

TRAFFIX



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HOW MIGHT WE IMPROVE RESPONSE TIME FOR TRAFFIC INCIDENTS BY AIDING ACCIDENT DETECTION AND PRIORITIZATION?

PROBLEM SPACE



Current delays in accident detection & response time cause unnecessary mortalities, increased traffic congestion, and secondary collisions.

BY THE NUMBERS

- Over **43,000 Americans** killed annually in highway crashes (EPA)
- Response time reduction by **10 minutes** decreases probability of death by **1/3** (FHWA)
- Only **70%** (urban) & **36%** (rural) of accident reports are received within **5 minutes** (MIT)
- Likelihood of secondary accidents increases by **2.8% per minute** (FHWA)

IMPACT

Reducing response time by three minutes could save 12% of accident victims (who do not die immediately on impact)

KEY INSIGHTS



- Police officers must assess incidents on site to determine severity.
- Live DoT traffic mapping uses **developing traffic blockages** to locate unreported accidents, **increasing congestion & decreasing response times**
- 10,000 publicly accessible cameras in Atlanta alone** for implementation of AI/ML detection software (GDOT)

PART 1: INCIDENT DETECTION



Using the existing network of traffic camera feeds, we can use computer vision and artificial intelligence to identify traffic incidents

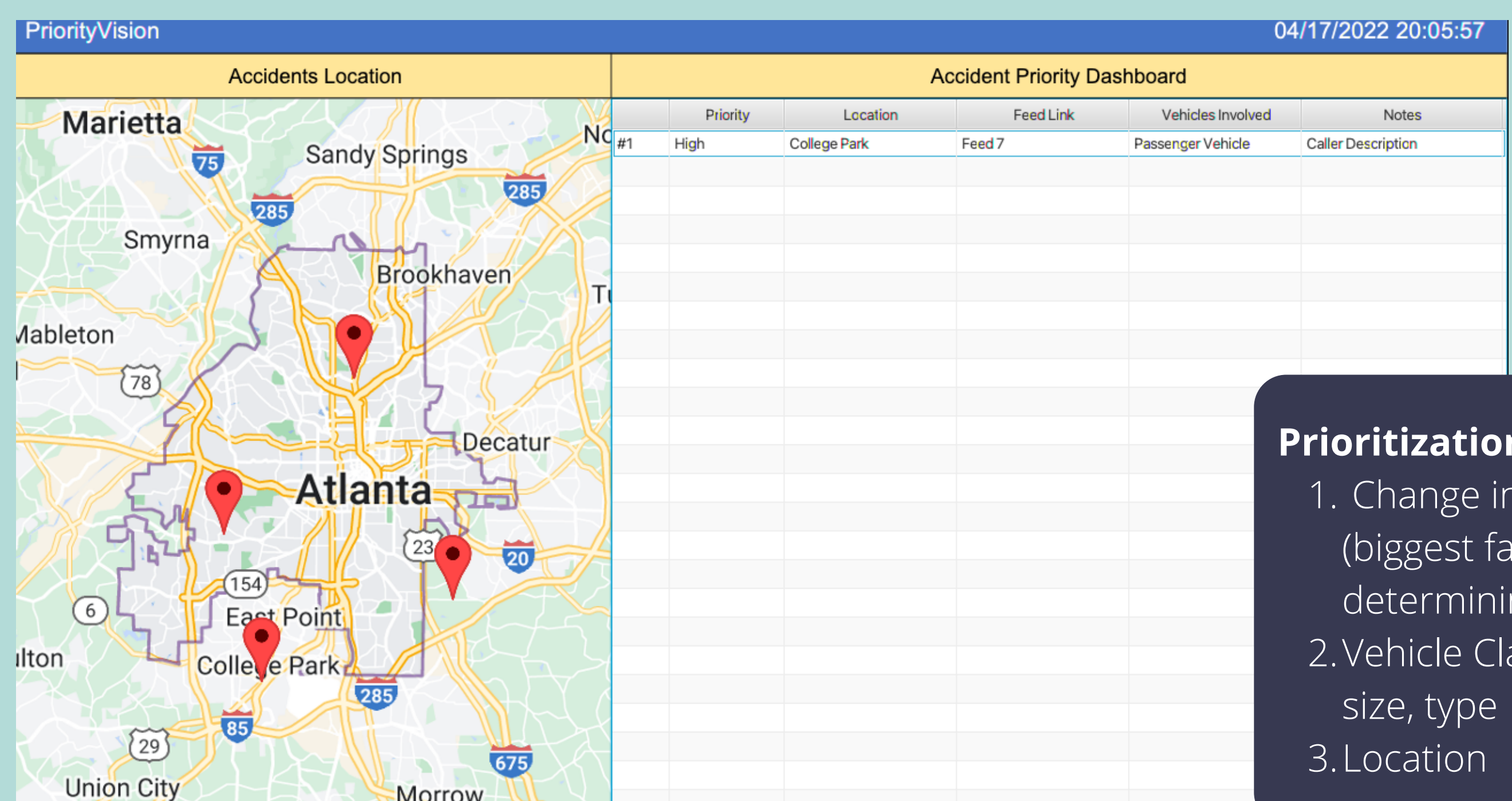


PART 2: RESPONSE PRIORITIZATION DASHBOARD



Interface Walk through

- Dashboard updates with new accident information and priority
- Dispatch reviews linked feed to verify accident
- Dispatch can integrate caller description into dashboard
- Dispatch sends response team based on decision matrix



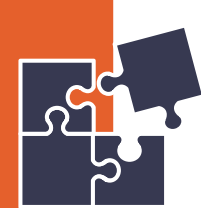
Prioritization Factors

- Change in velocity (biggest factor in determining severity)
- Vehicle Classifications: size, type
- Location

SOLUTION: UNIQUE VALUE PROPOSITION

Traffic incident detection and decision matrix to automate dispatch response

CURRENT SOLUTIONS



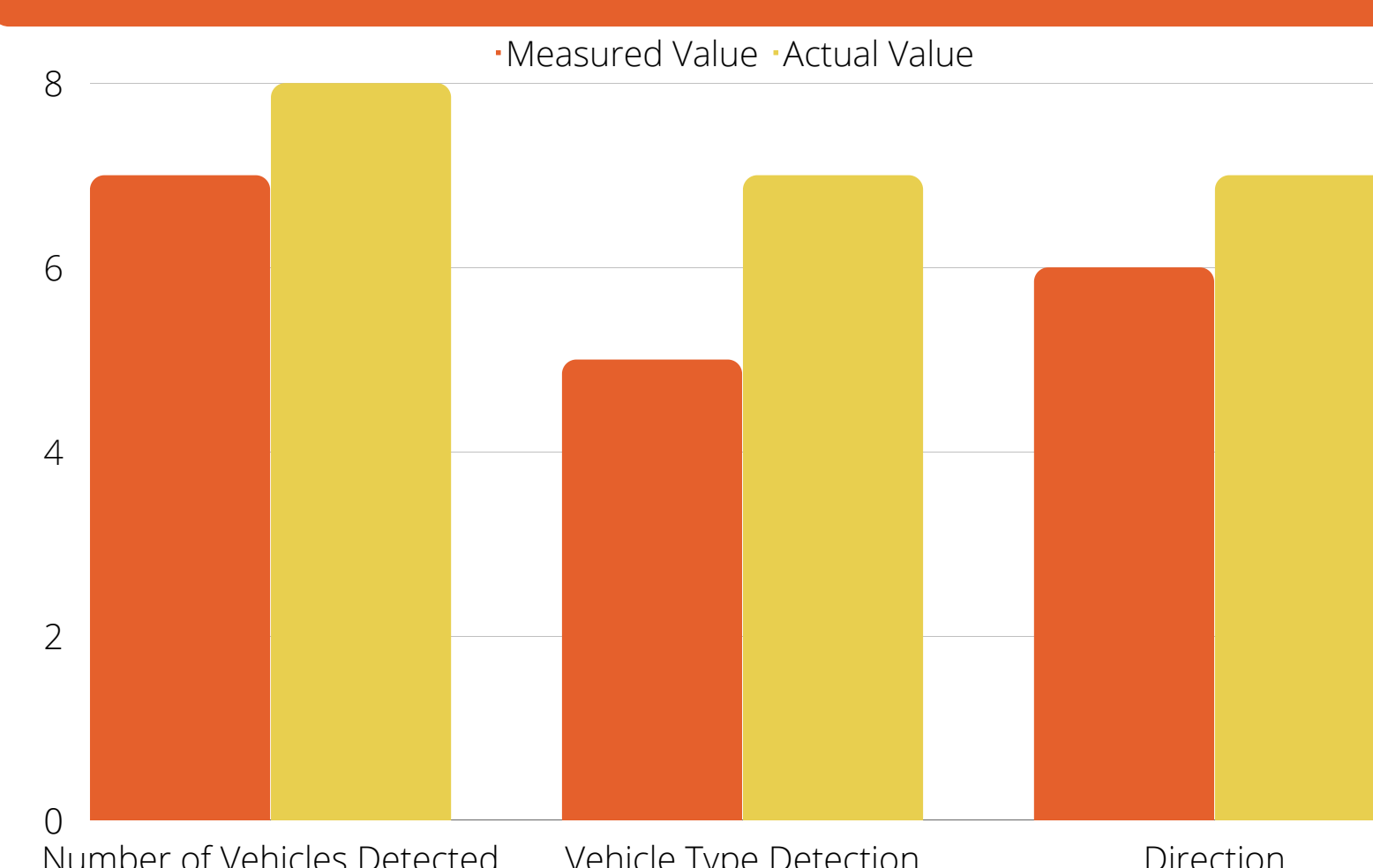
	ACCURATE INCIDENT EVALUATION	RESPONSE TEAM INTERFACE	RESPONSE PRIORITIZATION
DRIVER REPORTS		✗	✗
SMARTPHONE APPS	✓	✗	✗
TOW TRUCK DEPLOYMENT	✗	✓	✗
OUR SOLUTION	✓	✓	✓

EXPERIMENT RESULTS



Assumption: Traffic cameras can be used to detect traffic flow information

Camera Vision Accuracy



IMPLEMENTATION PLAN



Early Adopter Target Group: **ATL Dispatch**

Early Implementation:

- Deployment to Public Cameras paired with Mobile and Desktop Apps for dispatch
- Targeted local government contracts

Future Scaling:

Standard software & matrix targeted toward other cities and eventually states