

Real-Time Traffic & Performance Management for Large Construction Projects



URBAN LOGIQ

About Us

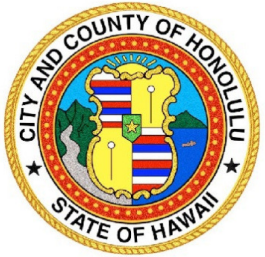
UrbanLogiq is a cloud-based Smart City software solution that empowers governments with actionable and accurate insights from data.

Founded in 2016, UrbanLogiq has offices in Vancouver, BC and New York, NY.



WHO ARE WE SERVING?

Our clients' active use cases span traffic and mobility, Vision Zero/safety, planning, economic development, land analysis & negotiations, public safety, emergency preparedness, and more.



Data Driven Opportunity for Smart Cities

More data will be created in 2017 than the previous 5,000 years of humanity

BIG DATA

26,381 views

Posted Friday, December 23, 2016 by **RICHARD HARRIS**, Executive Editor



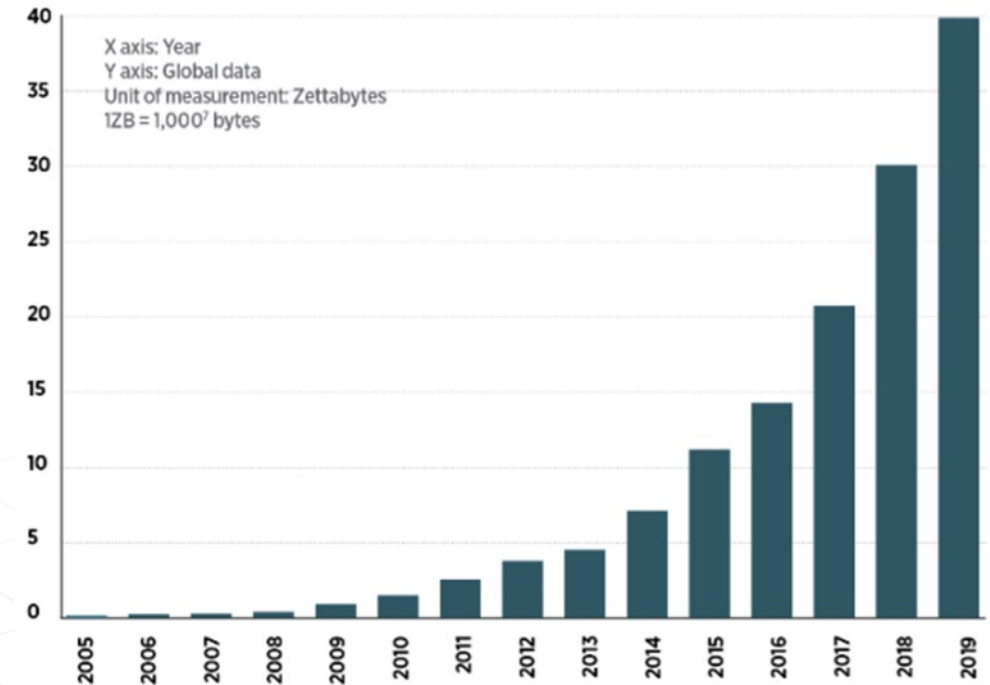
Editors note: Predictions sent in from Sencha's CEO Art Landro

In 2015, Art predicted that in 2016 the explosion of data would drastically transform the technology landscape, requiring organizations to visualize all incoming data from **IoT devices** for rapid decision making and insight into competitiveness and viability. He believes data will remain a key growth area in the coming year.

Read on to learn why, and find out what else Art thinks we have in store for 2017:

In 2017, we will create more data than ever before, creating new challenges around consuming that data to make strategic and tactical decisions.

DATA GROWTH



Note: Post-2013 figures are predicted. Source: UNECE

Static Data Siloed & Difficult to Consume

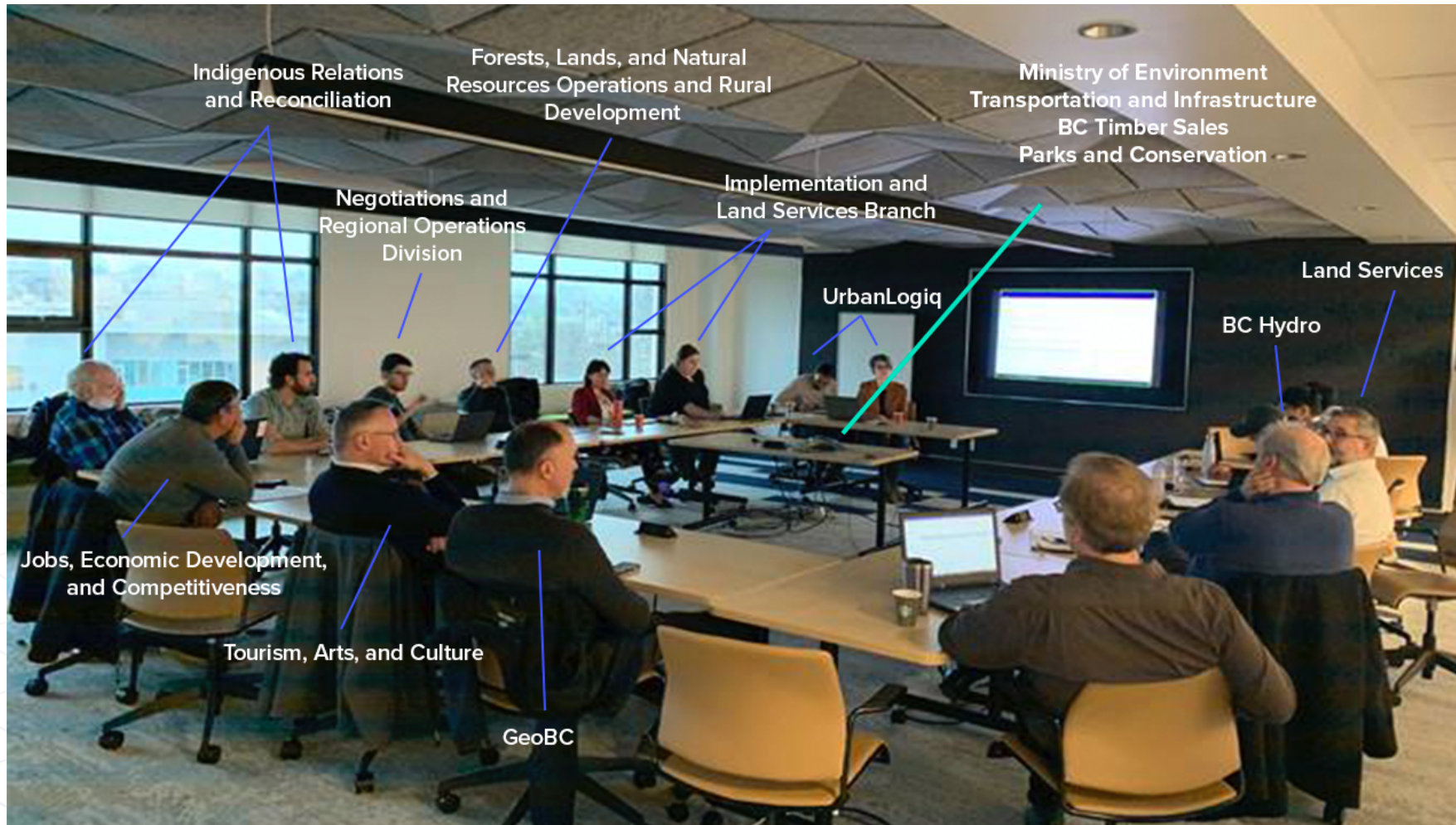


- Blind spots
- Duplication
- Inconsistency
- Manual Integration
- Time & Monetary Cost



Data Fragmentation

Jurisdictional & inter-agency data silos block a complete picture of a community's needs.



START



1

Aggregate your data

Access and visualize all your data without any manual integration or processing.



2

Automate workflows

Easily generate frequently used but time-intensive metrics to save time and effort.



3

Add unconventional data

Leverage the power of *unconventional* data to get a more granular, dynamic picture of movement and behavior.



4

Analyze & predict

Use the power of AI within the context of workflows to uncover more actionable insights quickly.

FINISH

RESPONSIBLE DATA PREPARATION, QUALITY CONTROL, PRIVACY, PROTECTION, AND CYBERSECURITY

— Privacy Protection is Fundamental to What We Do

UrbanLogiq is ISO certified in the following:

- **ISO/IEC 27001:** Information Security Management System (ISMS) standards and requirements for information security, cybersecurity, and privacy security.
- **ISO/IEC 27701:** A privacy extension to ISO/IEC 27001 which outlines a framework for Personally Identifiable Information (PII) Controllers and PII Processors to manage privacy controls to reduce the risk to the privacy rights of individuals.



— Background

- Light Rail construction congestion concerns
- Goals
 - Optimize construction scheduling
 - Communicate to stakeholders
 - Minimize cost, staff time
 - Contractor compliance

NEWS

Ottawa taking 'proactive steps' to avoid Stage 2 LRT delays: memo



By [Craig Lord](#) • Global News

Posted April 30, 2021 3:48 pm • Updated May 3, 2021 3:54 pm



Stage 2 of LRT in Ottawa will connect Moodie Drive in the west, Trim Road in the east and down to Limebank Road and the Ottawa International Airport in the south. **THE CANADIAN PRESS/Justin Tang**

Driver	F		33 Had Not Been Drinking	Moderate	North	NULL	Proceeding Straight	Not Applicable	O - Unknown	Car	12018-03 Vehicle No Unusual Con Daylight	Cloudy	Dry	Rear End	N	N	Violation Driver		
Driver	F	NULL	24 Had Not Been Drinking	Major	East	NULL	Proceeding Straight	Not Applicable	21453 - Run Red Light	Car	12016-03 Unknown Dark - Street Ligt Rain	Wet		Hit Object	N	N	Violation Driver		
Driver	M		40 Had Not Been Drinking	Major	West	NULL	Making U-Turn	Not Applicable	U - Unknown	Car	12016-03 No Unusual Con Dark - Street Ligt Clear	Wet		Broadside	N	N	Violation Driver		
Driver	M		19 Had Not Been Drinking	Moderate	East	NULL	Stopped	Not Applicable	U - Unknown	Car	12016-03 No Unusual Con Dark - Street Ligt Clear	Wet		Broadside	N	N	Violation Driver		
Driver	M		33 Had Not Been Drinking	Moderate	South	NULL	Proceeding Straight	Not Applicable	21955 - Crossing Cor	Car	12016-03 No Unusual Con Daylight	Clear	Dry	Vehicle/Bike	N	N	Unknown		
Driver	NULL	NULL	Impairment Not Known	Unknown	Unknown	NULL	Ran Off Road	Not Applicable	22350 - Speeding	Unknown	12016-03 No Unusual Con Daylight	Clear	Dry	Vehicle/Bike	N	N	Unknown		
Driver	F		67 Had Not Been Drinking	Unknown	East	NULL	Proceeding Straight	Not Applicable	U - Unknown	Car	12016-03 No Unusual Con Dark - Street Ligt Cloudy	Dry		Rear End	N	N	Violation Driver		
Driver	F		43 Had Not Been Drinking	Minor	West	NULL	Proceeding Straight	Not Applicable	22350 - Speeding	Car	12016-03 No Unusual Con Dark - Street Ligt Cloudy	Dry		Rear End	N	N	Violation Driver		
Driver	F		20 Impairment Not Known	None	West	NULL	Slowing/Stopping	Not Applicable	U - Unknown	Car	12016-03 No Unusual Con Daylight	Cloudy	Wet	Sideswipe	N	N	Violation Driver		
Pedestrian	M		22 Impairment Not Known	Not Applicable	Not Applicable	NULL	Other (Ped)	Not Applicable	U - Unknown	Pedestrian	12016-03 No Unusual Con Daylight	Cloudy	Wet	Sideswipe	N	N	Violation Driver		
Driver	F		61 Had Not Been Drinking	Unknown	West	NULL	Making Left Turn	Not Applicable	22107 - Unsafe Turn	Unknown	12016-03 No Unusual Con Daylight	Cloudy	Wet	Sideswipe	N	N	Violation Driver		
						14	556741	160240702	32889	CAPITOL EX & I 2016-01-24T18:1 Related	8 West Of	Other Vehicle	No Unusual Con Dark - Street Ligt Clear	Dry	Rear End	N	N	Violation Driver	
						15	556741	160240702	32889	CAPITOL EX & I 2016-01-24T18:1 Related	8 West Of	Other Vehicle	No Unusual Con Dark - Street Ligt Clear	Dry	Rear End	N	N	Violation Driver	
						16	557921	160429713	32889	CAPITOL EX & I 2016-02-10T18:1 Related	South Of	Other Vehicle	No Unusual Con Dusk - Dawn	Clear	Dry	Rear End	N	Y	Unknown
						17	557921	160429713	32889	CAPITOL EX & I 2016-02-10T18:1 Related	South Of	Other Vehicle	No Unusual Con Dusk - Dawn	Clear	Dry	Rear End	N	Y	Unknown
						18	501289	81430327	32889	CAPITOL EX & I 2008-05-22T09:3 Related	30 West Of	Other Vehicle	No Unusual Con Daylight	Clear	Dry	Rear End	N	N	Violation Driver
						19	501289	81430327	32889	CAPITOL EX & I 2008-05-22T09:3 Related	30 West Of	Other Vehicle	No Unusual Con Daylight	Clear	Dry	Rear End	N	N	Violation Driver
						20	498551	80500423	32889	CAPITOL EX & I 2008-02-19T11:3 Non-Related	75 East Of	Fixed Object	No Unusual Con Daylight	Rain	Wet	Other	N	Y	Violation Driver
						21	501336	81450571	32889	CAPITOL EX & I 2008-05-24T12:2 Related	0 West Of	Other Vehicle	No Unusual Con Daylight	Cloudy	Dry	Rear End	N	N	Violation Driver

Road Sensor Challenges

OTTAWA | NEWS

Bumpy roads: Pothole repairs the top request to Ottawa's 311 Call Centre each winter

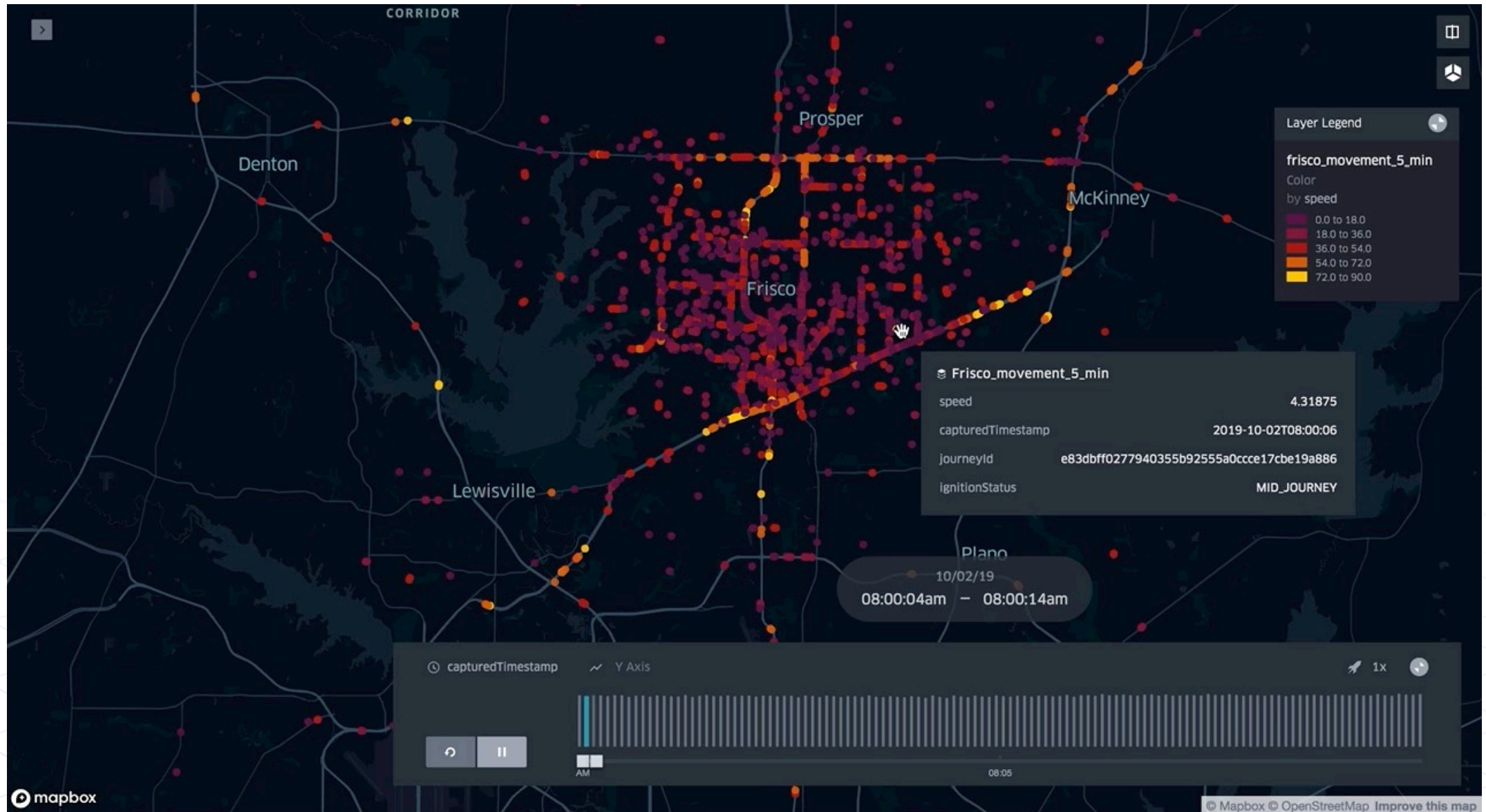


Josh Pringle Digital Multi-Skilled Journalist
@PringleJosh | [Contact](#)

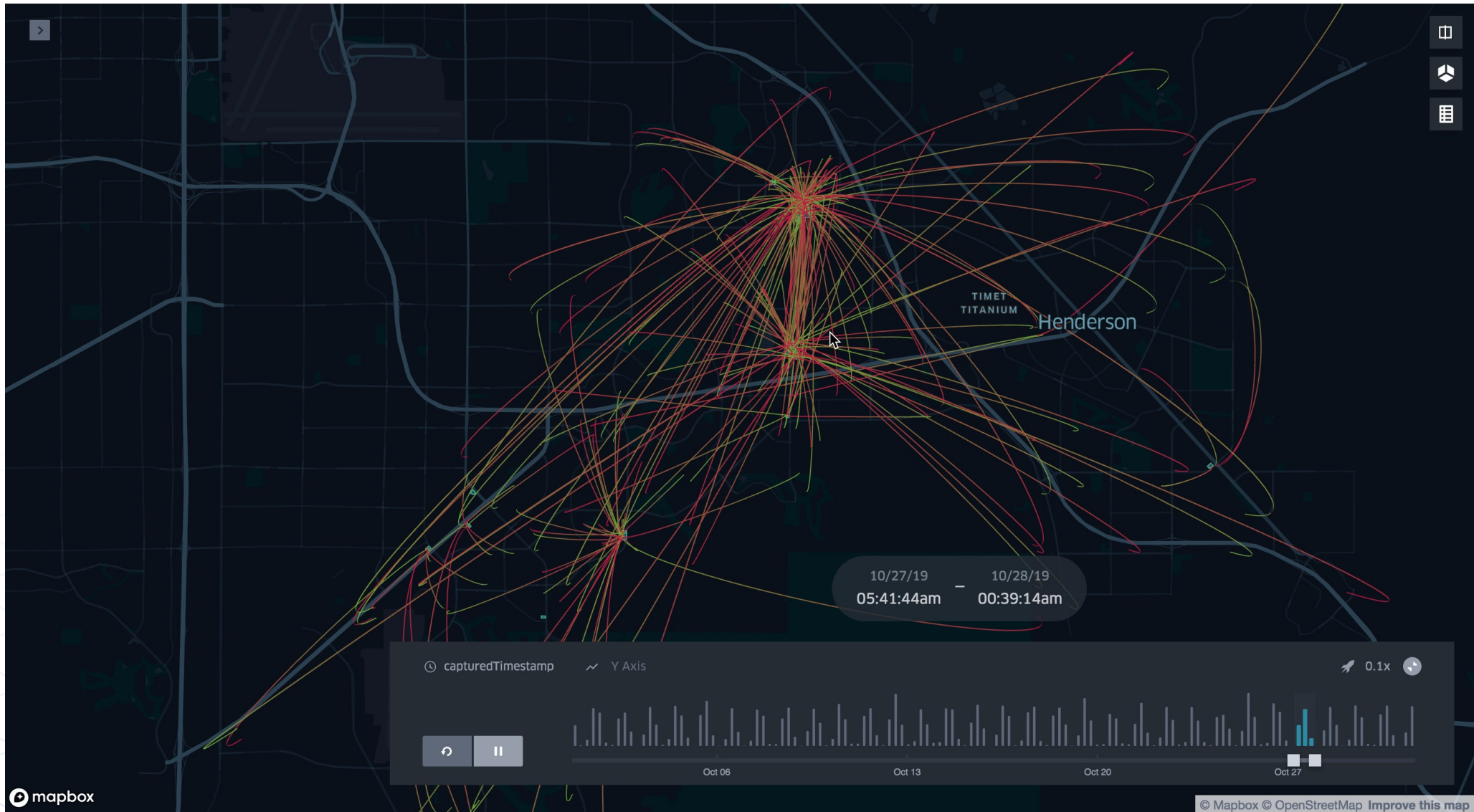
Published Saturday, January 30, 2021 1:49PM EST



Connected Vehicle Data



Telecom Data



Travel Time Monitoring: Data Source Selection



- Real time bus location API
- Could be used to get travel times for “free”

Pros:

- Free
- Known source

Cons:

- Reduced flexibility
- Unlikely to meet real time requirements
- API unable to handle volume of required requests



- Providers of travel time/speed data
- Use location data gathered from multiple sources

Pros:

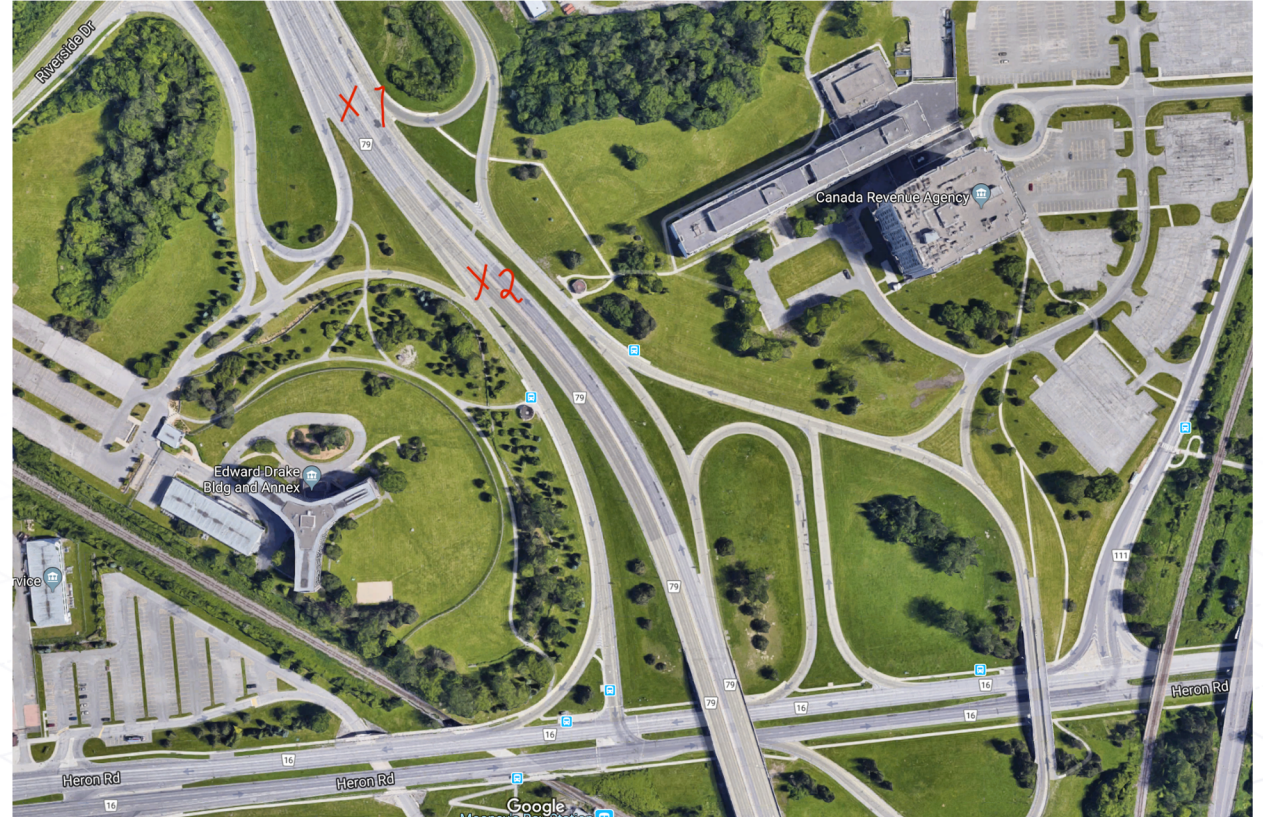
- Out-of-the-box solution
- Flexible

Cons:

- Price
- Validation concerns

Travel Time Monitoring: Data Collection

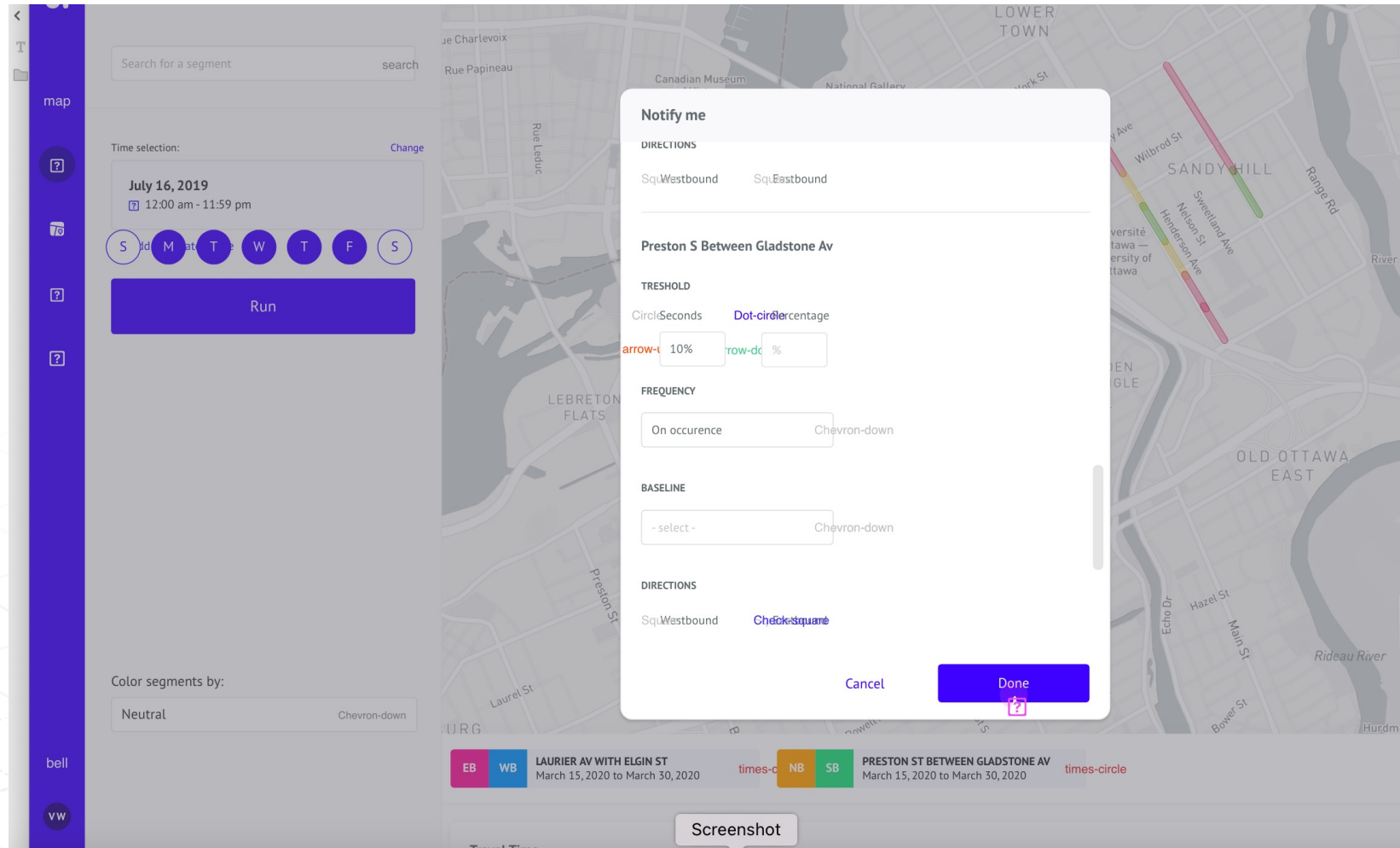
- Set up collection jobs at ~ 125 locations (Bi-directional where needed). Used Python and Kubernetes.
- Segments were defined using City of Ottawa GIS
- 5 minute increments between selected hours on selected days
- API meant that collection locations and rates could be adjusted as needed.



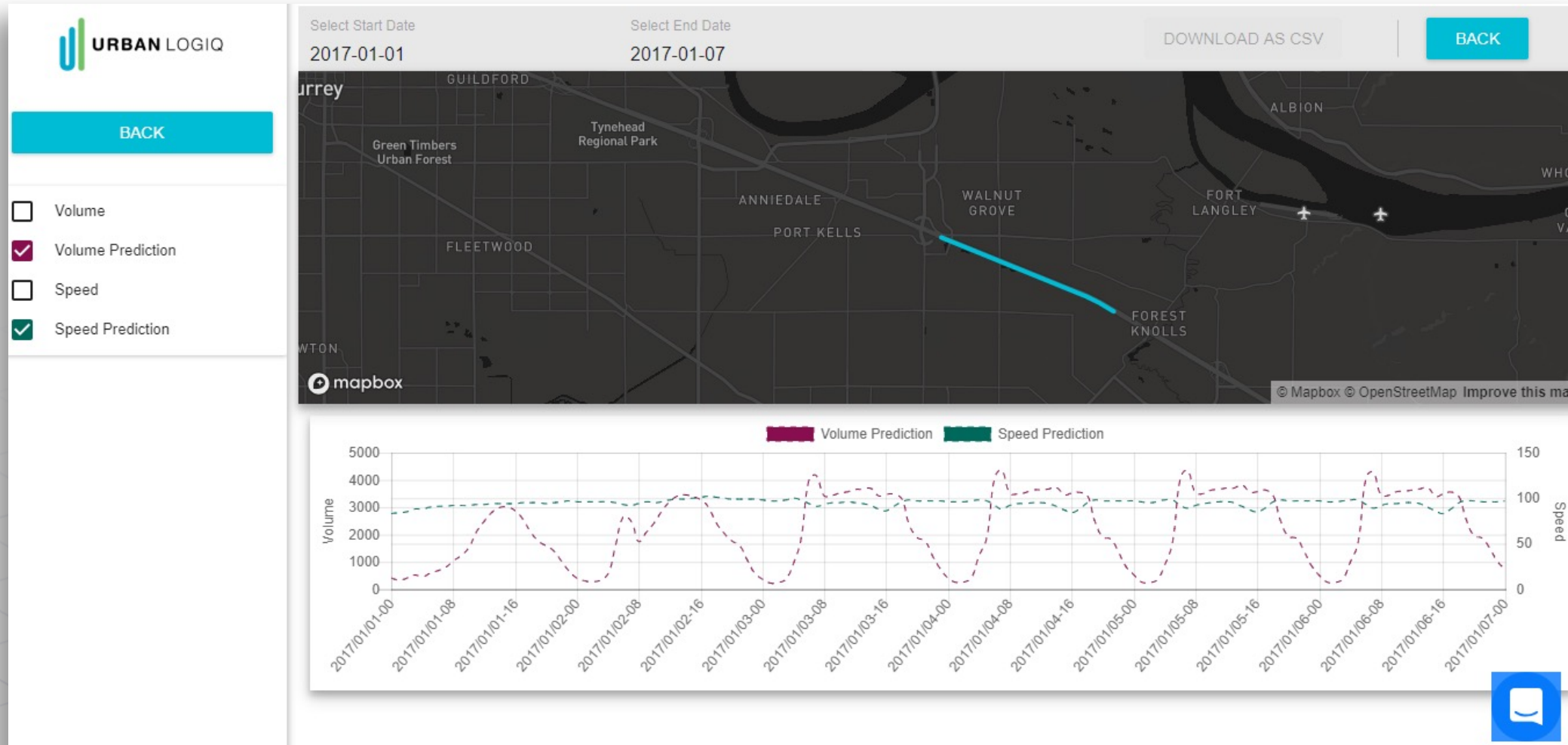
Travel Time



Real-Time Notification



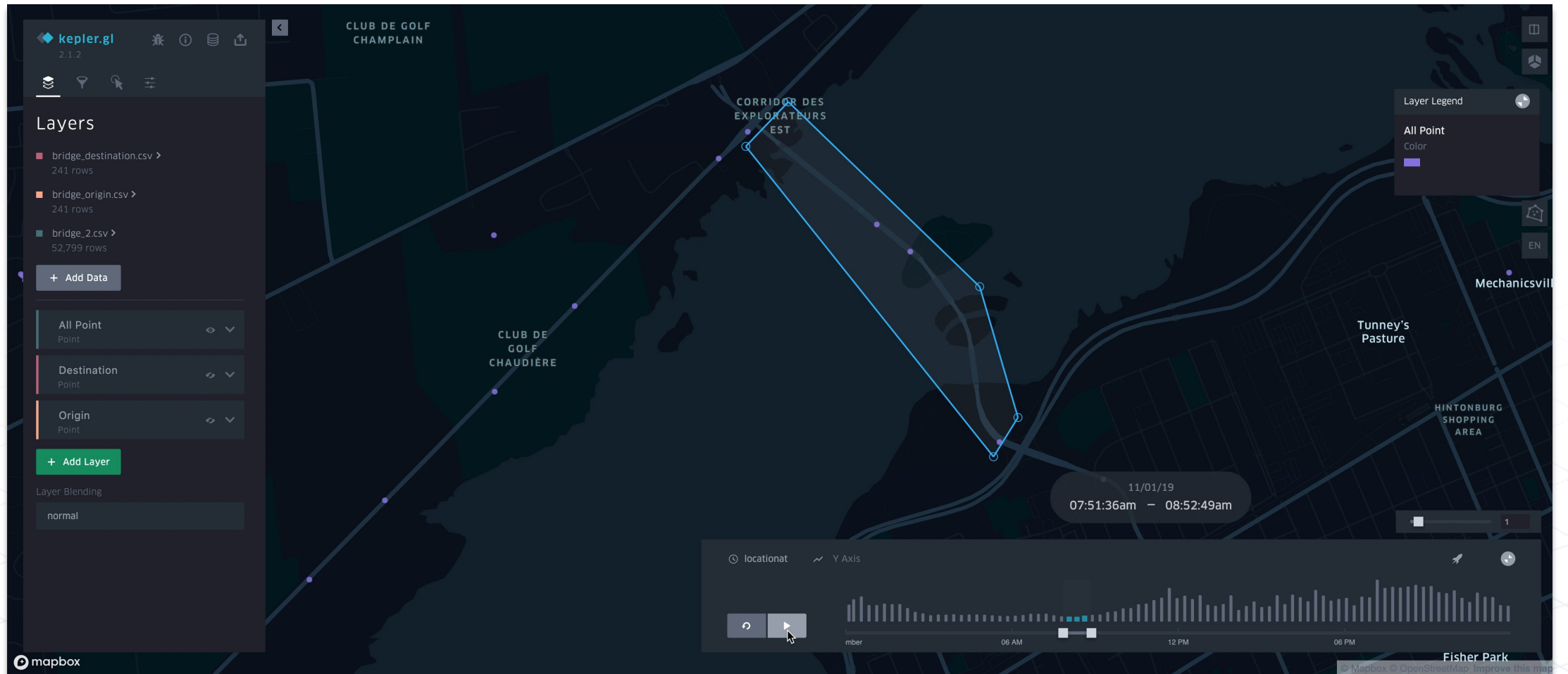
Deep learning: Prediction...



— Deep learning: ...and Result



Infrastructure Usage



- **Location data that we selected for this project was driven by reliability, price, and accuracy that matched the context.**
 - **General rule: Different use cases have different accuracy thresholds.**
- **The chosen data source allowed for efficient construction schedules and resulted in more confidence and public trust in the decision making.**

- **The Future of Location Data:**
 - **Data Markets:** Location data will become like a commodity market with many different providers and increasingly competitive prices and quality.
 - Legal landscape: Privacy regulations and legislation developments, like the California Consumer Privacy Act, GDPR & Canadian Consumer Protection Act (Bill C-11) are important to watch as they can affect the availability of location data from country to country.
- There are more providers of location data than ever before - understanding what the needs of your project (use case) are will help you find the right data source that gives you the insights that you need.
- New use cases will emerge as insights are continually discovered

Thank You!

mark@urbanlogiq.com



URBAN LOGIQ