



VALERANN

Technology and Innovation to Enhance Road Safety

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1.19M
people died on the
roads in 2021

15 fatalities per 100,000 population.





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ROADSIDE ASSISTANCE:

20 MINUTES

WAITING TIME

Big data has led to information Overload & Alert Fatigue



1M

Vehicle Counts



50M

Object Detections
via Computer Vision



10M

Vehicle data points



1K

Mentions



1K

Weather Reports



100

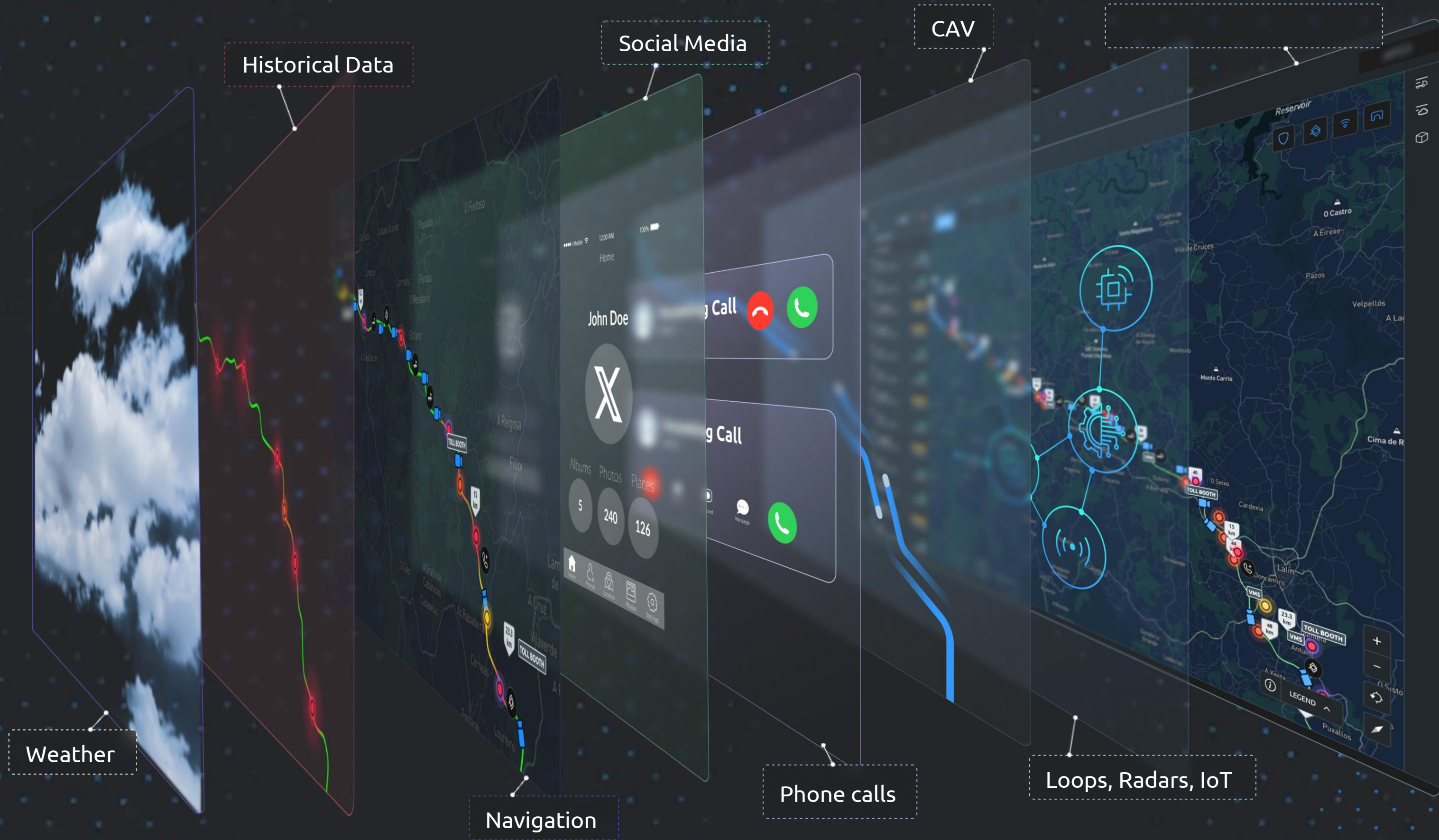
Phone Calls

FACT:

Data is **noisy** and
data sources are **imperfect**

DEEP DATA

is the answer.
FUSION



Historical Data

Social Media

CAV

Weather

Navigation

Phone calls

Loops, Radars, IoT



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Real Case Studies

Case Study: **Everything Non-Legacy ITS**

Date: 3 Jan 2024

Road: New York State

Number of Sources: 3 Sources

Food for Thought: Full-coverage of the road, regardless of ITS infrastructure



Alerts Max Relevance: 0.45 - 1

1/3/2024

97 Archived events

27.7 mi - Taconic Parkway ID #0419fa7c

CONGESTION EXPIRED

Jan 3, 5:57 PM - Jan 3, 6:08 PM 0.79

Unassigned

27.1 mi - Taconic Parkway ID #06a7249d

SNOW EXPIRED

Jan 3, 5:57 PM - Jan 3, 6:07 PM 0.48

Unassigned

12.8 mi - Taconic Parkway ID #00bc4d4e

CONGESTION EXPIRED

Jan 3, 5:55 PM - Jan 3, 6:05 PM 0.94

Unassigned

13.9 mi - Taconic Parkway ID #5438b73e

ACCIDENT EXPIRED

Jan 3, 5:53 PM - Jan 3, 7:05 PM 0.65

Unassigned

4.6 mi - Taconic Parkway ID #a694ae72

NO HAZARD NO ACTION REQUIRED

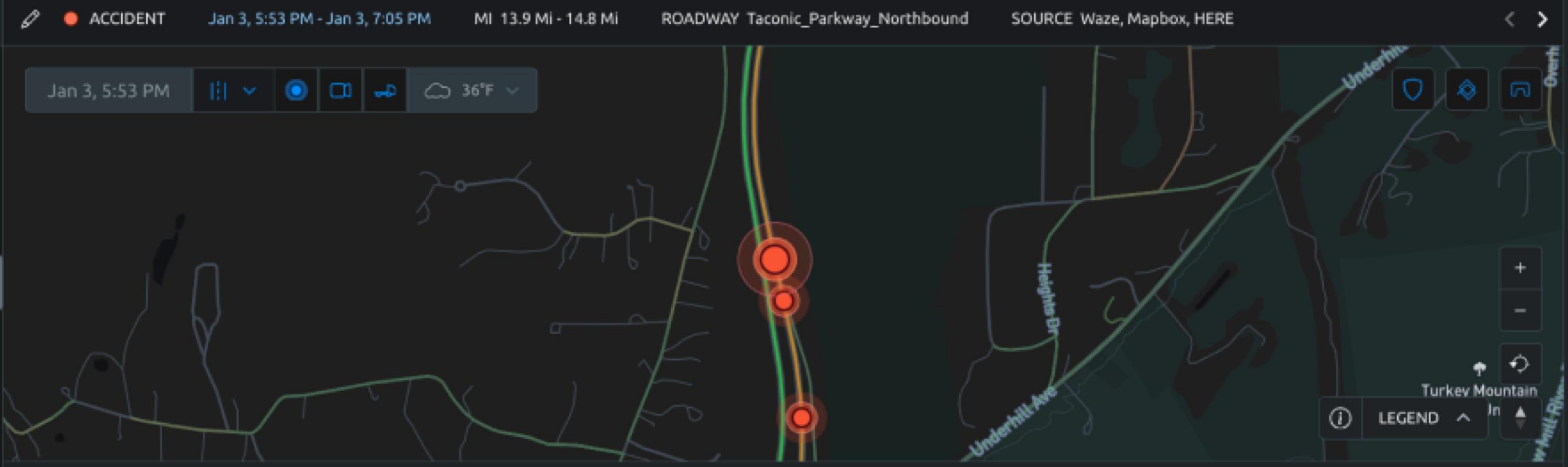
Jan 3, 5:45 PM - Jan 3, 5:46 PM 0.92

Unassigned

9.0 mi - Sprain Brook Parkway ID #f592718a

CONGESTION NO ACTION REQUIRED

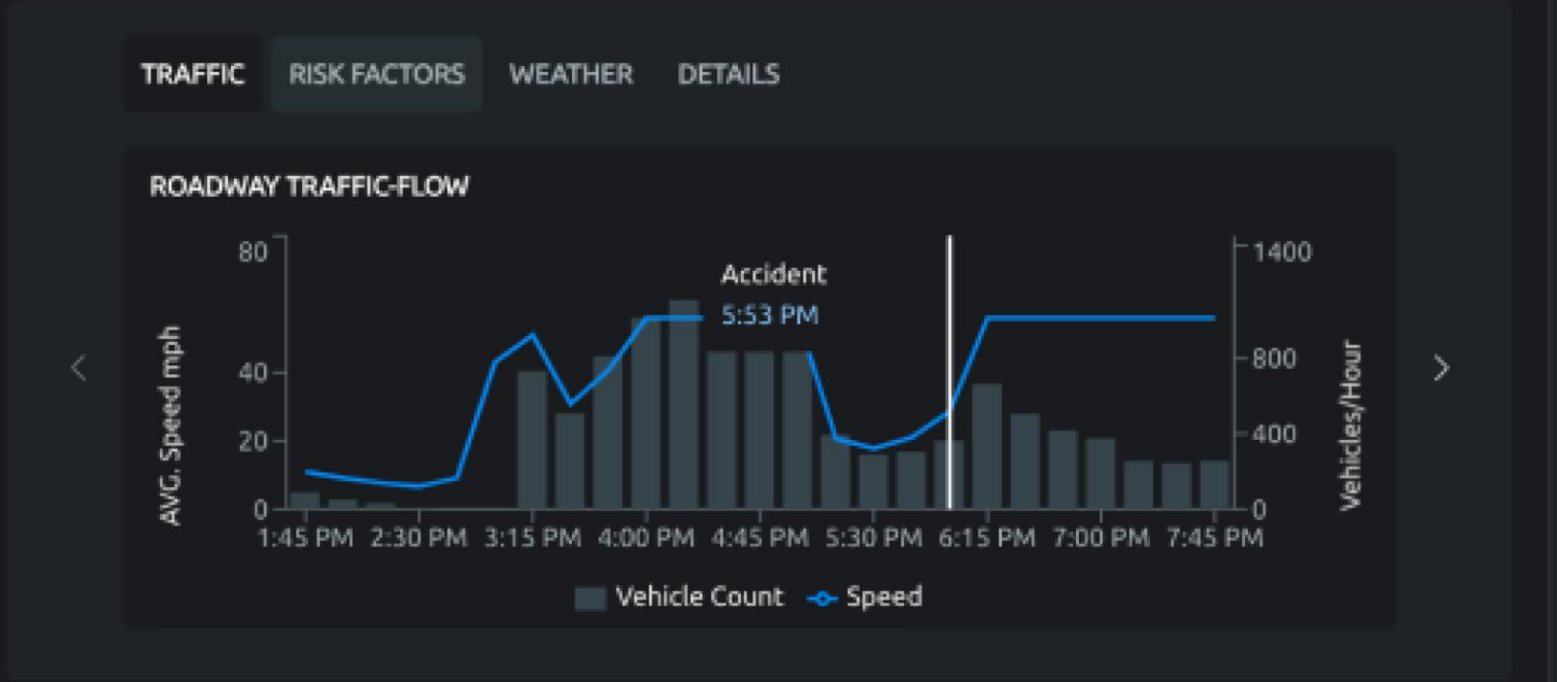
Jan 3, 5:35 PM - Jan 3, 5:45 PM 0.71



DETECTIONS SUMMARY 3 ACCIDENT

EXPIRED

There are no cameras near this event





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Case Study: **Out of sight, not out of mind**

Date: 1 Dec 2023

Road: New York State

Number of Sources: 2 Sources

Food for Thought: Using circumstantial evidence to piece together an incident



Alerts Max Relevance: 0.45 - 1

12/1/2023



8 Archived events

Dec 1, 6:46 AM - Dec 1, 6:57 AM
Unassigned

3.4 mi - Sprain Brook Parkway
CONGESTION EXPIRED
Dec 1, 7:02 AM - Dec 1, 7:03 AM
Unassigned

3.3 mi - Sprain Brook Parkway
CONGESTION EXPIRED
Dec 1, 7:34 AM - Dec 1, 7:55 AM
Unassigned

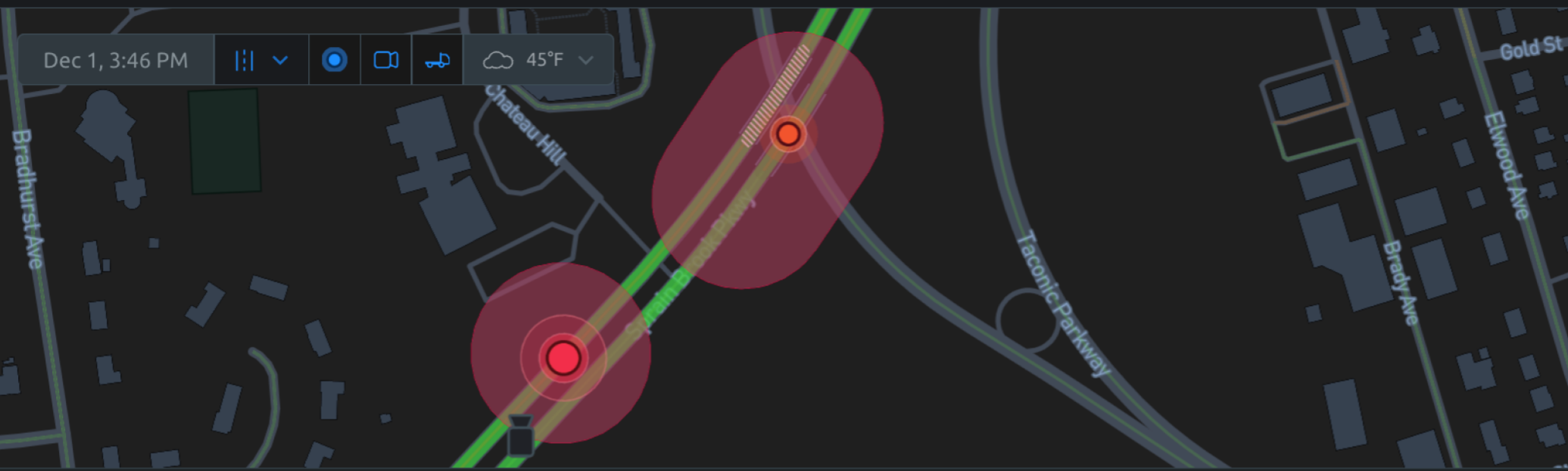
0.3 mi - Sprain Brook Parkway
ACCIDENT EXPIRED
Dec 1, 3:46 PM - Dec 1, 5:23 PM
Unassigned

1.7 mi - Sprain Brook Parkway
CONGESTION EXPIRED
Dec 1, 3:55 PM - Dec 1, 4:05 PM
Unassigned

2.1 mi - Sprain Brook Parkway
CONGESTION EXPIRED
Dec 1, 5:25 PM - Dec 1, 6:49 PM
Unassigned

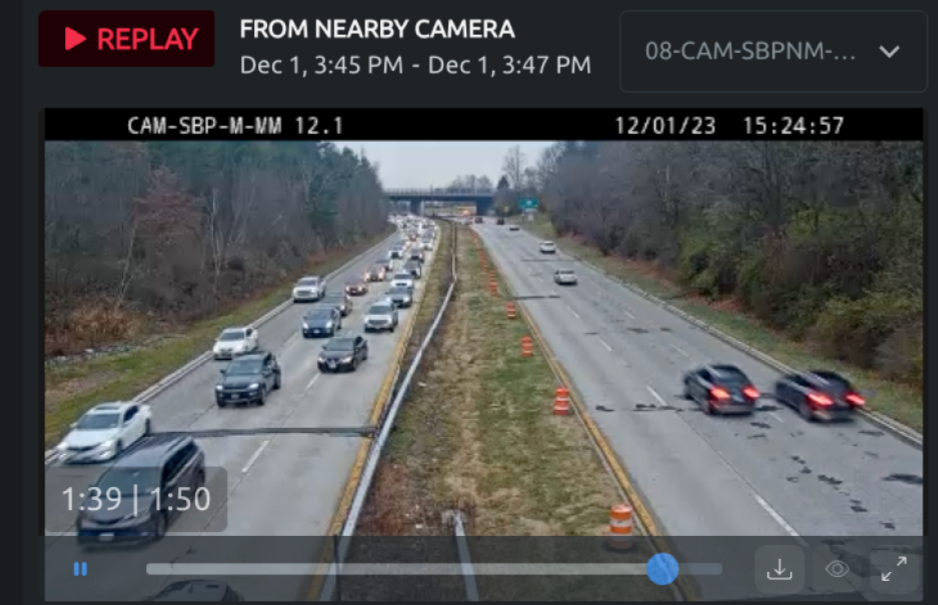
2.1 mi - Sprain Brook Parkway

ACCIDENT Dec 1, 3:46 PM - Dec 1, 5:23 PM MI 0.3 Mi - 0.5 Mi ROADWAY Sprain_Brook_Parkway_Southbound SOURCE Waze, HERE



DETECTIONS SUMMARY 2 ACCIDENT

EXPIRED



TRAFFIC RISK FACTORS WEATHER DETAILS

RISK RATING: LOW

Low High

- Bridge near
- Speed fast 53 mph
- Weekday Friday
- Rush Hour active

Activity History

ACTIVITY DETECTIONS

- 0.8 Severity
Weight: 1
When input is congestion and...
[More](#)
- 0.9 Confidence
Weight: 1

DEC 1

UTC 20:46:12 UTC 20:55:55 UTC 21:05:38 UTC 21:15:21 UTC 21:25:05 UTC 21:34:48 UTC 21:44:31 UTC 21:54:15 UTC 22:03:58 UTC 22:13:41

PK 19.5

🚗 Accident

Waze

📍 PK 19.5 🚧 Carriageway 1 ⌚ 20:46:12 for 1hr 37m 13s

Reliability 10 Street Sprain Brook Pkwy S



🚗 Accident

Here

📍 PK 19.6 🚧 Carriageway 2 ⌚ 21:07:15 for 0s

Description Accident. Shoulder blocked



0:09 | 1:50



Thank you!