Enhancing Urban Mobility through collaboration and advanced technology in Buffalo

Agenda

- NITTEC: Overview of NITTEC and Cross jurisdiction of Signal Integration Collaboration

- NFTA: Transit Signal Priority Implementation on Niagara Street

- Miovision: NFTA Cloud Pilot Results- Phase I

Athena Hutchins, P.E. -NITTEC, Executive Director

Maggen Louisius-Blair
NFTA, Transportation Planner

Shannon Bailey- Miovision Technologies, Senior Director- Public Transit

Presenters

Regional Collaboration – Traffic Management

- Centralized 24/7 operations and traffic management services for bi-national region
- Information Clearinghouse
- Standardized Operations
- Multi-Agency Event Planning and Operations
- Multi-Agency ITS Deployment
- Regional Messaging Standards
- Traffic Management Plans

- **Advanced Transportation Congestion Management Technology Deployment Grant**
- **$7.8 million awarded by FHWA in 2016**
- **Focus on Border Crossing, Systems Integration, & Inter-Agency Collaboration**

3 Objectives

- Balancing multi-modal demand at international border crossings through active demand management to provide acceptable levels of service
- Improving commercial vehicle operations through CVO-targeted traveler information
- Enabling the benefits of integrated Regional mobility by extending existing integrated corridor management (ICM) activities geographically, and advancing from a corridor-based model to a Regional focus.

ATCMTD Project

AllRoads
Software Tool

Field Deployments & Integrations

Field Deployments & Integrations

| Niagara Street Connected Signals | CAD Event Integration | Enhanced Border Delay Monitoring |
| Video Detection System | Parking Support | Regional Model Expansion |

ATCMTD Project

Niagara Street

- 25 Traffic Signals equipped with Miovision devices & communications
- Signals re-times and brought into coordination to improve day-to-day operations
- AllRoads Decision Support System used to implement flush plans in response to major events on adjacent interstate
- 23 buses equipped with TSP equipment
- Signal Controllers updated with TSP capability
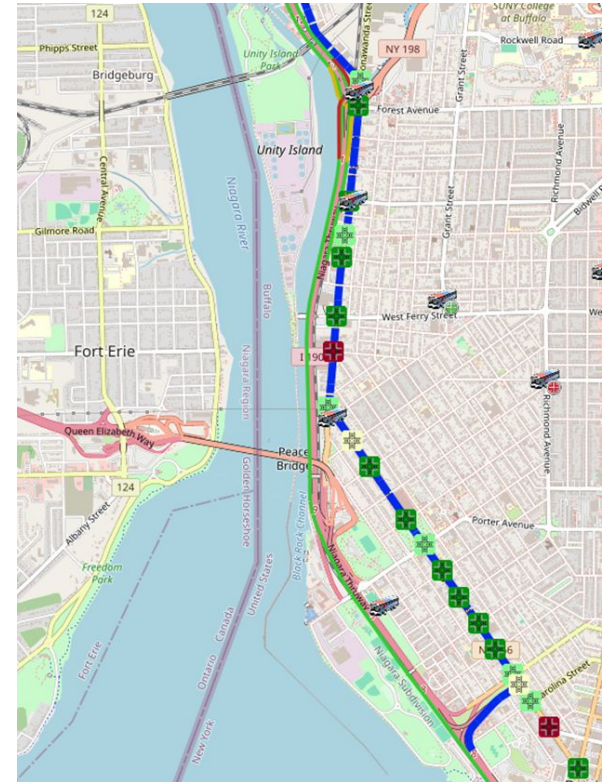
Niagara Frontier Transportation Authority (NFTA–Metro)

Project area:
Niagara Street, Buffalo
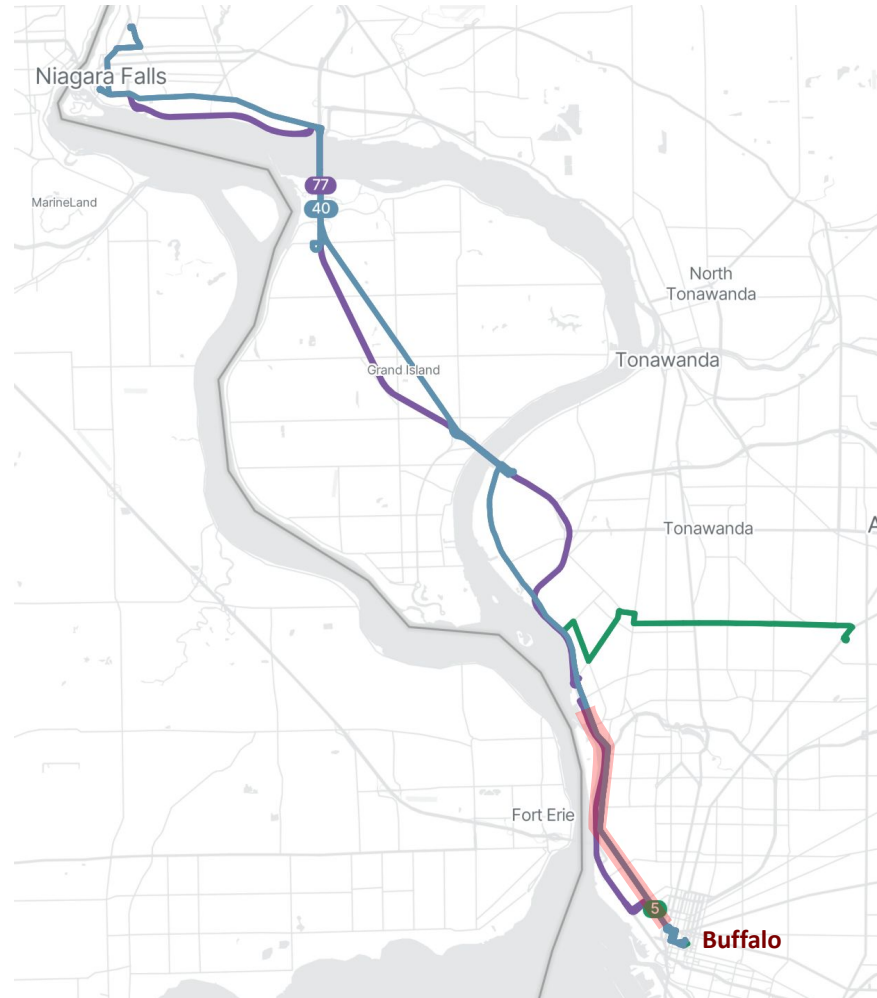
Niagara St - A good fit for TSP

Connects people to high density neighborhoods and the downtown core.

- High transit usage
- Frequent service

Route 5

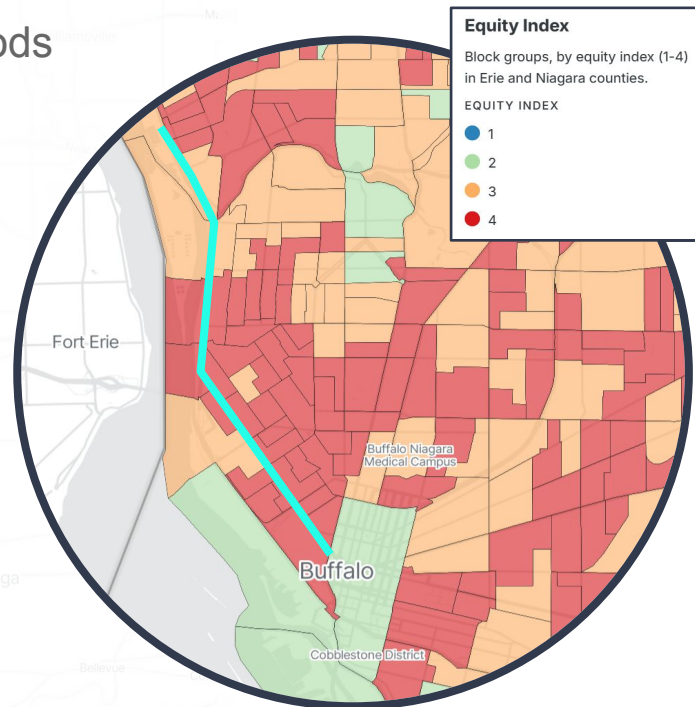**2,991**

AVERAGE
WEEKDAY
RIDERSHIP

Route 40

595

AVERAGE
WEEKDAY
RIDERSHIP

Route 77

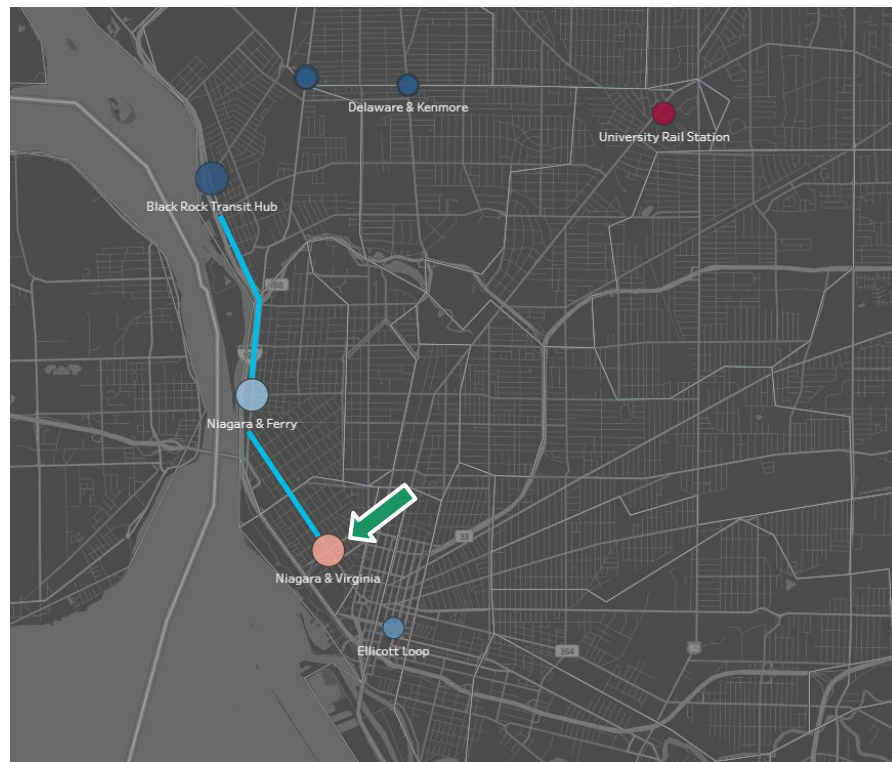**343**

AVERAGE
WEEKDAY
RIDERSHIP

Equity Index

Block groups, by equity index (1-4) in Erie and Niagara counties.

EQUITY INDEX

- 1
- 2
- 3
- 4

Niagara St - A good fit for TSP

Route 5
Overall Monthly
On Time Performance
(2024)

79% - 83%

Niagara & Virginia
is a trouble spot
in both directions.

Challenges to Implementing TSP

- Legacy signal and fleet equipment
  - 23 buses, with varying onboard setups
  - 25 signals, with varying equipment
  - Connectivity

- Establishing business parameters for future maintenance

- Reluntance to change

- Coordination of cross jurisdictional priorities

- Roadway project timelines

Miovision Deployments
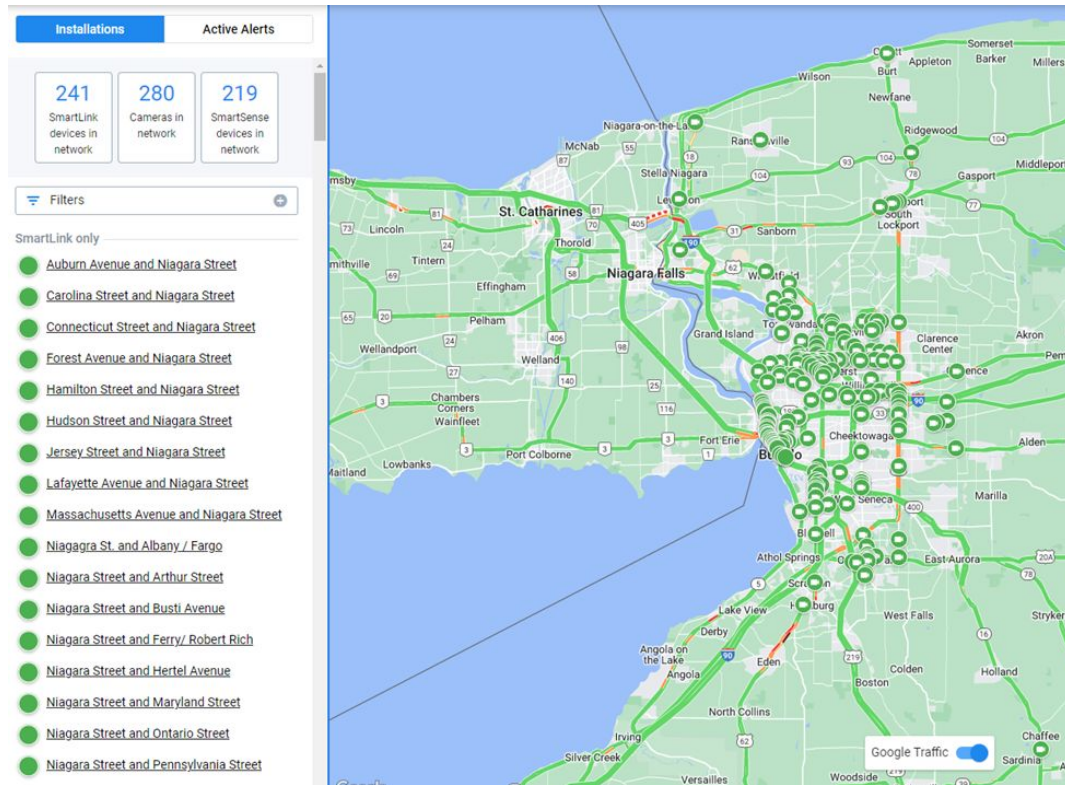
- Smart intersection technology deployed throughout region
- Spans different jurisdictions and signal control technologies
- Collects turning movement counts, calculates Automated Traffic Signal Performance Measures (ATSPMs), and monitors traffic signal status
- Allows for remote communications to traffic signals
- Enables Opticom TSP and EVP where Miovision devices exist
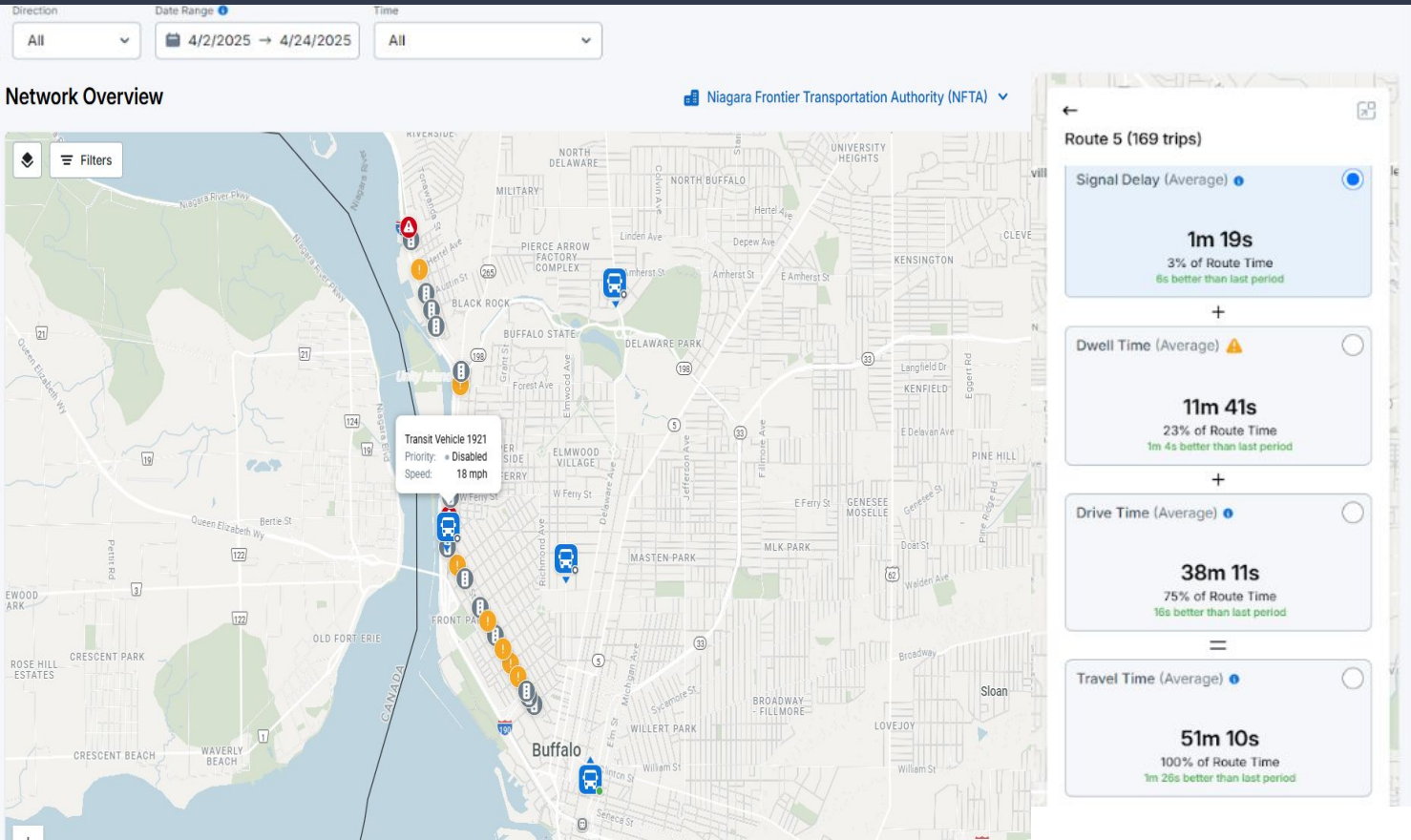
NFTA TSP Cloud Phase I Pilot– Niagara Street

23 NFTA Transit Fixed route buses – enabled with Cloud based TSP on Route 5

- Vehicle architecture used existing Cradle point IBR1700 & GTFS-RT

- 25 Intersections Miovision Core DCM enabled for TSP
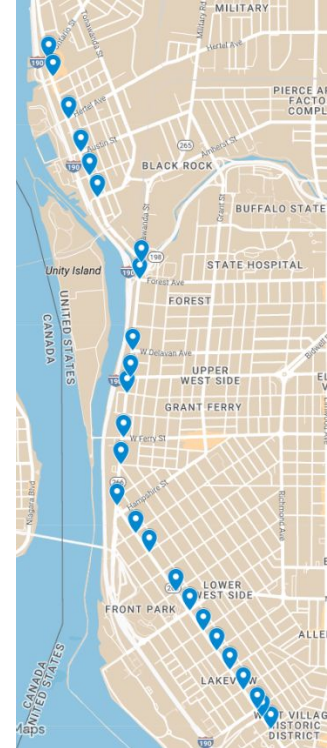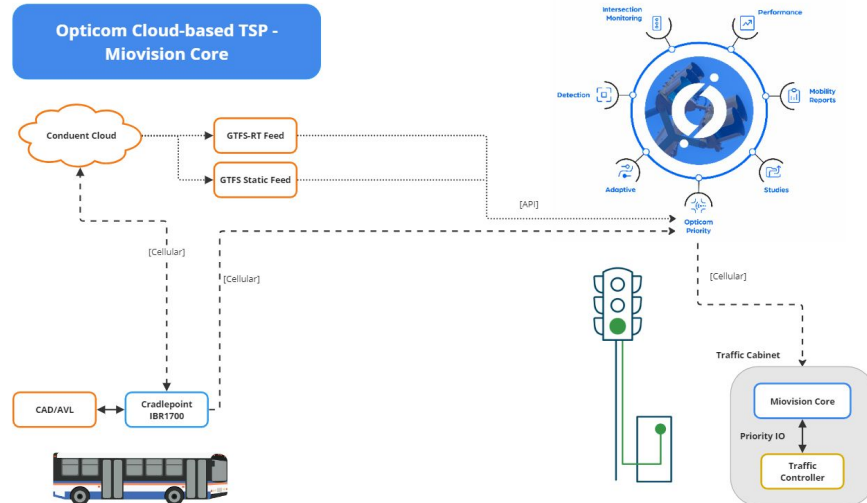
NFTA TSP Phase I Pilot results: 4/2-4/24

Results (over the 22 day period)

17 minutes saved in Signal delay

3 hours of saved dwell time

45 minutes in saved Drive Time

4 Hour savings in overall Travel time

Questions

- **Why is TSP beneficial?**

- **Why was Niagara Street a good fit for TSP?**

- **What are some of the benefits of implementing TSP on Niagara Street?**

- **What are some of the ways data is used to make informed decisions?**

Thank you

Contact information:

Athena Hutchins - ahutchins@nittec.org

Maggen Louisius-Blair- maggen.blair@nfta.com

Shannon Bailey – shannon.bailey@miovision.com