

I-35 Traveler Information During Construction Connected Work Zone

Utility Of Third-Party Data (Task 6)

FHWA Peer Exchange Meeting

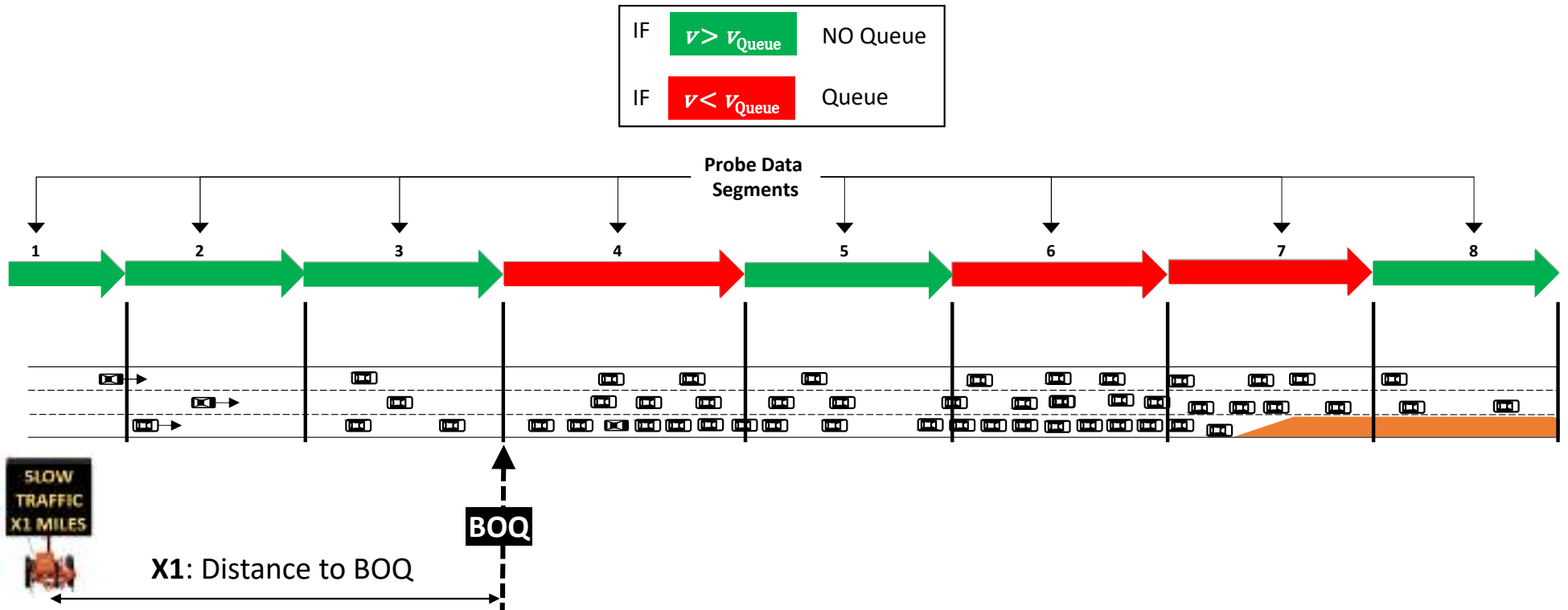
November 15-16, 2022

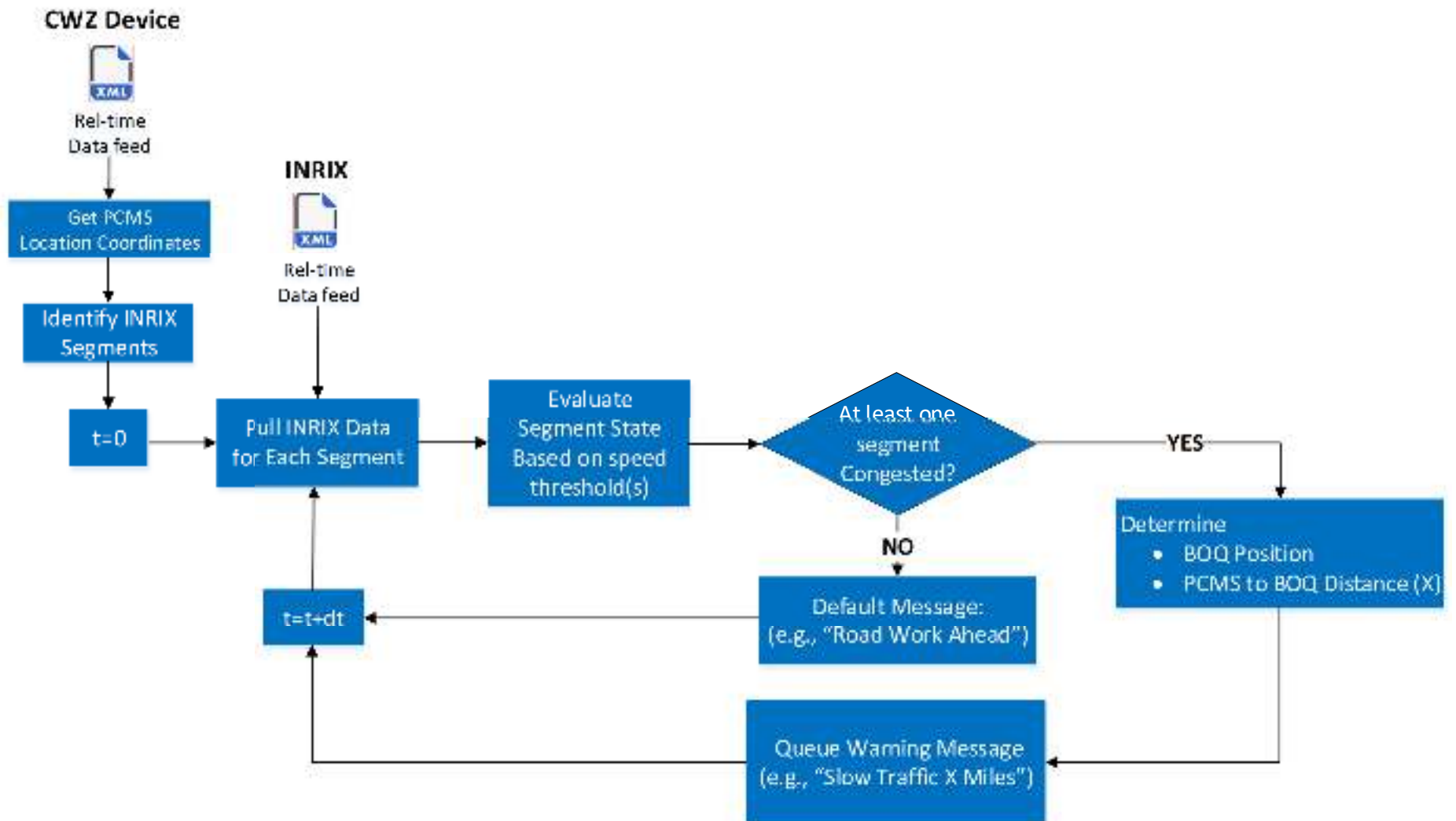


Data Sources Available for Queue Detection

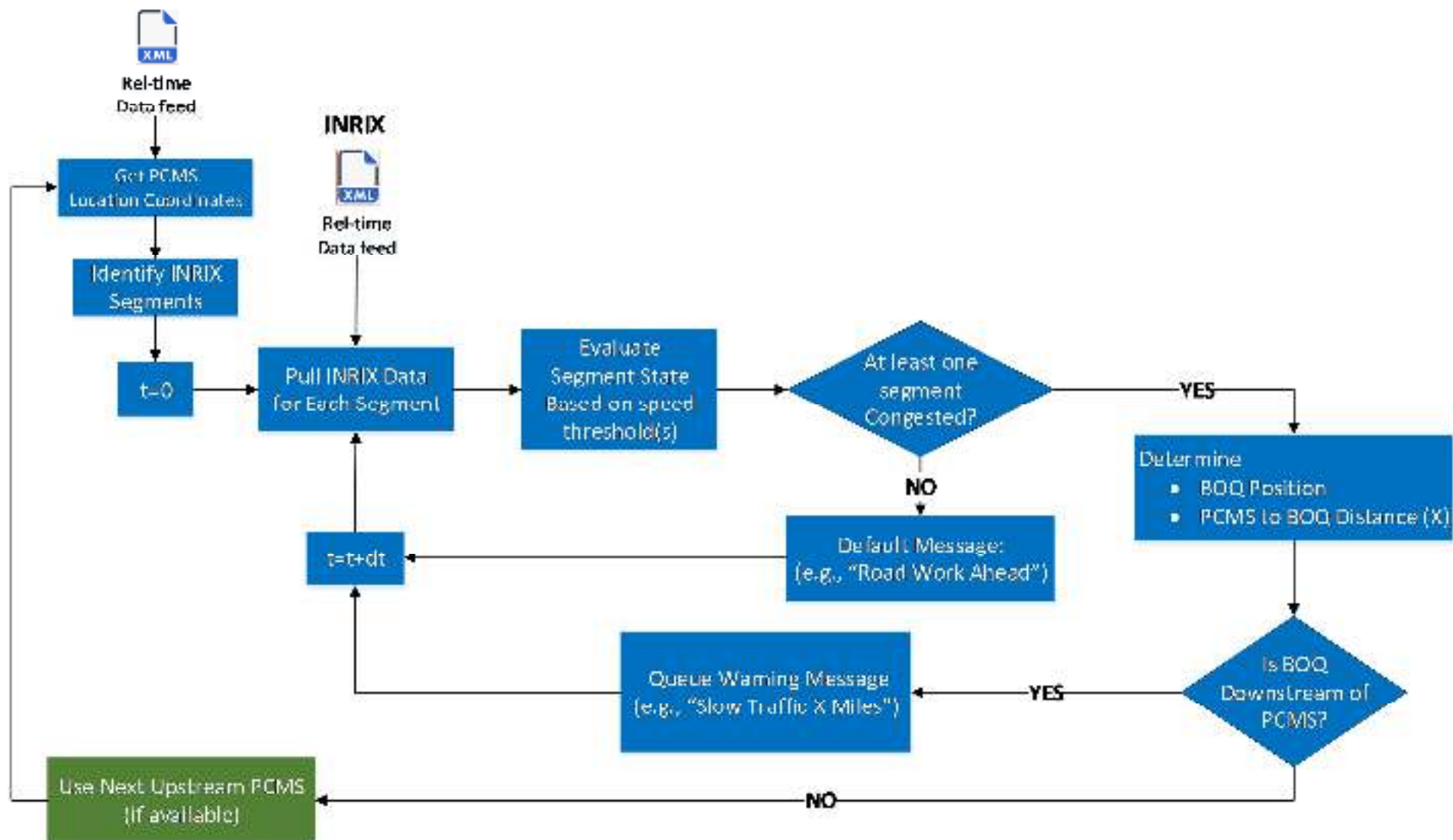
Data Source	Data Type	Example data
Infrastructure sensors	Point-detector data	Spot speed, volume, occupancy (lane-by-lane)
Third-party data providers	Crowd-sourced probe data	Segment speed, segment travel time
Connected vehicles (Wejo)	Vehicle trajectory and operational data	Vehicle position, speed, acceleration, braking, etc.

Queue Detection Using Crowd-Sourced Probe Data



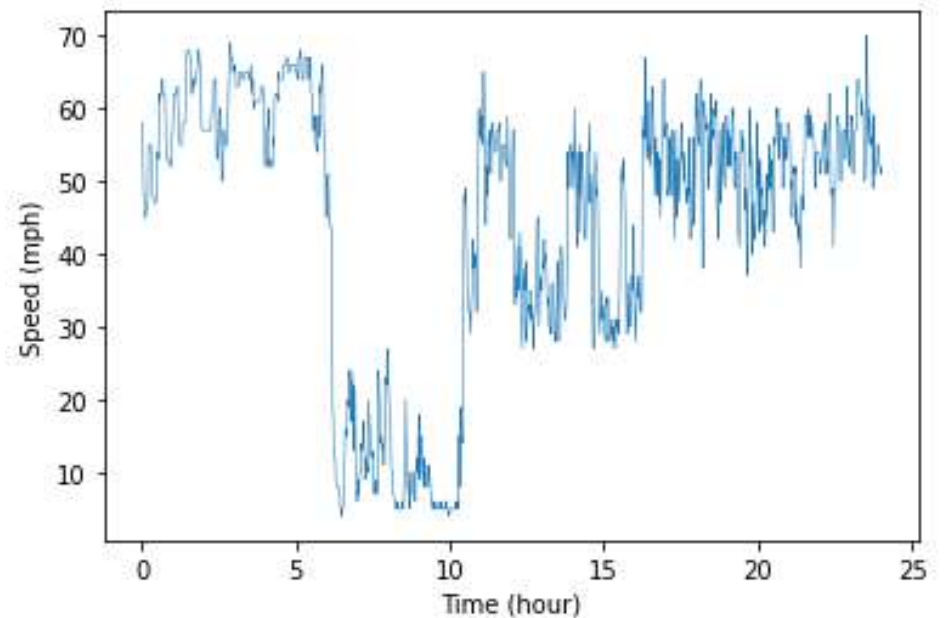
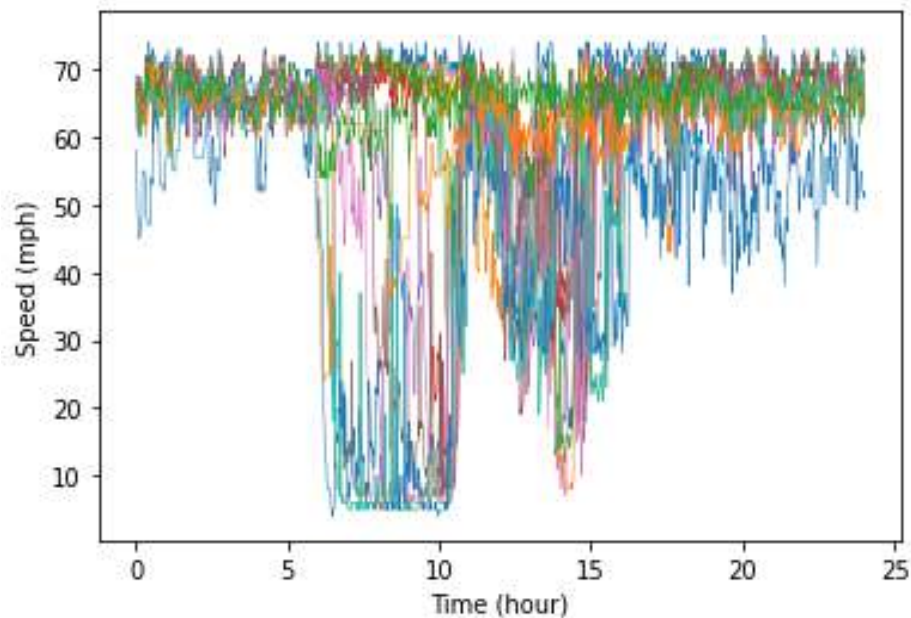


CWZ Device



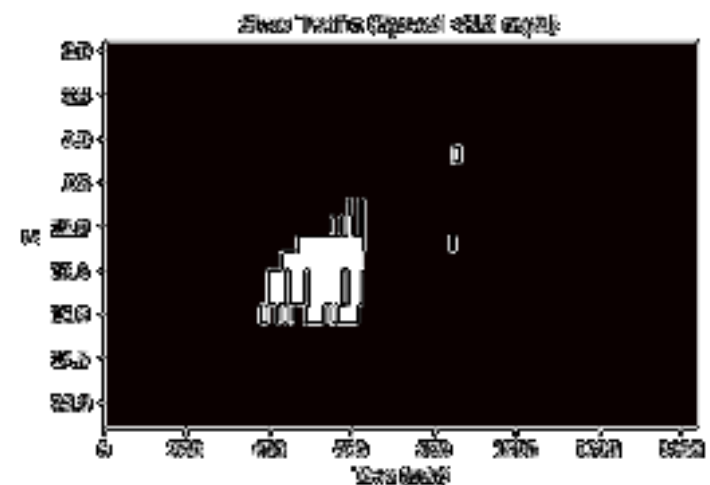
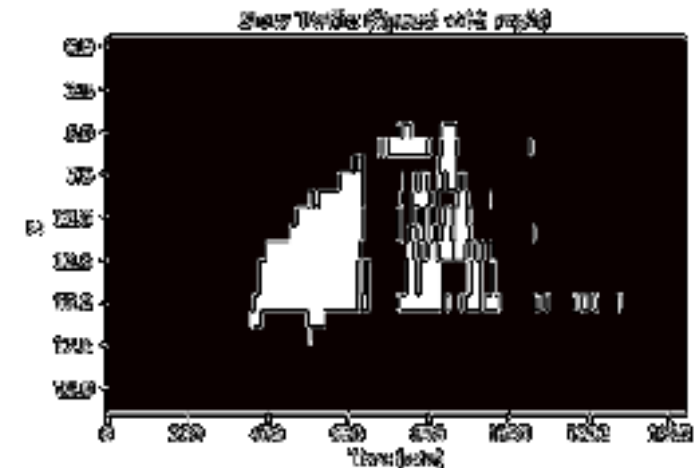
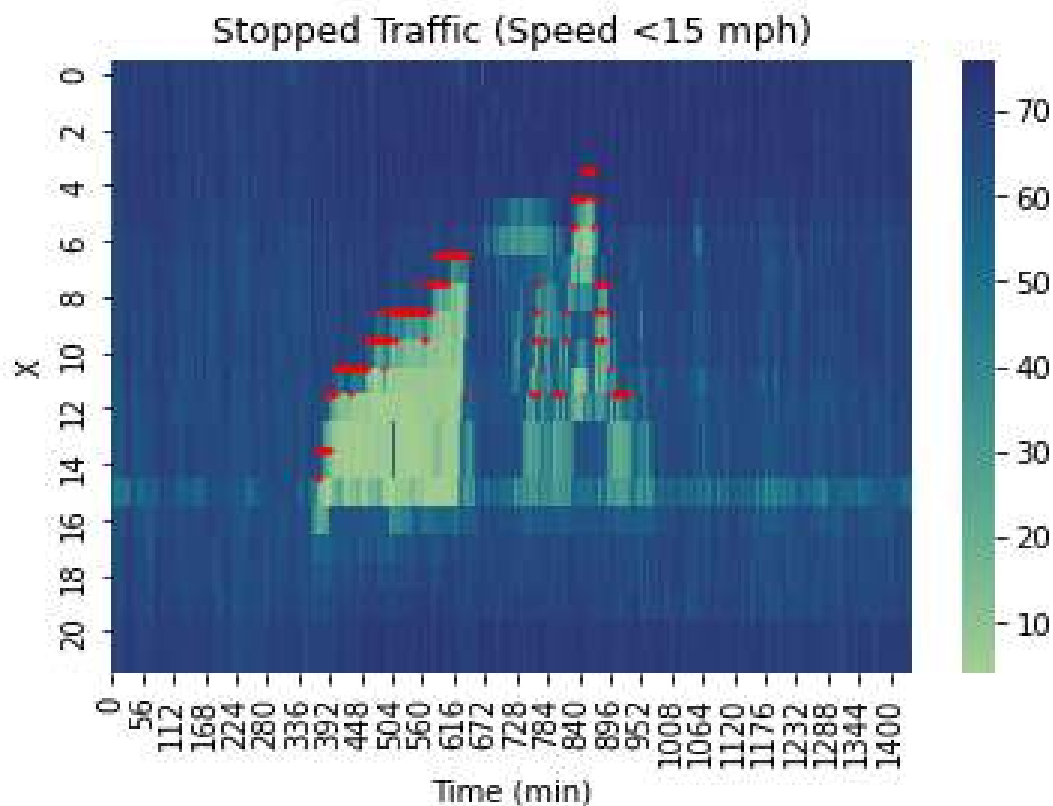
Queue Analysis Using Data from INRIX Segments

Segment Speeds (1-min average)

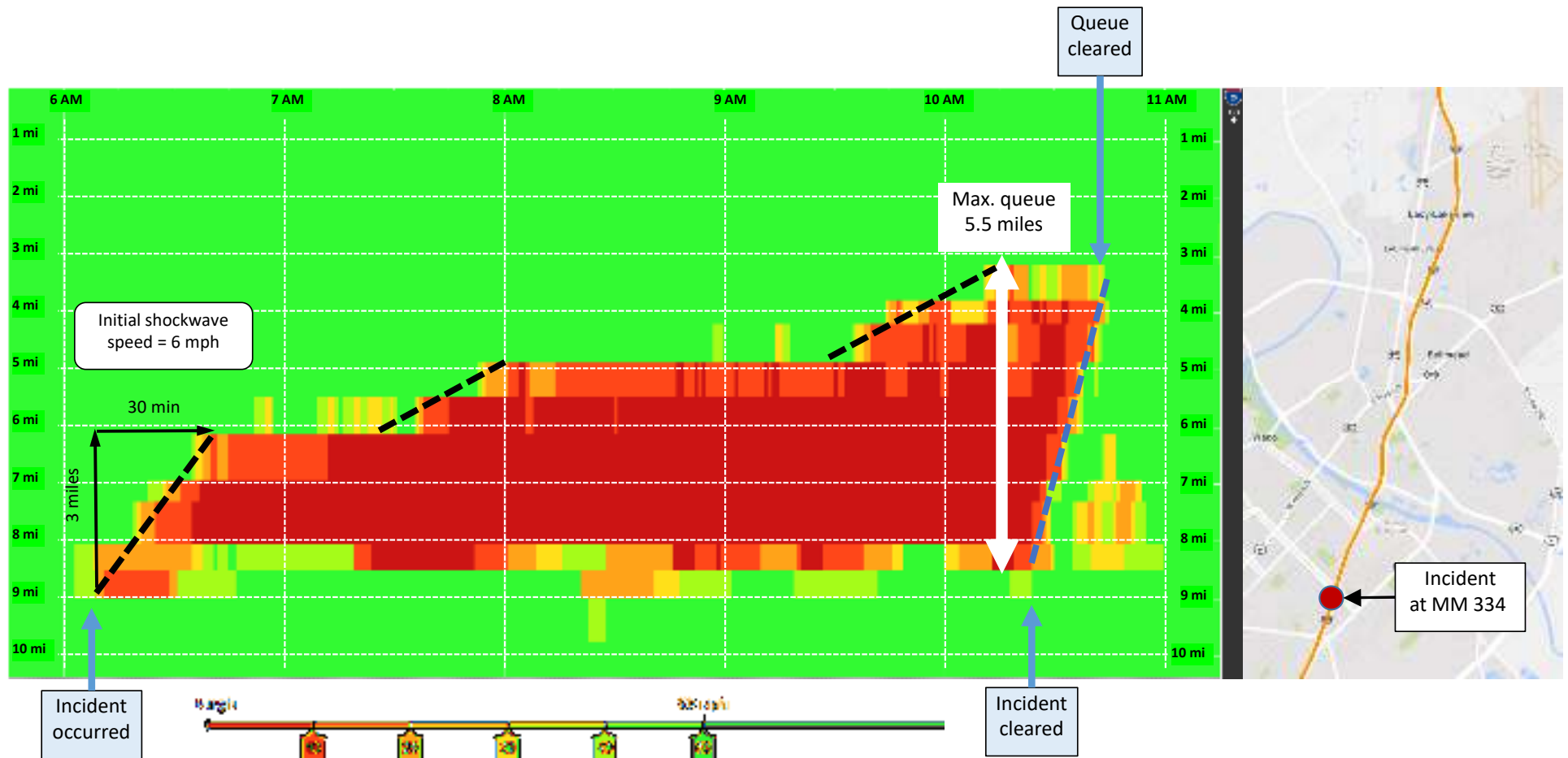


Queue Analysis Using Data from INRIX Segments

Speed Heatmap (1 –min average)



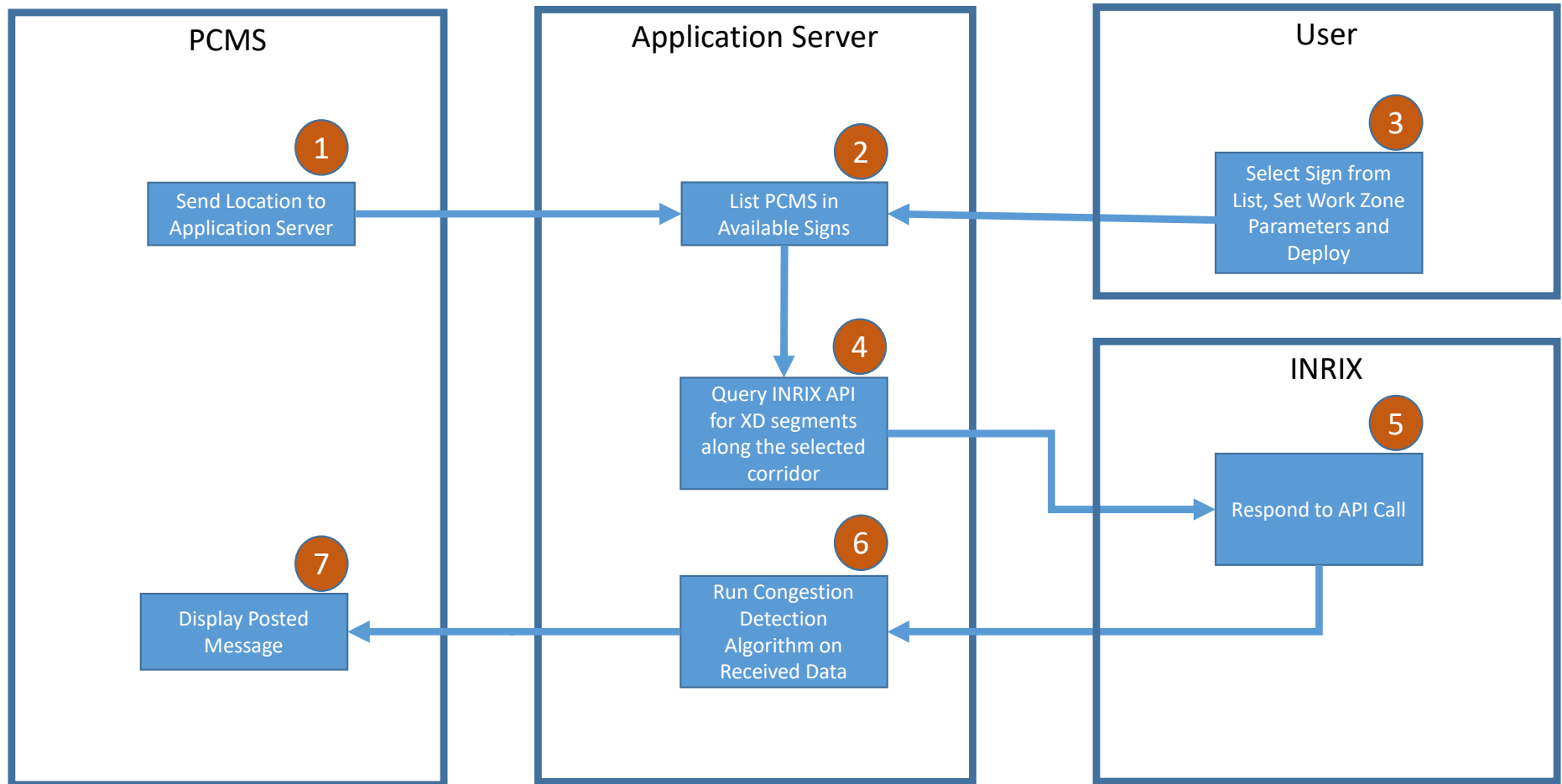
Queue Characteristics from INRIX Data



Queue Verification Using TMC Cameras



Connected PCMS – Flow Diagram

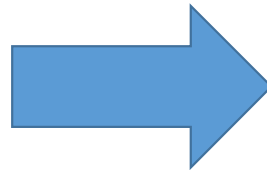


Connected PCMS – Deploy Sign

Connected PCMS

PCMS 1	Deployed
PCMS 2	Deployed
PCMS 3	Not Deployed

⚙ - TTI



Connected PCMS

PCMS ID
1-10001

Manufacturer
Wipro

Model Number
W700000

Construction Zone Length (ft/m)
0

Deployed ☒

A map showing the deployment location. A blue line indicates the construction zone. The map includes labels for streets and landmarks.

Submit

Connected PCMS – Analysis Tool

Connected PCMS

Review Archived Data

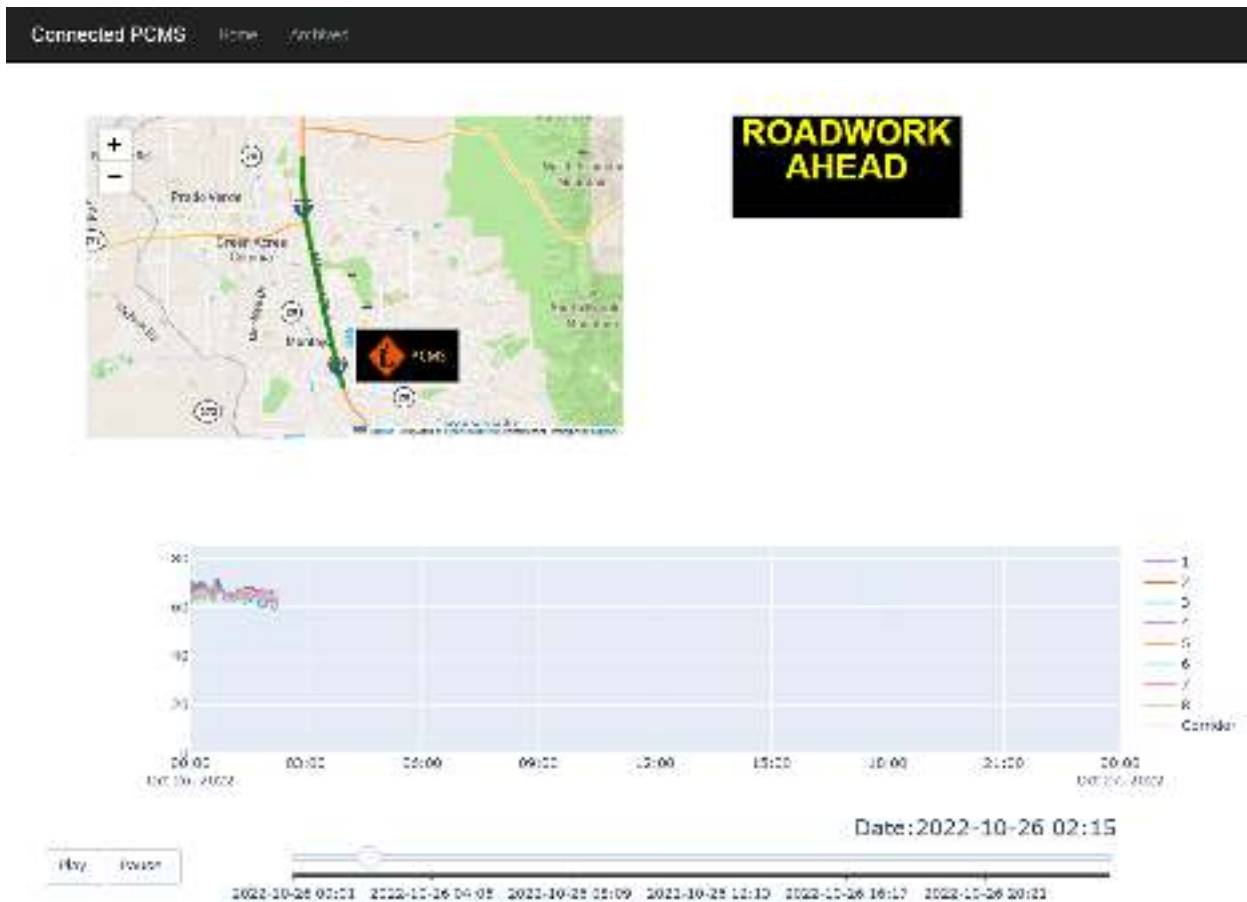
Select PCMS Sign: IH10 at Mesa - PCMS1

Select Date: 10 / 26 / 2022

Submit

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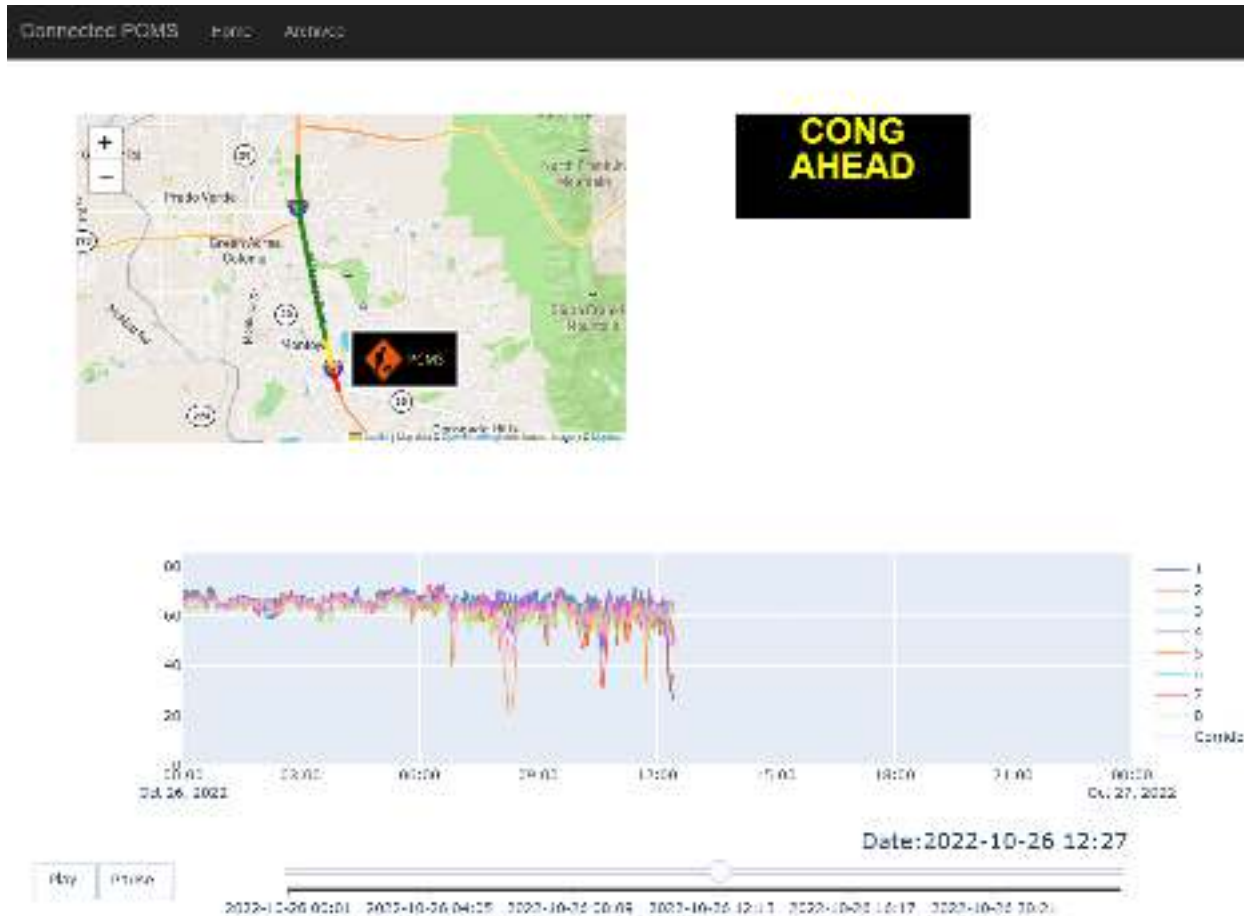
Connected PCMS –Analysis Tool



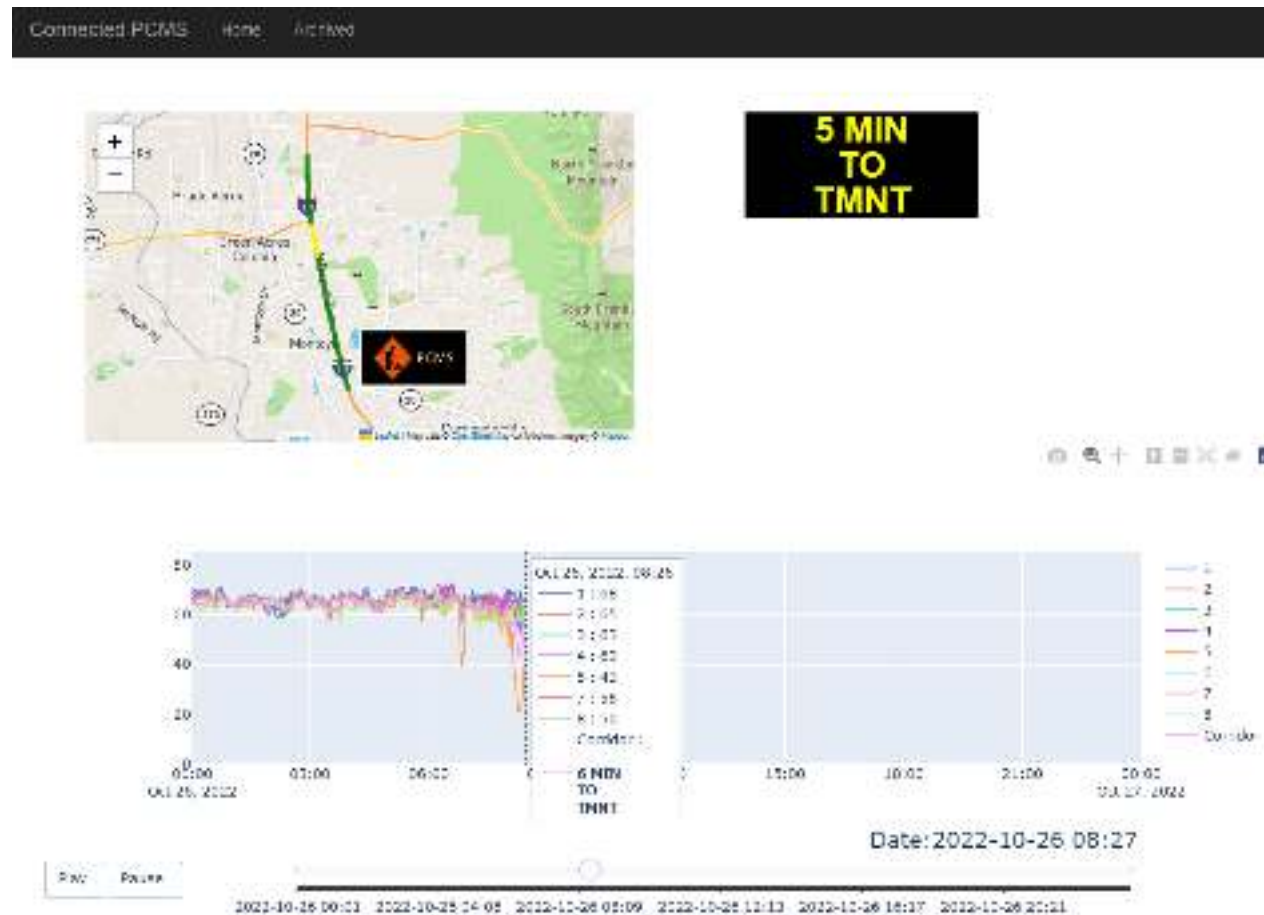
Connected PCMS –Analysis Tool



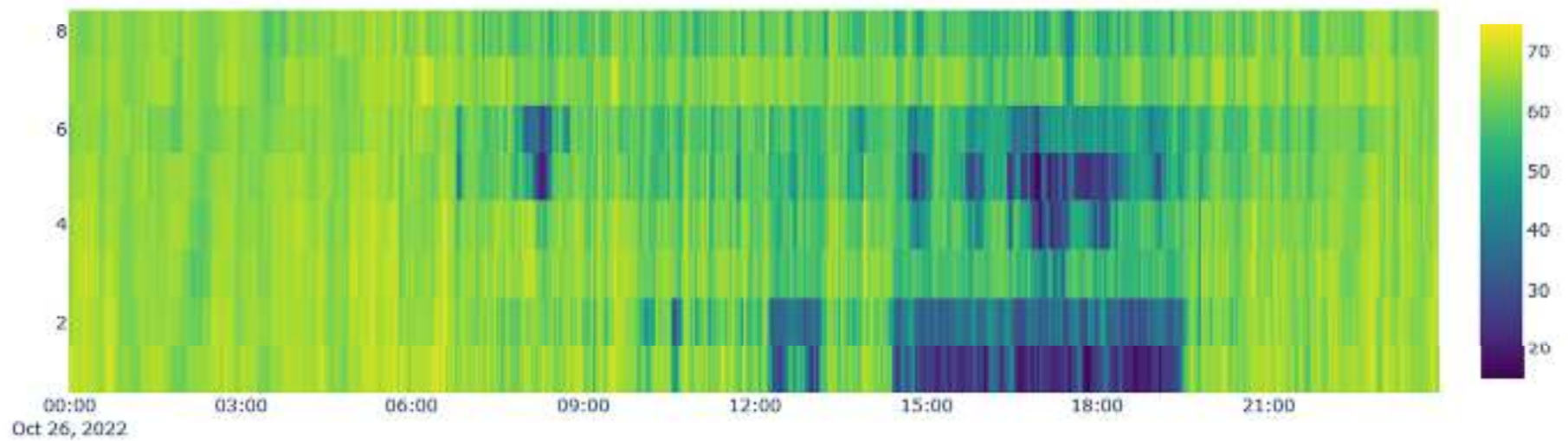
Connected PCMS –Analysis Tool



Connected PCMS –Analysis Tool



Connected PCMS –Analysis Tool



Connected PCMS –Demo

<https://pcmsappserver.southcentralus.cloudapp.azure.com/>

Connected PCMS –Next steps

- Data analysis
- Data verification with videos
- Field deployment and testing

Connected PCMS – Feedback



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