

Wejo @ TTI

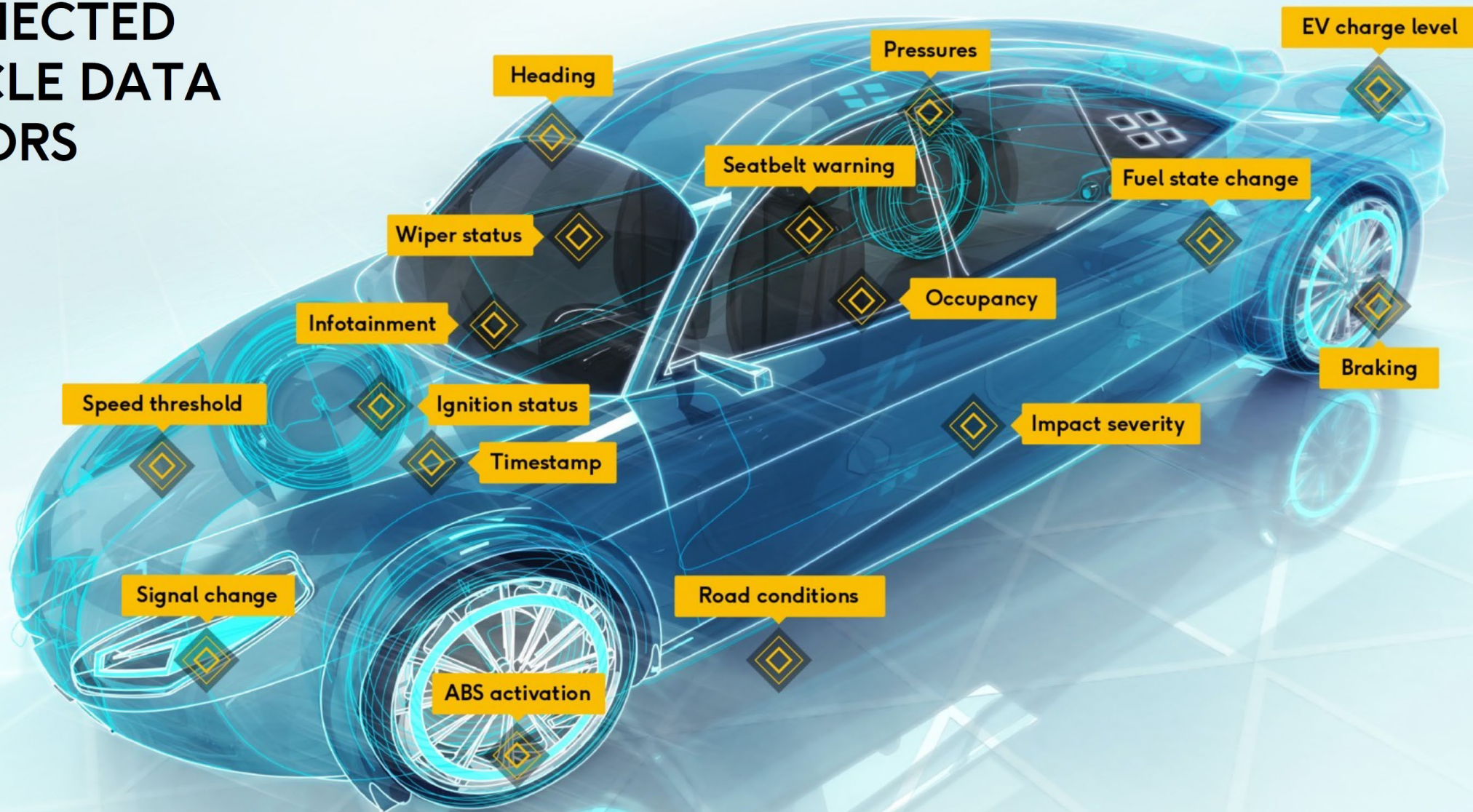
# Putting Connected Vehicle Data to Work

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Texas A&M Transportation Institute

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# CONNECTED VEHICLE DATA SENSORS



# Wejo Engages with OEMs & Tier 1s



**2021**  
14 million live vehicles  
50 million supply base



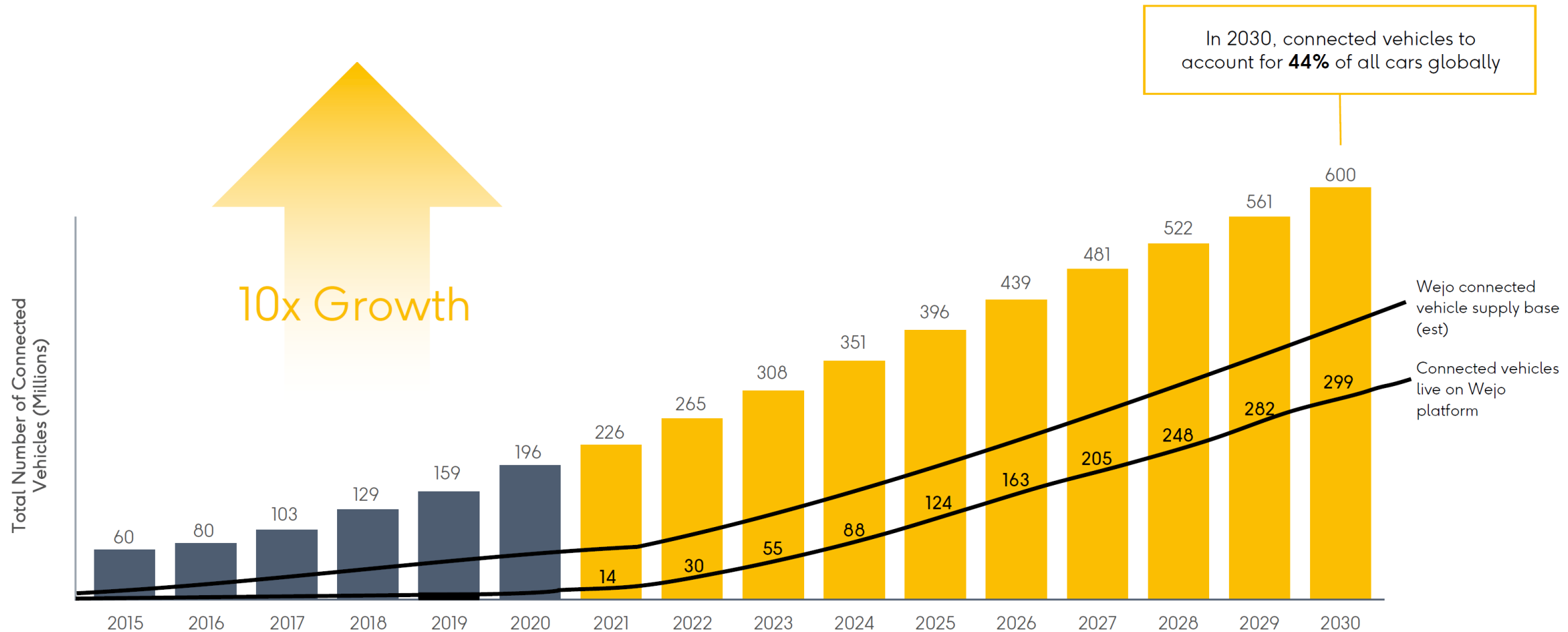
**2025**  
est 120+ million live vehicles  
est 200 million supply base

## Why OEMs & Tier 1s Engage with Wejo

- **Data capture:** Wejo enables OEMs & Tier 1s to optimize sensor data capture and transmission
- **Product:** Wejo turns billions of data points from 100s of sensors into **powerful products**
- **Compliance and regulation:** Disciplined approach to compliance and internal control policies to manage Wejo and partners' data
- **Sales:** Wejo sales teams working in multiple fields of use on a **revenue share** basis
- **Automotive Insights (SaaS):** OEMs & Tier 1s gain mobility intelligence from their own vehicles and components, informing product roadmaps and addressing customers' needs

# The Universe of Connected Vehicles is Rapidly Expanding

From 2020 to 2030, the total number of connected vehicles is **projected to triple**





Fleet Management

### ABOUT PURDUE UNIVERSITY

Purdue University's Joint Transportation Research Program delivers innovations that result in continuous improvement in the planning, design, construction, operation, and economic efficiency of transportation infrastructure.

### SOLUTIONS

- Reduce collisions through road network re-design based on Wejo's driving events data
- Make near real time decision on work zone safety signage and travel time predictions
- Supply solutions to Indiana and multiple other US DoT's.

### KEY FACTS

**17,500x**  
GAIN IN PRODUCTIVITY

**20 ORDERS**  
SINCE JANUARY 2020

"We can now carry out a month's worth of analysis within 45 mins, that previously would have taken **2-3 years**, all using the Wejo data"

**Darcy Bullock**  
*Director, Joint Transportation Research Center, Purdue University*



Construction

Civil Engineering

### ABOUT HDR

HDR partners with clients to connect the right engineering, architecture, environmental & construction services experience & expertise for their projects.

### SOLUTIONS

- Wejo Vehicle Movements data has enabled HDR to win new business
- HDR have conducted speeding and congestion studies to serve customers across 5 US states
- HDR customers such as Florida and Nevada DoT's have used HDR's Wejo solution to replace outdated data capture methods

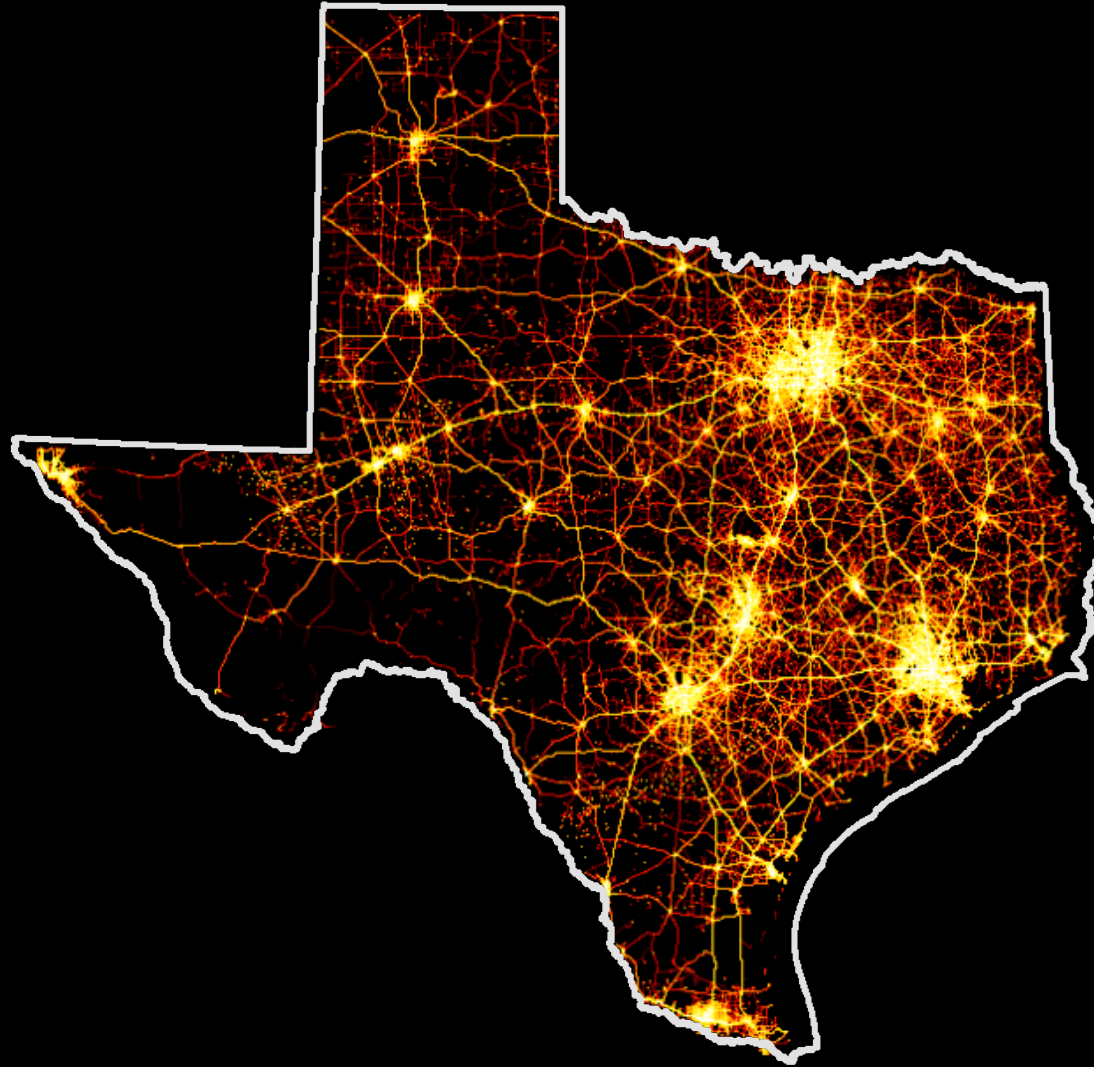
### KEY FACTS

**5**  
NEW CUSTOMER CONTRACTS WON

**COVID**  
IMPACT ANALYSIS

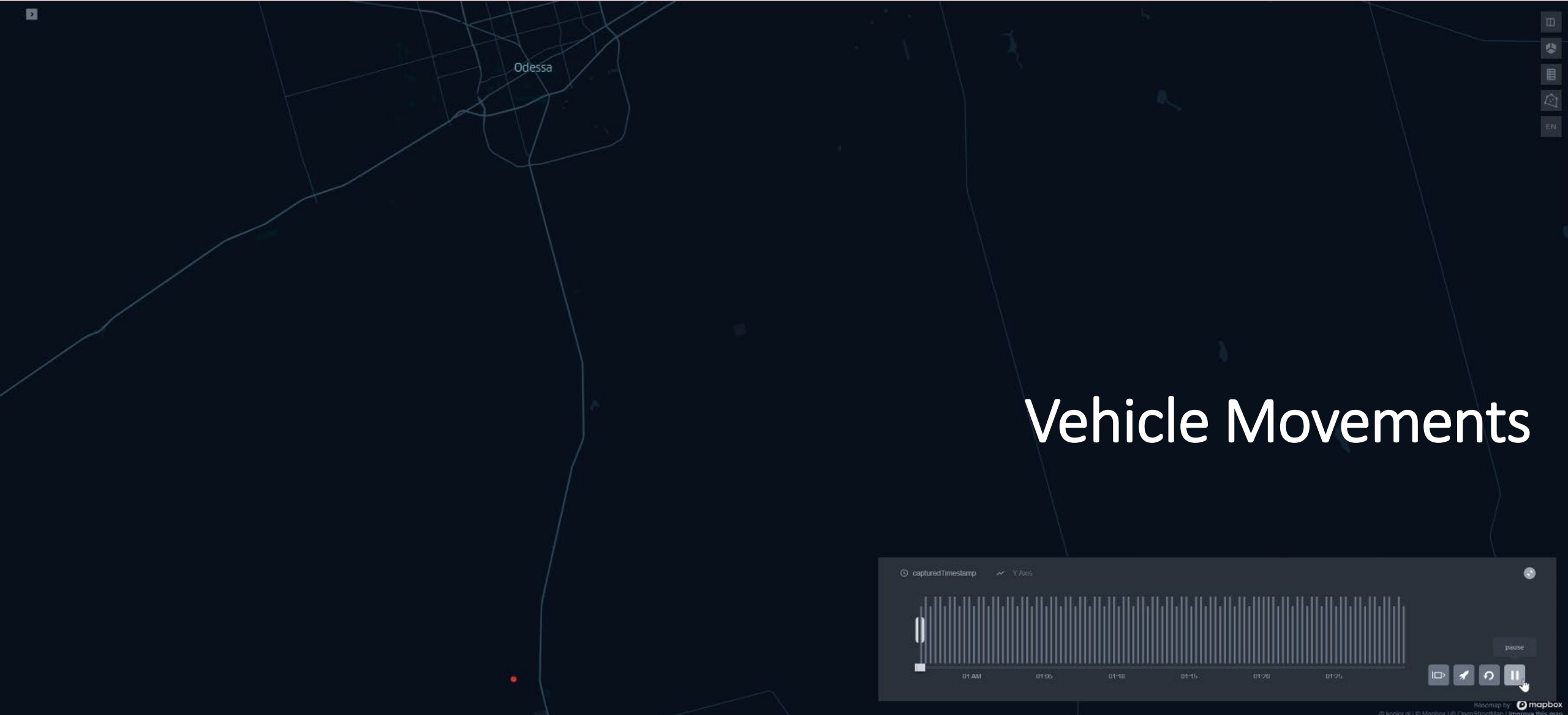
"Not only were we able to get pre-covid data and compare it to pandemic data but we were also able to get origin to destination, speed data for simulation calibration, and field verification of queues. Wejo's raw data set allows us to get answers to questions we had previously not thought to ask."

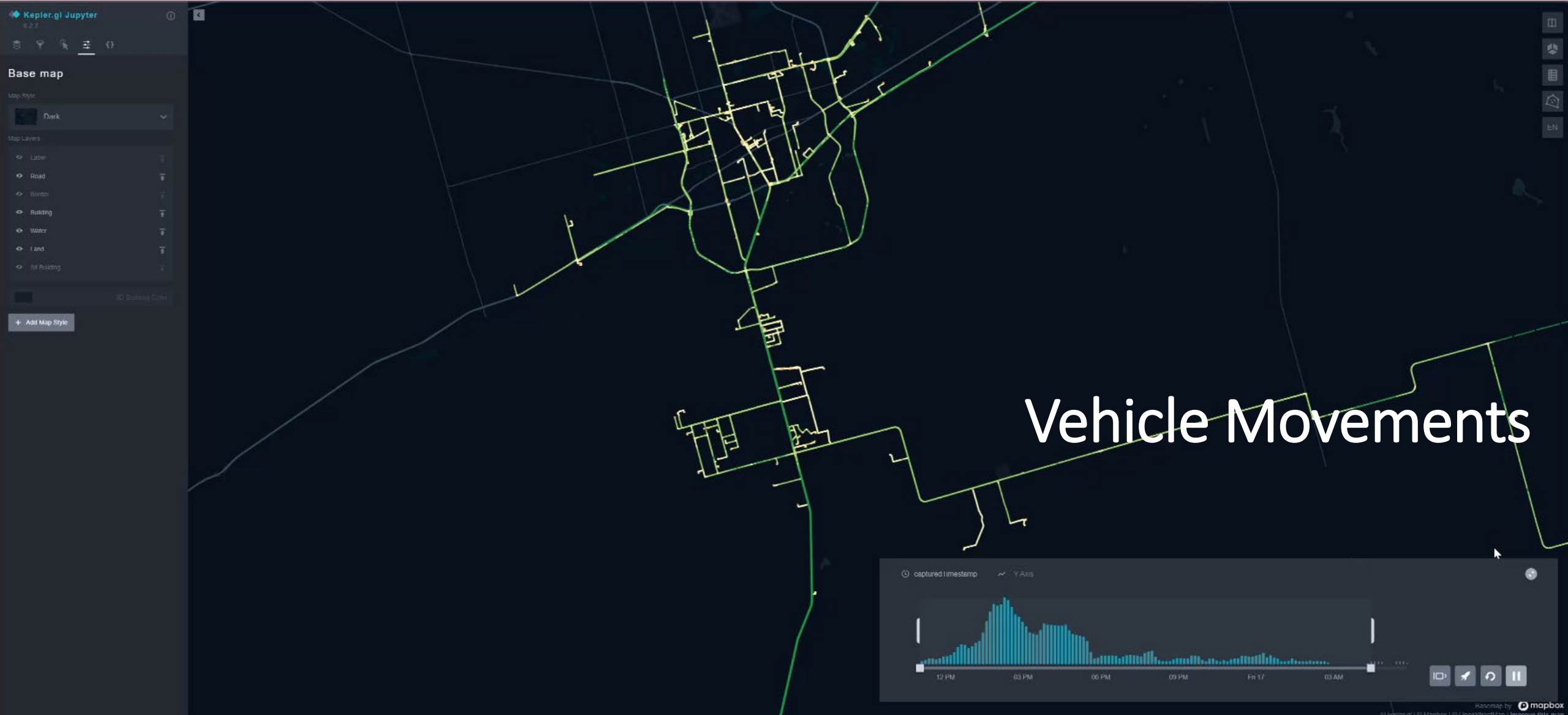
**Kevin Johns**, *Transportation Simulation Specialist, HDR*



# Texas-size Data: Urban & Rural













# Seat belt latching





# Painting a [more detailed] Picture



Sources: [Cara St.Hilaire](#) & [TwoInchBrush.com](#)

## Data are our colors

- Roadway shapefile
- Roadway design details
- Traffic volume
- Crashes
- Behaviors
  - Speeds
  - Hard braking
  - Hard acceleration
  - Turning movements

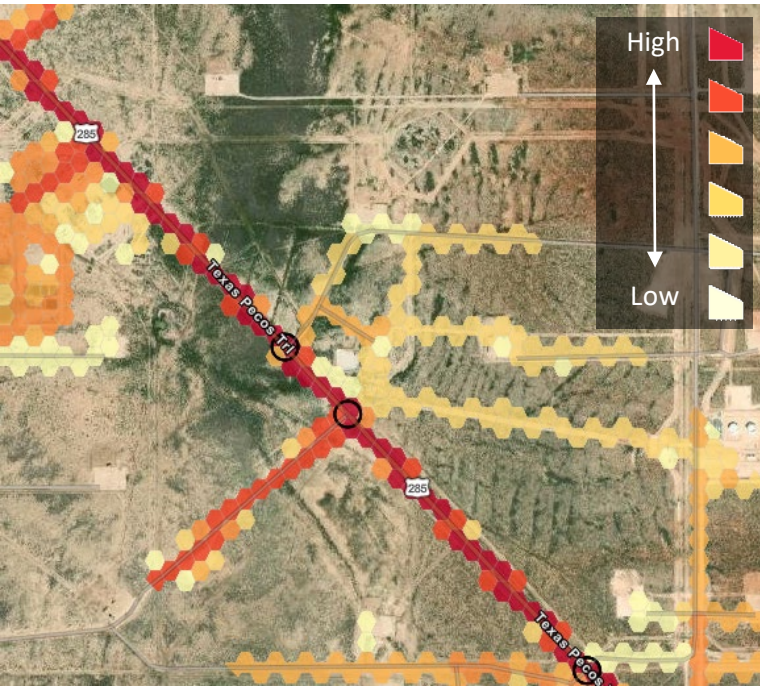
} The broad strokes

} Fine details



# Informing Engineering Decisions

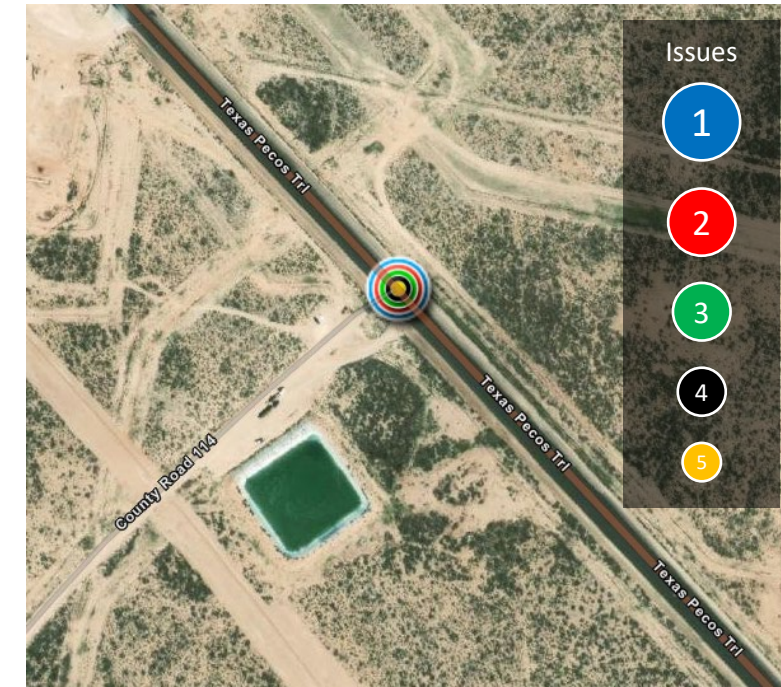
Where & How People Travel



Safety Assessments

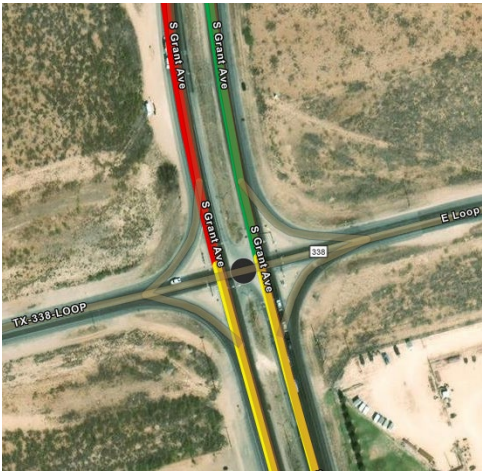


Targeting Opportunities

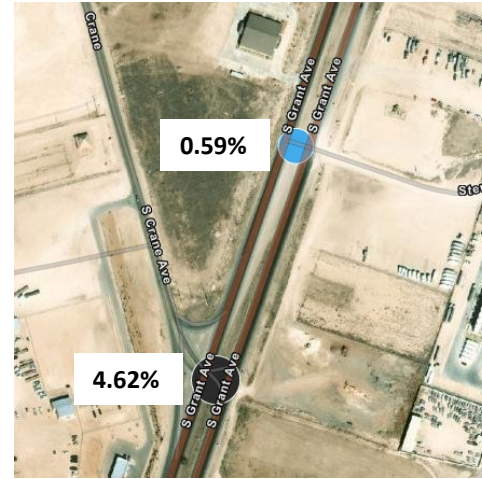


# Create Meaningful Results

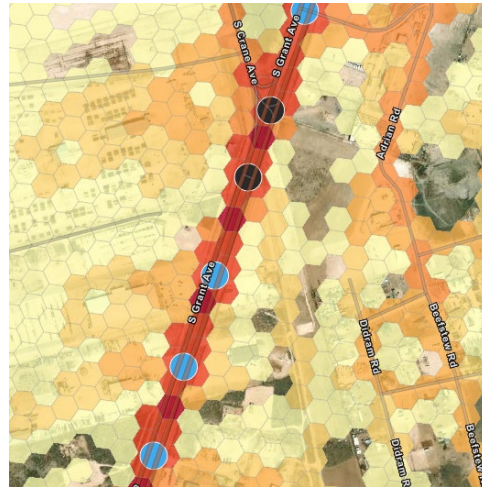
Segment-based Rates



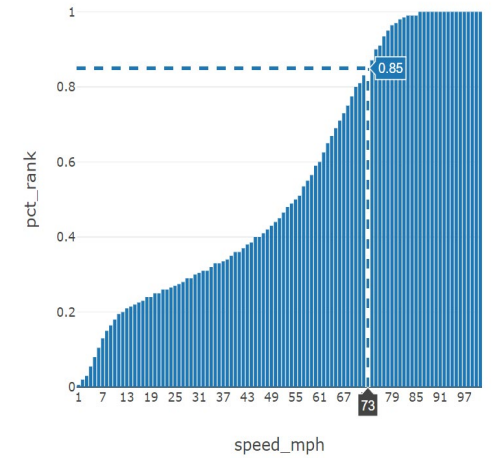
Turning Percentages



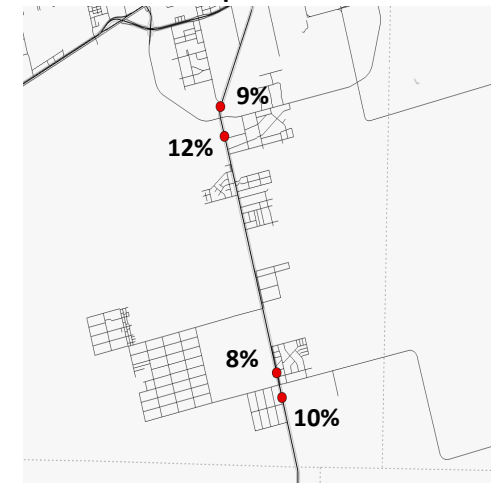
Relative Counts



Speed Profiles

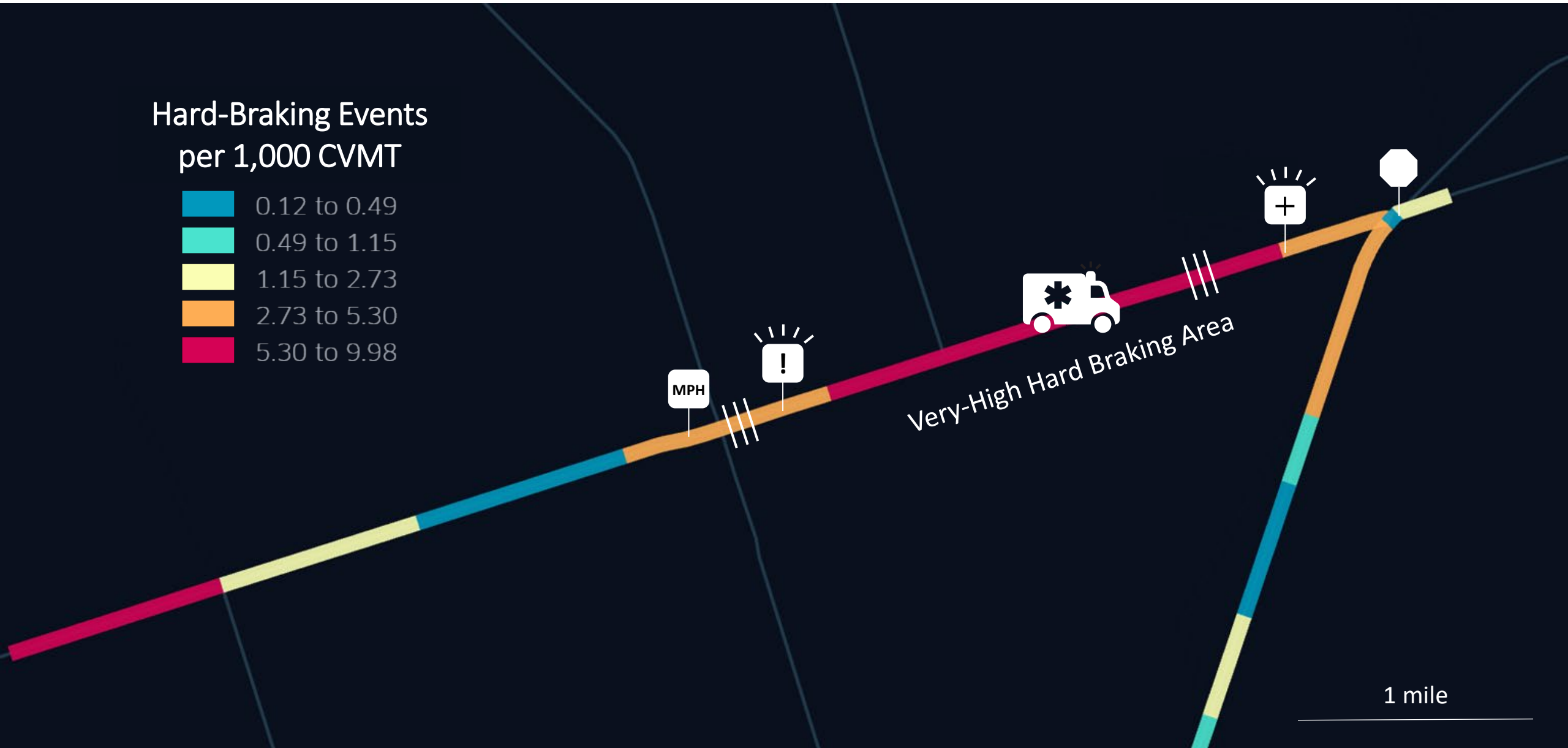
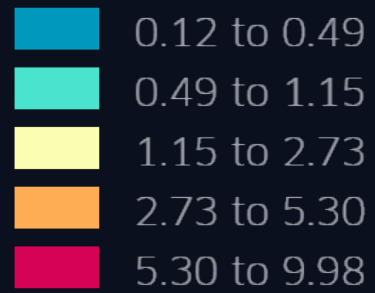


Sample Rates



# Rapid Response

Hard-Braking Events  
per 1,000 CVMT



# Current TTI Projects using Wejo

1. Safe-D Wejo safety applications (Martin/Li)
2. CIITR (Li/Martin)
3. TxDOT Odessa District IAC (Cline)
4. TxDOT Waco District IAC (Brydia)
5. TxDOT SH 128/Odessa District passing zone study (Finley)
6. TxDOT intersection/driveway safety analysis (Wu)
7. TxDOT 7131 speed metrics (Das)
8. ODOT Investigation of CMV-Related Crashes in Ohio Work Zones (Finley)
9. NCHRP 07-30 AADT Estimation (Yianni)
10. NICR access management treatment evaluation (Albert)
11. NICR accessibility (Jack Kong)
12. TTI air quality modeling (Apoorba & Madu)
13. TTI EV charging stations (Mohammad)



# Wejo License Purchases

- |                                     |             |               |
|-------------------------------------|-------------|---------------|
| 1. \$50,000 (TTI PI pooled funds)   | Statewide   | 2 months 2019 |
| 2. \$30,000 (TxDOT Odessa District) | 4 Districts | 4 months 2020 |
| 3. \$44,995 (TxDOT Odessa District) | 5 Districts | 4 months 2021 |
| 4. \$100,000 (TxDOT Waco District)  | 1 District  | 1 year 2021   |
| 5. \$\$\$ (TxDOT HQ)                | Statewide   | 1 year 202X   |

# Cloud Computing Resources

- Capabilities built from Safe-D work
- Architecture built with NIS support
- Powerful, flexible, and scalable
- Costs allocated to projects
- Now in expansion mode



# Next Steps

- Wejo & TTI Pro Services contract
- TxDOT statewide data purchase
- Develop more talent at TTI
- Help more SMEs test/use CV data

