NIAGARA INTERNATIONAL TRANSPORTATION TECHNOLOGY COALITION

nittec
Travel Smart.

2023 ANNUAL REPORT

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ABOUT NITTEC

Mission

The mission of NITTEC is to improve mobility, reliability and safety on the regional bi-national multimodal transportation network through information sharing and coordinated management of operations.
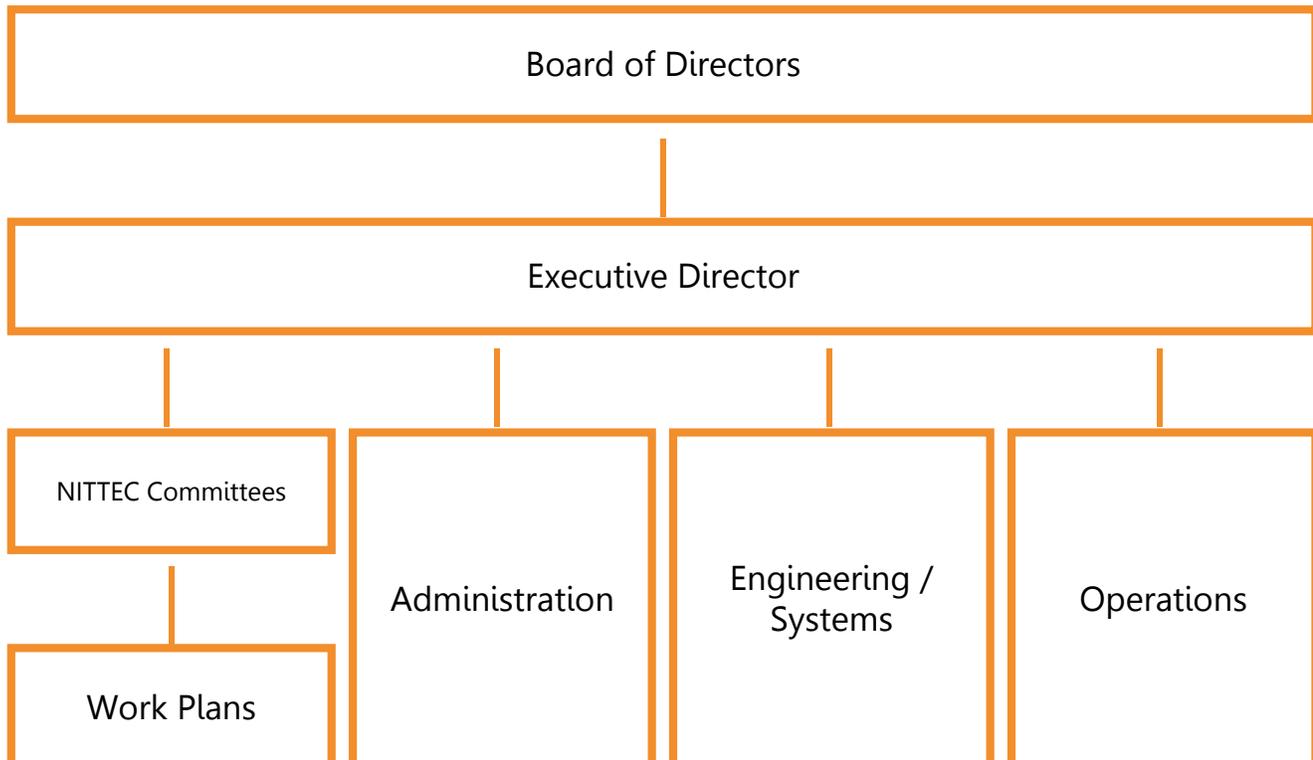
Management Objectives

✓ Maintain Corporate Culture as a Service Organization.
✓ Maintain Diverse Professional Staff of Service Providers.
✓ Build and Maintain Leadership Role for Implementing Technology in the Evolving Transportation Operations and Intelligent Transportation Systems (ITS) Environment.
✓ Maintain Organizational Hierarchy to Improve Career Development and Succession.
✓ Be Focal Point for ITS Projects & Information Sharing, Coordinated Operations, Congestion Mitigation and ITS Project Delivery in the Region.

Regional Operations Functions

✓ Traveler Information

✓ Border Traffic Management

✓ Traffic and Congestion Management

✓ Incident Management

✓ Special Event Planning and Management

✓ Transportation System Monitoring

✓ Emergency Management

✓ Weather System Monitoring

✓ Construction Coordination

✓ Performance Measures Reporting

✓ Multi-Agency Collaboration

NITTEC Organization

```
                    Board of Directors
                           |
                   Executive Director
        |          |             |              |
   NITTEC      Administration  Engineering /   Operations
   Committees                  Systems
        |
   Work Plans
```

NITTEC STAFF

Athena Hutchins, P.E.
Executive Director

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Operations Manager

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Transportation Engineer

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Systems Administrator

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Operations Technician

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Operations Technician

Dee Idzior
Operations Technician

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Operations Technician

William Lobuzzetta
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Operations Technician

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Operations Technician

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Operations Technician

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Administrative Assistant

NITTEC MEMBERS

Policy Members

Erie County

Ministry of Transportation Ontario

New York State Department of Transportation

New York State Thruway Authority

Niagara Frontier Transportation Authority

General Members

Buffalo and Fort Erie Public Bridge Authority

City of Buffalo, NY

City of Niagara Falls, NY

City of Niagara Falls, ON

Niagara County

Niagara Falls Bridge Commission

Niagara Parks Commission

Niagara Region

Town of Fort Erie, ON

Affiliate Members

AAA of Western and Central New York

American Medical Response (AMR)

Canada Border Services Agency

Cattaraugus County

Chautauqua County

City of Lackawanna, NY

City of St. Catharines, ON

Federal Highway Administration

Greater Buffalo Niagara Regional Transportation Council

John's Towing

LTR Rigging and Hauling

Montgomery Towing

New York State Department of Environmental Conversation

New York State Police

Ontario Provincial Police

Rusiniak's Towing

Seneca Nation

Town of Amherst, NY

Town of Cheektowaga, NY

Town of Evans, NY

Town of Hamburg, NY

Town of Niagara-on-the-Lake, ON

Town of Orchard Park, NY

Town of Tonawanda, NY

Town of West Seneca, NY

Twin City Ambulance

University at Buffalo

US Customs and Border Protection

NITTEC COMMITTEES

NITTEC currently has eight committees: Border Crossing, Construction Coordination, Incident Management - Ontario, Incident Management – Western New York, Regional Traffic Signal, Strategic Planning, Technology and Systems, and Traffic Operations Center. Each committee is comprised of representatives from a variety of organizations that meets regularly and works on establishing and executing work plans to meet their respective mandates. Additionally, the policy member agencies make up NITTEC's Board of Directors, which provide overall program and policy direction of the Coalition.

Committee Participation

The table below shows the participation in NITTEC's Committees by member agencies in 2023.

Category	Agency	Board Of Directors	Border Crossing	Construction Coordination	Incident Management (Ontario & WNY)	Regional Traffic Signal	Strategic Planning	Technology and Systems	Traffic Operations Center
Policy	Erie County	Full		Full	Partial	Full			
	Ministry of Transportation, Ontario	Full	Full	Partial	Full		Full	Full	Partial
	New York State Department of Transportation	Full		Full	Full	Full	Full	Full	Full
	New York State Thruway Authority	Full	Full	Full	Full		Full	Full	Full
	Niagara Frontier Transportation Authority	Full	Full		Partial	Full			Partial
General	Buffalo and Fort Erie Public Bridge Authority		Full					Partial	
	City of Buffalo				Partial	Full	Full		
	City of Niagara Falls, NY				Partial				
	City of Niagara Falls, Ontario				Partial				
	Niagara County				Partial				
	Niagara Falls Bridge Commission		Full						
	Niagara Parks Commission								
	Niagara Region				Full				
	Town of Fort Erie, Ontario				Partial				
Affiliate	AAA Western & Central NY				Partial				
	American Medical Response (AMR)				Partial				
	Canada Border Services Agency		Full		Partial				
	Cattaraugus County				Partial				
	Chautauqua County				Partial				
	City of Lackawanna				Partial				
	City of St. Catharines, Ontario				Partial				
	Federal Highway Administration		Full		Partial		Full	Partial	
	Greater Buffalo Niagara Regional Transportation Council	Full	Full				Full	Full	
	John's Towing				Partial				
	LTR Rigging and Hauling				Partial				
	Montgomery Services				Partial				
	New York State Police				Full				
	NYS Department of Environmental Conservation				Partial				
	Ontario Provincial Police				Partial				
	Rusiniak's Towing				Partial				
	Seneca Nation				Partial				
	Town of Amherst				Partial		Full		
	Town of Cheektowaga				Full				
	Town of Evans				Partial				
	Town of Hamburg	Full			Full				
	Town of Niagara-on-the-Lake, Ontario				Partial				
	Town of Orchard Park				Full				
	Town of Tonawanda				Full	Full			
	Town of West Seneca				Full				
	Twin City Ambulance				Partial				
	University at Buffalo				Partial				
	US Customs and Border Protection		Full		Partial				
Non-Affiliate	Brighton Fire Department				Partial				
	Grimsby Fire Department				Partial				
	Lincoln Fire Department				Partial				
	New York State Office of Emergency Management		Full		Full				

Participation Level: None (gray) | Partial (orange) | Full (green)

BORDER CROSSING

Committee Mandate: To support cross border relations among member agencies and affiliates by providing a forum to address transportation related issues for the efficient movement of people and goods through the regional bi-national border crossings.

2023 Highlights
- Discussed traffic management for the upcoming solar eclipse and its impact on border crossing traffic.
- Reviewed the Exit 9 Closure Plan and identified additional resources needed.
- Debriefed winter weather closures and reviewed procedures.

Initiatives
- Identify and evaluate best practices and new technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Evaluate and enhance I-190 Exit 9 closure procedures and resources.

Scheduled
- Yearly review of the border related incident management plans and commercial vehicle staging, including communication and management protocols with the Incident Management Committees.
- Summer traffic and fall traffic debrief meetings.
- Seek input from freight operators regarding their needs and feedback on possible solutions.

Ongoing
- Monitor and enhance measurement and reporting of border wait times for use by all members and stakeholders. Recommend future deployment and operational procedures of border crossing travel time technology.
- Review border crossing traveler information services and products (Nexus Program, Motorcoach Border Planner) to maintain delivery of common information to all users, and identify opportunities to enhance services (sources & notifications) and expand delivery (products & consumers).
- Enhance relationships between Coalition members and border agencies including Canadian Border Services Agency (CBSA) and U.S. Customs and Border Protection (CBP) to improve communication for travelers and balance border traffic through traffic management initiatives. Provide the opportunity for agencies to talk with each other, share knowledge and discuss border issues.
- Coordinate with other Coalition Committees on border related issues.
- Identify and address emerging border related issues to ensure the safe and efficient operation of border crossings in the future.
- Evaluate "green lane" emerging technologies and Integrated Corridor Management (ICM) Project recommendations that could be utilized with existing border related transportation strategies and improve freight processing in support of the Committee mandate.
- Support the deployment of the border travel time signage.

CONSTRUCTION COORDINATION

Committee Mandate: To facilitate the coordinated management of regional construction activities from planning and programming through design and construction, to enhance the effectiveness of the region's construction activities and information dissemination activities and minimize impacts on mobility and travel reliability.

2023 Highlights
- Provided project updates and summary of regional construction to stakeholders.
- Identified AllRoads as a construction coordination tool which would provide committee members the ability to share construction information.
- Discussed construction project restrictions during the upcoming solar eclipse event.

Initiatives
- Identify and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Identify usage and training of the construction planning / coordination software amongst Coalition members to collect and integrate information, coordinate and assist member agencies with their planned construction activities.
- Evaluate the Automated Work Zone Speed Enforcement deployment and analyze the safety improvements that result from the pilot program.

Scheduled
- Coordinate and manage the development and implementation of regional traffic management plans and activities related to construction projects.

Ongoing
- Have ad-hoc meetings to discuss lessons learned from the coordination issues that were not addressed through normal procedures.
- Continue a regional approach to communicate, coordinate and manage construction information, include a broader set of community stakeholders (bus operators, livery services, and delivery services).
- Monitor and report construction zone travel time and delay for major projects and coordinate with other Committees with construction related issues.
- Identify project locations to use temporary technology (speed data equipment, portable variable message signs, CCTV, etc.) to gather delay information.
- Evaluate traffic data to improve work zone efficiency.
- Continue to work with Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) and member agencies to coordinate regional transportation planning and operations activities.
- Identify high incident locations and the impact of construction activities would have on them.

INCIDENT MANAGEMENT - ONTARIO

Committee Mandate: To develop recommendations for Board of Directors, NITTEC member agencies and other emergency services providers for the better coordination, integration, and implementation of operations to enhance the effectiveness of the region's highway incident management process.

2023 Highlights
- Debriefed major incident response and agency coordination.
- Reviewed water source locations and signage for electric vehicle incidents.
- Reviewed regional construction activities and the possible effects on incident response.
- Discussed traffic management for the upcoming solar eclipse and its impact on Southern Ontario.

Initiatives
- Identify new technology deployments and best practices to accelerate incident detection time and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Identify best practices for Commercial Vehicle traffic control during major events.
- Identify and sign water source locations used in response to electric vehicle incidents.

Scheduled
- Debrief major incidents and establish "Best Practices" for future events.
- Continue to collect and report incident information among all agencies.
- Use the Highway Safety Awareness Training Program to demonstrate/disseminate incident response and recovery best practices to local jurisdictions.
- Ministry of Transportation Ontario (MTO), Ontario Provincial Police (OPP), and Niagara Region to report on the highest priority locations for collisions.
- Promote public education about "Steer It Clear It", "Move Over" Law, and incident markers first responder safety campaigns.
- Review Committee Performance Measure Report and establish/update goals.
- Share information with the NITTEC Construction Coordination Committee to track and communicate major construction projects.

Ongoing
- Participate in event planning and traveler information activities.
- Maintain outreach program to encourage local response community participation.
- Maintain communication protocols and contact information for major incidents among incident management agencies and stakeholders.
- Develop Traffic Management Plans for Special Events.
- Promote effective communication and sharing of information [video, Center-to-Center (C2C), Computer Aided Dispatch (CAD)] among all responding agencies and the other NITTEC Committees.
- Provide input to improve safety on the Garden City Skyway.
- Identify areas and roadway conditions that could result in traffic incidents to enable activities around proactive incident reduction.

INCIDENT MANAGEMENT - WNY

Committee Mandate: To develop recommendations for Board of Directors, NITTEC member agencies and other emergency services providers for the better coordination, integration, and implementation of operations to enhance the effectiveness of the region's highway incident management process.

2023 Highlights
- Met with stakeholders to review and update expressway closure guidelines.
- Held training for electric vehicle emergency response and reviewed water source signage.
- Discussed traffic management for the upcoming solar eclipse and its impact on regional traffic.
- Completed the installation of closure gates within the region.

Initiatives
- Identify and evaluate technology opportunities and best practices to accelerate incident detection time for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Promote the use of and train First responders on the Integrated Incident Management System (IIMS).
- Identify best practices for Commercial Vehicle traffic control during major events.
- Identify and sign water source locations used in response to electric vehicle incidents.
- Review closure plans to enhance opening procedures and evaluate gate locations and effectiveness.

Scheduled
- Conduct incident management training and distribute Emergency Responder Checklist cards to agencies for use by primary and secondary responders.
- Identify and review commercial vehicle staging areas and procurement.
- Promote public awareness about "Steer It Clear It", "Move Over" Law, Crash Investigation Sites, and incident markers to attendees of the Niagara Traffic Safety Fair and other venues.
- Debrief major incidents and establish "Best Practices" for future events.
- Conduct regional training exercise.

Ongoing
- Participate in event planning and traveler information activities.
- Promote effective communication and sharing of information [video, Center-to-Center (C2C), Computer Aided Dispatch (CAD)] among all responding agencies and the other NITTEC Committees.
- Review and provide recommendations for roadside assistance program.
- Provide incident management training to towing companies and maintain an urban area towing company resource list to ensure well managed and sufficient response.
- Develop Traffic Management Plans for Special Events.
- Maintain closure responsibility guidelines for regional expressways and communicate to stakeholders.
- Evaluate the need for accident reporting areas and expand to other locations.
- Identify areas and roadway conditions that could result in traffic incidents to enable activities around proactive incident reduction.

REGIONAL TRAFFIC SIGNAL

<u>Committee Mandate:</u> To address current and future needs for daily management, emergency evacuation and improved efficiency on priority arterials; recommend plans for: maintaining and upgrading arterial signal equipment; coordinating signals; integrating priority corridors within the system; and identifying high quality transit corridors for implementation of Transit Signal Priority in the Buffalo Niagara Region.

2023 Highlights
- Reviewed protocols for City of Buffalo traffic signal control in the event of highway closures.
- Discussed Transparity software integration with City of Buffalo traffic signals for remote viewing and control.
- Investigated reoccurring costs for communications to the Regional Signal systems.

Initiatives
- Evaluate Transit Signal Priority (TSP) and Miovision data for performance measures and begin a plan for analytics.
- Identify and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Collaborate with GBNRTC on developing a Regional Traffic Signal Communications Study that focuses on establishing costs and communications to all the regions traffic signals.
- Develop a Transit Signal Priority (TSP) Implementation Plan for the region to evaluate Bailey Avenue and other identified corridors.

Scheduled
- Review corridor timing plans, implementation and maintenance status as identified in the Corridor Status Matrix in conjunction with regional projects and available funding.

Ongoing
- Assess existing regional traffic system equipment and evaluate systems to enhance asset management inventory.
- Define opportunities for funding and training needs to develop skill sets, technologies, and processes.
- Maintain a Corridor Status Matrix of traffic signals along existing and proposed signal management corridors and identify and prioritize activities. The matrix shall identify signals to be upgraded based on limitations of phase plans that can be implemented along each corridor.
- Develop traffic signal performance measures reports to determine effectiveness of coordination along existing corridors. Monitor average speeds on each corridor for development of travel times.
- Identify high quality transit corridors and recommend implementation of Transit Signal Priority.
- Coordination with other Committees regarding highway closures and detours through signalized corridors.
- Monitor progress of Regional Traffic Signal projects.
- Define the Regional Traffic Signal System Concept of Operations for desired functionality of signal systems in the region.

STRATEGIC PLANNING

Committee Mandate: To assess NITTEC's performance in meeting member, stakeholder and public expectations, and make recommendations to the Board of Directors on the Coalition's long term direction.

2023 Highlights
- Provided review and oversight for the NITTEC Staffing Assessment.
- Coordinated efforts related to seeking federal grant opportunities within the region.
- Reviewed the Buffalo Niagara Region Transportation Projects and Initiatives.

Initiatives
- Oversee the development of the NITTEC Space Requirements and Staffing Needs Analysis.
- Oversee the development and delivery of the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Program.
- Oversee the development of the Buffalo Niagara Region Transportation Data Business Plan.

Scheduled
- Review Committee work plans for consistency with Strategic Plan to establish priorities and identify needs.

Ongoing
- Evaluate Committee effectiveness for establishing and meeting quantifiable goals.
- Monitor progress of regional projects and initiatives.
- Continue long term Business Continuity planning.
- Continue to work with Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) and member agencies to establish a process for identifying transportation corridors where operational strategies can be adopted to improve mobility and coordinate regional transportation planning and operations activities.
- Identify and pursue Revolving Loan Fund (RLF) and Grant project and promotion opportunities.
- Continue to coordinate with relative entities the proposed high quality transit corridors and identify needs for implementation, including transit signal priority.
- Continue to provide recommendations for NITTEC promotional opportunities.
- Continue to promote transit ridership and biking related to shared mobility.
- Implement Strategic Plan recommendations / action items based on available funding.
- Assess NITTEC's performance in meeting the expectations of members and stakeholders.

TECHNOLOGY AND SYSTEMS

<u>Committee Mandate:</u> To identify and coordinate member agencies plans for use of ITS architecture and Advanced Traffic Management elements; facilitate the development and introduction of regionally compatible ITS architecture and technology for traveler information and traffic management; and review RLF project applications for consistency with Regional ITS objectives and compatibility with existing systems for integration with a view to providing recommendations to the Board of Directors on the technical aspects of these applications.

2023 Highlights
- Reported on the video analytics software (TrafficVision) deployed on the region's highways.
- Reviewed the hardware/software for the NITTEC phone system replacement solution.
- Compiled a list of technical needs and requirements for a new Traffic Operations Center (TOC).

Initiatives
- Identify needs and requirements for a new Traffic Operations Center (TOC).
- Identify technology requirements for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Develop data strategies to collect, store, secure and make available to member agencies the various NITTEC data.
- Identify needs and the next steps for business continuity.

Scheduled
- Maintain and update a Major Systems Replacement Plan to identify the areas of system risk and additional support / redundancy for the equipment at NITTEC in conjunction with monitoring current and development of proposed budgets.
- Review requirements for NITTEC systems support and identify maintenance and warranty contract requirements, including system redundancy and business continuity and disaster recovery initiatives.
- Maintain and update annually the Regional Architecture according to the Maintenance Plan.

Ongoing
- Support Technology and Systems requirements for Intelligent Transportation Systems (ITS) projects and strategic initiatives, including expanding ITS operations and coverage within the region with the goal of integrating systems and operations across modes and agencies.
- Identify System Integration opportunities, compliance with standards and technology issues.
- Support and enhance the central signal software system and support the Regional Traffic Signal Committee connectivity initiatives by evaluating technology and hardware requirements.
- Review technology aspects of any Revolving Loan Fund (RLF) and Grant Fund applications that are received.
- Continue to report on Member Agency's systems status and activity logs monthly.
- Continue to monitor and update the progress of the regional projects and initiatives.
- Continue to identify training opportunities available for the benefit of NITTEC and Member Agencies.
- Maintain supporting documentation for the Regional ITS Architecture.
- Maintain cyber security and systems security solutions in accordance with standards.

TRAFFIC OPERATIONS CENTER

Committee Mandate: To provide policy guidance and oversight of the NITTEC TOC, develop regional bi-national operational policies and procedures for advanced traffic management and traveler information.

2023 Highlights
- Reviewed Winter Operations procedures and Winter Messaging protocols.
- Developed a Solar Eclipse Regional Messaging Plan and discussed the potential traffic impact on the region.
- Identified potential locations of future ITS elements.

Initiatives
- Identify and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Identify future Intelligent Transportation System (CCTV, DMS, PVMS, Flashing Beacons, and Incident Detection) locations.
- Identify the transportation needs and develop traffic management plans related to the Eclipse 2024 event.

Scheduled
- Coordinate periodic stakeholder meetings when transportation issues arise.
- Monitor current and develop proposed budgets.
- Review and analyze performance measures to calculate the impact of incidents, construction, and weather delays within a corridor and promote operational improvements.
- Collaborate with the Technology & Systems Committee to define and address Advanced Traffic Management System (ATMS), traffic signal systems, Communication Log and other Intelligent Transportation Systems (ITS) needs.
- Review Committee Performance Measure Report.

Ongoing
- Review Regional Event Traffic Management Plans (TMP), expressway detour routes and signing plans that will be utilized during major events.
- Continue TOC quality initiatives.
- Evaluate operational procedures, training programs and staffing levels to ensure they are adequate for implementation of new systems and initiatives.
- Continue to provide the opportunity for agencies to talk with each other, share knowledge and discuss issues.
- Review and identify additional opportunities for Center-to-Center (C2C) data sharing among member agencies and evaluate and enhance communication protocols.
- Monitor recommended strategies from Integrated Corridor Management (ICM) project and other project integration opportunities.
- Establish traffic management strategies using data driven performance outcomes to achieve optimal results.
- Support evaluation for Incident Detection Systems and promote within Member Agencies.
- Review and provide input on the enhanced Crossroads System response plans and Dynamic Message Sign (DMS) messaging.

FINANCIAL INFORMATION

The adopted SFY 2023-2024 Operating Budget was $2,802,799, distributed as identified below.

Budget Distribution

Labor Costs		
Benefits	$796,581	
Administrative Salaries	$724,367	
TOC Salaries	$624,048	**$2,169,996**
Overtime	$25,000	**77%**

Non-Labor Costs		
Committee	$347,300	
Facility and Host Administration	$154,603	**$632,803**
Direct Non-Salary	$90,900	**23%**
Project and System Enhancements	$40,000	

2023-2024 Adopted Budget

Pie chart:
- Benefits — 28.4%
- Administrative Salaries — 25.8%
- TOC Salaries — 22.3%
- Overtime — 0.9%
- Committee — 12.4%
- Facility and Host Administration — 5.5%
- Direct Non-Salary — 3.2%
- Project and System Enhancements — 1.4%

Budget Performance

Bar chart showing Adopted Budget (green) and Total Expenditures (orange) for fiscal years 2018-2019 through 2023-2024.

REVOLVING LOAN FUND & GRANT

NITTEC manages a Revolving Loan Fund (RLF) established to support and enhance innovation and development of ITS and transportation operations solutions to improve mobility in the region.

There is approximately $5,083,376 in available monies for regional ITS, operations, and mobility projects for loan through the NITTEC RLF. Based on the established guidelines, loans are available for member agency sponsored organizations that wish to pursue project funding in the region in accordance with the established Project Selection Criteria.

The financial status of the RLF as of December 31, 2023 is presented here.

Total RLF Summary	Amount
RLF Principal	$5,000,000
Interest	$1,173,707
RLF Principal & Interest	**$6,173,707**
Grant Monies Paid	$662,592
Remaining Allocated Grant Monies	$183,000
Other - Write Off	$244,739
Available Balance	**$5,083,376**

In addition, interest earned on the RLF has been distributed as grants to fund multiple ITS projects in the region.

Project	Details	Organization	Grant Amount
Niagara Street Corridor Signal Controllers	Installation of 26 traffic signal controllers to implement transit signal prioritization along the corridor	City of Buffalo	$182,000
Border Crossing Traveler Information System	Installation of 9 hybrid message signs displaying border crossing information for the three international bridges	NITTEC Border Crossing Committee	$183,000
Smart Camera Technology	Installation of 5 smart cameras and 2 ATC controllers	Town of Tonawanda	$120,000
Fiber Optic Diagnostic Equipment	Purchase of Fiber Optic Diagnostic equipment, repair tools, and a specialized trailer	NYSTA	$75,000
Crossroads ATMS Enhancement	Improvements to NITTEC's Advanced Traffic Management System	NITTEC	$300,000
		Total	**$860,000**

REGIONAL INITIATIVES

ATCMTD Project Update

In 2016, NITTEC was awarded a $7.8 million Advanced Transportation Congestion Management Technology Deployment (ATCMTD) Grant by the Federal Highway Administration. The goal of the project is to enhance safety and mobility across the Region through fulfillment of the following: Balancing multi-modal demand at international border crossings through active demand management to provide acceptable levels of service; Improving commercial vehicle operations, (CVO) primarily through CVO-targeted traveler information, including development of vehicle-to-infrastructure (V2I) applications supporting in-vehicle dissemination of alerts and advisories; and Enabling the benefits of integrated regional mobility by extending existing integrated corridor management (ICM) activities geographically, and advancing from a corridor-based model (along the I-190 corridor) to a regional focus.

After extensive planning with our stakeholders and consulting team, NITTEC decided the best use of the funds would be to focus on bridging the gaps between the region's various sources of transportation data and creating a central repository of traveler information.

The proposed system - AllRoads - will improve the quality and timeliness of data to allow transportation operators to better coordinate incident management and response. It will also include the integration of real-time road weather information on critical routes and a live regional traffic model. This model will feed a decision support module, allowing for advanced, rapid response to traffic events as they unfold.

The core systems will be supplemented by multiple pilot deployments of field equipment and new systems to fill gaps in the region's data. This includes truck parking data, transit park-and-ride occupancy, and arterial traffic information.

ATCMTD Project Timeline

2016	Grant Award
2017-2019	Concept Development
2020	Project Planning (Phase 1)
2021	RFP for System Development (Phase 2)
2022	Beginning of Phase 2 / AllRoads Development
2023	AllRoads Testing and Pilot Technology Deployment
2024	AllRoads Launch and Evaluation

AllRoads System Overview
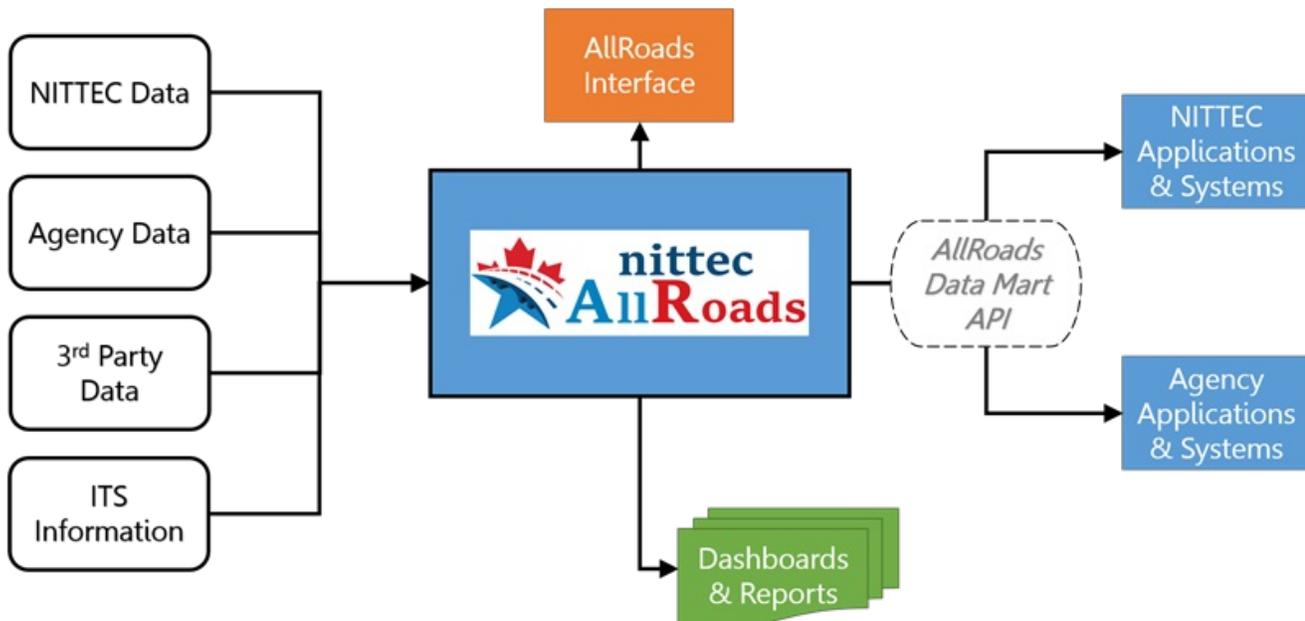
Other Regional Projects & Initiatives

2024 Eclipse Preparation

On Monday, April 8, 2024 the shadow of the moon will pass across the US making a line from central Mexico to New England. This time, the central part of the moon's shadow (the umbra) will pass right over Buffalo bringing a total solar eclipse. The event is expected to bring a significant influx in visitors and have a dramatic effect on regional transportation. NITTEC and its partners have been coordinating planning and response efforts for the event.

Connected Regional Traffic Signals

Since 2018, NITTEC has been assisting its member agencies to acquire and deploy connected traffic signal technology which allows for remote access to signal controllers, improves timing and coordination, and the calculation of real-time and historical automated traffic signal performance measures (ATSPMs). As more equipment is deployed over time, NITTEC will work to ensure interagency communication and coordination.

ITS4US / Buffalo All Access

The Buffalo Niagara Medical Campus has led an effort funded by a U.S. Department of Transportation grant to use technology to improve transportation options for all travelers in and around the campus, regardless of ability, age, or income. This includes the development and deployment of a complete trip platform, community shuttle service, and smart infrastructure.

Integrated Incident Management System

NITTEC has facilitated the deployment of a pilot application which allows traffic incident responders to easily collect information about the incident on a mobile device, including pictures and videos.

NITTEC Website Redesign

NITTEC and its website developer have been working on a new website design which will allow users to more readily access the traveler information which matters to them and provide an improved experience in both desktop and mobile environments. The redesigned website is expected to launch in 2024.
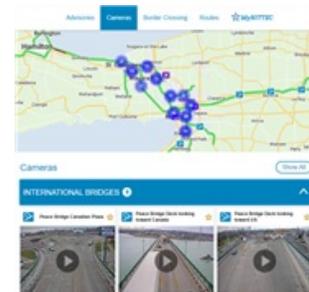
Federal Grant Applications

As federal discretionary grants become available, NITTEC works to monitor the statuses of grants and coordinate with its member agencies to develop strong applications on behalf of the region.

TRAVELER INFORMATION

This table compares the NITTEC website traffic from 2021 - 2023.

Website Statistics

	2021	2022	2023	% Change (2022 to 2023)
Number of Pageviews	394,391	1,266,313	1,455,349	14.9%
Number of Sessions	224,451	705,559	778,115	10.3%
Number of Users	93,418	312,977	312,648	-0.1%

Pageview: A pageview is a single instance of one of the pages of the website being loaded.

Session: A session captures a visitors entire engagement with the website, regardless of the duration/content viewed.

User: A user is a unique visitor to the website.

Page Views
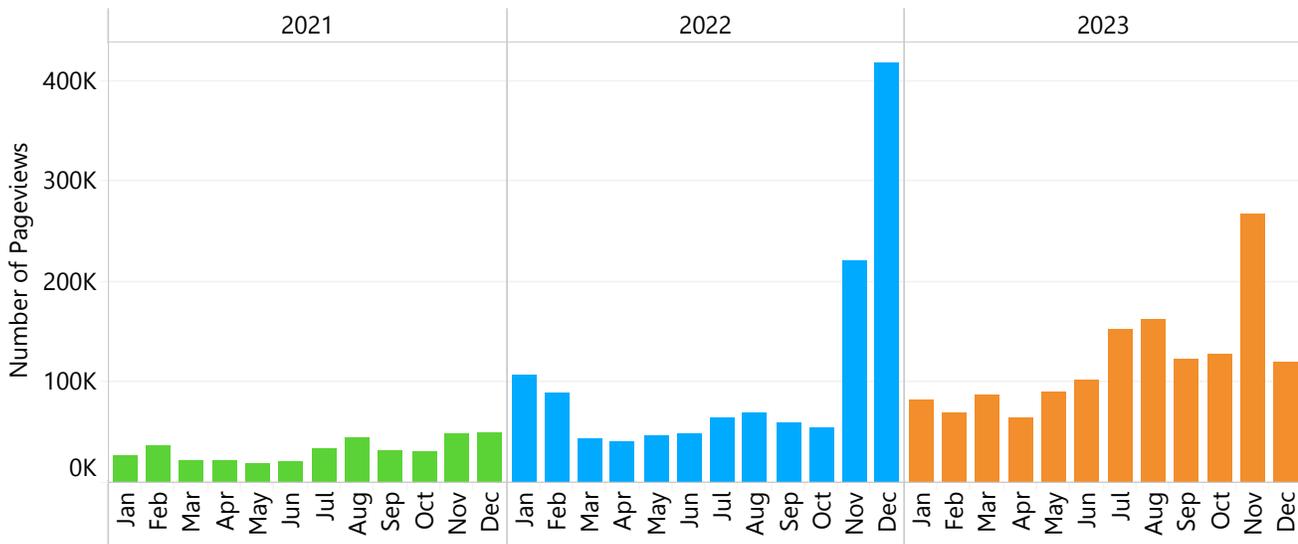
Sessions per Year
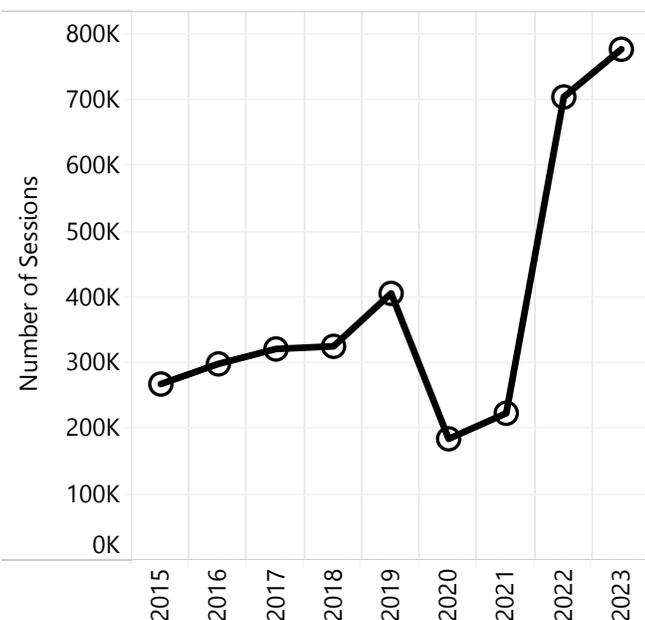
Users by Country
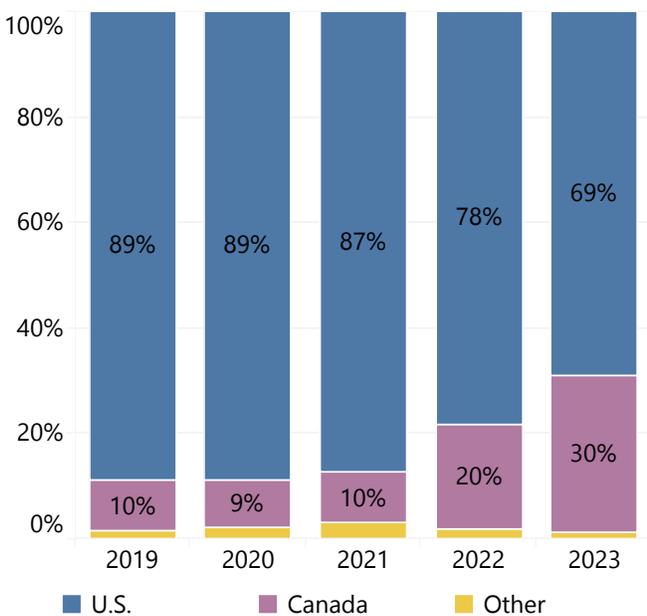
The graph below shows the number of MYNITTEC subscribers from 2021-2023.

MYNITTEC Subscribers
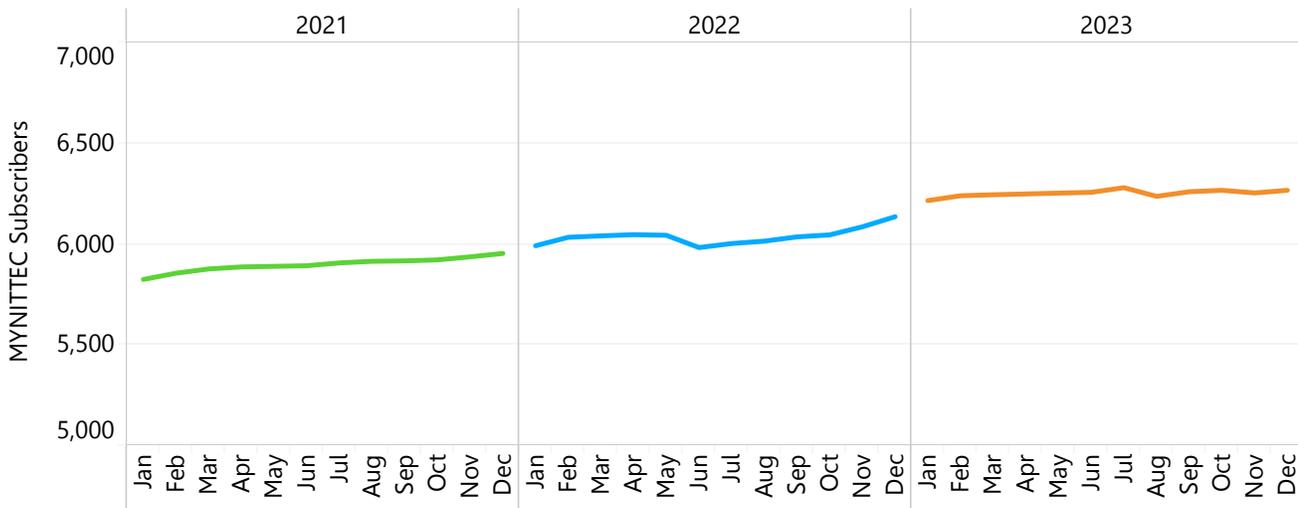
The graph below shows the number of followers on X / Twitter from 2021-2023.

X / Twitter Followers
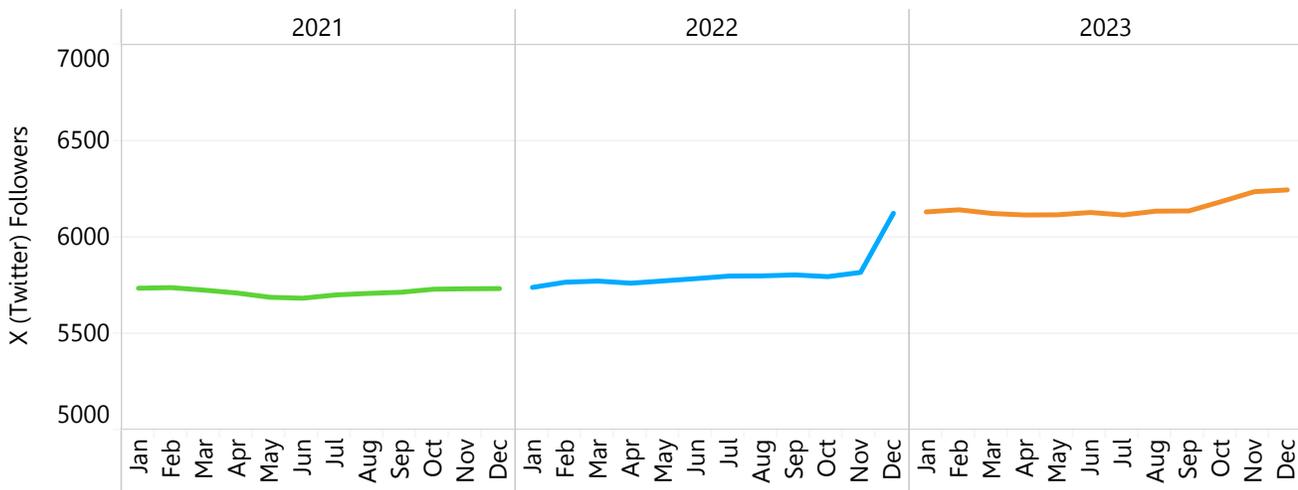
The graph below shows the number of Likes on Facebook from 2021-2023.

Facebook Likes
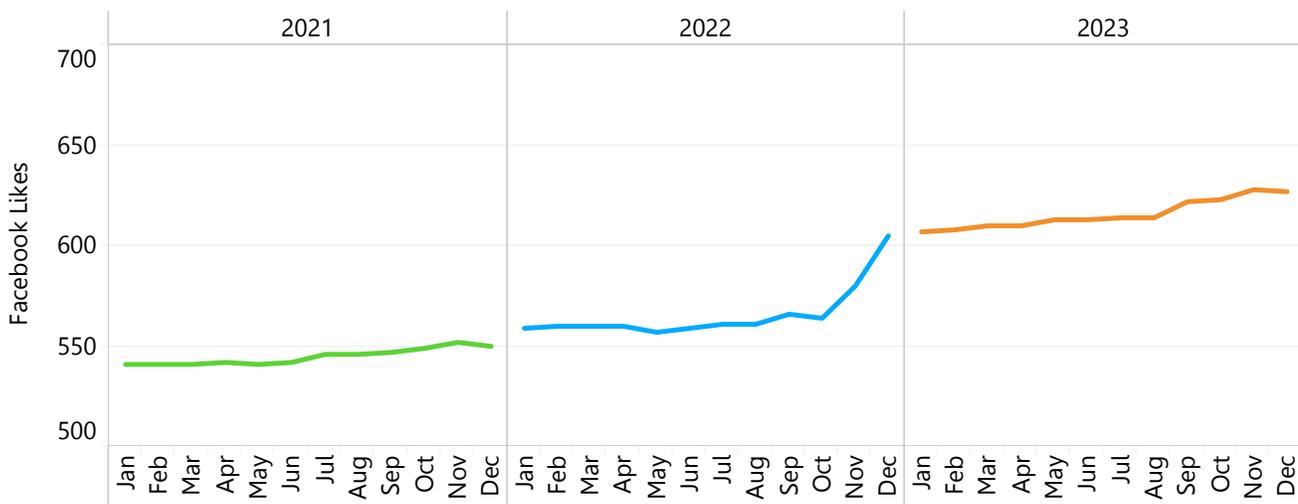
TRAFFIC OPERATIONS CENTER ACTIVITY

The table below shows the number of events of each type logged by the NITTEC TOC from 2021 to 2023, as well as the percent change from 2022 to 2023. The following graphs and tables show the number of events of each type logged by month from 2021 to 2023.

Activity Table

	2021	2022	2023	% Change
Border Crossing	52	158	304	92%
Congestion	264	341	847	148%
Construction/Maintenance	1,551	1,711	1,339	-22%
Crashes	1,247	1,291	1,543	20%
Debris	2,405	2,405	2,382	-1%
Disabled Vehicles	1,431	1,329	1,487	12%
Signal Malfunction	1,242	1,331	1,110	-17%
Snow & Ice	438	611	273	-55%
Total	8,630	9,177	9,285	1%

Total Events
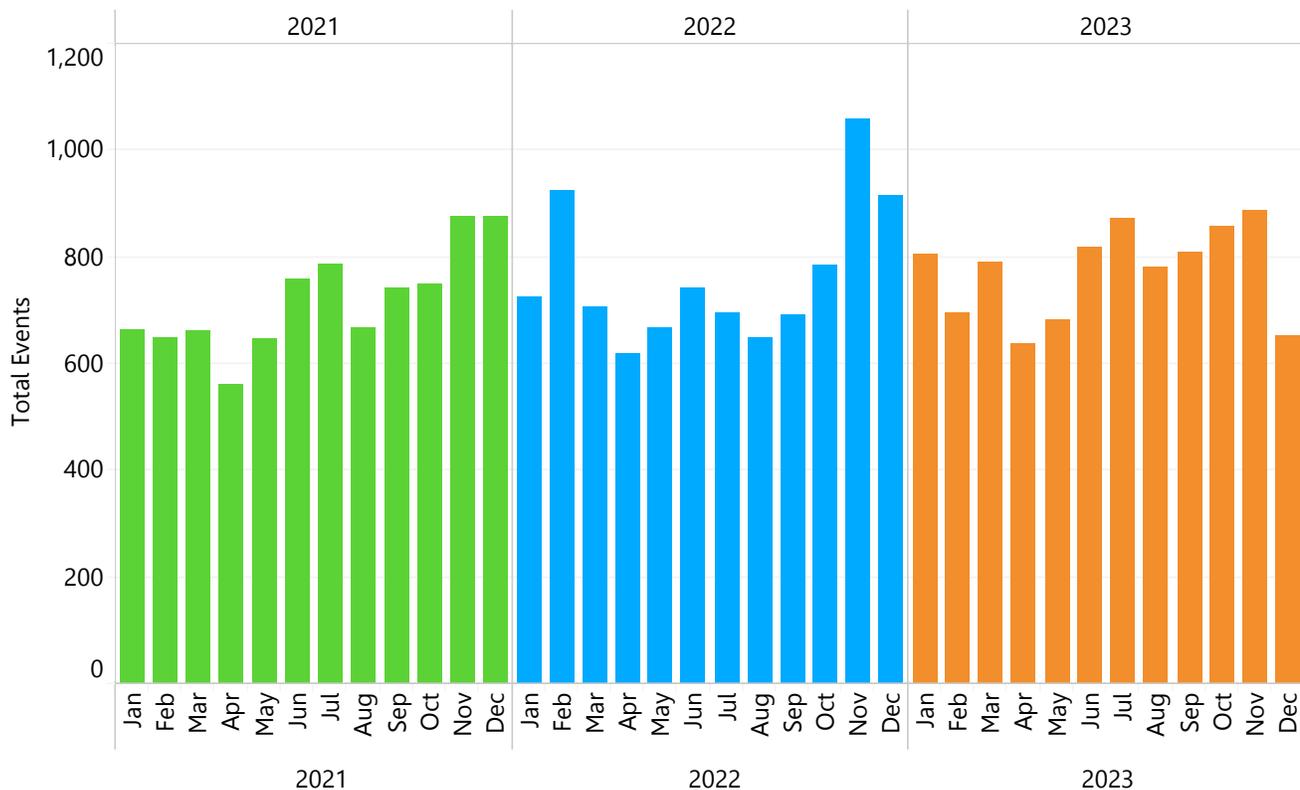
Total / % change	8,630	9,177	9,285
	12%	6%	1%

Border Crossing
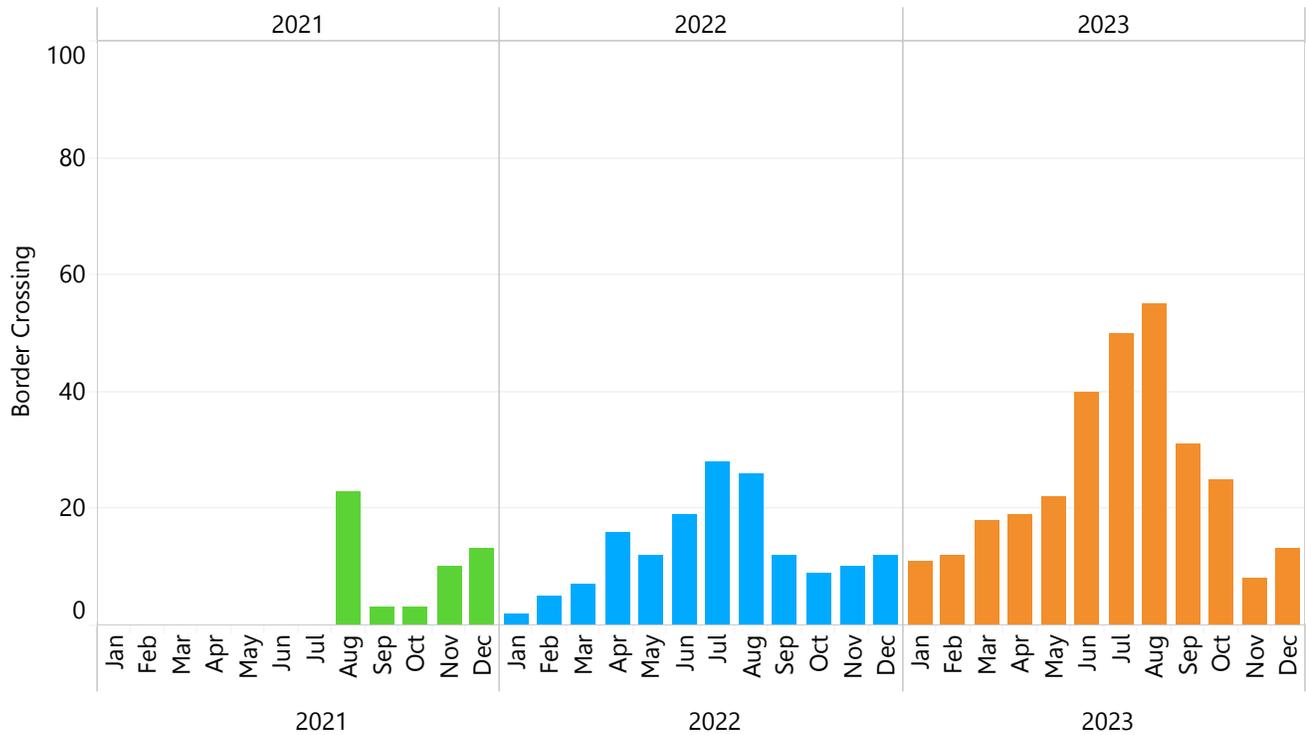
Total / % change	2021	2022	2023
	52	158	304
	271%	204%	92%

Congestion
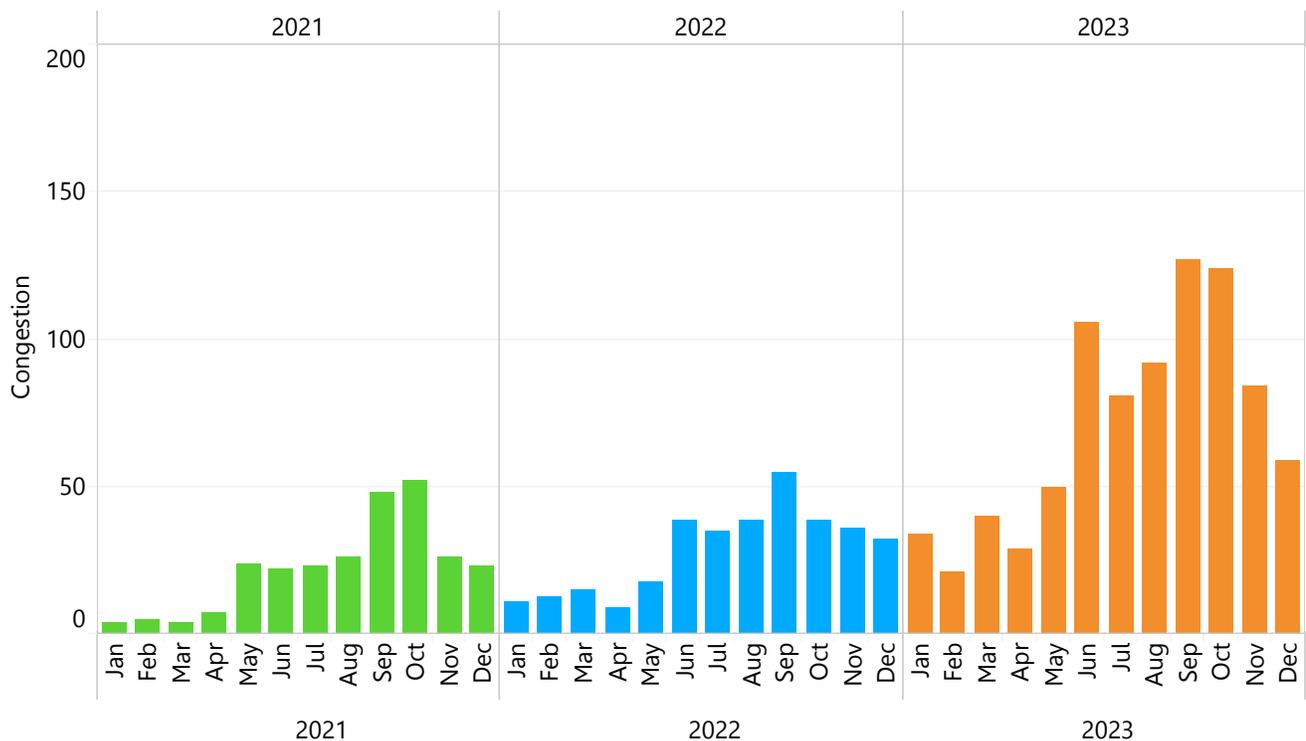
Total / % change	2021	2022	2023
	264	341	847
	31%	29%	148%

Construction/Maintenance
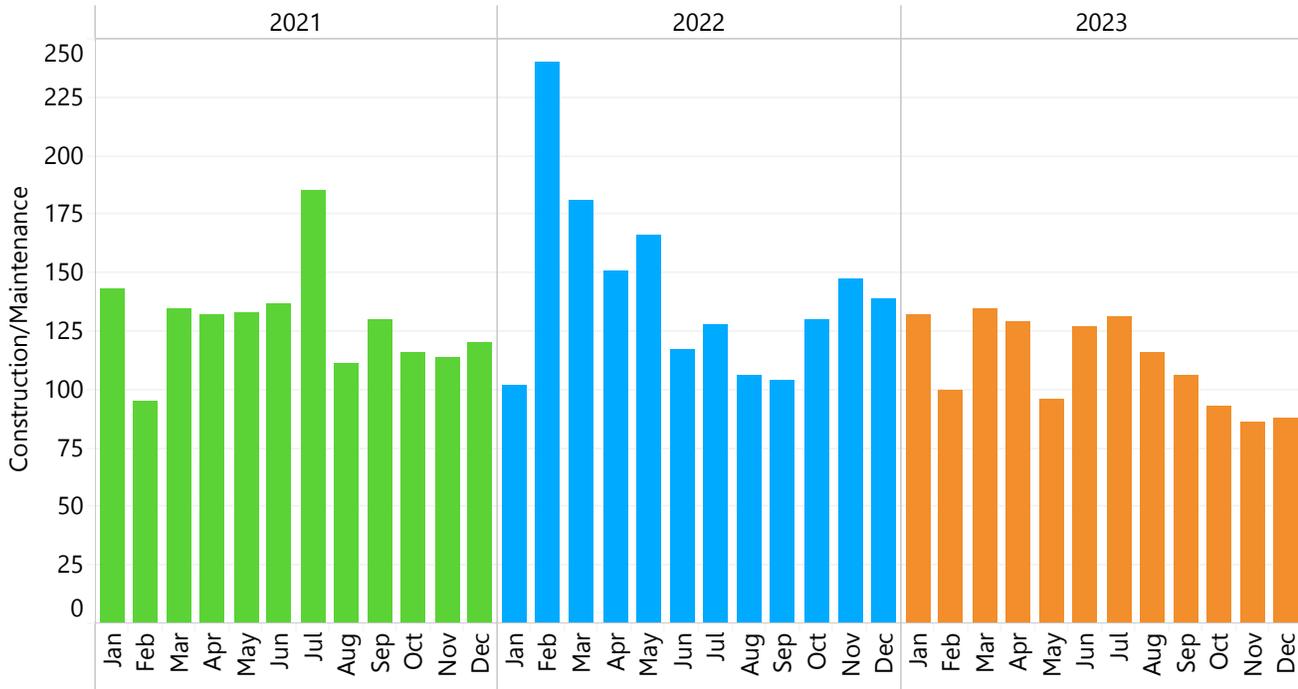
	2021	2022	2023
Total / % change	1,551 -4%	1,711 10%	1,339 -22%

Crashes
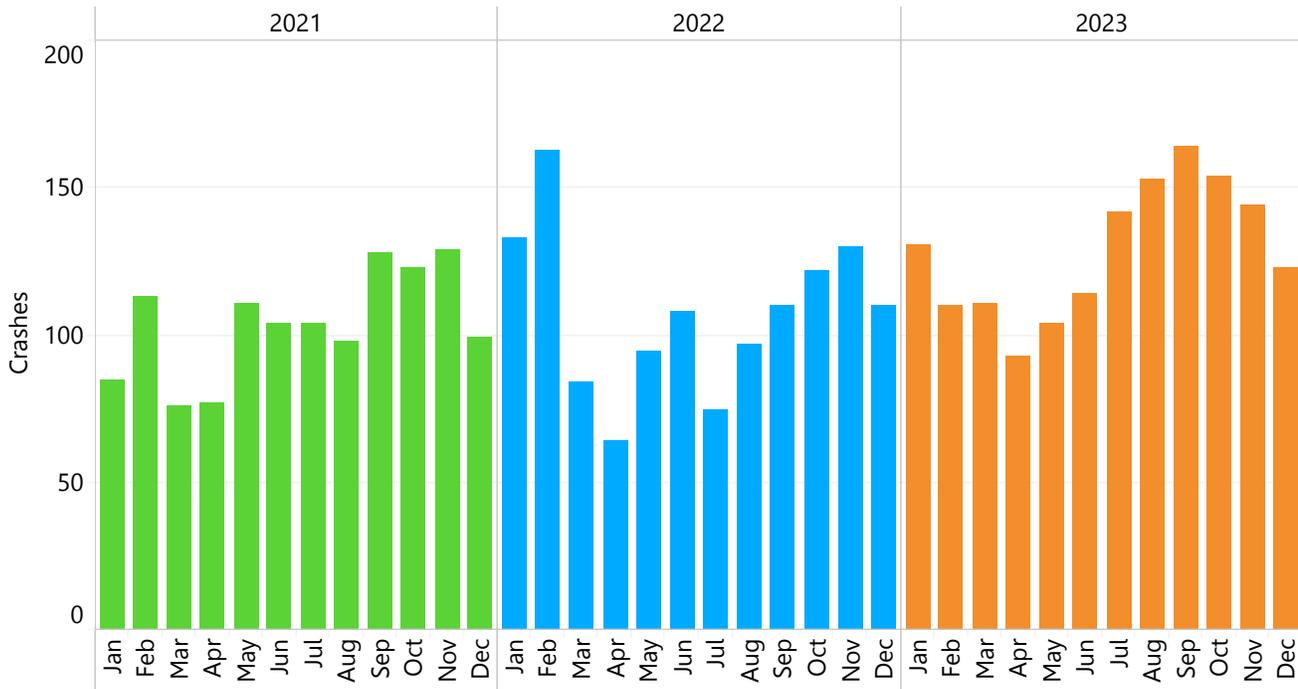
	2021	2022	2023
Total / % change	1,247 29%	1,291 4%	1,543 20%

Debris
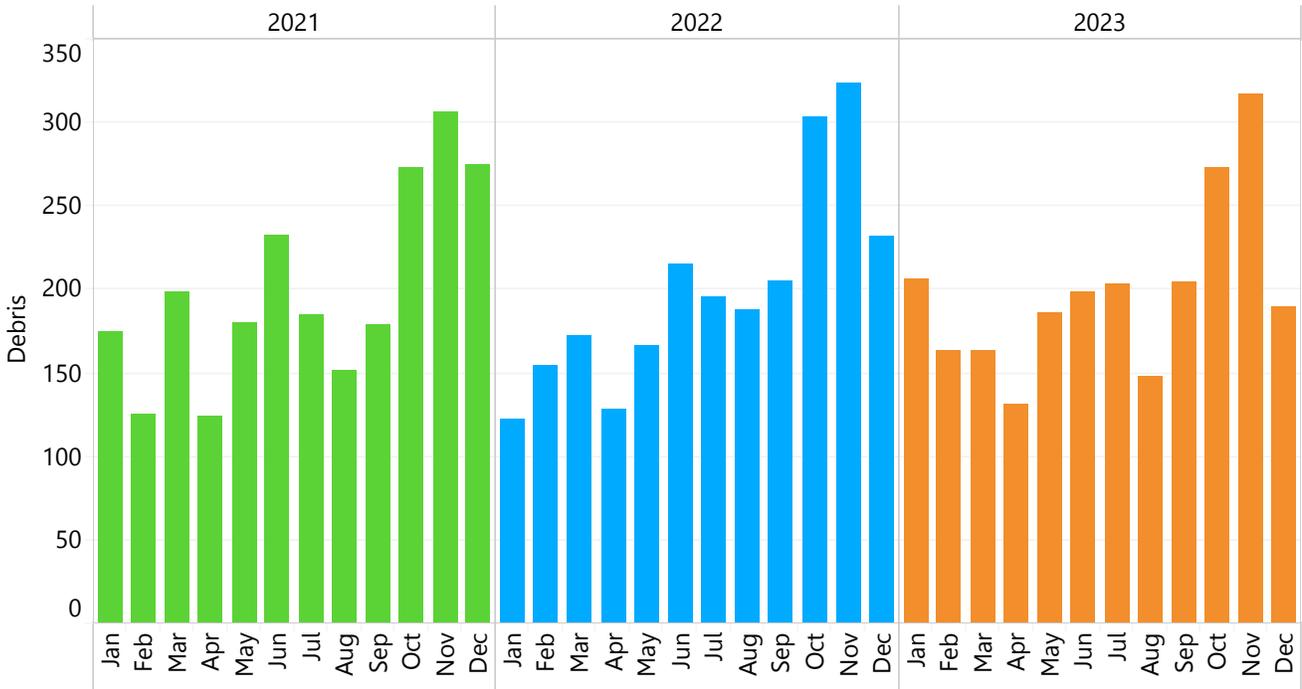
	2021	2022	2023
Total / % change	2,405 11%	2,405 0%	2,382 -1%

Disabled Vehicles
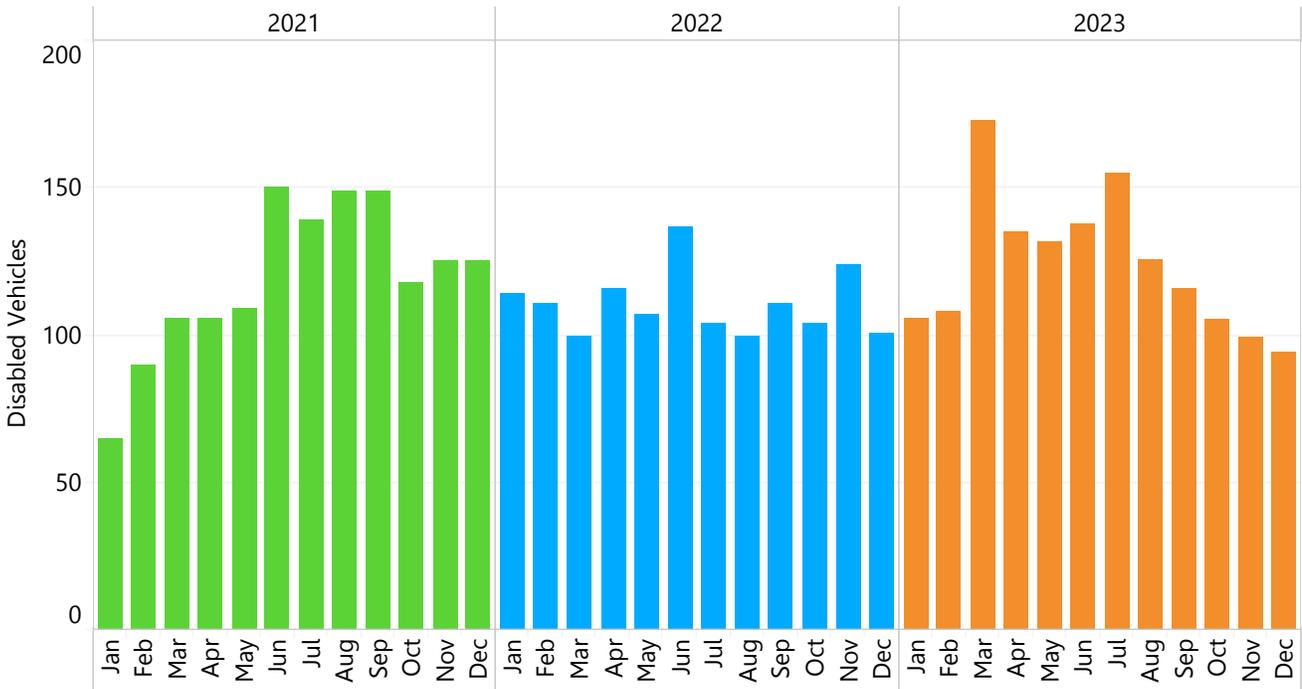
	2021	2022	2023
Total / % change	1,431 24%	1,329 -7%	1,487 12%

Signal Malfunction
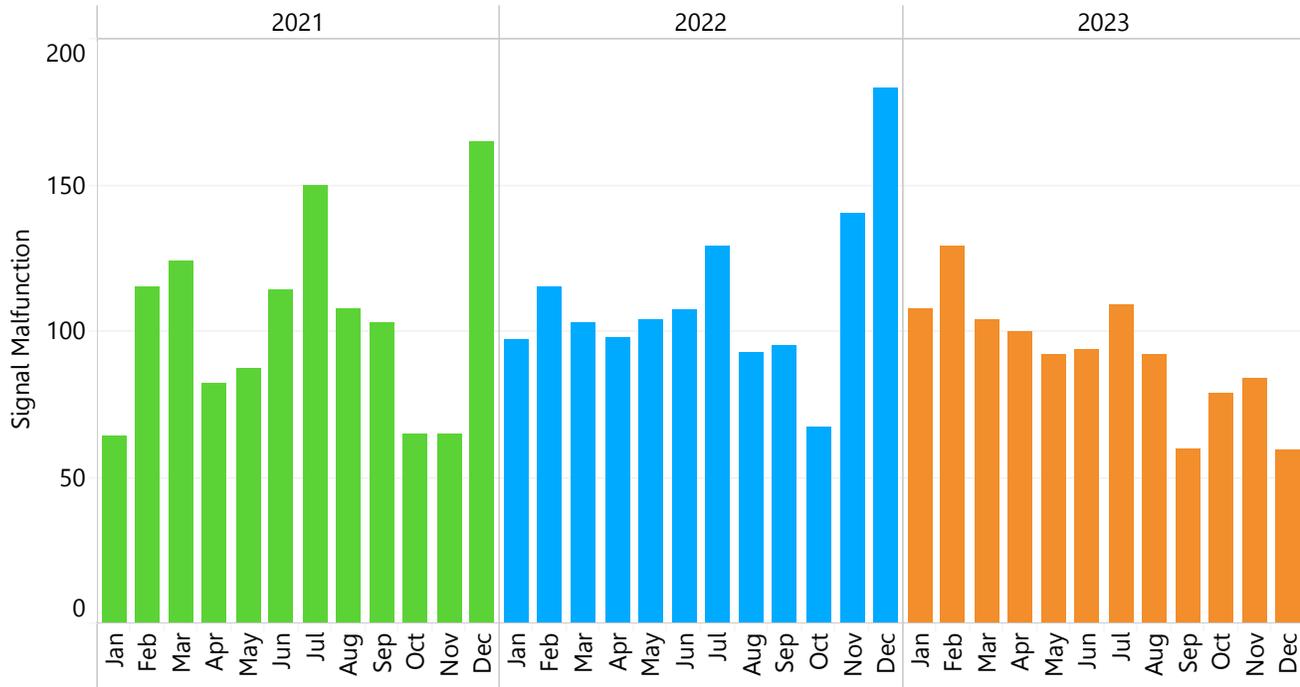
	2021	2022	2023
Total / % change	1,242 0%	1,331 7%	1,110 -17%

Snow & Ice
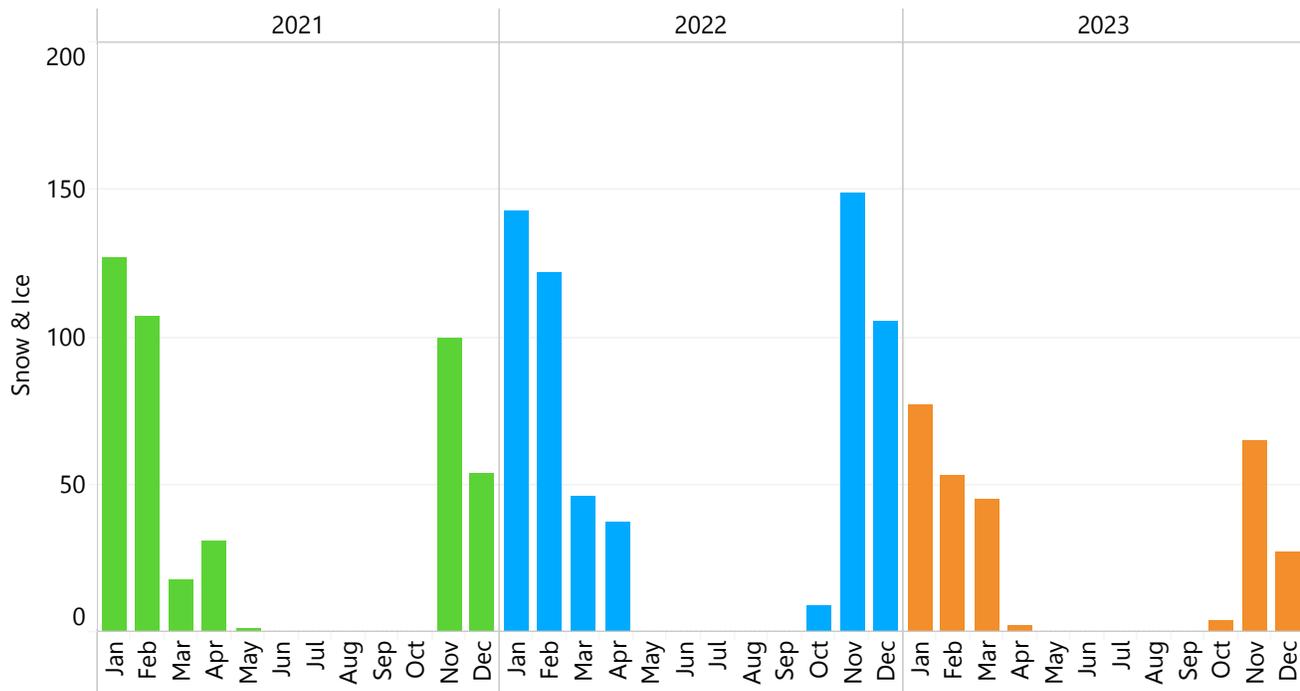
	2021	2022	2023
Total / % change	438 16%	611 39%	273 -55%

TOC CALL ACTIVITY

The graph below shows the number of incoming and outgoing calls to the NITTEC TOC.

Calls

Legend: ■ Incoming Calls ■ Outgoing Calls
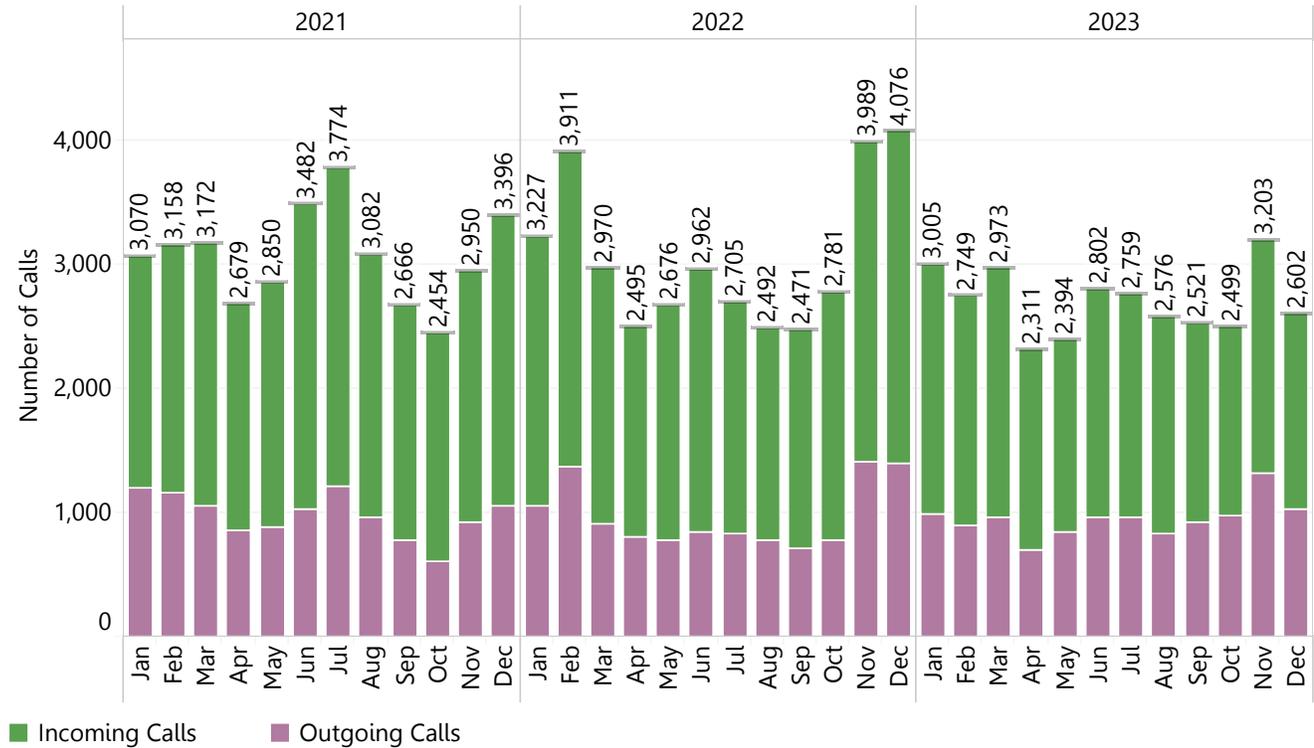
	2021	2022	2023
Incoming Calls	25,019	25,103	21,041
Outgoing Calls	11,714	11,652	11,353
Total Calls	36,733	36,755	32,394

RESPONSE TRAINING

The graphs below show the results of the region's Highway Safety Awareness Training and Traffic Incident Management Self-Assessment.

Highway Safety Awareness Training

Traffic Incident Management Self-Assessment

Year	NITTEC	National Average
2018	80.6%	70.4%
2019	81.6%	73.3%
2020	81.6%	70.0%
2021	81.9%	72.4%
2022	85.1%	73.1%
2023	85.1%	

Legend: ■ NITTEC ■ National Average
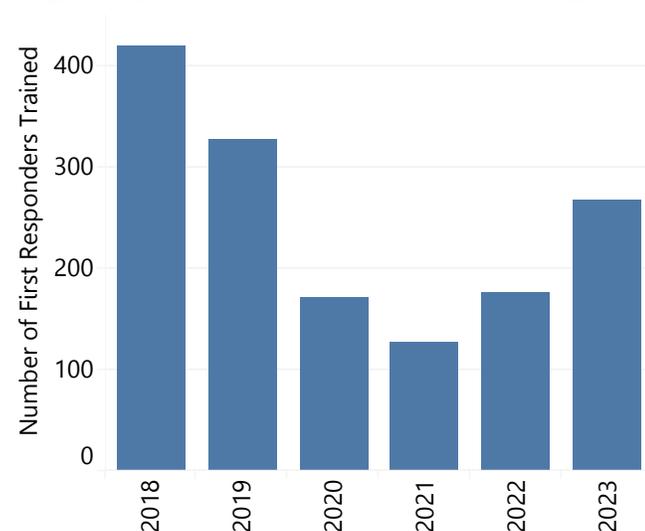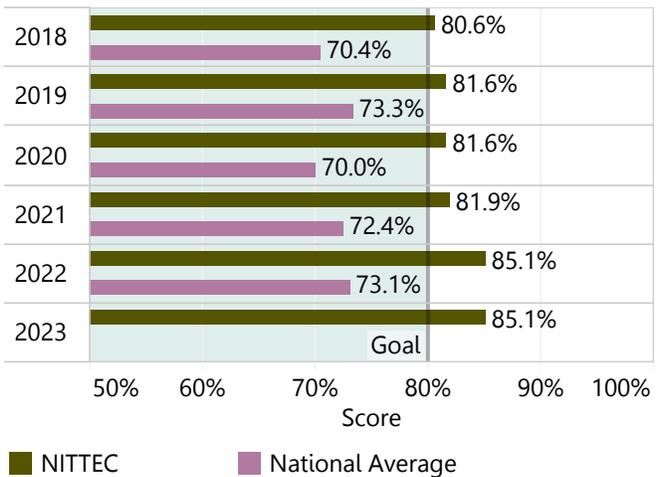
WESTERN NEW YORK INCIDENT ACTIVITY

The table below shows the total activity for each route from 2021 - 2023.

	2021	2022	2023	% Change (2022 to 2023)
I-90	488	508	583	15%
I-190	751	773	946	22%
I-290	1,140	1,114	1,056	-5%
I-990	54	60	66	10%
Route 5	411	453	402	-11%
Route 33	1,076	981	1,089	11%
Route 198	78	68	91	34%
Route 219	213	216	205	-5%
Route 400	98	105	101	-4%
Total	3,898	3,825	4,137	8%

I - 90
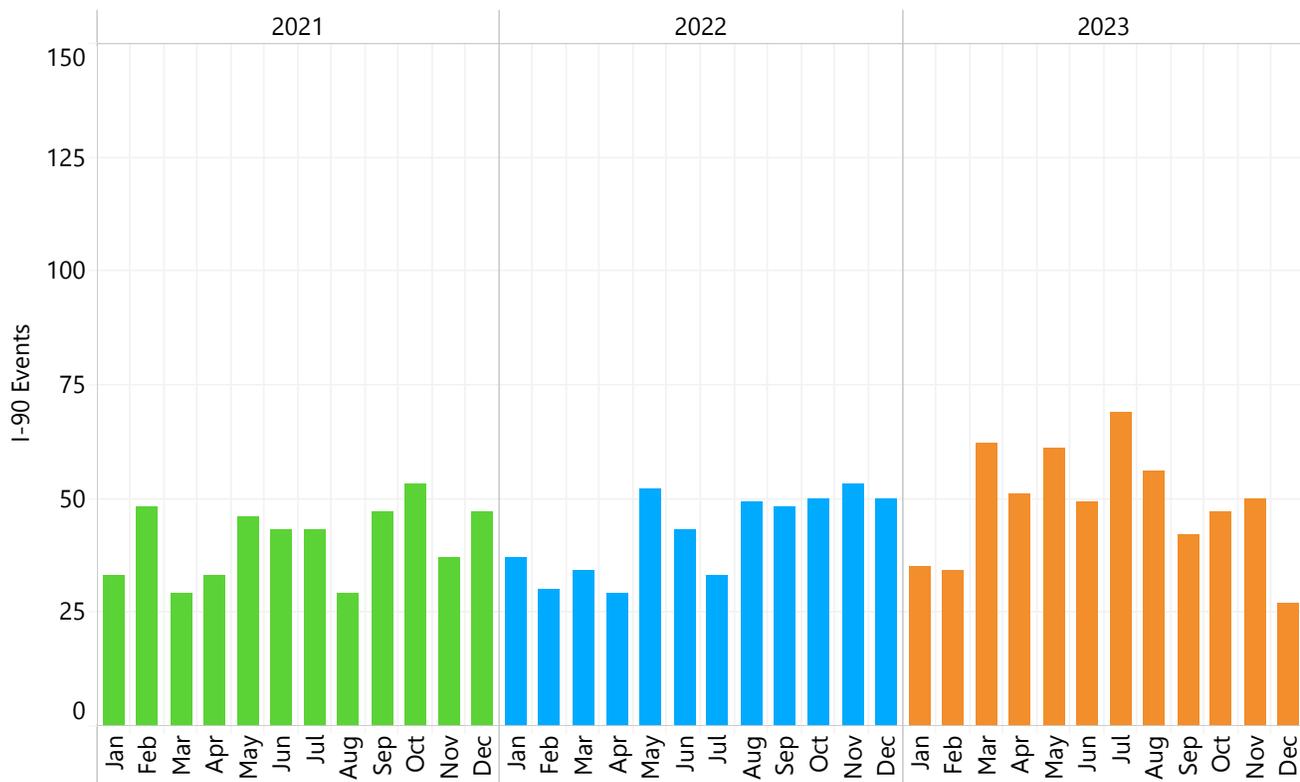
I - 190
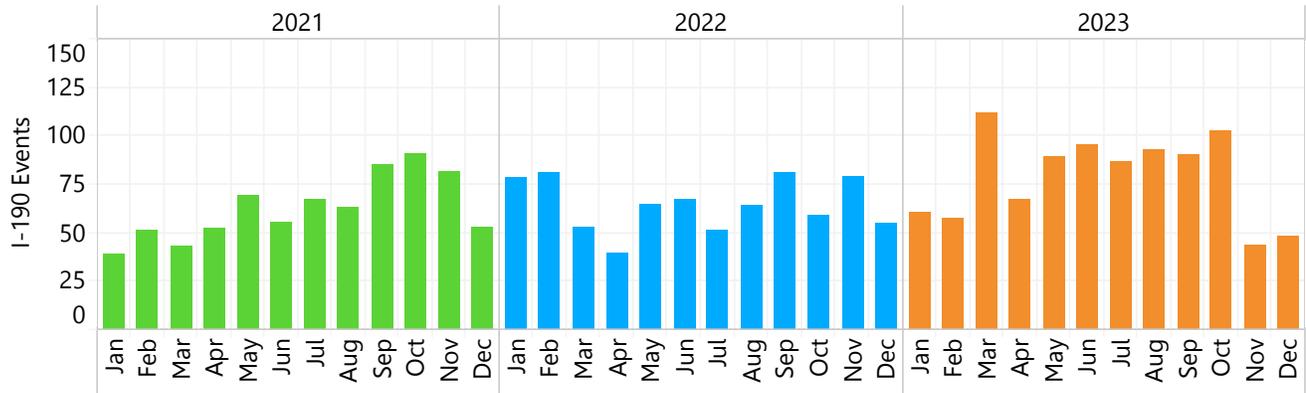
I - 290
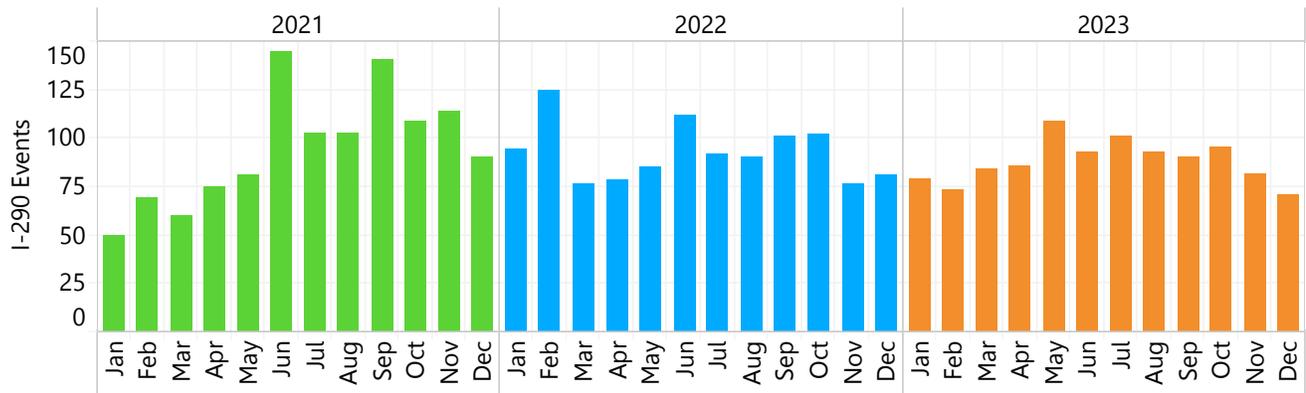
I-990
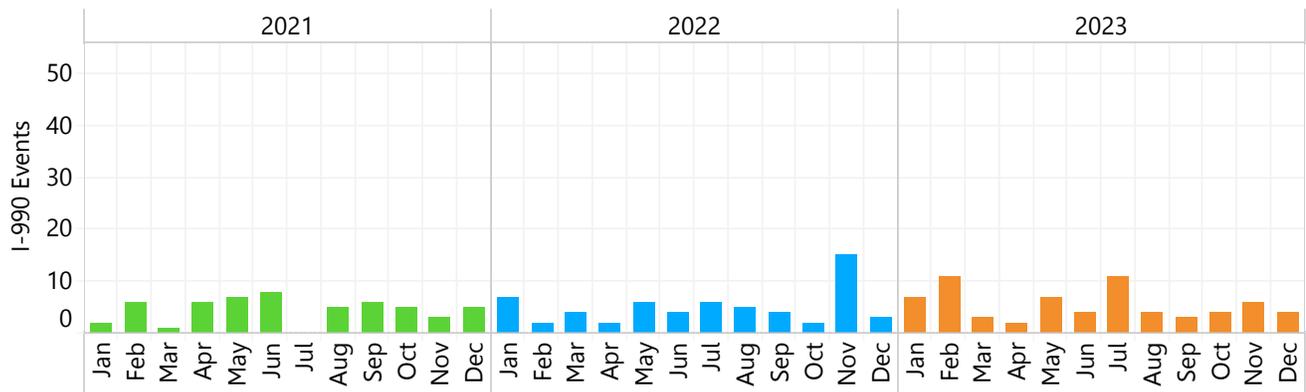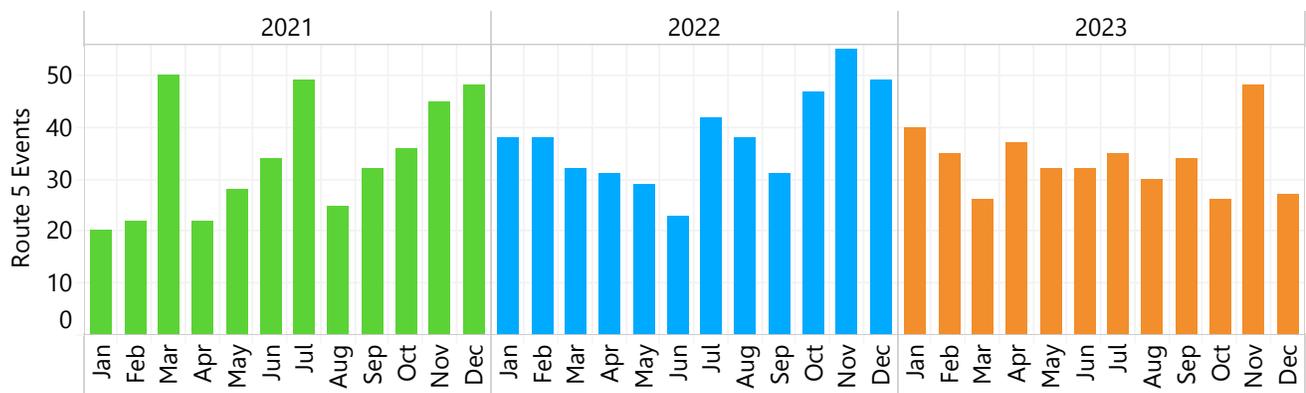
Route 5

Route 33
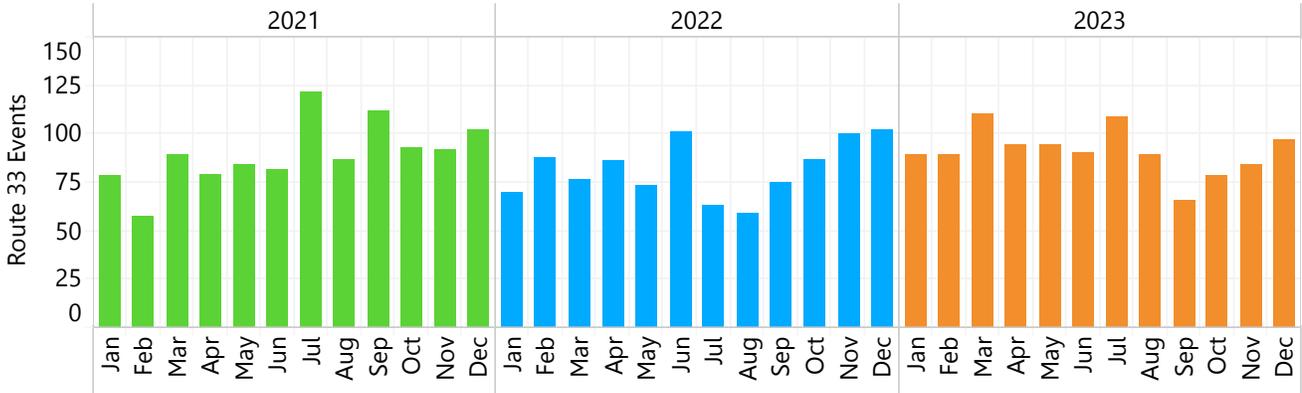
Route 198
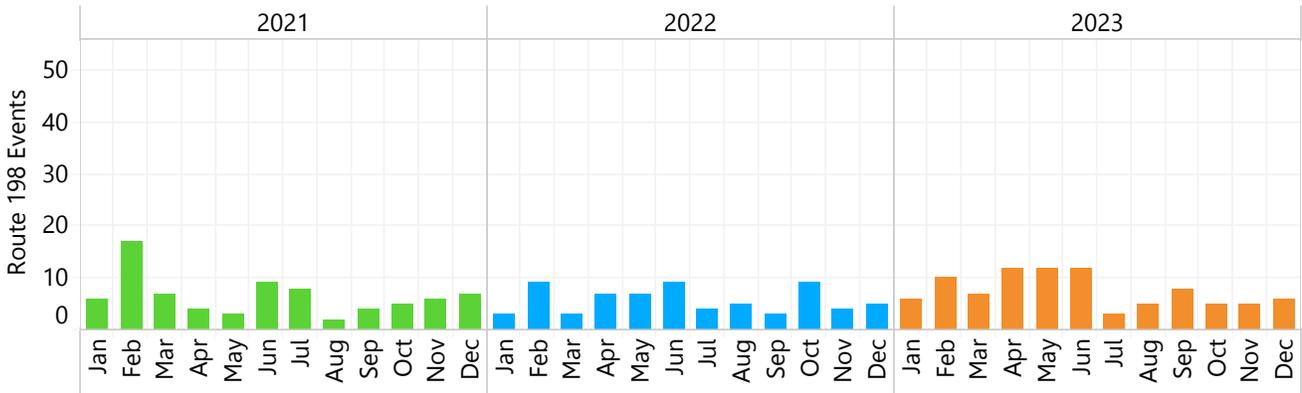
Route 219
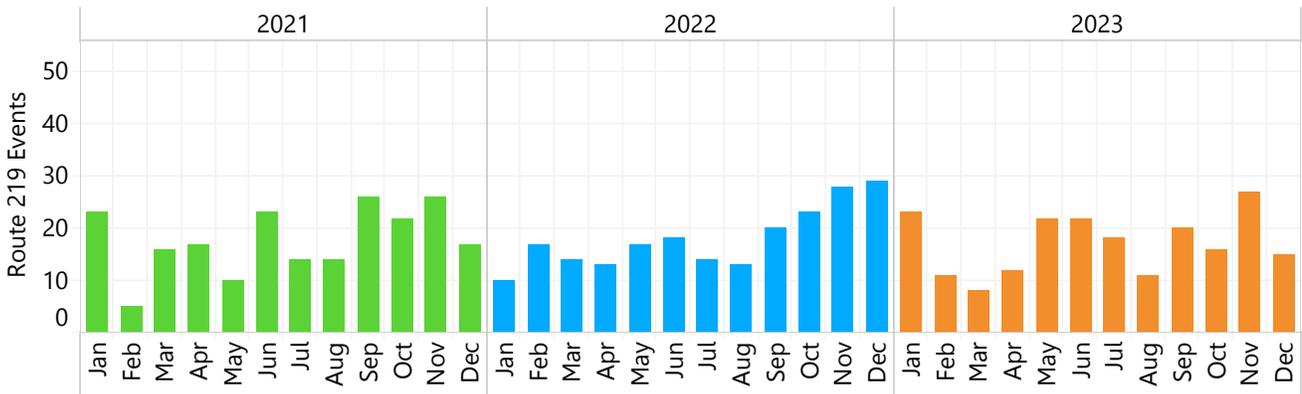
Route 400
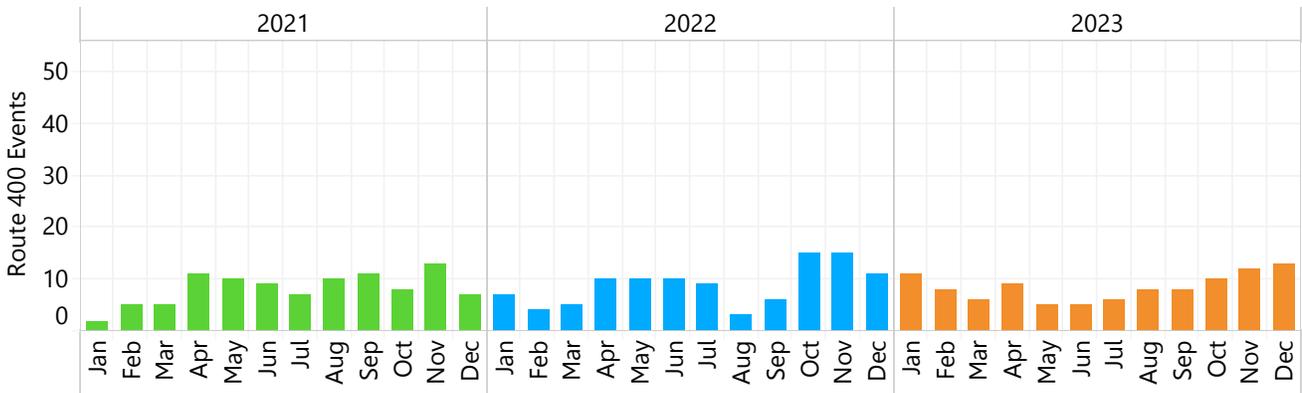
SOUTHERN ONTARIO INCIDENT ACTIVITY

	2021	2022	2023	% Change (2022 to 2023)
QEW Events	471	546	617	13%
HWY 405 / 406 / 420 Events	201	285	286	0%
Total	672	831	903	9%

QEW
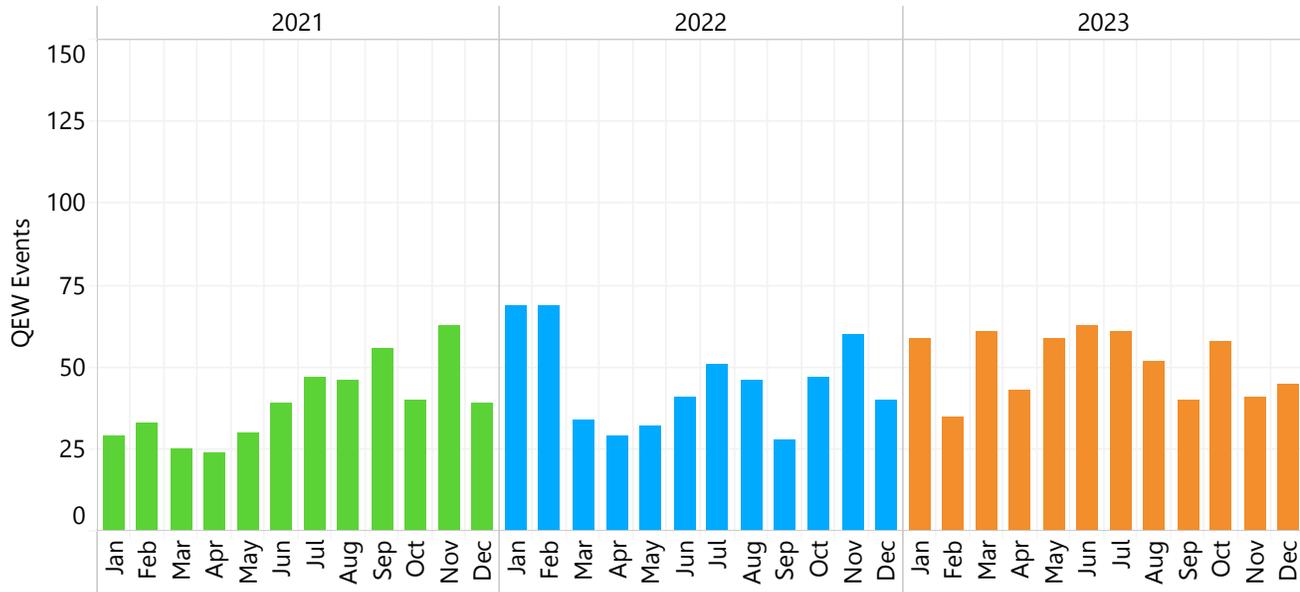
HWY 405 / 406 / 420
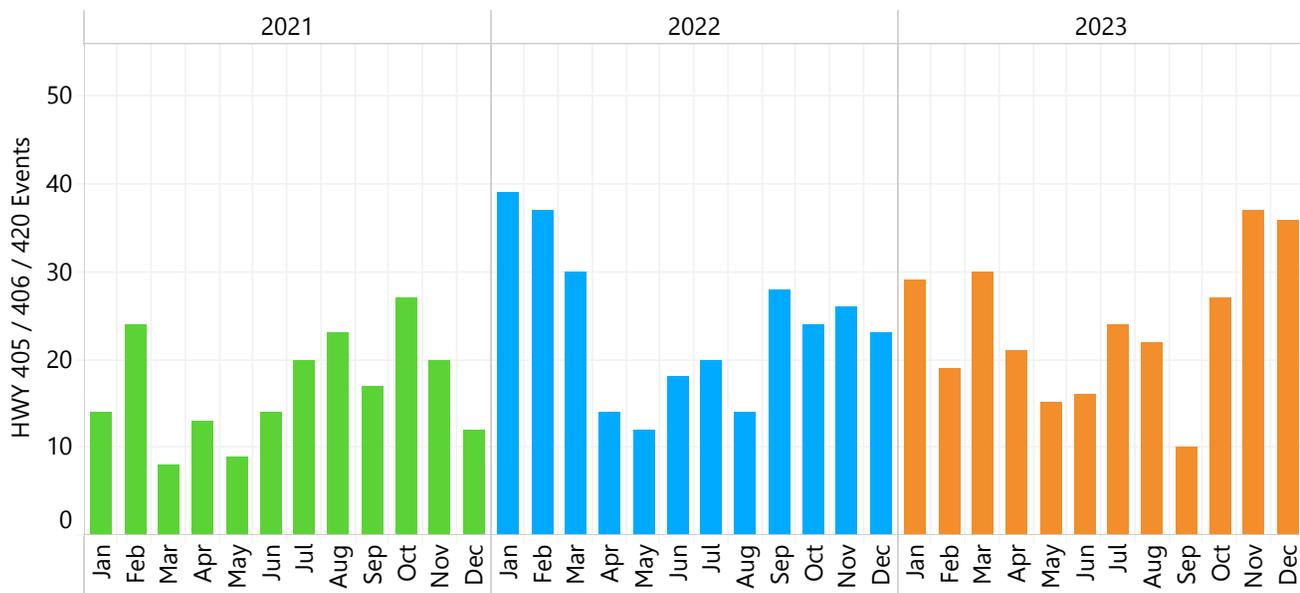
DYNAMIC MESSAGE SIGN ACTIVITY

The graphs below displays the total number of Dynamic Message Sign (DMS) and Portable Variable Message Sign (PVMS) activations for accidents, border crossing, weather conditions, and special events in the region during 2023.

DMS Activations
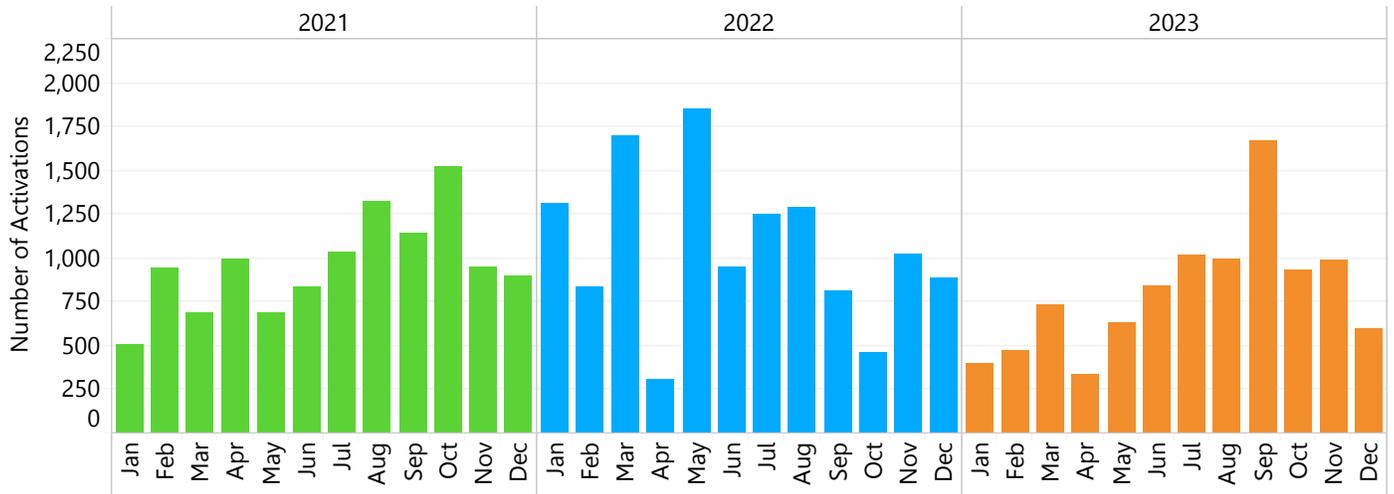
Top 10 Activations by Sign

Sign	Number of Activations
I-190 S before Niagara St	527
I-190 S between Smith St and Seneca St	507
Route 33 W at Union/I-90	501
Route 33 E at Harlem/I-90	463
I-190 N between Niagara St and Peace Bridge	456
I-90 East between Ridge Rd and Route 400	438
Route 198 W before I-190	412
I-290 E between Sheridan Dr and Main St	399
I-190 N before Hamburg St	397
I-190 N before Niagara St	376
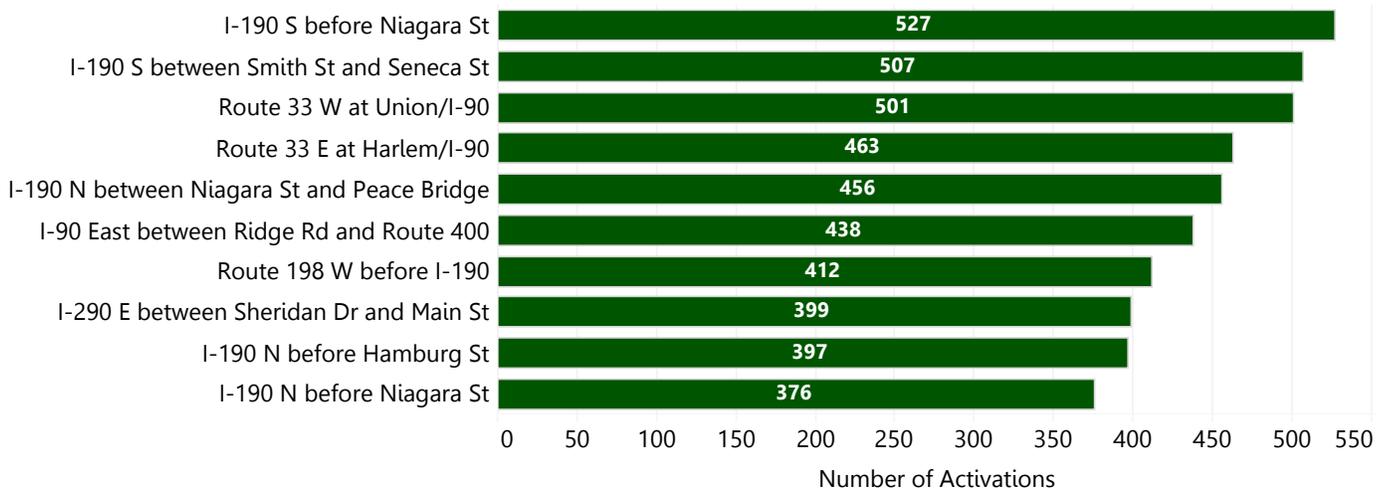
PVMS Activations
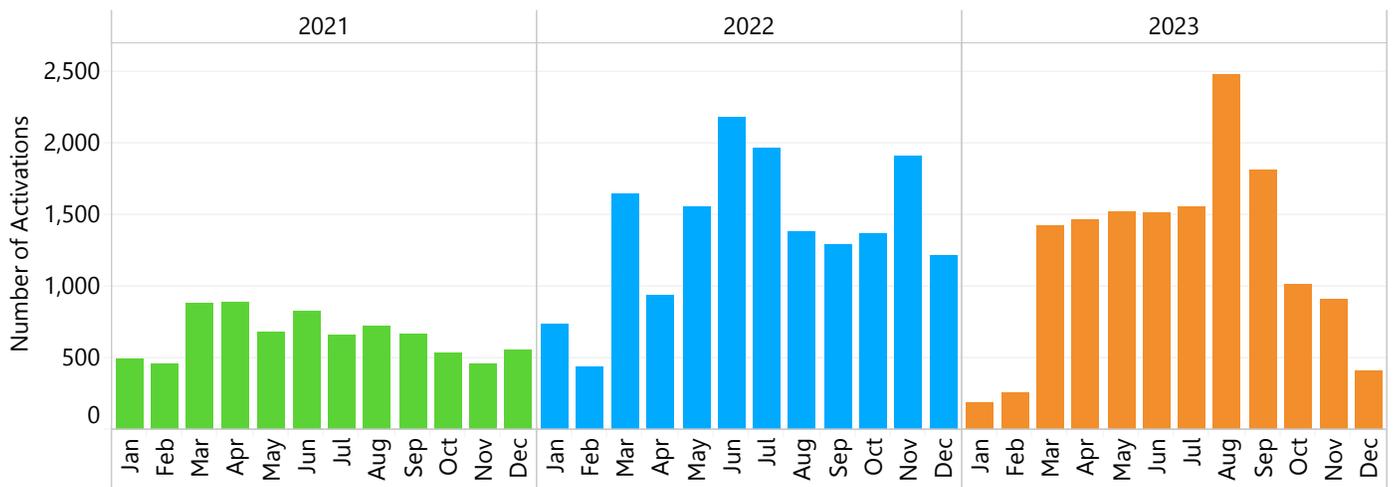
TRAVEL TIME REPORT

The graphs on the following pages provide an overview of average travel time, travel time reliability, and congestion on the following routes:

- I-90 between Exit 50 (I-290) and Exit 55 (Route 219 / Ridge Road)

- I-190 between I-90 and Exit 7 (Route 5 / Skyway Overpass)

- I-190 between Exit 7 (Route 5 / Skyway Overpass) and Exit 16 (I-290)

- I-190 between Exit 16 (I-290) and Exit 21 (Buffalo Avenue)

- I-290 between I-190 and I-90

- Route 33 between I-90 and Oak/Elm Street

The following performance measures have been calculated for each route in both directions of travel.

Measure: **Average Travel Time Index (TTI)**

Time Period: **2021-2023, Monthly**

The Time Index (TTI) is calculated by dividing measured travel time by the free flow travel time. A higher TTI indicates lower speeds. The graphs for each route show the average TTI measured for each month.

Measure: **Level of Travel Time Reliability (LOTTR)**

Time Period: **2023, Quarterly**

The Level of Travel Time Reliability (LOTTR) is calculated by dividing the 95th Percentile TTI by the Average TTI. A higher TTI indicates less reliability, i.e. travel times are more variable from one day to the next. The graphs for each route show the LOTTR by hour of the day for each quarter of the year.

Measure: **Congested Hours**

Time Period: **2023, Annual Average**

Congested Hours refers to the amount of time during a day when a route is experiencing congestion (indicated by a TTI greater than 1.2). The graphs for each route show the average number of congested hours (converted to minutes for clarity) for each segment.

I-90 (BETWEEN EXIT 50 AND 55)

Average Travel Time Index

Eastbound
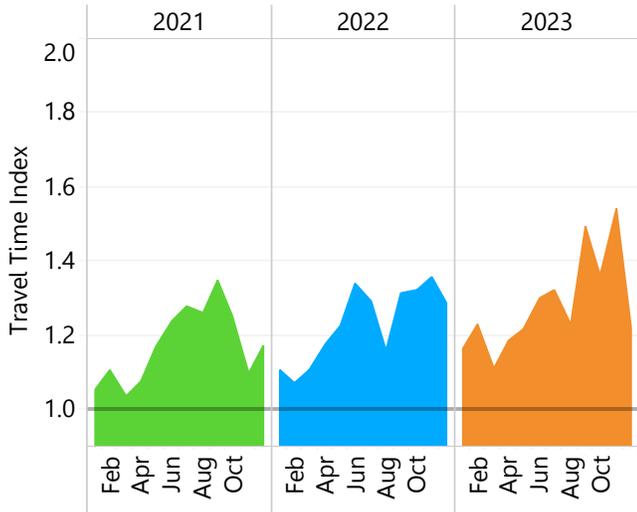
Westbound
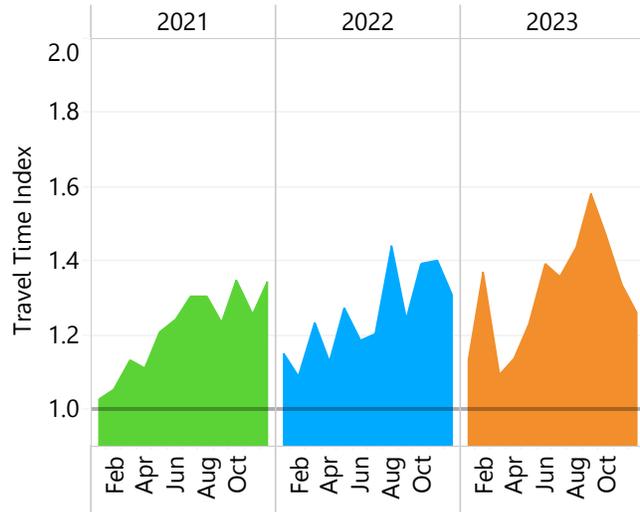
Travel Time Reliability

Eastbound
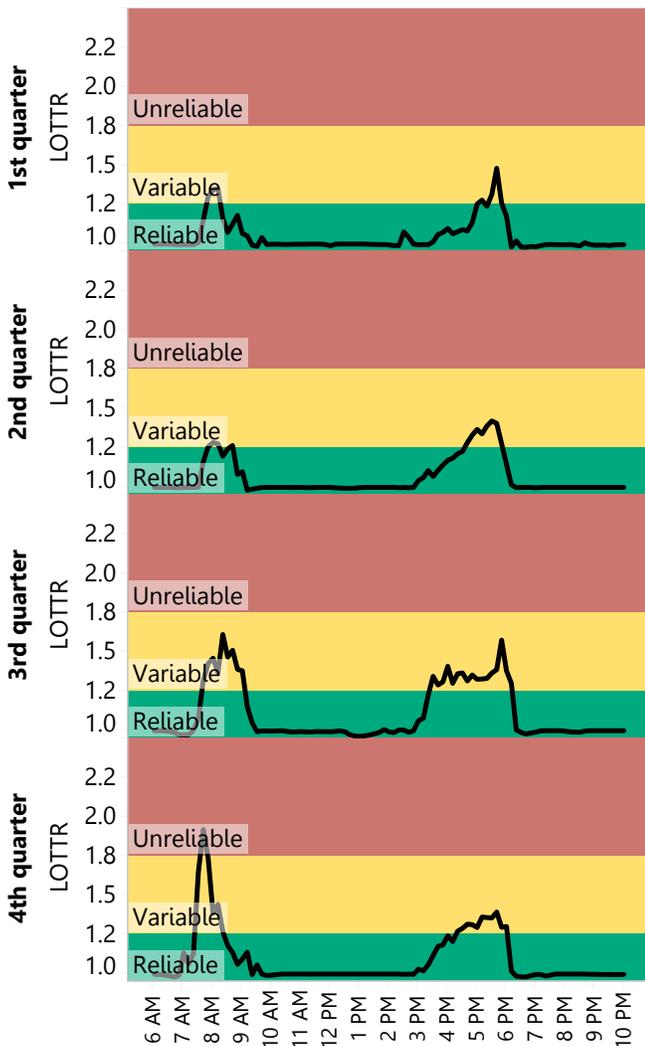
Westbound

I-190 (BETWEEN I-90 AND Exit 7)
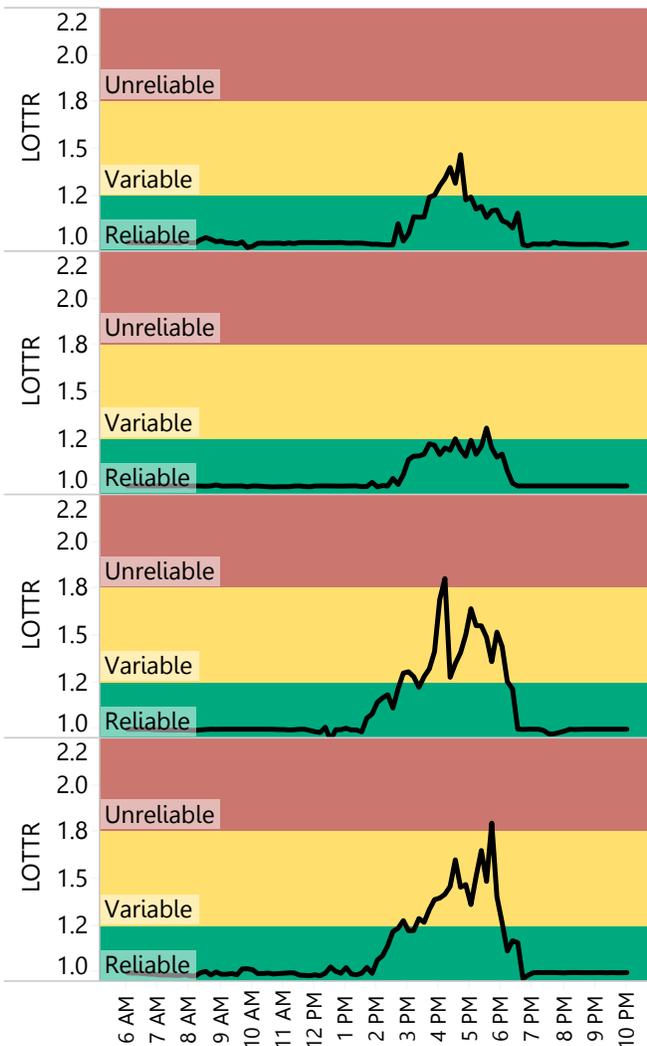
I-190 (BETWEEN EXIT 7 AND 16)
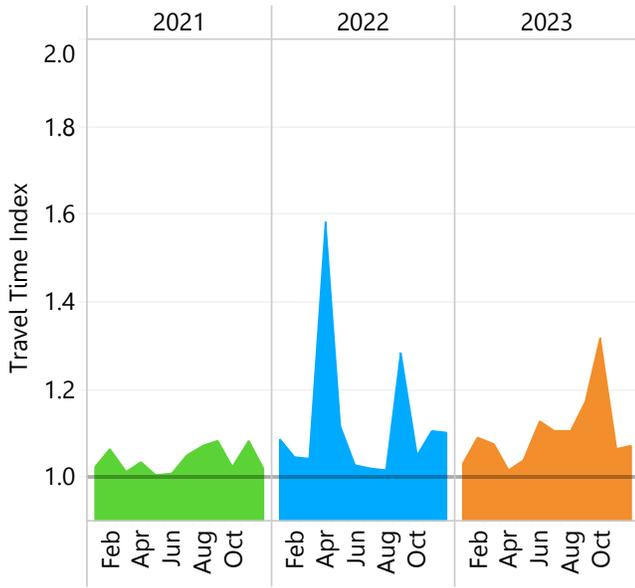
Northbound
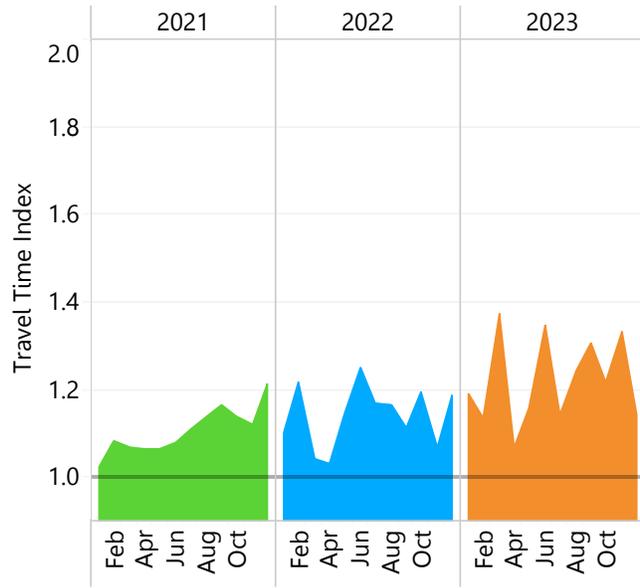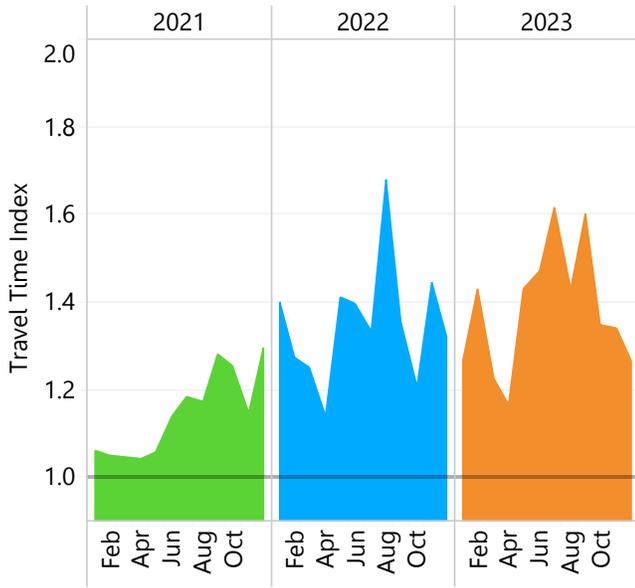
Southbound
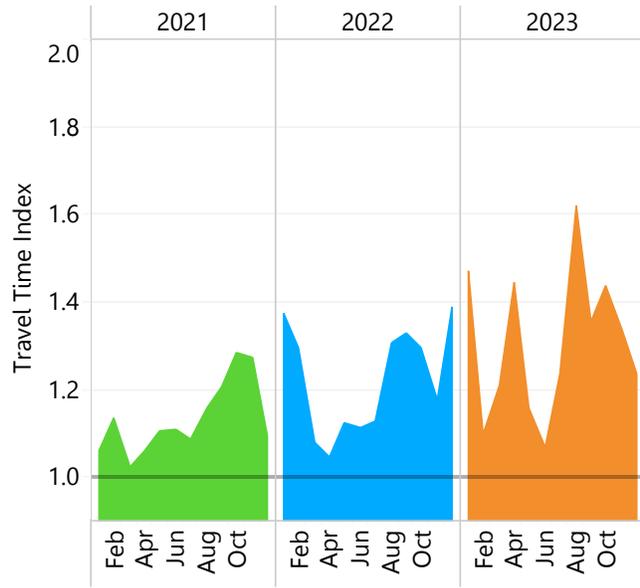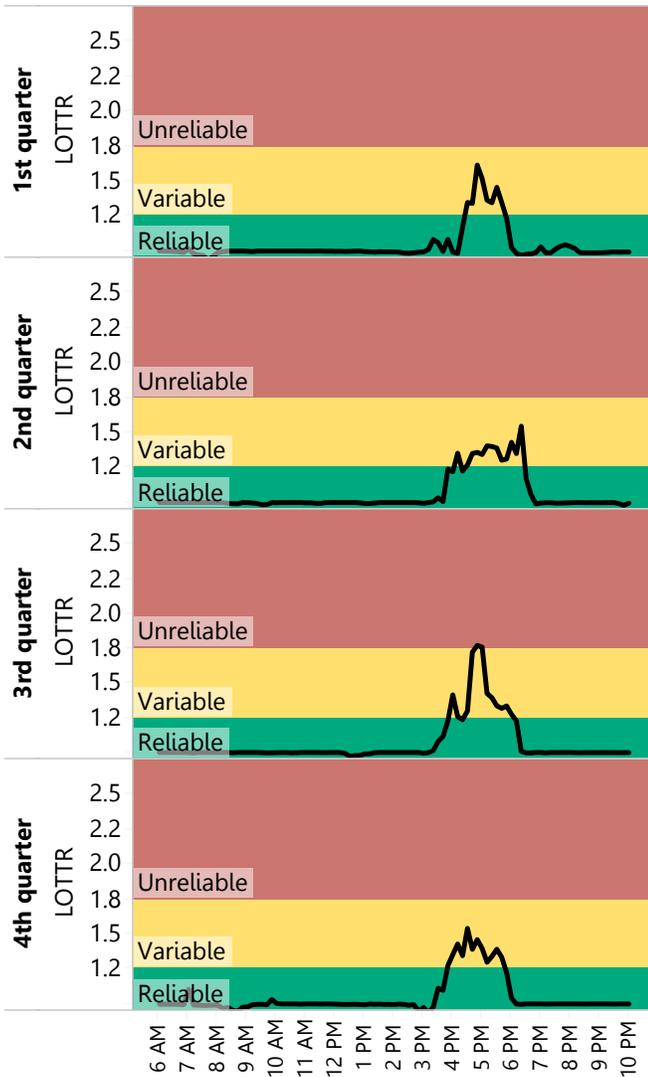
Northbound
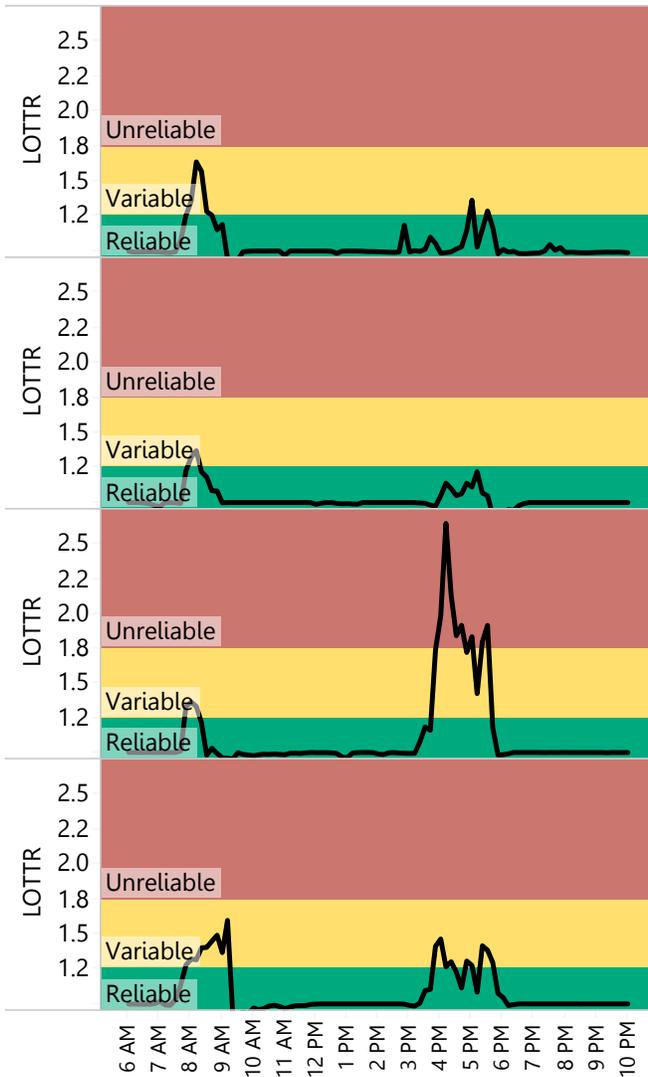
Southbound

I-190 (BETWEEN EXIT 16 AND 21)

Northbound
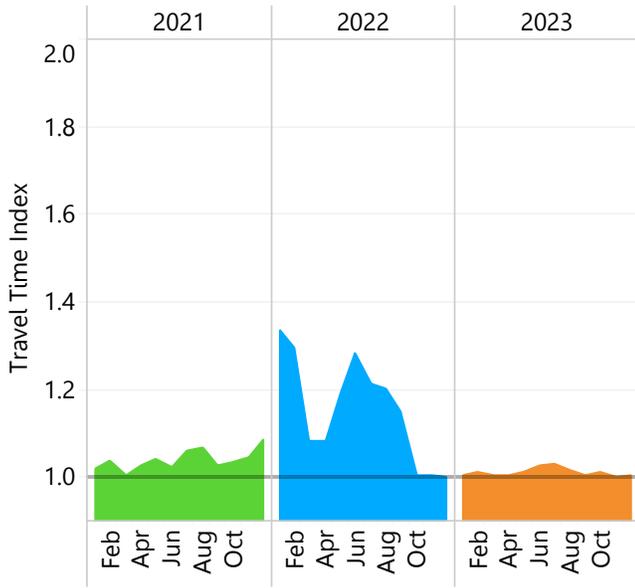
Southbound
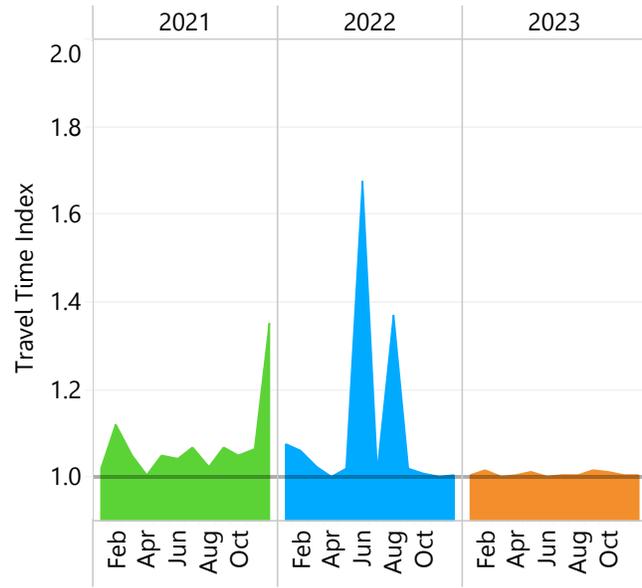
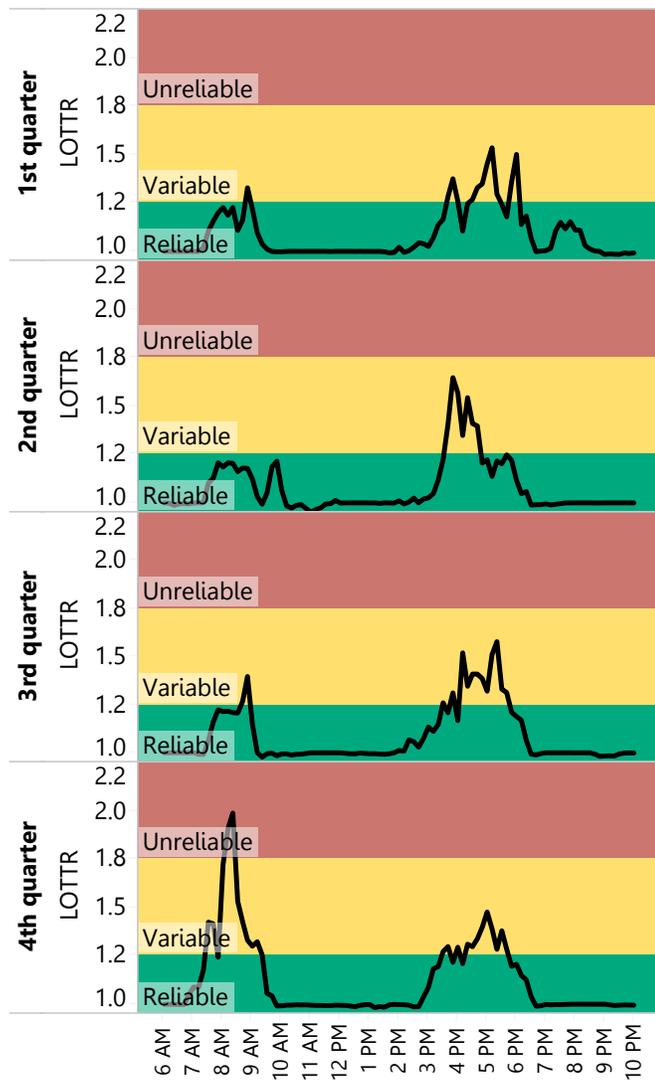## Northbound
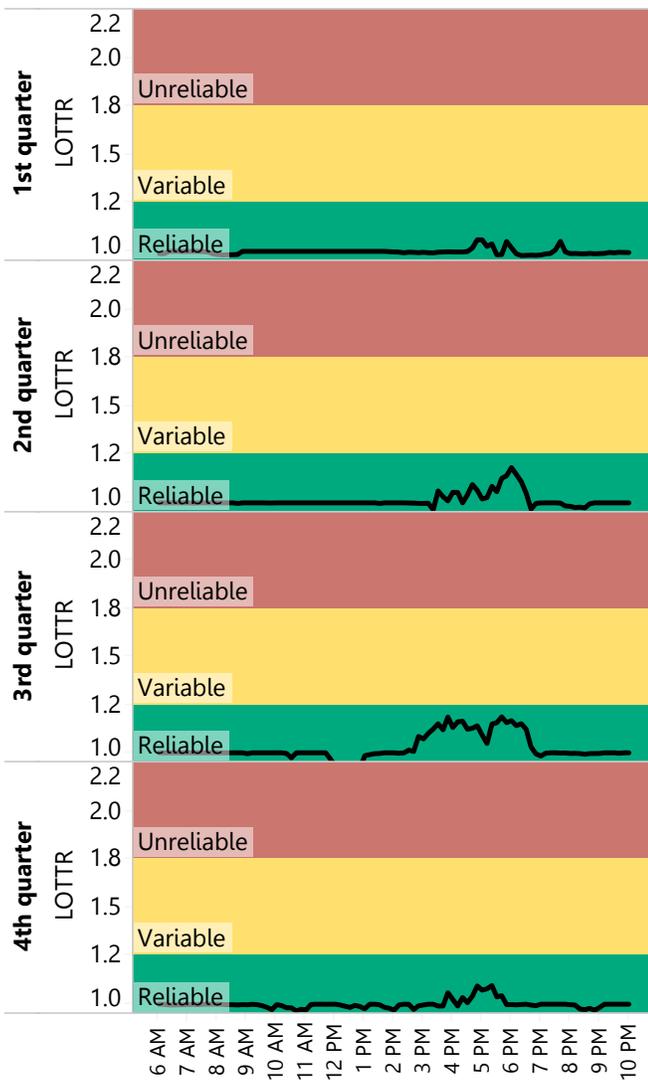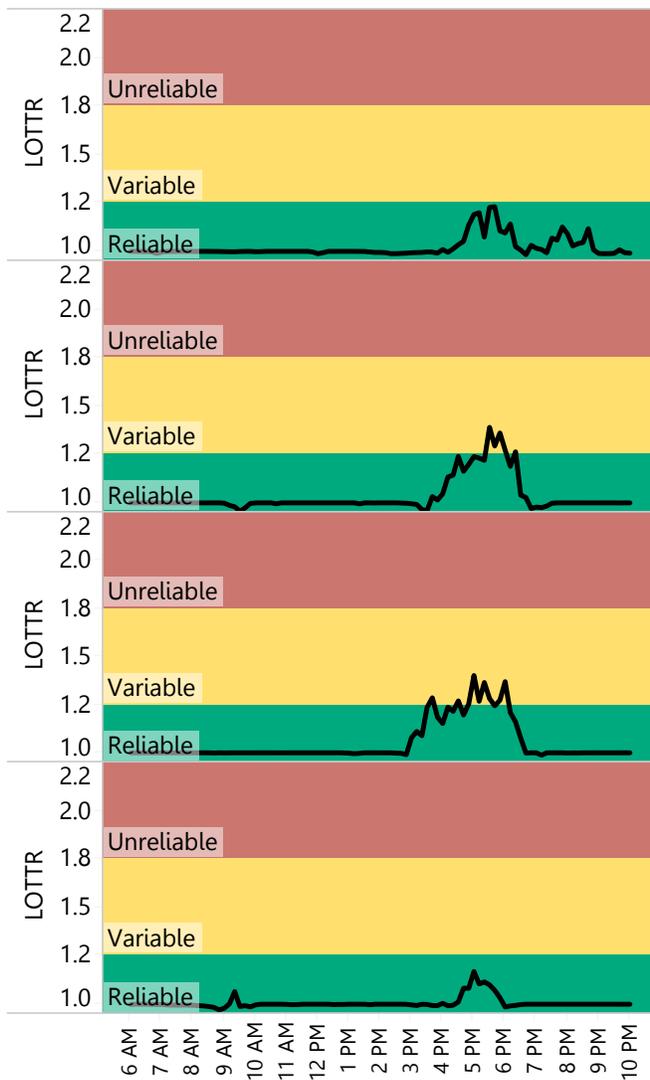

Southbound
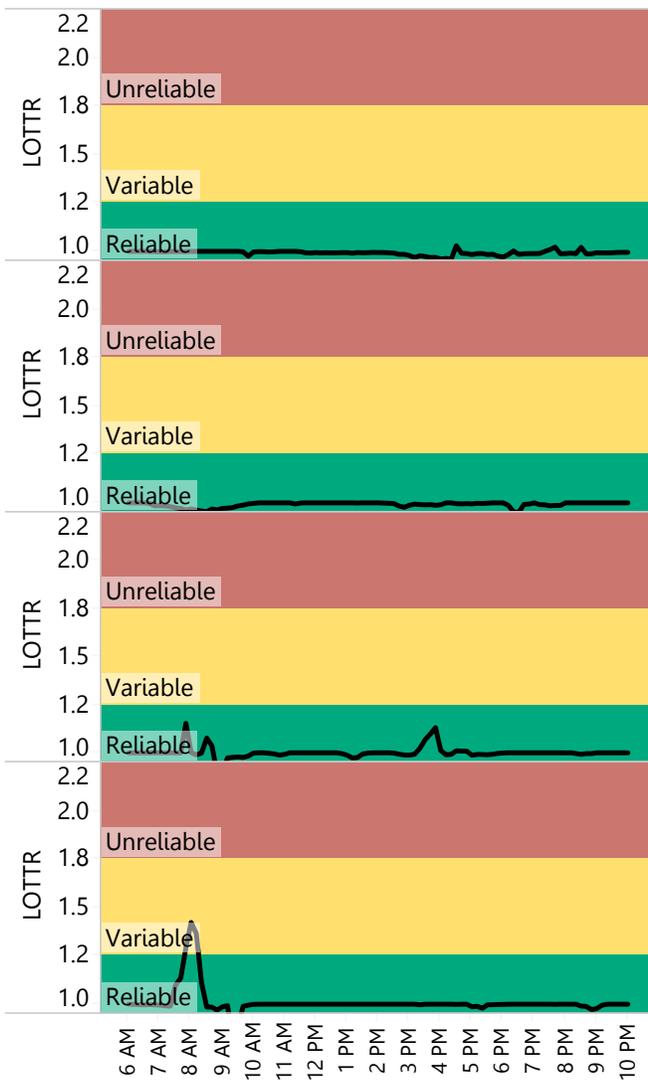
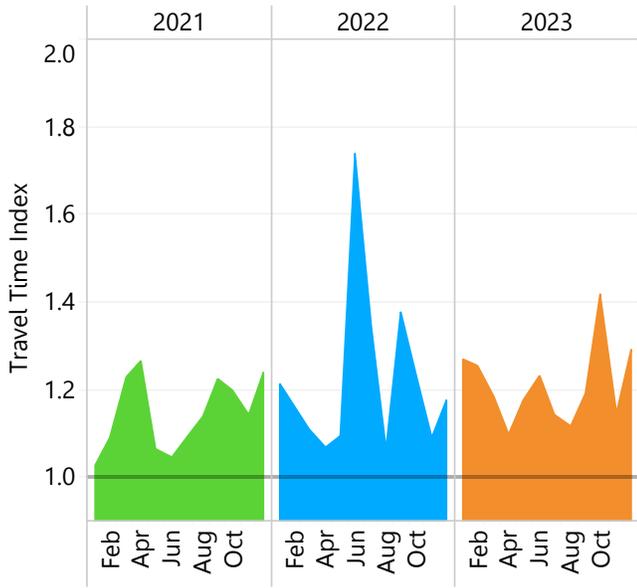# I-290 (BETWEEN I-190 AND I-90)

Eastbound
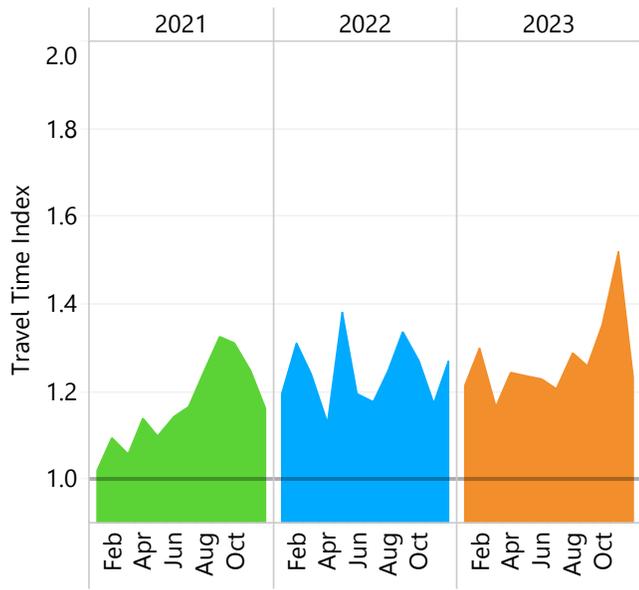
Westbound
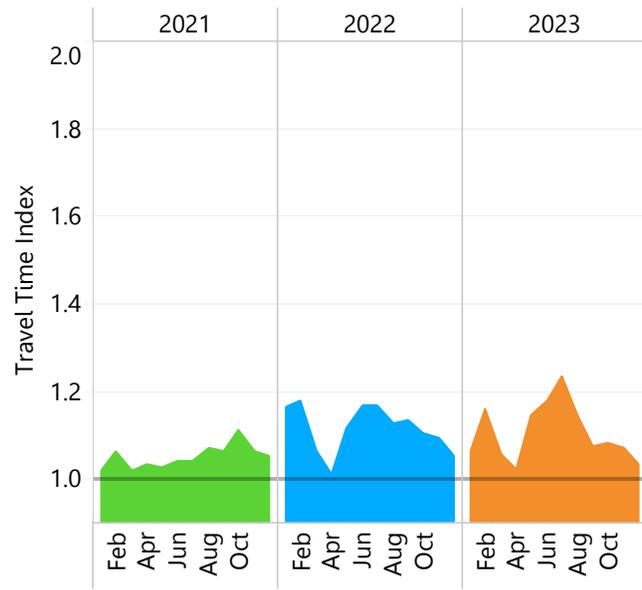
Eastbound

Westbound

ROUTE 33 (BETWEEN I-90 AND OAK ST / ELM ST)

Eastbound

Westbound
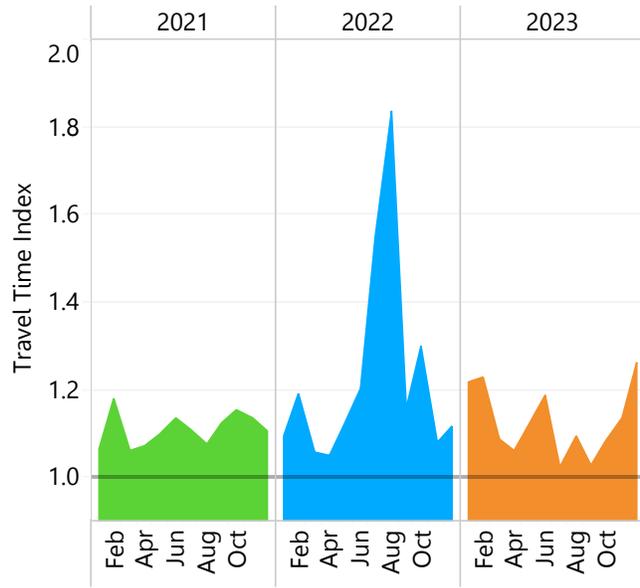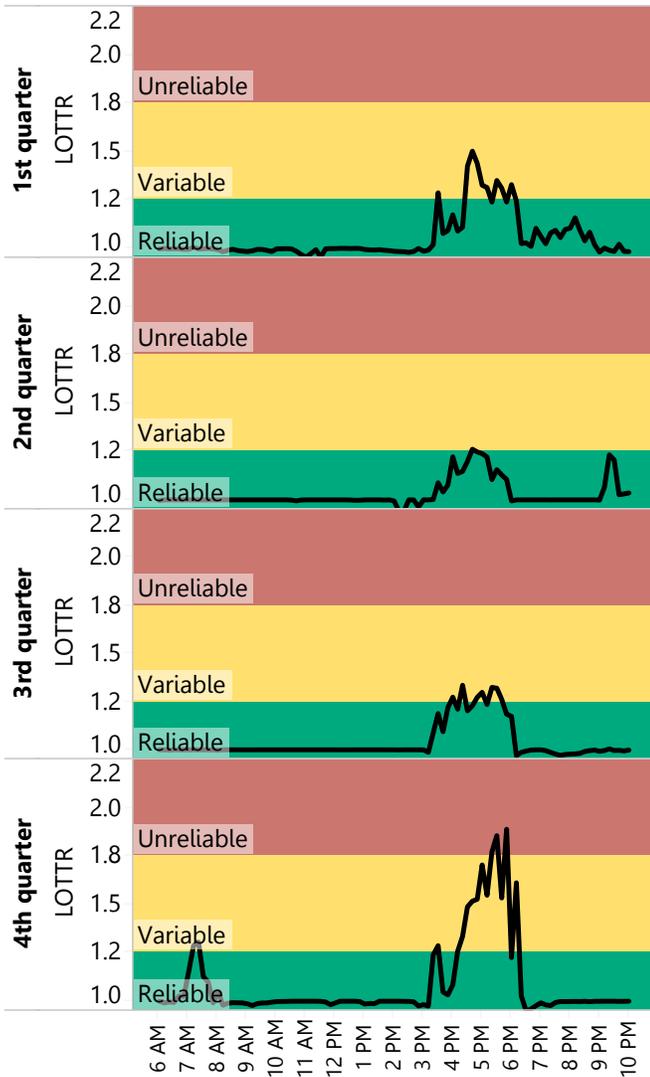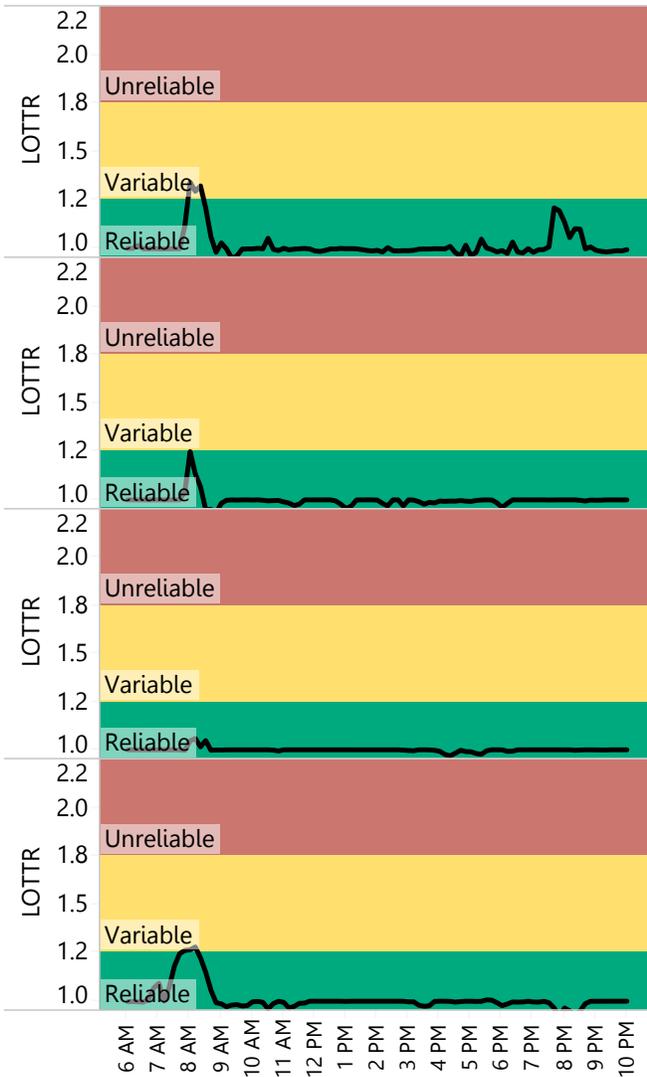
Eastbound

Westbound

I-90 Average Minutes of Congestion / Day
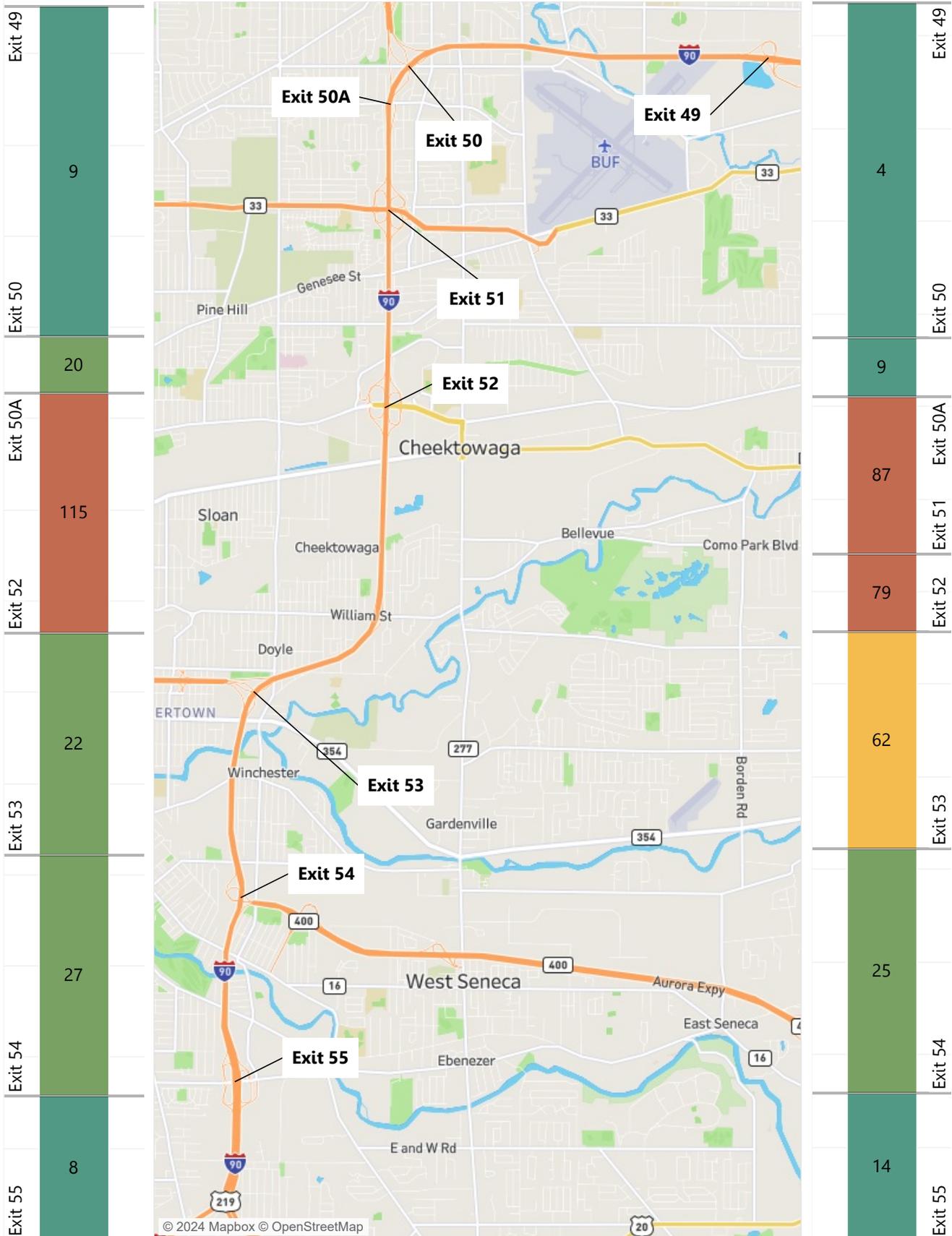
West ↓

Exit	Min
Exit 49	9
Exit 50	20
Exit 50A	115
Exit 52	22
Exit 53	27
Exit 54	8
Exit 55	

East ↑

Exit	Min
Exit 49	4
Exit 50	9
Exit 50A	87
Exit 51	79
Exit 52	62
Exit 53	25
Exit 54	14
Exit 55	

Exit 50A
Exit 50
Exit 49
Exit 51
Exit 52
Exit 53
Exit 54
Exit 55

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Average Congested Minutes

0 — 90

I-290 Average Congested Minutes / Day

West ←

Two Mile Creek Road

| 51 | 8 | 10 |

I-190 Interchange — Maple Road — I-90 Interchange

© 2024 Mapbox © OpenStreetMap

East →

Two Mile Creek Road

| 12 | 12 | 117 |

I-190 Interchange — Maple Road — I-90 Interchange
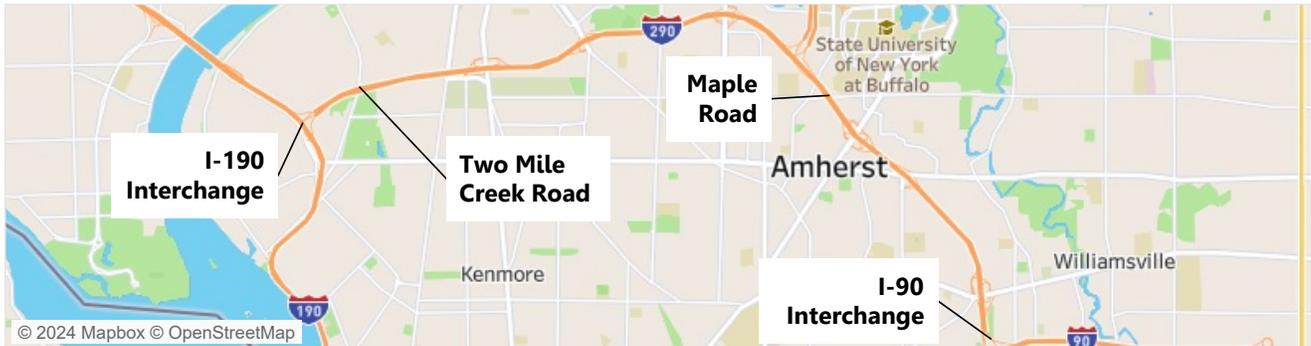
Route 33 Average Congested Minutes / Day

West ←

| 12 | 19 |

Oak Street — Route 198 Interchange — Union Road

© 2024 Mapbox © OpenStreetMap

East →

| 17 | 40 |

Elm Street — Route 198 Interchange — Union Road

I-190 Average Minutes of Congestion / Day

South ↓

	South direction
I-290	19
Exit 15	
Exit 14	30
Exit 13	27
Black Rock	39
Exit 8	19
Skyway Overpass	23

North ↑

	North direction
I-290	26
Exit 15	
Exit 14	16
Exit 13	5
Black Rock	14
Exit 8	66
Skyway Overpass	44

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North ←

Skyway Overpass	Exit 4	Exit 2	I-90 Interchange
10	6	13	

© 2024 Mapbox © OpenStreetMap

South →

Skyway Overpass	Exit 4	Exit 2	I-90 Interchnage
12	17	43	

I-190 Average Minutes of Congestion / Day

Exit 21

N Grand Island Bridge

Exit 20

Exit 19

Exit 18

I-290

South ↓ (left column)

Exit	Minutes
Exit 21A	5
Exit 20	4
Exit 19	5
Exit 18	13
I-290 (S Grand Island Bridge)	28
	5

North ↑ (right column)

Exit	Minutes
Exit 21A	13
Exit 20	9
Exit 19	5
Exit 18	4
I-290	75

N Grand Island Bridge

S Grand Island Bridge

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CRASH DETECTION AND RESPONSE

The charts on this page compare crash response times in 2023. The goal for the region is to clear minor crashes in under 30 minutes and intermediate crashes in less than 2 hours.

Average Clearance Time - Minor
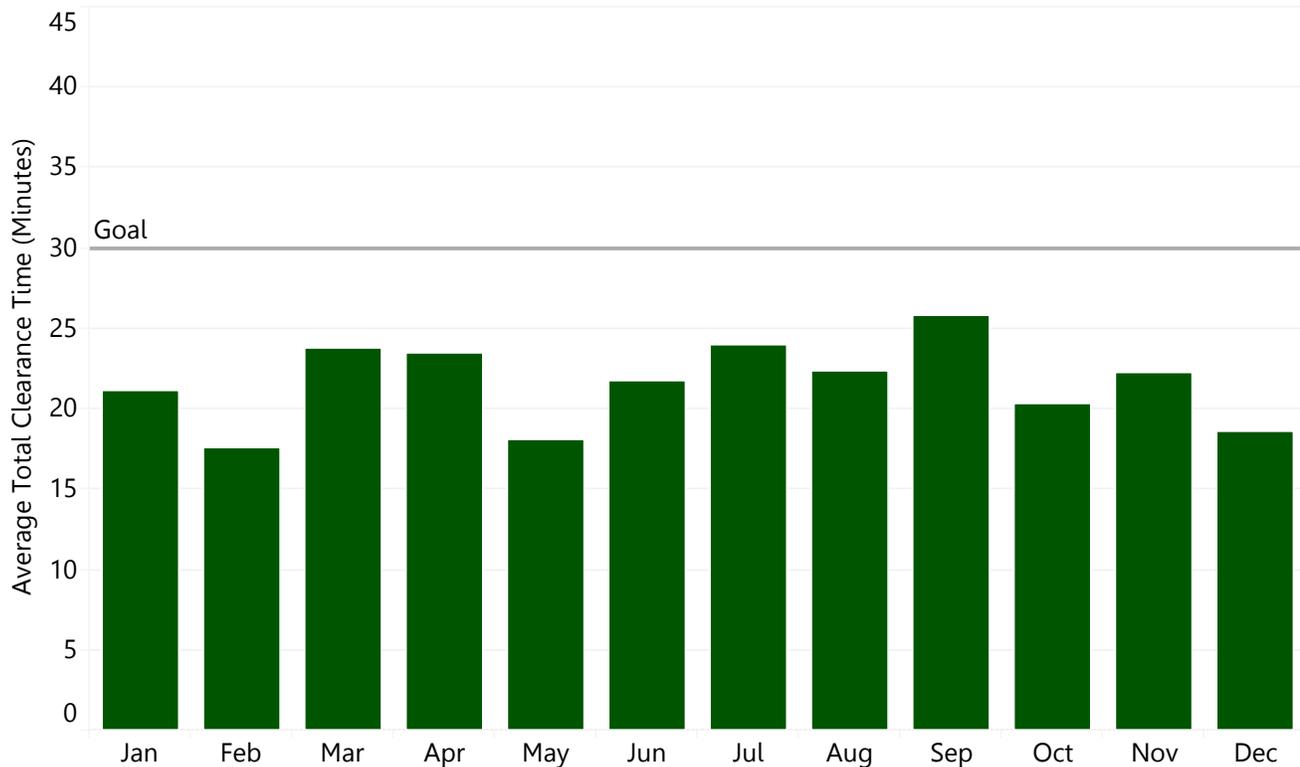
Average Clearance Time - Intermediate
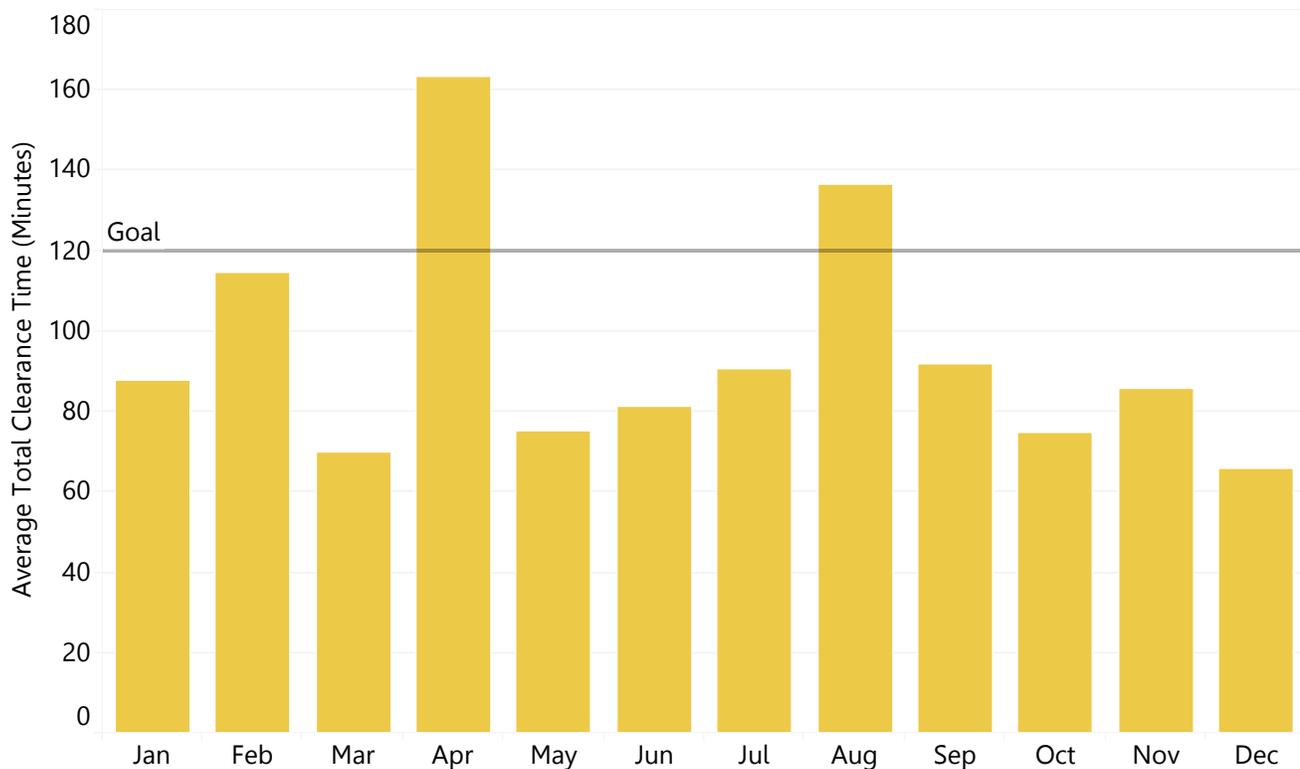
The charts on this page show the average response timelines for the identified routes in 2023.

Route Incident Timelines

Average Arrival Time   Average Clearance Time   Average Return to Normal Time
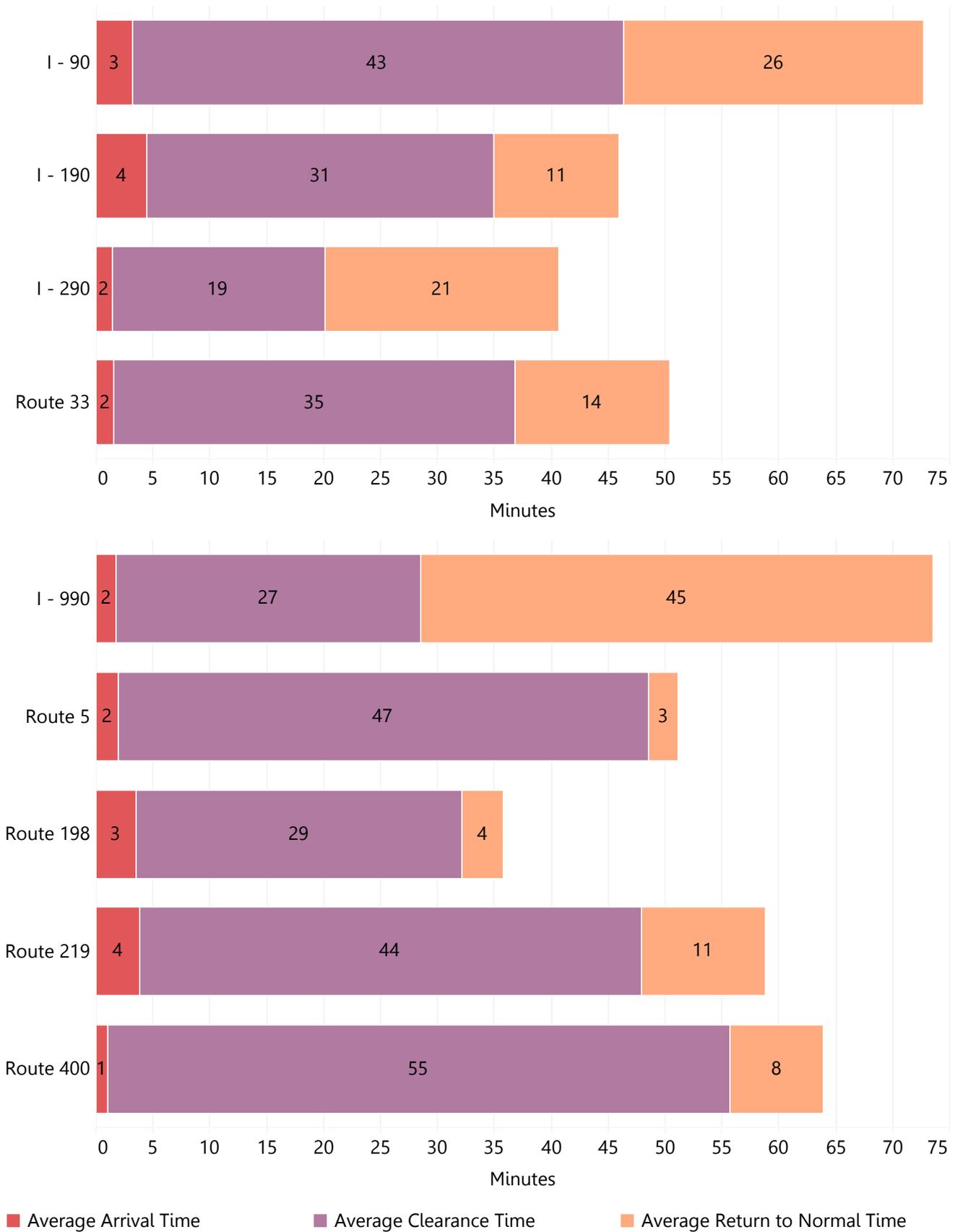
I-90 Monthly Crashes
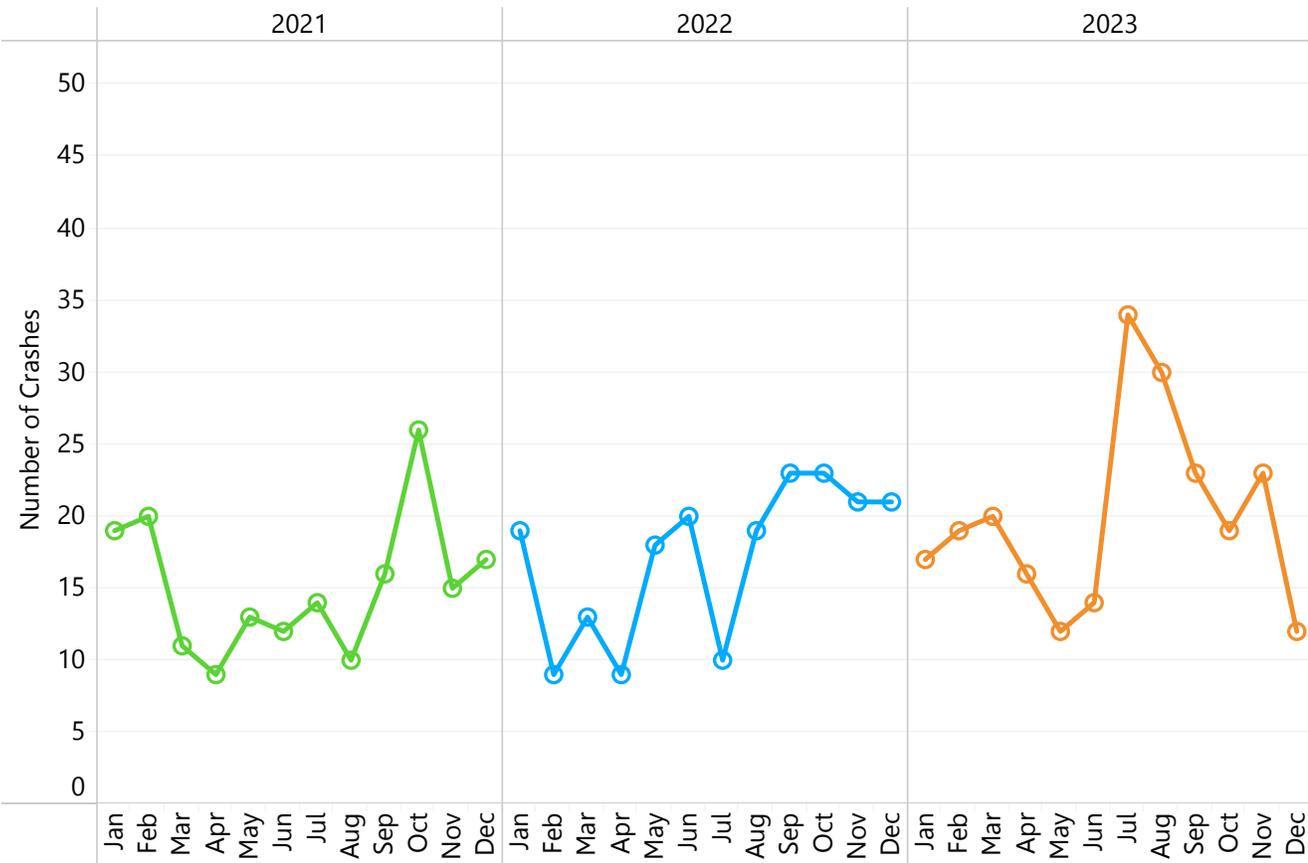
I-190 Monthly Crashes
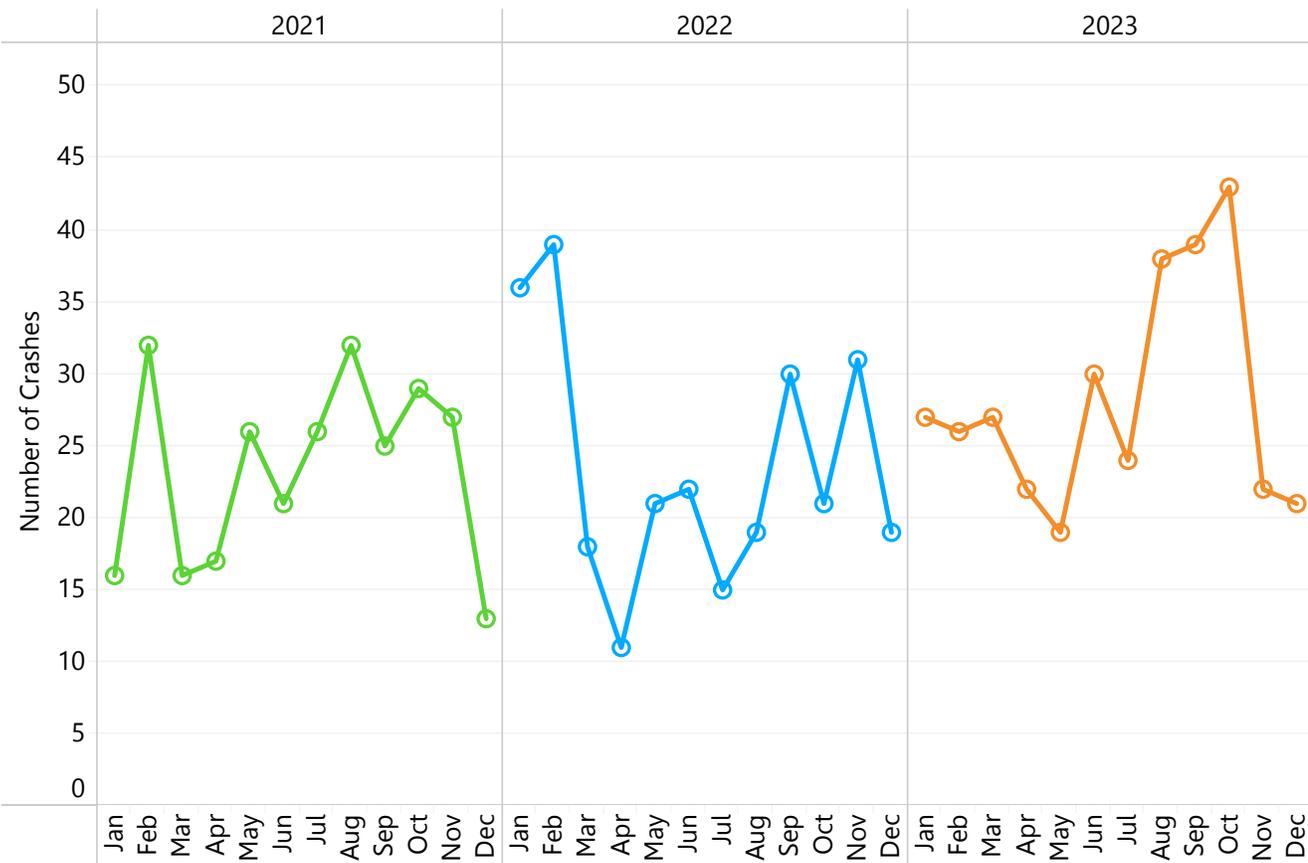
I-290 Monthly Crashes
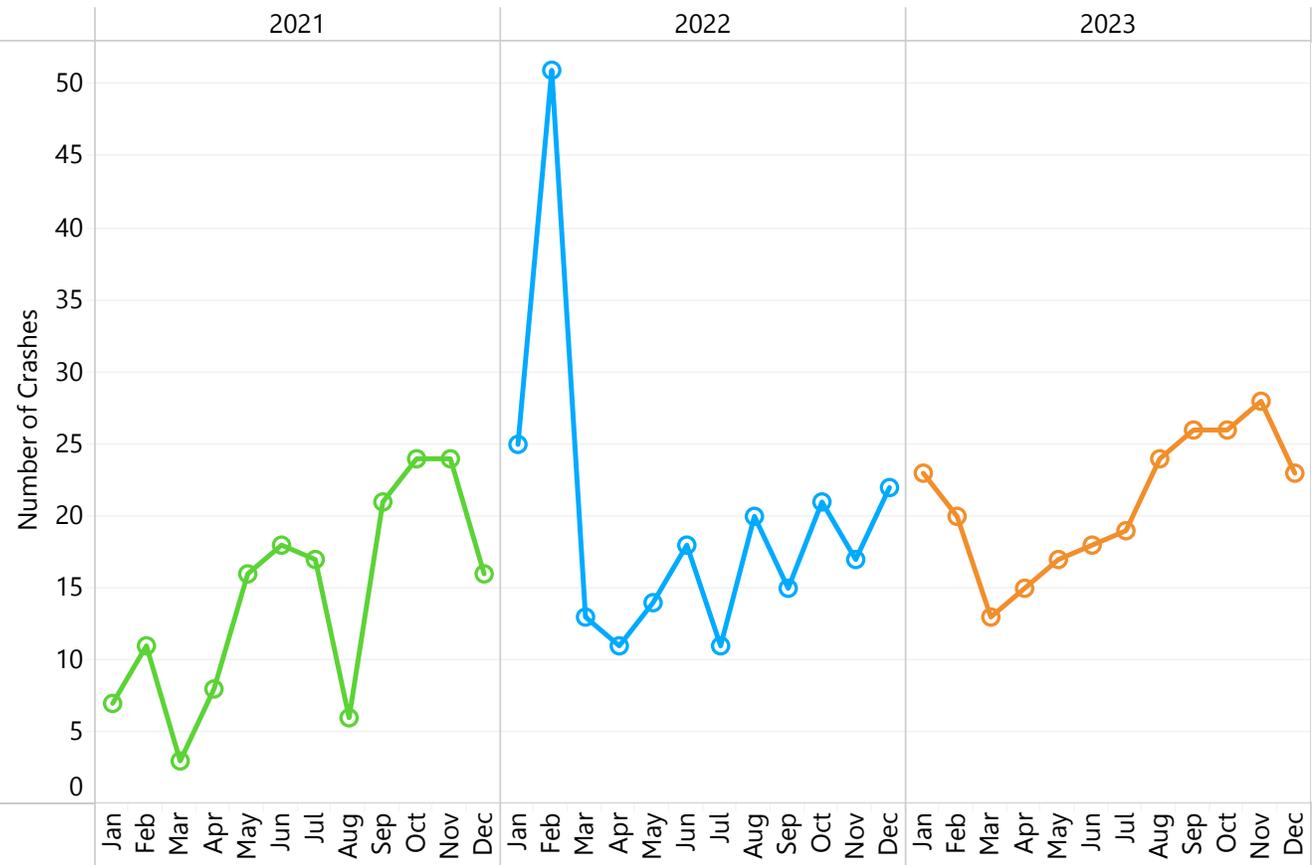
Route 33 Monthly Crashes
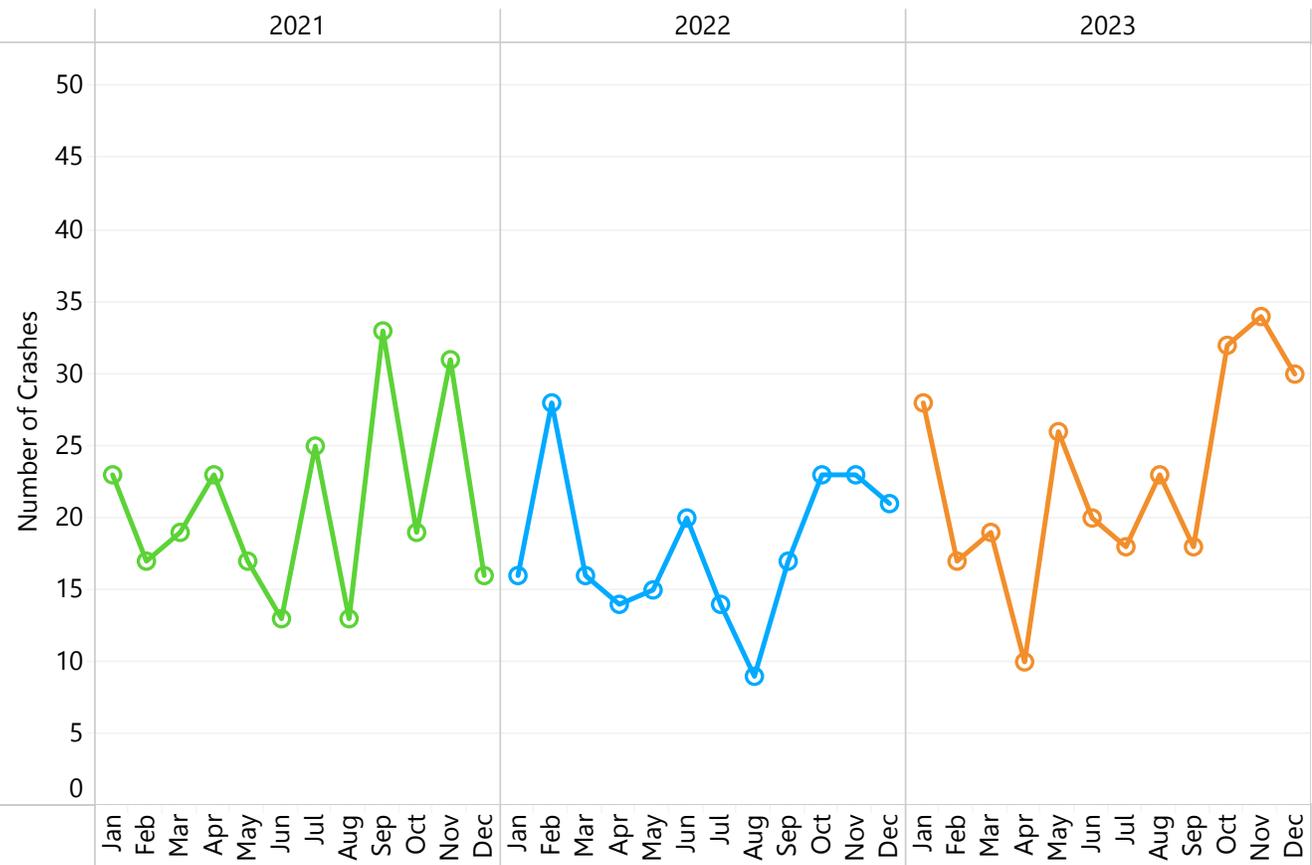
I-990, Routes 5, 198, 219, & 400 Monthly Crashes
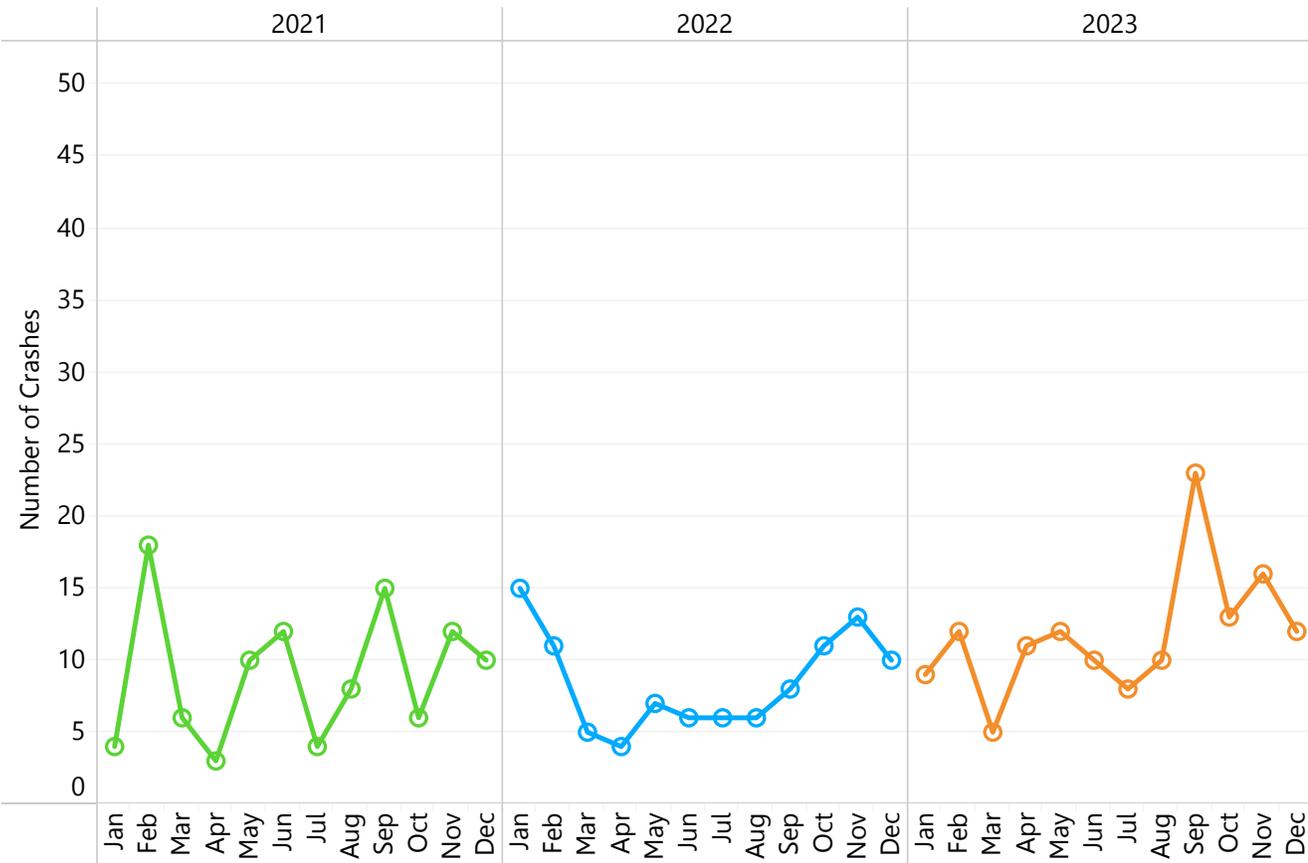
Other Routes Monthly Crashes
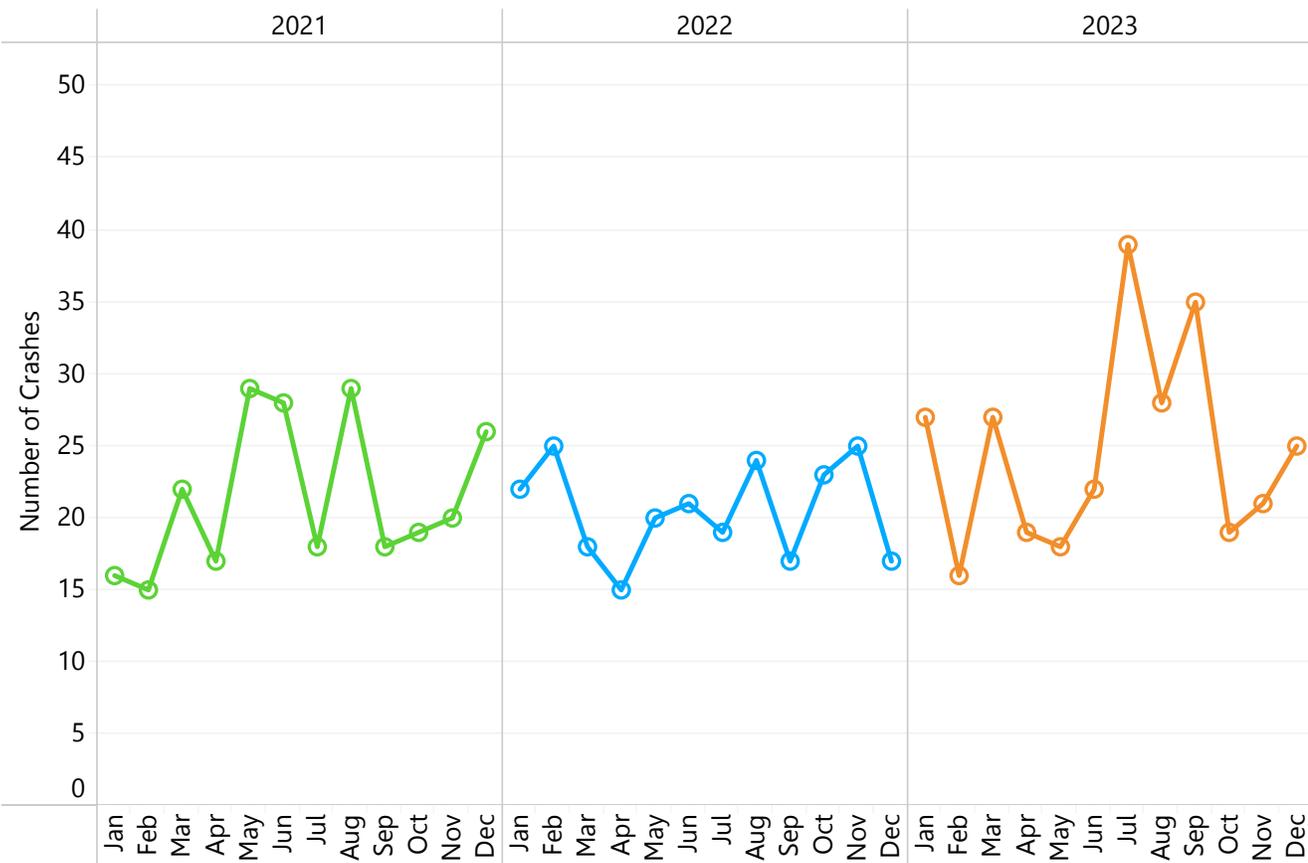
Crash Detection Method

Detect Method	I - 90	I - 190	I - 290	I - 990	Route 5	Route 33	Route 198	Route 219	Route 400	Other	Grand Total
Camera	89	97	76		17	81	19	6	6	13	**404**
Computer Aided Dispatch (CAD)	32	33	8	1	1	4		3	3	11	**96**
Erie County Chatter	1		4		3	3				27	**38**
HELP Team	2		76		1	74				1	**154**
NYSTA Website	3	1									**4**
Phone Call	64	100	66	3	24	82	5	16	6	224	**590**
Scanner	43	99	7		5	20	10	1	3	3	**191**
Video Detection	1	1				3					**5**
Waze	4	7	15		5	7	2		1	16	**57**
Grand Total	**239**	**338**	**252**	**4**	**56**	**274**	**36**	**26**	**19**	**295**	**1,539**

Secondary Crashes

Number of Secondary Crashes

2021: 15
2022: 8
2023: 9
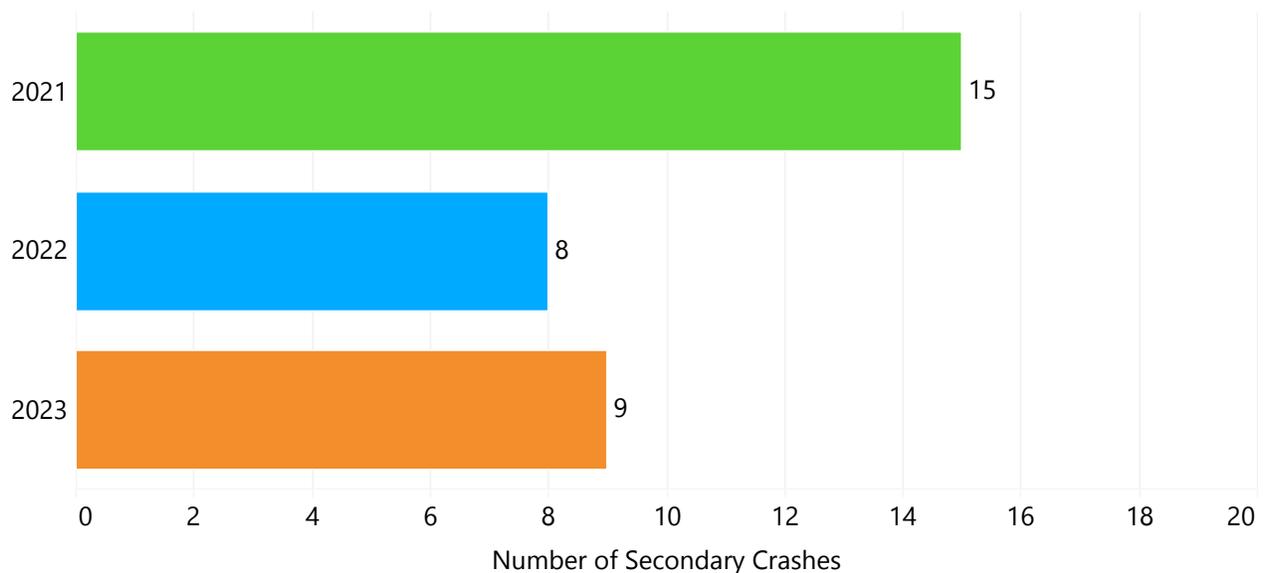
HELP TEAM PERFORMANCE REPORT

Average Response Time: The time between incident notification and scene arrival.
Average Assist Time: The time between arrival at the scene and to scene departure.

## Average HELP Incident Timeline

	Average Notification Time	Average Response Time	Average Assist Time
I - 290	1.0	1.0	30.2
Route 33	1.2	1.5	27.1

Minutes

■ Average Notification Time   ■ Average Response Time   ■ Average Assist Time
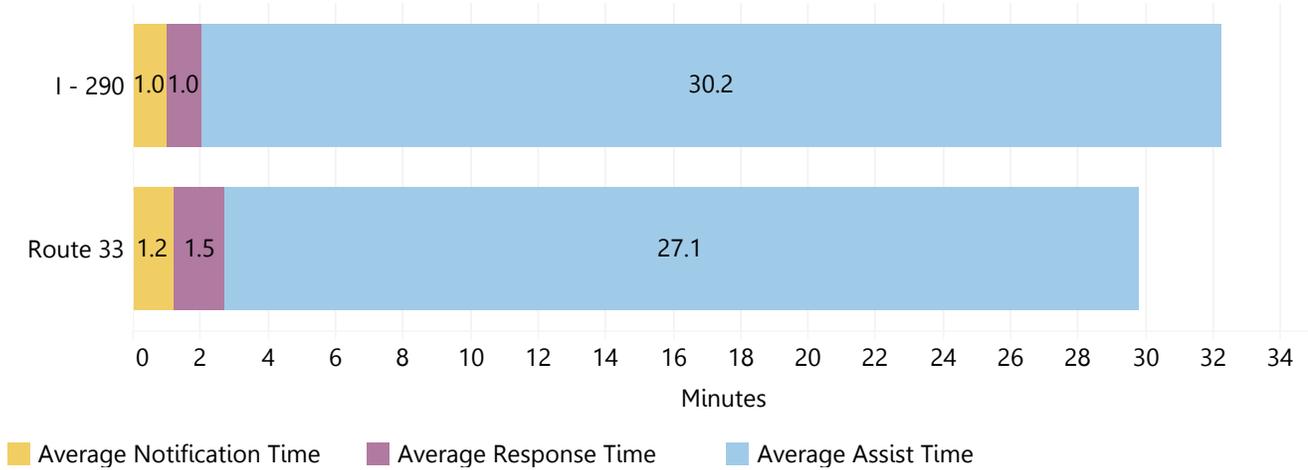
Average Assist Time Comparison

		Average Clearance Time (Minutes)
I - 290	No HELP Involved	21.1
	HELP Involved, First on Scene	15.3
	HELP Involved, Other First on Scene	23.9
Route 33	No HELP Involved	42.9
	HELP Involved, First on Scene	26.3
	HELP Involved, Other First on Scene	35.8
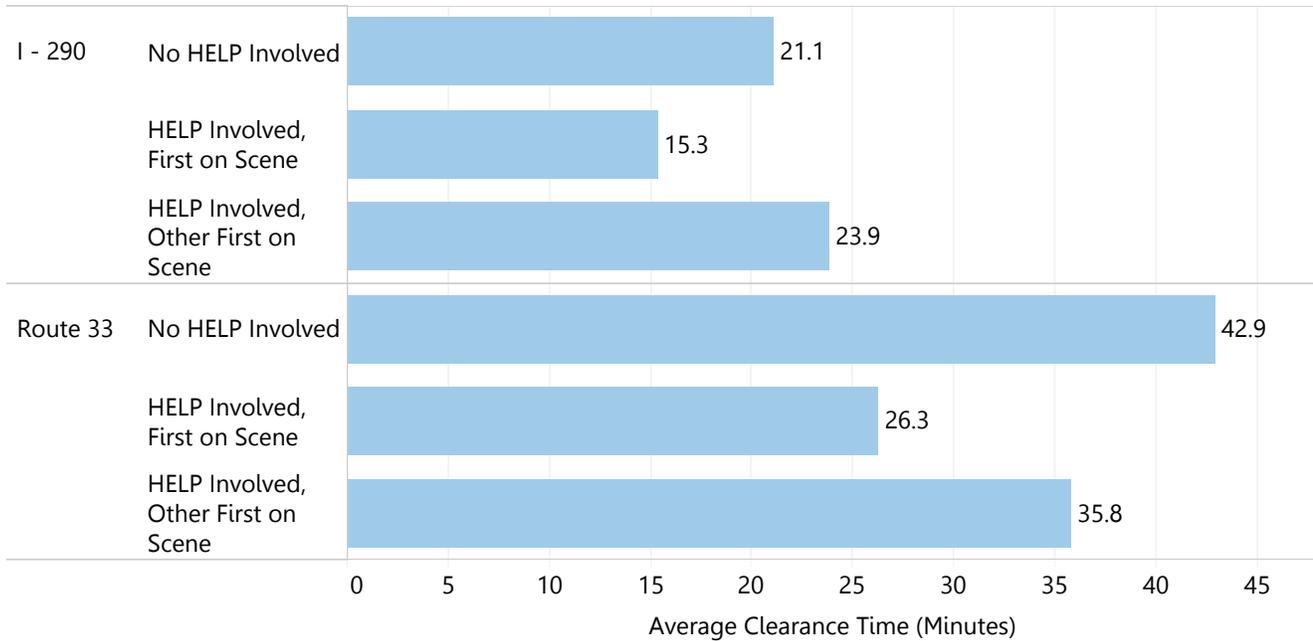
HELP STATISTICS

	I - 290	Route 33	Grand Total
Total HELP Assists	109	90	199
Total First on Scene	85	66	151
First on Scene %	78%	73%	76%

The graphs below show the percentage breakdown for each type of action taken by the HELP team and the average assist time for each month in 2023.

HELP Assist Types Graph
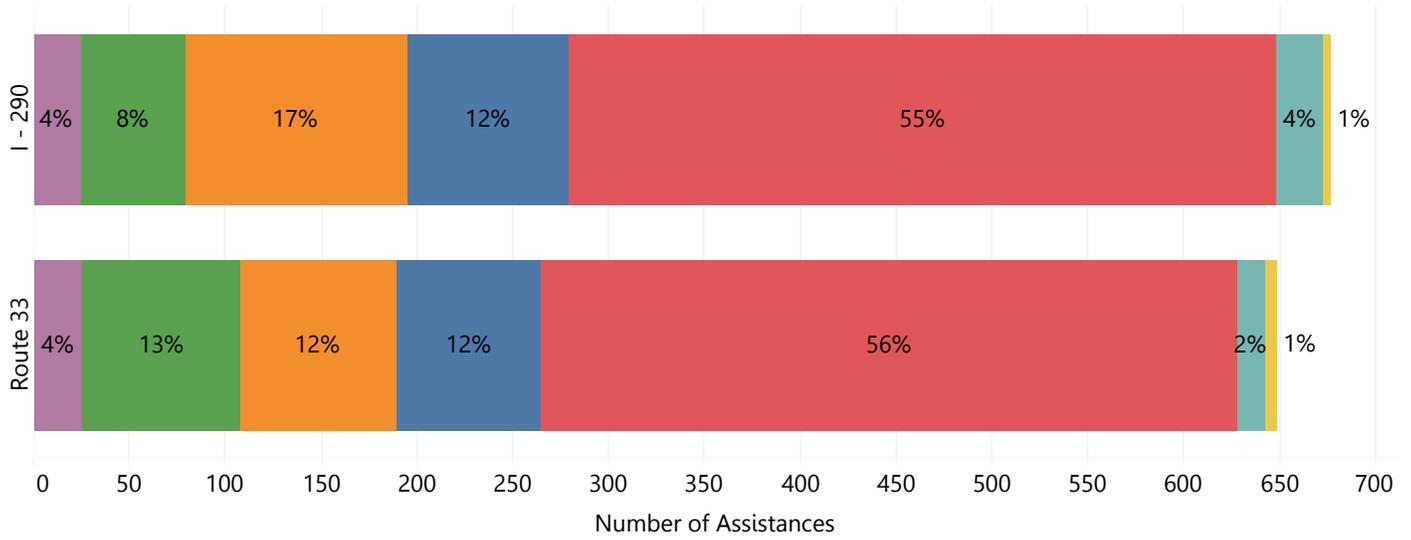
Action Taken
- Request Police/Ambulance
- Provide Fuel
- Change Tire
- Assist Police
- Mechanical/Other
- No Action Taken
- Push-Off Highway

Average HELP Assist Time
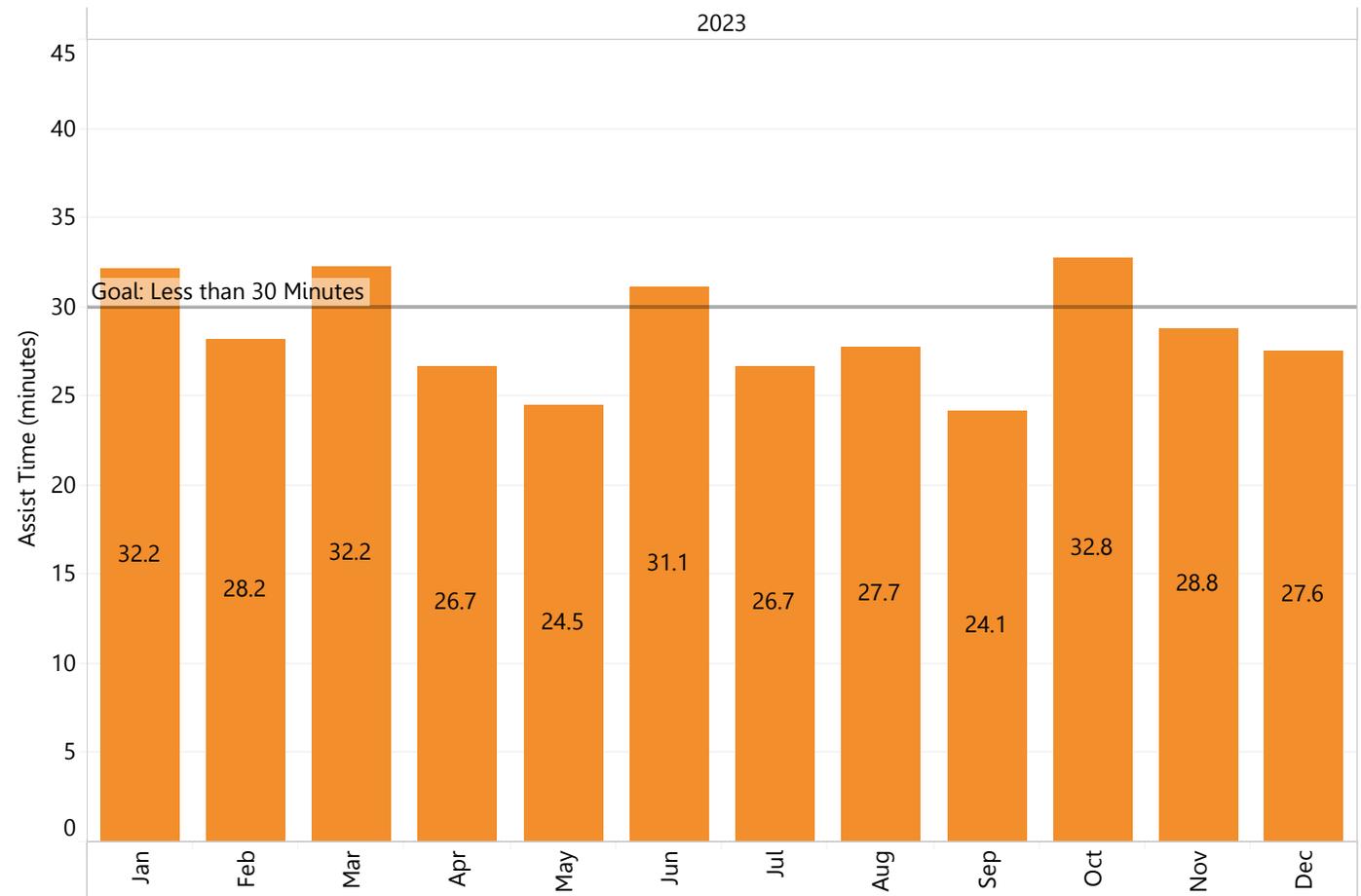
BORDER CROSSING ACTIVITY

The graphs below show the total number of vehicles crossing at the Peace Bridge, Lewiston-Queenston Bridge, and Rainbow Bridge in both the Canada-bound and U.S.-bound directions. The shaded percentages below each graph show the percent change in volume compared to the corresponding month in 2019, to monitor the return to normal conditions following the lifting of COVID restrictions.

Passenger Vehicle Volumes

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	-91%	-91%	-92%	-91%	-90%	-91%	-92%	-87%	-82%	-81%	-73%	-66%
2022	-76%	-74%	-68%	-50%	-46%	-46%	-42%	-44%	-38%	-27%	-33%	-36%
2023	-17%	-21%	-26%	-25%	-20%	-20%	-18%	-21%	-15%	-13%	-18%	-13%

Truck Volumes

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	-4%	-6%	15%	4%	3%	9%	2%	6%	7%	8%	6%	0%
2022	-8%	-5%	14%	4%	8%	11%	0%	11%	7%	4%	0%	-10%
2023	-2%	-7%	9%	-2%	9%	10%	1%	13%	10%	13%	6%	-7%
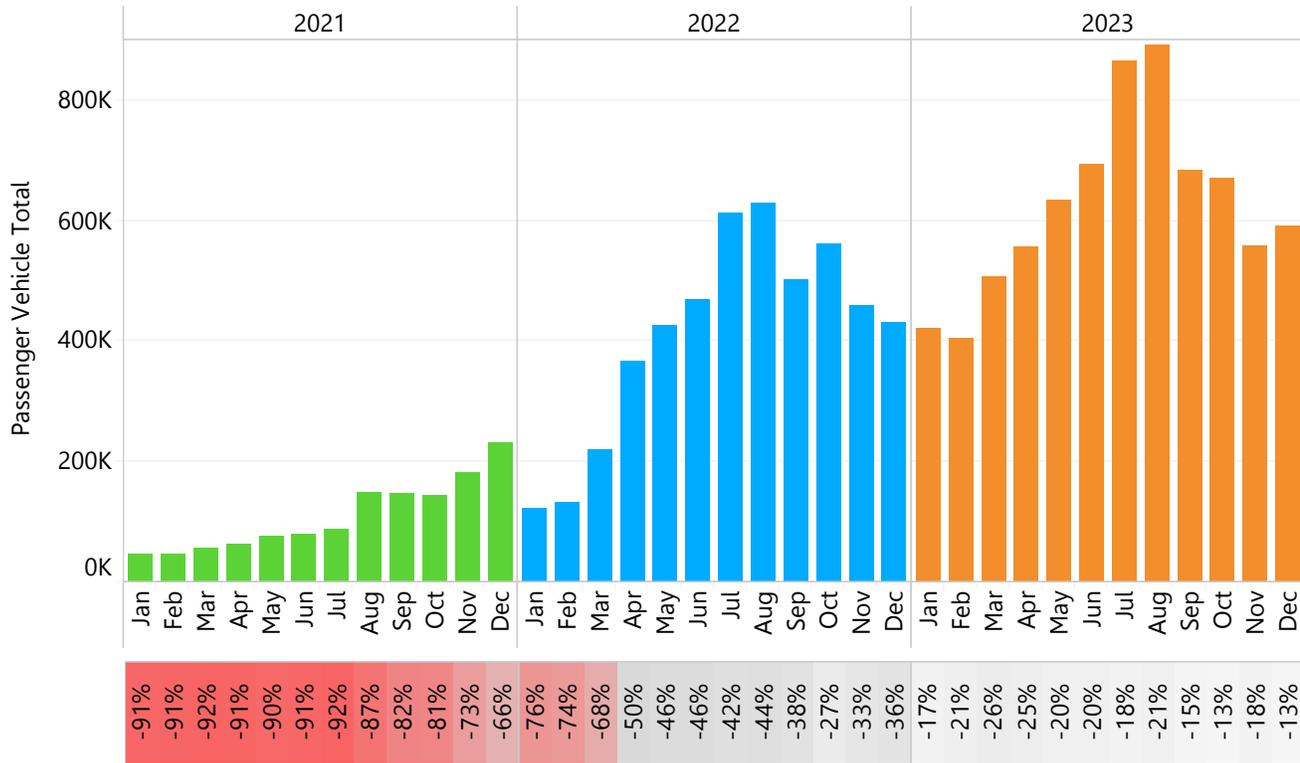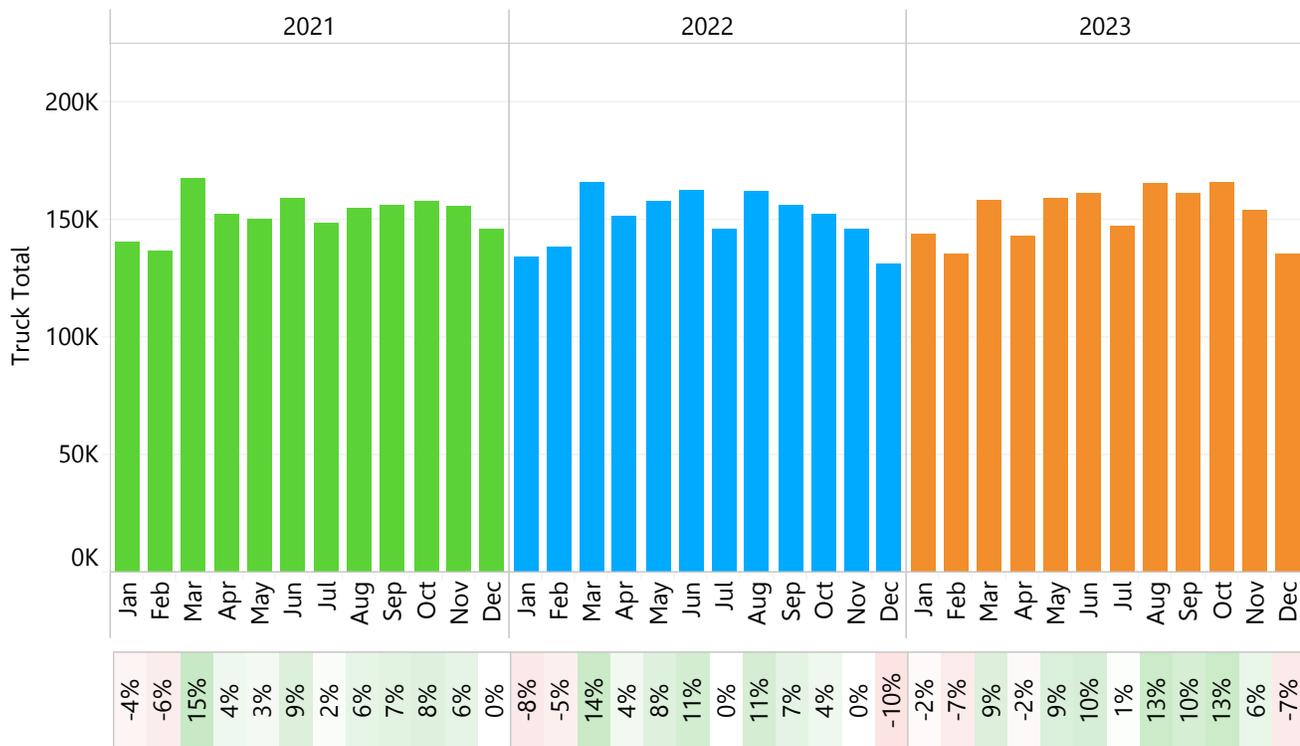
BORDER DELAYS - PASSENGER VEHICLES

The following graphs show the average and peak delays measured at each border crossing in 2023 by month and by hour of the day.

Peace Bridge (By Month, 2023)
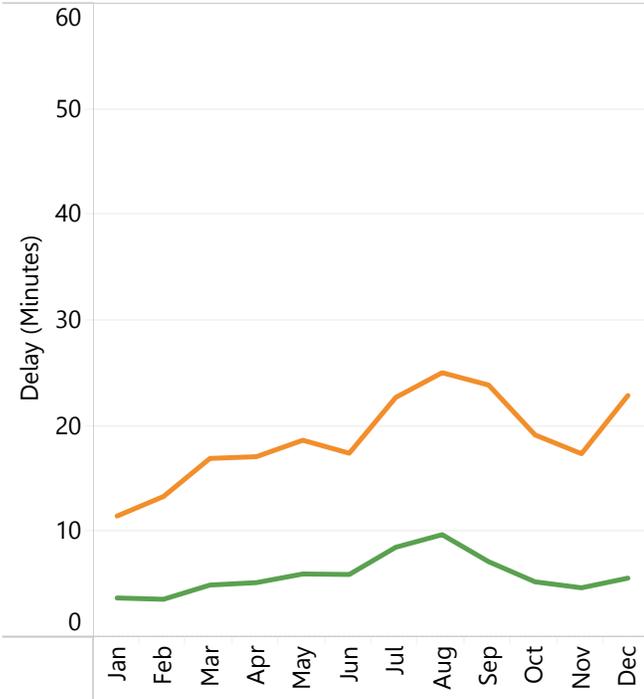
Canada-Bound
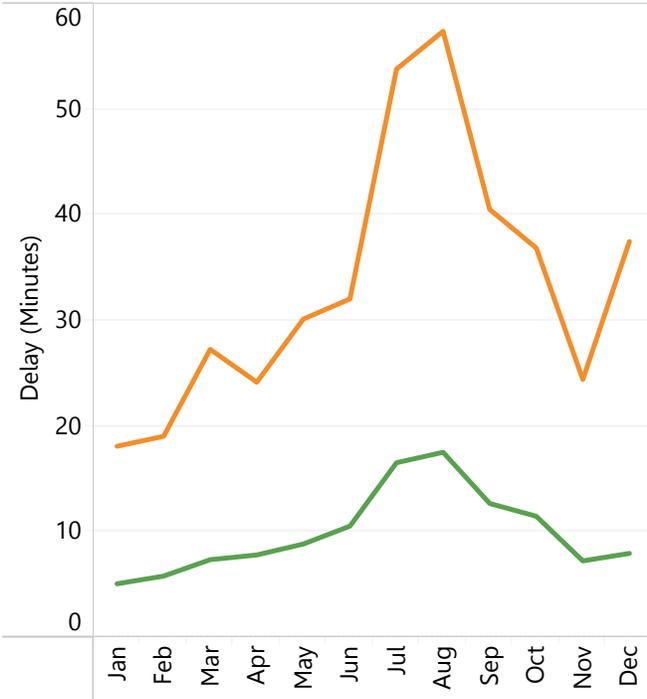
U.S.-Bound

Peace Bridge (By Hour, 2023)
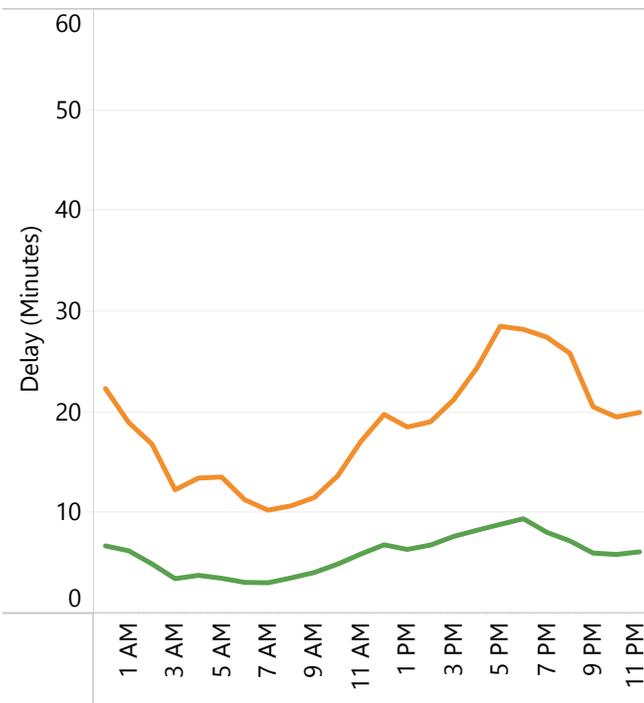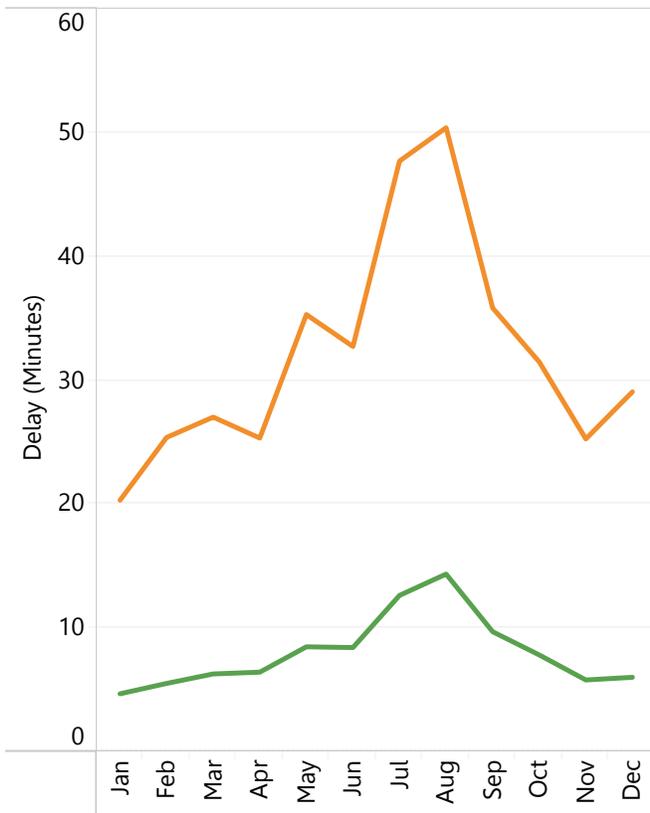
Canada-Bound
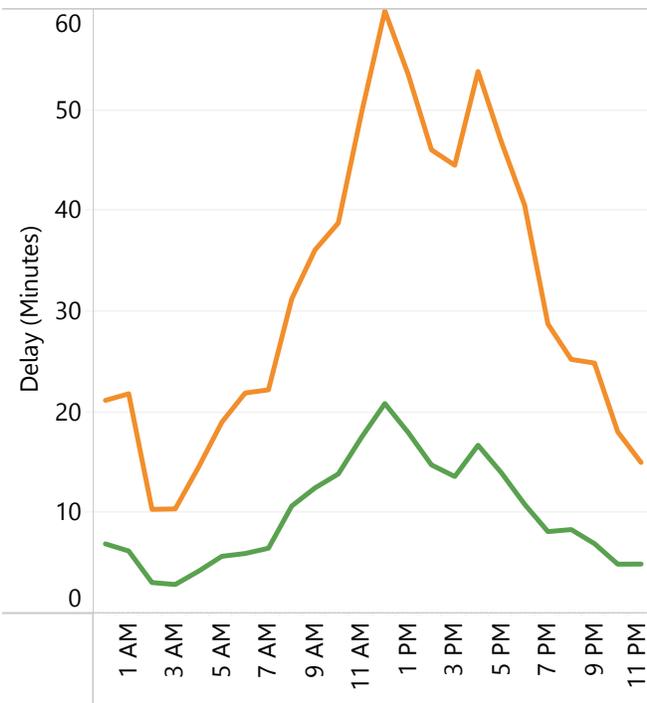
U.S.-Bound

■ Average Delay　　　　■ Peak Delay

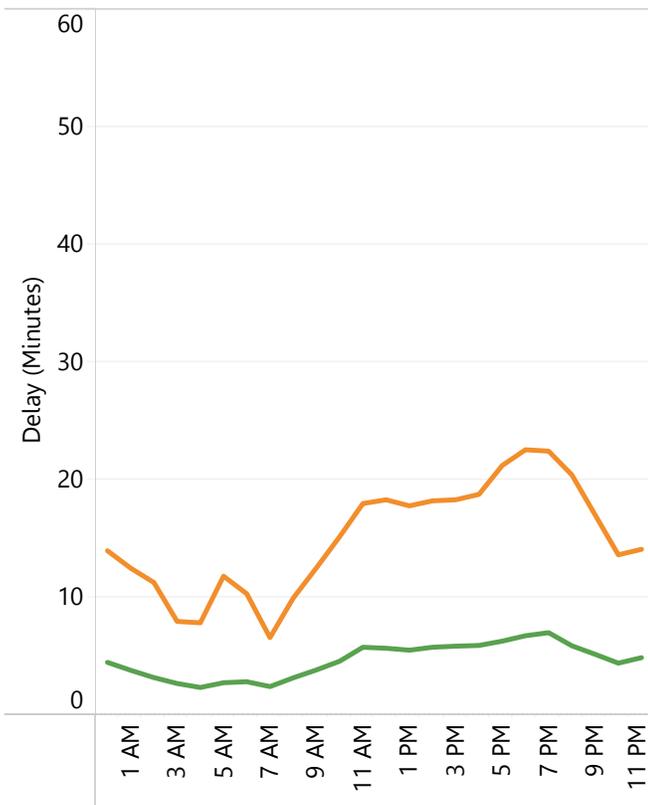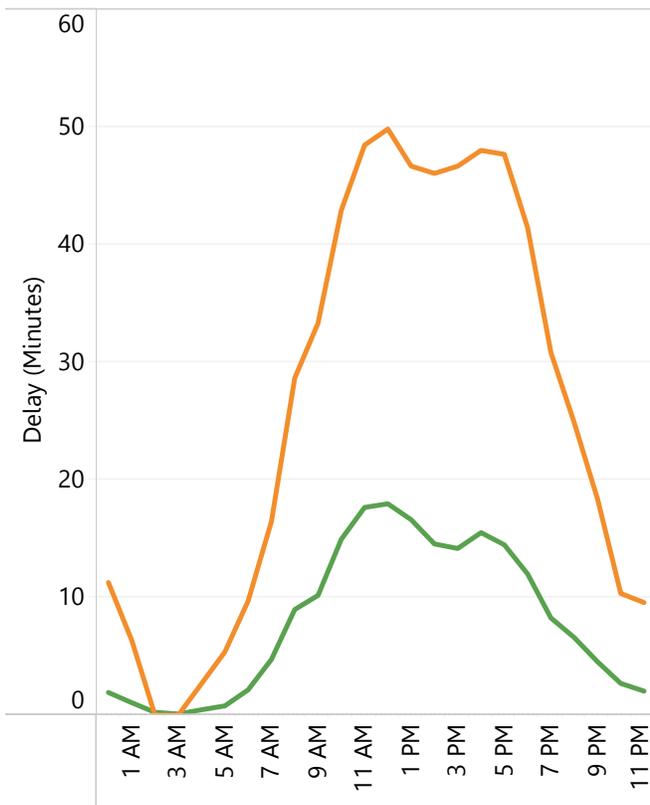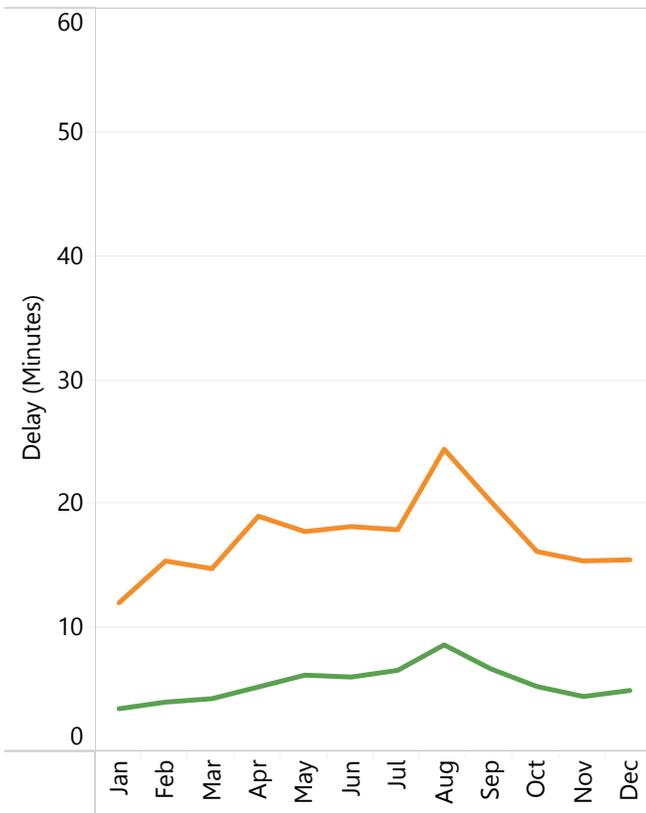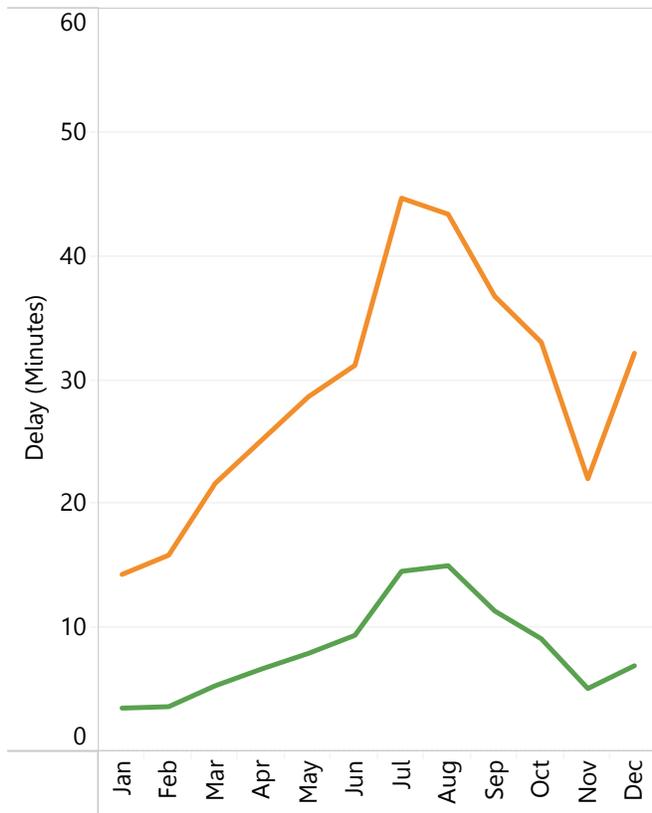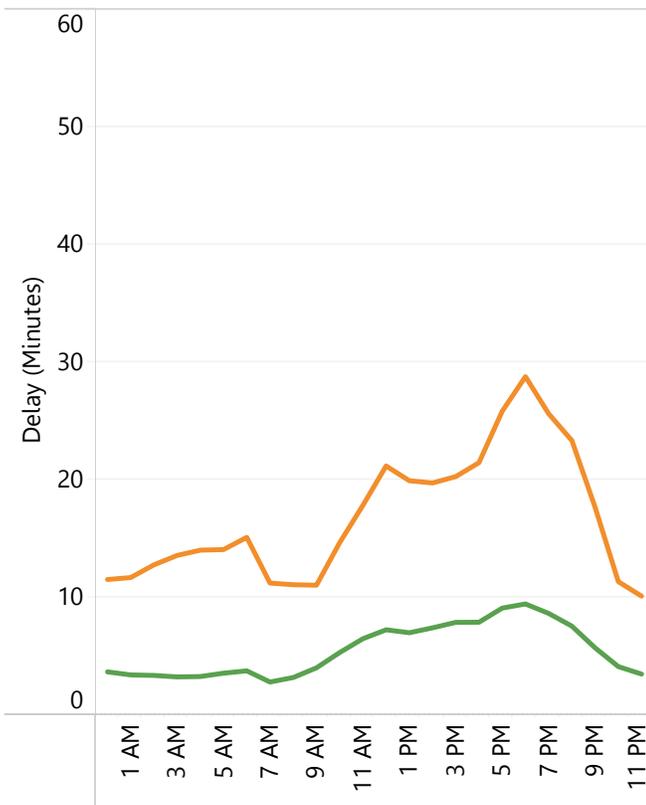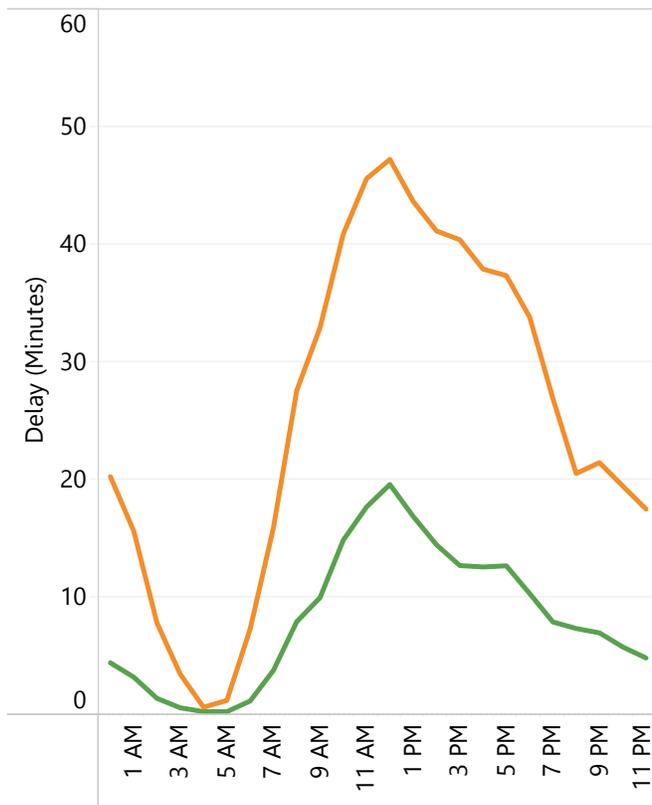# Lewiston-Queenston Bridge (By Month, 2023)
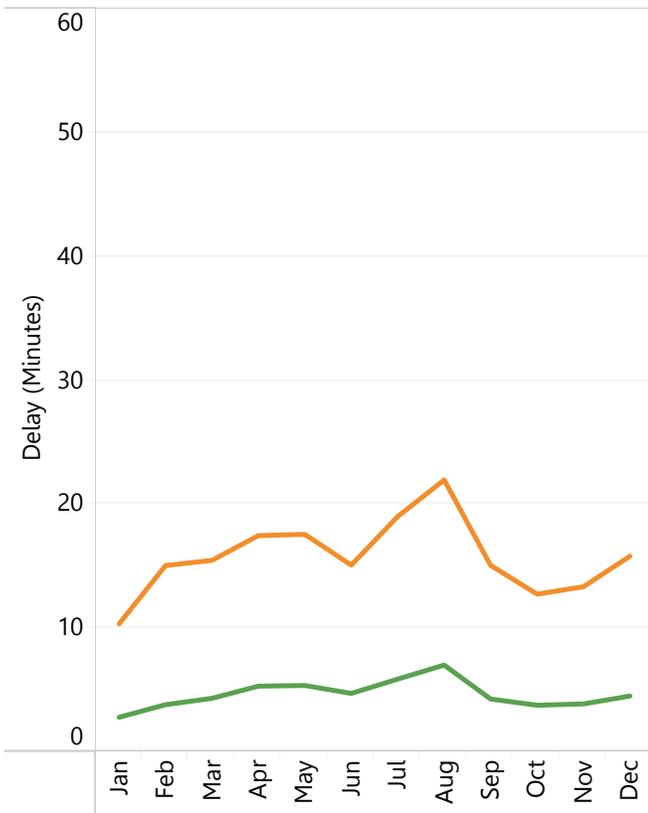
Canada-Bound

U.S.-Bound

Lewiston-Queenston Bridge (By Hour, 2023)

Canada-Bound

U.S.-Bound

Rainbow Bridge (By Month, 2023)

Canada-Bound

U.S.-Bound

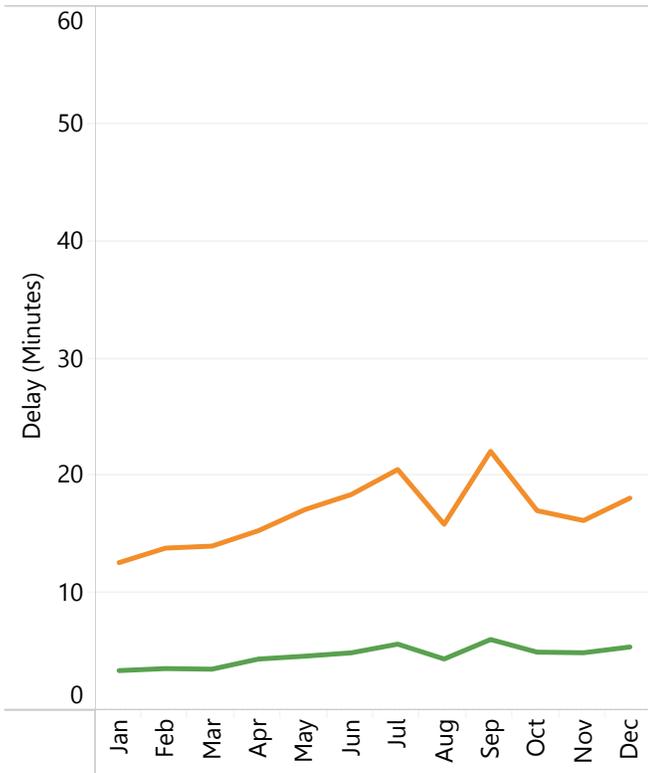

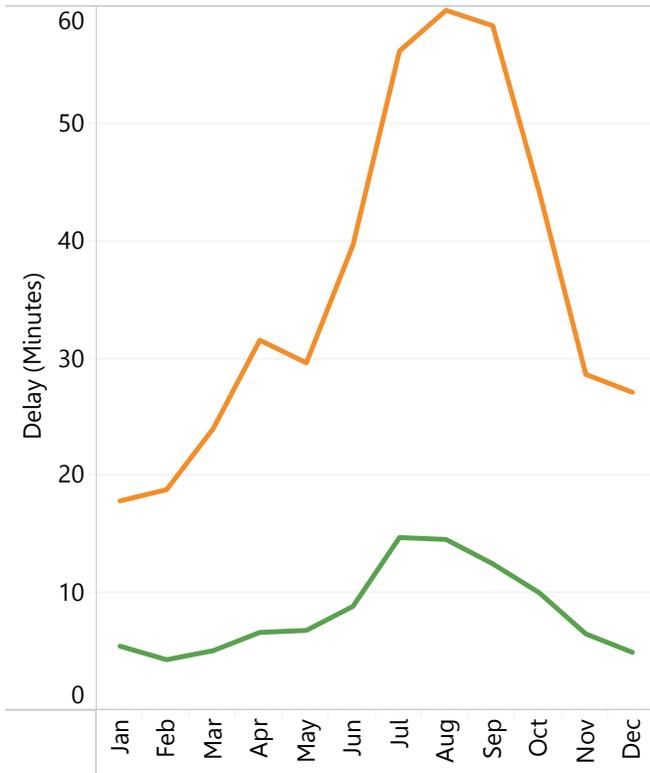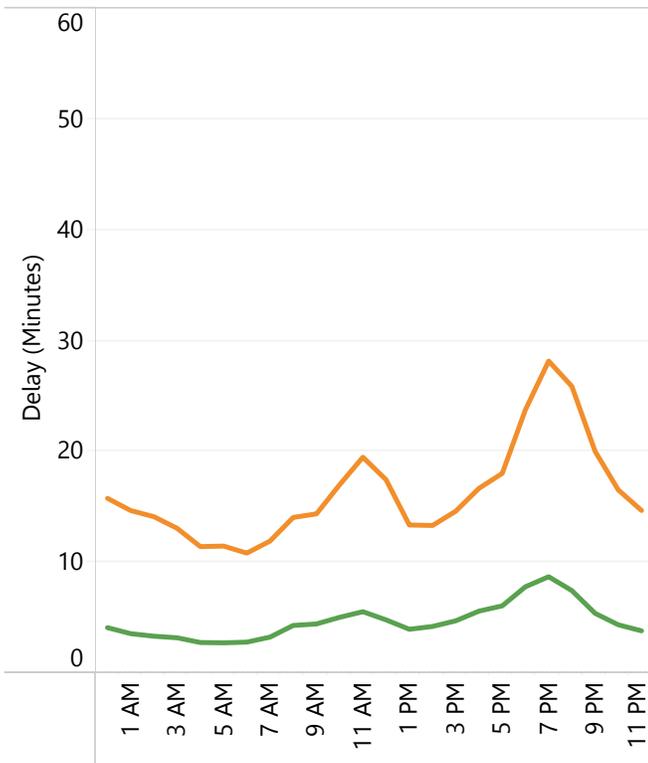# Rainbow Bridge (By Hour, 2023)

Canada-Bound

U.S.-Bound

BORDER DELAYS - TRUCKS

Peace Bridge (By Month, 2023)
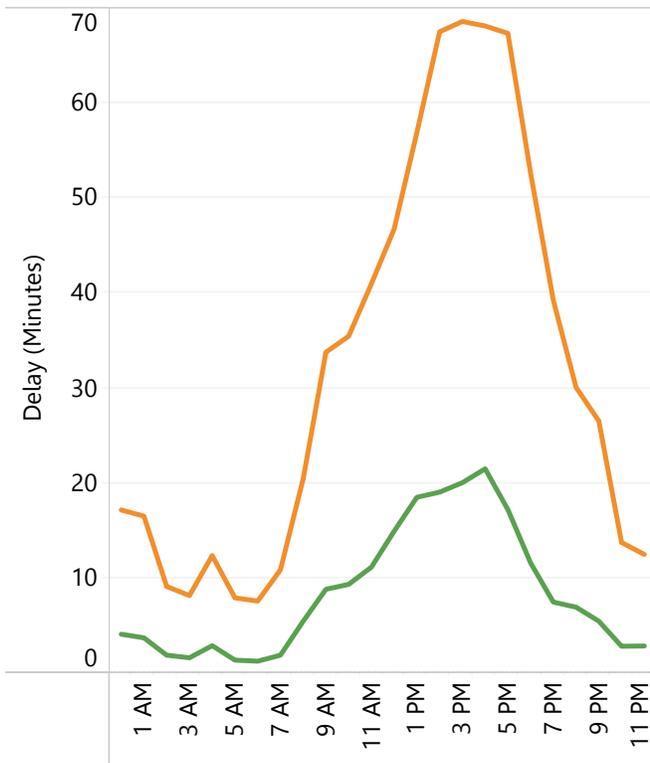
Canada-Bound

U.S.-Bound

Peace Bridge (By Hour, 2023)

Canada-Bound

U.S.-Bound

Lewiston-Queenston Bridge (By Month, 2023)

Canada-Bound
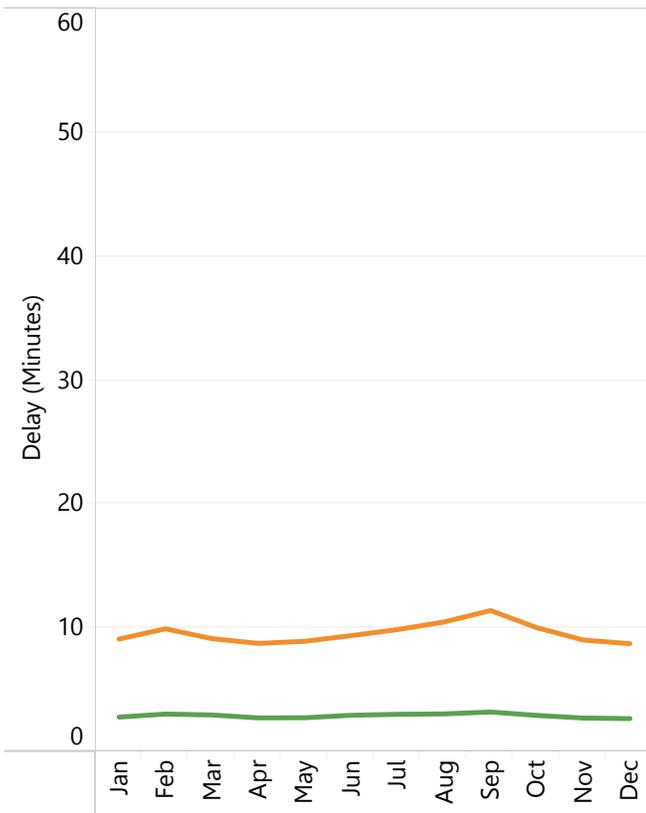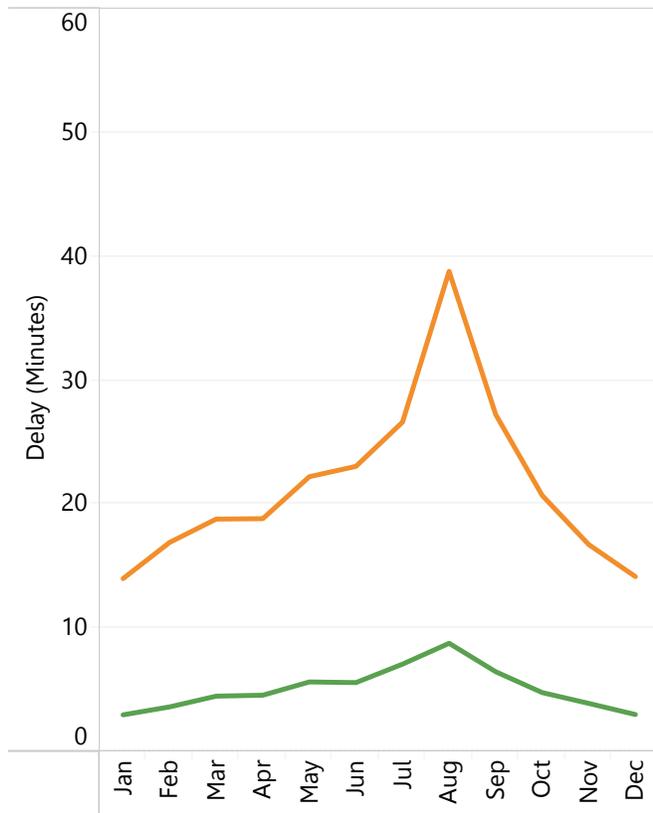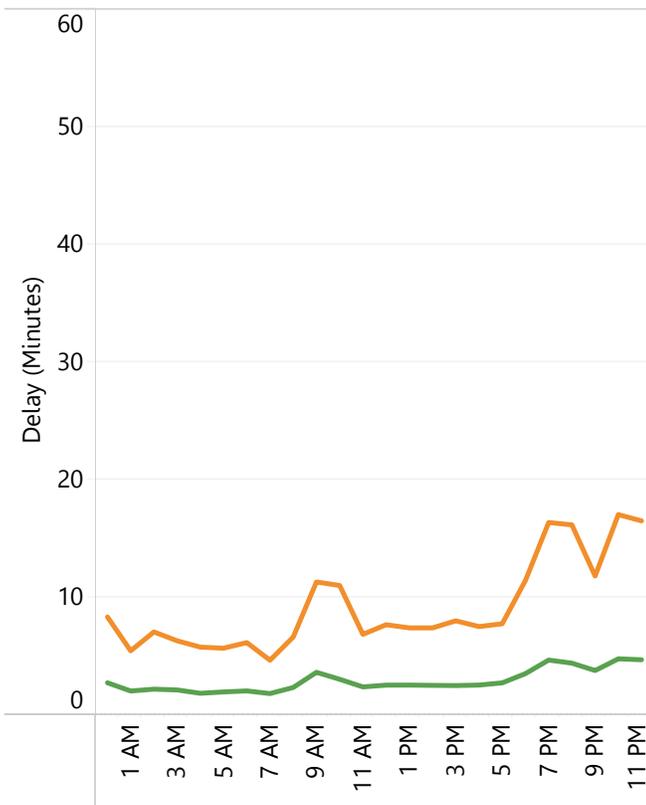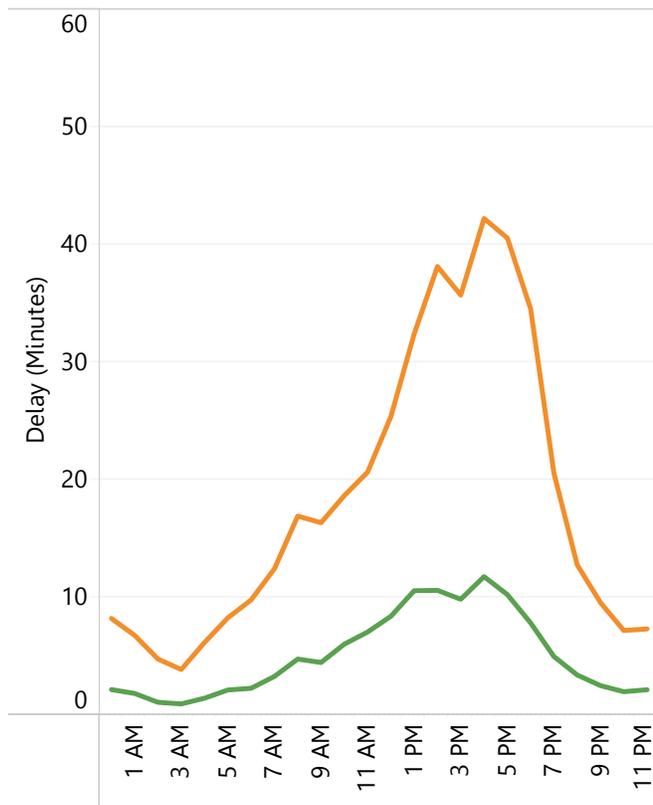

U.S.-Bound

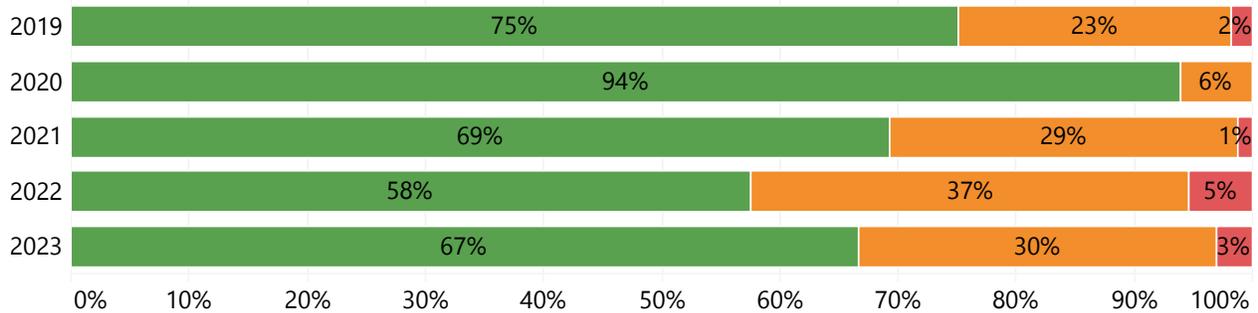# Lewiston-Queenston Bridge (By Hour, 2023)
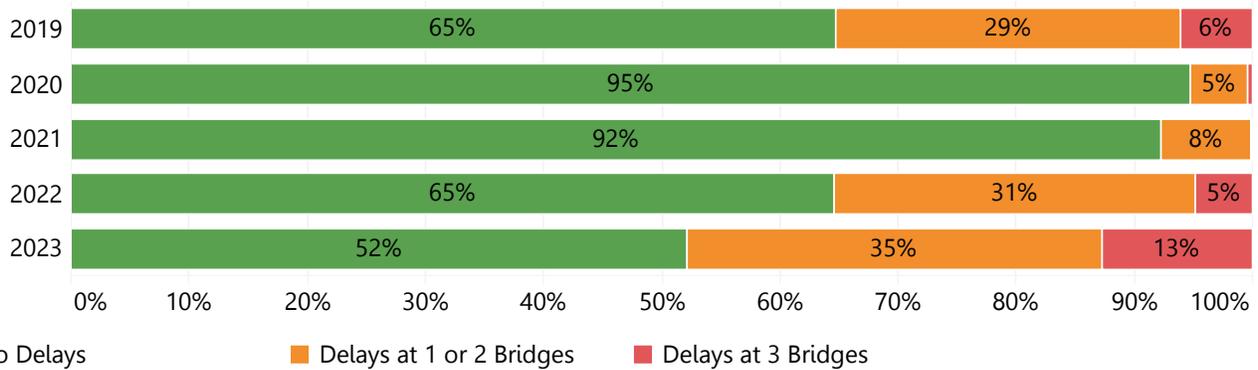
Canada-Bound

U.S.-Bound

SIMULTANEOUS DELAY

The graphs below show the percentage of each year when delays of greater than 10 minutes occurred simultaneously at two or more crossings for passenger vehicles and trucks.
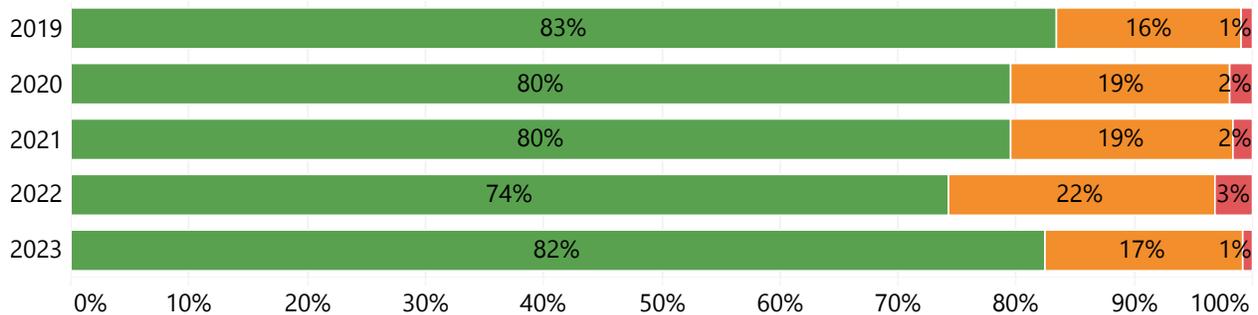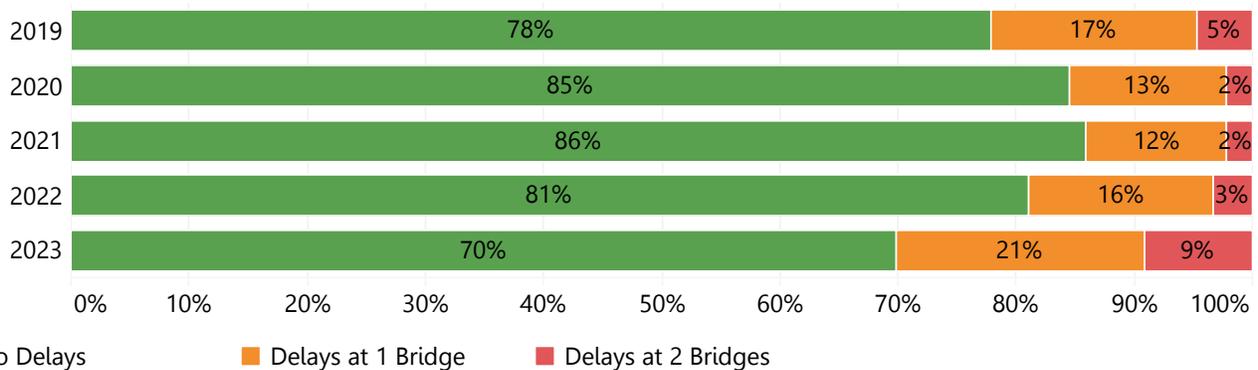
Passenger Vehicles to Canada

Year	No Delays	Delays at 1 or 2 Bridges	Delays at 3 Bridges
2019	75%	23%	2%
2020	94%	6%	
2021	69%	29%	1%
2022	58%	37%	5%
2023	67%	30%	3%

Passenger Vehicles to U.S.

Year	No Delays	Delays at 1 or 2 Bridges	Delays at 3 Bridges
2019	65%	29%	6%
2020	95%	5%	
2021	92%	8%	
2022	65%	31%	5%
2023	52%	35%	13%

■ No Delays   ■ Delays at 1 or 2 Bridges   ■ Delays at 3 Bridges

Trucks to Canada

Year	No Delays	Delays at 1 Bridge	Delays at 2 Bridges
2019	83%	16%	1%
2020	80%	19%	2%
2021	80%	19%	2%
2022	74%	22%	3%
2023	82%	17%	1%

Trucks to U.S.

Year	No Delays	Delays at 1 Bridge	Delays at 2 Bridges
2019	78%	17%	5%
2020	85%	13%	2%
2021	86%	12%	2%
2022	81%	16%	3%
2023	70%	21%	9%

■ No Delays   ■ Delays at 1 Bridge   ■ Delays at 2 Bridges

SYSTEMS RELIABILITY

Crossroads: NITTEC's Advanced Traffic Management System (ATMS) (Uptime goal: 99%)

Website: www.nittec.org and www.nittec.ca (Uptime goal: 99%)

CCTV: Traffic cameras in the region (Uptime goal: 95%)

DMS: All overhead and permanent roadside message signs in the region (Uptime goal: 95%)
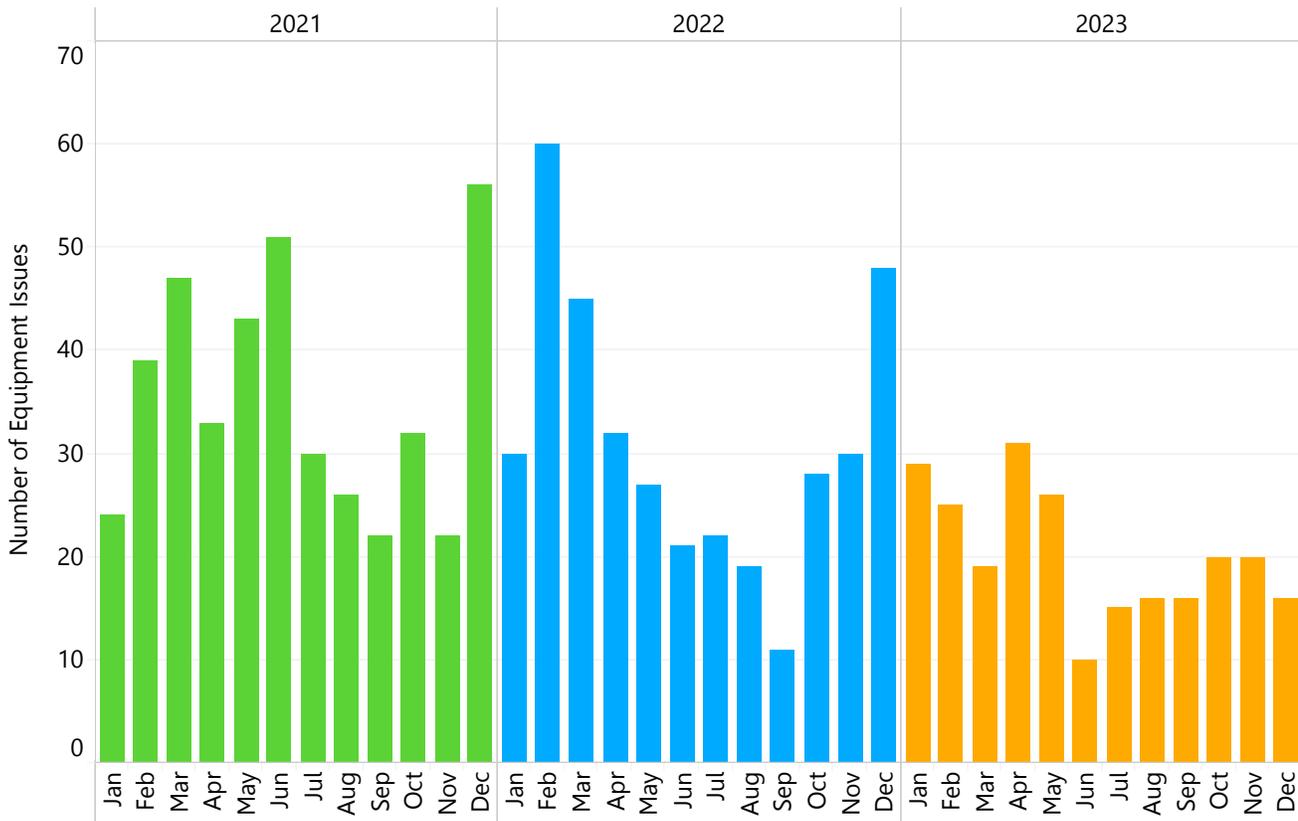
Flashing Signs: All static signs with flashing beacons

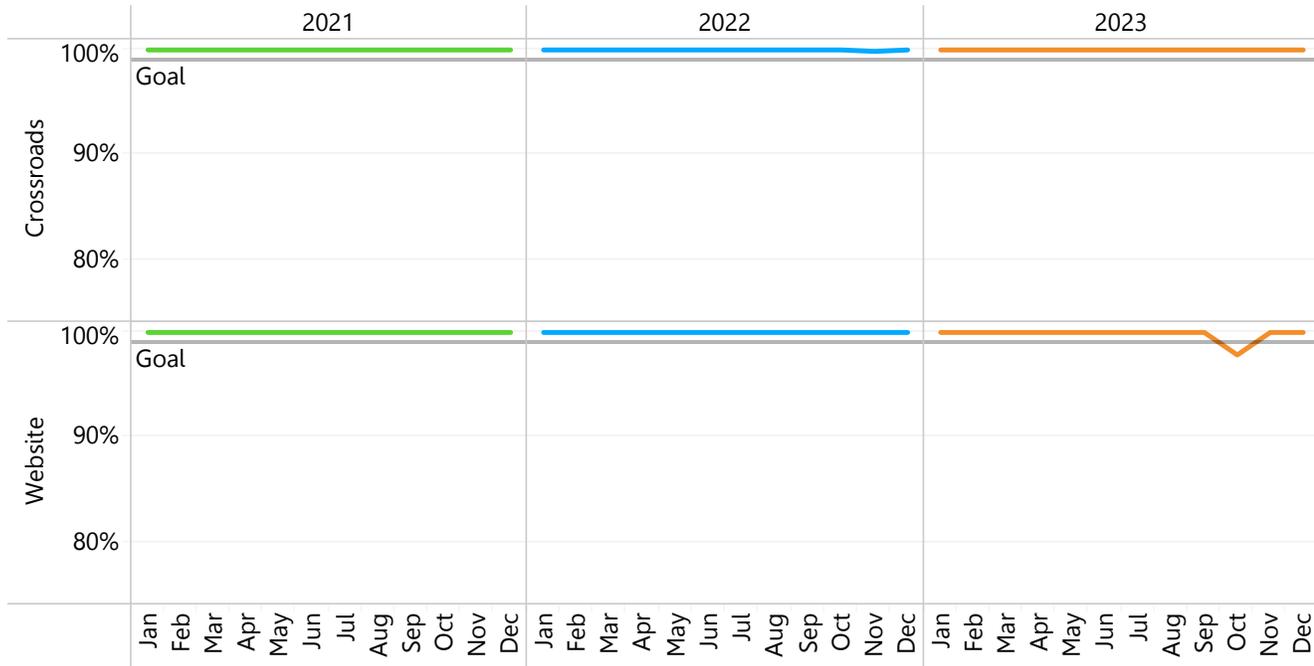**Reliability:** Measure of the uptime of an equipment type or system

Equipment Inventory

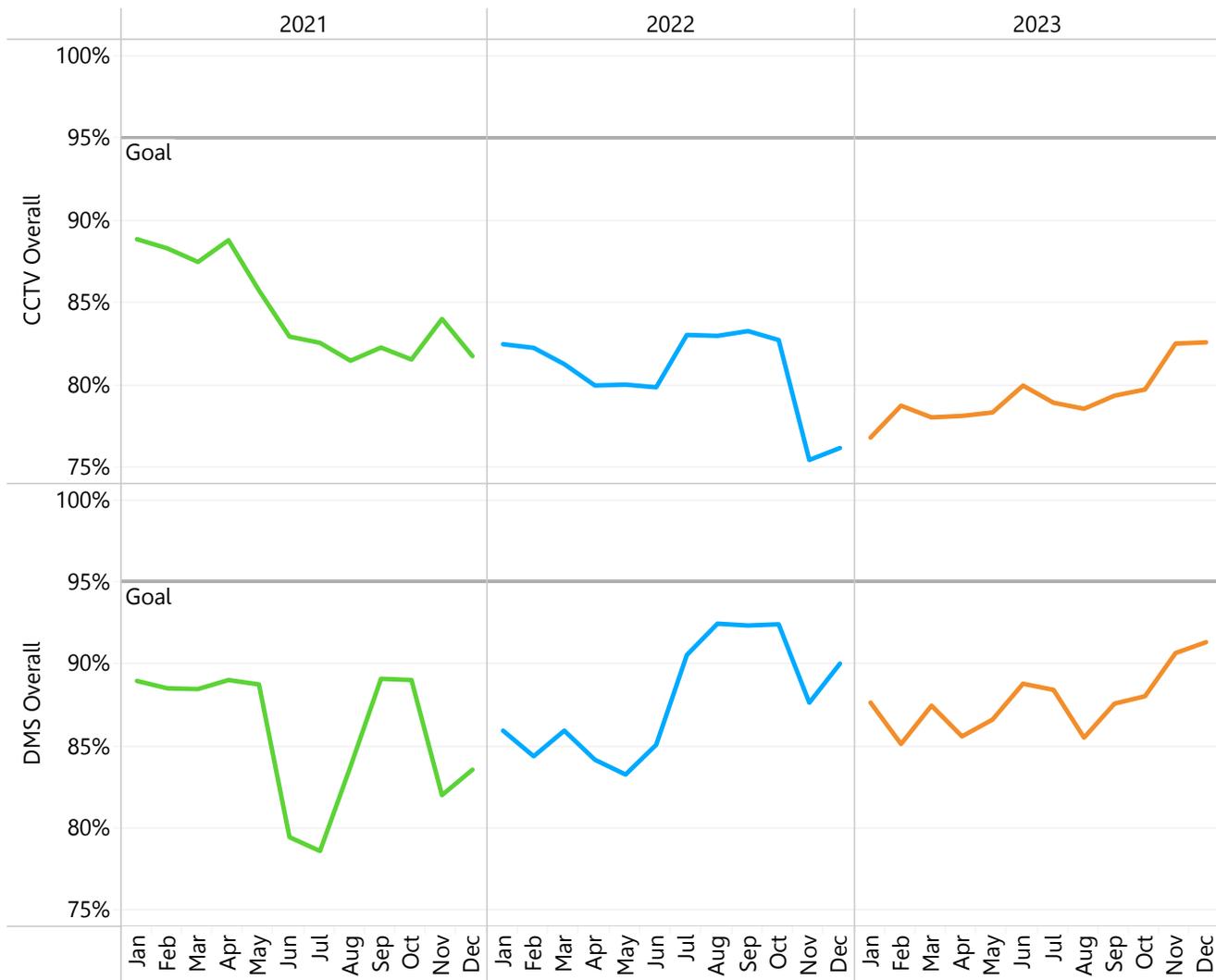| Organization	CCTV	DMS	Flashing Signs
NFBC	4	0	0
NYSDOT	76	15	10
NYSTA	62	25	2
PBA	3	0	0
Grand Total	145	40	12

Equipment Issues

NITTEC Systems Uptime

Agency Equipment Uptime

Niagara International Transportation Technology Coalition

93 Oak Street

Buffalo, NY 14203

www.nittec.org

www.nittec.ca