Niagara International Transportation Technology Coalition

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nittec

Travel Smart.

Annual Report

TABLE OF CONTENTS

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.
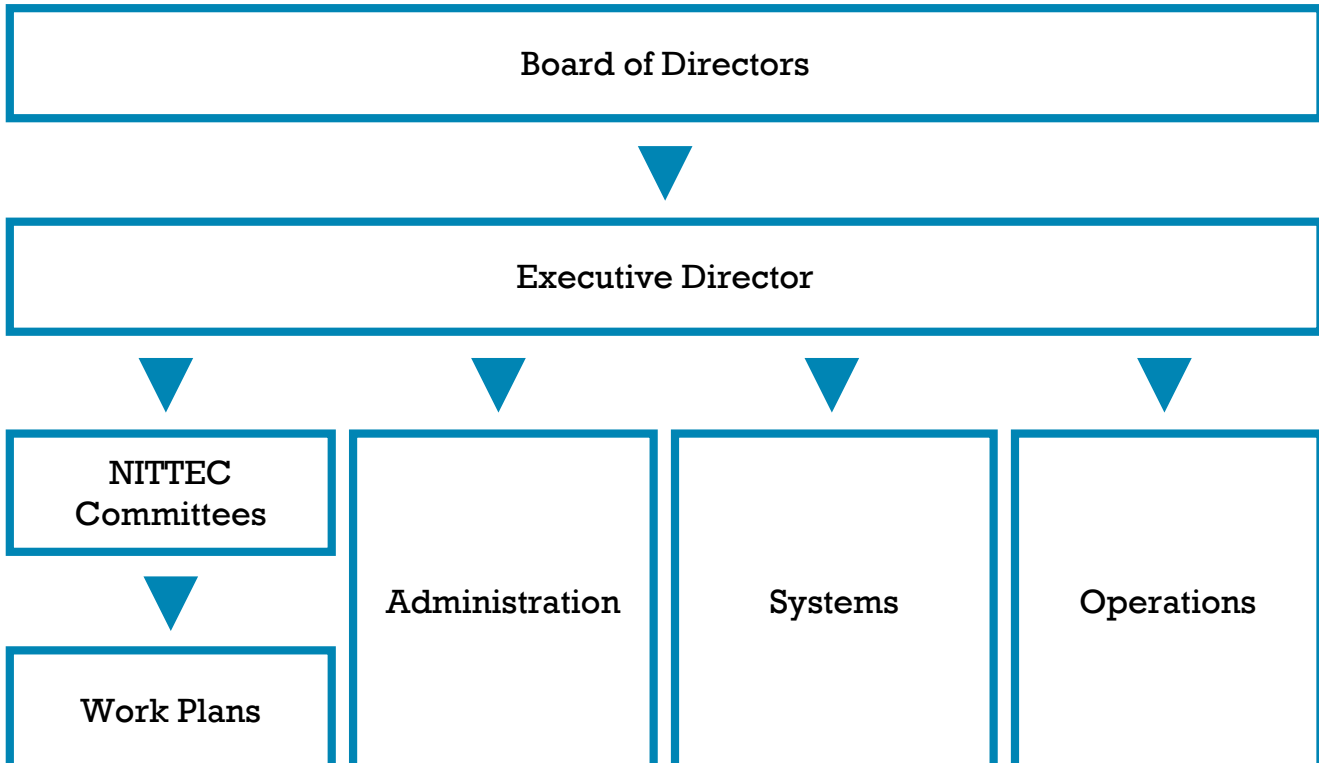
Management Objectives

✓ 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 Committees

▼

Work Plans
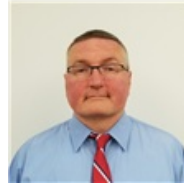
Administration

Systems

Operations

NITTEC STAFF

Athena Hutchins, P.E.
Executive Director

Michael Smith
Operations Manager

Timothy McGovern, P.E.
Engineering Manager

Andrew Bartlett, PhD, P.E.
Transportation Engineer

William Conway
Operations Technician

Robert Eberhardt
Systems Administrator

Steven Eiss
Operations Technician

Cheryl Hagen
Operations Technician
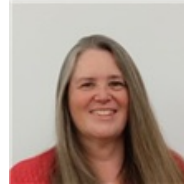
Dee Idzior
Operations Technician

John LaFalce
Operations Technician

William Lobuzzetta
TOC Supervisor

Gordon Scherer
Operations Technician

Stephen Schnepf
Operations Technician

Jordan Sullivan
Operations Technician

John Thompson
Operations Technician

Matthew Vazquez
Systems Administrator

Lisa Walgate
Administrative Assistant

NITTEC MEMBERS

Policy Members

	Erie County
Ontario	Ministry of Transportation Ontario
	New York State Department of Transportation
	New York State Thruway Authority
NFTA	Niagara Frontier Transportation Authority

General Members

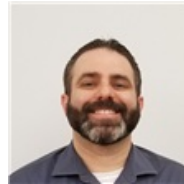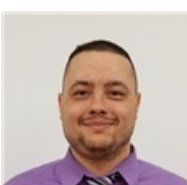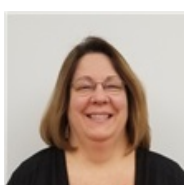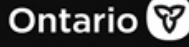|			
	Buffalo and Fort Erie Public Bridge Authority		Niagara Falls Bridge Commission
	City of Buffalo, NY	Niagara Parks	Niagara Parks Commission
	City of Niagara Falls, NY	Niagara Region	Niagara Region
	City of Niagara Falls, ON	Fort Erie	Town of Fort Erie, ON
	Niagara County		

Affiliate Members

AAA	AAA of Western and Central New York	LTR	LTR Rigging and Hauling		Town of Hamburg, NY
AMR	American Medical Response (AMR)		Montgomery Towing		Town of Niagara-on-the-Lake, ON
	Canada Border Services Agency		New York State Department of Environmental Conversation		Town of Orchard Park, NY
	Cattaraugus County		New York State Police		Town of Tonawanda, NY
	Chautauqua County	O.P.P.	Ontario Provincial Police		Town of West Seneca, NY
	City of Lackawanna, NY		Rusiniak's Towing	Twin City Ambulance	Twin City Ambulance
	City of St. Catharines, ON	SENECA	Seneca Nation	UB	University at Buffalo
	Federal Highway Administration		Town of Amherst, NY		US Customs and Border Protection
GBNRTC	Greater Buffalo Niagara Regional Transportation Council		Town of Cheektowaga, NY		
John's Towing	John's Towing		Town of Evans, NY		

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.

2022 Highlights

- Reviewed and updated the Summary of Wait Time Commitments related to changes in processing due to COVID restrictions and testing requirements.
- Reviewed and finalized sign design and locations for deployment of border crossing wait time signage.

Initiatives

- Provide input on deployment of border travel time signage.
- Identify and evaluate best practices and new technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Review and update the Border Crossing Commercial Vehicle Staging Plan.

Scheduled

- Yearly review of the border related incident management plans, 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 to maintain delivery of common information to all users, and identify opportunities to enhance services.
- 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. 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.

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.

2022 Highlights

- Provided project updates and summary of regional construction to stakeholders.
- The committee reviewed a construction coordination tool which would provide committee members the ability to share construction information, including event reporting, public broadcast, and event creation/management.
- Discussed the Automated Work Zone Speed Enforcement project that will be implemented within the region to improve workzone safety.

Initiatives

- Identify and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Identify the needs and usage of a construction planning / coordination software amongst Coalition members to collect and integrate information, coordinate and assist member agencies with their planned construction activities.
- Evaluate and promote new technologies related to work zone safety.

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; evaluate traffic data to improve work zone efficiency.
- Continue a regional approach to communicate, coordinate and manage construction information, include a broader set of community stakeholders.
- 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 to gather delay information.
- Continue to work with Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) and member agencies to coordinate regional transportation planning/operations activities.
- Identify high incident locations and the impact of construction activities would have.

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.

2022 Highlights

- Debriefed major incident response and agency coordination.
- Held committee outreach meetings to discuss committee initiatives and distribute committee information to new member agency staff.
- Reviewed regional construction activities and the possible effects on incident response.

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.
- Monitor installation of Emergency Detour Route signage for Highway 406 and promote its' use to first responders and motorists.
- Share information with the NITTEC Construction Coordination Committee to track and communicate major construction projects.

Scheduled

- Debrief major incidents and establish "Best Practices" for future events.
- Use the Highway Safety Awareness Training Program to demonstrate/ disseminate incident response and recovery best practices to local jurisdictions.
- 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.

Ongoing

- Participate in event planning and traveler information activities.
- Maintain outreach program to encourage local response community participation.
- Maintain communication protocols and contact information among agencies.
- Develop Traffic Management Plans for Special Events.
- Promote effective communication and sharing of information 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.

2022 Highlights

- Met with stakeholders the review and update expressway closure guidelines.
- Discussed emergency response for electric vehicles and water source issues.
- Reviewed the TIM Self-Assessment to identify areas of improvement.
- Identified locations and installed additional closure gates.

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.
- Review and Evaluate Incident Performance Measure threshold criteria.
- Improve Secondary Crash data collection and reporting.
- Review Traffic Incident Management (TIM) Self-Assessment for improvement opportunities.
- Evaluate and promote the use of the Integrated Incident Management System (IIMS).

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/traveler information activities; develop traffic management plans.
- Promote effective communication and sharing of information 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.
- Maintain closure guidelines for regional expressways and communicate to stakeholders.
- Promote and evaluate accident reporting areas at the I-90/I-290 interchange/other locations.

REGIONAL TRAFFIC SIGNAL

Committee Mandate

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.

2022 Highlights

- Reviewed a draft Regional Traffic Signal System Concept of Operations.
- Investigated re-occurring costs for communications to regional signal systems.

Initiatives

- Develop a Regional Traffic Signal System Concept of Operations for desired functionality of signal systems in the region.
- 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.
- Investigate a regional asset inventory management system for centralized use among member agencies.
- Investigate re-occurring costs for various types of communications to regional signal systems.

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 and technologies.
- Maintain a Corridor Status Matrix of traffic signals along existing and proposed signal management corridors and identify and prioritize activities.
- Develop traffic signal performance measures reports to determine effectiveness of coordination along existing corridors.
- Identify high quality transit corridors and recommend implementation of Transit Signal Priority.
- Coordination with other Committees regarding highway closures and detours.
- Monitor progress of Regional Traffic Signal projects.

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.

2022 Highlights

- Provided oversight on the Buffalo Niagara Region Transportation Data Business Plan.

Initiatives

- Establish performance measures to evaluate overall progress against the NITTEC Strategic Plan Recommendations.
- 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 and Grant fund 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 & SYSTEMS

Committee Mandate

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.

2022 Highlights

- Reviewed a draft Buffalo Niagara Region Transportation Data Business Plan.
- Discussed Business Continuity and Disaster Recovery planning efforts.

Initiatives

- 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 and disaster recovery planning.

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 operations and coverage.
- Support a regional network and Center-to-Center (C2C) system and review future integration opportunities for automated data exchange.
- Identify system integration opportunities, standards and technology issues.
- Support and enhance the central signal software system and support the Regional Traffic Signal Committee initiatives by evaluating technology and hardware requirements.
- Continue to report on Member Agency's systems status and activity logs monthly.
- Continue to identify available training opportunities for NITTEC and Member Agencies.
- 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.

2022 Highlights

- Reviewed Winter Operations procedures and Winter Messaging protocols.
- Discussed the local control/operation of the Grand Island Bridge Lane Designation Devices.
- Discussed the development of a Grand Island Bridge Crossover Traffic Management Plan (TMP) that would be utilized during major incidents.

Initiatives

- Identify and evaluate technology opportunities for the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant.
- Develop an Emergency Detour Plan for incidents that occur on the Grand Island Bridges.
- Investigate the integration and activation protocols of the Grand Island Bridge lane designation devices.

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, other 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.
- Evaluate operational procedures, training programs and staffing levels to ensure they are adequate for implementation of new systems and initiatives.
- Provide opportunities for agencies to talk, 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.
- Establish traffic management strategies using data driven performance outcomes.
- Support evaluation for Incident Detection Systems and promote within Member Agencies.
- Review and provide input on the enhanced Crossroads System response plans and messaging.

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 Participarion

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

	Board Of Directors	Border Crossing	Construction Coordination	Incident Management (Ontario & WNY)	Regional Traffic Signals	Strategic Planning	Technology and Systems	Traffic Operations Center
Policy								
Erie County	Full	None	Full	Partial	Full	Partial	None	None
Ministry of Transportation - Ontario	Full	Full	Partial	Full	None	Full	Full	Full
New York State Department of Transportation	Full	Partial	Full	Full	Full	Full	Full	Full
New York State Thruway Authority	Full	Full	Full	Full	None	Full	Full	Full
Niagara Frontier Transportation Authority	Full	Partial	None	Partial	Full	Partial	Partial	Partial
General								
Buffalo and Fort Erie Public Bridge Authority	None	Full	None	None	None	None	None	None
City of Buffalo	None	Partial	None	Partial	Full	Full	None	None
Niagara County	None	None	None	Full	None	None	None	None
Niagara Falls Bridge Commission	None	Full	None	None	None	None	None	None
Niagara Region	None	Partial	None	Full	None	None	None	None
Affiliate								
Canada Border Services Agency	None	Full	None	Full	None	None	None	None
Cattaraugus County	None	None	None	Full	None	None	None	None
Chautauqua County	None	None	None	Partial	None	None	None	None
City of Lackawanna	None	None	None	Full	None	None	None	None
Federal Highway Administration	None	None	None	Full	Partial	Full	Partial	None
Greater Buffalo Niagara Regional Transportation Council	Full	Full	None	None	Full	Full	None	None
New York State Police	None	None	None	Full	None	None	None	None
Ontario Provincial Police	None	Full	None	Partial	None	None	None	None
Rusiniak's Towing	None	None	None	Partial	None	None	None	None
Seneca Nation	None	None	None	None	None	None	None	None
Town of Amherst	None	None	None	Full	Full	None	None	None
Town of Cheektowaga	None	None	None	Full	None	None	None	None
Town of Evans	None	None	None	Full	None	None	None	None
Town of Hamburg	None	None	None	Full	None	None	None	None
Town of Niagara-on-the-Lake, ON	None	None	None	Full	None	None	None	None
Town of Orchard Park	None	None	None	Full	None	None	None	None
Town of Tonawanda	None	None	None	Full	Full	None	None	None
Town of West Seneca	None	None	None	Full	None	None	None	None
US Customs and Border Protection	None	Full	None	None	None	None	None	None
Non-Affiliate								
Brighton Fire Department	None	None	None	Full	None	None	None	None
Grimsby Fire Department	None	None	None	Partial	None	None	None	None
Lincoln Fire Department	None	None	None	Full	None	None	None	None
New York State Office of Emergency Management	None	Partial	None	Full	None	None	None	None
Town of Niagara Police Department	None	None	None	Full	None	None	None	None

Participation Level

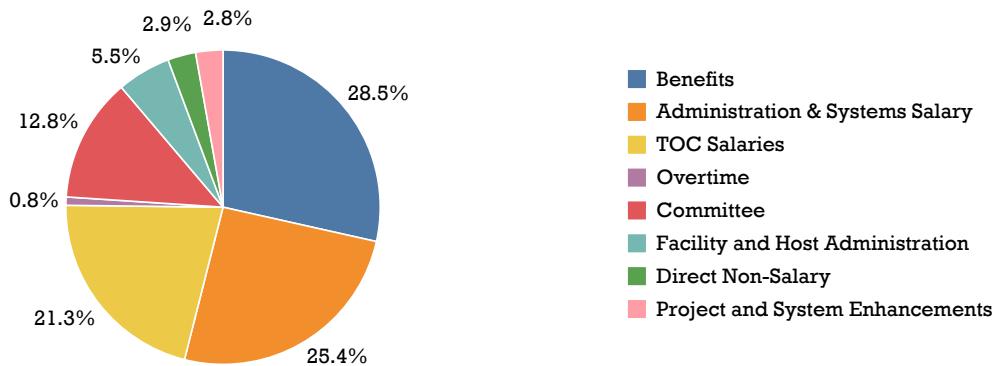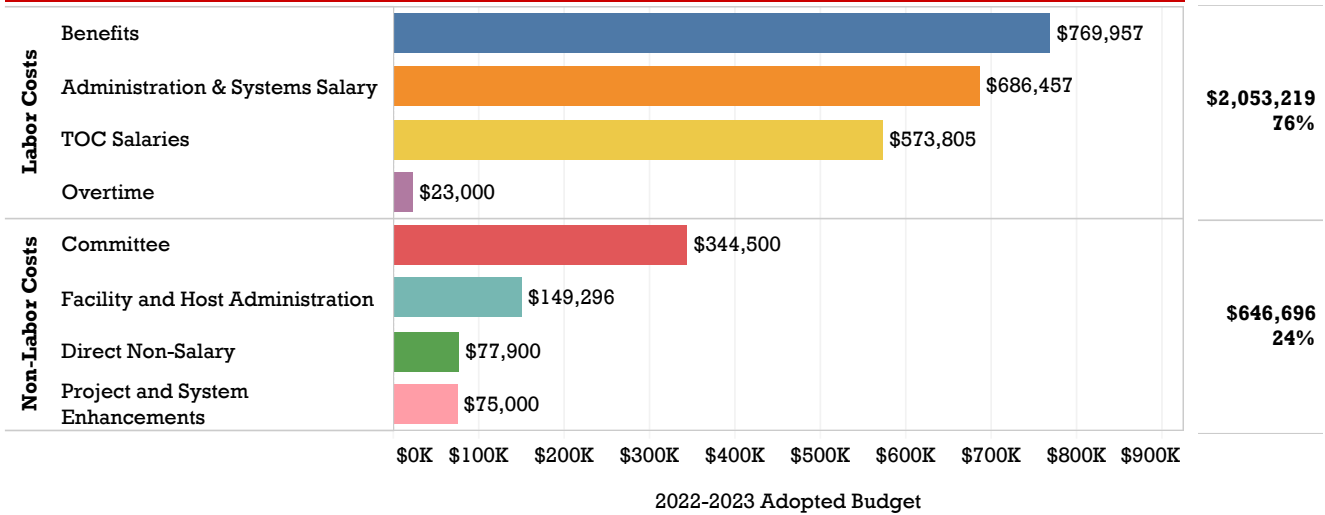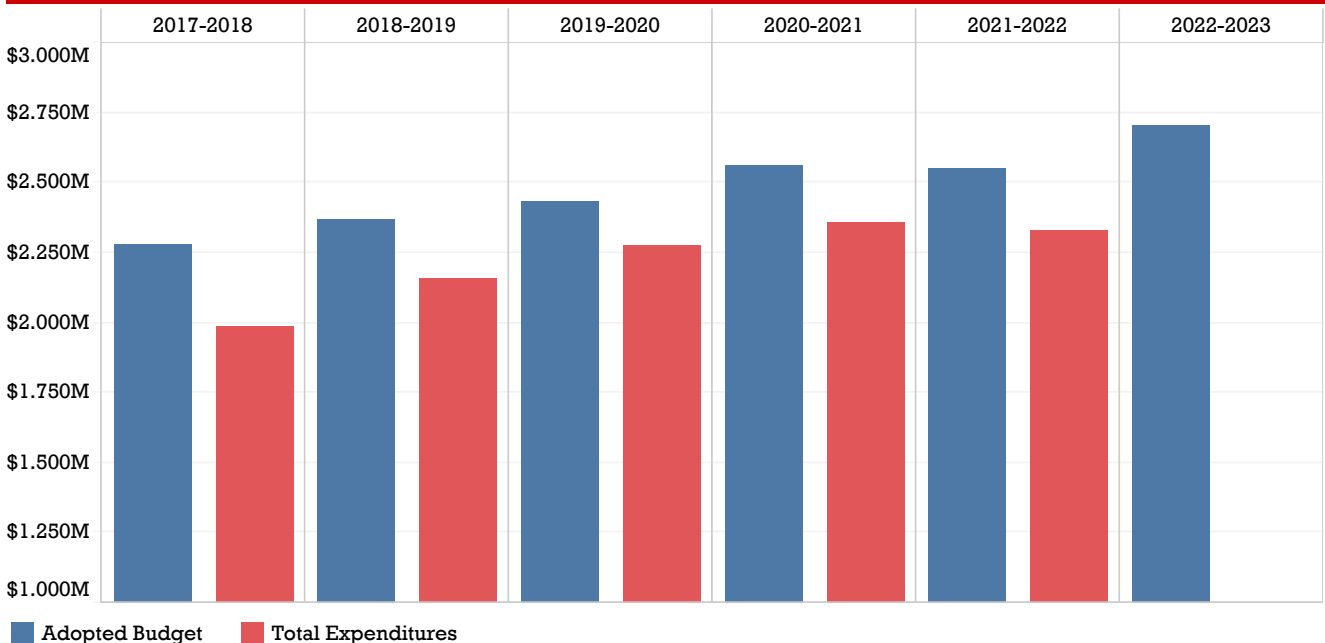| None	Partial	Full
(grey)	(pink)	(purple)

FINANCIAL INFORMATION

The adopted SFY 2022-2023 Operating Budget was $2,699,915, distributed as identified below.

Budget Distribution

		2022-2023 Adopted Budget	
Labor Costs	Benefits	$769,957	**$2,053,219**
	Administration & Systems Salary	$686,457	**76%**
	TOC Salaries	$573,805	
	Overtime	$23,000	
Non-Labor Costs	Committee	$344,500	**$646,696**
	Facility and Host Administration	$149,296	**24%**
	Direct Non-Salary	$77,900	
	Project and System Enhancements	$75,000	

Pie chart:
- Benefits: 28.5%
- Administration & Systems Salary: 25.4%
- TOC Salaries: 21.3%
- Overtime: 0.8%
- Committee: 12.8%
- Facility and Host Administration: 5.5%
- Direct Non-Salary: 2.9%
- Project and System Enhancements: 2.8%

Budget Performance

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023

Legend: Adopted Budget, Total Expenditures

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 $5,017,712 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, 2022 is presented here.

Total RLF Summary	Amount
RLF Principal	$5,000,000
Interest	$1,108,043
RLF Principal & Interest	**$6,108,043**
Grant Monies Paid	$662,592
Remaining Allocated Grant Monies	$183,000
Other - Write Off	$244,739
Available Balance	**$5,017,712**

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

Advanced Transportation Congestion Management Technology Deployment
Moving technological innovations forward in the NITTEC Region

The NITTEC region received one of the first ATCMTD grants from the Federal Highway Administration in 2016. After extensive planning with our stakeholders and consulting team, the Coalition 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 goal of the project is to enhance safety and mobility across the Region by:

• Balancing multi-modal demand at international **border crossings** through active demand management

• Extending **integrated corridor management** functionality & advance the regional traffic model

• Improving **commercial vehicle operations** through targeted traveler information

The proposed system 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 integrator will be supplemented by the deployment of 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.

Project Timeline

Year	Milestone
2016	NITTEC Awarded $7.8 million from FHWA
2020	Project Planning Phase (Phase 1)
2021	RFP for Solution Development (Phase 2)
2022	Phase 2 Kick-Off
2022	Begin System Development
2023	System Testing
2023	Pilot Technology Development
2024	System Deployment

Project Focus Areas

Improve Border Crossing Performance and Travel Time	**Improve Commercial Vehicle Operations and Safety**
Provide for Operational Integration with Member Agencies regarding Regional Smart Mobility	**Using Real-time and Forecasted Weather Information for Active Traffic Management Strategies**
Expand Regional Smart Mobility	**Provide Travelers with Enhanced Real-Time Information**
Improve Incident Management	**Enhance Data Collection, Fusion, Distribution and Archiving**

Website Statistics

This table compares the NITTEC Website traffic from 2019 - 2022.

	2019	2020	2021	2022	% Change (2021 to 2022)
Number of Pageviews	681,763	295,532	394,391	1,266,313	221%
Number of Sessions	406,797	185,544	224,451	705,559	214%
Number of Users	156,328	75,411	93,418	312,977	235%

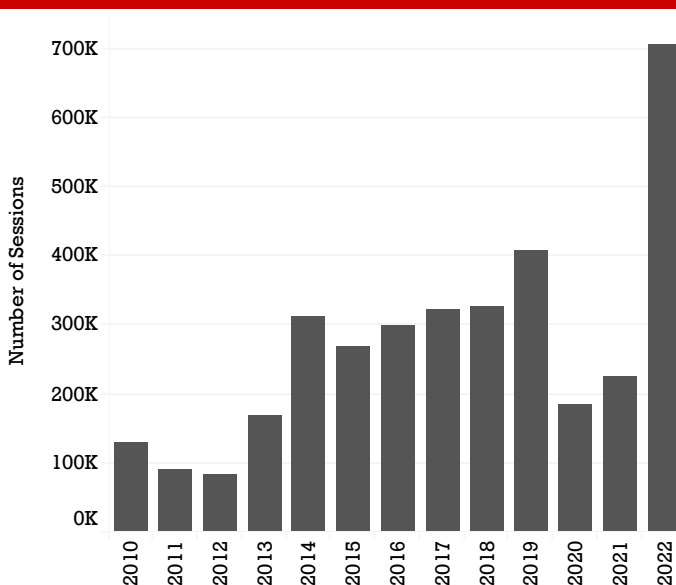**Pageview:** A pageview is a single instance of one of the pages of the website being loaded.

Session: A session captures a visitors entire engagement with the website, regardless of the duration or number of pages loaded.

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

Page Views
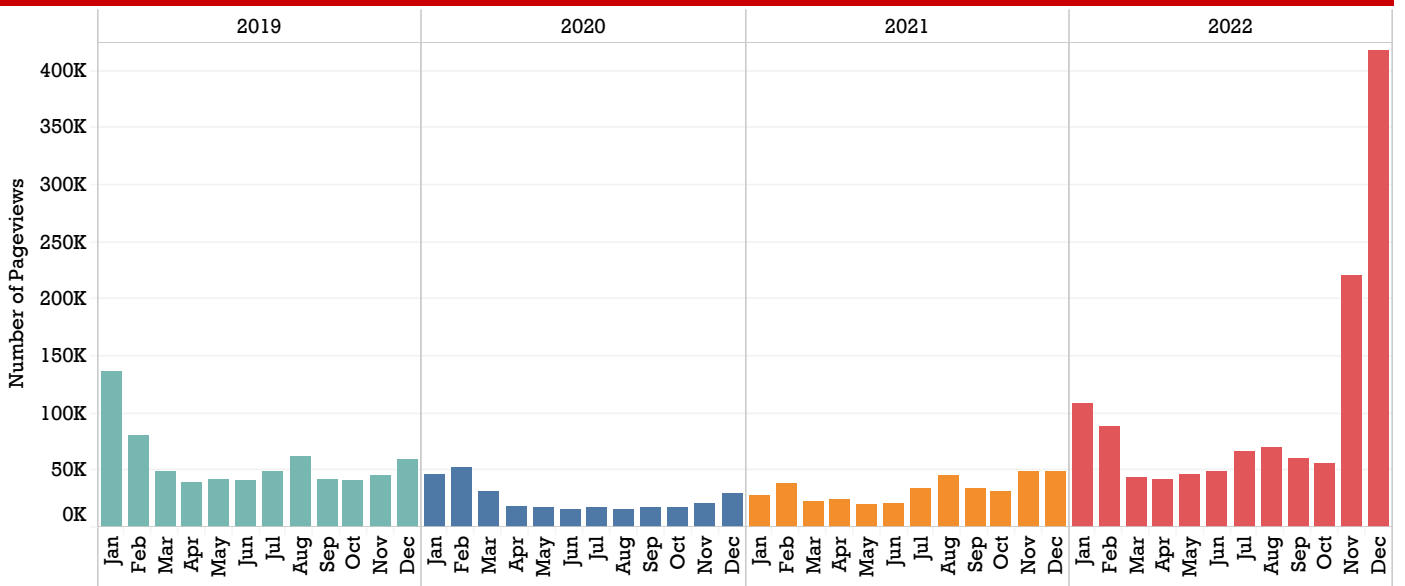
Sessions by Year

Sessions by Location

■ US Sessions   ■ Canada Sessions   ■ Other Sessions
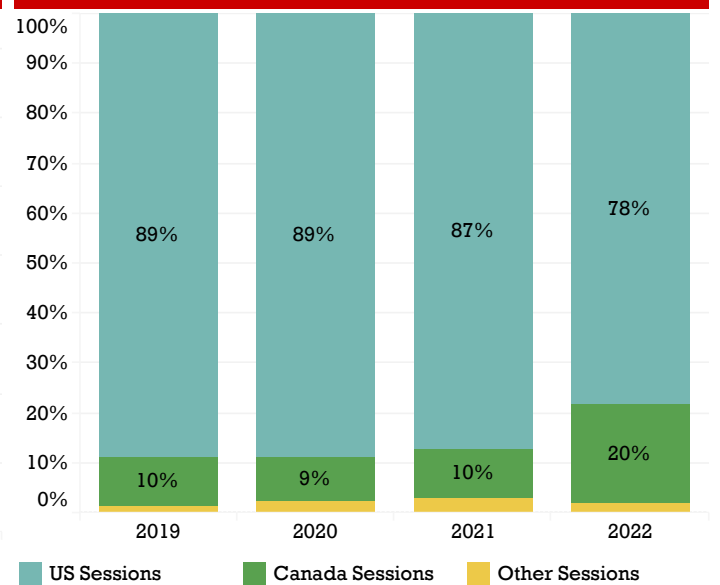
The graph below shows the number of MYNITTEC Subscribers from 2019 - 2022.

MYNITTEC Subscribers
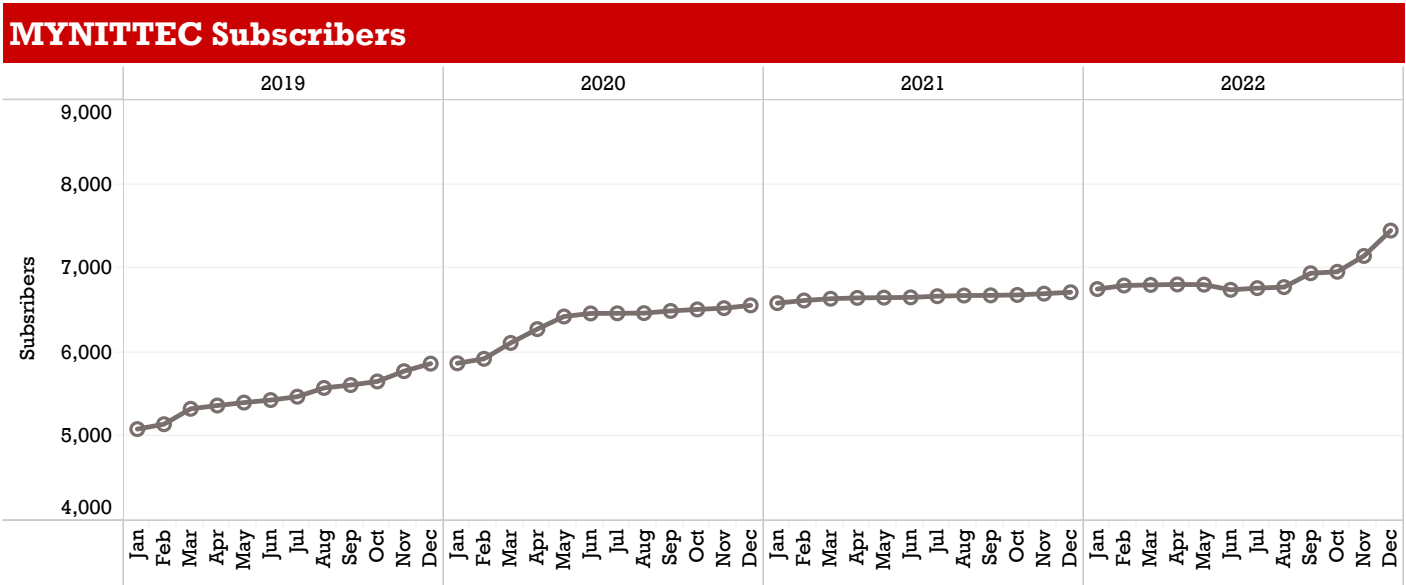
The graphs below show the number of Twitter "Followers" and Facebook "Likes" from 2019 - 2022.

Twitter Followers

Facebook Likes
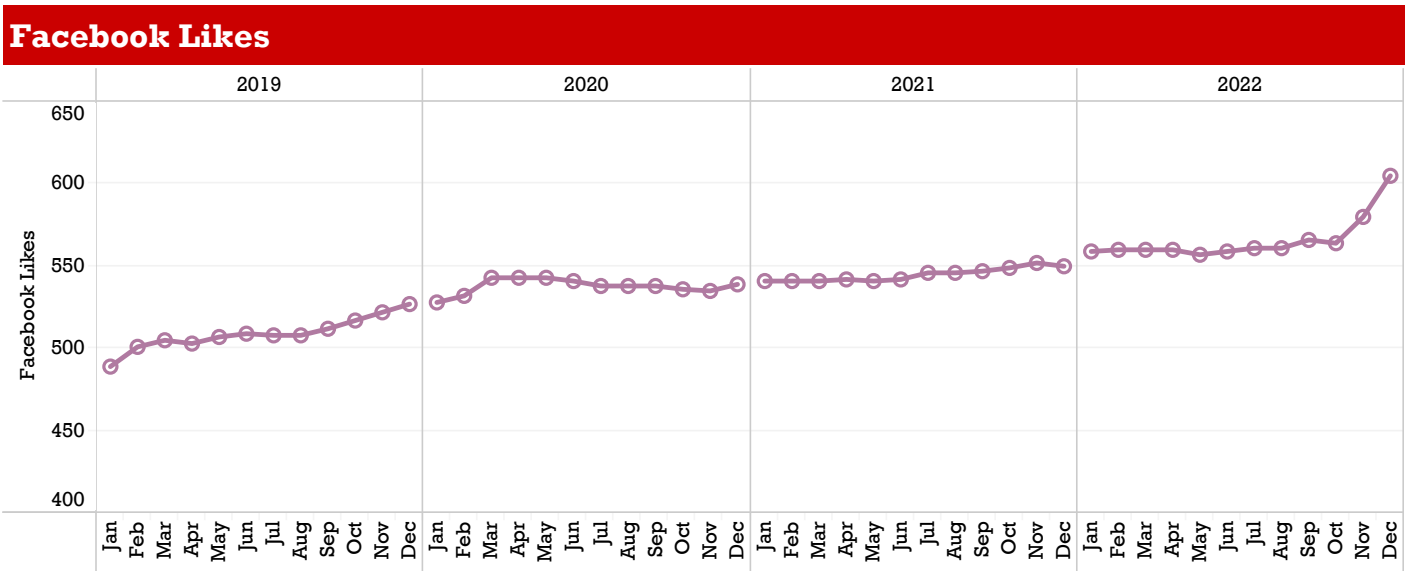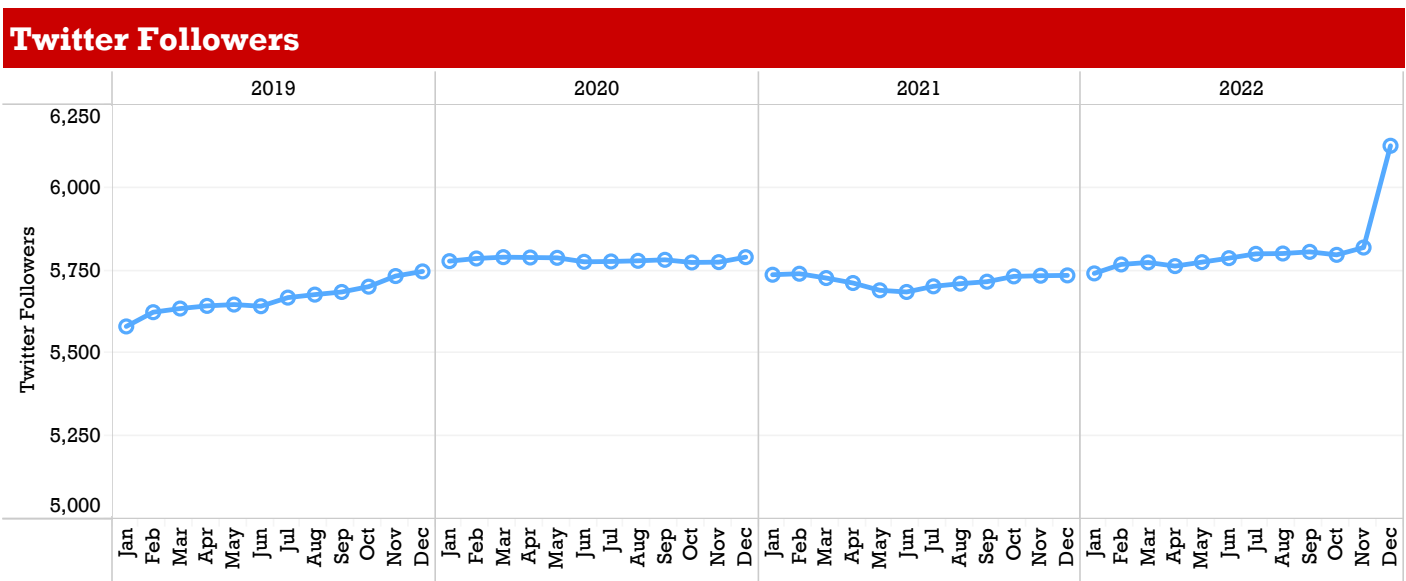
INCIDENT ACTIVITY

The table below shows the number of events of each type logged by the NITTEC TOC from 2019 to 2022, as well as the percent change from 2021 to 2022. The following graphs and tables show the number of each type of event logged from 2019 to 2022 by month.

Activity Table

	2019	2020	2021	2022	% Change
Crashes	1,505	963	1,247	1,291	4%
Congestion	1,035	202	264	341	29%
Construction/Maintenance	1,855	1,617	1,551	1,711	10%
Disabled Vehicles	1,499	1,150	1,431	1,329	-7%
Debris	2,148	2,161	2,405	2,405	0%
Signal Malfunction	1,260	1,243	1,242	1,331	7%
Snow & Ice	551	379	438	611	39%
Border Crossing	118	14	52	158	204%
Total	9,971	7,729	8,630	9,177	6%

Total Events

	2019	2020	2021	2022
Jan	955	753	663	724
Feb	1,094	736	650	923
Mar	846	557	661	708
Apr	624	426	559	619
May	709	530	645	668
Jun	776	731	760	742
Jul	777	645	786	695
Aug	745	642	667	649
Sep	741	601	740	692
Oct	920	679	750	783
Nov	967	780	875	1,060
Dec	817	649	874	914
	9,971	7,729	8,630	9,177
		-22%	12%	6%

Fewer ▬ More
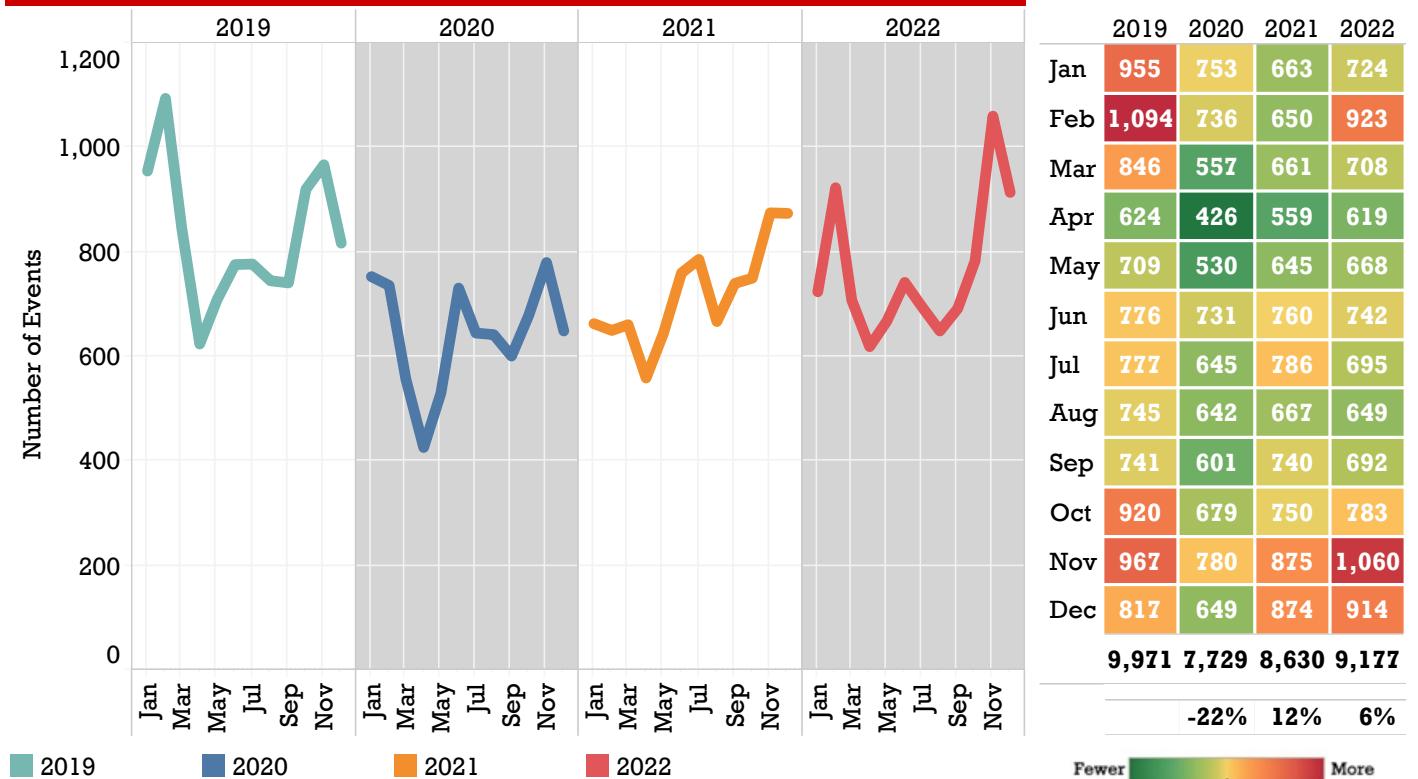
2019 2020 2021 2022

Crashes
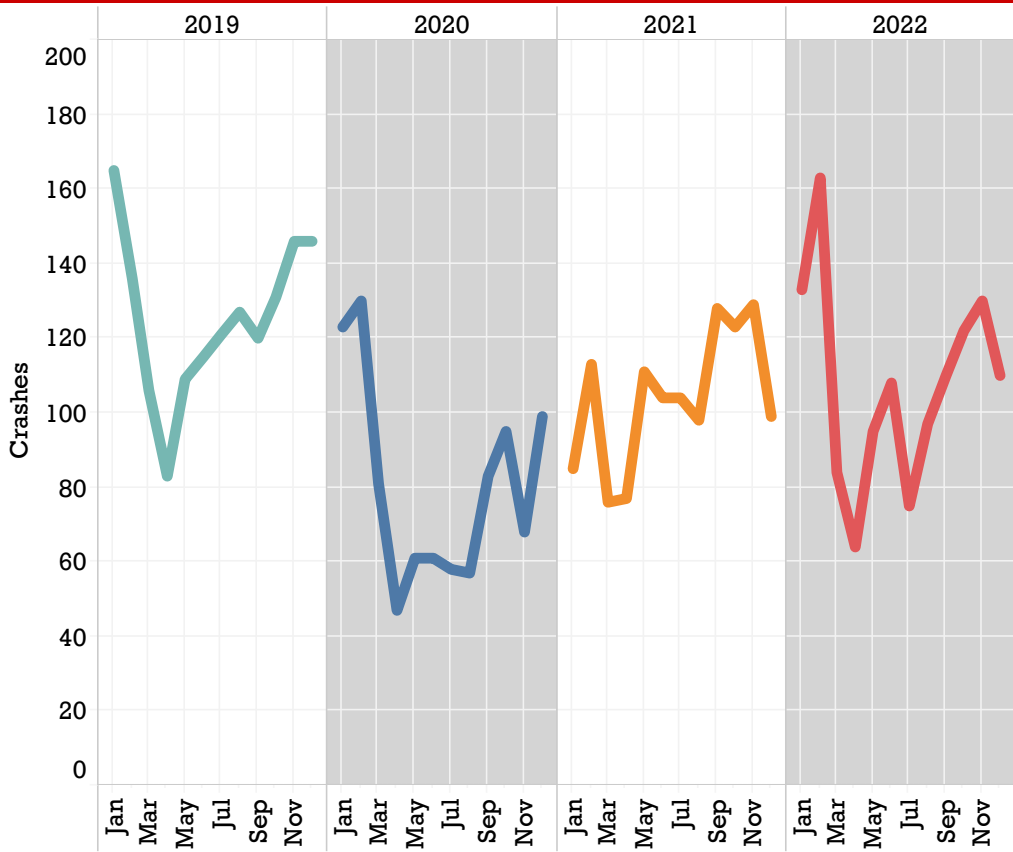
	2019	2020	2021	2022
Jan	165	123	85	133
Feb	136	130	113	163
Mar	106	81	76	84
Apr	83	47	77	64
May	109	61	111	95
Jun	115	61	104	108
Jul	121	58	104	75
Aug	127	57	98	97
Sep	120	83	128	110
Oct	131	95	123	122
Nov	146	68	129	130
Dec	146	99	99	110
	1,505	**963**	**1,247**	**1,291**
		-36%	29%	4%

Congestion
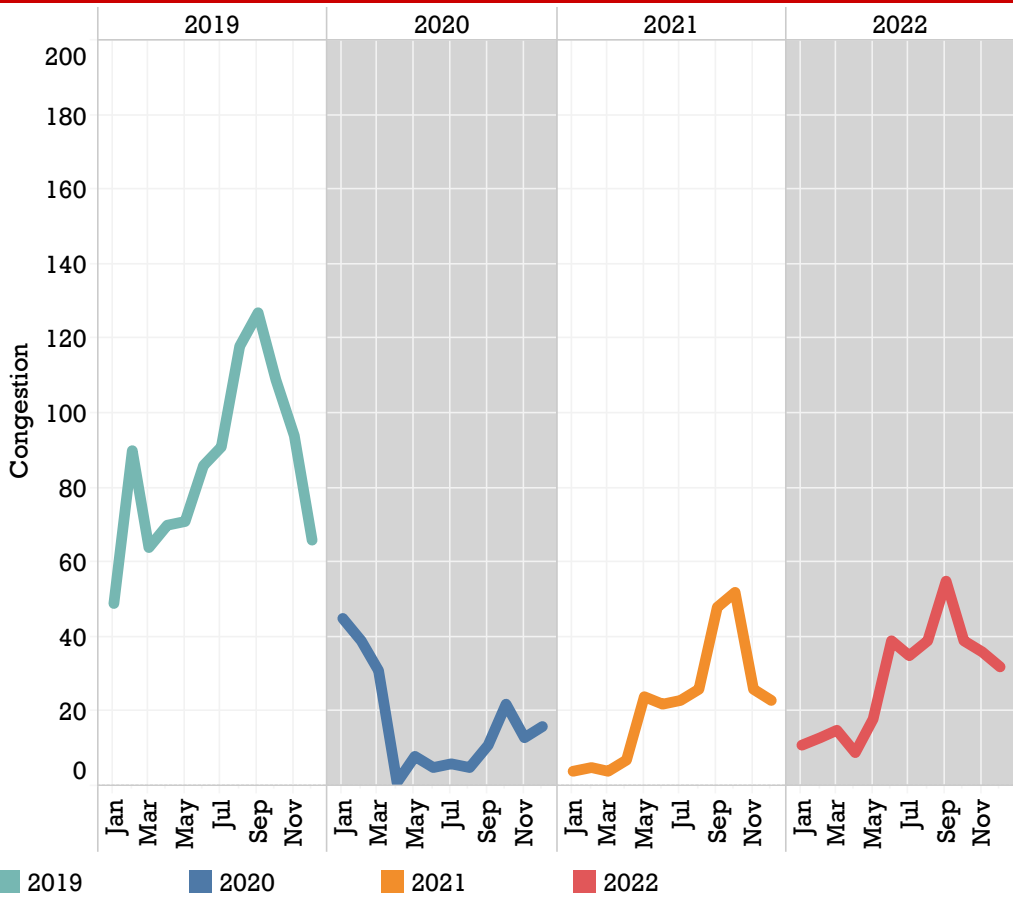
	2019	2020	2021	2022
Jan	49	45	4	11
Feb	90	39	5	13
Mar	64	31	4	15
Apr	70	1	7	9
May	71	8	24	18
Jun	86	5	22	39
Jul	91	6	23	35
Aug	118	5	26	39
Sep	127	11	48	55
Oct	109	22	52	39
Nov	94	13	26	36
Dec	66	16	23	32
	1,035	**202**	**264**	**341**
		-80%	31%	29%

2019   2020   2021   2022

Fewer ◼ More

Construction/Maintenance
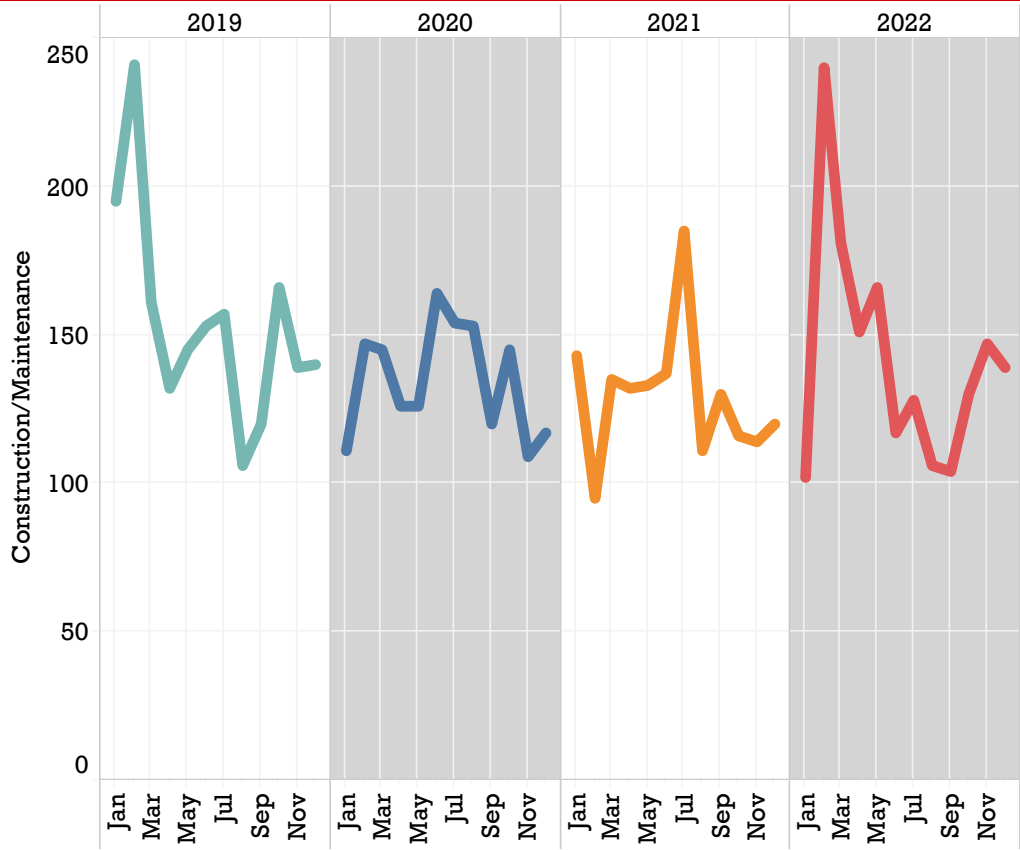
	2019	2020	2021	2022
Jan	195	111	143	102
Feb	241	147	95	240
Mar	161	145	135	181
Apr	132	126	132	151
May	145	126	133	166
Jun	153	164	137	117
Jul	157	154	185	128
Aug	106	153	111	106
Sep	120	120	130	104
Oct	166	145	116	130
Nov	139	109	114	147
Dec	140	117	120	139
	1,855	1,617	1,551	1,711
		-13%	-4%	10%

Disabled Vehicles
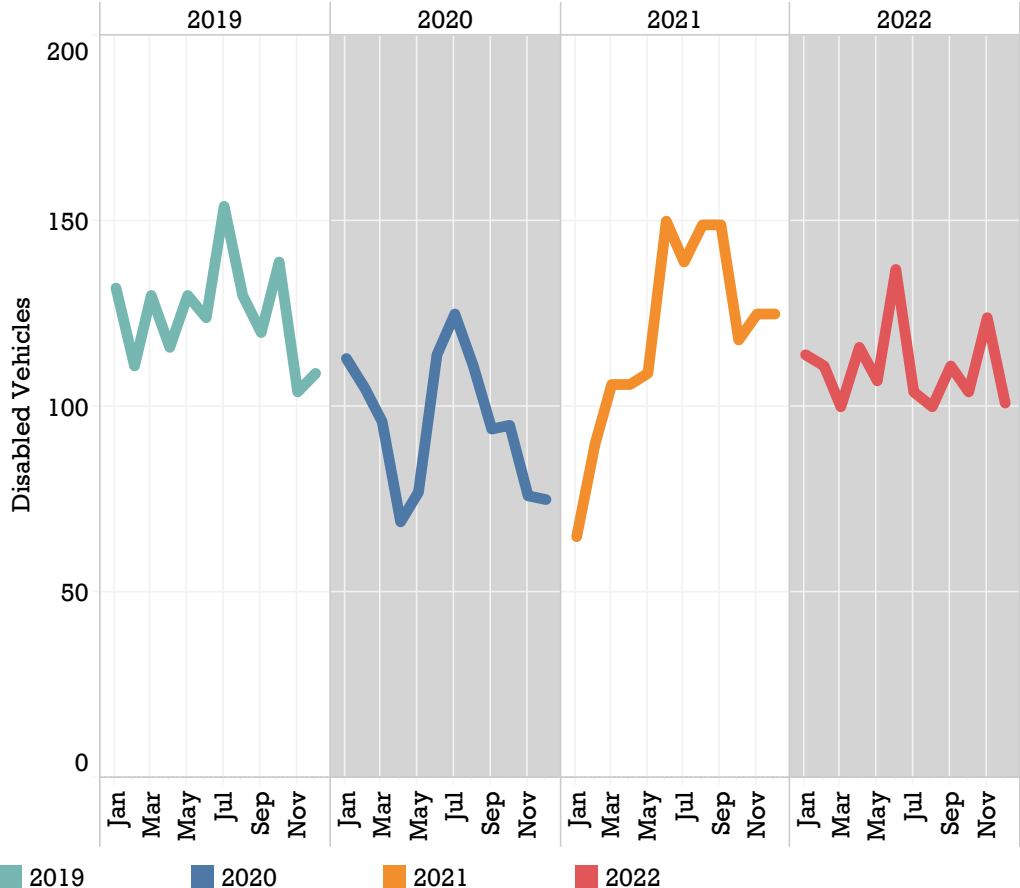
	2019	2020	2021	2022
Jan	132	113	65	114
Feb	111	105	90	111
Mar	130	96	106	100
Apr	116	69	106	116
May	130	77	109	107
Jun	124	114	150	137
Jul	154	125	139	104
Aug	130	111	149	100
Sep	120	94	149	111
Oct	139	95	118	104
Nov	104	76	125	124
Dec	109	75	125	101
	1,499	1,150	1,431	1,329
		-23%	24%	-7%

2019   2020   2021   2022

Fewer ▬▬▬▬ More

Debris

	2019	2020	2021	2022
Jan	149	155	175	122
Feb	145	115	125	154
Mar	160	122	198	172
Apr	129	84	124	128
May	151	148	180	166
Jun	206	254	233	215
Jul	146	162	185	196
Aug	154	170	152	188
Sep	151	183	179	205
Oct	291	249	273	303
Nov	274	327	306	324
Dec	192	192	275	232
	2,148	2,161	2,405	2,405
		1%	11%	0%
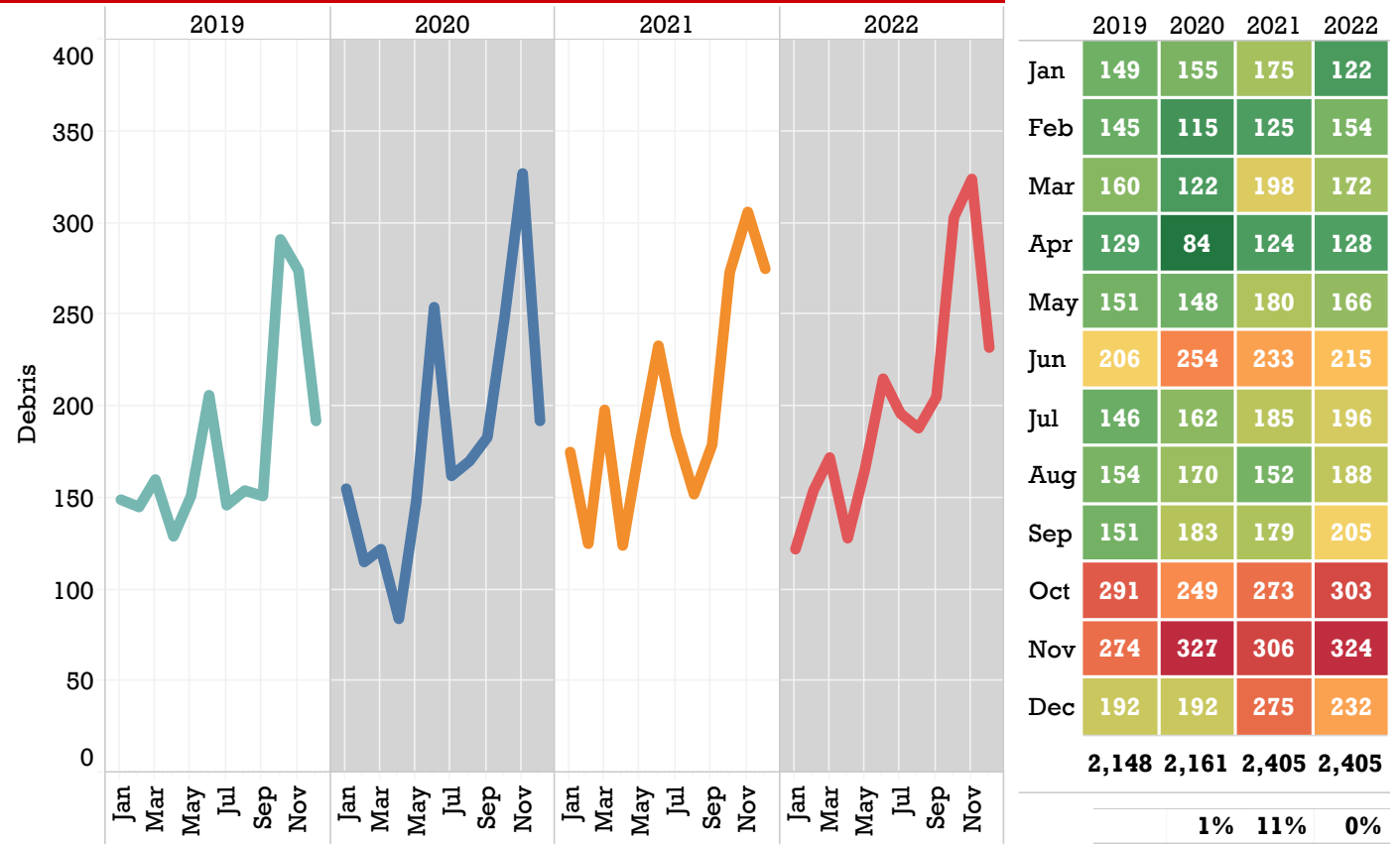
Signal Malfunction

	2019	2020	2021	2022
Jan	111	119	64	97
Feb	244	86	115	115
Mar	114	72	124	103
Apr	77	64	82	98
May	93	101	87	104
Jun	79	133	114	107
Jul	88	140	150	129
Aug	77	145	108	93
Sep	96	110	103	95
Oct	80	73	65	67
Nov	133	134	65	140
Dec	68	66	165	183
	1,260	1,243	1,242	1,331
		-1%	0%	7%

Legend: 2019, 2020, 2021, 2022

Fewer — More

Snow & Ice

	2019	2020	2021	2022
Jan	149	155	175	122
Feb	145	115	125	154
Mar	160	122	198	172
Apr	129	84	124	128
May	151	148	180	166
Jun	206	254	233	215
Jul	146	162	185	196
Aug	154	170	152	188
Sep	151	183	179	205
Oct	291	249	273	303
Nov	274	327	306	324
Dec	192	192	275	232
	2,148	**2,161**	**2,405**	**2,405**
		1%	**11%**	**0%**

Border Crossing
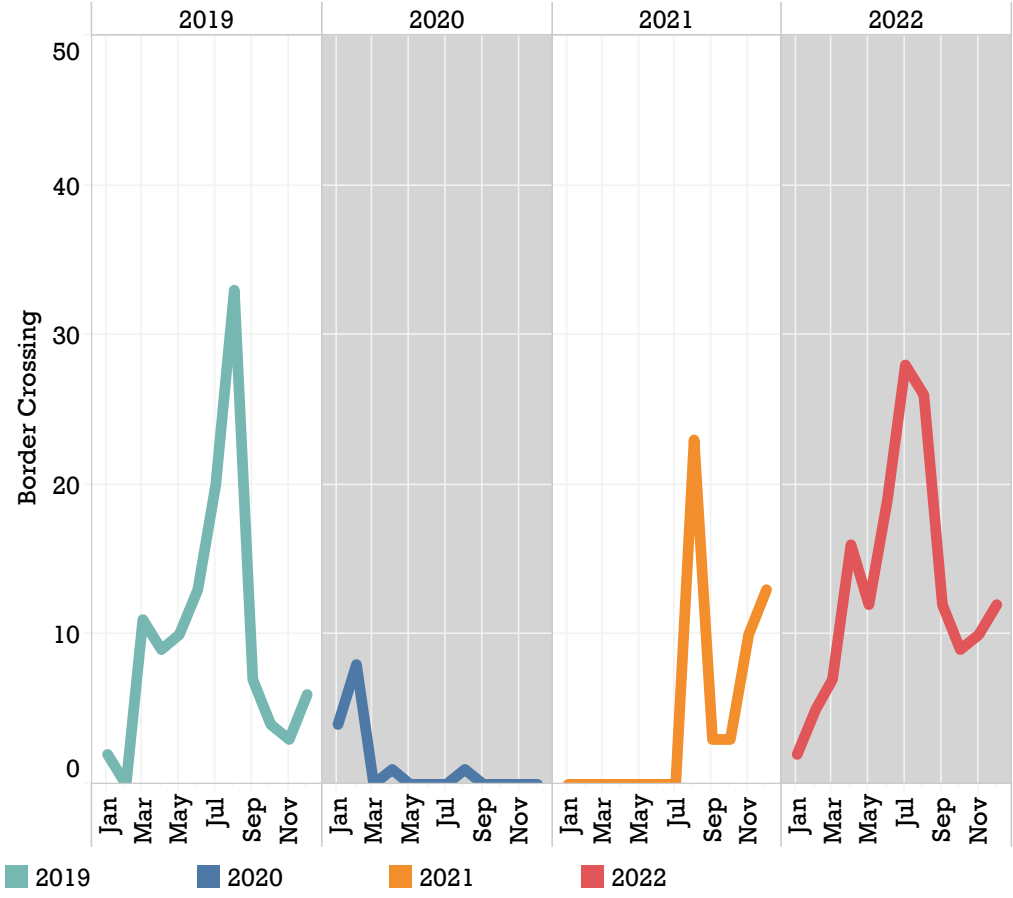
	2019	2020	2021	2022
Jan	2	4	0	2
Feb	0	8	0	5
Mar	11	0	0	7
Apr	9	1	0	16
May	10	0	0	12
Jun	13	0	0	19
Jul	20	0	0	28
Aug	33	1	23	26
Sep	7	0	3	12
Oct	4	0	3	9
Nov	3	0	10	10
Dec	6	0	13	12
	118	**14**	**52**	**158**
		-88%	**271%**	**204%**

2019 2020 2021 2022

Fewer ◼◼◼◼◼◼ More

TOC CALL ACTIVITY

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

TOC Calls
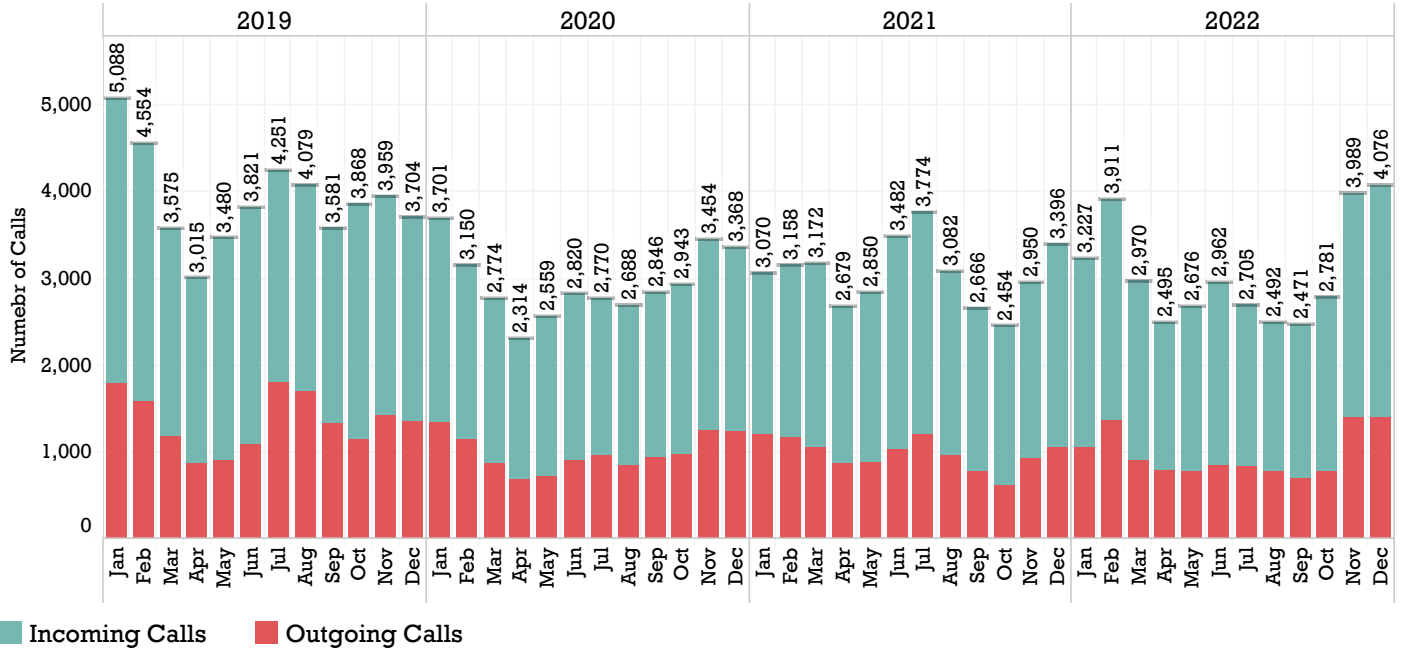
	2019	2020	2021	2022
Outgoing Calls	16,188	11,884	11,714	11,652
Incoming Calls	30,787	23,503	25,019	25,103
Total Calls	46,975	35,387	36,733	36,755

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
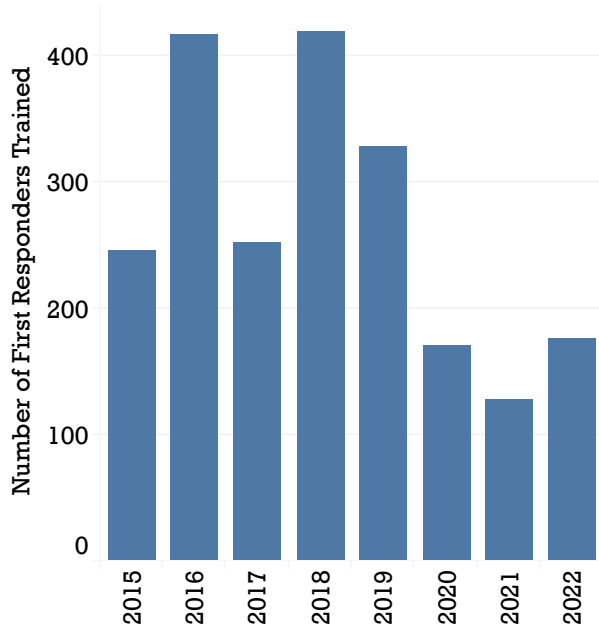
Traffic Incident Management Self Assessment
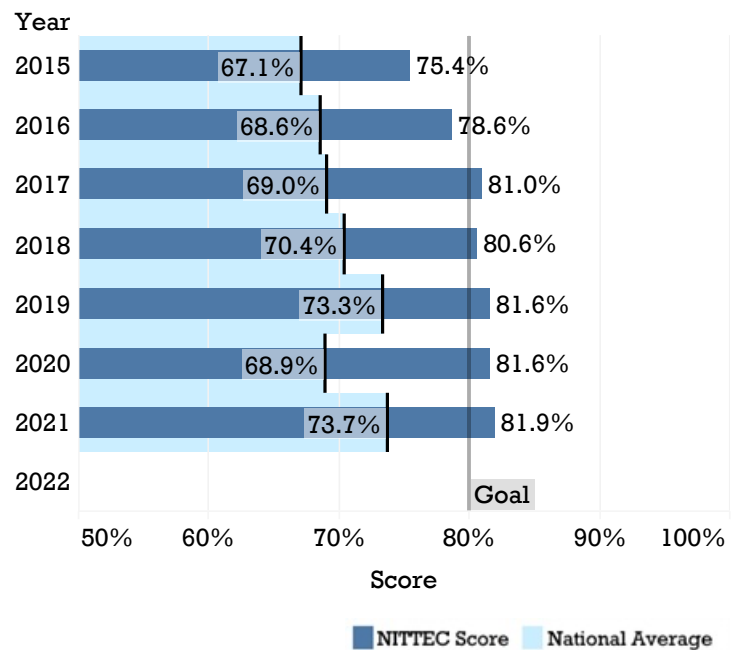
WESTERN NEW YORK INCIDENT ACTIVITY

This table below shows the total activity for each route in 2019 - 2022.

	2019	2020	2021	2022	% Change (2021 to 2022)
I-90	663	360	488	508	4%
I-190	1,039	575	751	773	3%
I-290	1,371	851	1,140	1,114	-2%
Route 33	1,316	956	1,076	981	-9%
Route 198	96	77	78	68	-13%
Route 219	230	187	213	216	1%
Route 400	87	64	98	105	7%
I-990	70	74	54	60	11%
Total	4,872	3,144	3,898	3,825	-2%

I - 90
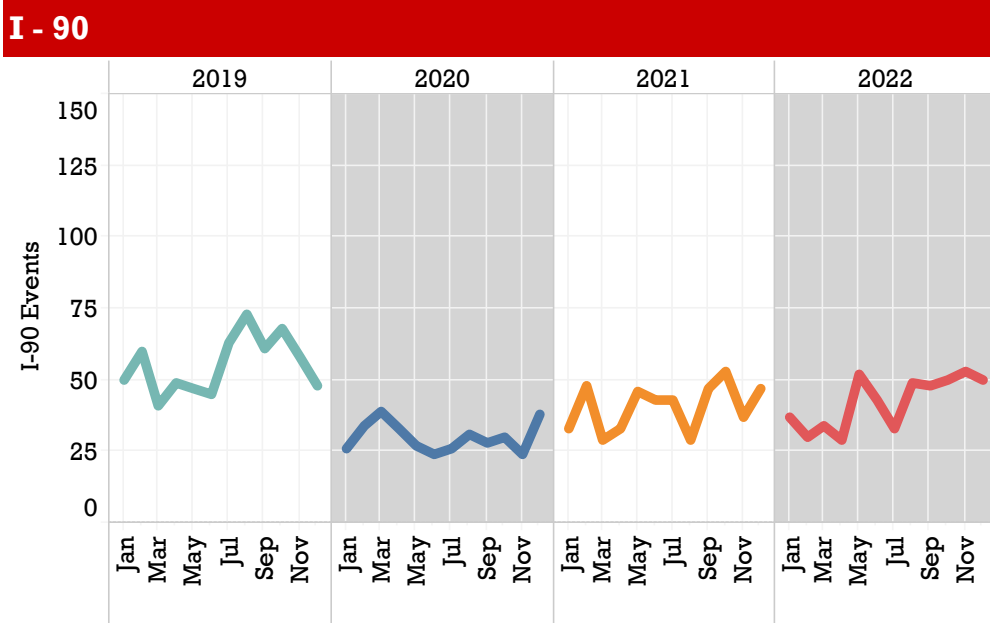
	2019	2020	2021	2022
Jan	50	26	33	37
Feb	60	34	48	30
Mar	41	39	29	34
Apr	49	33	33	29
May	47	27	46	52
Jun	45	24	43	43
Jul	63	26	43	33
Aug	73	31	29	49
Sep	61	28	47	48
Oct	68	30	53	50
Nov	58	24	37	53
Dec	48	38	47	50
	663	**360**	**488**	**508**
		-46%	**36%**	**4%**

I - 190
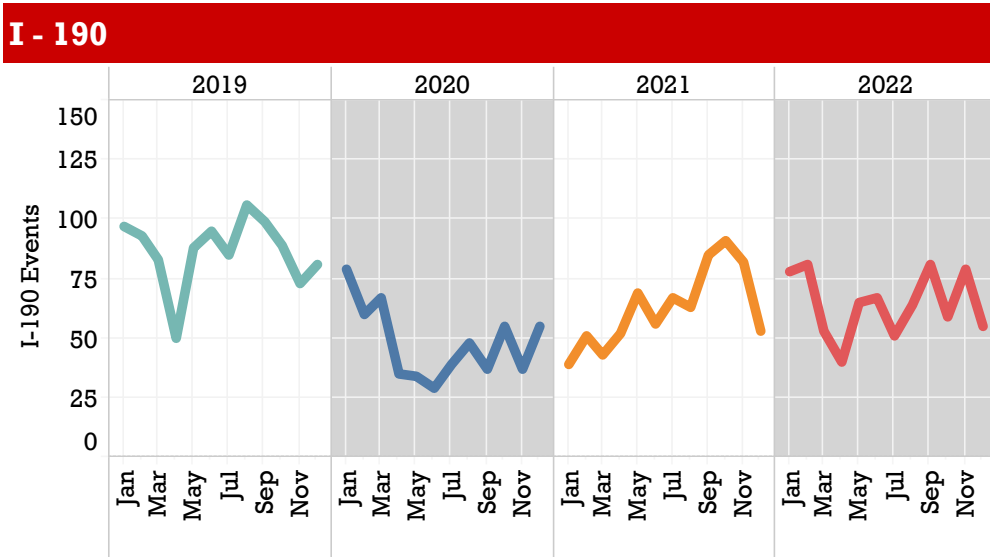
	2019	2020	2021	2022
Jan	97	79	39	78
Feb	93	60	51	81
Mar	83	67	43	53
Apr	50	35	52	40
May	88	34	69	65
Jun	95	29	56	67
Jul	85	39	67	51
Aug	106	48	63	64
Sep	99	37	85	81
Oct	89	55	91	59
Nov	73	37	82	79
Dec	81	55	53	55
	1,039	**575**	**751**	**773**
		-45%	**31%**	**3%**

Legend: ■ 2019 ■ 2020 ■ 2021 ■ 2022

Fewer — More

I - 290
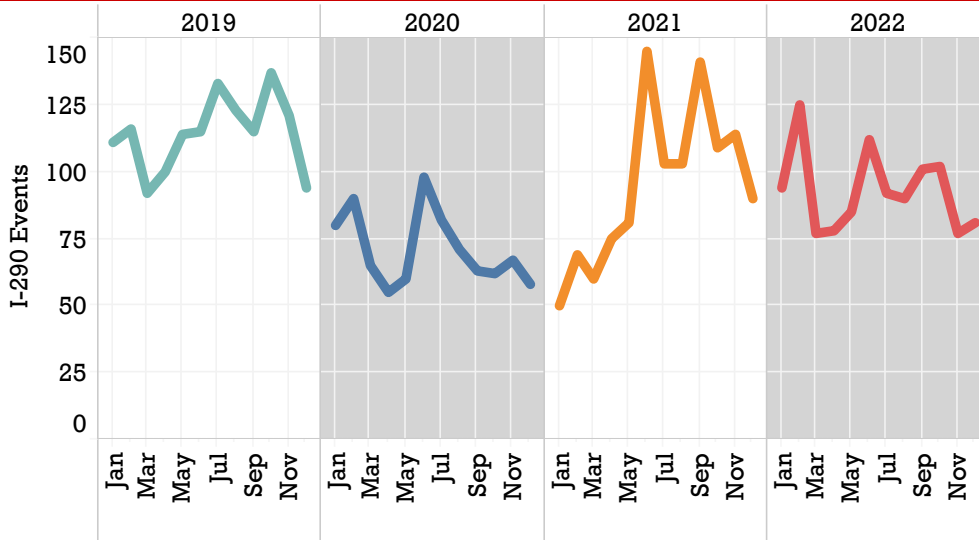
	2019	2020	2021	2022
Jan	111	80	50	94
Feb	116	90	69	125
Mar	92	65	60	77
Apr	100	55	75	78
May	114	60	81	85
Jun	115	98	145	112
Jul	133	82	103	92
Aug	123	71	103	90
Sep	115	63	141	101
Oct	137	62	109	102
Nov	121	67	114	77
Dec	94	58	90	81
	1,371	851	1,140	1,114
		-38%	34%	-2%

Route 33
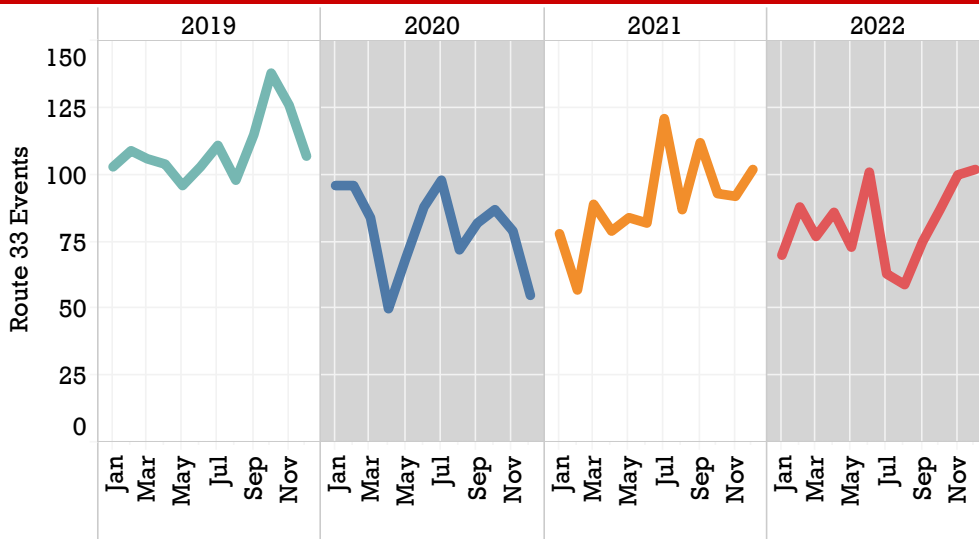
	2019	2020	2021	2022
Jan	103	96	78	70
Feb	109	96	57	88
Mar	106	84	89	77
Apr	104	50	79	86
May	96	69	84	73
Jun	103	88	82	101
Jul	111	98	121	63
Aug	98	72	87	59
Sep	115	82	112	75
Oct	138	87	93	87
Nov	126	79	92	100
Dec	107	55	102	102
	1,316	956	1,076	981
		-27%	13%	-9%

Route 198
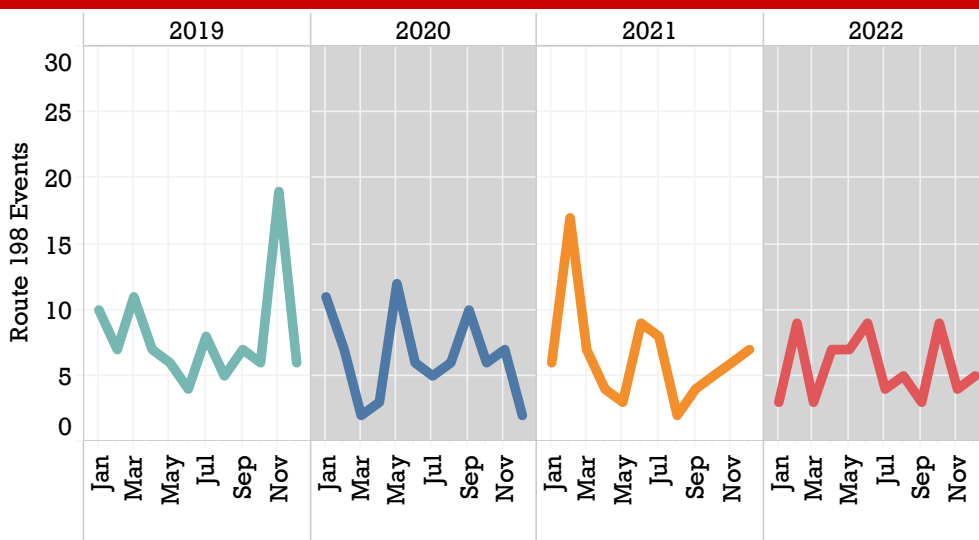
	2019	2020	2021	2022
Jan	10	11	6	3
Feb	7	7	17	9
Mar	11	2	7	3
Apr	7	3	4	7
May	6	12	3	7
Jun	4	6	9	9
Jul	8	5	8	4
Aug	5	6	2	5
Sep	7	10	4	3
Oct	6	6	5	9
Nov	19	7	6	4
Dec	6	2	7	5
	96	77	78	68
		-20%	1%	-13%

2019   2020   2021   2022

Fewer ▬▬▬ More

Route 219
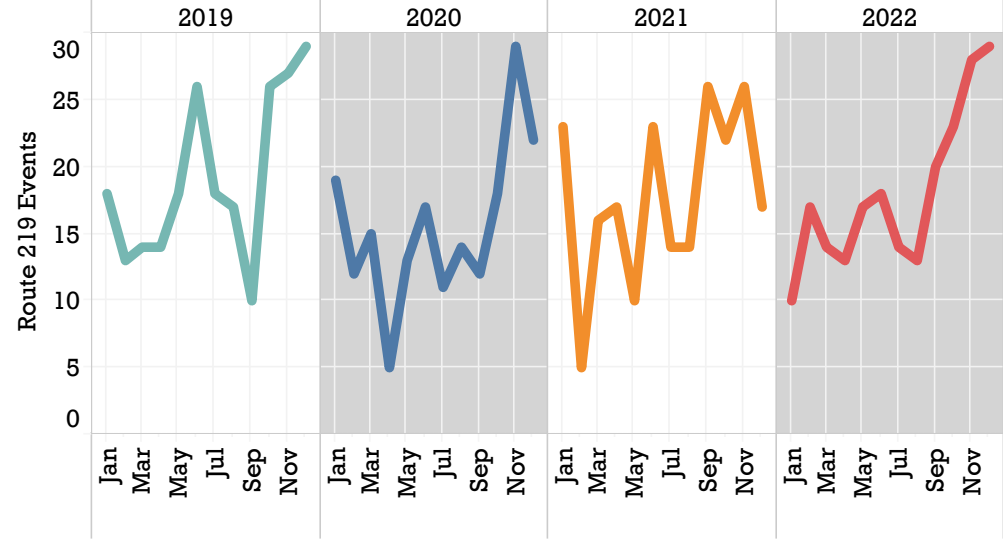
	2019	2020	2021	2022
Jan	18	19	23	10
Feb	13	12	5	17
Mar	14	15	16	14
Apr	14	5	17	13
May	18	13	10	17
Jun	26	17	23	18
Jul	18	11	14	14
Aug	17	14	14	13
Sep	10	12	26	20
Oct	26	18	22	23
Nov	27	29	26	28
Dec	29	22	17	29
	230	**187**	**213**	**216**
		-19%	14%	1%

Route 400
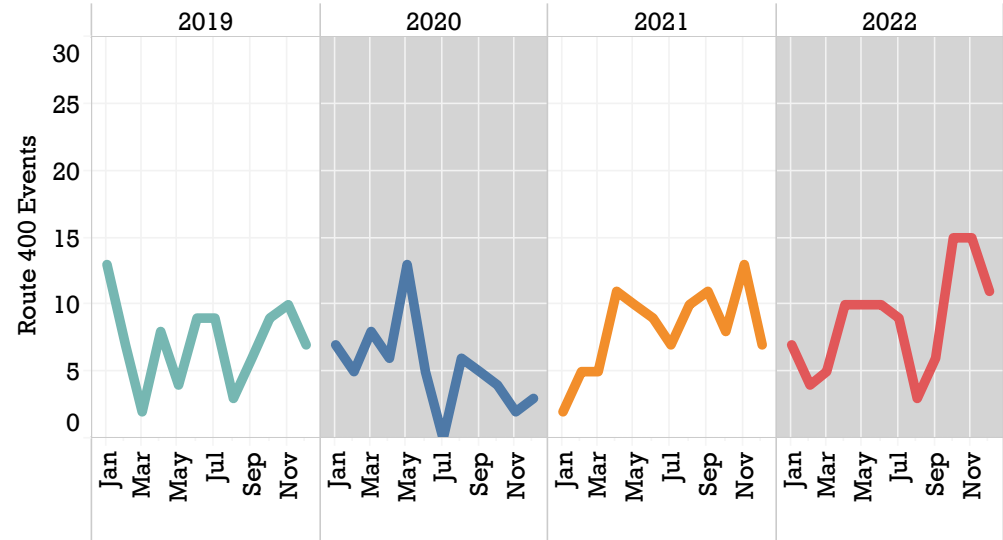
	2019	2020	2021	2022
Jan	13	7	2	7
Feb	7	5	5	4
Mar	2	8	5	5
Apr	8	6	11	10
May	4	13	10	10
Jun	9	5	9	10
Jul	9	0	7	9
Aug	3	6	10	3
Sep	6	5	11	6
Oct	9	4	8	15
Nov	10	2	13	15
Dec	7	3	7	11
	87	**64**	**98**	**105**
		-26%	53%	7%

I-990
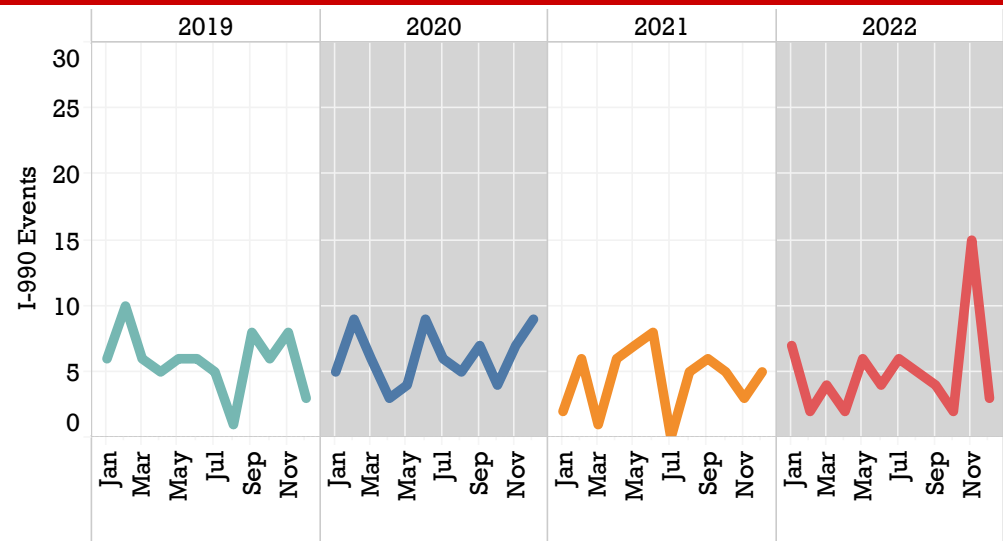
	2019	2020	2021	2022
Jan	6	5	2	7
Feb	10	9	6	2
Mar	6	6	1	4
Apr	5	3	6	2
May	6	4	7	6
Jun	6	9	8	4
Jul	5	6	0	6
Aug	1	5	5	5
Sep	8	7	6	4
Oct	6	4	5	2
Nov	8	7	3	15
Dec	3	9	5	3
	70	**74**	**54**	**60**
		6%	-27%	11%

Legend: 2019, 2020, 2021, 2022

Fewer — More

SOUTHERN ONTARIO INCIDENT ACTIVITY

This table below shows the total activity for each route in 2019 - 2022.

	2019	2020	2021	2022	% Change (2021 to 2022)
QEW Events	429	394	471	546	16%
HWY 405 / 406 / 420 Events	148	162	201	285	42%
Total	577	556	672	831	24%

QEW
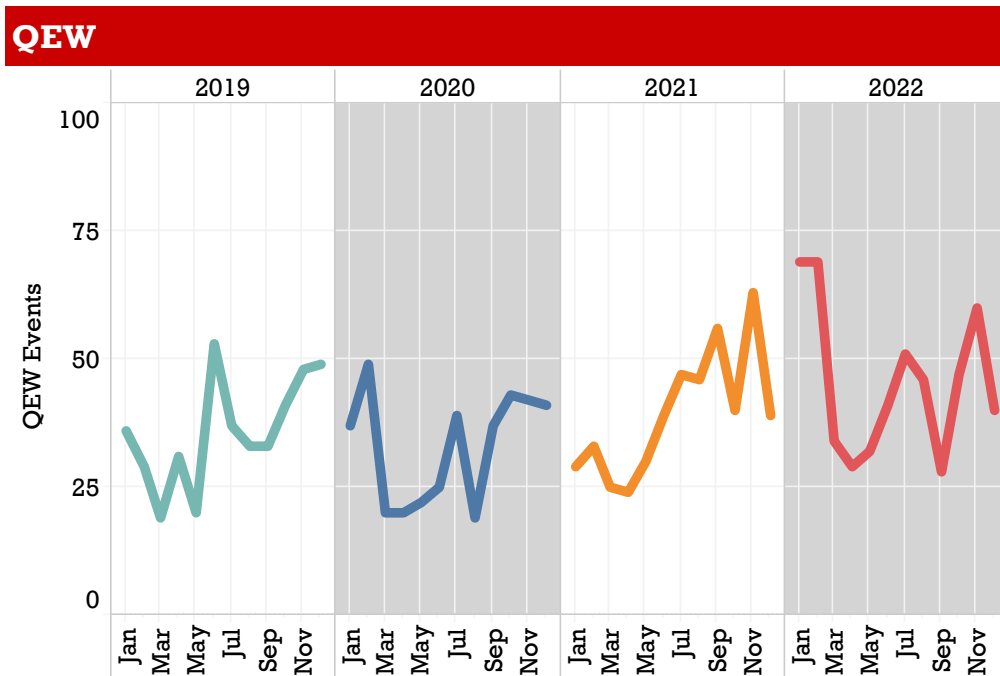
	2019	2020	2021	2022
Jan	36	37	29	69
Feb	29	49	33	69
Mar	19	20	25	34
Apr	31	20	24	29
May	20	22	30	32
Jun	53	25	39	41
Jul	37	39	47	51
Aug	33	19	46	46
Sep	33	37	56	28
Oct	41	43	40	47
Nov	48	42	63	60
Dec	49	41	39	40
	429	**394**	**471**	**546**
		-8%	**20%**	**16%**

HWY 405 / 406 / 420
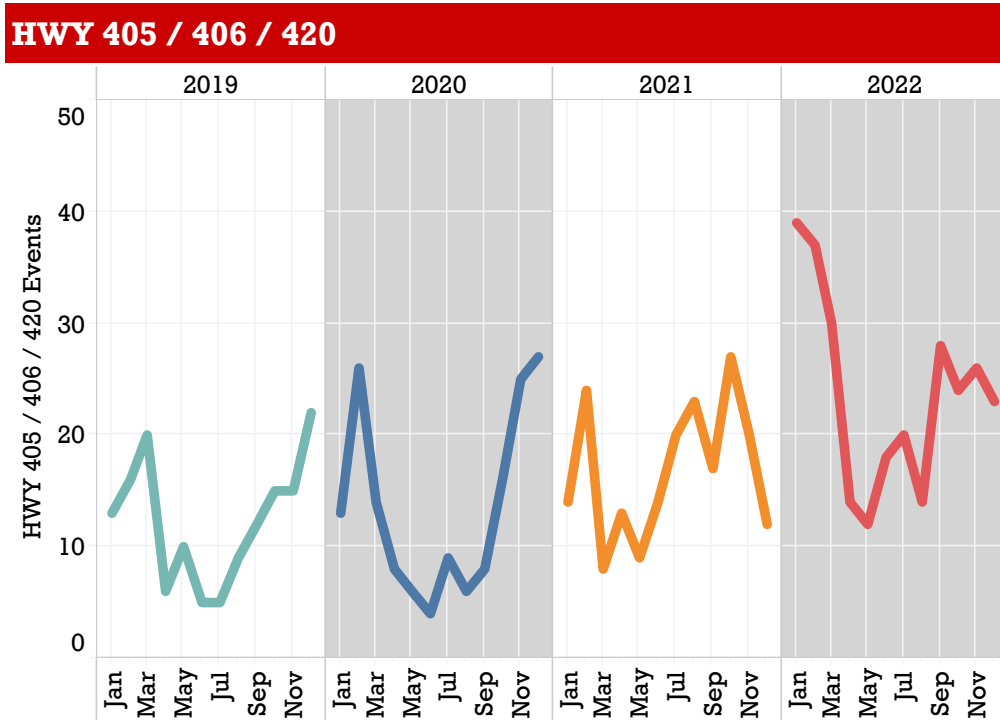
	2019	2020	2021	2022
Jan	13	13	14	39
Feb	16	26	24	37
Mar	20	14	8	30
Apr	6	8	13	14
May	10	6	9	12
Jun	5	4	14	18
Jul	5	9	20	20
Aug	9	6	23	14
Sep	12	8	17	28
Oct	15	16	27	24
Nov	15	25	20	26
Dec	22	27	12	23
	148	**162**	**201**	**285**
		9%	**24%**	**42%**

Legend: ■ 2019 ■ 2020 ■ 2021 ■ 2022

Fewer — More

TRAVEL TIME REPORT

The graphs on the following pages show the travel time related performance measures for several roadway sections in the Buffalo-Niagara Region. The measures shown are defined below.

Travel Time Index (TTI): The measure of average conditions that indicates how much longer, on average, travel times are during congestion compared to during the free-flow travel time. The objective benchmark for peak TTI is below 1.50. For all highways, Free Flow Travel Time calculated using 55 mile per hour (mph).

Planning Time Index (PTI) (95th Percentile): The amount of time a traveler should allow ensuring on-time arrival 95% of the time. This measure indicates the travel time reliability of a route. The objective benchmark for peak PTI is below 2.50.

Congested Hours: The average number of hours per day that congestion occurred.

Each performance measure was calculated from speed data collected at ten-minute intervals between 6:00 AM and 10:00 PM on non-holiday weekdays.

<table>
<tr><td>

1   **Summary Table**

This table shows the average daily congested hours, travel time index, and planning time index for each year from 2019 to 2022.

</td><td rowspan="4">

</td></tr>
<tr><td>

2   **Monthly Travel Time**

This graph shows the average travel time index (colored bar) and planning time index (black line) for each month from 2019 to 2022.

</td></tr>
<tr><td>

3   **Monthly Congested Hours**

This graph shows the average daily congested hours for each month from 2019 to 2022.

</td></tr>
<tr><td>

4   Travel Time by Time of Day

This graph shows the average travel time index (darker line) and planning time index (lighter line) for different times of day (at ten minute increments from 6:00 AM to 10:00 PM) during 2022.

The dashed lines show the peak value for each index as well as the corresponding travel time.

</td></tr>
</table>
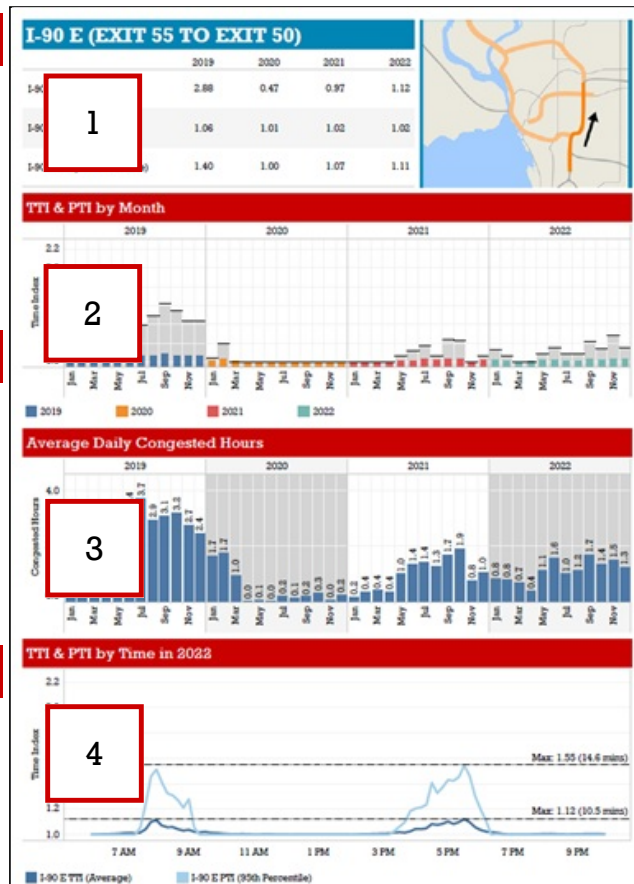
I-90 E (EXIT 55 TO EXIT 50)

	2019	2020	2021	2022
I-90 E Congested Hrs	2.88	0.47	0.97	1.12
I-90 E TTI (Average)	1.06	1.01	1.02	1.02
I-90 E PTI (95th Percentile)	1.40	1.00	1.07	1.11

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

2019: Jan 3.0, Feb 2.9, Mar 2.4, Apr 2.1, May 2.6, Jun 3.4, Jul 3.7, Aug 2.9, Sep 3.1, Oct 3.2, Nov 2.7, Dec 2.4

2020: Jan 1.7, Feb 1.7, Mar 1.0, Apr 0.0, May 0.1, Jun 0.0, Jul 0.2, Aug 0.1, Sep 0.2, Oct 0.3, Nov 0.0, Dec 0.2

2021: Jan 0.2, Feb 0.4, Mar 0.4, Apr 0.4, May 1.0, Jun 1.4, Jul 1.4, Aug 1.3, Sep 1.7, Oct 1.9, Nov 0.8, Dec 1.0

2022: Jan 0.8, Feb 0.8, Mar 0.7, Apr 0.4, May 1.1, Jun 1.6, Jul 1.0, Aug 1.2, Sep 1.7, Oct 1.4, Nov 1.5, Dec 1.3

TTI & PTI by Time in 2022

Max: 1.55 (14.6 mins)

Max: 1.12 (10.5 mins)

I-90 E TTI (Average)   I-90 E PTI (95th Percentile)

|30|
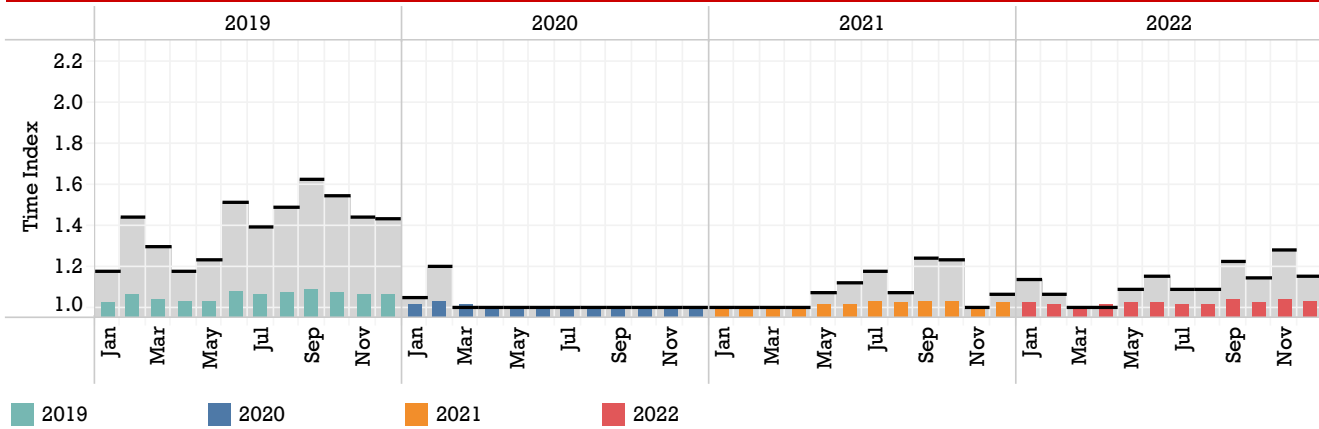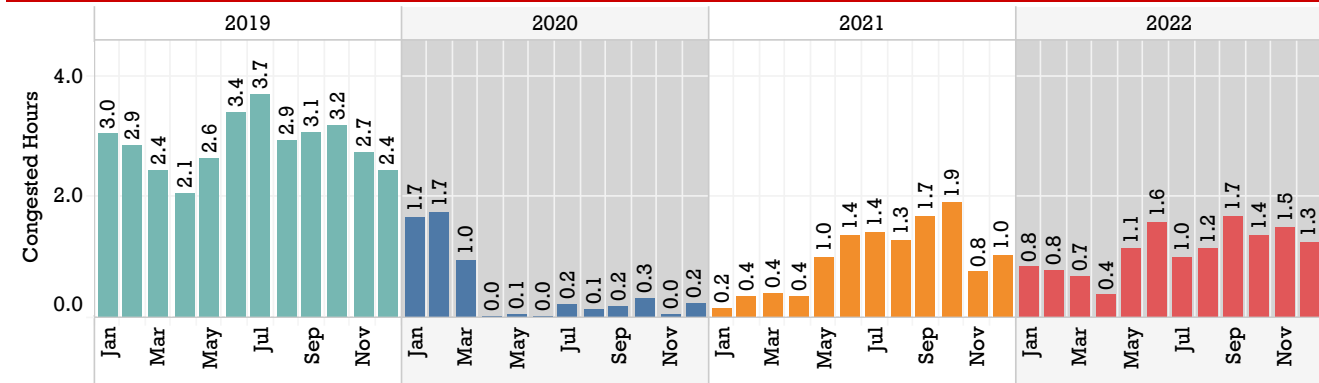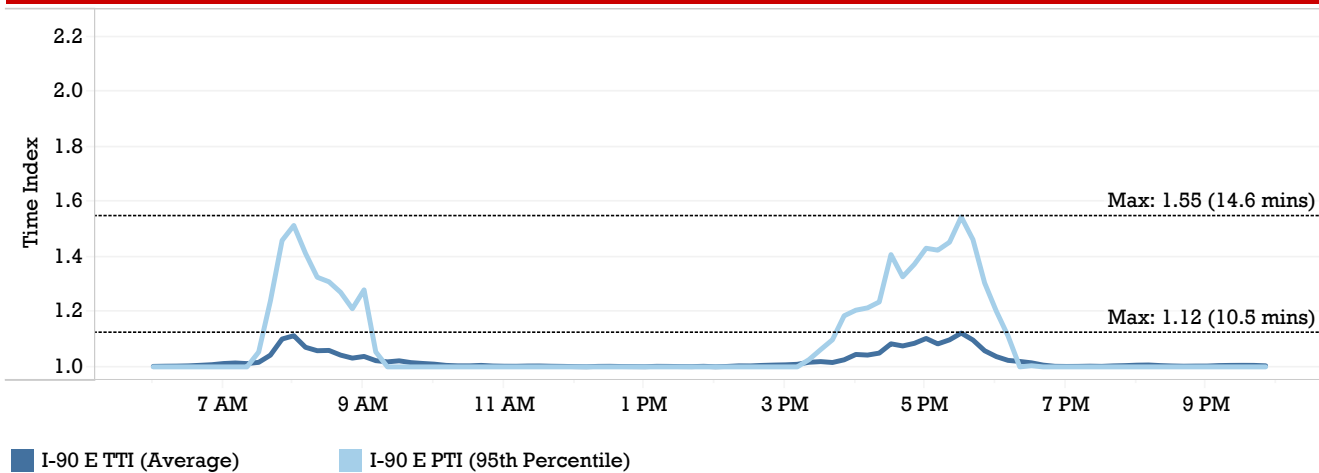
I-90 W (EXIT 50 TO EXIT 55)

	2019	2020	2021	2022
I-90 W Congested Hrs	2.10	0.37	1.16	1.31
I-90 W TTI (Average)	1.06	1.01	1.02	1.03
I-90 W PTI (95th Percentile)	1.43	1.00	1.15	1.17

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.71 (16.1 mins)

Max: 1.17 (11.0 mins)

Legend: I-90 W TTI (Average), I-90 W PTI (95th Percentile)
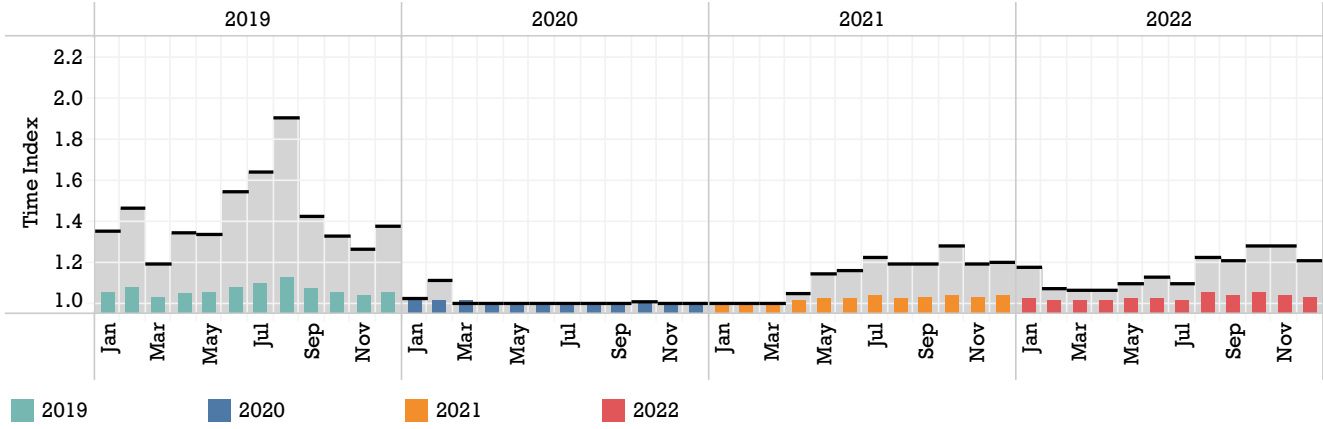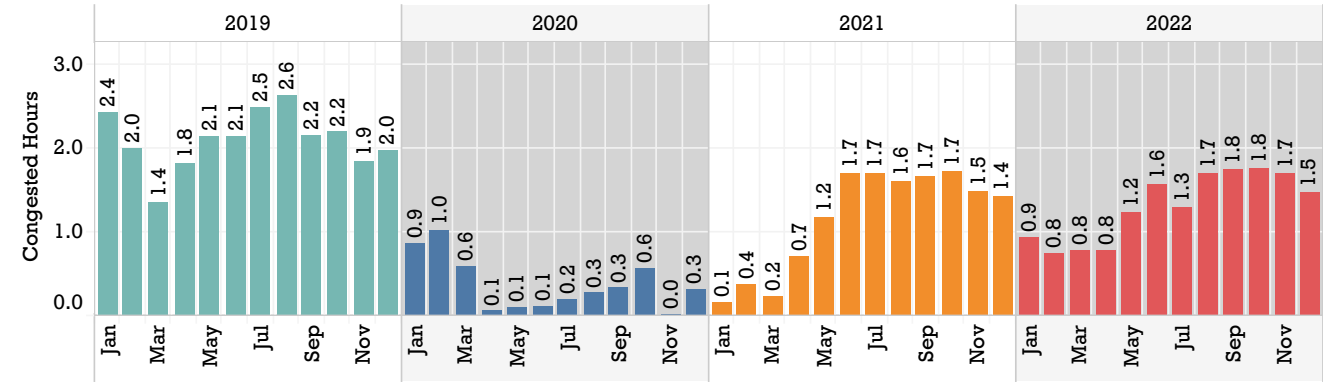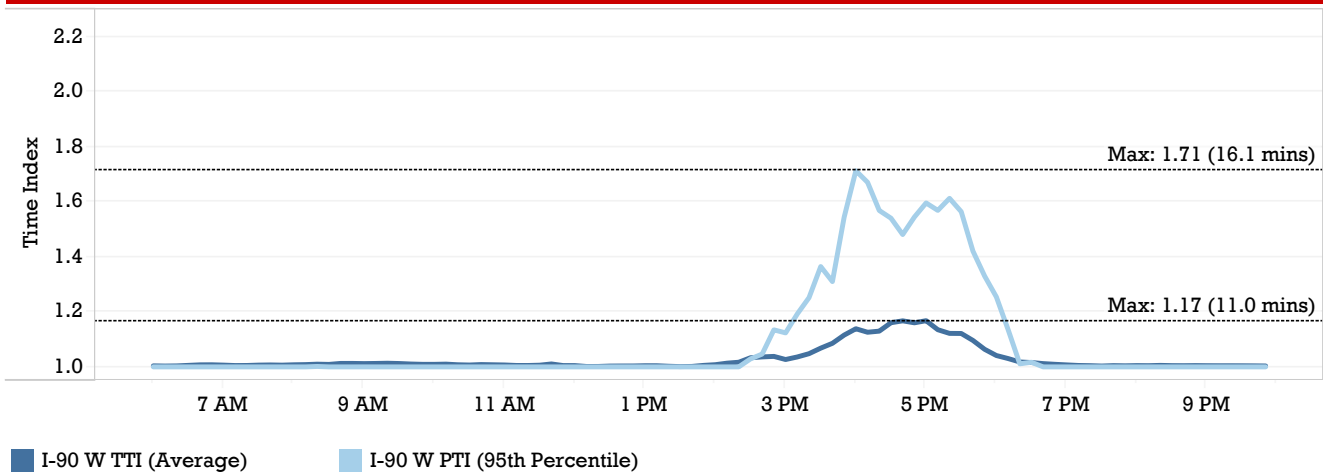
I-190 N (I-90 TO EXIT 7)

	2019	2020	2021	2022
I-190 N (from I-90) Congested Hrs	1.54	0.54	0.67	0.85
I-190 N (from I-90) TTI (Average)	1.04	1.01	1.01	1.03
I-190 N (from I-90) PTI (95th Percentile)	1.33	1.00	1.02	1.10

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.76 (16.2 mins)

Max: 1.21 (11.2 mins)

Legend: I-190 N (from I-90) TTI (Average), I-190 N 1 PTI (95th Percentile)
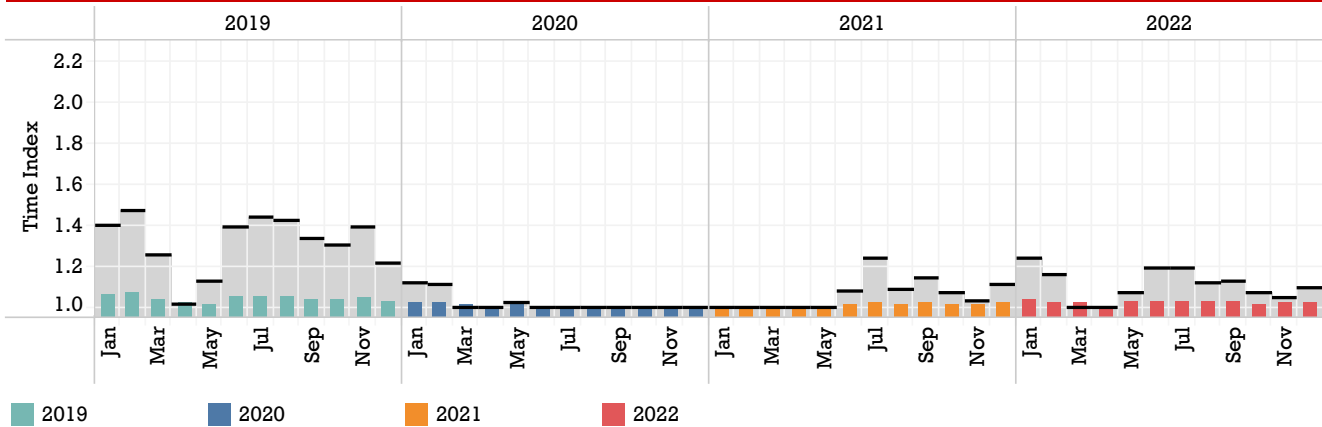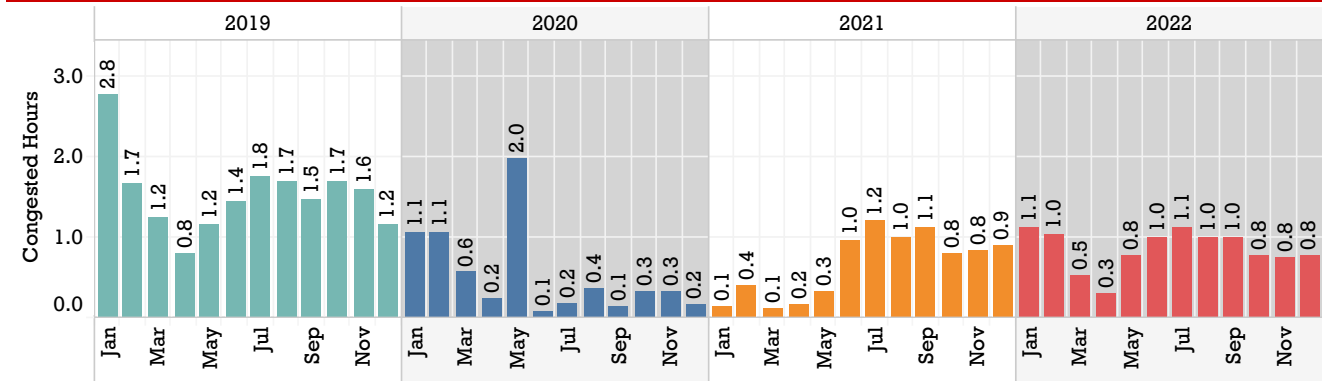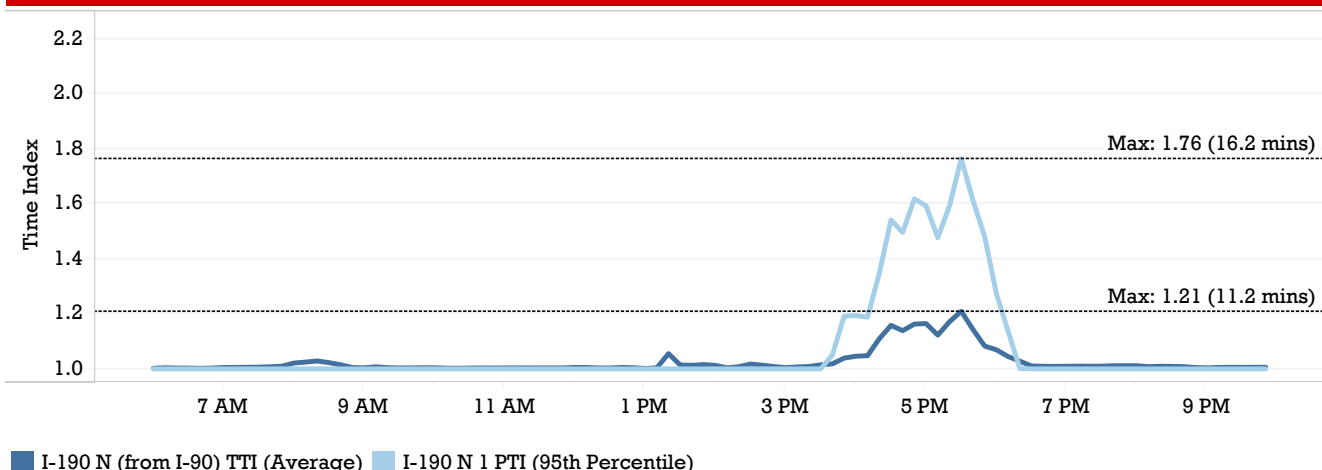
I-190 S (EXIT 7 TO I-90)

	2019	2020	2021	2022
I-190 S (to I-90) Congested Hrs	1.93	0.71	0.62	0.61
I-190 S (to I-90) TTI (Average)	1.04	1.01	1.01	1.02
I-190 S (to I-90) PTI (95th Percentile)	1.32	1.00	1.00	1.00

TTI & PTI by Month

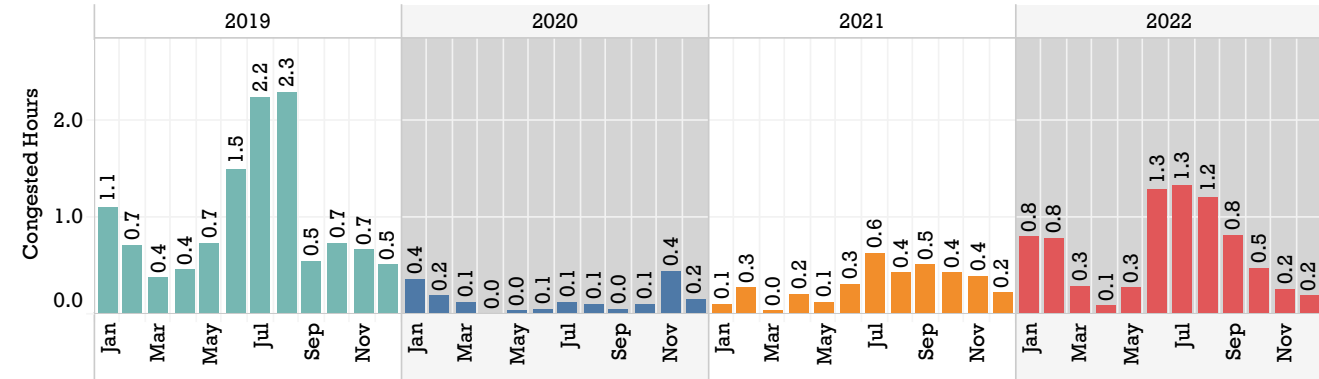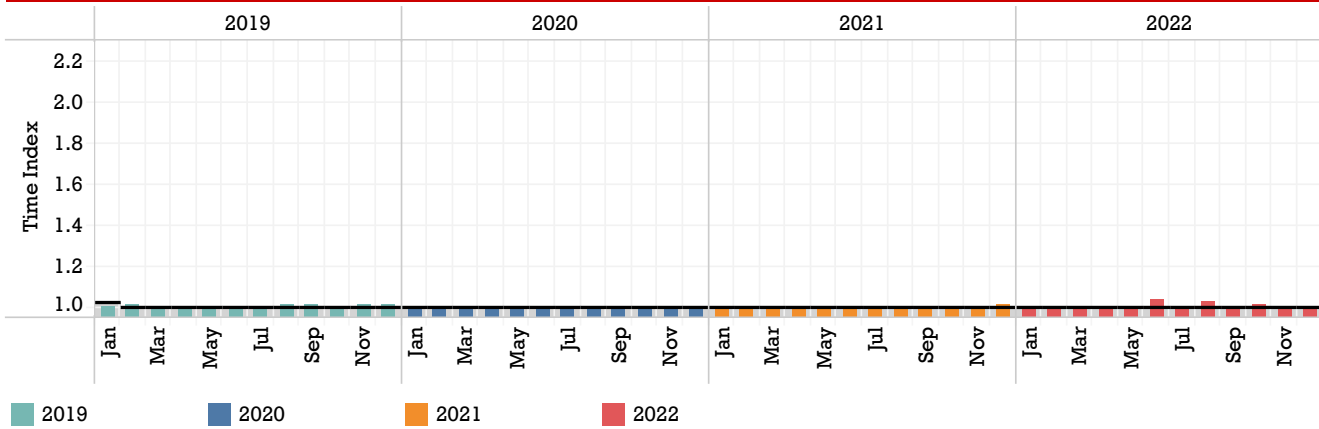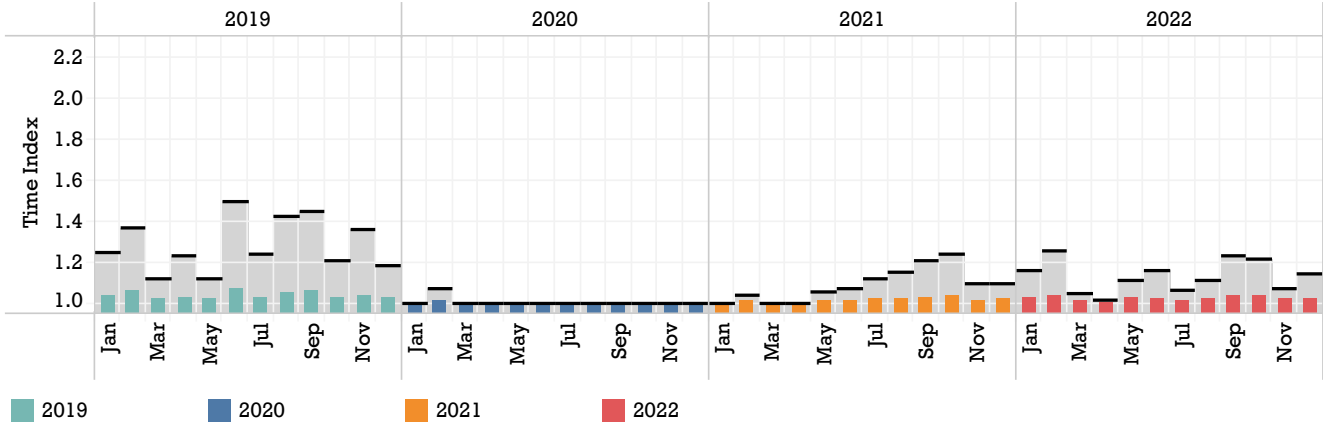## Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.51 (13.9 mins)

Max: 1.11 (10.2 mins)

■ I-190 S (to I-90) TTI (Average) ■ I-190 S l PTI (95th Percentile)
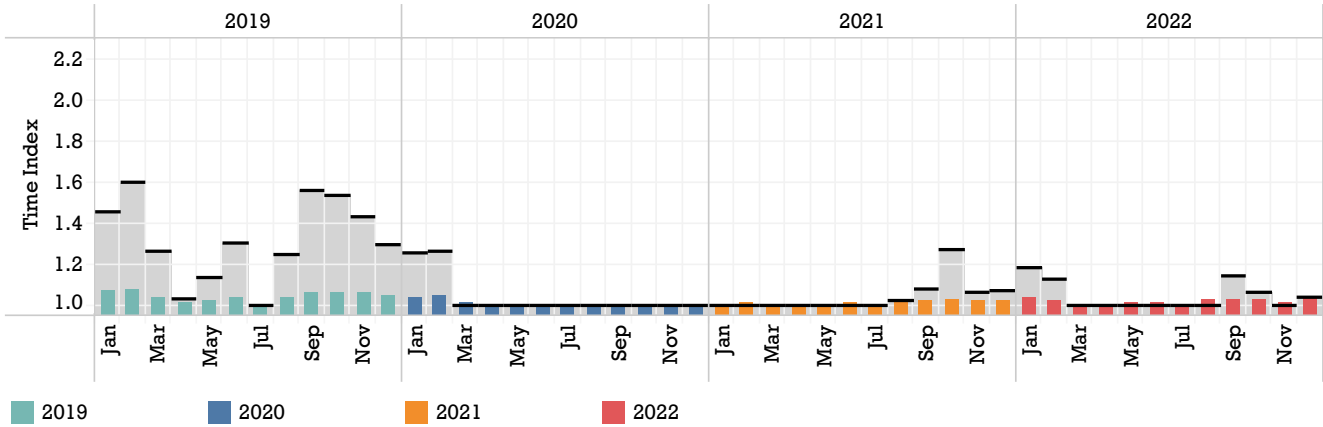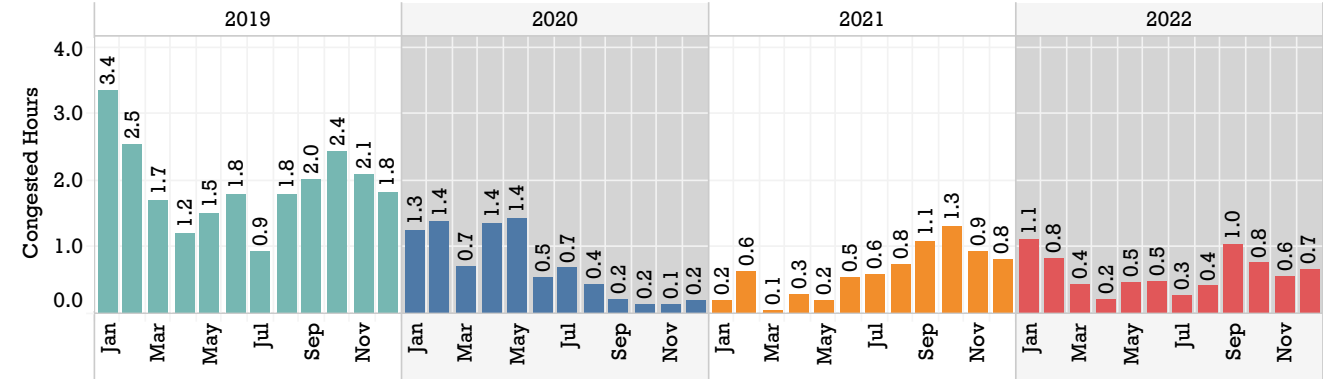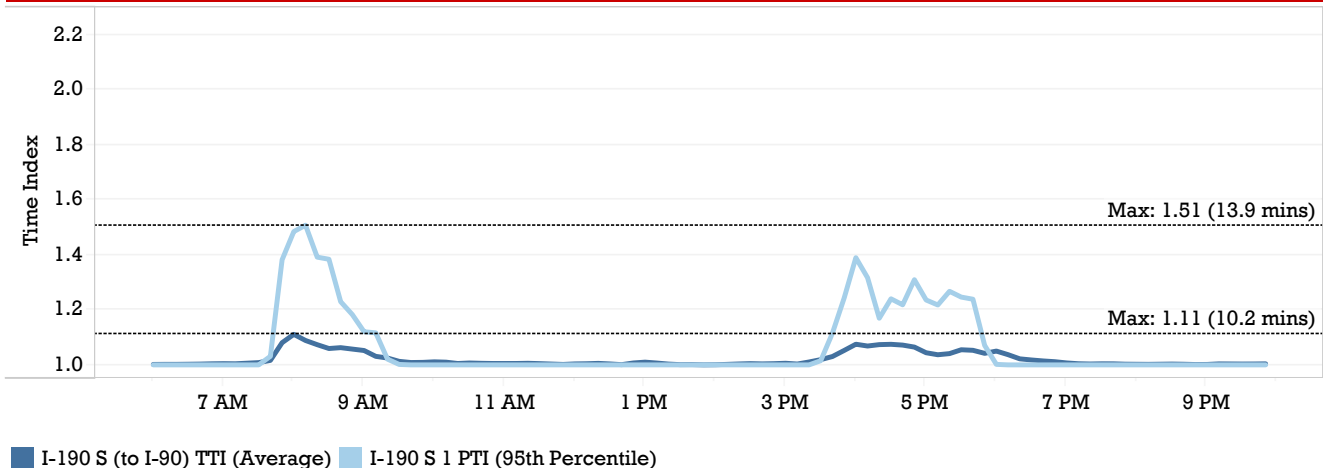
I-190 N (EXIT 7 TO EXIT 16)

	2019	2020	2021	2022
I-190 N (to I-290) Congested Hrs	0.87	0.17	0.14	0.25
I-190 N (to I-290) TTI (Average)	1.02	1.00	1.00	1.01
I-190 N (to I-290) PTI (95th Percentile)	1.12	1.00	1.00	1.00

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.27 (8.1 mins)
Max: 1.07 (6.8 mins)

Legend: I-190 N (to I-290) TTI (Average)   I-190 N 2 PTI (95th Percentile)
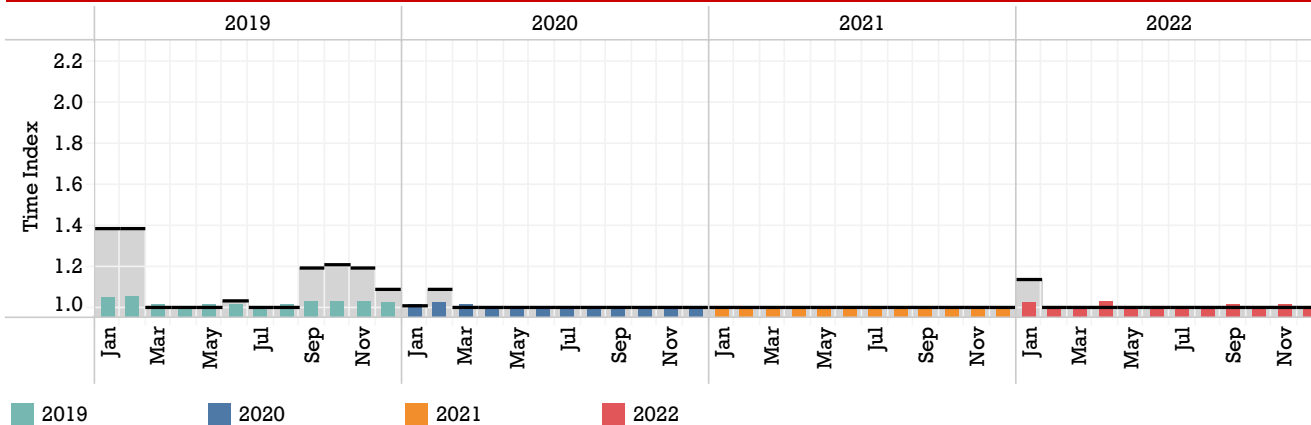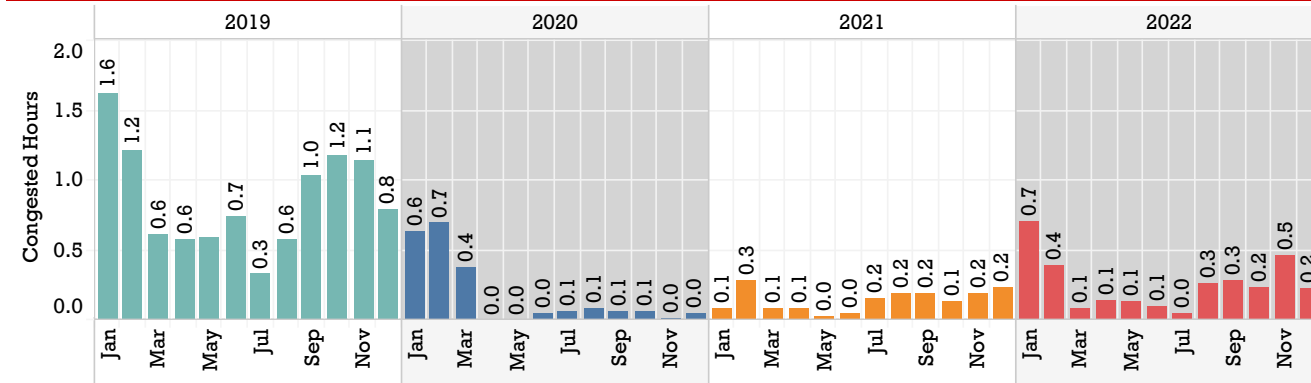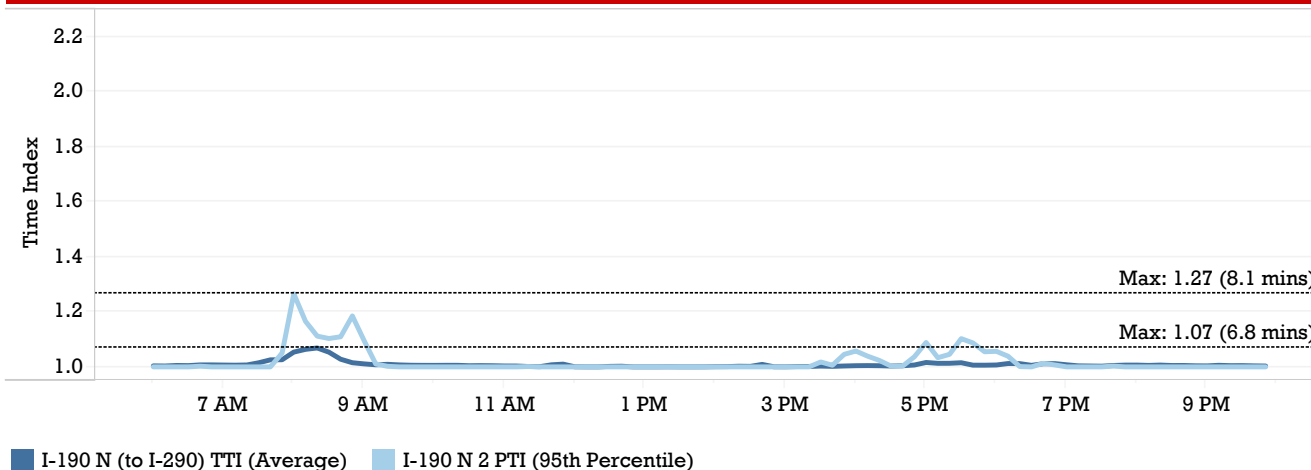
I-190 S (EXIT 16 TO EXIT 7)

	2019	2020	2021	2022
I-190 S (from I-290) Congested Hrs	1.34	0.21	0.36	0.50
I-190 S (from I-290) TTI (Average)	1.05	1.00	1.01	1.01
I-190 S (from I-290) PTI (95th Percentile)	1.35	1.00	1.00	1.00

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.47 (9.4 mins)
Max: 1.08 (6.9 mins)

I-190 S (from I-290) TTI (..   PERCENTILE([I-190 Sout..
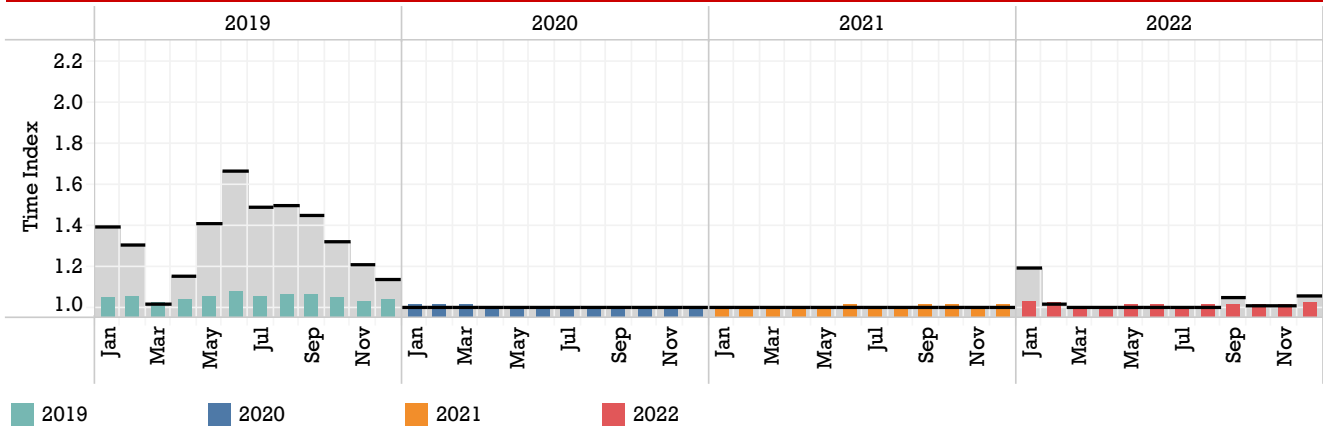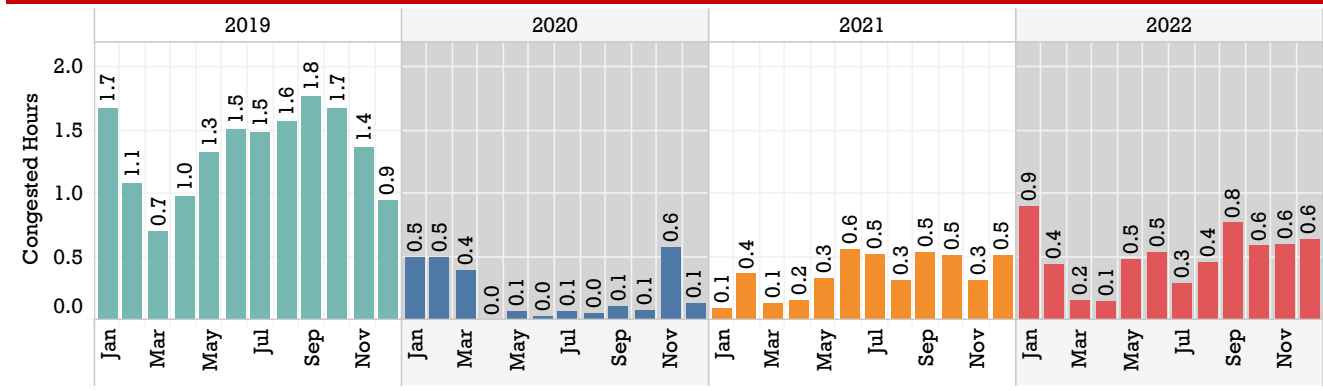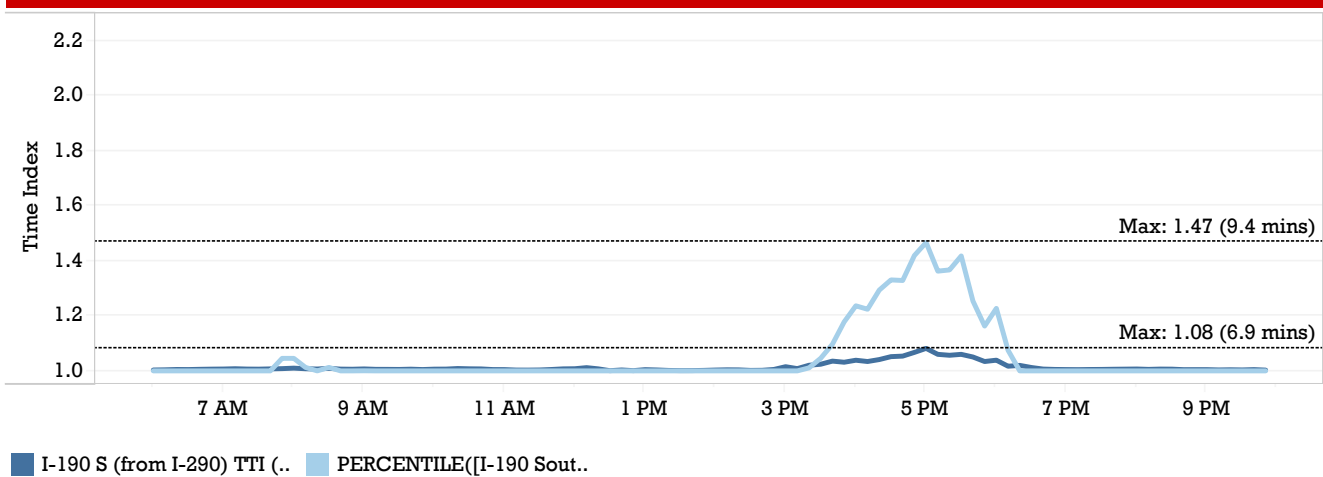
I-190 N (EXIT 16 TO EXIT 22)

	2019	2020	2021	2022
I-190 (to Route 62) N Congested Hrs	0.98	0.14	0.30	0.64
I-190 (to Route 62) N TTI (Average)	1.01	1.00	1.00	1.01
I-190 N (to Route 62) PTI (95th Percentile)	1.01	1.00	1.00	1.00

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

2019: Jan 1.1, Feb 0.7, Mar 0.4, Apr 0.4, May 0.7, Jun 1.5, Jul 2.2, Aug 2.3, Sep 0.5, Oct 0.7, Nov 0.7, Dec 0.5

2020: Jan 0.4, Feb 0.2, Mar 0.1, Apr 0.0, May 0.0, Jun 0.1, Jul 0.1, Aug 0.1, Sep 0.0, Oct 0.1, Nov 0.4, Dec 0.2

2021: Jan 0.1, Feb 0.3, Mar 0.0, Apr 0.2, May 0.1, Jun 0.3, Jul 0.6, Aug 0.4, Sep 0.5, Oct 0.4, Nov 0.4, Dec 0.2

2022: Jan 0.8, Feb 0.8, Mar 0.3, Apr 0.1, May 0.3, Jun 1.3, Jul 1.3, Aug 1.2, Sep 0.8, Oct 0.5, Nov 0.2, Dec 0.2

TTI & PTI by Time in 2022

Max: 1.13 (9.4 mins)
Max: 1.05 (8.8 mins)

Legend: I-190 (to Route 62) N TTI (Avera.., I-190 3 N PTI (95th Percentile)

I-190 S (EXIT 22 TO EXIT 16)

	2019	2020	2021	2022
I-190 S (from Route 62) Congested Hrs	0.63	0.13	0.21	0.20
I-190 S (from Route 62) TTI (Average)	1.01	1.00	1.00	1.01
I-190 S (from Route 62) PTI (95th Percentile)	1.00	1.00	1.00	1.00

TTI & PTI by Month

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.06 (8.9 mins)
Max: 1.00 (8.4 mins)

Legend: I-190 S (from Route 62) TTI (.. , I-190 S 3 PTI (95th Percentile)
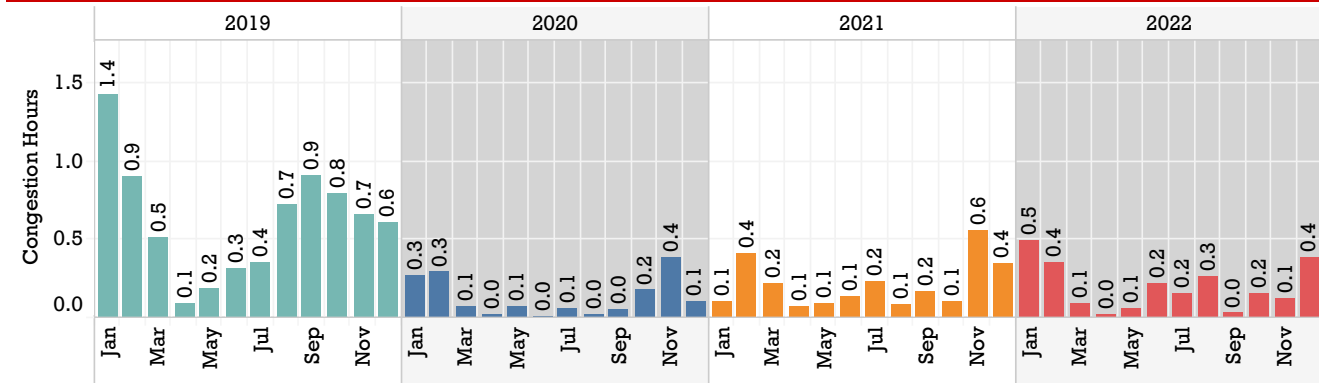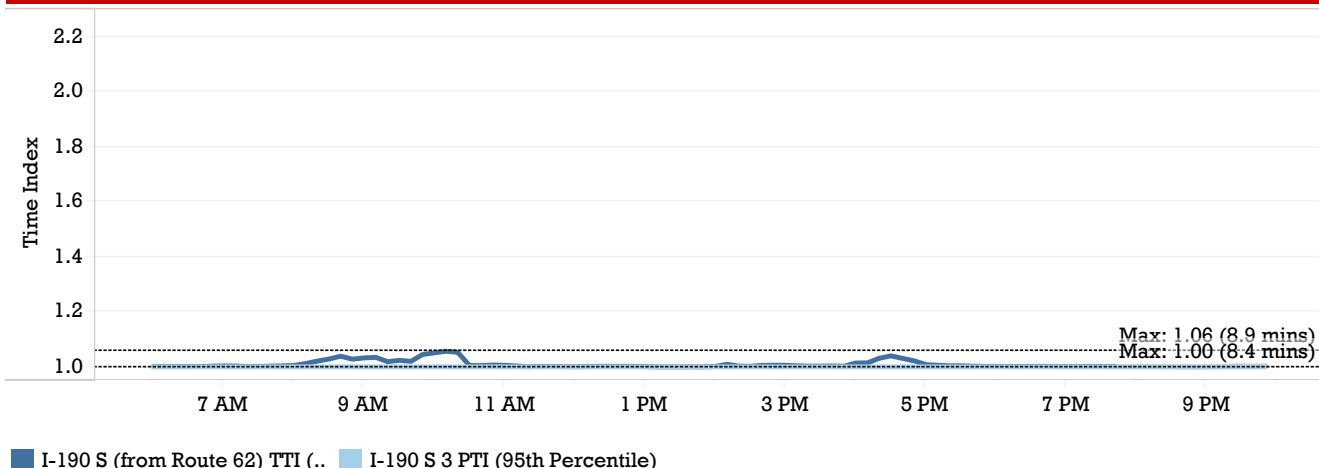
I-290 E (I-190 TO I-90)

	2019	2020	2021	2022
I-290 E Congested Hrs	2.01	0.29	0.86	1.19
I-290 E TTI (Average)	1.04	1.00	1.02	1.03
I-290 E PTI (95th Percentile)	1.29	1.00	1.08	1.14

TTI & PTI by Month

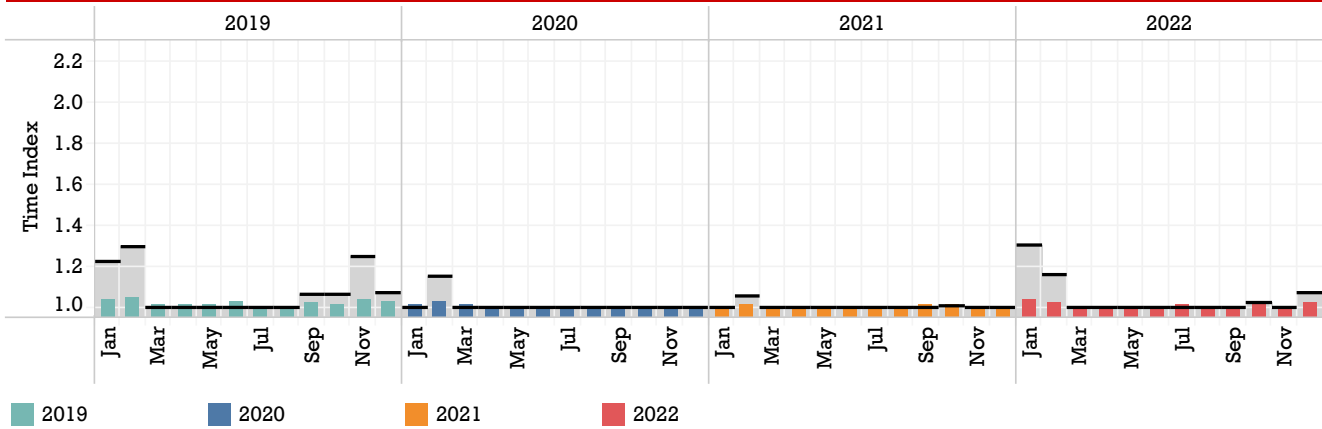## Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.71 (19.2 mins)

Max: 1.13 (12.7 mins)

■ I-290 E TTI (Average) ■ I-290 E PTI (95th Percentile)
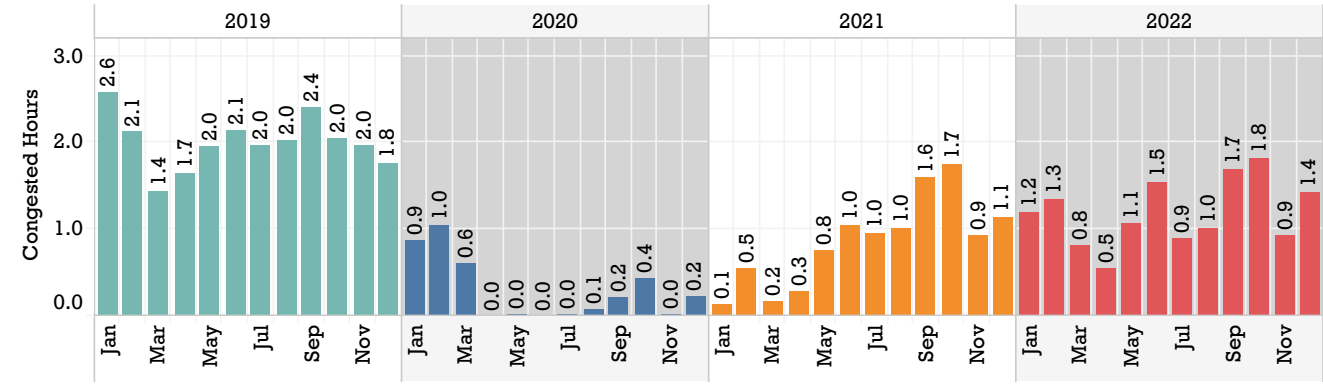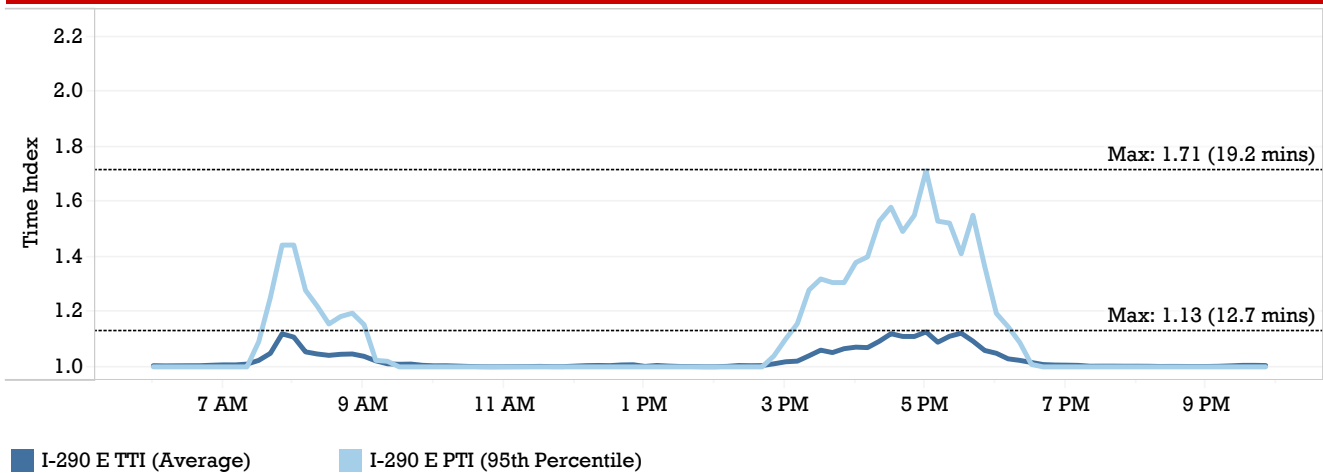
I-290 W (I-90 TO I-190)

	2019	2020	2021	2022
I-290 W Congested Hrs	0.83	0.16	0.65	0.49
I-290 W TTI (Average)	1.02	1.00	1.00	1.01
I-290 W PTI (95th Percentile)	1.07	1.00	1.00	1.00

TTI & PTI by Month

2019 | 2020 | 2021 | 2022

Legend: 2019, 2020, 2021, 2022

Average Daily Congested Hours

2019: Jan 0.9, Feb 0.7, Mar 0.2, Apr 0.5, May 1.3, Jun 1.2, Jul 1.5, Aug 1.6, Sep 0.7, Oct 0.6, Nov 0.5, Dec 0.2

2020: Jan 0.2, Feb 0.3, Mar 0.1, Apr 0.0, May 0.0, Jun 0.0, Jul 0.1, Aug 0.1, Sep 0.1, Oct 0.9, Nov 0.1, Dec 0.1

2021: Jan 0.1, Feb 0.4, Mar 0.0, Apr 0.1, May 0.0, Jun 0.2, Jul 0.4, Aug 4.9, Sep 0.7, Oct 0.4, Nov 0.3, Dec 0.2

2022: Jan 0.9, Feb 0.9, Mar 0.3, Apr 0.0, May 0.1, Jun 0.9, Jul 0.9, Aug 0.7, Sep 0.5, Oct 0.3, Nov 0.1, Dec 0.3

TTI & PTI by Time in 2022

Max: 1.31 (14.7 mins)

Max: 1.06 (11.3 mins)

Legend: I-290 W TTI (Average), I-290 W PTI (95th Percentile)

ROUTE 33 E (OAK/ELM TO UNION)

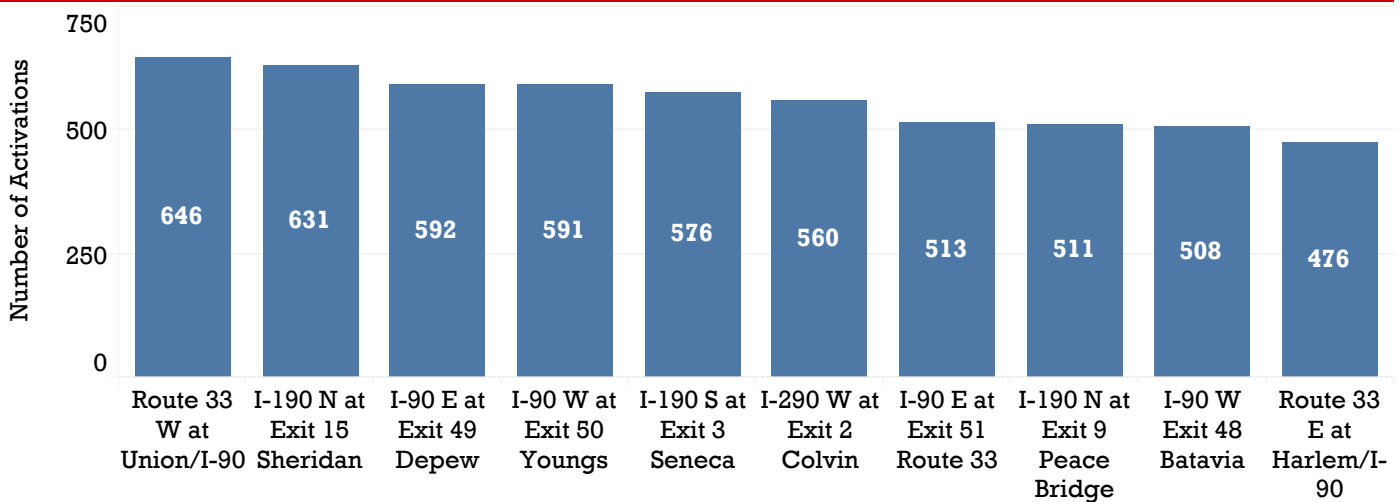|	2019	2020	2021	2022
Route 33 E Congested Hrs	0.87	0.15	0.23	0.40
Route 33 E TTI (Average)	1.03	1.01	1.01	1.02
Route 33 E PTI (95th Percentile)	1.16	1.00	1.00	1.00

TTI & PTI by Month

Legend: ■ 2019 ■ 2020 ■ 2021 ■ 2022

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.48 (12.3 mins)

Max: 1.09 (9.0 mins)

Legend: ■ Route 33 E TTI (Average) ■ Route 33 PTI (95th Percentile)
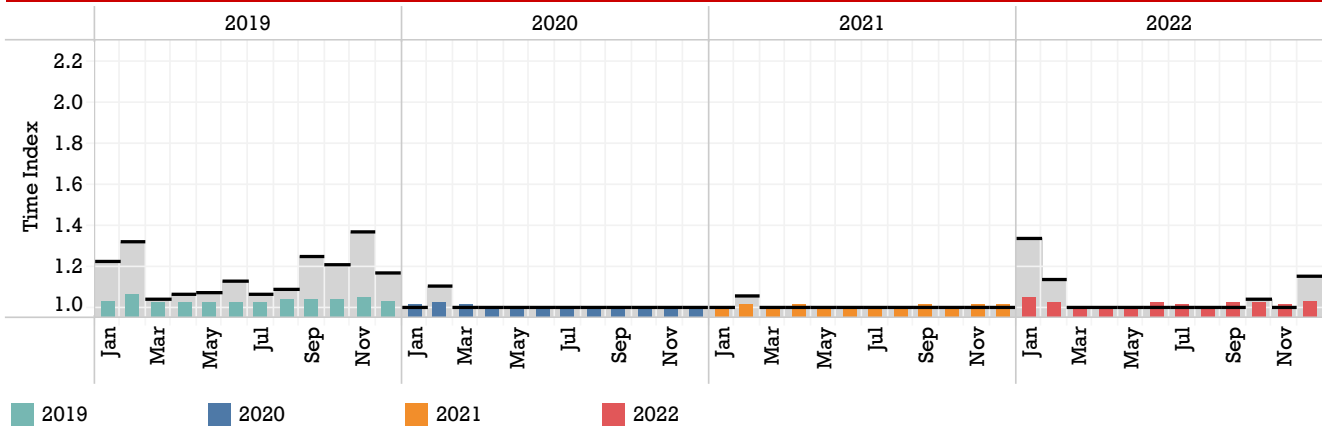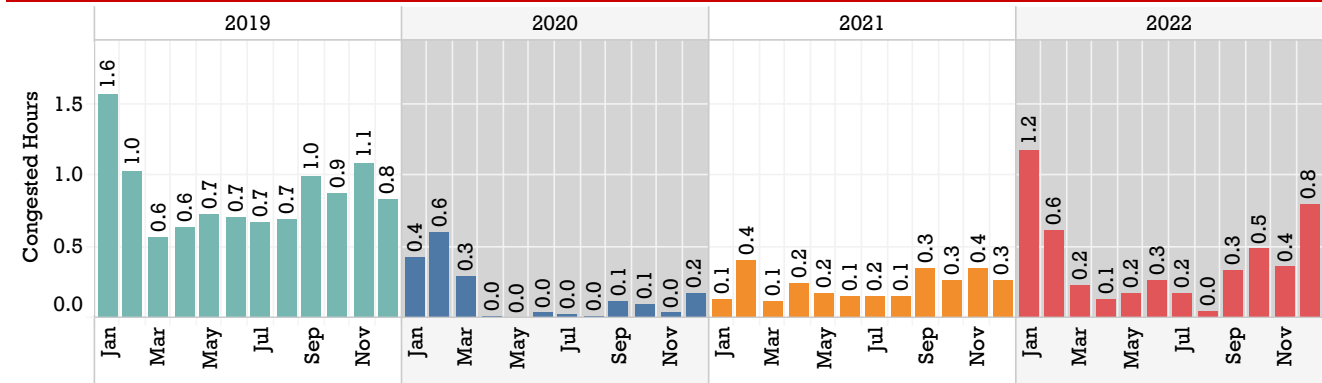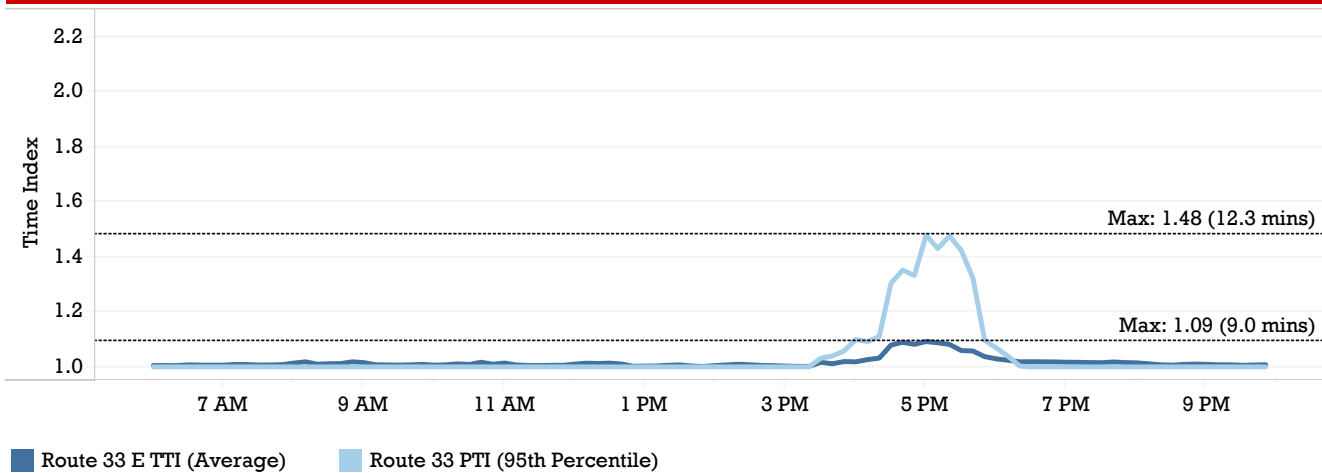
ROUTE 33 W (UNION TO OAK/ELM)

	2019	2020	2021	2022
Route 33 W Congested Hrs	0.58	0.15	0.18	0.35
Route 33 W TTI (Average)	1.02	1.01	1.01	1.01
Route 33 W PTI (95th Percentile)	1.05	1.00	1.00	1.00

TTI & PTI by Month

Average Daily Congested Hours

TTI & PTI by Time in 2022

Max: 1.33 (11.0 mins)

Max: 1.06 (8.8 mins)

■ Route 33 W TTI (Average)   ■ Route 33 W PTI (95th Percentile)
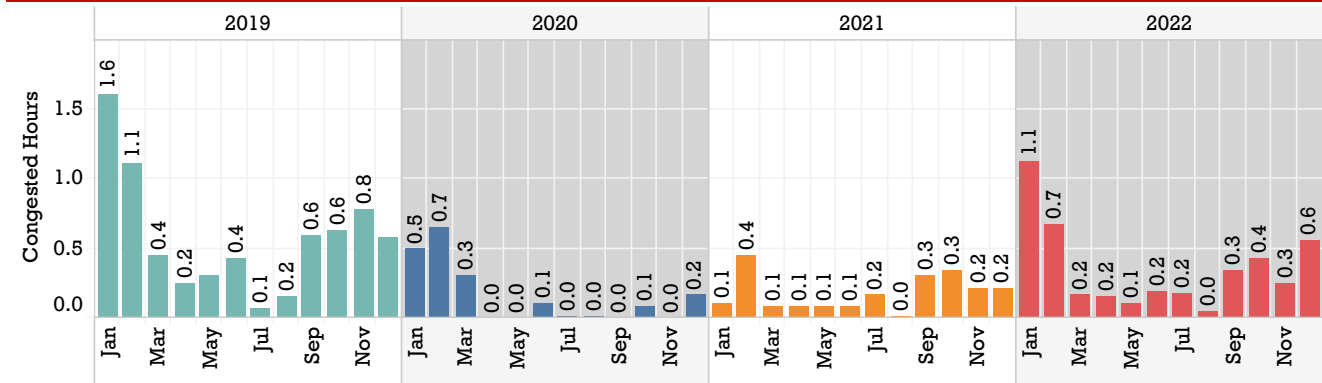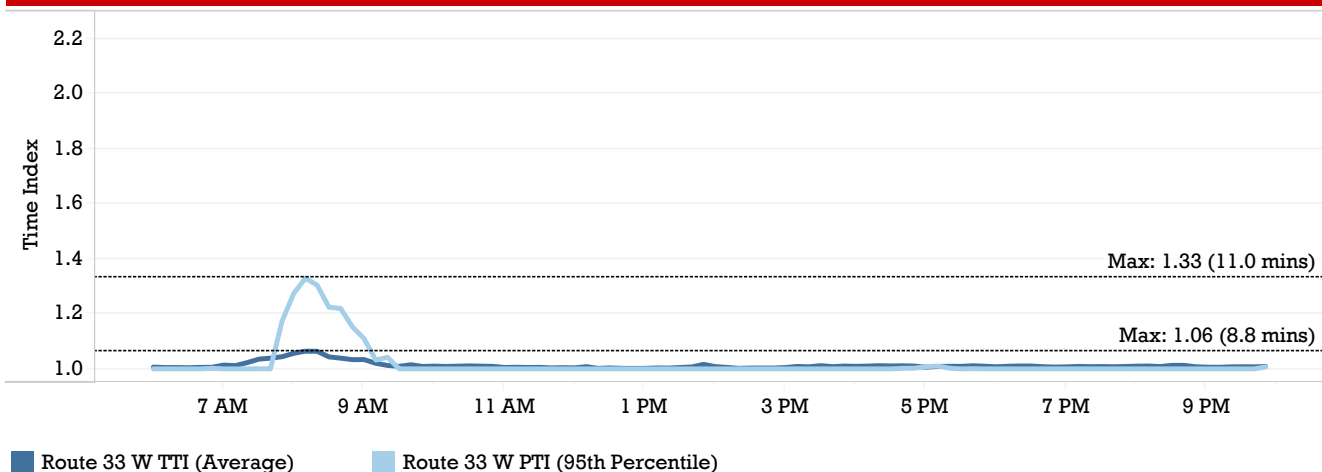
DYNAMIC MESSAGE SIGN ACTIVITY

The graph below displays the total number of DMS activations for accidents, border crossing, weather conditions, and special events.

DMS Activations

	2019	2020	2021	2022

Number of Activations

2019: 1,121 / 1,280 / 975 / 747 / 828 / 807 / 854 / 1,242 / 932 / 1,594 / 1,404 / 786
2020: 744 / 868 / 660 / 631 / 493 / 421 / 375 / 398 / 843 / 727 / 442 / 673
2021: 505 / 947 / 687 / 1,001 / 691 / 836 / 1,035 / 1,321 / 1,146 / 1,528 / 957 / 900
2022: 1,320 / 832 / 305 / 1,695 / 1,847 / 956 / 1,254 / 1,291 / 818 / 465 / 1,021 / 892

Months: Feb, Apr, Jun, Aug, Oct, Dec
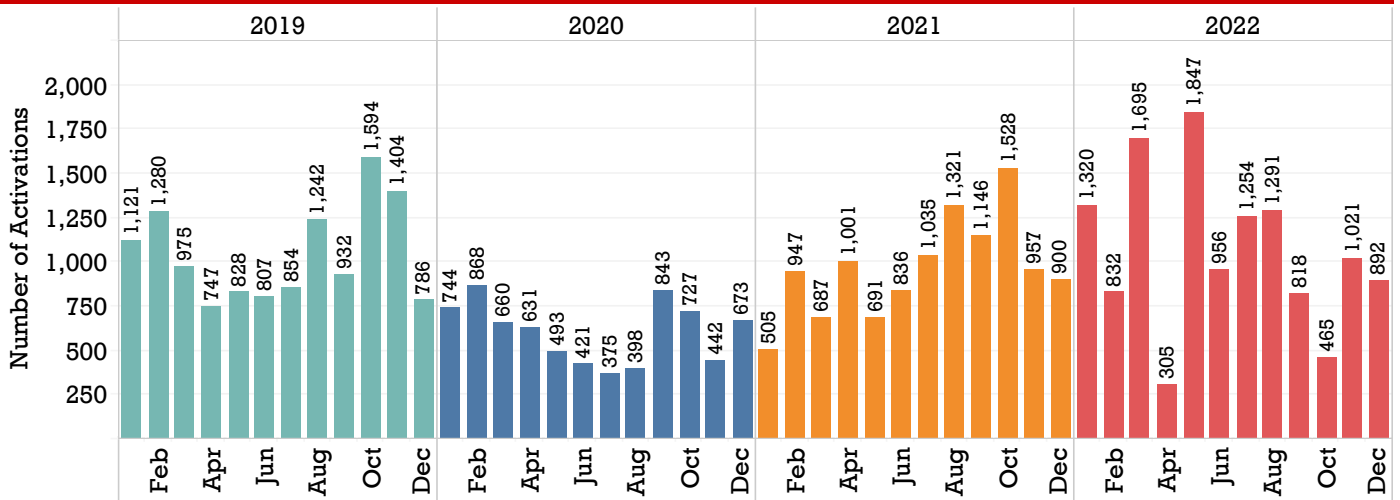
Top 10 Activations by Sign

Number of Activations

Sign	Activations
Route 33 W at Union/I-90	646
I-190 N at Exit 15 Sheridan	631
I-90 E at Exit 49 Depew	592
I-90 W at Exit 50 Youngs	591
I-190 S at Exit 3 Seneca	576
I-290 W at Exit 2 Colvin	560
I-90 E at Exit 51 Route 33	513
I-190 N at Exit 9 Peace Bridge	511
I-90 W Exit 48 Batavia	508
Route 33 E at Harlem/I-90	476

PVMS Activations

	2019	2020	2021	2022

Number of Activations

2019: 370 / 322 / 278 / 305 / 407 / 312 / 312 / 423 / 516 / 597 / 523 / 493
2020: 371 / 523 / 554 / 748 / 592 / 498 / 632 / 474 / 529 / 427 / 370 / 499
2021: 493 / 451 / 876 / 884 / 678 / 819 / 657 / 723 / 662 / 530 / 458 / 551
2022: 732 / 438 / 938 / 1,641 / 1,560 / 2,183 / 1,972 / 1,377 / 1,292 / 1,362 / 1,916 / 1,215

Months: Feb, Apr, Jun, Aug, Oct, Dec

CRASH RESPONSE

The charts on this page compare crashes by route in 2022. The rows show the number of crashes categorized by severity and the columns show how long the event lasted. The goal for the region is to clear minor crashes in under 30 minutes and Intermediate crashes in less than 2 hours.

Regional Collision Severity Comparison

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	59.2% 515	39.0% 339	1.8% 16
Intermediate	12.1% 45	67.5% 251	20.4% 76
Major	4.3% 2	14.9% 7	80.9% 38

Collision Severity Comparison (I-90)

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	59.2% 87	40.8% 60	
Intermediate	4.4% 2	89.1% 41	6.5% 3
Major			100.0% 12

Collision Severity Comparison (Route 33)

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	71.0% 115	29.0% 47	
Intermediate	10.4% 5	87.5% 42	2.1% 1
Major		33.3% 2	66.7% 4

Collision Severity Comparison (I-190)

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	49.3% 106	50.7% 109	
Intermediate	1.6% 1	95.3% 61	3.1% 2
Major			100.0% 3

Collision Severity Comparison (I-290)

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	70.8% 148	28.7% 60	0.5% 1
Intermediate	3.7% 1	92.6% 25	3.7% 1
Major	50.0% 1		50.0% 1

Collision Severity Comparison (Other)

	Less than 30 mins	30 to 120 mins	Over 120 mins
Minor	43.1% 59	46.0% 63	10.9% 15
Intermediate	19.3% 36	43.8% 82	36.9% 69
Major	4.2% 1	20.8% 5	75.0% 18

CRASH RESPONSE

The graphs below show the monthly average crash clearance time for Minor and Intermediate crashes, as well as the average for crashes of all severities. Below that is a graph comparing secondary crashes (crashes which occurred as the result of another incident) over the last five years.

Average Minor Crash Clearance Time

Clearance Time (mins)

Goal: Less than 30 minutes

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
27.4	28.0	28.9	17.7	29.9	37.2	38.4	27.8	27.8	29.2	27.4	28.1

Average Intermediate Crash Clearance Time

Clearance Time (mins)

Goal: Less than 2 hours

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
90.0	87.5	99.7	100.8	97.7	115.3	87.2	103.5	113.0	60.8	62.8	121.7

Average Incident Clearance Time - All Incidents

Clearance Time (mins)

Goal: Less than 60 minutes

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
51.7	48.4	63.5	66.8	58.1	73.2	59.0	58.0	67.5	45.2	37.5	64.0

Secondary Crashes

Year	Number of Secondary Crashes
2018	24
2019	14
2020	8
2021	15
2022	8

Number of Secondary Crashes

I-90 CRASHES

The gauges below show the average clearance time for crashes compared to the goal.
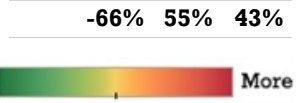
Minor Clearance Time

15   23

8   30

0   38

28.4

Intermediate Clearance Time

60   90

30   120

0   150

61.3

I-90 Crashes

	2019	2020	2021	2022
Jan	26	16	19	19
Feb	18	11	20	9
Mar	14	12	11	13
Apr	13	8	8	9
May	14	10	13	18
Jun	10	5	12	20
Jul	19	8	14	10
Aug	23	11	10	19
Sep	16	8	16	23
Oct	21	10	24	23
Nov	21	7	15	21
Dec	18	16	17	21
	213	122	179	205
		-43%	47%	15%

Fewer ▬▬▬▬ More

Detection Method

| Camera	CAD	NYSTA Website	Phone Call	Scanner
71	17	4	65	48

I-190 CRASHES

The gauges below show the average clearance time for crashes compared to the goal.

Minor Clearance Time

23
15   30
8
0   45

34.1

Intermediate Crash Clearance

90
60   120
30
0   180

52.9

I-190 Crashes

Number of Crashes (I-190)

2019   2020   2021   2022
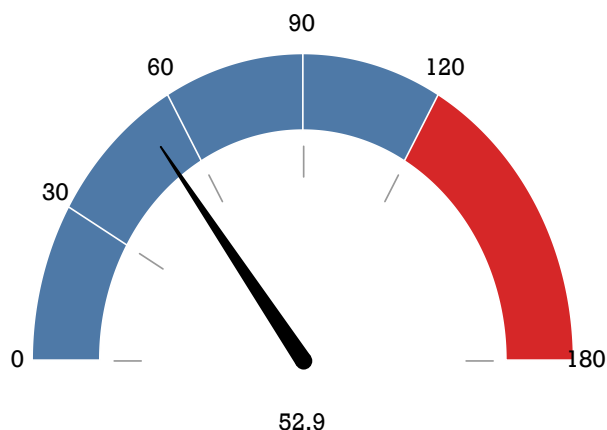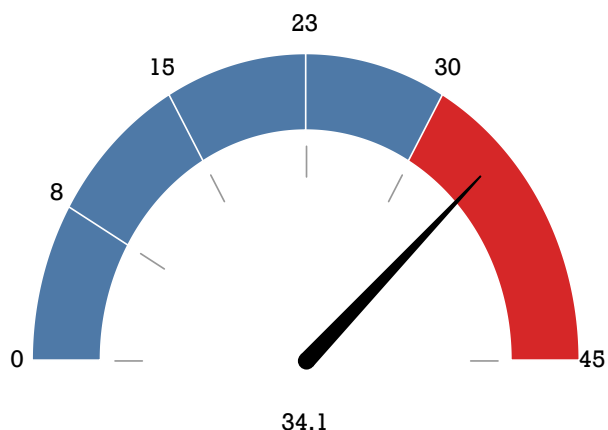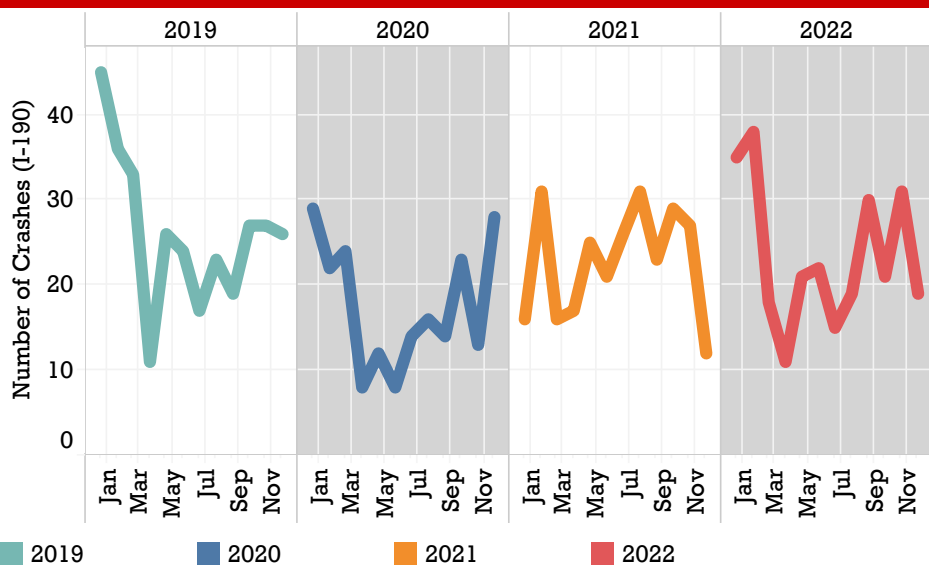
■ 2019   ■ 2020   ■ 2021   ■ 2022

	2019	2020	2021	2022
Jan	45	29	16	35
Feb	36	22	31	38
Mar	33	24	16	18
Apr	11	8	17	11
May	26	12	25	21
Jun	24	8	21	22
Jul	17	14	26	15
Aug	23	16	31	19
Sep	19	14	23	30
Oct	27	23	29	21
Nov	27	13	27	31
Dec	26	28	12	19
	314	211	274	280
		-33%	30%	2%

Fewer ▬▬▬ More

Detection Method

Camera	CAD	Phone Call	Scanner
96	9	115	62

I-290 CRASHES

The gauges below show the average clearance time for crashes compared to the goal.

Minor Clearance Time

23
15   30
8
0   45

30.8

Intermediate Clearance Time

90
60   120
30
0   180

58.6
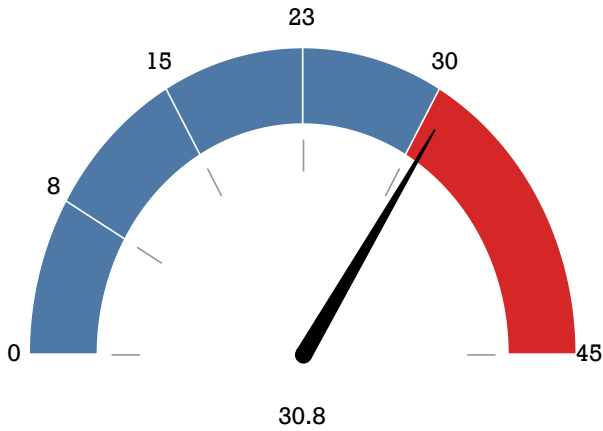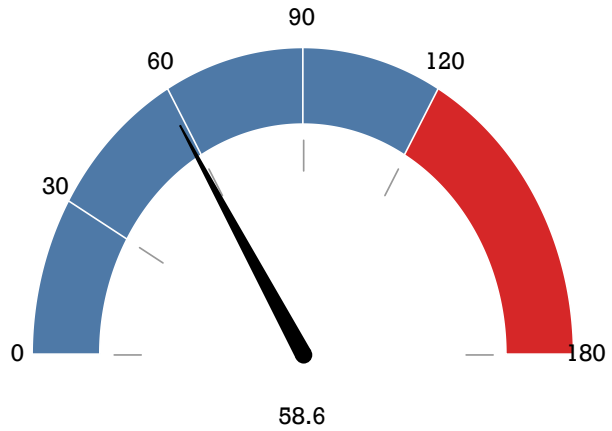
I-290 Crashes
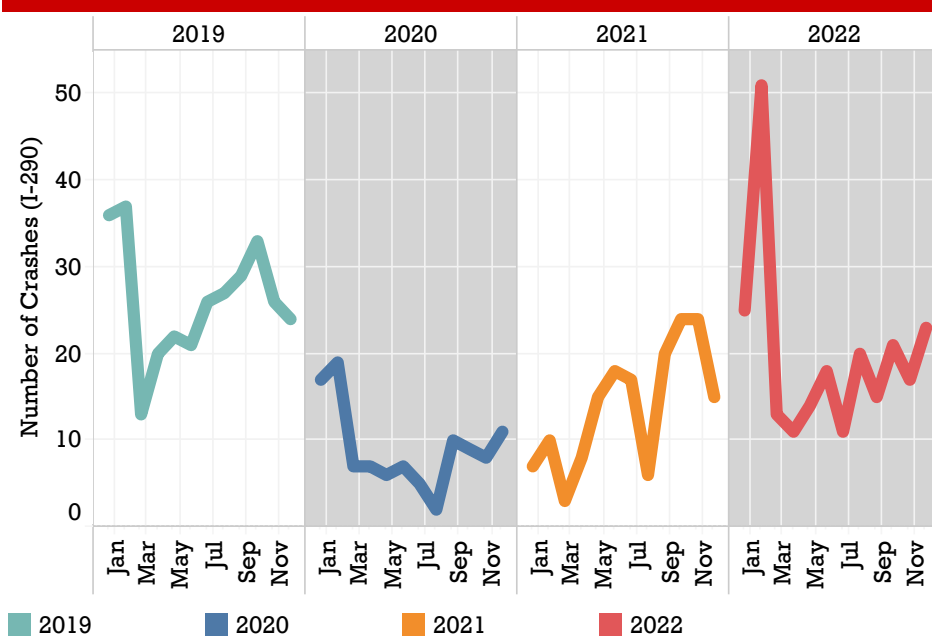
	2019	2020	2021	2022
Jan	36	17	7	25
Feb	37	19	10	51
Mar	13	7	3	13
Apr	20	7	8	11
May	22	6	15	14
Jun	21	7	18	18
Jul	26	5	17	11
Aug	27	2	6	20
Sep	29	10	20	15
Oct	33	9	24	21
Nov	26	8	24	17
Dec	24	11	15	23
	314	108	167	239
		-66%	55%	43%

Fewer ◄───► More

Detection Method

Camera	CAD	Help Team	Phone Call	Scanner
80	1	74	82	2

ROUTE 33 CRASHES

The gauges below show the average clearance time for crashes compared to the goal.

Minor Crash Clearance

34.1

Intermediate Crash Clearance

64.0
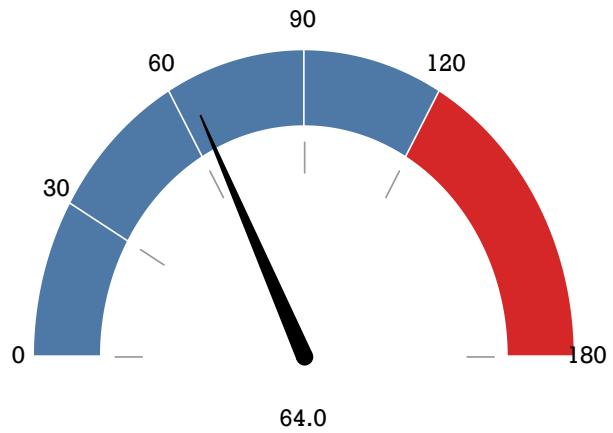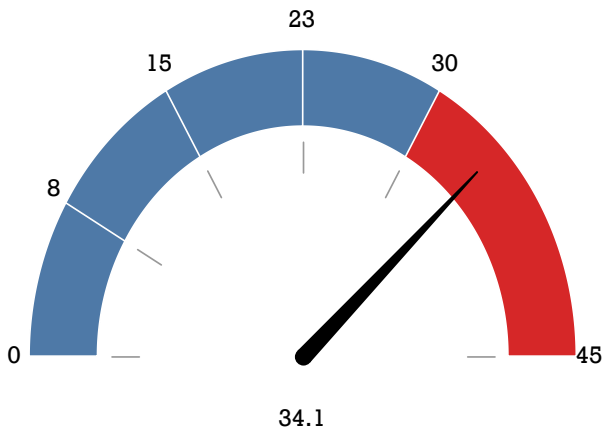
Route 33 Crashes
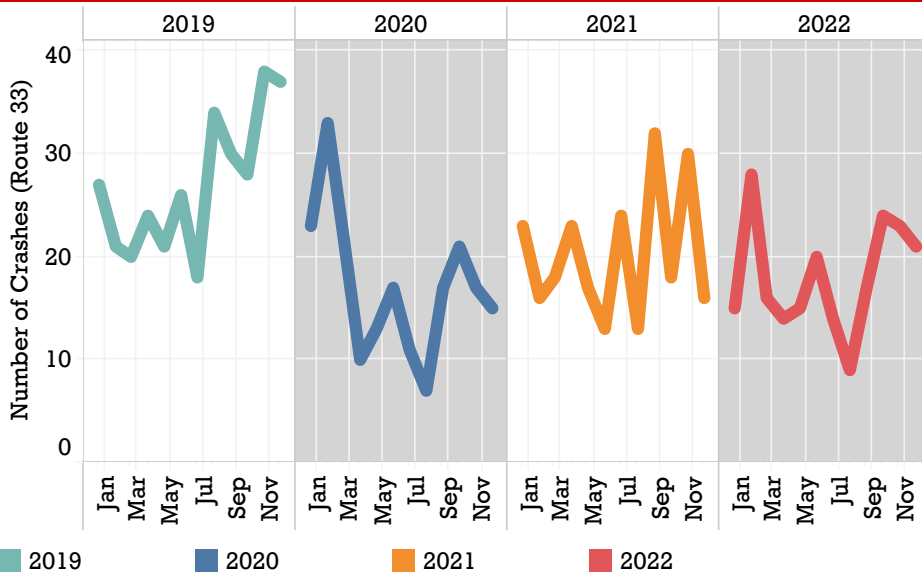
	2019	2020	2021	2022
Jan	27	23	23	15
Feb	21	33	16	28
Mar	20	22	18	16
Apr	24	10	23	14
May	21	13	17	15
Jun	26	17	13	20
Jul	18	11	24	14
Aug	34	7	13	9
Sep	30	17	32	17
Oct	28	21	18	24
Nov	38	17	30	23
Dec	37	15	16	21
	324	206	243	216
		-36%	18%	-11%

Fewer ▬▬▬▬ More

Detection Method

Camera	Help Team	Phone Call	Scanner
55	68	78	16

OTHER ROADWAY CRASHES

The gauges below show the average clearance time for crashes compared to the goal.

Minor Crash Clearance

15   23   30

8

0   45

25.1

Intermediate Crash Clearance

60   90   120

30

0   180

73.7

Other Roadways

Number of Crashes (Other)
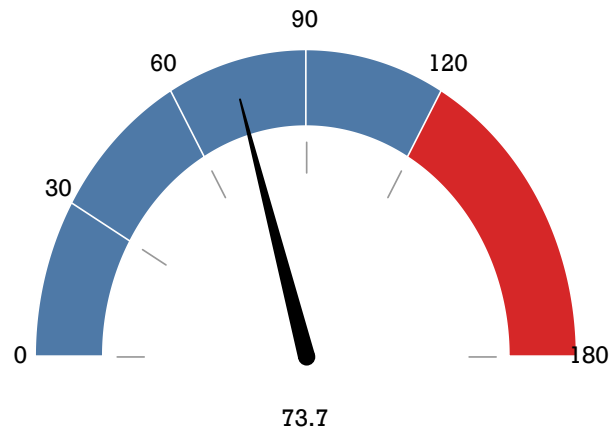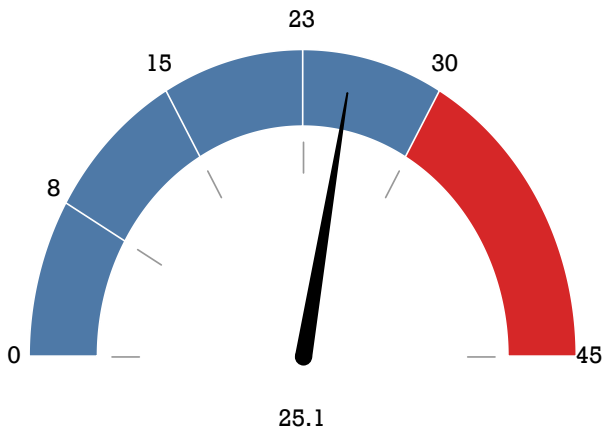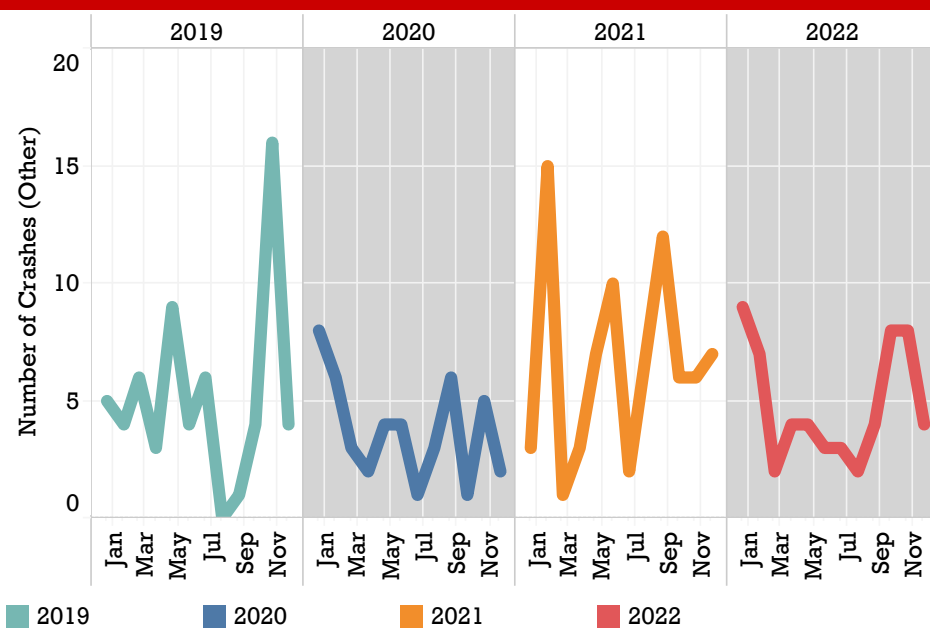
	2019	2020	2021	2022
Jan	5	8	3	9
Feb	4	6	15	7
Mar	6	3	1	2
Apr	3	2	3	4
May	9	4	7	4
Jun	4	4	10	3
Jul	6	1	2	3
Aug	0	3	7	2
Sep	1	6	12	4
Oct	4	1	6	8
Nov	16	5	6	8
Dec	4	2	7	4
	62	45	79	58
		-27%	76%	-27%

Legend: ■ 2019 ■ 2020 ■ 2021 ■ 2022

Fewer ▬▬▬ More

Detection Method

Camera	CAD	Phone Call	Scanner
29	2	19	8

HELP TEAM ACTIVITY

The gauges below show the average clearance time for incidents compared to the goal.

I-290 Assist Time

28.30

Route 33 Assist Time

30.63

HELP Assists

I - 290

Route 33

| | Other First on Scene | HELP First of Scene |

HELP Assists

Month	I-290 HELP %	I-290 Other %	Route 33 HELP %	Route 33 Other %
Jan	74%	26%	76%	24%
Feb	60%	40%	66%	34%
Mar	68%	32%	62%	38%
Apr	57%	43%	46%	54%
May	55%	45%	55%	45%
Jun	59%	41%	61%	39%
Jul	65%	35%	49%	51%
Aug	63%	37%	74%	26%
Sep	48%	52%	64%	36%
Oct	53%	47%	59%	41%
Nov	69%	31%	72%	28%
Dec	60%	40%	58%	42%
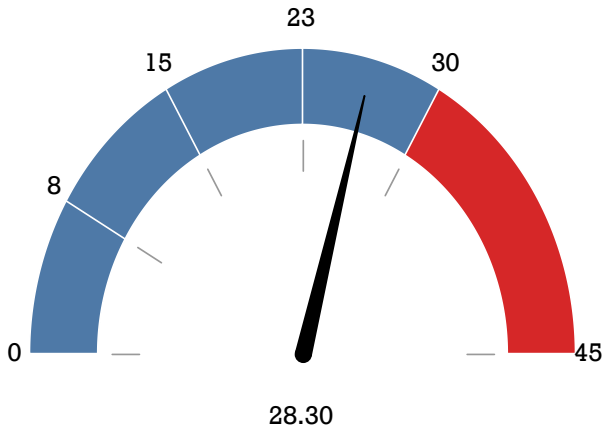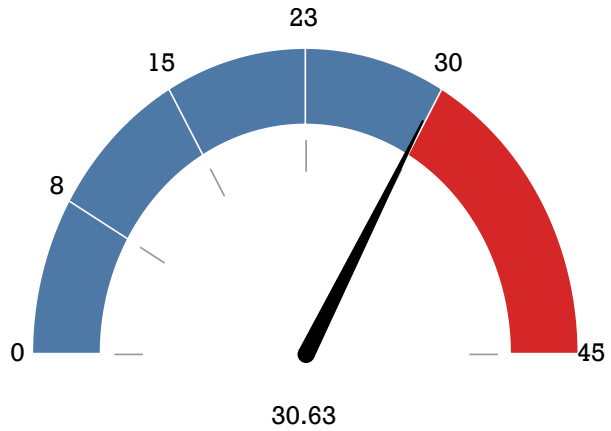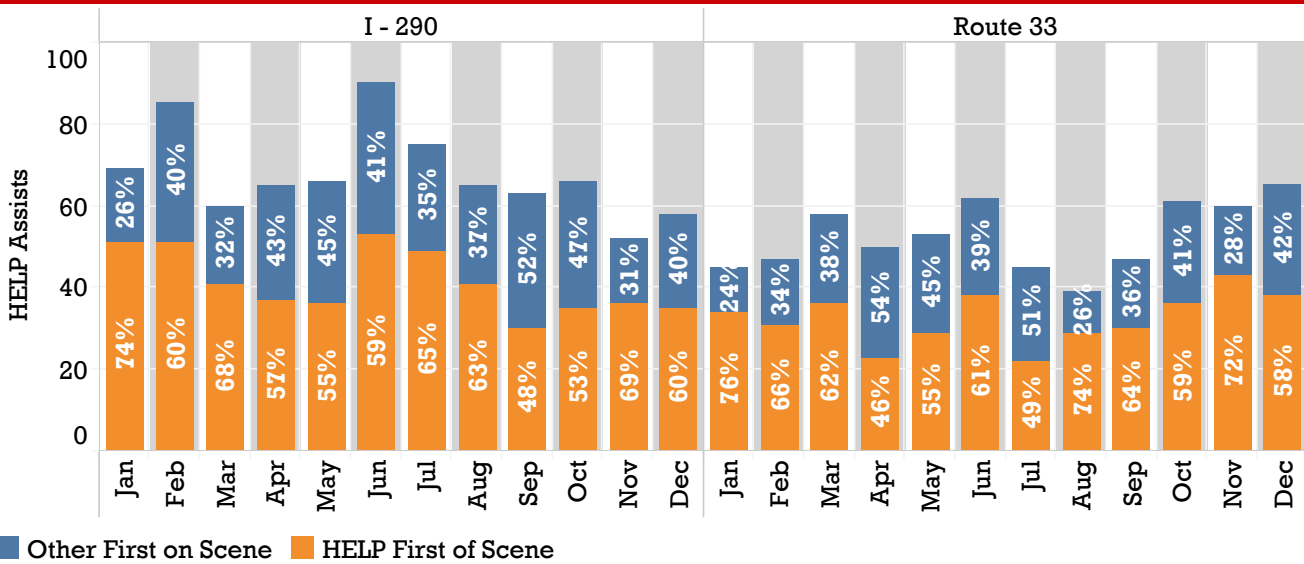
HELP Assistance Provided

Referring Route	Mechanical Problems	Flat Tire	Incident/Crash	Out Of Fuel	Debris In Road	Other Assistance
I - 290	161	182	165	88	29	189
Route 33	128	102	154	91	24	133

HELP TEAM TIMELINES

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

I - 290
1.1 | 1.0 | 28.2

Route 33
1.1 | 1.1 | 30.6

Minutes

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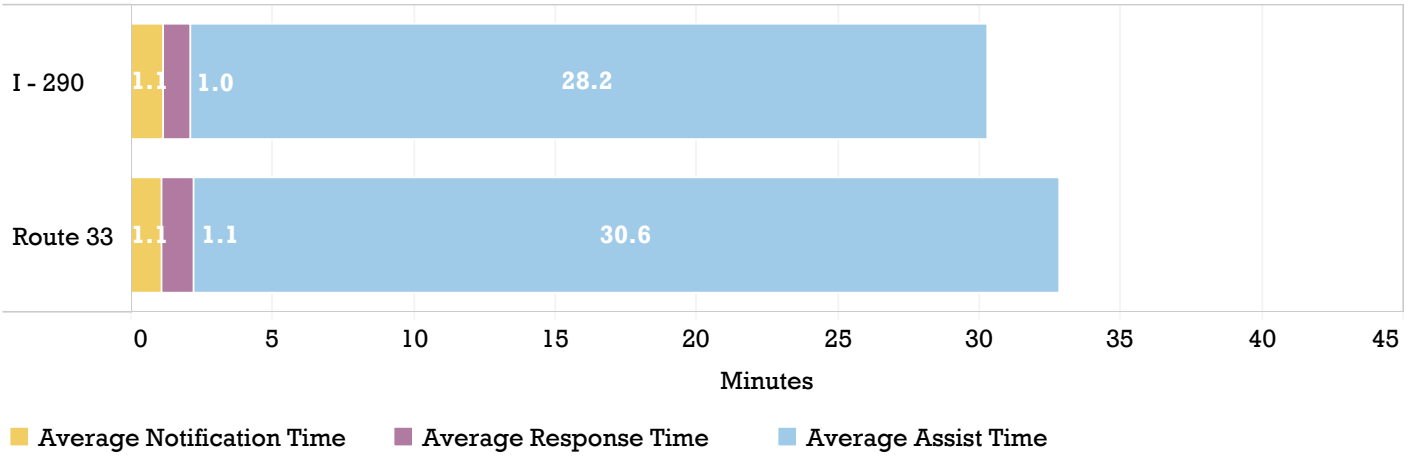
Average Assist Time Comparison

I - 290

No HELP Involved
1.9 | 26.2

HELP Involved, First on Scene
0.8 | 18.3

HELP Involved, Other First on Scene
1.5 | 26.7

Route 33

No HELP Involved
1.2 | 52.5

HELP Involved, First on Scene
0.9 | 19.2

HELP Involved, Other First on Scene
2.8 | 28.1

Minutes

■ Average Response Time ■ Average Clearance Time
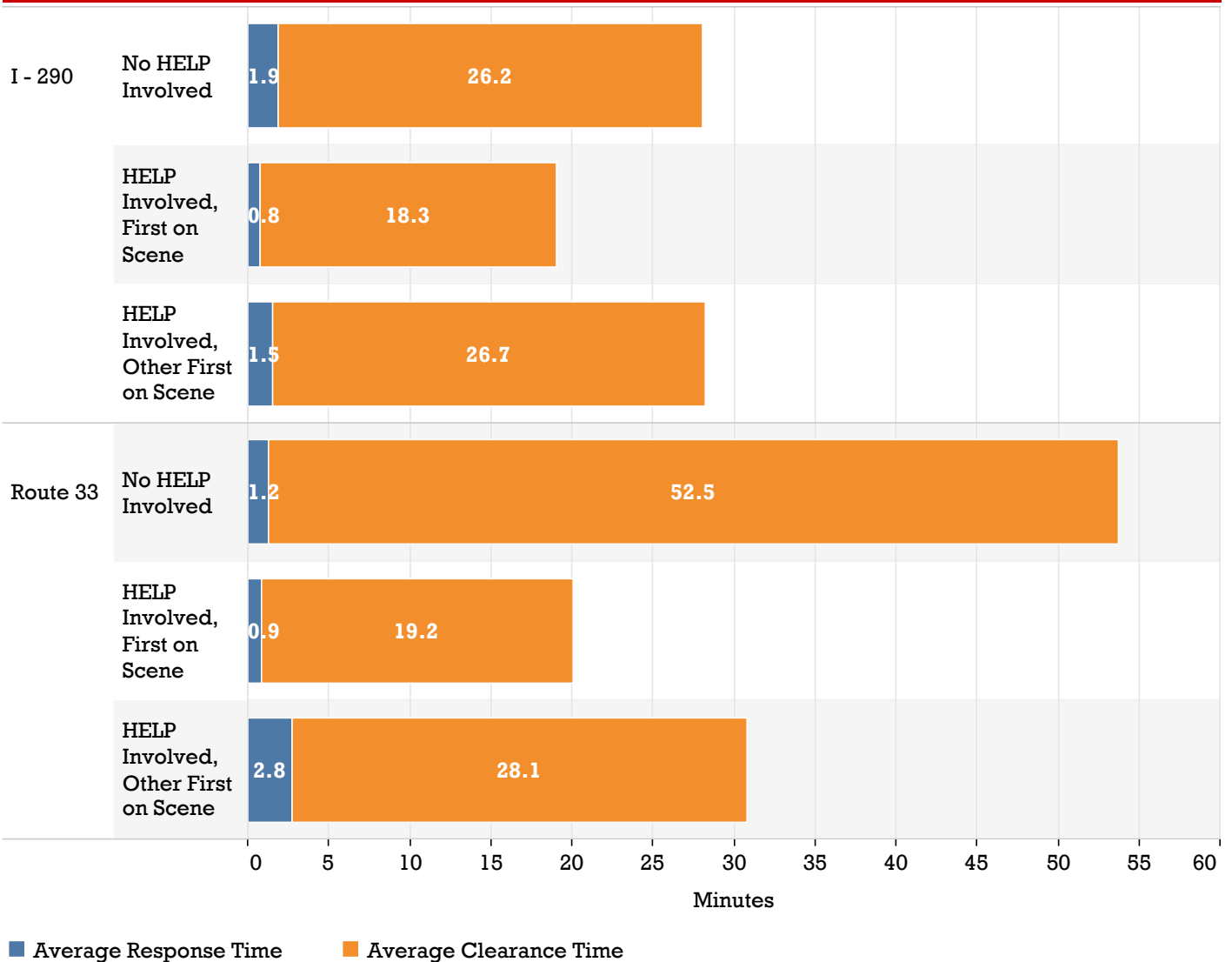
BORDER CROSSING VOLUMES

The following graphs show the total monthly border crossing counts for the Peace Bridge, Lewiston-Queenston Bridge, and Rainbow Bridge in the U.S. and Canada bound directions from 2019 to 2022. The first graph shows the volumes for passenger vehicles while the second shows the volumes for trucks.

Passenger Vehicle Volumes

Legend:
- Canada Bound Car Total
- US Bound Car Total

Truck Volumes

Legend:
- Canada Bound Truck Total
- US Bound Truck Total
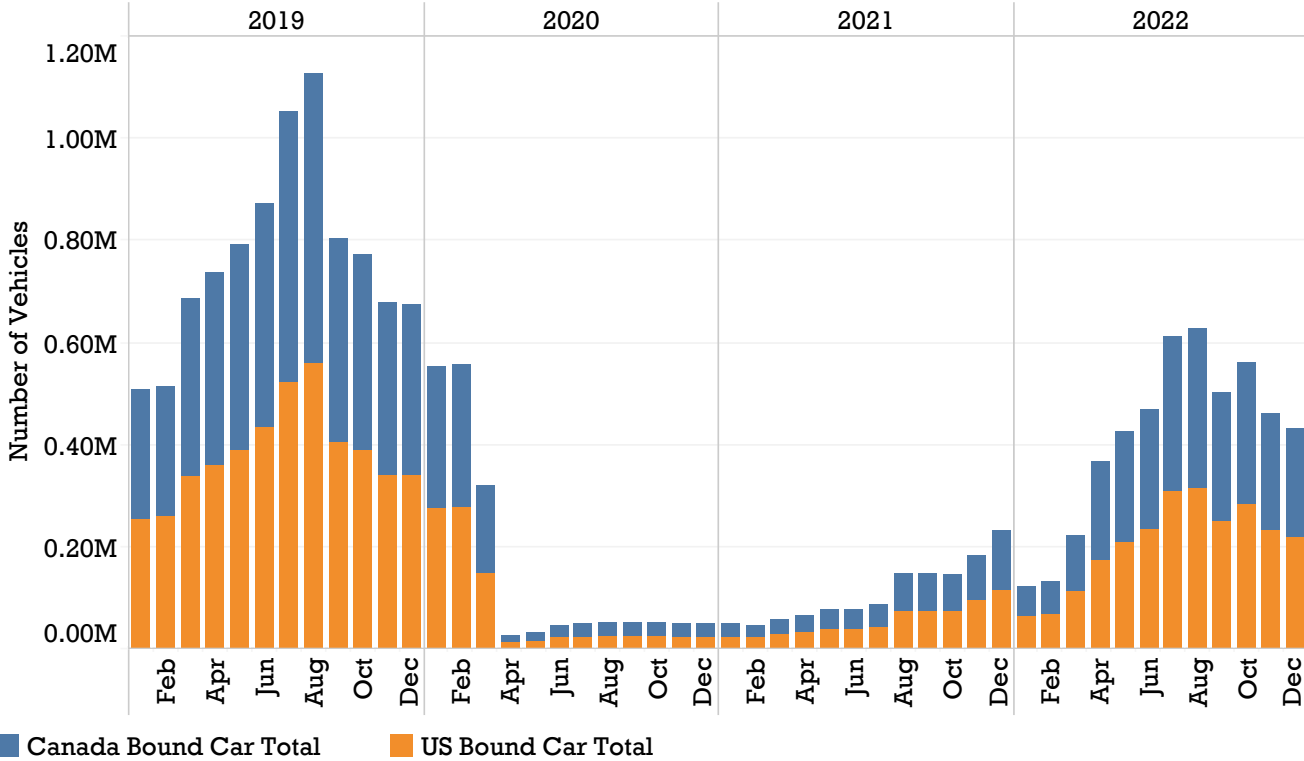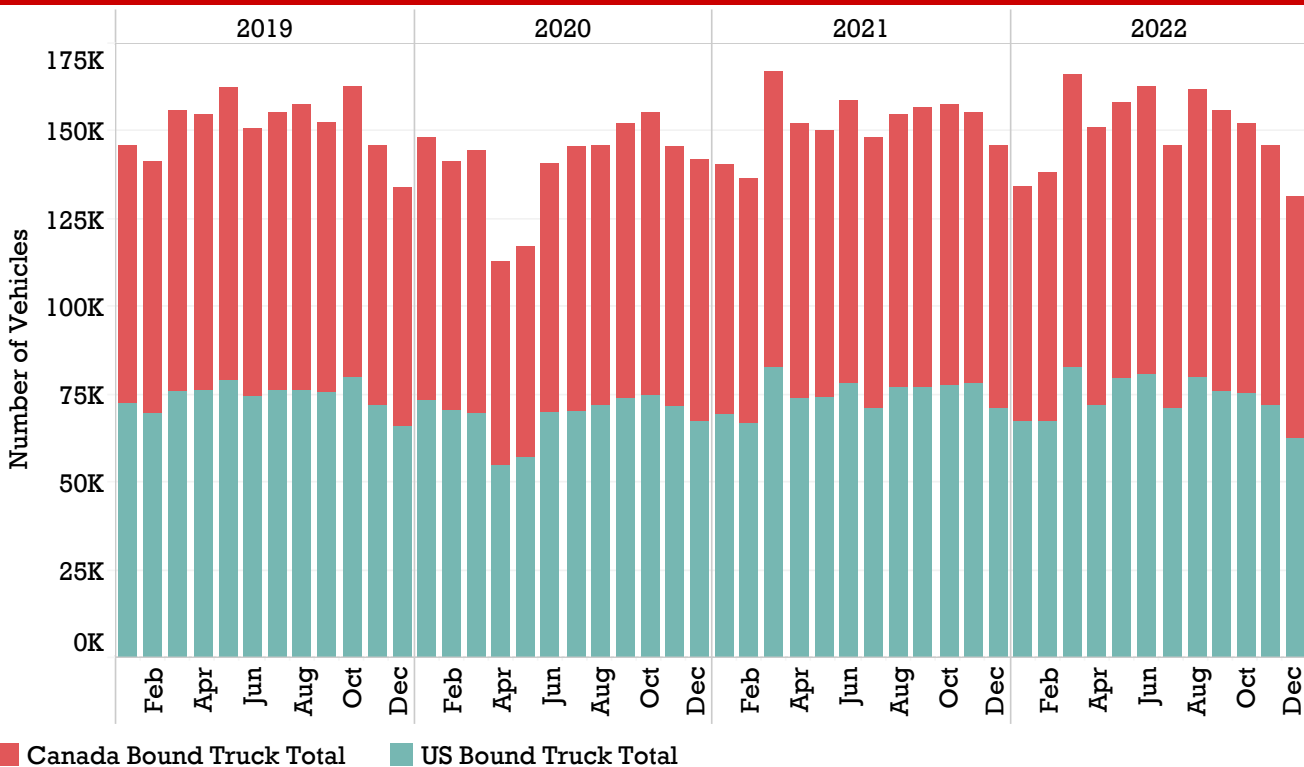
PASSENGER VEHICLE DELAYS TO CANADA

The following graphs show the average and 95th percentile passenger vehicle delays to Canada (1) by month from 2019 - 2022; and (2) by hour of the day during 2022 per quarter.
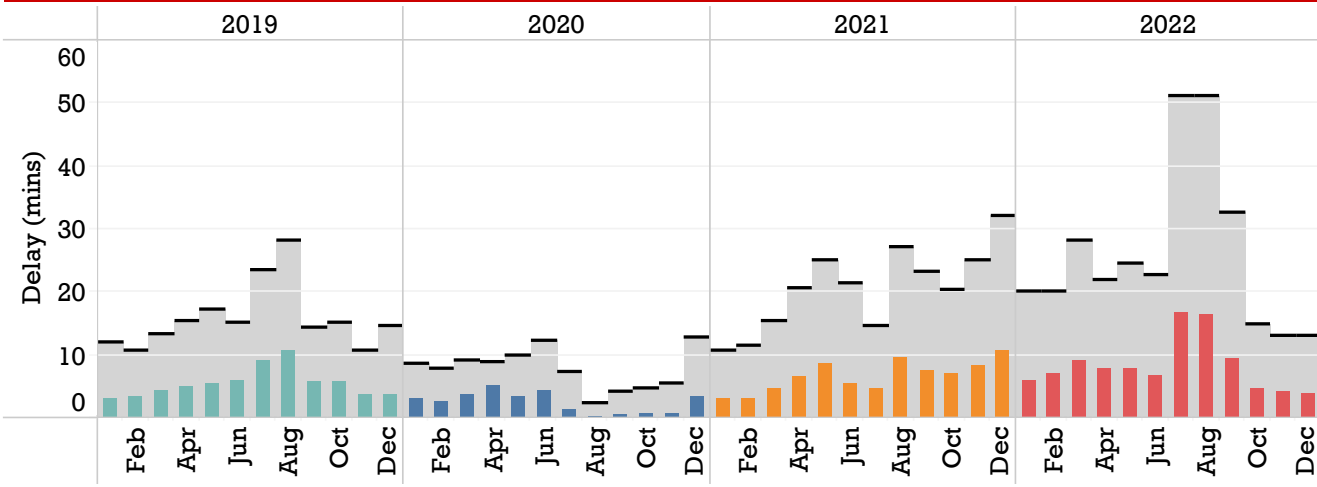
Peace Bridge

Lewiston-Queenston Bridge
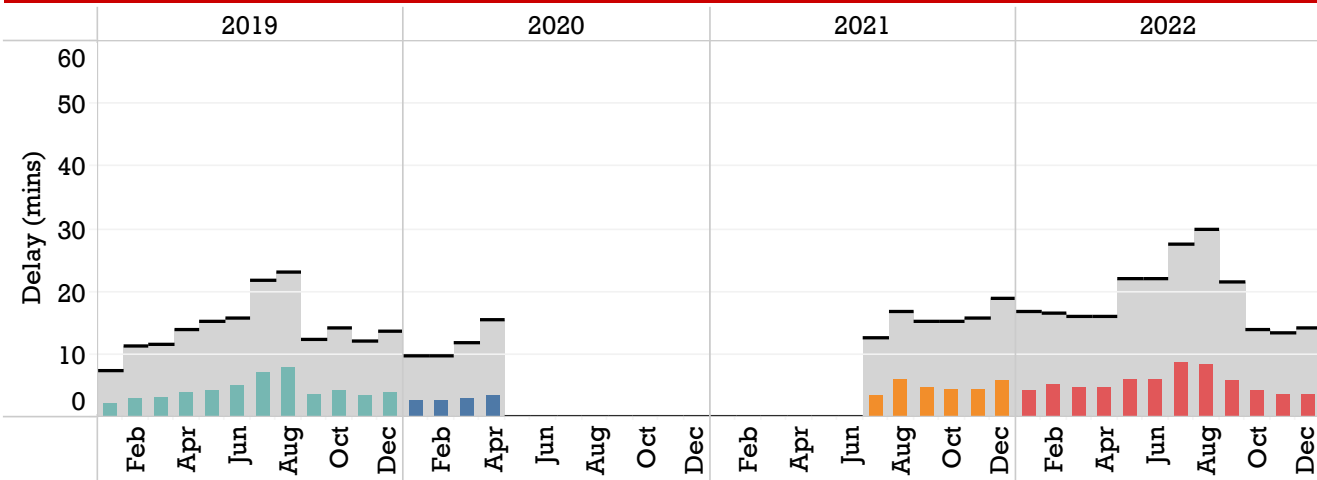
Rainbow Bridge

■ 2019   ■ 2020   ■ 2021   ■ 2022
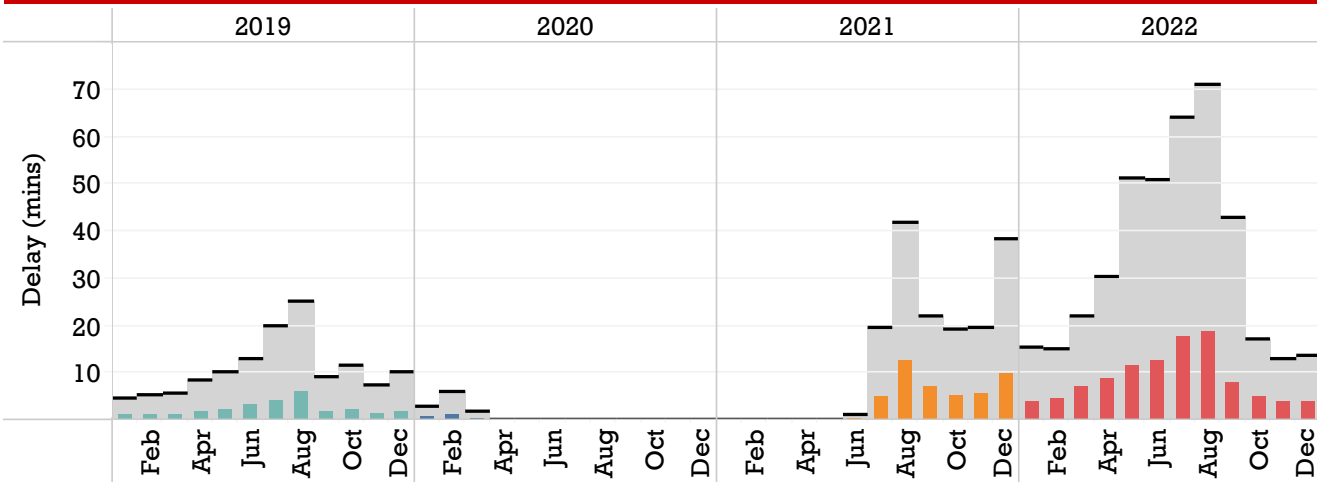
Peace Bridge - 2022

Lewiston-Queenston Bridge - 2022
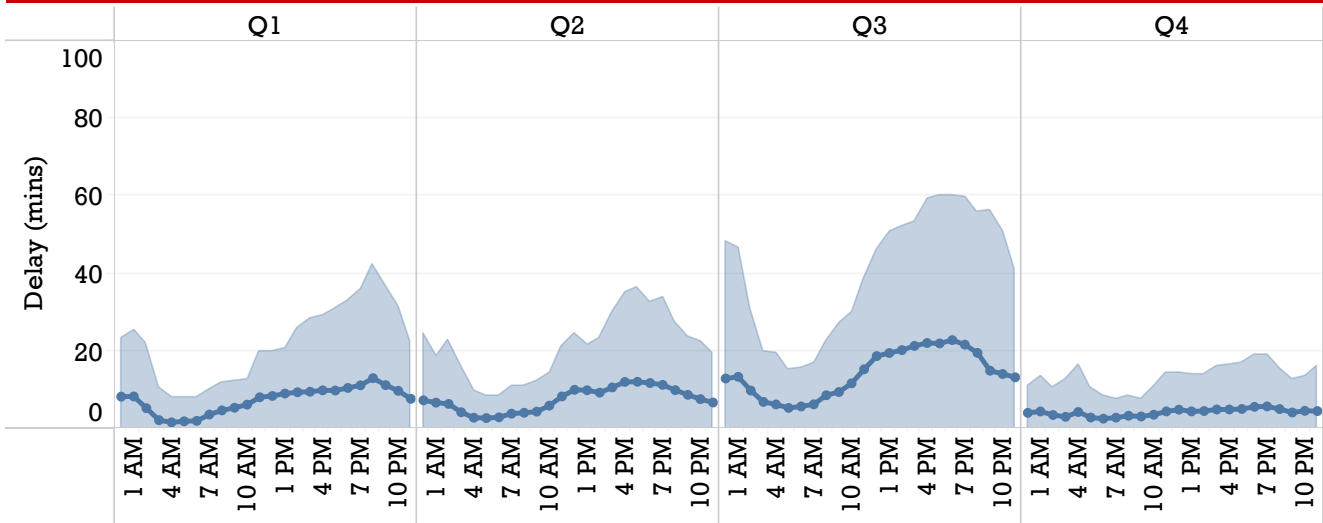
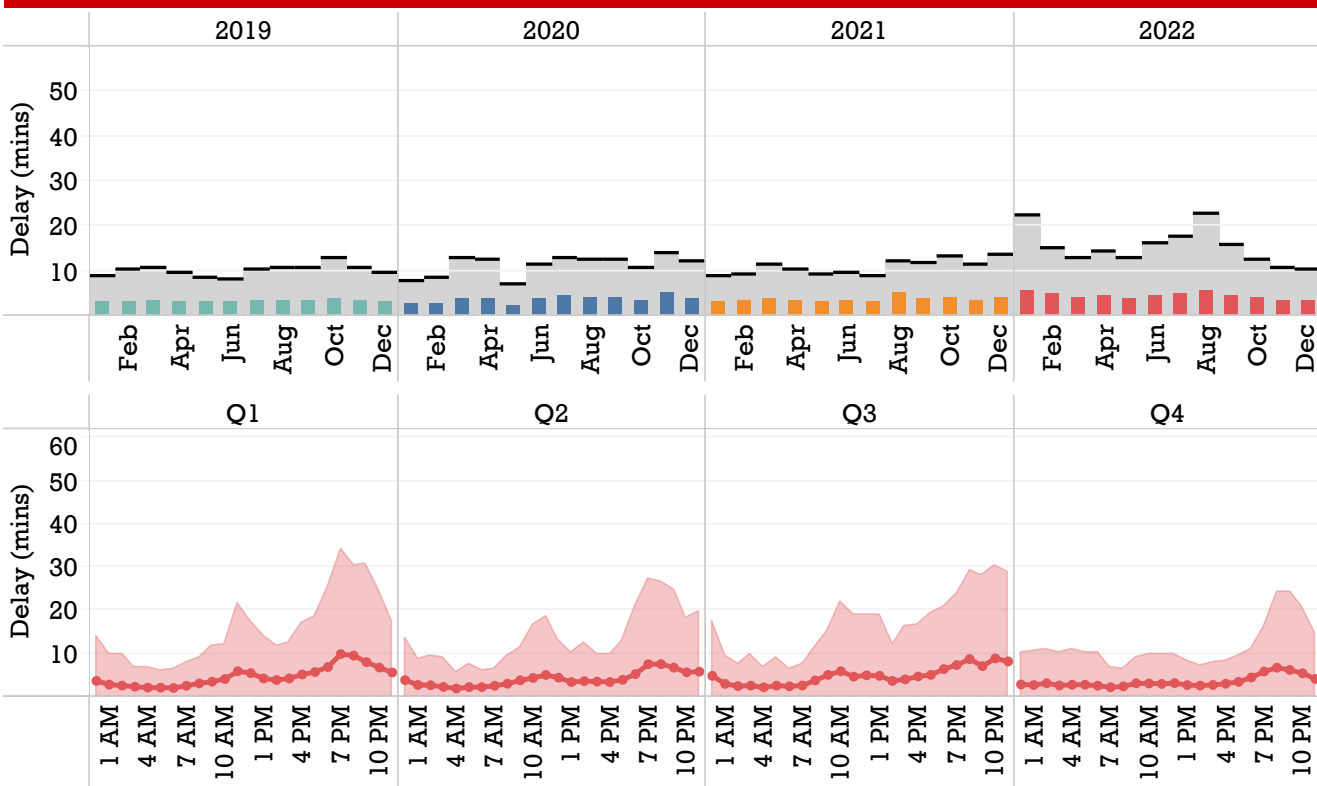## Rainbow Bridge - 2022
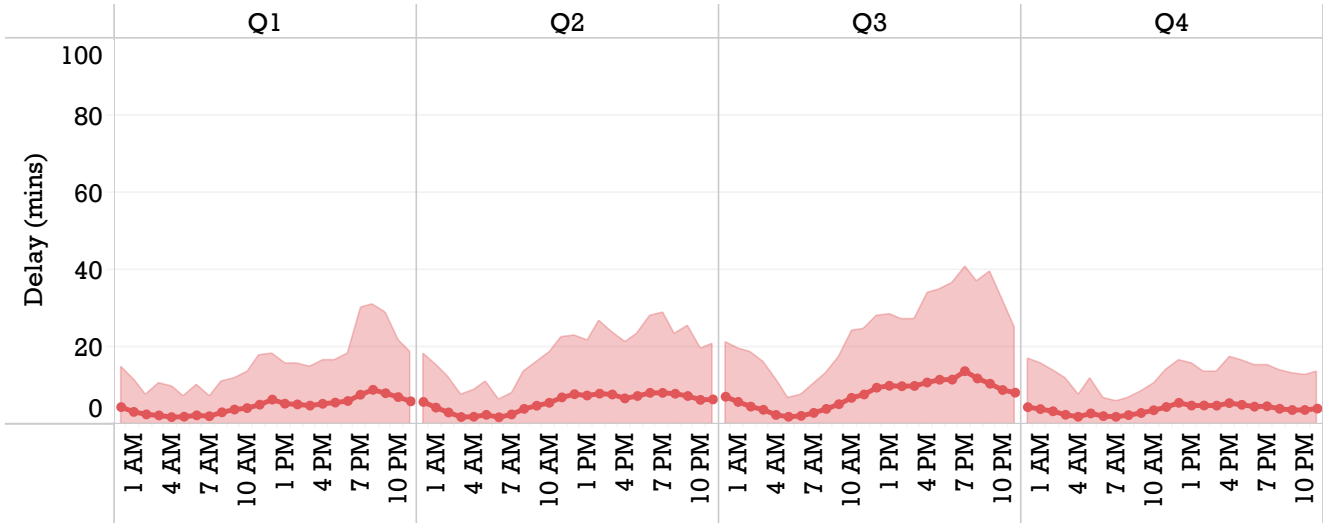
Average Delay   95th Percentile Delay
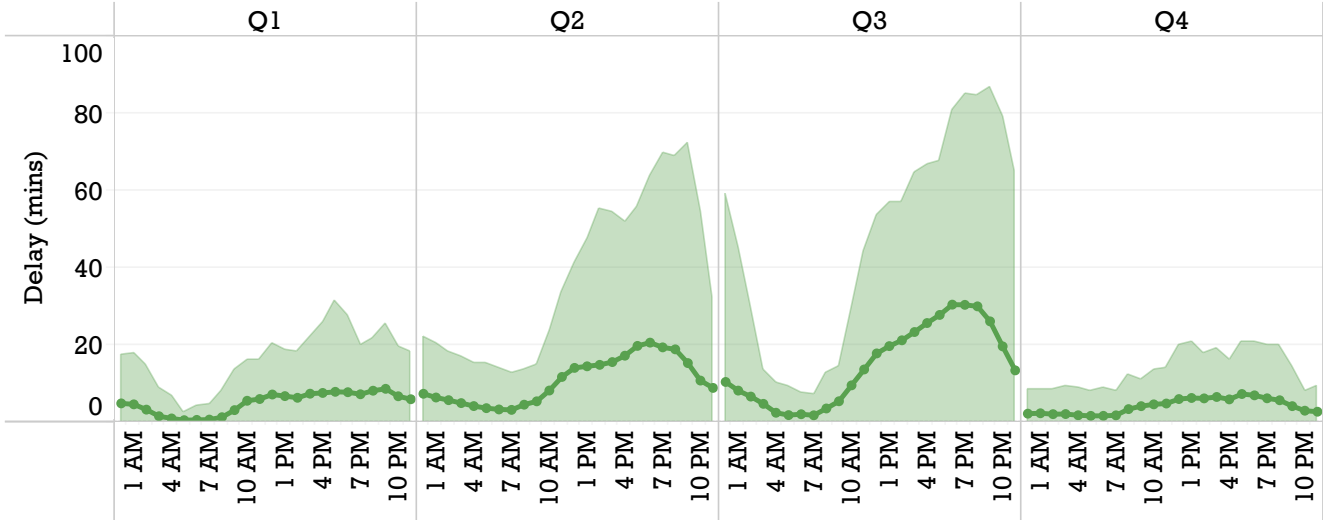
PASSENGER VEHICLE DELAYS TO U.S.

The following graphs show the average and 95th percentile passenger vehicle delays to the U.S. (1) by month from 2019 - 2022; and (2) by hour of the day during 2022 per quarter.

Peace Bridge

Lewiston-Queenston Bridge


Rainbow Bridge
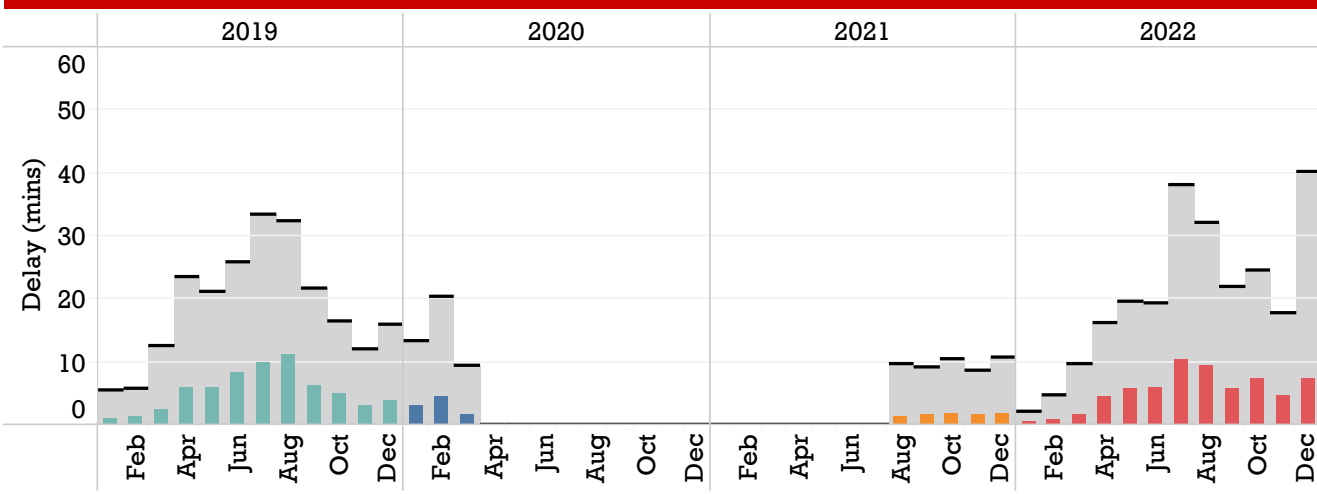
Legend: ■ 2019 ■ 2020 ■ 2021 ■ 2022

Peace Bridge - 2022
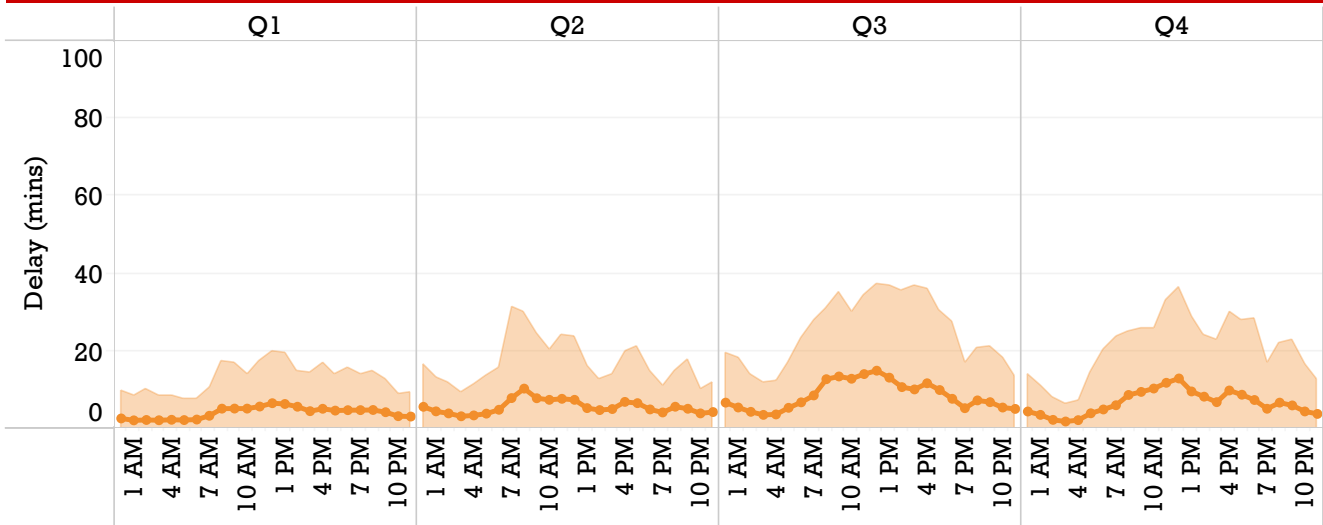
Lewiston-Queenston Bridge - 2022
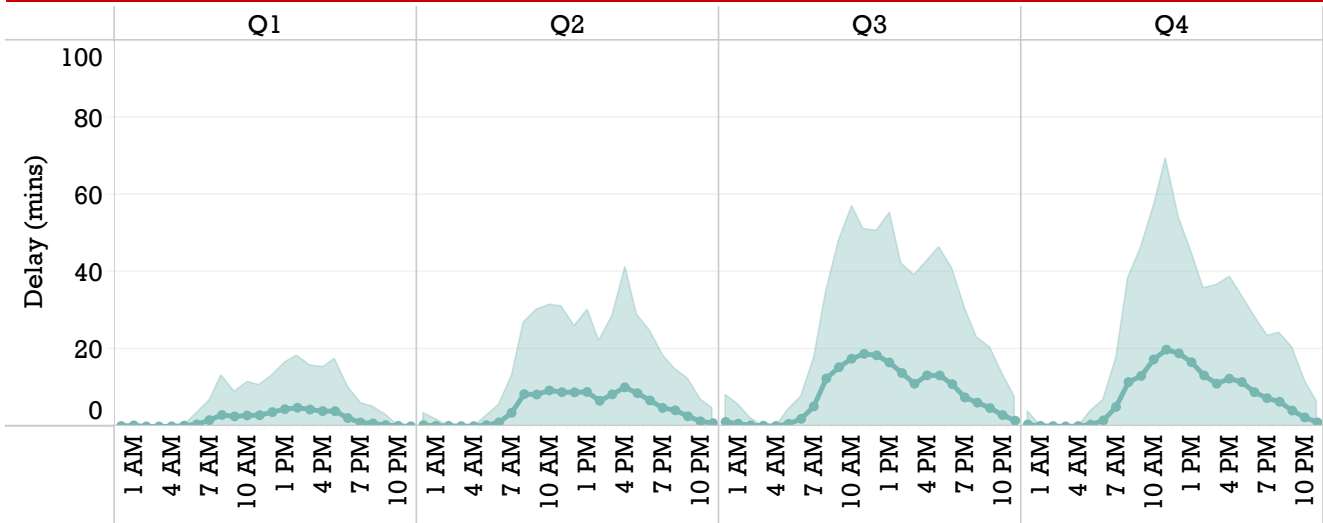
Rainbow Bridge - 2022
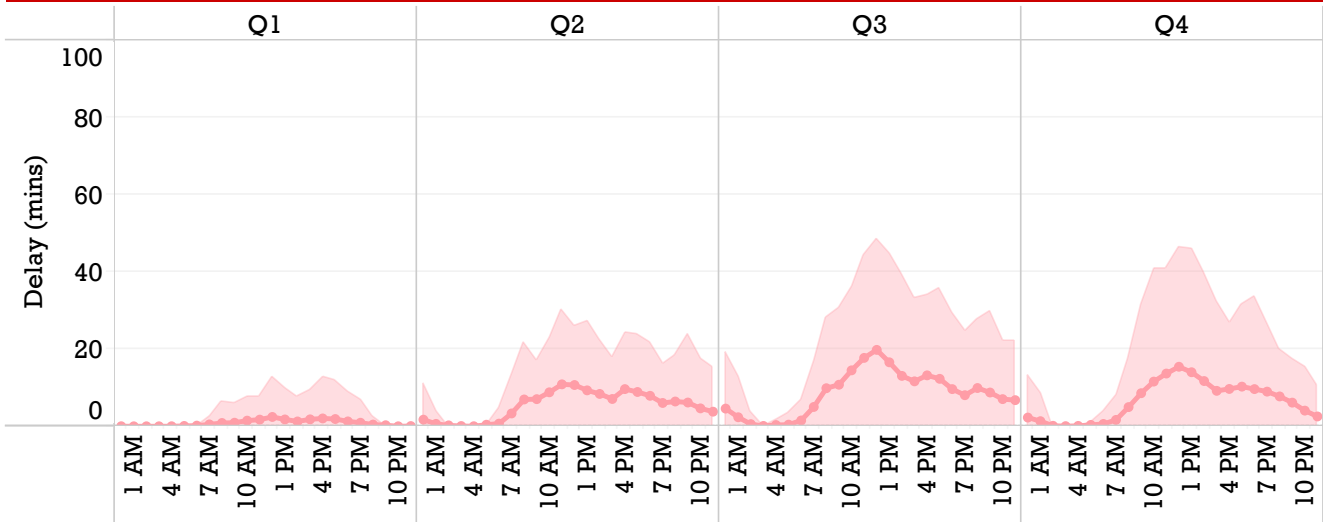
Average Delay

95th Percentile Delay

TRUCK DELAYS TO CANADA

The following graphs show the average and 95th percentile truck delays to Canada (1) by month from 2019 - 2022; and (2) by hour of the day during 2022 per quarter.
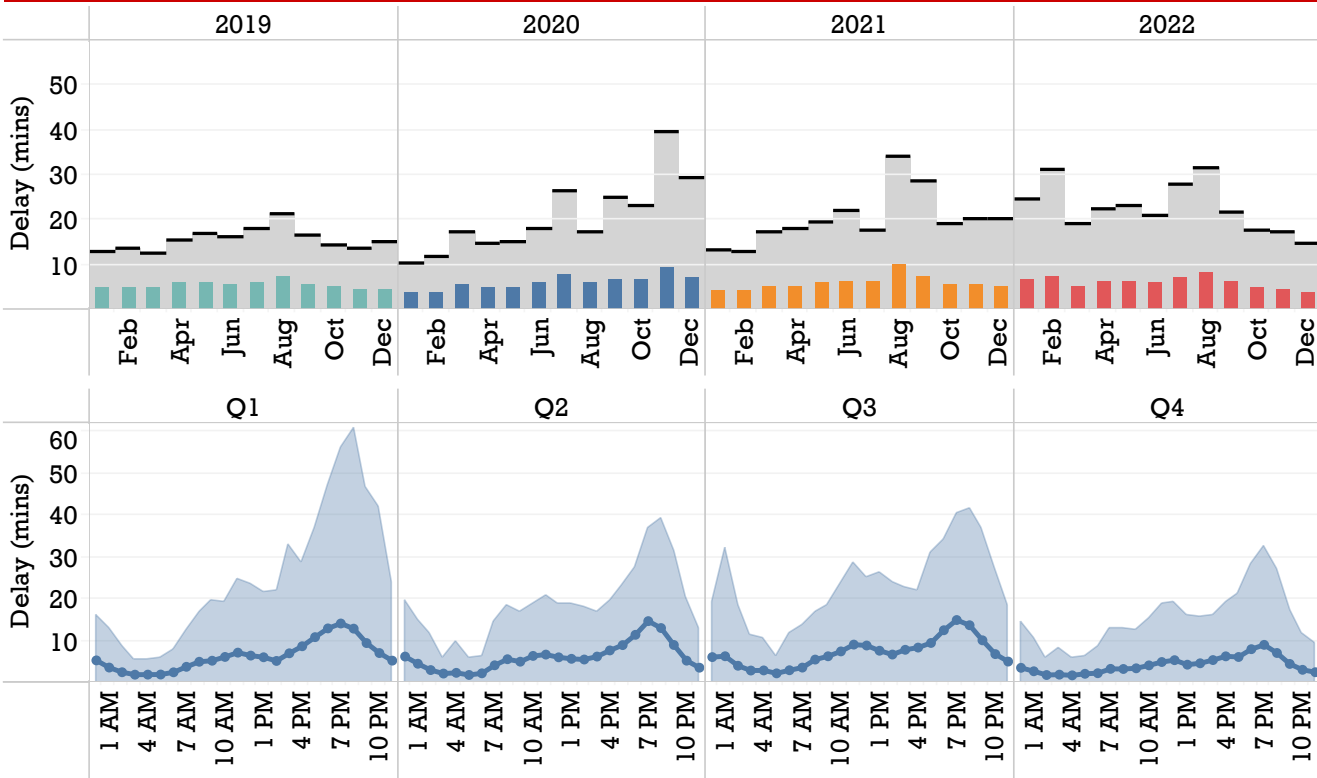
Peace Bridge

Lewiston-Queenston

TRUCK DELAYS TO U.S.

The following graphs show the average and 95th percentile truck delays to U.S. (1) by month from 2019 - 2022; and (2) by hour of the day during 2022 per quarter.

Peace Bridge
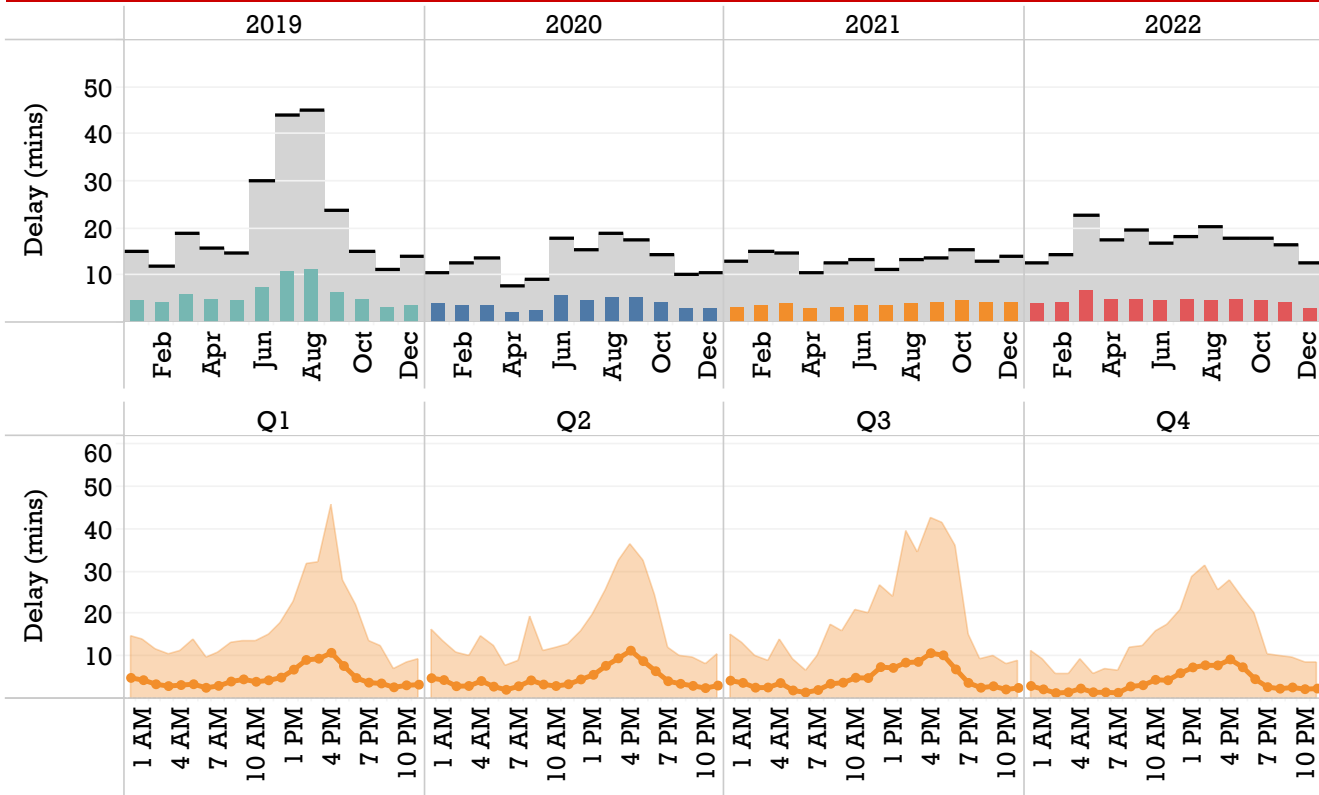
Lewiston-Queenston Bridge
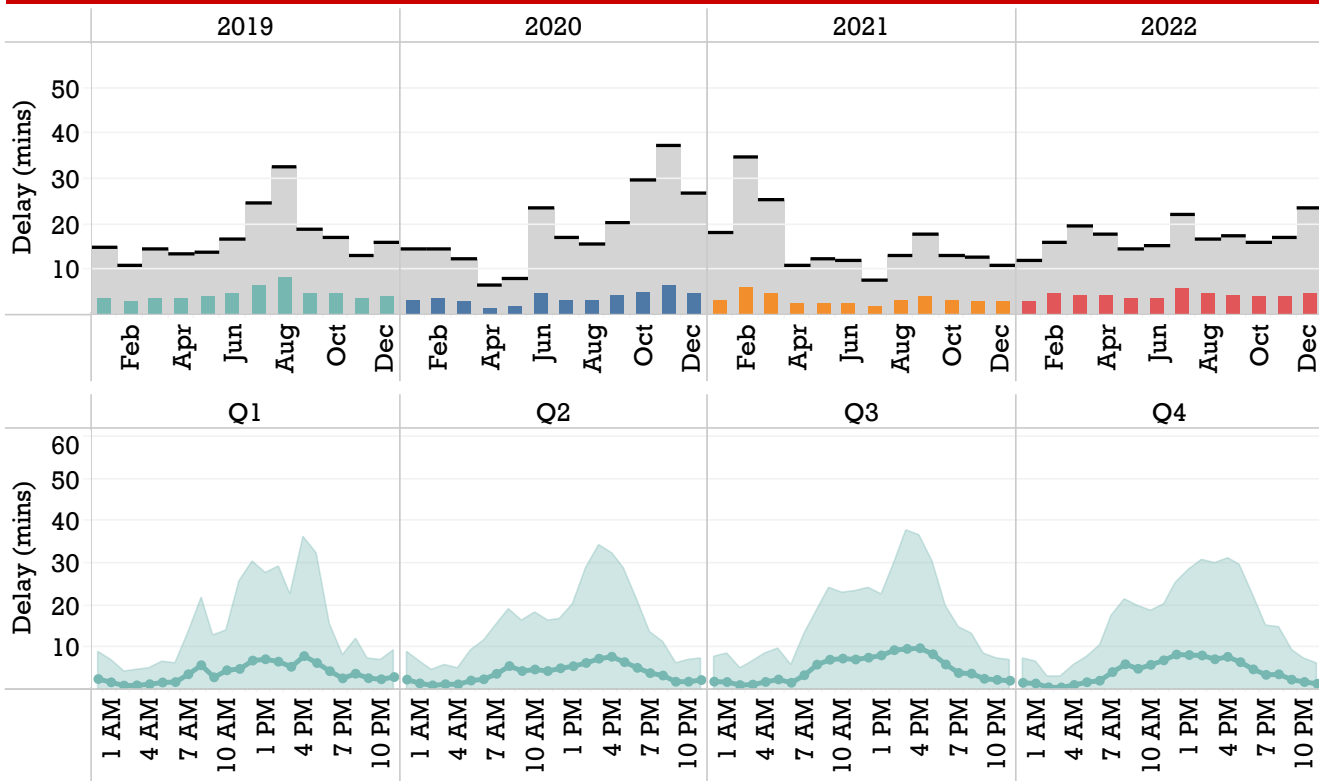
SIMULTANEOUS DELAYS

The graphs below show the percentage of time during 2022 when there was **simultaneous delays** (crossing times greater than 10 minutes) into Canada and into the U.S.

For passenger vehicles, the graphs show how often there were delays at one or two bridges or all three bridges at the same time. For trucks, the graphs show how often there were delays at one bridge or both bridges, as the Rainbow Bridge does not service commercial vehicle traffic.
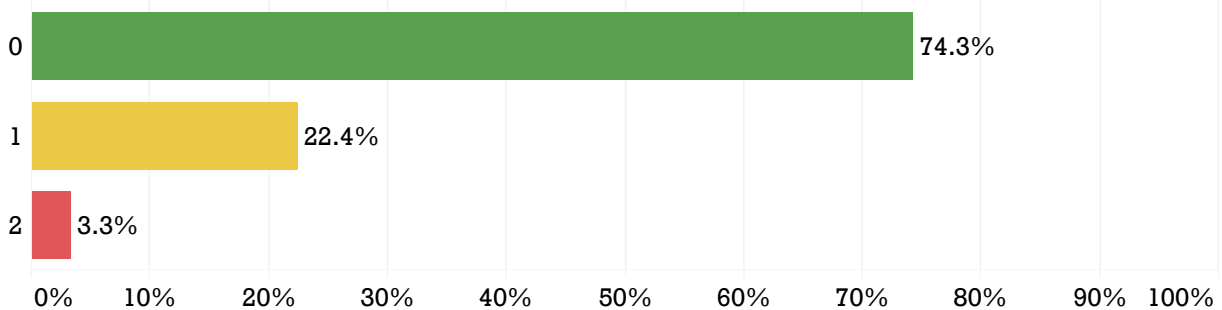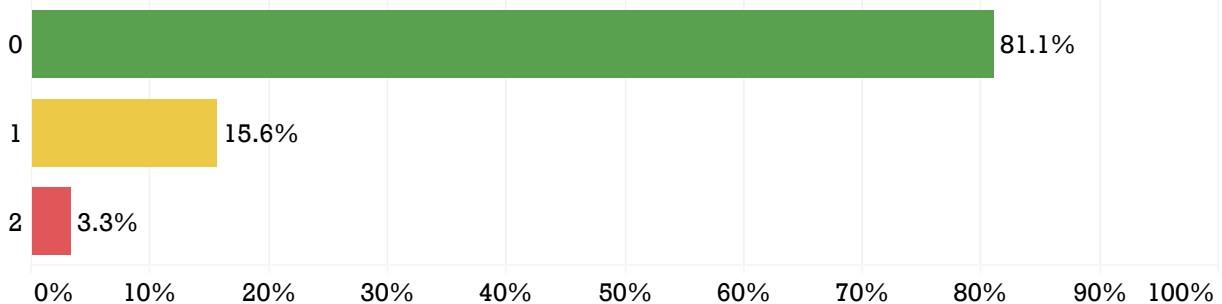
Simultaneous Car Delay to Canada

Bridges	Percentage
0	57.5%
1 & 2	37.1%
3	5.4%

Simultaneous Car Delay to the U.S.

Bridges	Percentage
0	64.6%
1 & 2	30.5%
3	4.9%
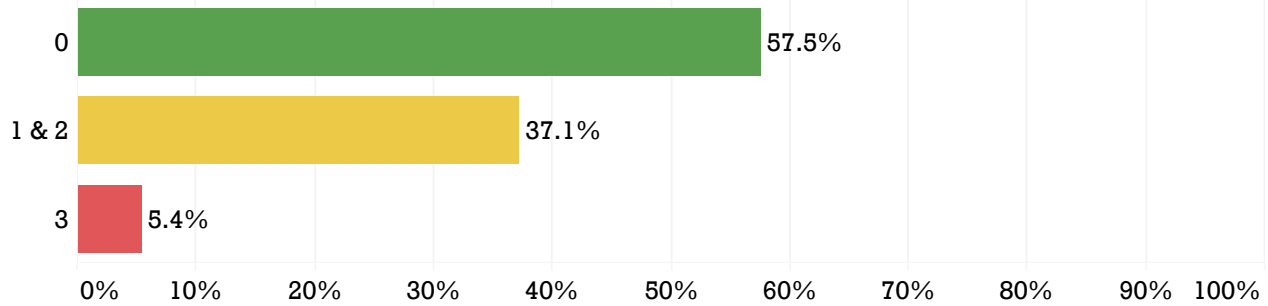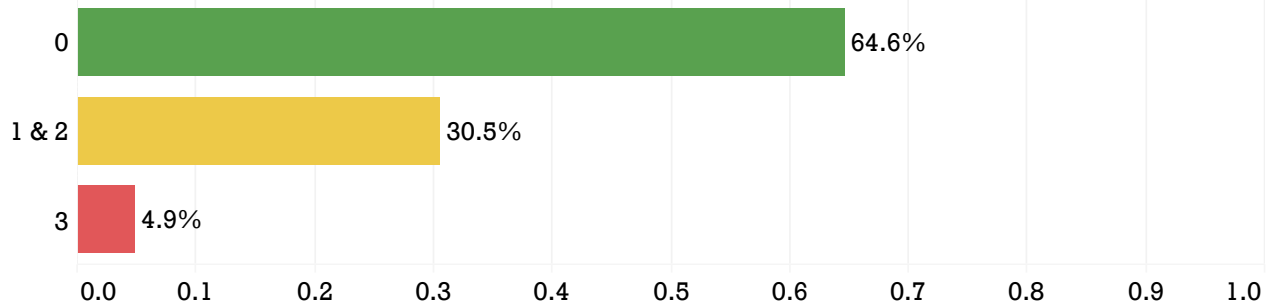
Simultaneous Truck Delay to Canada

Bridges	Percentage
0	74.3%
1	22.4%
2	3.3%

Simultaneous Truck Delay to the U.S.

Bridges	Percentage
0	81.1%
1	15.6%
2	3.3%

SYSTEMS RELIABILITY

ITS Systems and Equipment

Crossroads: NITTEC's Advanced Traffic Management System (ATMS)

Website: www.nittec.org and www.nittec.ca

CCTV: Traffic cameras in the region

DMS: All overhead and permanent roadside message signs in the region

**Flashing Signs:** All static signs with flashing beacons

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

Equipment Inventory

The table below shows the total number of ITS elements tracked for system reliability. These elements are owned by a variety of organizations, including the New York State Department of Transportation (NYSDOT), New York State Thruway Authority (NYSTA), Niagara Falls Bridge Commission (NFBC), and Buffalo and Fort Erie Public Bridge Authority (PBA). The PBA and NFBC have additional ITS elements, but only those tracked by NITTEC are listed here.
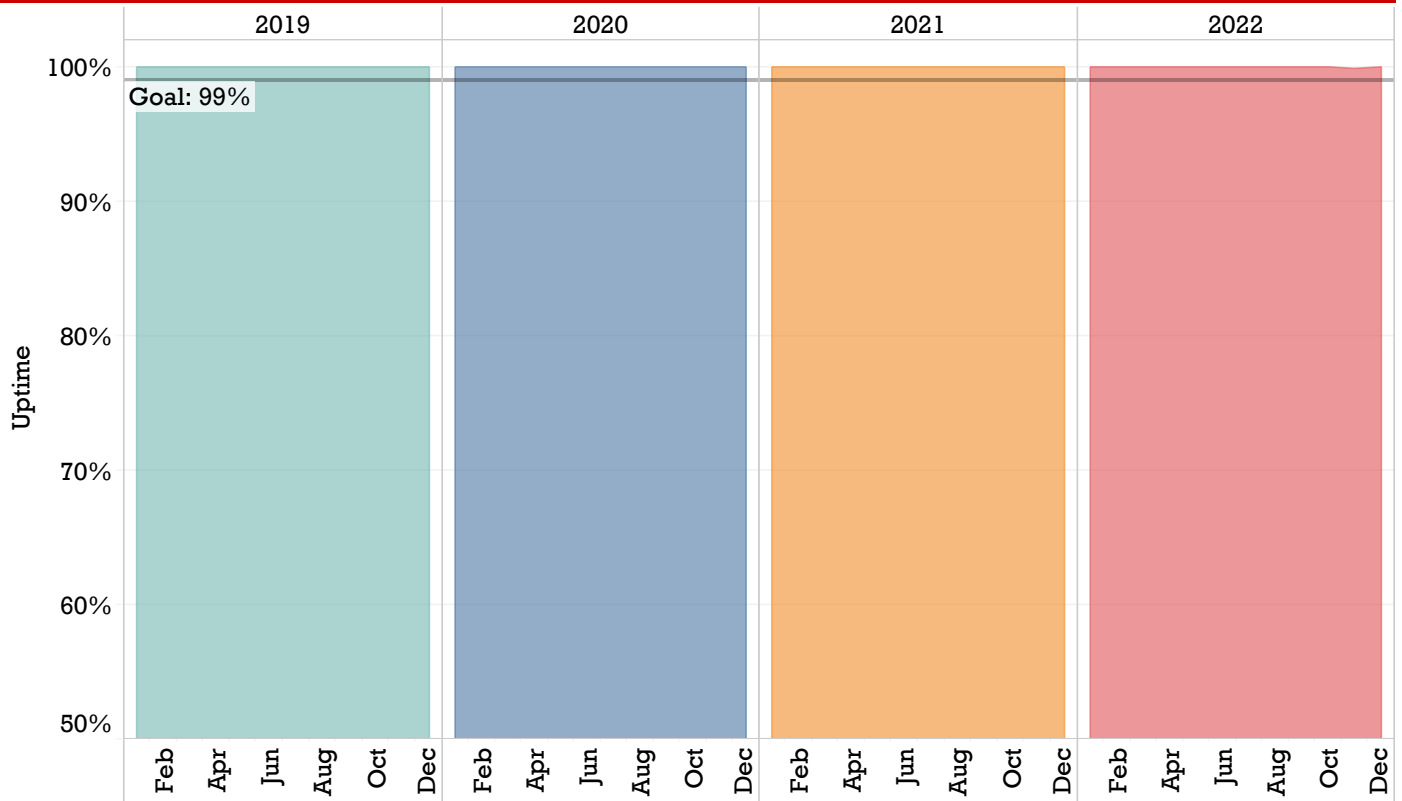
Organization	CCTV	DMS	Flashing Signs
NYSDOT	76	15	10
NYSTA	62	25	2
NFBC	4	0	0
PBA	3	0	0
Grand Total	145	40	12

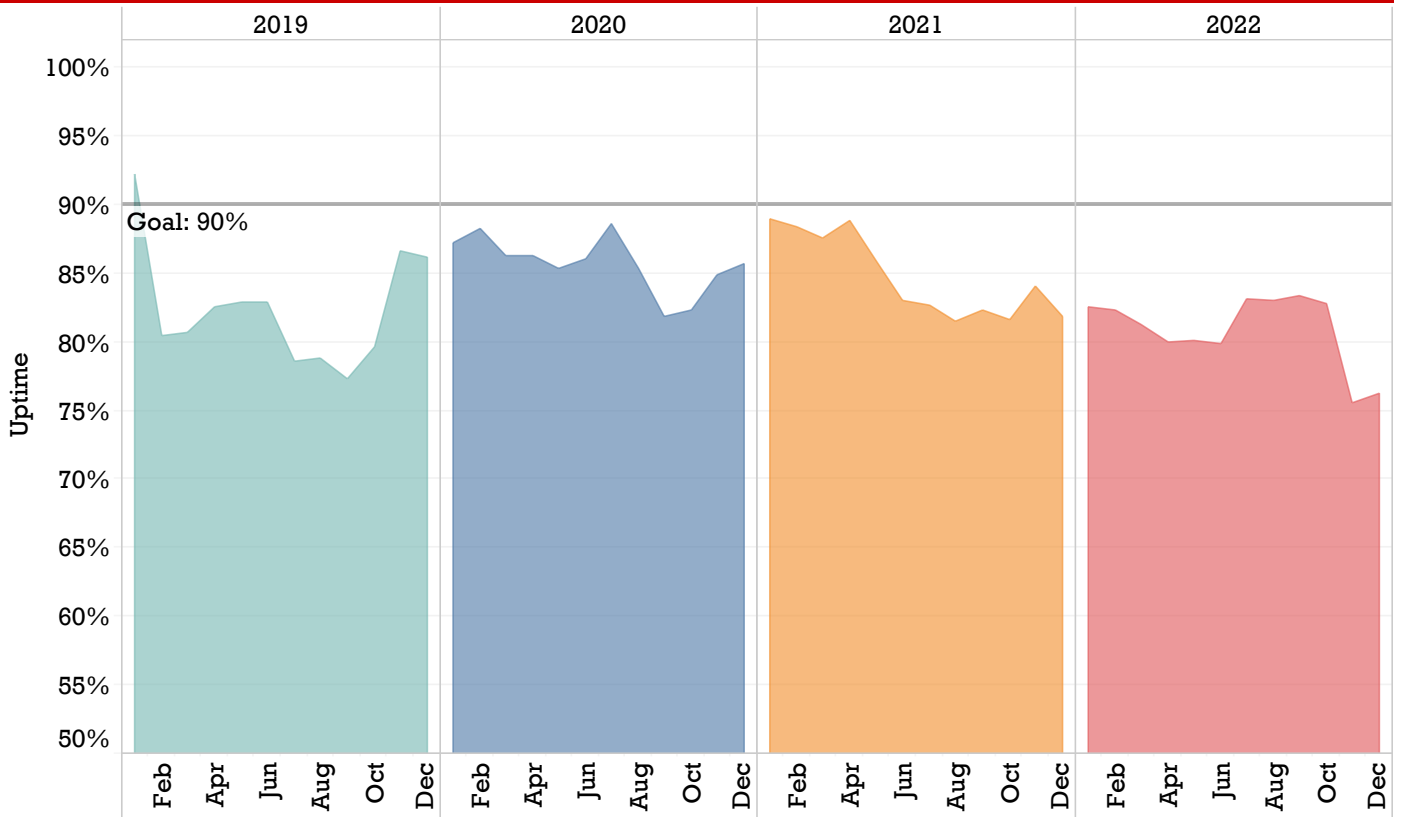## Equipment Activity

|60|
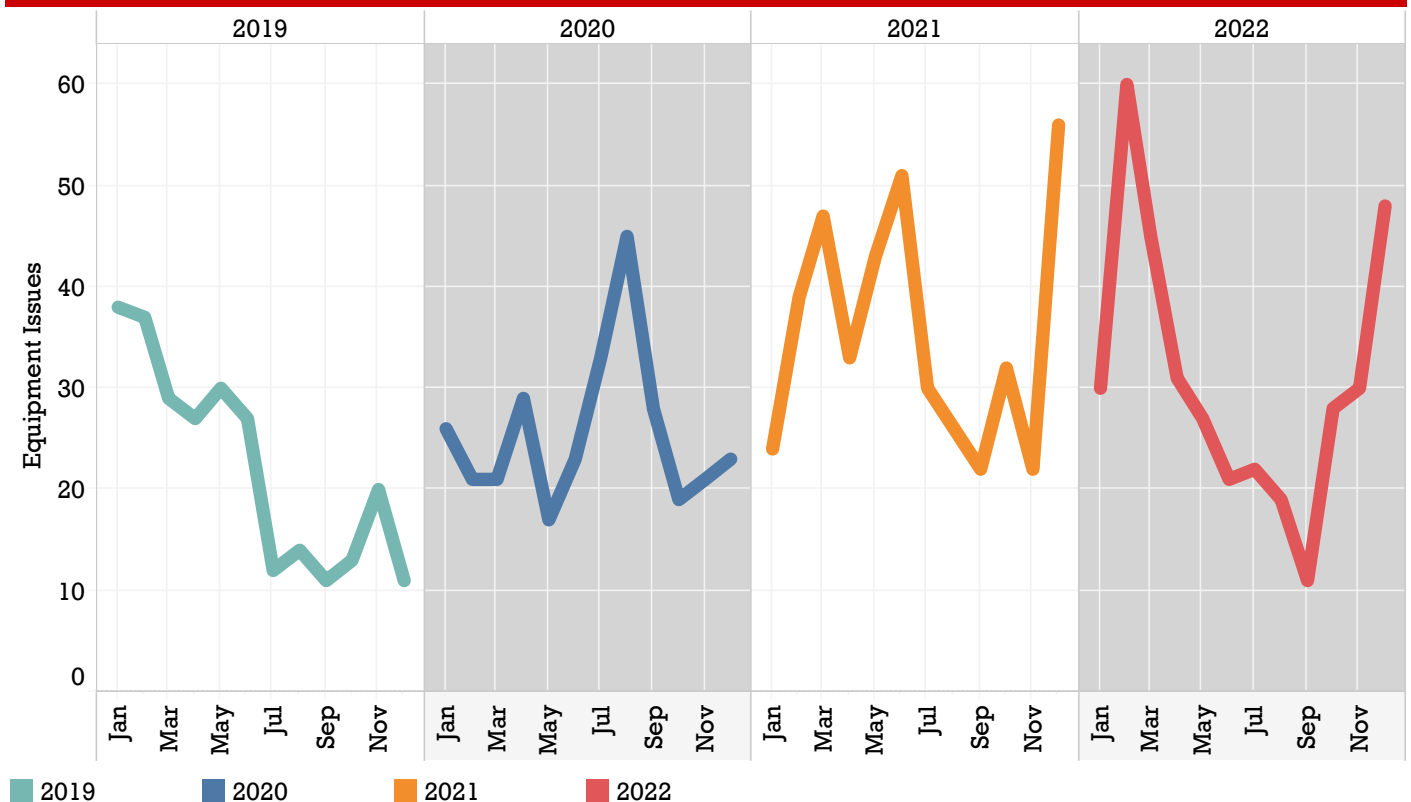
NITTEC SYSTEMS UPTIME

Crossroads

Website
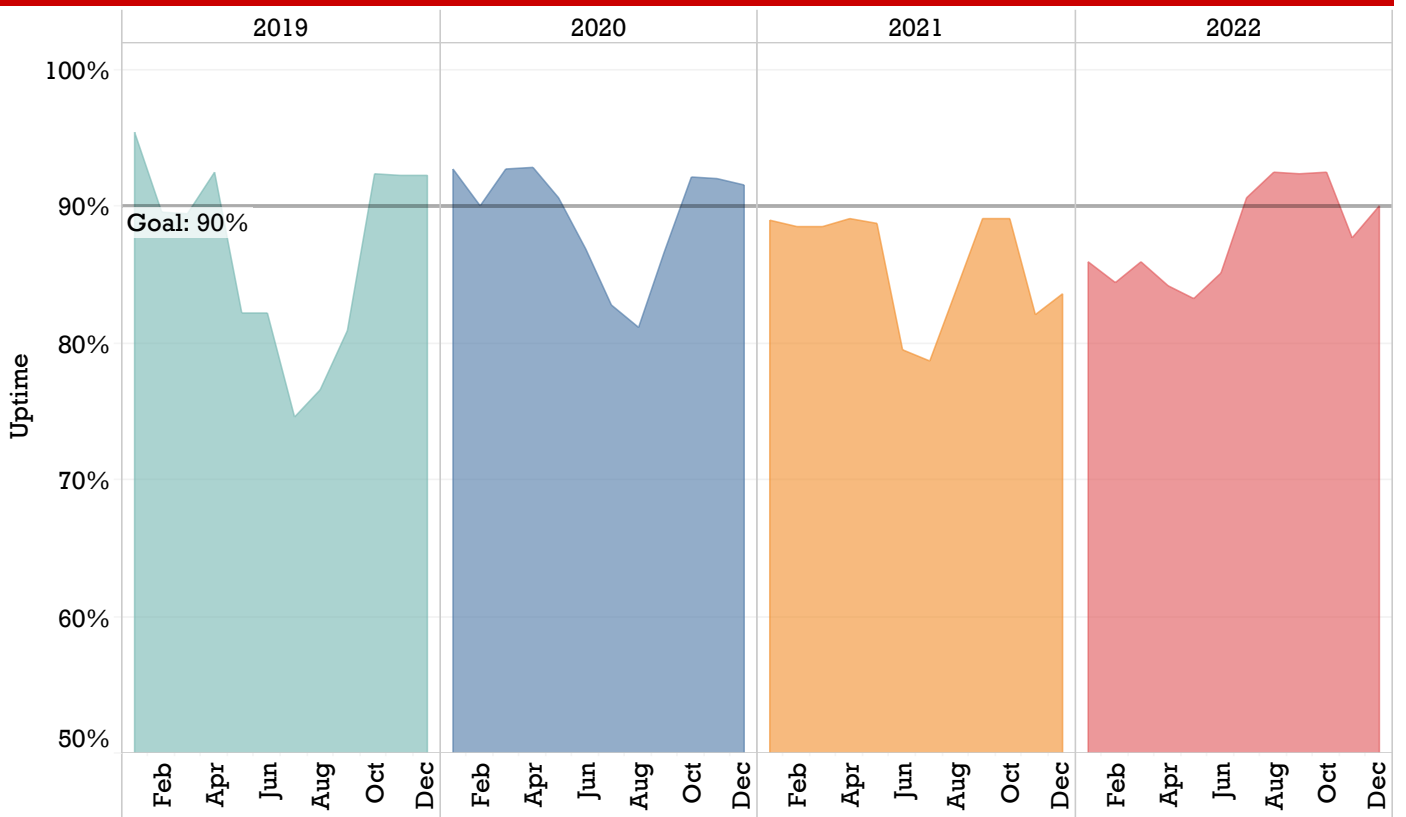
FIELD EQUIPMENT UPTIME

CCTV

DMS

Legend: 2019, 2020, 2021, 2022

Niagara International Transportation Technology Coalition

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www.nittec.ca