

# CV Data 101:

**Understanding the ecosystem in  
2022, and how to best leverage it**

Nate Reynolds

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REKOR ONE™ TRAFFIC MANAGEMENT

# Push and pull data from a variety of sources

Built with an open architecture to integrate with a wide variety of data sources, such as connected vehicle marketplace providers and vehicle manufacturers. Easily extendable to add additional third-party data sources.





# Sources of connected vehicle data



## Vehicle Sensors

Speed, vehicle position, tire friction, etc.



## After Market Telematics Devices

Speed, vehicle location, collision, weather



## Dashboard Camera

Construction zones, Incident detection, incident verification



## Crowdsourced Data

Crashes, debris, potholes, road closures, stalled vehicles



## Infotainment Systems

Location and speed



# CV stats and details



**3 second capture rate with 30 second latency**



**1.3 billion journeys tracked each month**




**Location data is 95% accurate to within a ~3-yard radius, the size of a typical car**



**Lane level precision allows for precise incident detection, enabling a measurable reduction in time to intervention**



# State of CV

	Current Penetration	Unique Characteristics	Limitations
 <b>CV2X / DSRC</b>		High fidelity data	Physical infrastructure required
 <b>After-market telematics</b>		More miles traveled	Irregular driving behavior
 <b>OEM data</b>		Granular, rich, diverse, expanding	Latency, cleanliness, volume
 <b>Probe data</b>		High-fidelity data	Aggregated, segment-based, latency
 <b>Other after-market devices (i.e. dashcams)</b>		Broad, rich, unique	Latency, accuracy, edge computing required



# Connected vehicles offer us a vast amount of data that helps fuel valuable traffic insights



**6 GB / day**  
infrastructure  
data



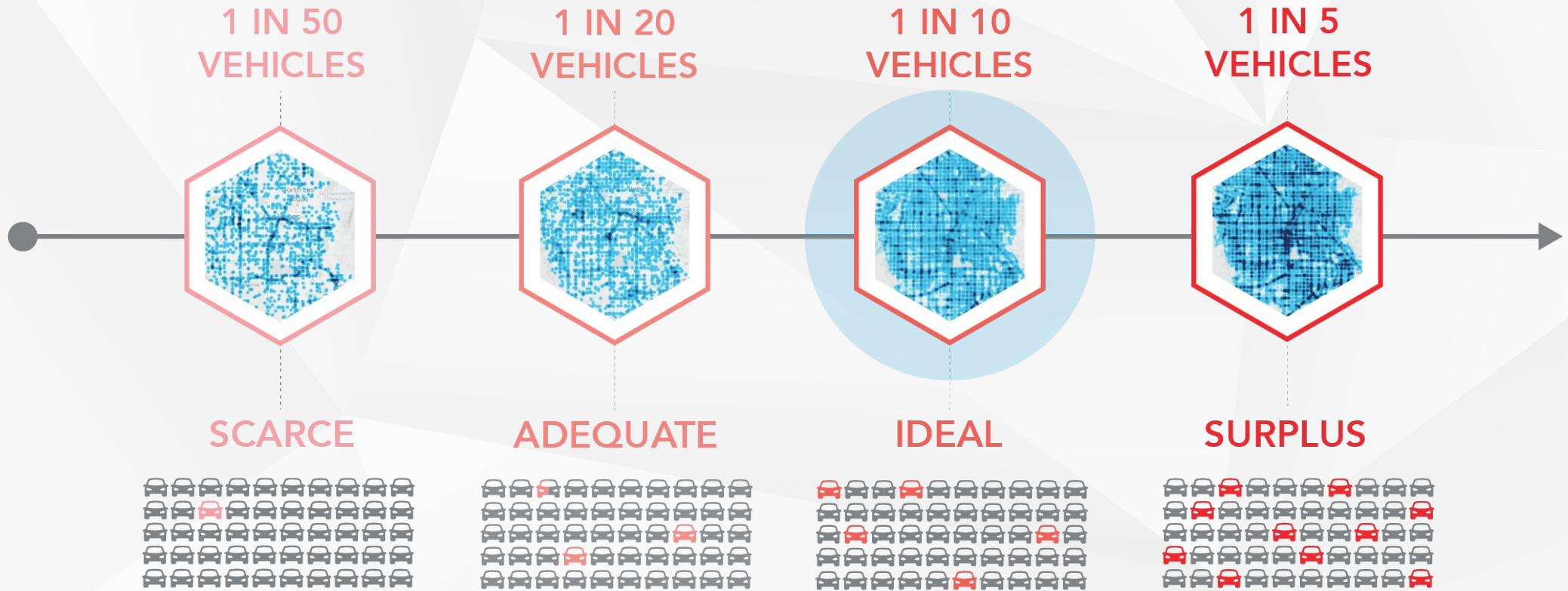
**240 GB / day**  
connected vehicle



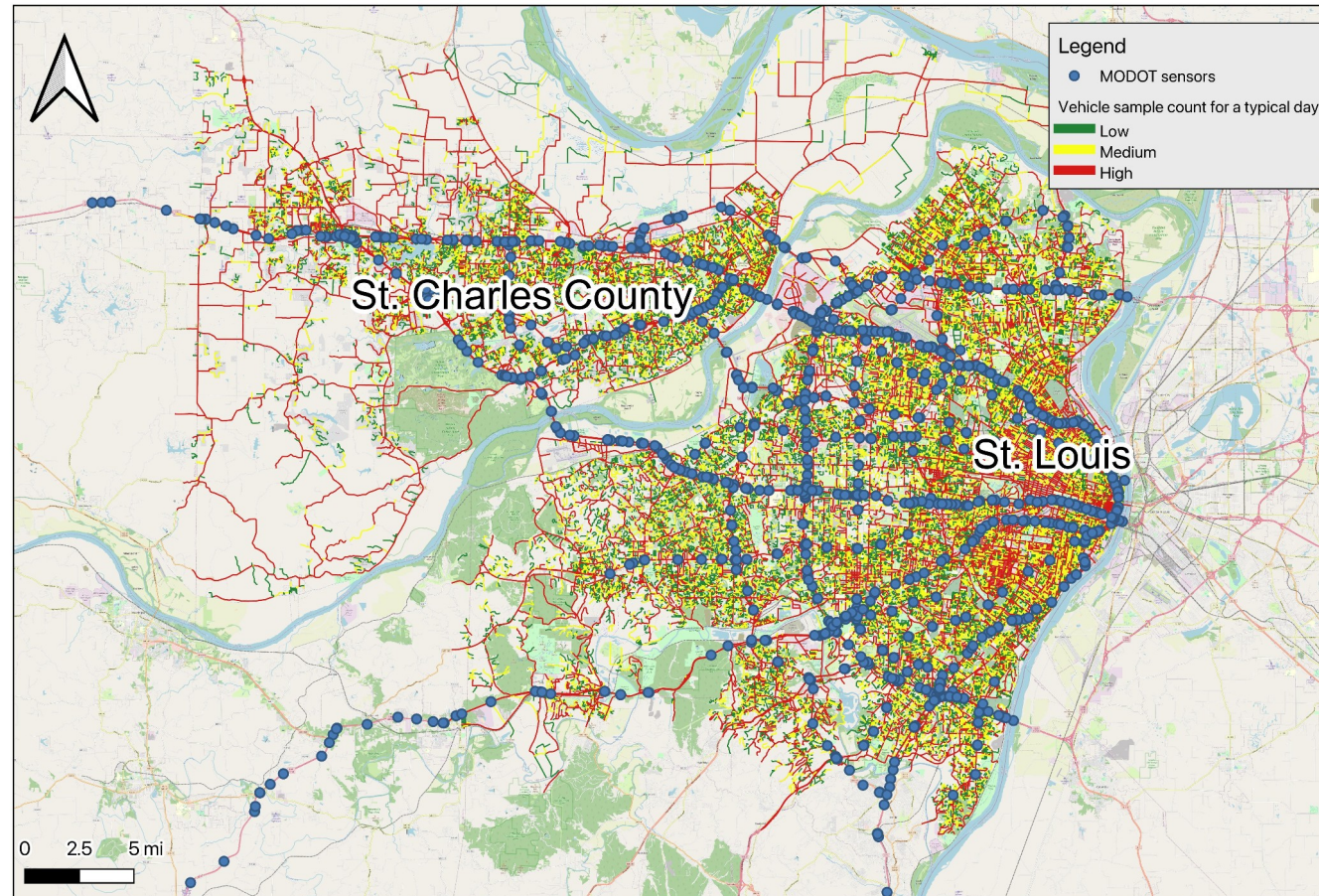
**36 GB / day**  
3<sup>rd</sup> party  
data



# Required CV penetration for ideal roadway coverage



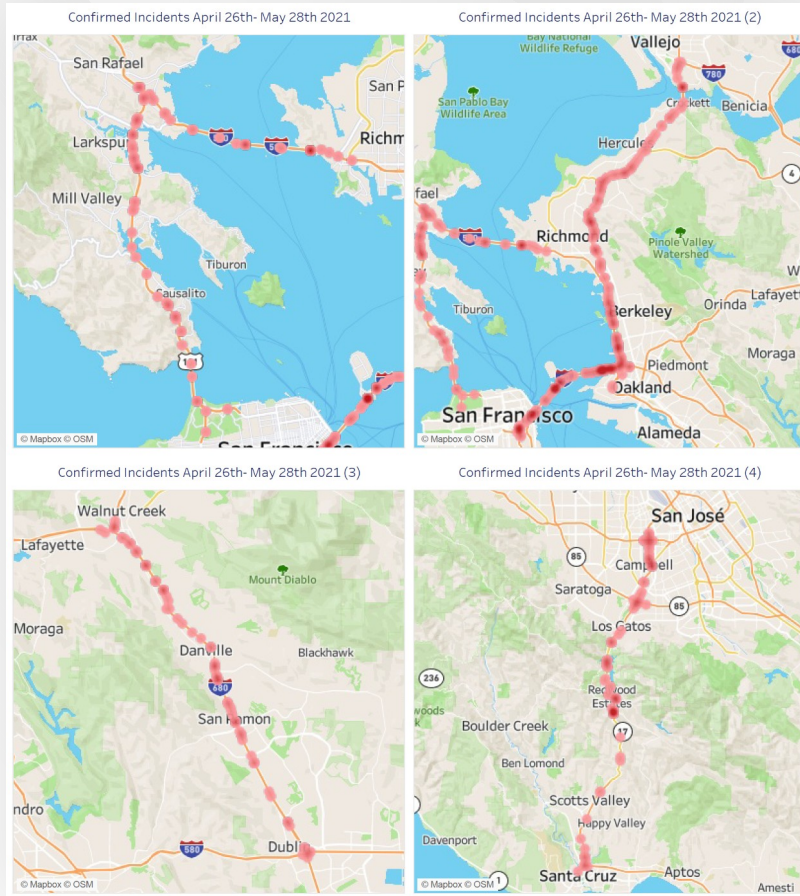
# St. Louis, Missouri: CV coverage compared to traffic sensor coverage





# Illustrating use of CV data for Incident Detection

# Case study: Bay Area deployment



**Additional incidents detected**



**+23%**

Compared to previous incident detection methods

**Incidents identified faster**



**43%**

Of incidents detected were faster than a 911 call



**+8**

Minutes faster, on average, than traditional methods

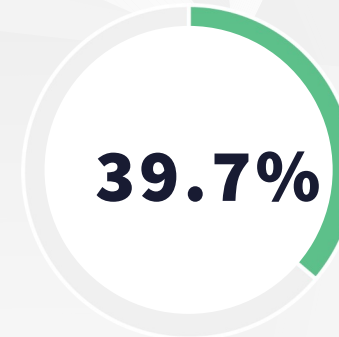
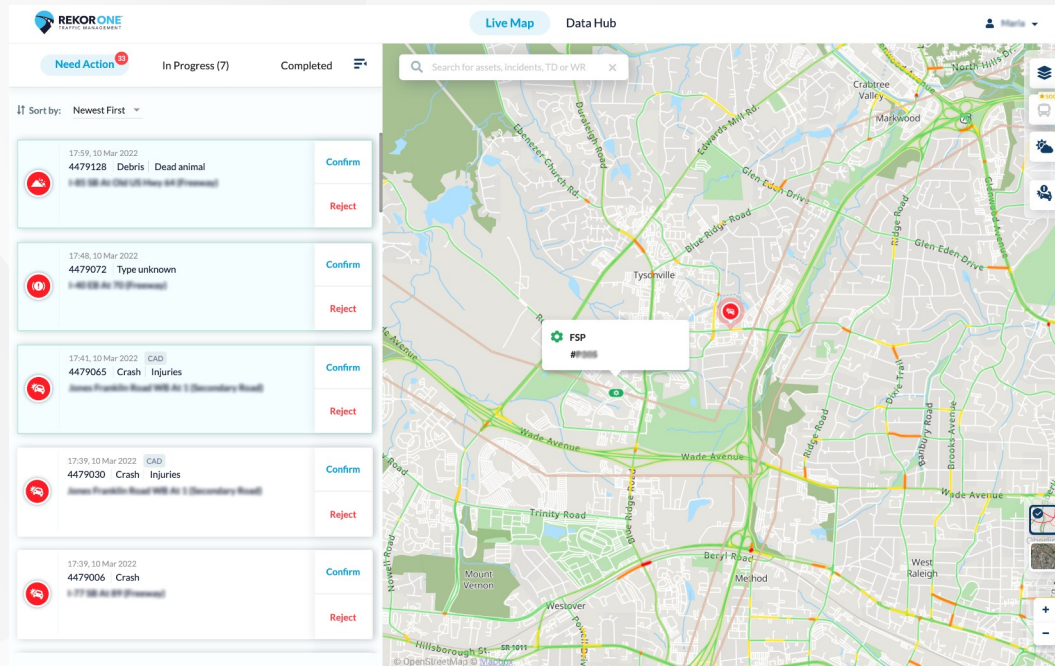
Statistics based on period of April 26<sup>th</sup> – May 28<sup>th</sup>, 2021





# Case study: North Carolina

Early results: Incident Identification



**39.7% of verified incidents were raised by Rekor One**

*Data from North Carolina DOT Statewide Operations Center (STOC)*

*Time Period: February 7-13, 2022*

# How can we incorporate this into the IIJA?

Strengthening Mobility and Revolutionizing Transportation (SMART) grant program



**Coordinate  
Automation**



**Connected  
Vehicles**



**Intelligent, sensor-  
based infrastructure**



**Systems  
integration**



**Commerce delivery  
and logistics**



**Leveraging use of  
innovative aviation  
technology**



**Smart Grid**



**Smart technology  
traffic signals**





**Nate Reynolds**

VP of Customer Success

nreynolds@rekor.ai

**REKOR.AI**

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