



Ontario Vehicle Innovation Network

Ontario Smart Mobility Readiness Forum



Ontario Vehicle Innovation Network (OVIN)

QEW Innovation Corridor

In collaboration with Ontario Ministry of Transportation and Ontario Ministry of Economic Development, Job Creation and Trade

BACKGROUND

Forecasted Population Increase

22M More to reside in Ontario by 2051

Forecasted Traffic Growth

70K Vehicles use Queen Elizabeth Parkway

Scope For Economic Enablement

67% of of Ontario's GDP comes from GTA
GDP

Forecasted Congestion Increase

144H Spent in Traffic in major Cities in ON

PROGRAM OVERVIEW

Queen
Elizabeth Way

The QEW Innovation Corridor Program

Ontario Ministry
of
Transportation

Ontario Ministry
of Economic
Development,
Job Creation and
Trade

Funded by the Province of Ontario

OVIN

Managed by OVIN

PURPOSE:

Opportunity to Pilot
Technology for SMEs

- Increase safety for workers & drivers
- Improve traffic flow
- Reduce traffic congestion
- Expose MTO to new tech

PROGRAM EXPECTATIONS

\$150,000

Max Funding per Project

7 to 9

Technology Readiness Level

INFRASTRUCTURE



ELIGIBILITY



<500

Employees



OVIN

Not engaged in an active OVIN
Project*



®

In Ontario



7 - 9

TRL

CRITERIA

*TalentEdge Projects are
Exempted

Technology Readiness Level - TRL



Prototype ready for demonstration in an appropriate operational environment



Technology completed and qualified through tests and demonstrations



Technology proven through successful deployment in an operational setting

ORIGINAL CHALLENGE STATEMENTS



WORK ZONE SAFETY

- Better manage and improve safety in designated work/construction zones.
- Solutions may include, but are not limited to, elements of real-time tracking of lane closures, detecting activities in work zone area, and providing enhanced information to motorists and potentially workers in the zone.



QUEUE WARNING

- Support the detection and warning of queues or upcoming congestion utilizing connected vehicle technologies.
- Solutions may include, but are not limited to, vehicle to infrastructure (V2I) and vehicle-to-vehicle communications (V2V), infrastructure that can communicate queue warnings to vehicles to adjust speed to minimize and/or prevent rear-end or other secondary collisions.



OPEN CALL

- Other Connected Vehicle & Smart Mobility Technologies

NEW CHALLENGE STATEMENTS

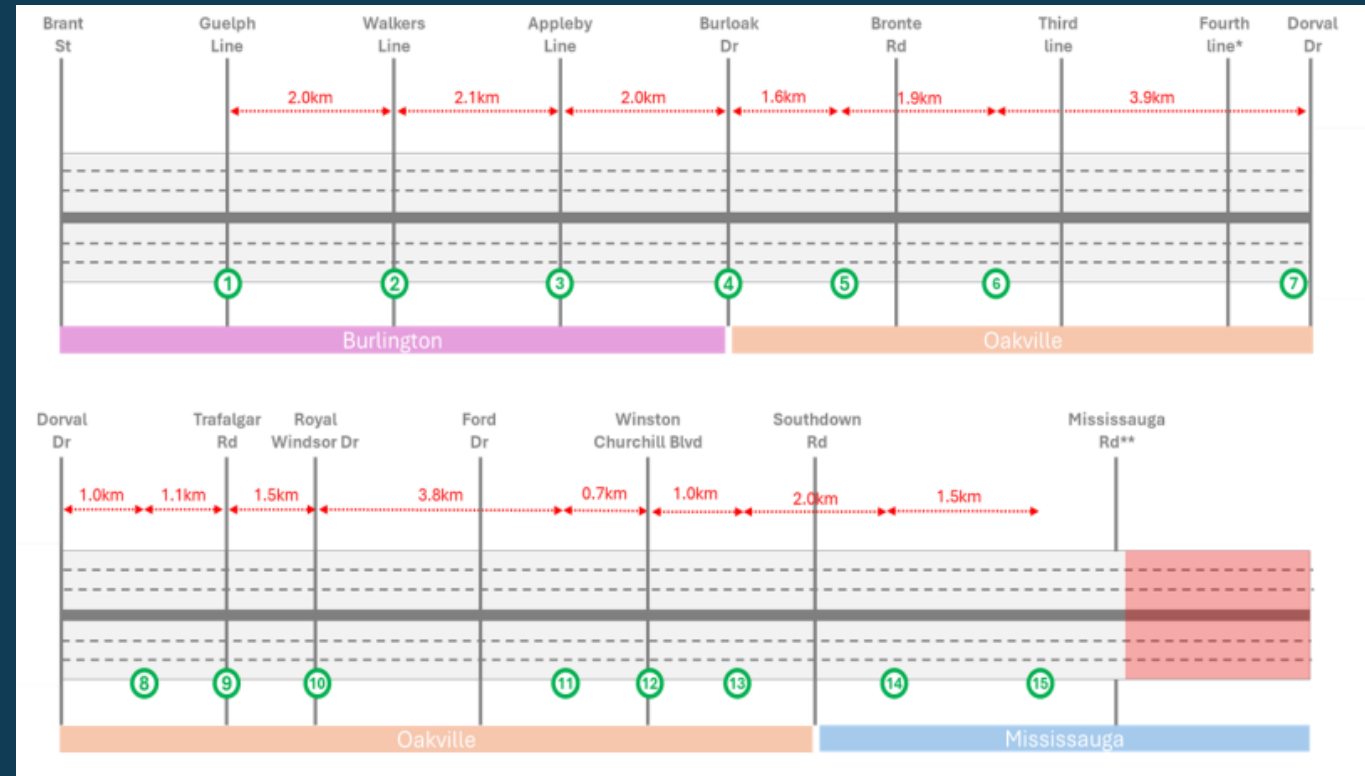
Physical RSU broadcasts information

- **Back-of-Queue Warning:** Alerts drivers to upcoming traffic queues and congestion.
- **Work zone Warning:** Notifies drivers of roadworks or lane closures ahead.
- **Asset condition monitoring:** Vehicle determines asset conditions (e.g., potholes) and broadcast this information to the traffic operations center via RSU or cloud.
- **Spot Weather Impact Warning:** Provides warnings about hazardous road conditions caused by weather.
- **Speed Warning:** Sends advisory messages and reduced speed limits based on hazardous road or weather conditions.
- **Road Hazard Warning:** Alerts drivers about upcoming road hazards such as debris.
- **In-Vehicle Traveler Information:** Shares relevant travel information like weather alerts, speed restrictions, and road closures.

NEW CHALLENGE STATEMENTS

Virtual RSU broadcasts information

- **Integration with Cloud-Based Navigation Services:** vRSUs can push real-time updates to navigation apps or in-vehicle systems, enhancing route guidance with hyper-localized data.
- **Coverage Extension in Low-Infrastructure Zones:** Provides RSU-like services in areas with limited or no physical RSU coverage.



BENEFITS

For Applicant

- Demonstrate Ontario-made technologies and solutions in a real-world environment.
- Access strategic partnerships
- Increased credibility from doing work with OVIN and MTO.
- Lead the adoption of advanced automotive and smart mobility solutions.
- Successful solutions may be implemented on other highways.

For Ontario

- Improvement of highway transportation efficiency and safety.
- Enhance Ontario's economy through job creation in the growing automotive and mobility sector.
- Part of the solution for Ontario's major traffic-issues.
- Make life easier and safer for drivers and workers alike

HOW CO-INVESTMENT WORKS?

OVIN contribution

- Reimbursement of one-half (maximum) of total project eligible costs, up to \$150,000.

Matching Requirement

- One-half (minimum) of total eligible project costs.
- Contribution match must be in the form of private sector contributions and be unencumbered from other government grant sources.

Funding Recipient

- OVIN funds flow only to the Applicant.

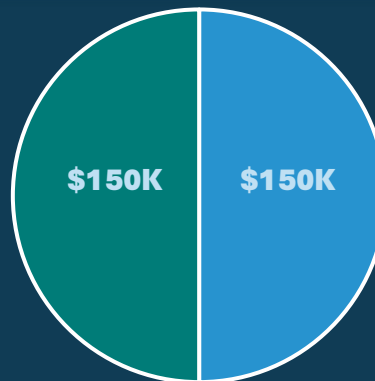
Total Project Cost: \$200,000

1:1 Match



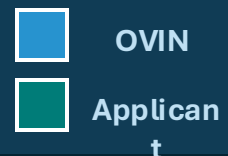
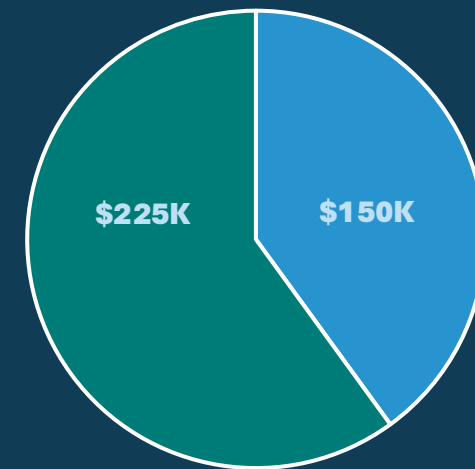
Total Project Cost: \$300,000

1:1 Match & Maximum Funding



Total Project Cost: \$375,000

3:2 Match & Maximum Funding



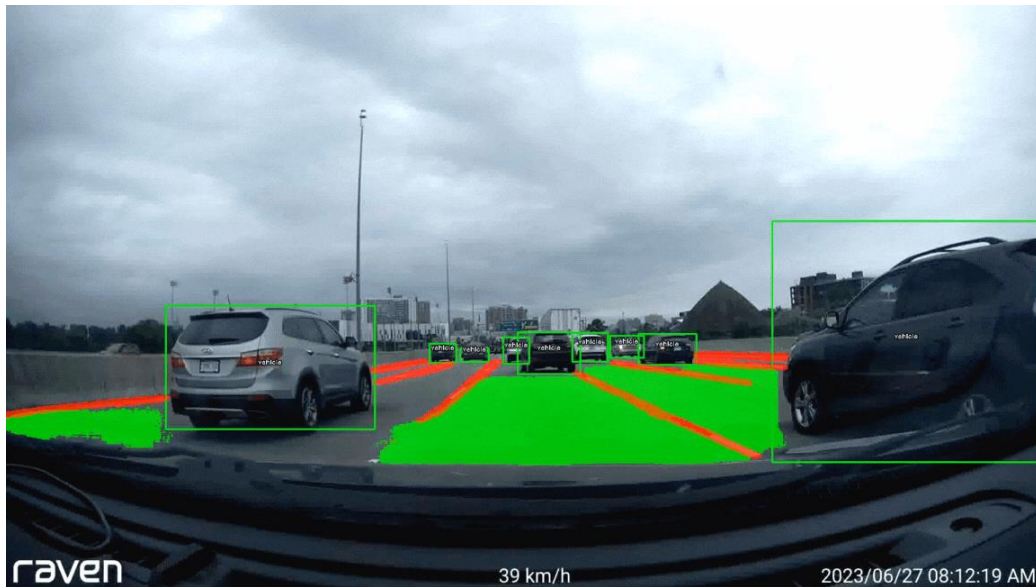
Raven Connected

- Fleet device with front and back facing cameras
- For vehicle tracking and driver monitoring
- Real time critical events detection
- Vehicle monitoring and asset tracking



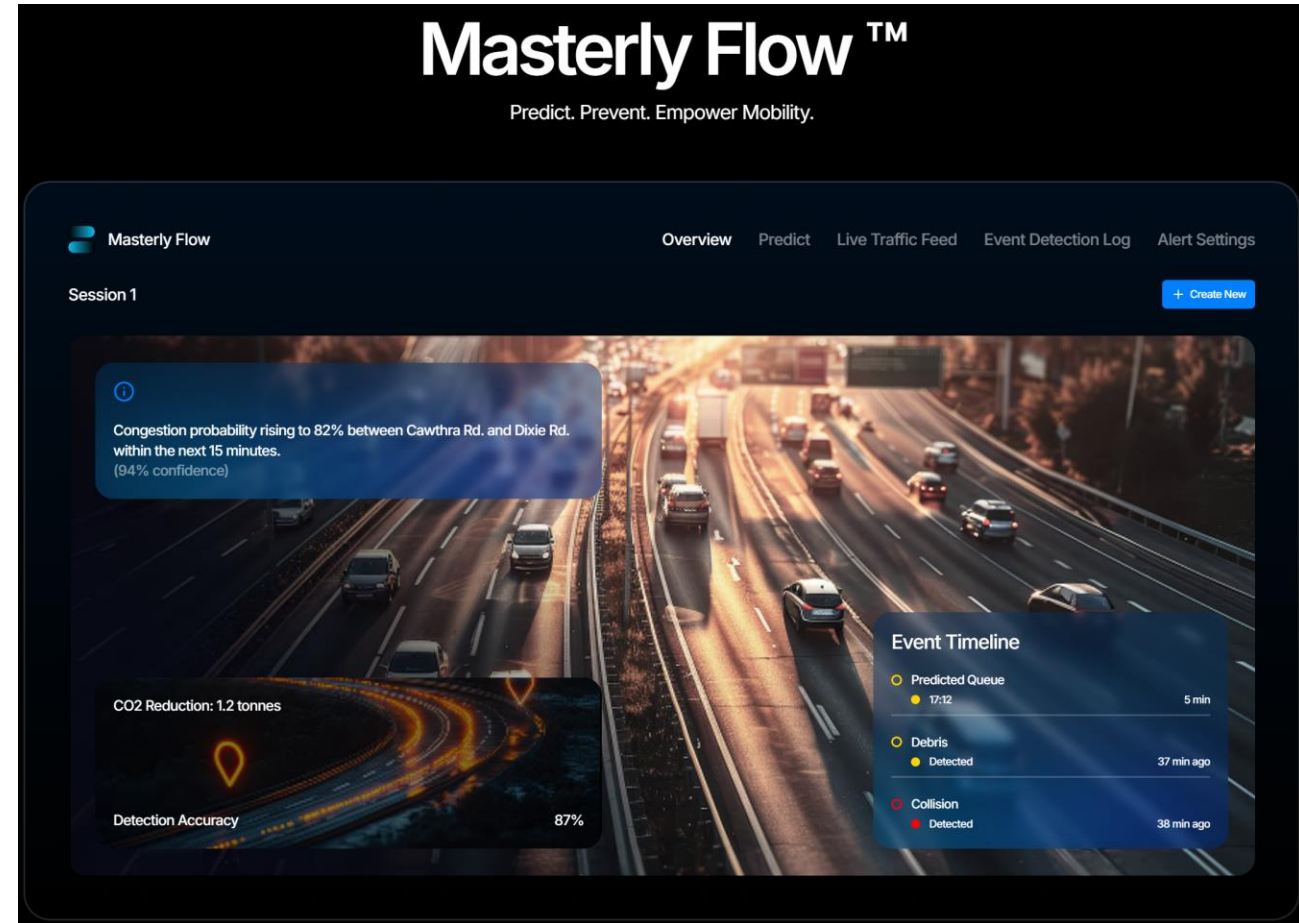
Raven Connected

- Front facing camera can be used to detect and classify traffic
- It can also identify pilons and work zones
- Detect if workers are present
- Create a map of locations of all work zones
- AI chatbot to help you identify specific parameters in work zones



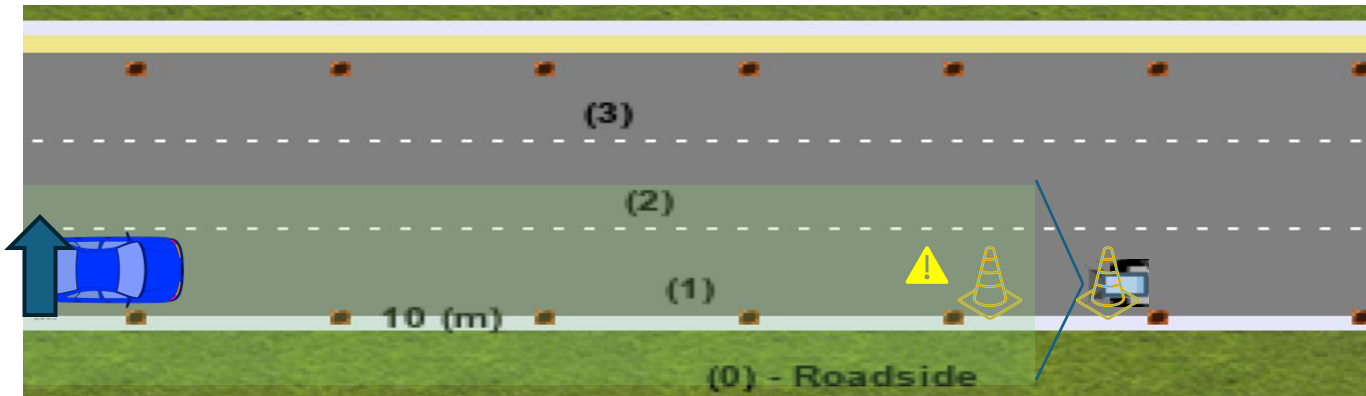
Masterly

- Masterly has a wide range of AI products
- Masterly Flow focuses on analyzing traffic data
- AI-powered system
 - Historical traffic camera data
 - Bluetooth travel time analytics
 - Traffic incident patterns
- Delivers
 - real-time congestion forecasts
 - queue warnings
 - infrastructure planning insights.
- The project is to train their model on QEW data, to get Masterly Flow from TRL 7 to 9.
- Platform has the ability to give real-time detections and alerts, but this project is limited to historical.



A.U.G. Signals

- **Technology:** ARGUS – Road Safety Monitoring Solution
 - Long-range, portable radar capable of detecting oncoming traffic
 - System capable of providing alerts to drivers, construction workers, or first responders
 - Two deployments of their system on the highway
 - Collect data from side of the road
 - In work zone for live testing in traffic



Infrastructure Enabling Partners

- Infrastructure Enabling Partners
 - Kapsch Trafficom
 - Omnitrust
 - Compass IoT
 - Fortran
- Supporting Services Partners
 - Ramudden
- Partnership Pilots





Thank you!

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économique pour le Sud de l'Ontario

Canada

OCI
Where Next Happens

OVIN
AUTONOMOUS CONNECTED ELECTRIC

Ontario

OVIN TECHNOLOGY PILOT ZONES

JUNE 22, 2026

ONTARIO AS CANADA'S PILOTING HUB

- Canada's automotive & mobility sector is facing unprecedented change — global competition, shifting trade conditions, and rapid tech adoption cycles.
- TPZ is demonstrating how strategic piloting environments create market-ready companies, anchor IP, and drive domestic adoption.

HOW THE PROGRAM WORKS

- \$100,000 in support available.
- Program considers commercial-ready or commercially available technologies at Technology Readiness Levels (TRLs) 7-9.
- Partners provide infrastructure for Ontario-based SMEs to pilot technology in real-world environments.

PROGRAM OBJECTIVES



PILOTING IN REAL-WORLD ENVIRONMENTS

City of Toronto, Toronto Transit Commission (TTC), Blue Water Bridge, Windsor-Detroit Tunnel, and American Roads.



FUNDING CANADIAN AUTOMOBILITY SOLUTIONS

Non-dilutive funding to sustain growth and escape the innovation valley of death



SUPPORT COMMERCIALIZATION & MARKET EXPANSION

Building buyer confidence and opening new domestic and export markets through validated tech.

KEY CHALLENGES FOR CANADIAN INNOVATORS



VALIDATION GAP

Investors & buyers demand proof beyond lab tests.



HIGH COST OF EARLY TECH DEPLOYMENTS

Pilots require a lot of money upfront and take a long time to execute.



FRAGMENTED STAKEHOLDER LANDSCAPE

Difficulty in navigating multiple players with different rules and regulations, which adds time, cost, and risk to getting a pilot off the ground.



LOW DOMESTIC DEMAND & GEOECONOMIC PRESSURES

Lack of strong domestic demand combined with rising cross-border trade barriers and global economic tensions is constraining growth and competitiveness.

TPZ IMPACT TO DATE



23

Active Projects



23 M

Funding
Committed



5

Active Partners:
City of Toronto, TTC, Blue Water
Bridge, Windsor-Detroit Tunnel,
Toronto Port Authority.

IMPACT HIGHLIGHTS

3 TPZ-supported companies have collectively secured over **\$1.5 million** in municipal and government contracts as a direct result of their pilots.





Stouffville, Ontario

HYGN's ongoing pilot with a federal fleet at the **Blue Water Bridge** in Sarnia. HYGN manufactures hydrogen hybrid conversion kits for gas or diesel engines using a proprietary electrolyzer, cutting fuel use by up to 20% and emissions by up to 75%.

The credibility of working with a federal client has significantly boosted market confidence in HYGN's clean transportation solution. As a result, the company is now engaged in advanced sales conversations with the **City of Sault Ste. Marie** and other municipalities.

The pilot has sparked new pilot opportunities, even as data collection is still underway. Municipal buyers have been impressed that HYGN was selected by a national-level fleet—enhancing the company's market position.



“EVEN BEFORE COMPLETION, THE PILOT HAS POSITIONED HYGN AS A CREDIBLE, TRUSTED SOLUTION PROVIDER—AND IS HELPING ACCELERATE MARKET ADOPTION OF OUR HYDROGEN RETROFIT SYSTEMS.”

- THOMAS ROSS, CEO, HYGN



Hamilton, Ontario

Canadian deep tech company engineering the infrastructure layer that will define how cities operate in the 21st century. Founded in Hamilton, Ontario by three McMaster University graduates, Livesens is building the urban nervous system: a continuous, real time intelligence platform that transforms every transit vehicle into a city scale sensor.

Livesens will deploy 50+ Remora sensors across the TTC fleet, with room to scale further based on vehicle availability. Units mount on buses, streetcars, and Wheel Trans vehicles to capture the full operational diversity of Toronto's transit network.





Ottawa, Ontario

Piloting an advanced traffic monitoring and analysis system that combines RGB camera technology, edge artificial intelligence (AI), and cloud-based analytics to revolutionize intersection management.

This pilot project utilizes an advanced traffic monitoring system that combines RGB cameras, edge AI, and cloud analytics to improve urban intersection management. High-resolution cameras capture detailed video, which is processed in real-time by edge AI to detect and classify objects, ensuring privacy through anonymization and minimizing data transmission.

The resulting data is then aggregated and analyzed in the cloud to identify safety risks, traffic flow inefficiencies, and provide actionable insights for city planners through comprehensive dashboards and reports.

This system aims to reduce accidents, optimize traffic flow, and provide data-driven solutions for infrastructure and policy improvements.



PARTNERS' PERSPECTIVES



KAREN RICHARDS
CHIEF OPERATING OFFICER

“The TPZ program has really highlighted the innovation that exist in southwestern Ontario. We have several pilots in various stages and with each one; we are learning a lot and see the tremendous value they bring. FBCL is eager to get the results on a few completed projects since they can drive cleaner solutions for our vehicles, to get more readily accessible and predictive information on cars and commercial trucks coming to the Blue Water Bridge, and the drone technology can assist us with a better understanding of bridge conditions and reduce risk by not having staff to get hard-to-reach areas.”



TAL CZUDNER
CHIEF EXECUTIVE OFFICER
WINDSOR-DETROIT TUNNEL LTD.

“The Windsor Detroit Tunnel Corporation is pleased to be working with the OVIN Team and continuing to source cutting edge companies that assist in the safe and secure passage of people through the busiest passenger vehicle crossing in Canada.”



SUNNY PETRUIJKIC
SENIOR PROJECT MANAGER, STRATEGIC INITIATIVES
CITY OF TORONTO

“The program is an essential tool in solving Toronto traffic congestion and network management issues, in our rapidly growing City. The learnings from TPZ Pilots will help inform both traffic/network management and policy decisions, road safety programs, and enhance accessibility, while creating jobs and supporting the local economy.”

OVIN TPZ OUTCOMES

OUTCOME	ECONOMIC MEASURES
DE-RISK INNOVATION	• Private capital raised post-pilot (signal of investor confidence) • Improved adoption of new and emerging technologies • New Intellectual Property (IP) created and licensed by SMEs
DRIVE DOMESTIC DEMAND	• Increased municipal and provincial procurement linked to TPZ technologies • Jobs created in Ontario through pilot-enabled commercialization
STRENGTHEN GLOBAL TRADE RESILIENCE	• Increased export revenue growth of pilot-validated technologies • Diversification of export market to reduce supply-chain risks
STRENGTHEN PUBLIC-PRIVATE INNOVATION NETWORKS	• Increased number of SME–municipality–industry partnerships formalized • Shared piloting infrastructure or data assets created and used by multiple SMEs • Long-term contracts or collaborations signed post-pilot

WHY THIS MATTERS NOW



GLOBAL LEADERSHIP

Ontario becomes a strategic sandbox for piloting of automotive and mobility technology solutions even in global instability.



INNOVATION FLYWHEEL

More pilots → more data → more confidence → more investment for SMEs.



CLEANER AND MORE EFFICIENT TRANSPORTATION SYSTEM

Improving traffic flow and ensuring the movement of people and goods is safer, cleaner, and more efficient.



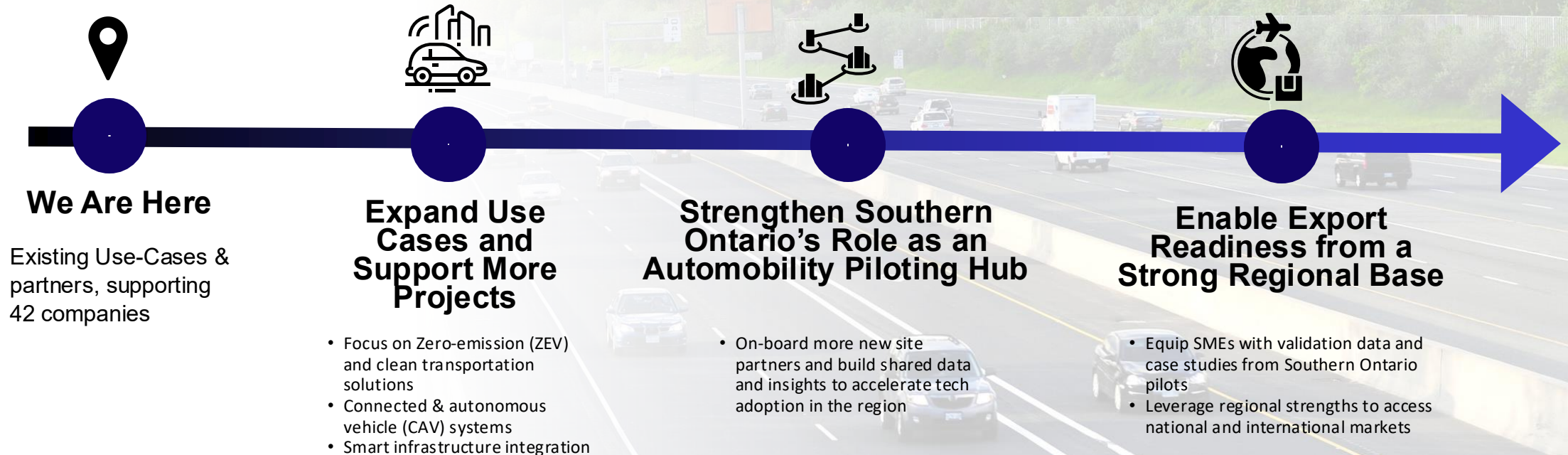
BUSINESS AND TALENT ATTRACTION

High-impact pilot zones attract top talent, global businesses, and new investment.



EXPANDING THE VISION

Advancing the Technology Pilot Zones' role as Ontario's premier platform for piloting and commercializing automobility technologies.



TOGETHER, BUILDING CANADA'S INNOVATION ADVANTAGE

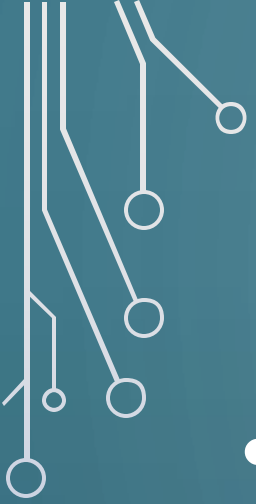
OVIN TPZ proves that when Canadian innovators have the right environment, they compete and win on the global stage.



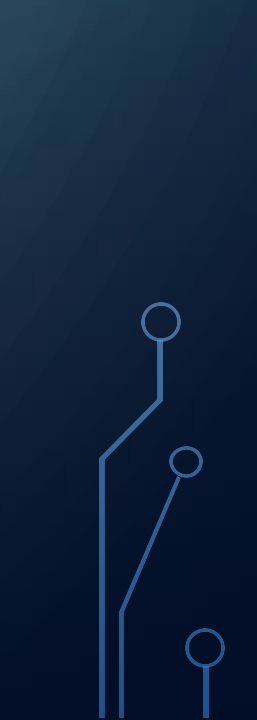
TRANSPORTATION SERVICES: OVIN TECHNOLOGY PILOT ZONE (TPZ) PROJECTS

ONTARIO SMART MOBILITY READINESS FORUM (OSMRF)

JUNE 22, 2026



AGENDA

- Beginnings of City of Toronto's OVIN TPZ
 - Formal Processes
 - Legal, Procurement, Intakes, External Reviews
 - Current TPZ Projects
 - Growing Pains and Lessons Learned
- 
- 
- 

2019 LEGACY TRANSPORTATION INNOVATION ZONE

- Launched in 2019
- The City of Toronto collaborated with the Exhibition Place to test pilot various technologies:
 - Automated sidewalk winter maintenance
 - Micro utility devices
 - Curbside vehicle detection
 - Automated enforcement challenge



STRATEGIC PARTNERSHIP WITH OVIN & CITY



- Strategic Partnership announced on May 27, 2024
- Strategic Alliance Agreement effective Jan 2025, for a 2-year term



- OVIN TPZ Pilots for City's real-world street environment

CITY'S OVIN TPZ FORMAL PROCESS



NOTE: GMAP does not lead to or guarantee future procurement.

EXTERNAL REVIEWS RESEARCH PROJECTS

- Consultant services from post-secondary institutions
- Leading engineers, researchers, and experts
- Special partnerships and research projects



“SCHEDULE A” PROCUREMENT

- Procurement up to \$100k for Transportation Research Initiatives or Projects for professional expertise
 - [Toronto Municipal Code Ch71-23, Financial Control, Nov 2025](#)
- Non-profits such as post-secondary educational institutions, governmental agencies and/or non-governmental professional organizations

CURRENT OVIN TPZ PROJECTS 2025-2026

ROUND #1, STARTED FALL 2025

geomate

SMATS

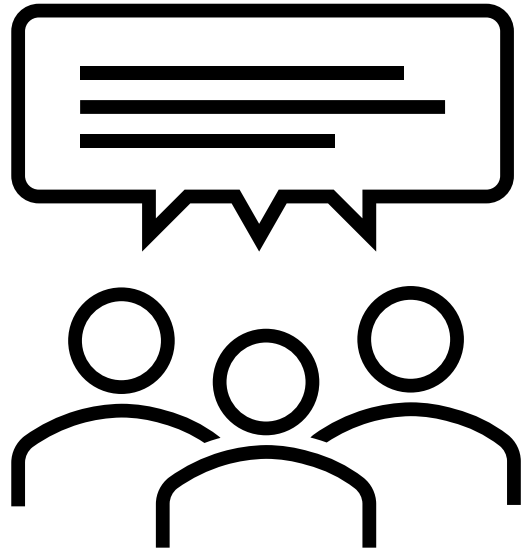
TRANSNOMIS

TEMPO
ANALYTICS



ROUND #2,
STARTED
SPRING 2026





CHALLENGES AND LESSONS LEARNED: KNOWLEDGE AND EXPERTISE

- SMEs can be inexperienced and unfamiliar with municipal government processes or ITS/Traffic sector
- Technical details and technology can be beyond the expertise of City staff
- External experts and advisors could be beneficial
- Greater capacity to work with OVIN RTDS, as well as Economic Development, Ministry of AI (Federal)
- Learn and share from other TPZ Site Partners

THANK YOU!

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SUPPLEMENTARY SLIDES



LOOKING FOR TECHNOLOGIES THAT SUPPORT...

City of Toronto's Congestion Management Plan, April 2026

Our 5-Pillar Plan

Five things the City is doing to keep Toronto moving.



Pillar 1

Reduce the Impact
of Construction



Pillar 2

Expand Traffic
Management



Pillar 3

Improve Surface
Transit



Pillar 4

Use AI & Smart
Technology

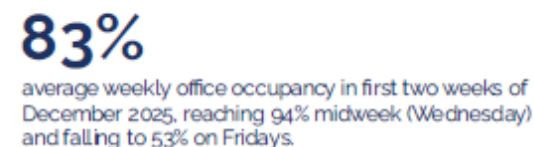
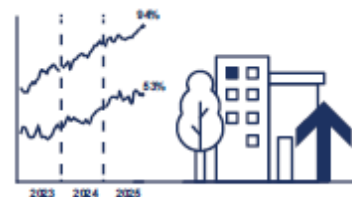


Pillar 5

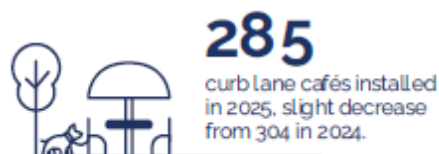
Shift How
People Travel

Transportation Network: Pressures & Travel Time

More people relying on the network every day.



A growing and vibrant city
creates operational pressures.



Travel behaviour continues to evolve.



Congestion levels and travel times continue
to change.



Travel Time Index (TTI) – PM Peak Hour (5 to 6 p.m.)

Toronto's transportation
network continues to face
significant pressures, resulting
in congestion and disruption
for road users. These include
pressures reflective of a large,
healthy, and vibrant city. While
the City's Travel Time Index
shows some improvements,
we know there is still more
work to be done.



AI Mapping Engine to produce high-definition 3D models



Produced by 2D satellite imagery and GIS OpenData



Simulates vehicles, pedestrians, bikes, public transit, ambulances, etc.



To identify edge cases and hotspot intersections, enhancing traffic management, safety, and efficiency.





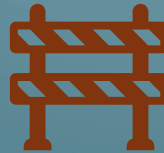
- Utilizes TomTom Floating Car Data (FCD)
- Sensor-free GPS data from connected vehicles to measure:
 - Intersection volume
 - Travel times
 - Turning movement counts
- Optimize traffic Signal Performance Measures (SPMs)
- Dashboards for real-time and historical reports

Dashboards for Traffic Signal Timing Optimization Activities





- Enhanced RoDARS construction permits data feed
- Integration with accessibility community apps
- Partnering with CNIB and Blindsquare app development team
 - Blindsquare app is used worldwide, developed in Finland



Improved Wayfinding at Construction Work Zones Supporting Accessibility Needs

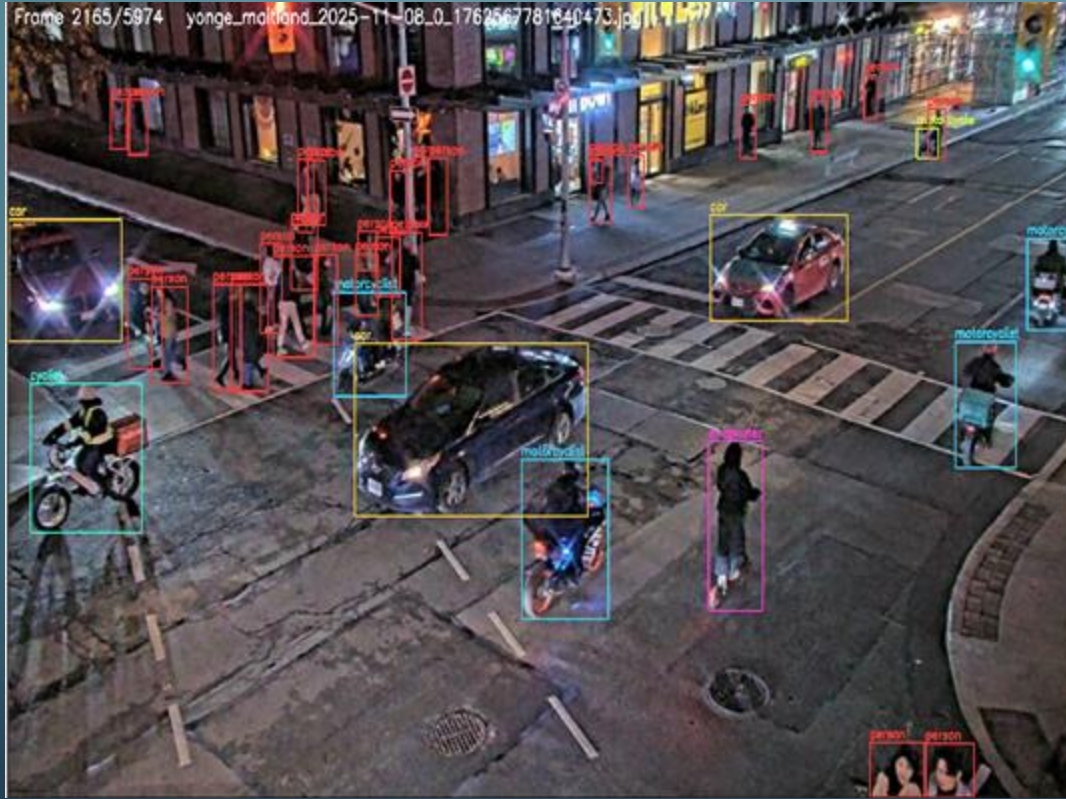


CELL PHONE APP



APPS SUPPORTING
THE VISUALLY
IMPAIRED

Video analytics for real-time and historical insights



- Sensor-free GPS data from connected vehicles to measure:
 - Intersection volume
 - Travel times
 - Turning movement counts
- Optimize traffic signal performance measures.
- Dashboards for real-time and historical reports

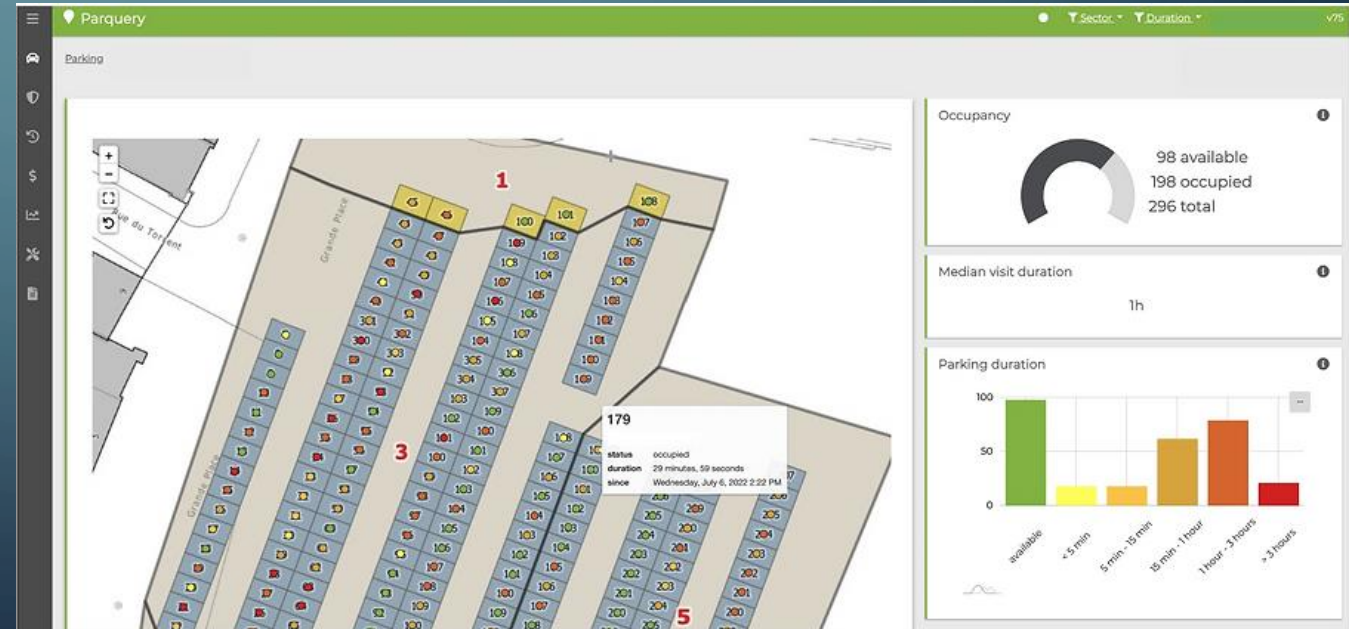


Loop.



AI-driven Video Analytics Parking Enforcement, Bike Lane Violations, Real-time Alerts

- AI-integrated edge cameras
 - Blurs licence plates and faces
- Detects
 - Parking violations
 - Bike lane violations
- Cloud-based central software
 - Dashboard
 - Historical reports
 - Real-time alerts
- Locations
 - Street Parking
 - Green P Surface Parking Lots





Park
Usher



Parking Map App

AI bylaw signage image scanning

- Real-time parking app for street parking
- Maps parking signs across the city
- Develops an AI-powered parking sign scanner with 90% accuracy
- Sign maintenance
- Parking enforcement

10:34 81%

< Temp Sign List scan-result

Apple Maps Legal

ST MARY ST ST



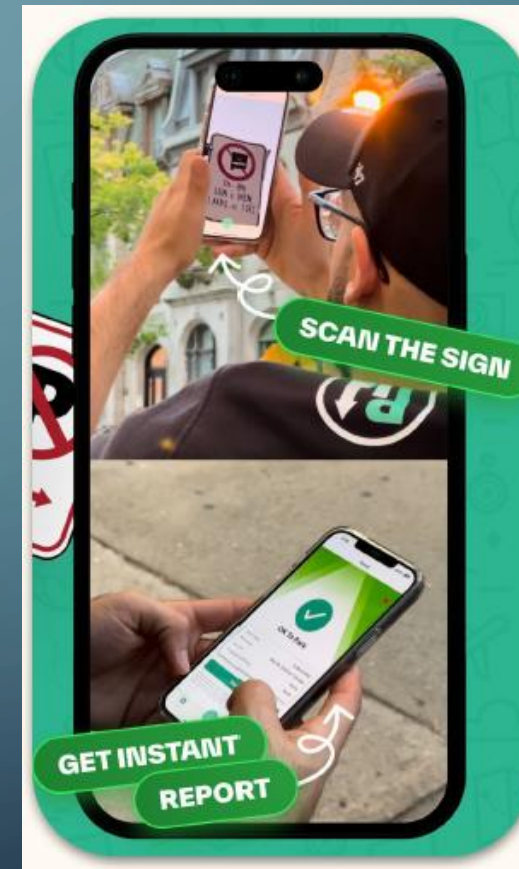
Symbols
No Stopping

Sign Code: 32843901-fbe7-4ae0-b1ad-c8eea371da0c
Score: 100%

Text
7AM-7PM
MON-FRI

Direction
Bidirectional

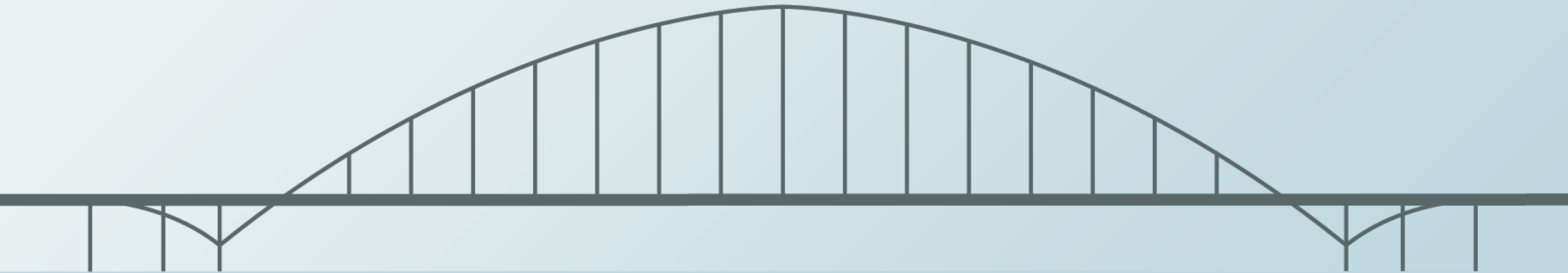
Permit Zone (Optional)



CELL PHONE APP

Federal Bridge Corporation Limited

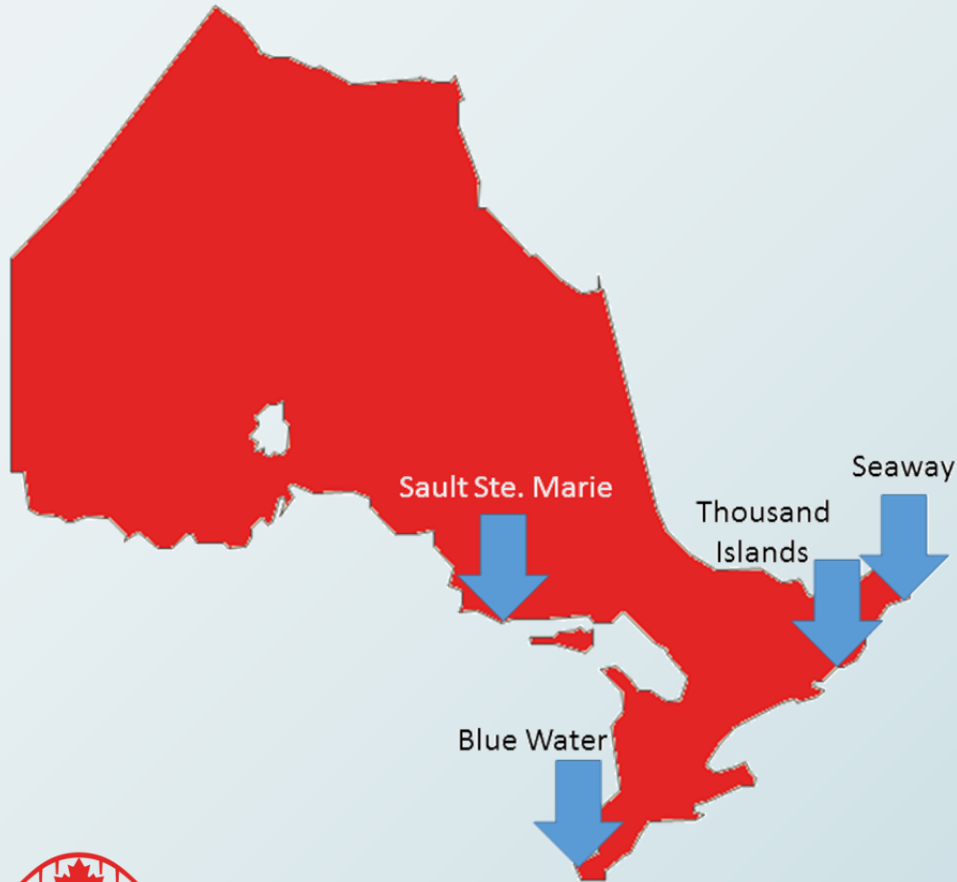
Blue Water Bridge



**Ontario Smart Mobility
Readiness Forum
- June 2026 -**

Federal Bridge Corporation Limited

- FBCL is a federal Crown corporation headquartered in Ottawa, ON
- Strategic partner to Transport Canada
- Tasked with ownership and management of 4 international bridges:



Connecting Michigan & Ontario

- Blue Water Bridge
- Sault Ste. Marie International Bridge

Connecting New York State & Ontario

- Thousand Islands International Bridge
- Seaway International Bridge

Blue Water Bridge



Problems / Opportunities / Needs



- Improve vehicle throughput
- Maximize toll revenue capture
- Optimize toll lane staff scheduling
- Enhance health and safety
- Acquire technology and equipment to improve fleet maintenance
- Minimize bridge lane closures

Planning / Requirements



- Explore traffic management & predictability technology
- 2022 - Sign MOU with OVIN
- 2024 - Sign on as an OVIN Technology Pilot Zone site partner
- 2024 - First SME on site
- 13 pilots to date and 4-6 new pilots for 2026

Key Challenges

- Security
- Technology
- Information Sharing / Privacy
- Safety
- Infrastructure



Lessons Learned

- Maintain operational flexibility
- Engage SME teams early and consistently
- Integrate technology through practical operational alignment
- Establish and enforce clear governance
- Use external expertise where specialized knowledge is required
- Build strong working relationships with SME teams
- Avoid over-committing resources or timelines



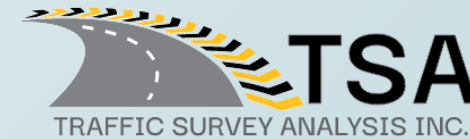
Technology Pilot Zone – Small Medium Enterprise (SME)



UAV Focused



CCTV Focused



NavMobility Inc.



Technology Pilot Zone – Small Medium Enterprise (SME)



Autonomous Vehicle Focused



Vehicle Focused



Questions?



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Thank you!

Learn more and connect with us at **ovinhub.ca**

