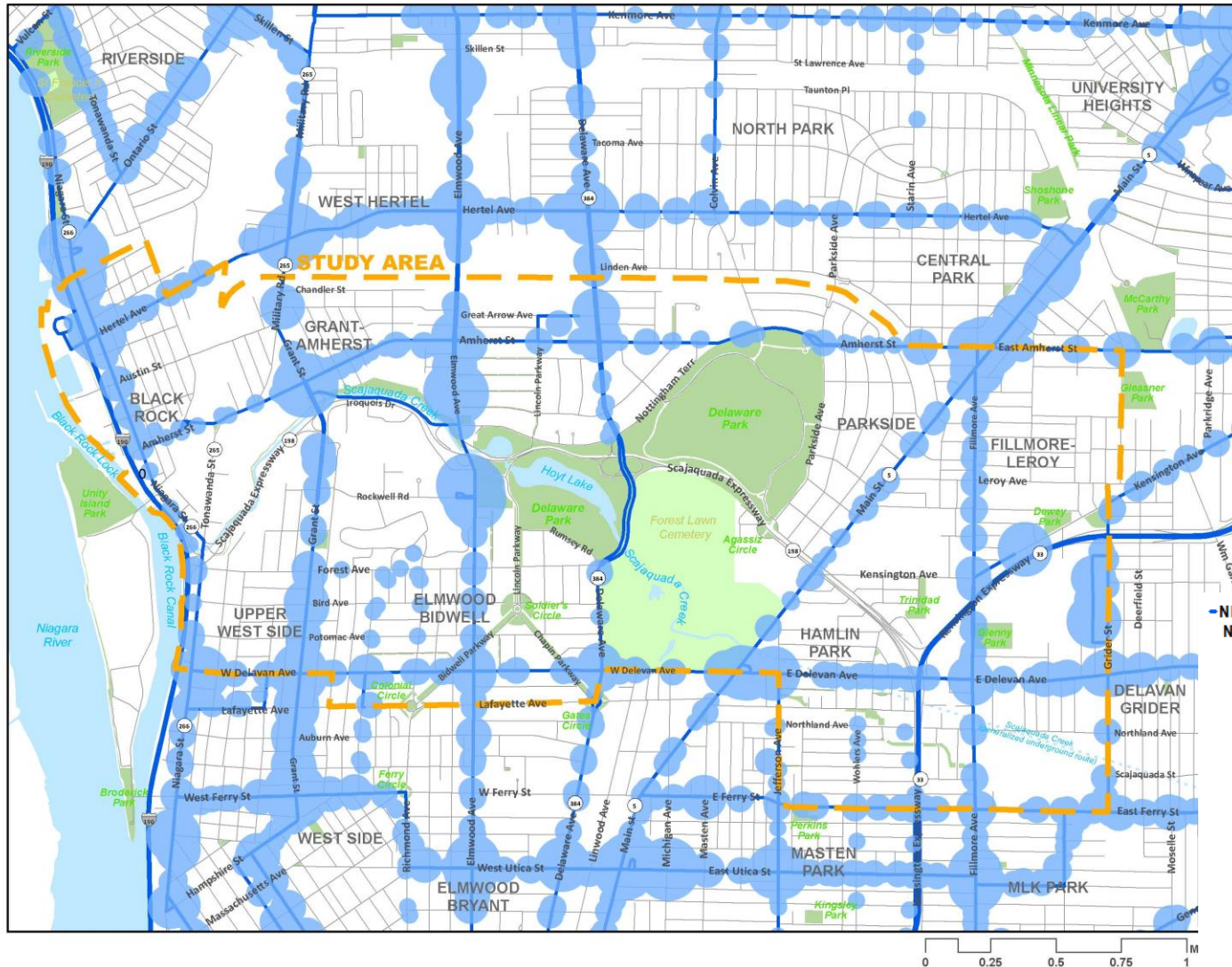


Transit service crosses the neighborhood but does not directly serve the Scajaquada corridor

Good general coverage on major streets (North/South & East/West)

No natural transit "center" in the Study Area

NFTA Transit Ridership by Stop (Weekday)

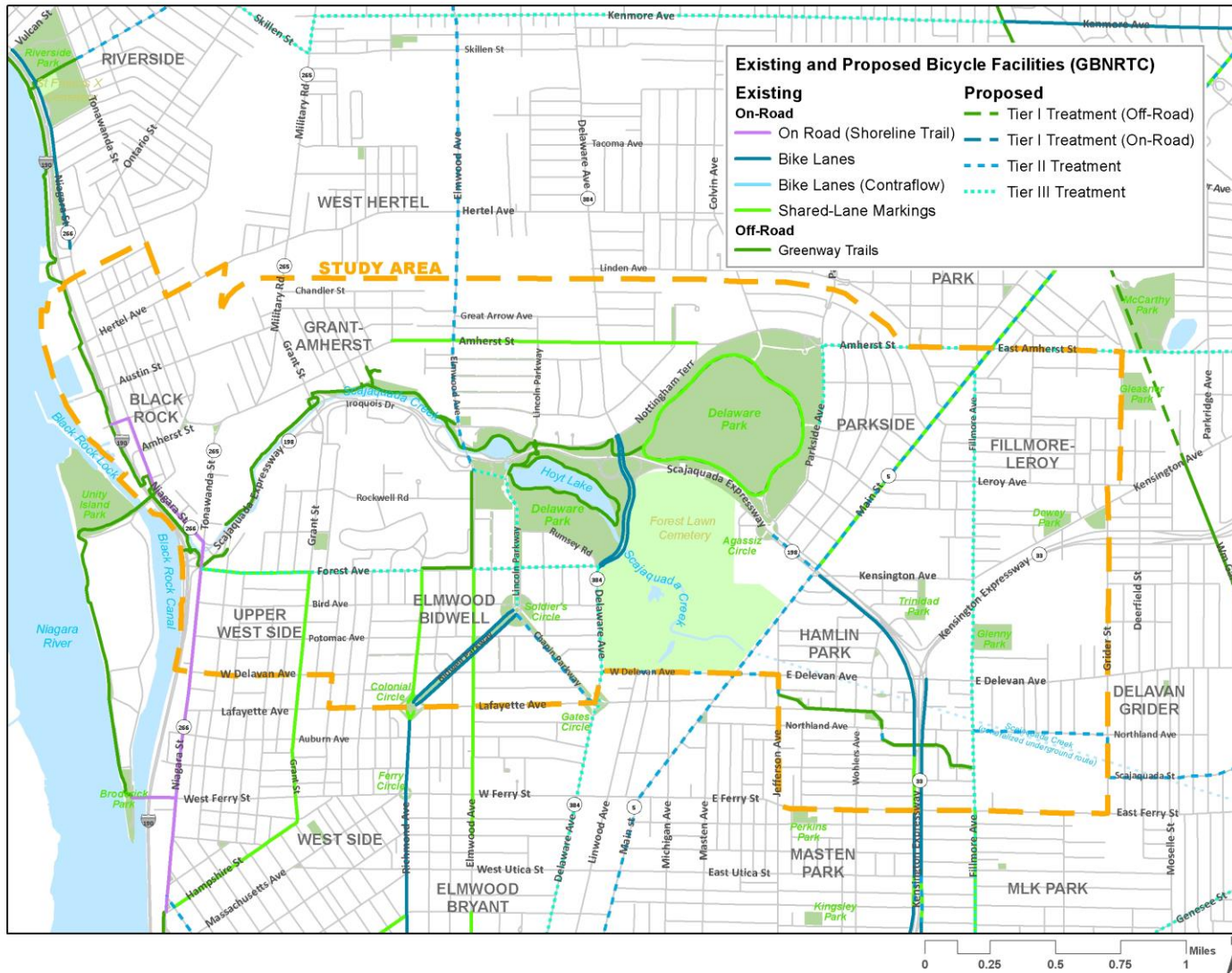


Ridership is dispersed around the Study Area

Transit appears well used in all neighborhoods

Transit does not appear to be used for park access

Bicycle Network (Existing + Proposed)



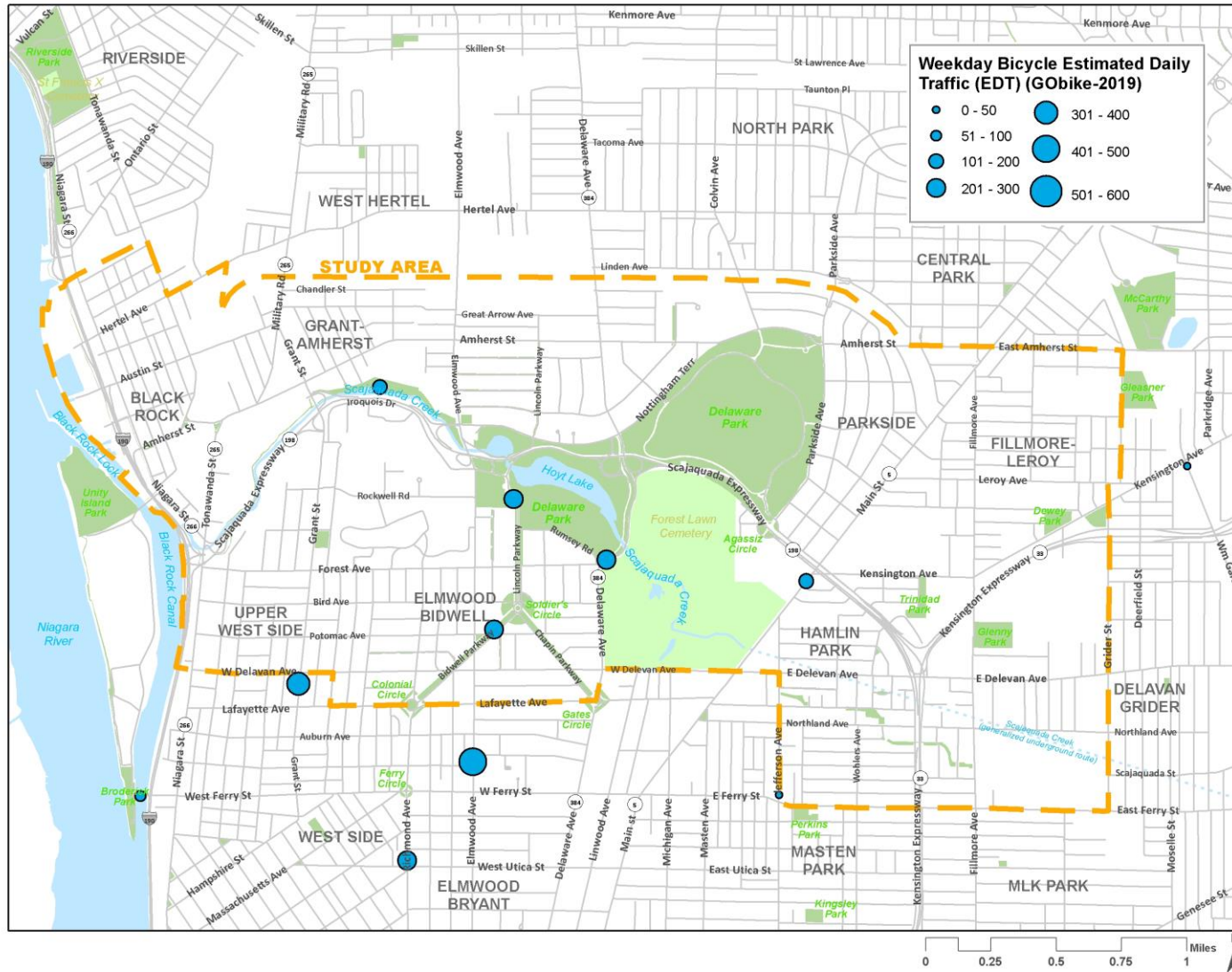
Network of on-road and off-road facilities expanding

Reconcile with City of Buffalo Plan

Neighborhood gaps (Black Rock, Riverside, North Buffalo, Central Park)

Reconcile with planned, funded, and under construction (e.g. Niagara St)

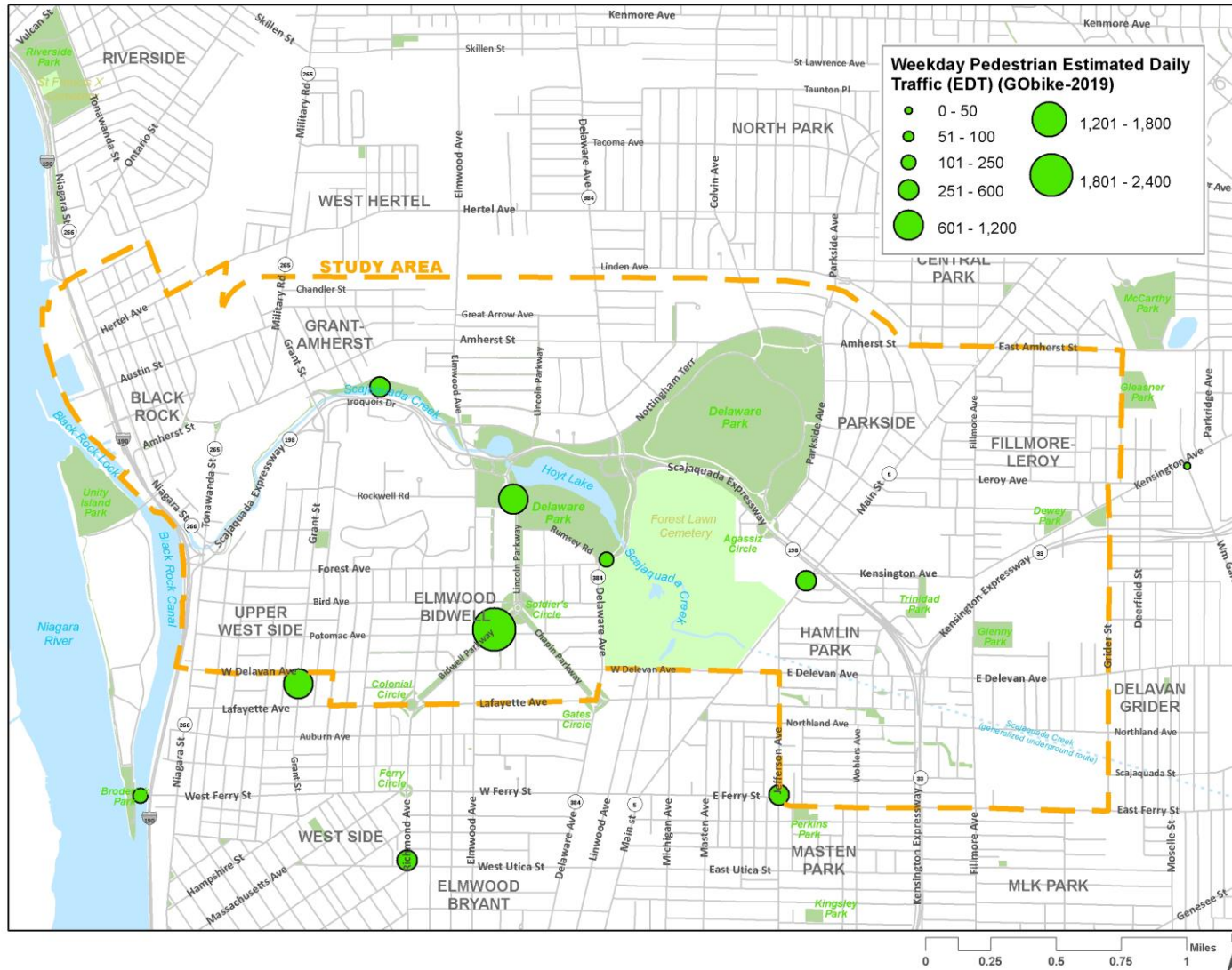
Bicycle Volumes



Lack of non-intersection data throughout study area

Use existing and proposed bicycle networks from GBNRTC, Reimagine Grant Street, Regional Bike Buffalo Niagara Master Plan, and Buffalo Bicycle Master Plan

Pedestrian Volumes



Lack of non-intersection data throughout study area

Funding Summary

What funding has been allocated?

Estimated \$90-100 million for the Build Alternative identified to provide geometric and operational improvements to the NYS Route 198

Funding made up of:

- *National Highway Performance Program - MAP 21*
- *Highway Safety Improvement Program*
- *Surface Transportation Program (Large Urban)*
- *Surface Transportation Program (off-system bridges) - MAP 21*
- *Surface Transportation Program (Flexible)*



Focus areas for grant opportunities

- *Transportation*
 - *Shared Mobility and Mobility on Demand*
 - *Mobility and Innovation*
 - *Equity*
 - *Resilience*
 - *Electrification*
 - *Aging in place*
 - *Healthy communities*
 - *Water Quality*
 - *Intelligent Transportation Systems*
- (See Initial List Provided)



Ongoing Considerations

- *How to leverage existing funds?*
- *What are state funding opportunities?*
- *What are federal opportunities with new administration?*
- *Where are opportunities with cross-agency collaboration?*
- *Where are public-private partnership opportunities?*



Next Steps

Mobility Next Steps

Inventory of current transportation assets

What comprises today's multimodal transportation network?

Identify issues and opportunities

Detailed assessment of trip patterns in study area and summarized regional travel characteristics

Where are people going and how are they getting there?

How have patterns changed in last 5-20 years

Decision on whether to acquire additional anonymous cell phone data

Assessment of technology implications

How will technology impact mobility in the future?

- Focus on total modal solutions including mobility-on-demand services like micromobility (scooter and bikeshare) and microtransit; automated and connected vehicles; first/last mile transit solutions; dynamic parking and curb management
- Connecting emerging technologies to infrastructure considerations, including smart signals; dynamic/reversible lanes; mobility hubs; scooter and bikeshare infrastructure; charging stations; pick up and drop off zones for commercial and passenger; and digital infrastructure

What are expected demands on and around the Scajaquada Expressway Corridor?