

Arkansas Transportation Summit

October 28, 2025



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Our mission

Make the world's roads & drivers safer

CMT Safety Focus - Exclusively focused on providing innovative technology and unique insights that improve road transportation safety for all. Your Mission is Our Mission

Proven Risk Prediction - Unique telematics-derived driving behavior and predictive road risk insights that have helped prevent nearly 100,000 crashes worldwide.

Telematics-based AI Insights for the Mobility Ecosystem



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Mobility - Uber

Insurers - 22 of top 25

Consumers - Roadclub

OEMs - vehicle safety

Citie and State DOTs

Making The World's Roads and Drivers Safer

120
UBI programs

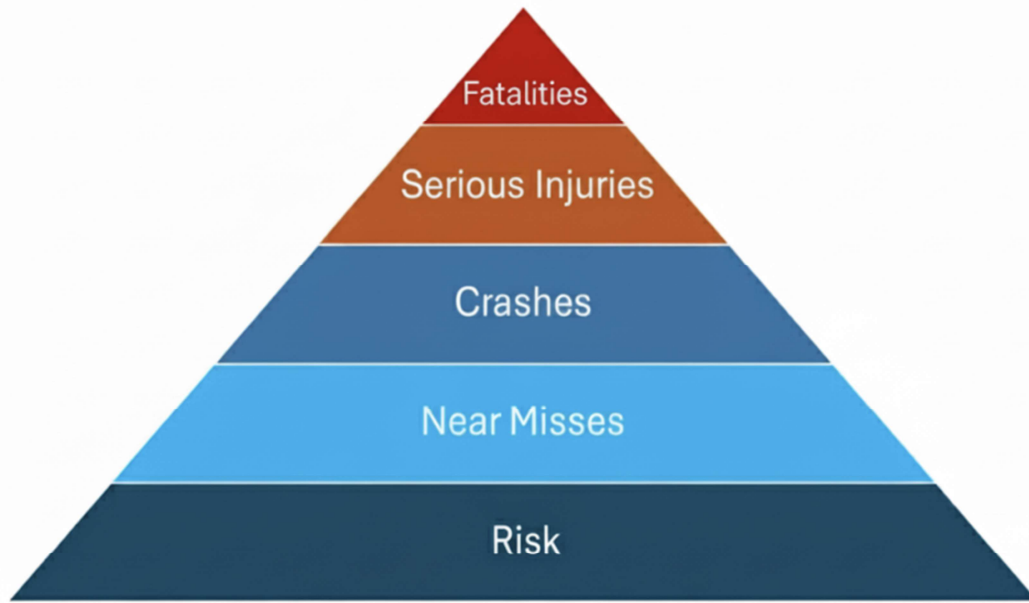
6
Continents

18
Languages

83%
of US vehicles are insured by our customers

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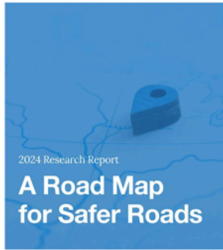




From Reactive to Proactive to Predictive: Data drives discovery

Adapted for traffic safety - Ricardo Martinez, MD

Safe Driving Research





Original Investigation | Public Health
**Feedback and Financial Incentives for Reducing Cell Phone Use While Driving
A Randomized Clinical Trial**

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Abstract

IMPORTANCE Handheld phone use while driving is a major factor in vehicle crashes. Scalable interventions are needed to encourage drivers not to use their phones.

OBJECTIVE To test whether interventions involving social comparison feedback and/or financial incentives can reduce drivers' handheld phone use.

DESIGN, SETTING, AND PARTICIPANTS In a randomized clinical trial, interventions were administered nationwide in the US via a mobile application in the context of a usage-based insurance program (Snapshot Mobile application). Customers were eligible to be invited to participate in the study if enrolled in the usage-based insurance program for 30 to 70 days. The study was conducted from May 13 to June 30, 2019. Analysis was completed December 22, 2023.

INTERVENTIONS Participants were randomly assigned to 1 of 6 trial arms for a 7-week intervention period: (1) control, (2) feedback, with weekly push notification about their handheld phone use compared with that of similar others, (3) standard incentive, with a maximum \$50 award at the end of the intervention based on how their handheld phone use compared with similar others; (4) standard incentive plus feedback, combining interventions of arms 2 and 3; (5) reframed incentive plus feedback, with a maximum \$75 award each week, framed as participant's to lose; and (6) doubled reframed incentive plus feedback, a maximum \$14.29 weekly loss-framed award.

MAIN OUTCOME AND MEASURE Proportion of drive time engaged in handheld phone use in seconds per hour (s/h) of driving. Analyses were conducted with the intention-to-treat approach.

RESULTS Of 17 663 customers invited by email to participate, 2109 opted in and were randomized. A total of 2020 drivers finished the intervention period (68.0% female; median age, 30 [IQR, 25-39] years). Median baseline handheld phone use was 216 (IQR, 72-480) s/h. Relative to control, feedback and standard incentive participants did not reduce their handheld phone use. Standard incentive plus feedback participants reduced their use by -38 (95% CI, -69 to -8) s/h ($P = .045$); reframed incentive plus feedback participants reduced their use by -56 (95% CI, -87 to -26) s/h ($P < .001$); and doubled reframed incentive plus feedback participants reduced their use by -42 s/h (95% CI, -72 to -13 s/h, $P = .007$). The 5 active treatment arms did not differ significantly from each other.

CONCLUSIONS AND RELEVANCE In this randomized clinical trial, providing social comparison feedback plus incentives reduced handheld phone use while individuals were driving.

TRIAL REGISTRATION ClinicalTrials.gov Identifier: NCT03833219

JAMA Network Open. 2024;7(7):e2420228. doi:10.1001/jamaopen.2024.20228

Key Points

Question Can behavioral interventions decrease handheld cell phone-based driver distraction?

Findings In this randomized clinical trial with 2020 participating auto insurance customers, the median baseline level of handheld phone while driving was 216 seconds per hour. Those randomized to interventions combining social comparison feedback and financial incentives reduced their handheld phone use while driving by 15% to 21% relative to the control group.

Meaning The findings of this study suggest that auto insurers could incorporate these interventions into behavior-based insurance plans and potentially reduce distracted driving at scale and therefore crash risk in the population.

Supplemental content

Author affiliations and article information are listed at the end of this article.



15-21% reduction in distracted driving in teenagers

**The utility of telematics data for estimating the prevalence
of driver handheld cellphone use, 2019–2022**

August 2023

Ian J. Reagan
Jessica B. Cicchino
Eric R. Tooh



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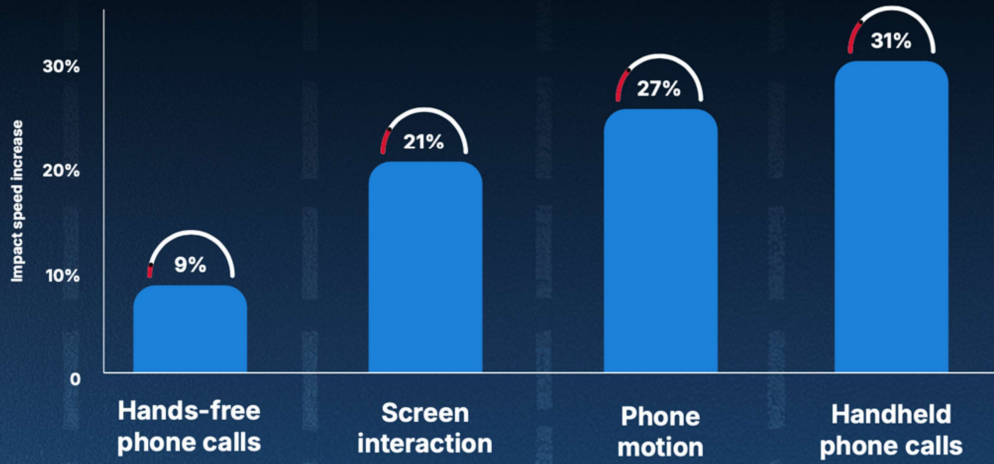
iihs.org



3rd party analysis of population wide
distracted driving risk accuracy from
NHTSA source, confirmation of
measurement



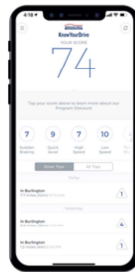
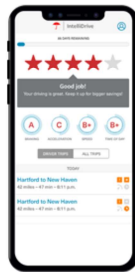
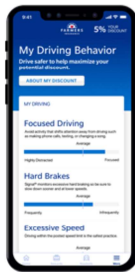
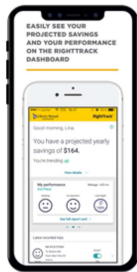
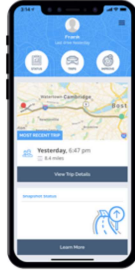
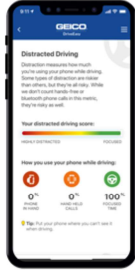
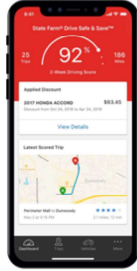
Crash impact speed increase by distraction type



Distraction type within 10 seconds of crash



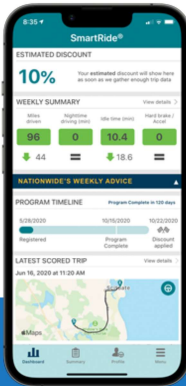
Every Top 10 insurer has a telematics program



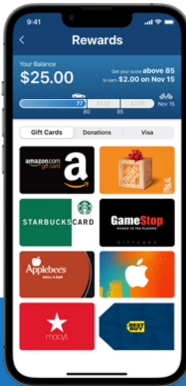
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Multiple Different Use cases



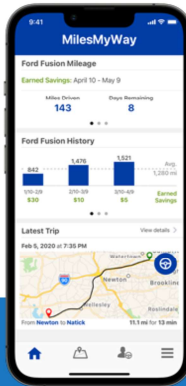
Discounts



Rewards



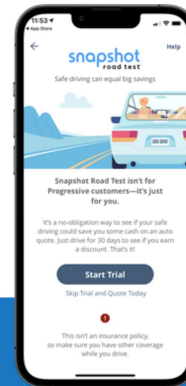
Young Drivers



Mileage-Based



Family Safety



Try Before You Buy

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Smartphone App-based Sensing

Capture driving behaviors, no hardware required



Accelerometer

Identifies phone position with axis-based motion sensing.

Gyroscope

Works with accelerometer to determine position of phone.

Magnetometer

Measures magnetic fields.

GPS

Identifies phone location with multiple satellites.

Barometer

Measures air pressure.

Proximity sensor

Determines the proximity of the phone to nearby objects.

Ambient Light

Measures the amount of light near the phone.



Tag

Combines Phone and Tag sensors

Records only in tagged vehicle

Records events with no phone

Vehicle mileage estimates

Gyroscope

Accelerometer

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Your mode

Advantage Mode

Advantage Mode can help you earn more.
Meet the requirements to enjoy the perks.

Enjoy the perks



Extra earnings

Earn 5% more per trip on eligible rides



More earning opportunities

Receive more Exclusive ride requests



Priority matching at airports

For ride requests in Trip Radar

Meet the requirements



Acceptance rate

Goal: > 25%

You: 22%



Introducing Advantage Mode & Standard Mode

February 18 / US

Reliable trips keep your riders coming back to the Uber app. That's why Advantage Mode rewards highly rated drivers who accept more rides, cancel less, and drive safely, with more earning opportunities and a better experience in the Driver app.

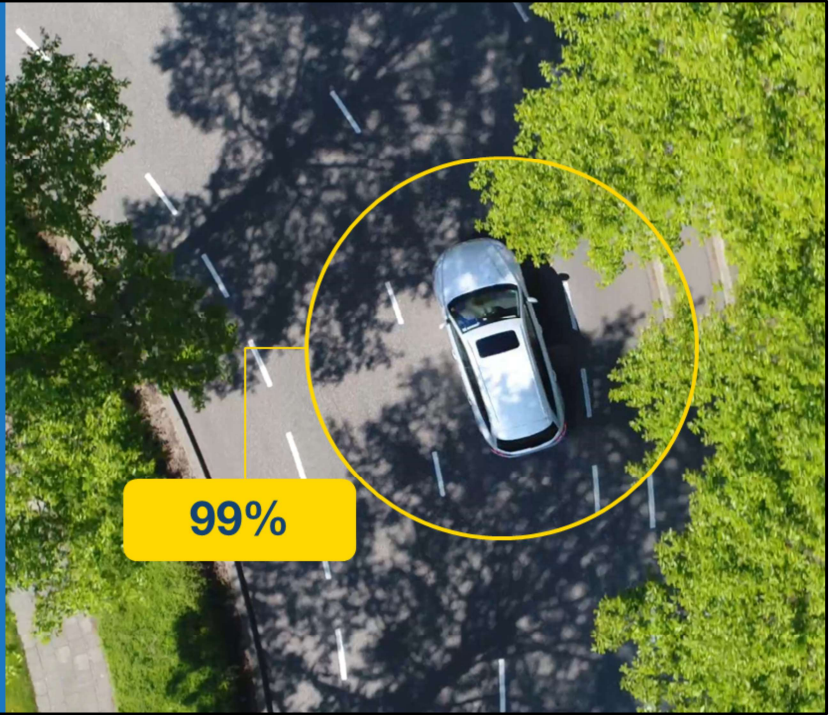
This program is live in these cities:

Albuquerque, NM
 Atlanta, GA
 Austin, TX
 Baltimore, MD
 Birmingham, AL
 Boise, ID
 Central Atlantic Coast, FL
 Charleston, SC
 Charlotte, NC
 Cincinnati, OH
 Cleveland, OH
 Columbia, SC
 Columbus, OH
 Connecticut
 Dallas, TX
 Detroit, MI
 El Paso, TX
 Fort Myers-Naples, FL
 Grand Rapids, MI
 Greenville, SC
 Hampton Roads, VA
 Harrisburg, PA
 Houston, TX
 Indianapolis, IN
 Jacksonville, FL
 Kansas City, KS/MO
 Las Vegas, NV
 Lehigh Valley, PA
 Louisville, KY

Madison, WI
 Memphis, TN
 Miami, FL
 Nashville, TN
 New Orleans, LA
 Oklahoma City, OK
 Omaha, NE
 Orlando, FL
 Philadelphia, PA
 Phoenix, AZ
 Piedmont Triad, NC
 Pittsburgh, PA
 Raleigh-Durham, NC
 Reno, NV
 Rhode Island
 Richmond, VA
 Salt Lake City, UT
 San Antonio, TX
 Sarasota, FL
 Savannah-Hilton Head, GA
 St. Louis, MO
 Tallahassee, FL
 Tampa, FL
 Tucson, AZ
 Tulsa, OK
 Wilkes-Barre Scranton, PA



Automatic transportation mode detection



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Automatic driver detection



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Identifying and Reconstructing Crashes with AI



DriveWell Crash

Receive real-time notice of a crash to take action

<1 minute

- Location
- Time
- Driver ID
- Real-Time Severity
- Confidence



DriveWell Claims

Review crash storylines to support claims management





<10 minutes

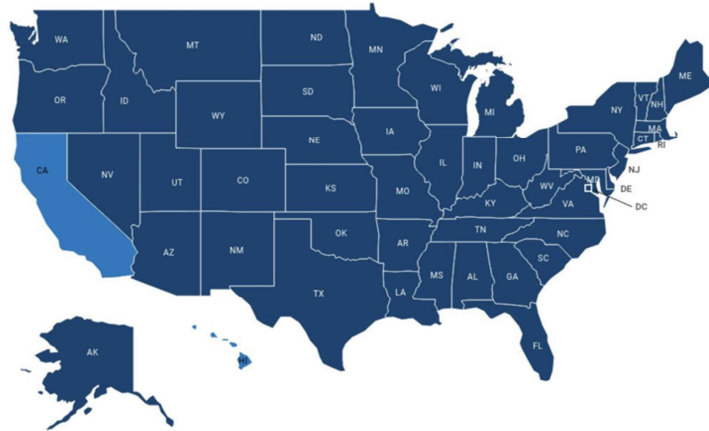
- Driver ID
- GPS Location
- Time of Impact
- Speed
- Crash Description
- Crash Duration
- Hit Location
- Severity Indicator
- Acceleration
- Delta-V
- Number of Impacts
- Evasive Maneuvers
- Weather
- Time of Day



Premium Driver Risk Score

Variables with proven lift & DOI-approved in 49 states

-  Hard braking
-  Excessive speeding
-  Phone motion
-  Screen interaction



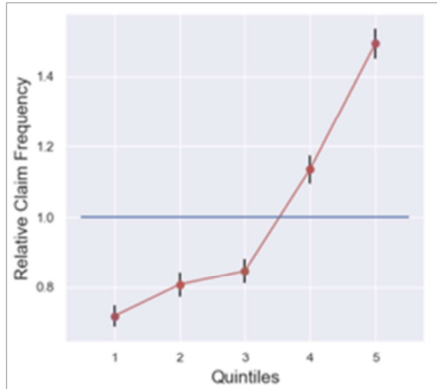
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Map

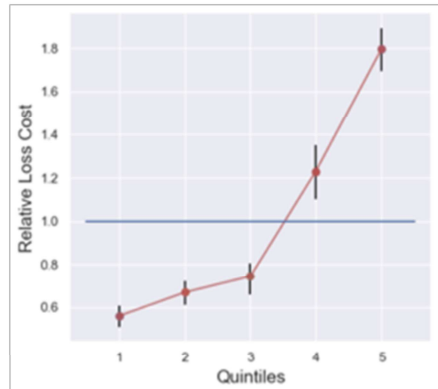
Premium Driver Score: Proven lift

Frequency of Loss



Mean Lift: 2.08
[1.97-2.2 Quartile Range]

Loss Cost Validation



Mean Lift: 3.22
[2.88-3.59 Quartile Range]



Understanding Crashes

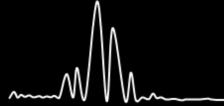


Insights from Mobile Telematics



Sensor Data Collection

Phones, IoT devices, vehicles, and cameras



High-Frequency Time Series

Vehicle dynamics and driver behavior



Integrate with Contextual Data

Maps, speed limits, weather, and road characteristics



Extract Risky Events & Generate Analytics

Braking, distraction, speeding, acceleration, road type, time-of-day, and distance





Joe

Intro CMT (Cambridge Mobile Telematics) - 15 year old Cambridge, MA innovative technology company that has grown in that time to be global leader in roadway safety with our AI powered telematics-driving behavior platform

Unique Mobility Safety Network:

12 million US drivers

1/2 billion US trips

5 billion records daily

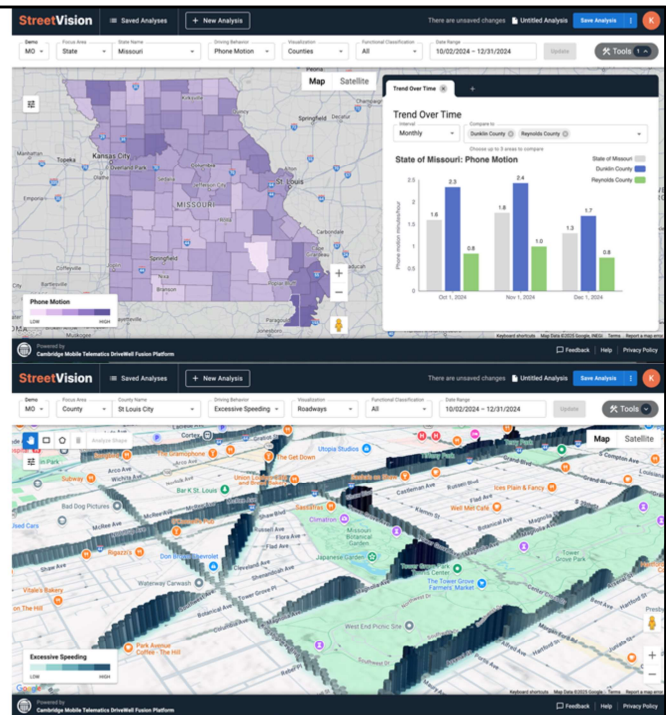
38 min to record the equivalent of entire US roadway network

3.5b is about 900 times the distance of all US roads, so while obviously some roads will have far more coverage than others, it gives you an idea of just how much trip data we collect

Measure Risky Behaviors & Patterns

- Measure risky behaviors
- Identify patterns and trends
- Compare communities
- Target communities for impact

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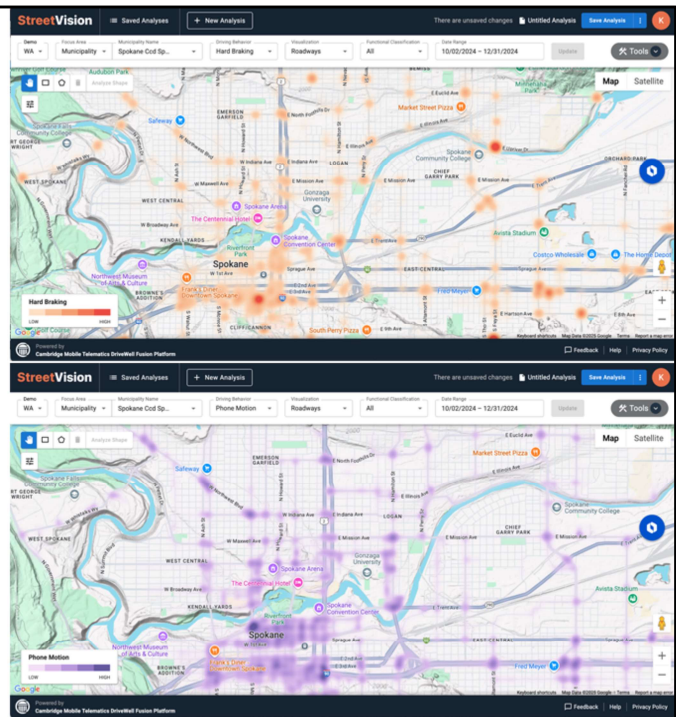


- **Let's look at how StreetVision is used.**
- **First, it can be used to measure risky behaviors and identify patterns - both across communities as well as at specific intersections and corridors**
 - As I mentioned before, government agencies are simply not able to accurately measure these behaviors today
 - They don't know where the most distracted driving, excessive speeding, or aggressive maneuvers are happening
 - They don't know what patterns there are across communities, on specific roadways, and around points of interest
 - Let's look at a couple of demos

Predict Where Crashes are Likely to Happen

- Know where near-misses happen
- View correlation with risky behaviors
- Combine with crash locations
- Get full picture of risk

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- **StreetVision helps predict where crashes are likely to happen**
- Users can view heatmaps of hard braking and near misses that can be combined with risky behaviors like distraction, speeding, and harsh acceleration to see correlations
 - By overlaying heatmaps
 - Or by zooming in on individual hotspots and visualizing risky behaviors there
 - Let's look at a demo of this

Plan Countermeasures & Improvements

- › Zero in on the most dangerous streets
- › Visualize them in Street View
- › Identify infrastructure improvements
- › Identify simple countermeasures

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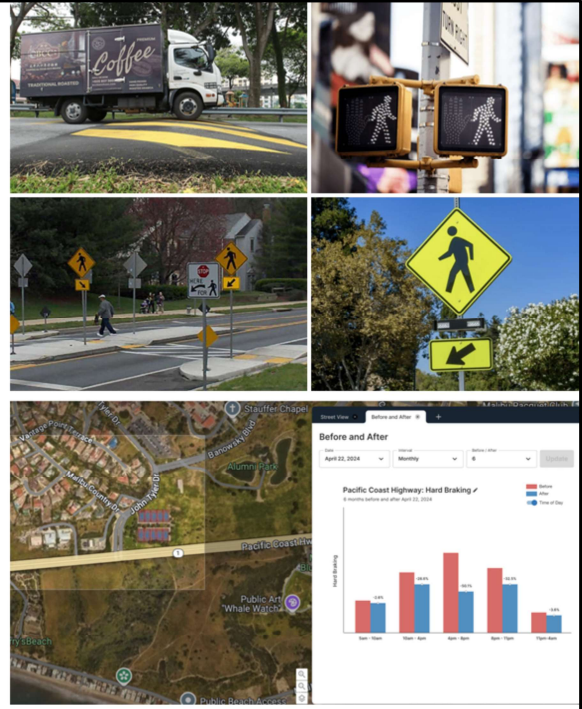


- **Once dangerous locations are identified, we can use SV to plan infrastructure improvements or countermeasures**
 - That is, users can evaluate potential improvements from their desk by viewing it in Street View,
 - Let's look at a demo

Prove safety investment impact

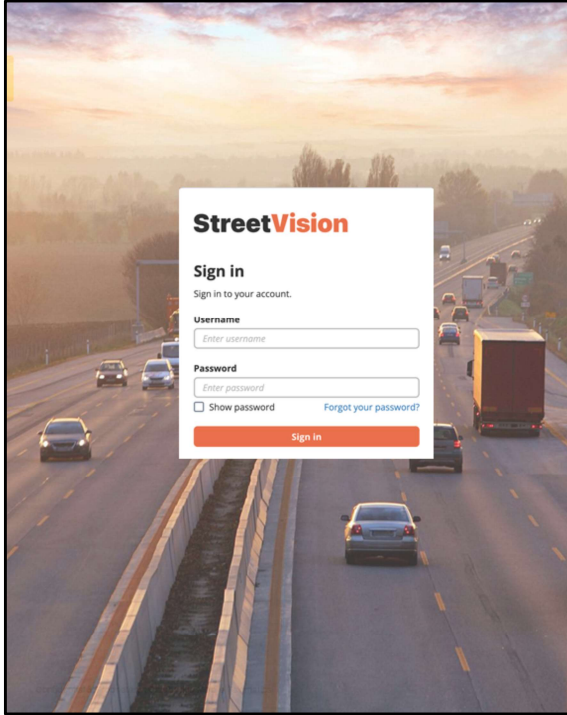
Measures risk reduction in:

- Local communities
- At intersections/corridors
- Work zones



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- **Once investments are made in awareness campaigns, infrastructure changes or simple countermeasures such as improved signage, more visible crosswalks or installation of pedestrian signals,**
 - SV is used within weeks to show the impact on hard braking and near misses, as well as risky behaviors
 - Before & After charts and map visualizations show the changes
 - There's no need to wait for months to see if a crash occurs



StreetVision

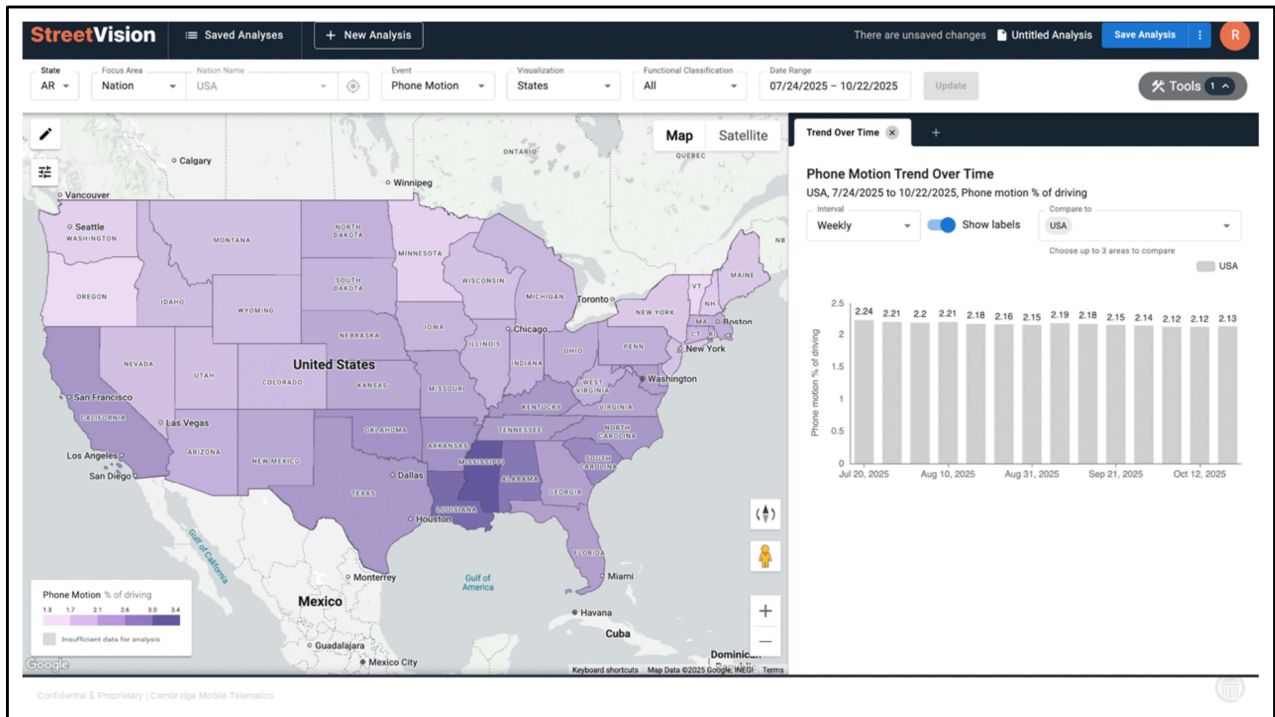
StreetVision: AI-powered platform that provides telematics-derived predictive behavioral analytics and insights for proactive road safety decisions.

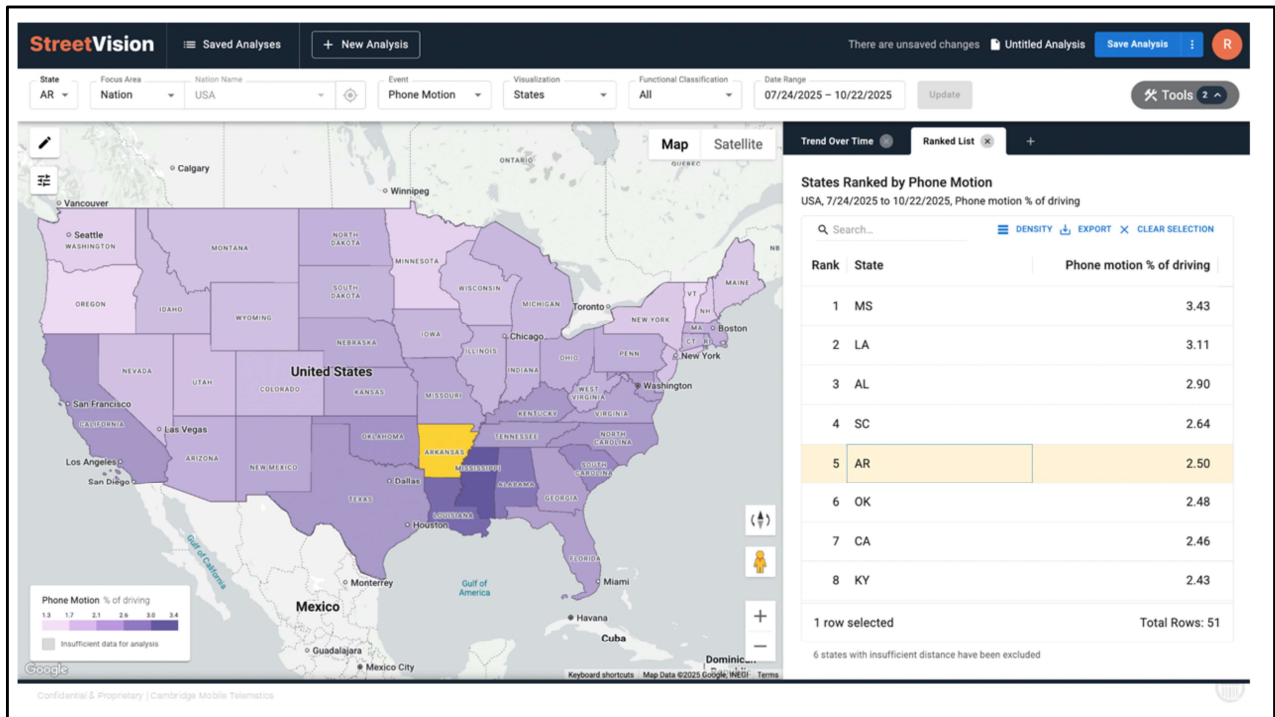
- Predictive behavioral analytics
- Insightful map visualizations
- Location-based hot spot risk assessment
- Countermeasure prioritization and impact analysis
- Broad coverage & near-real time data

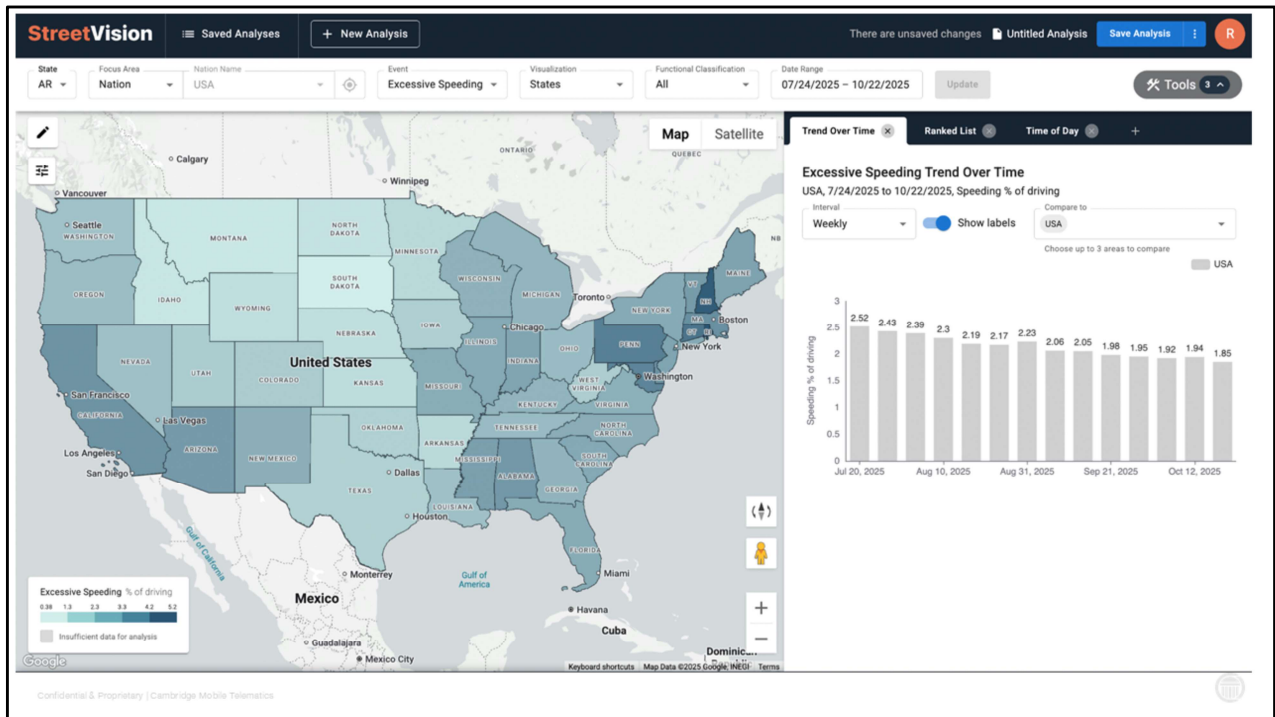


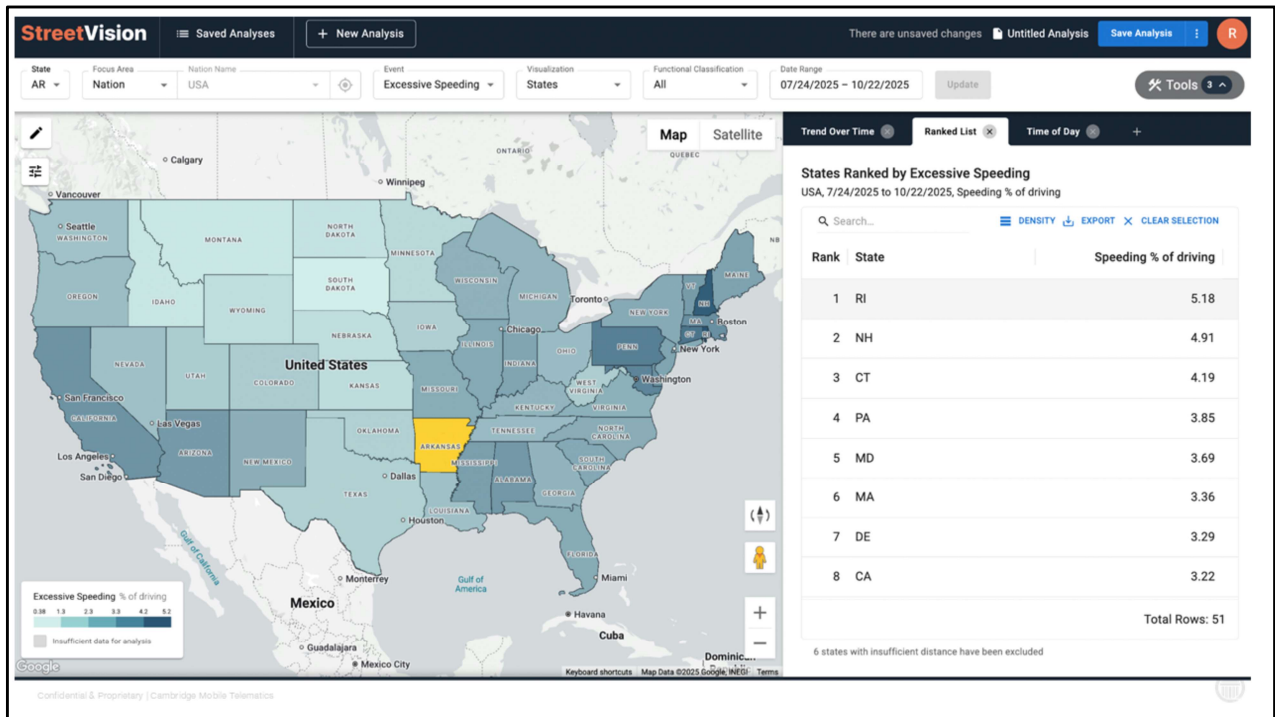
Making the world's roads and drivers safer.

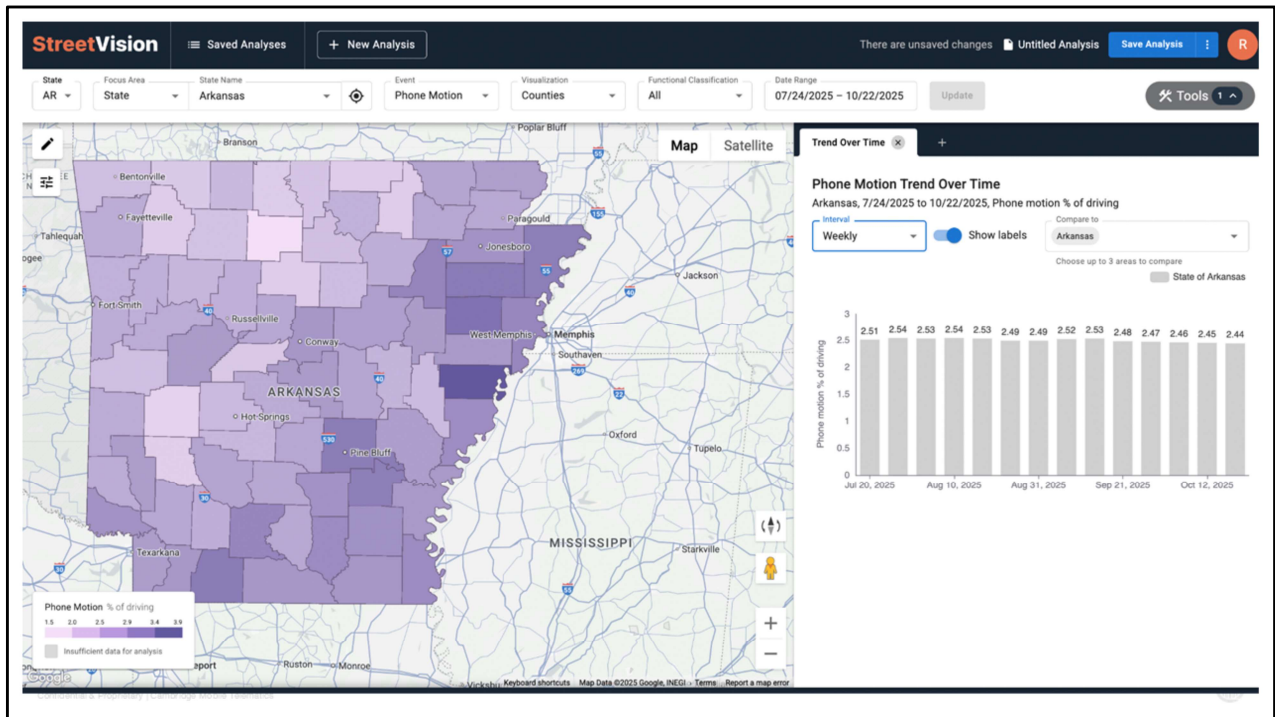


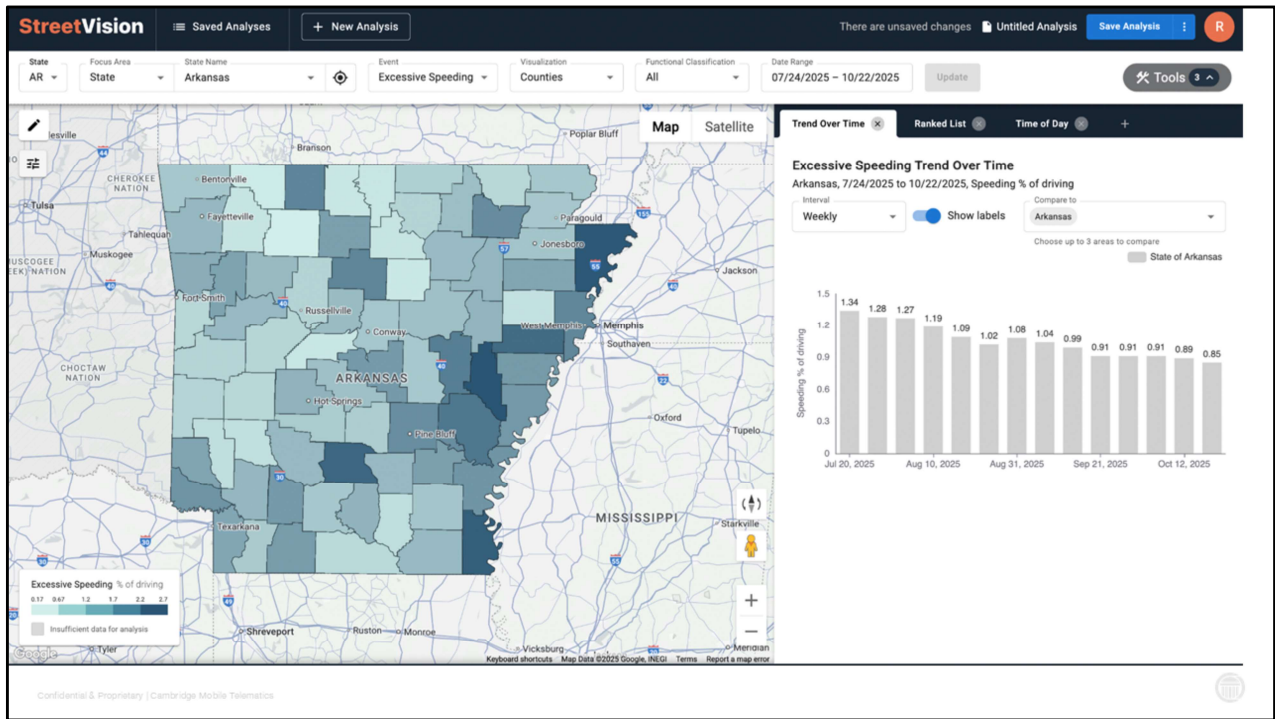


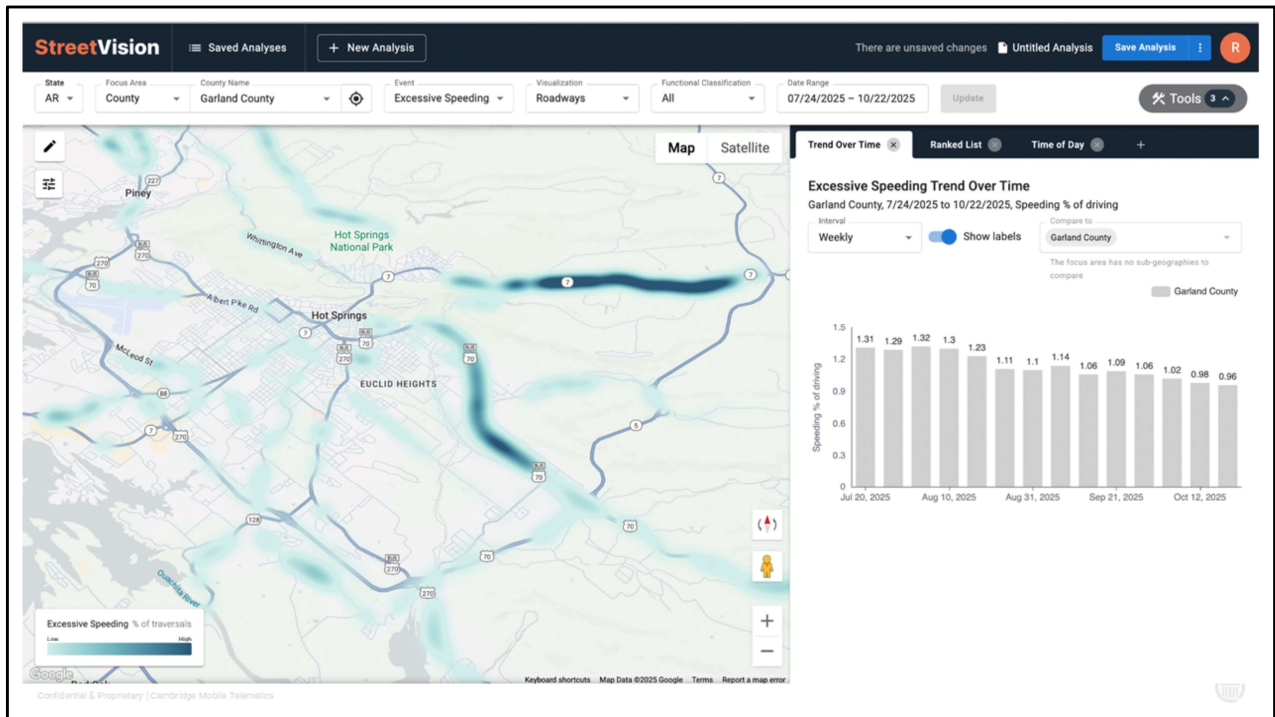


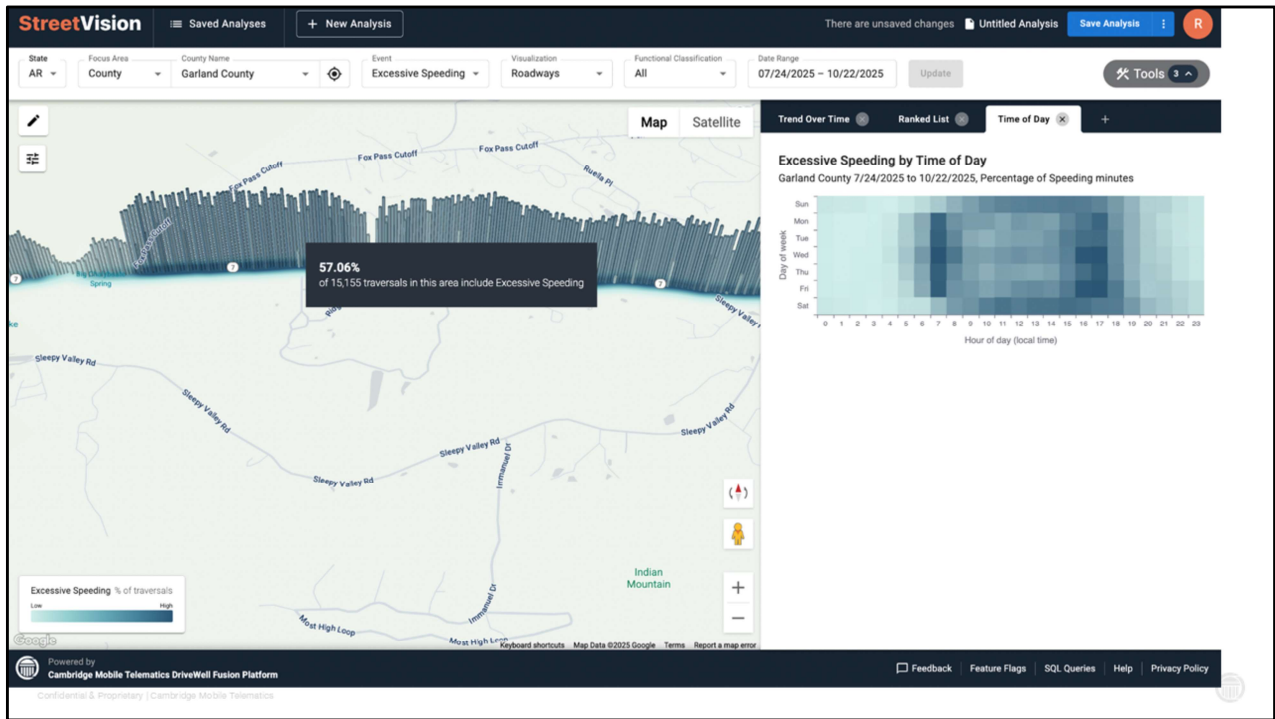


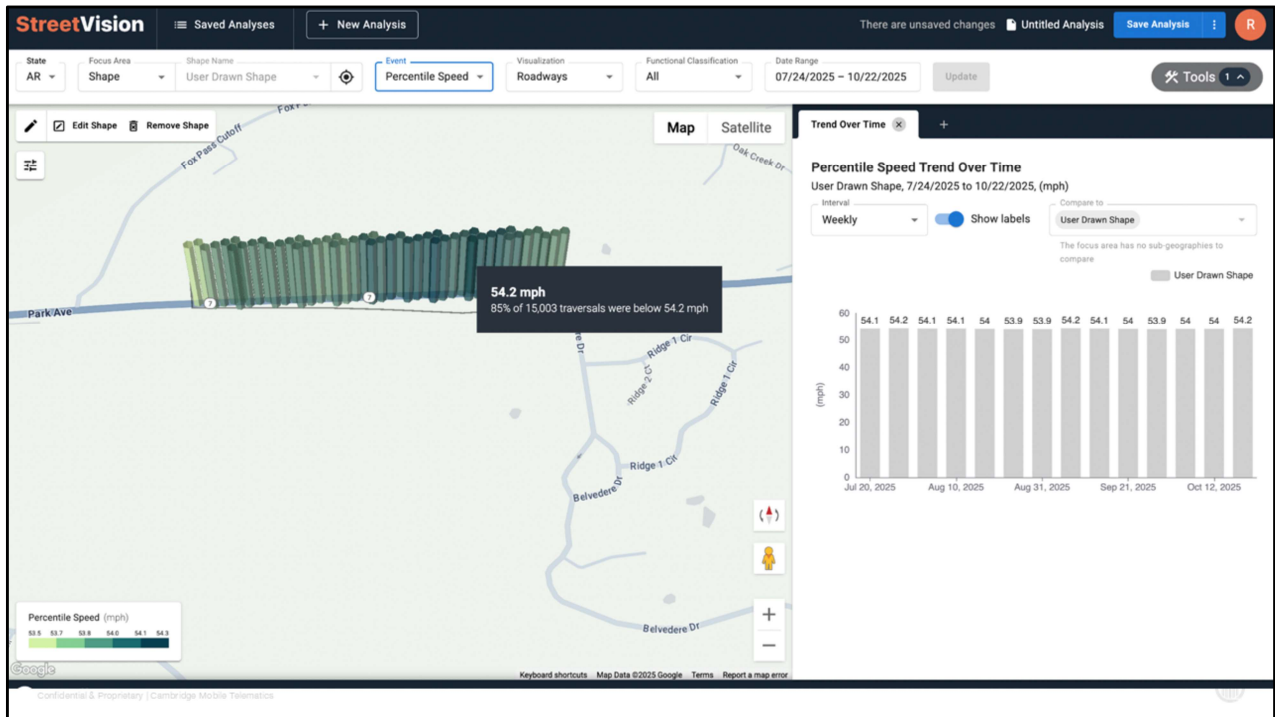


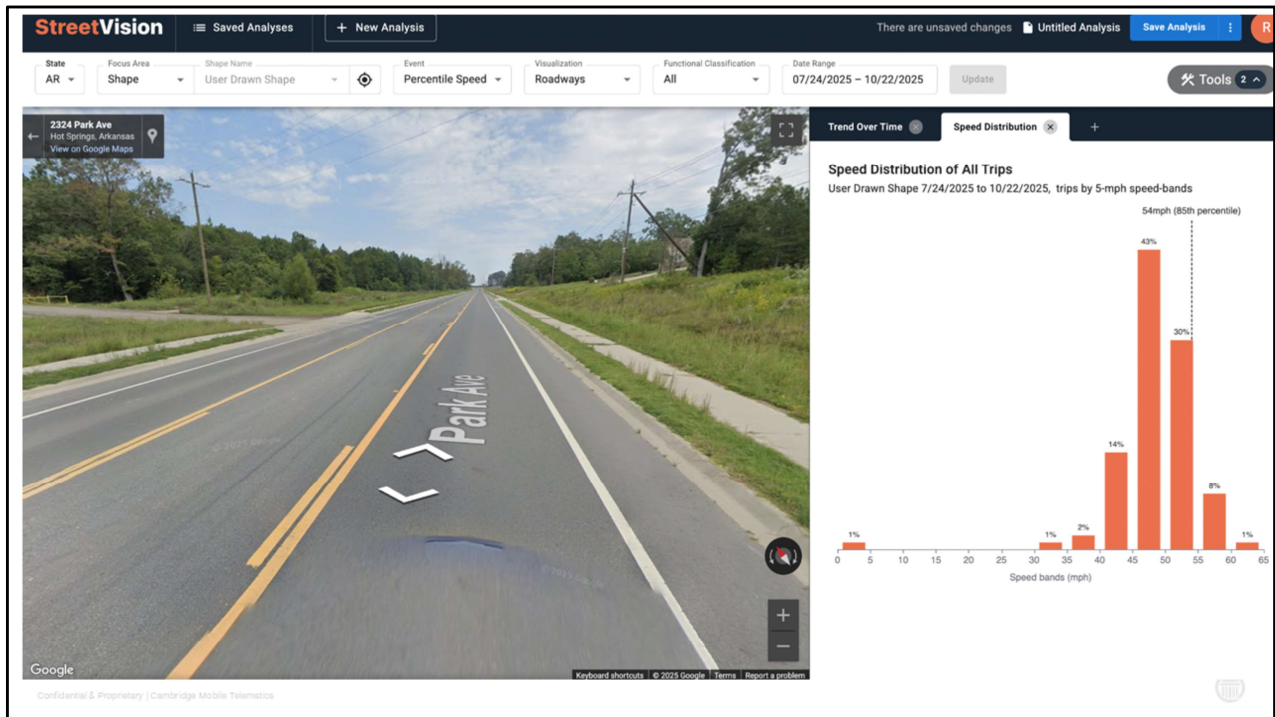


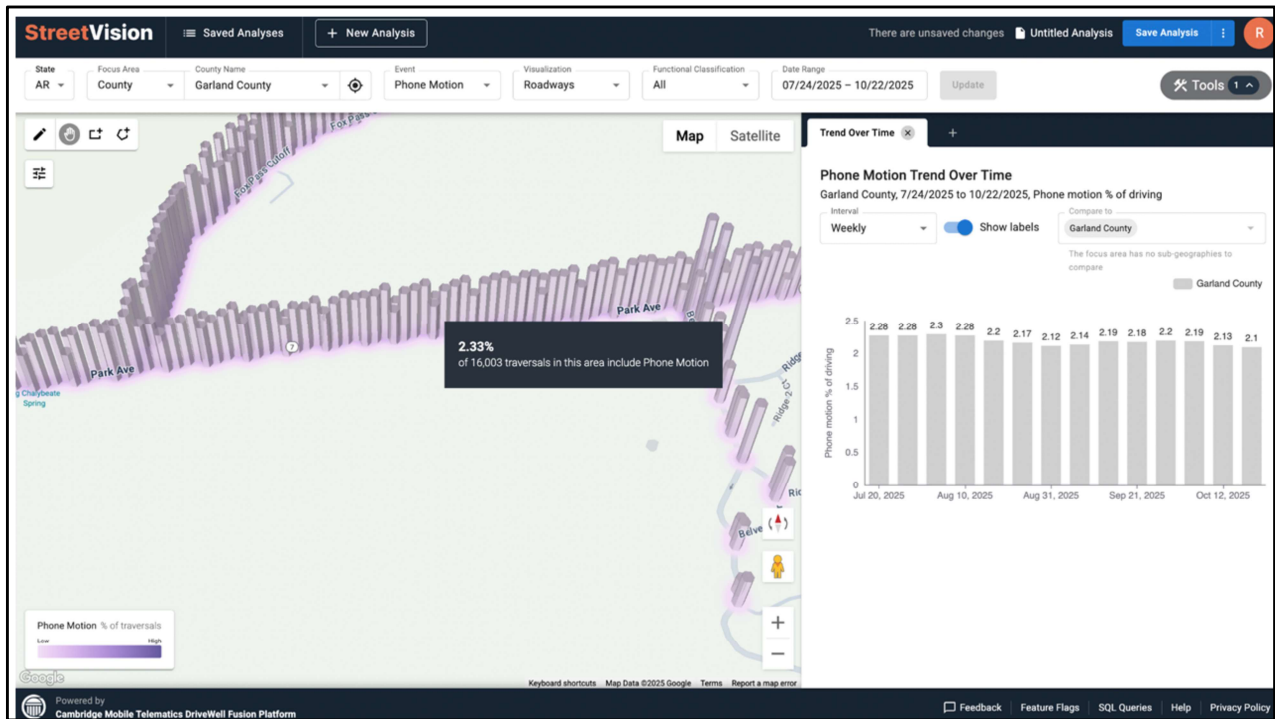


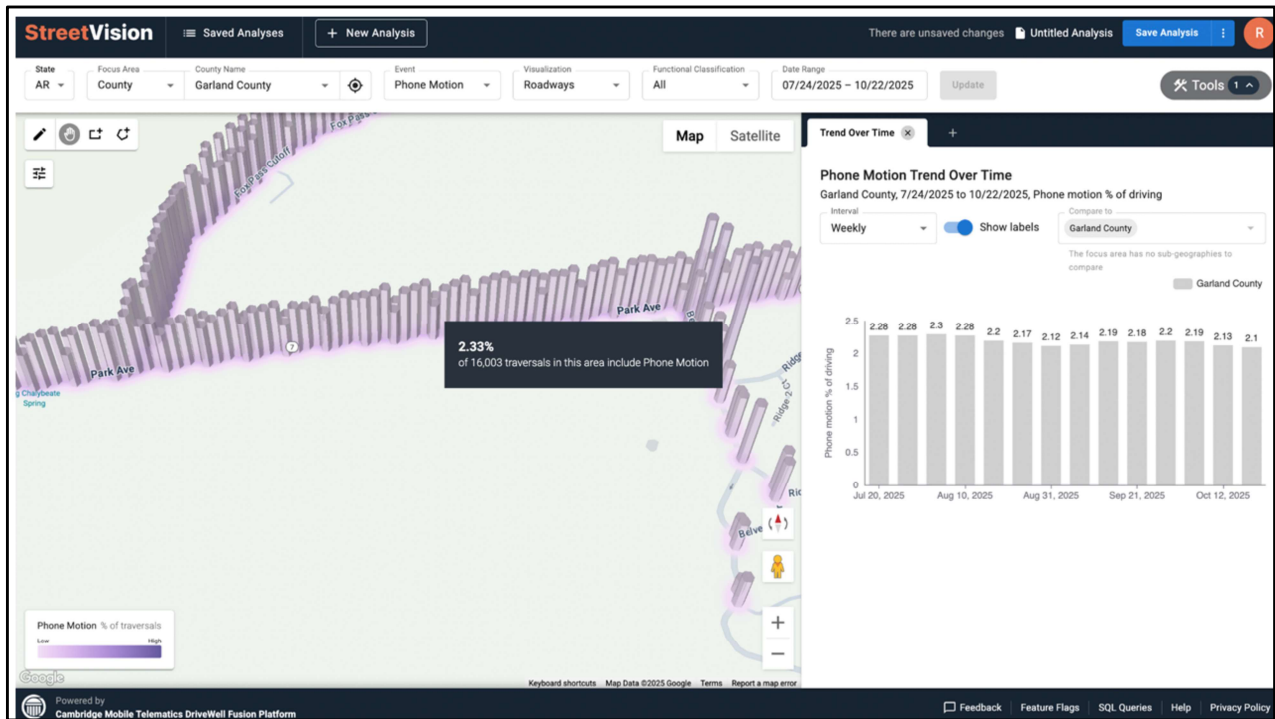


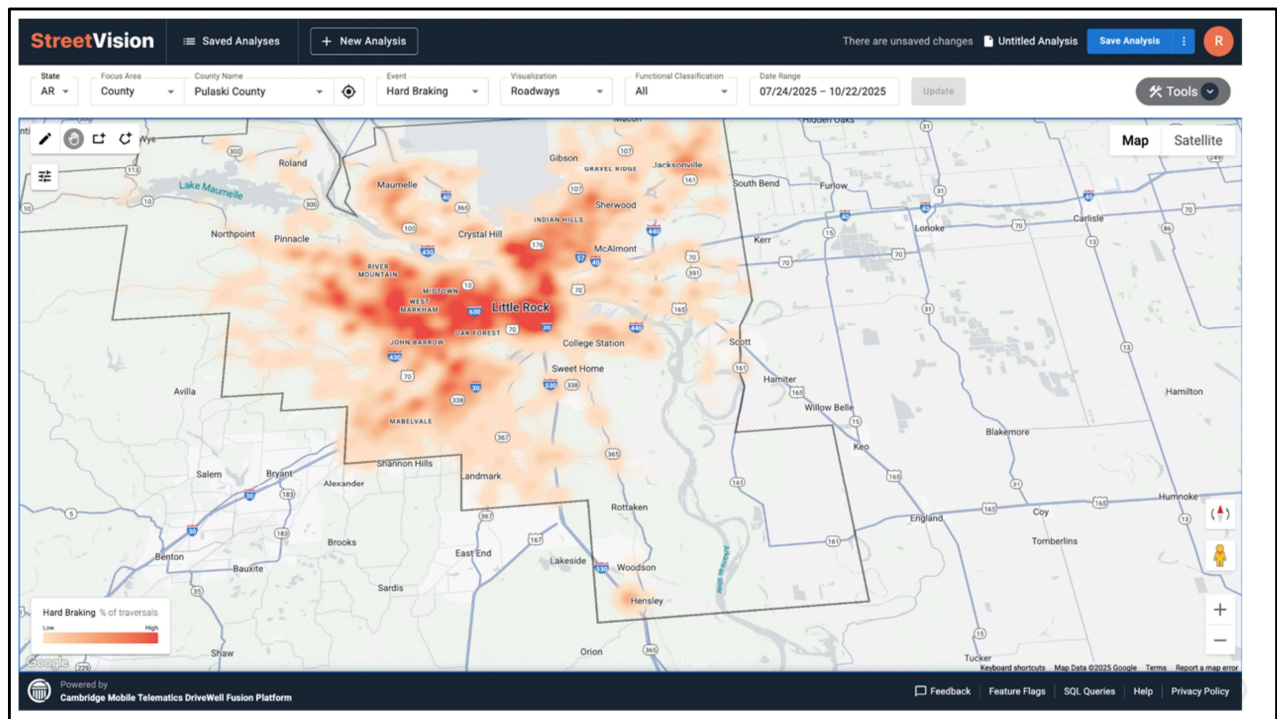




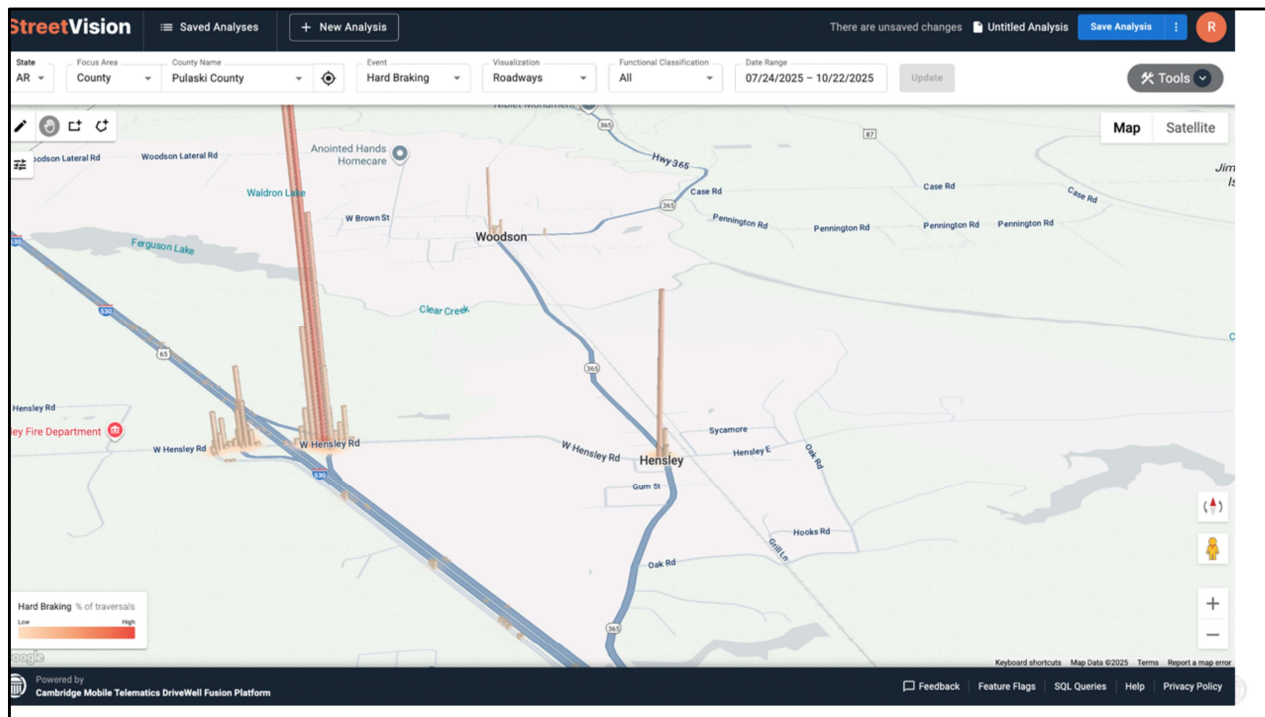




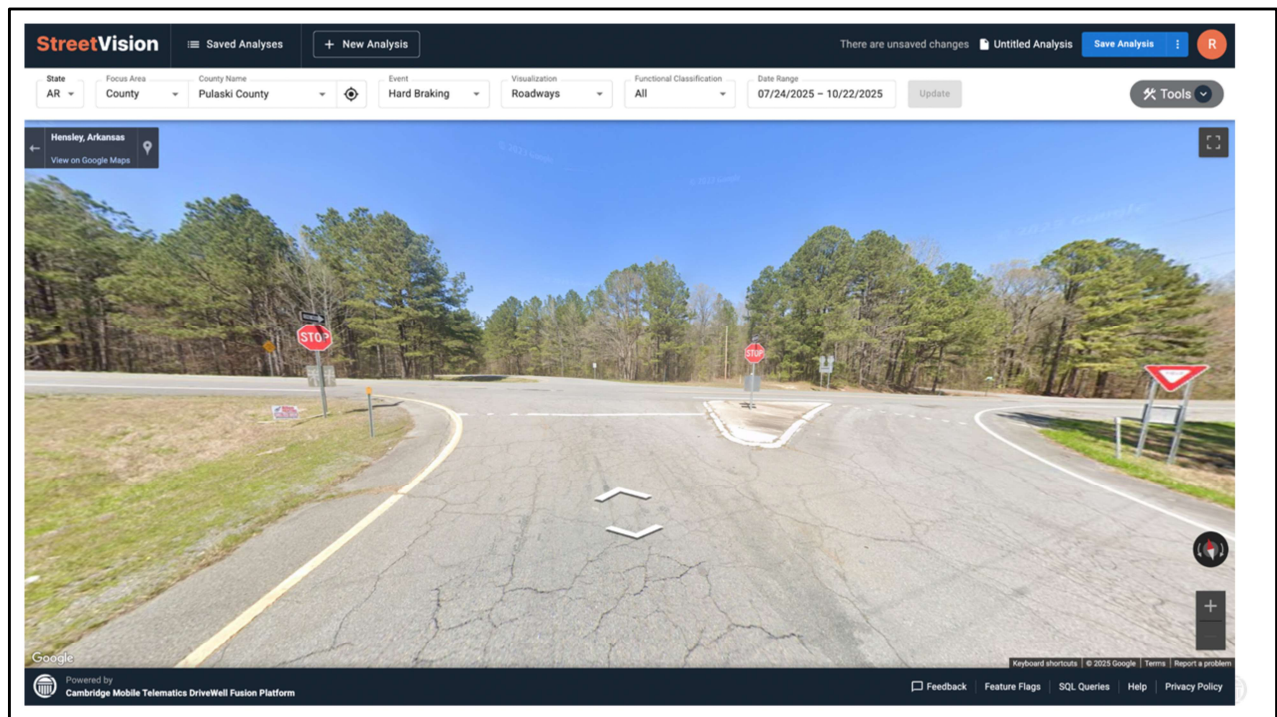




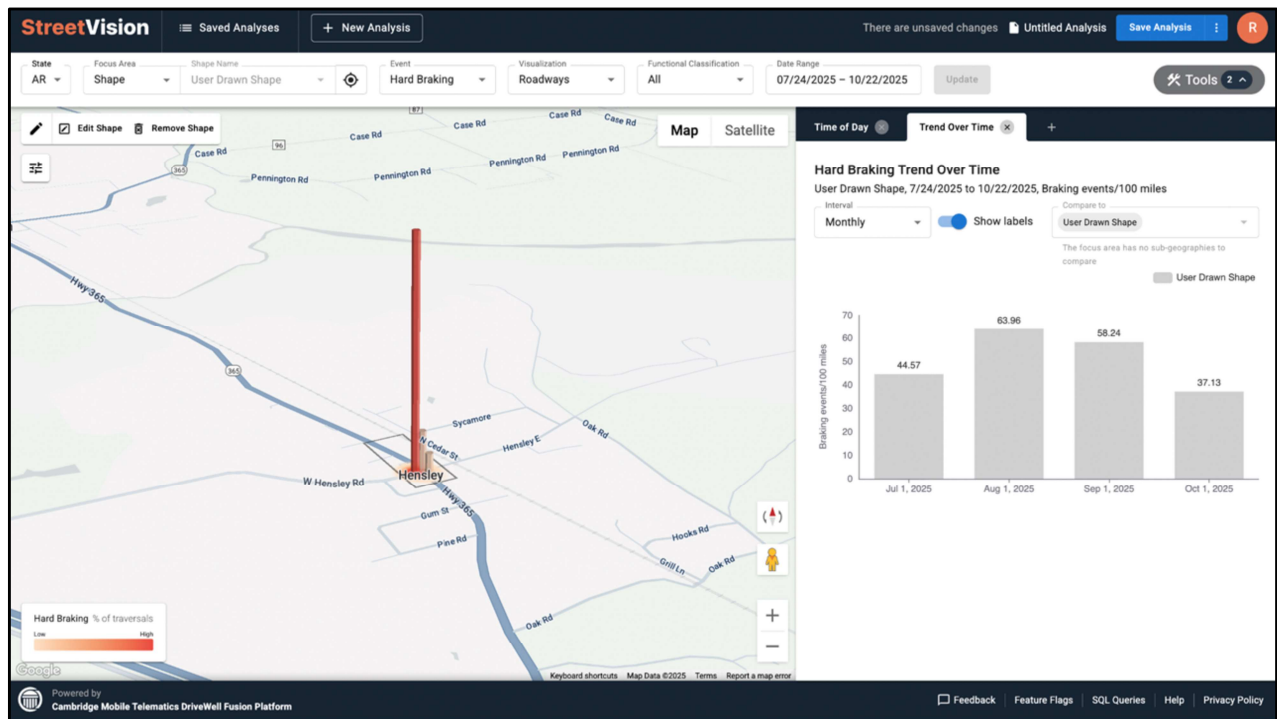
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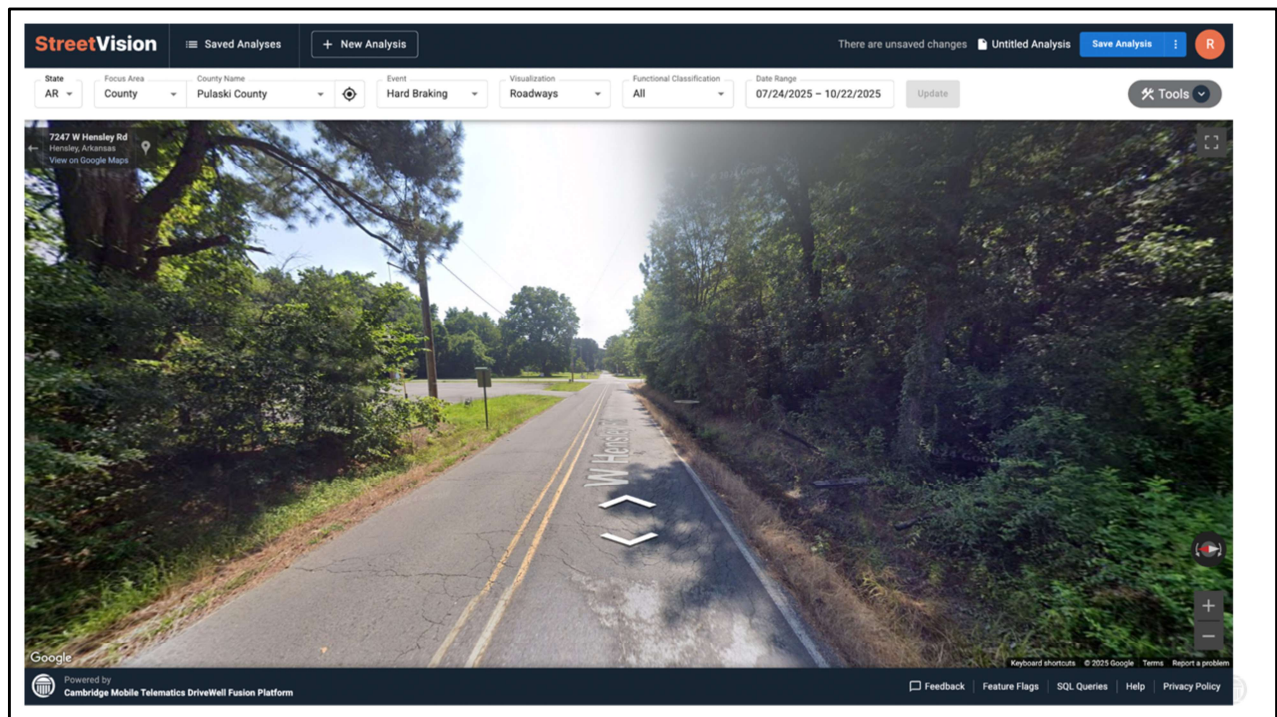
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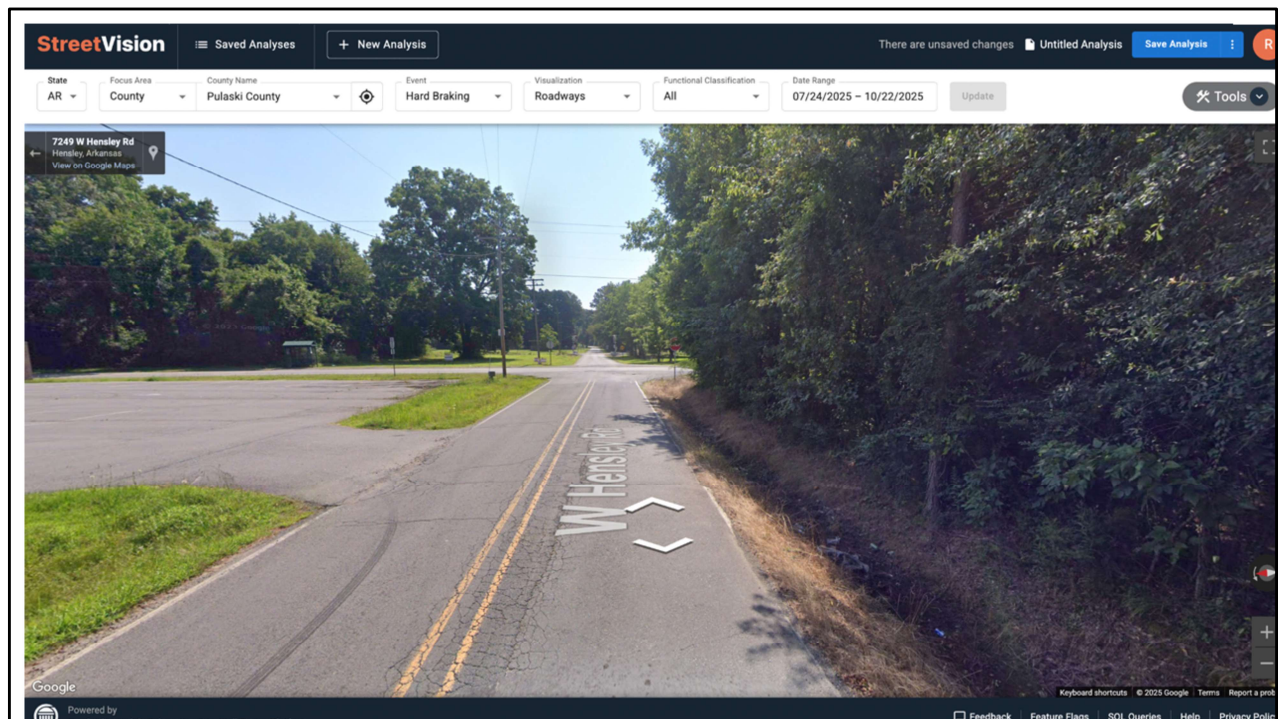
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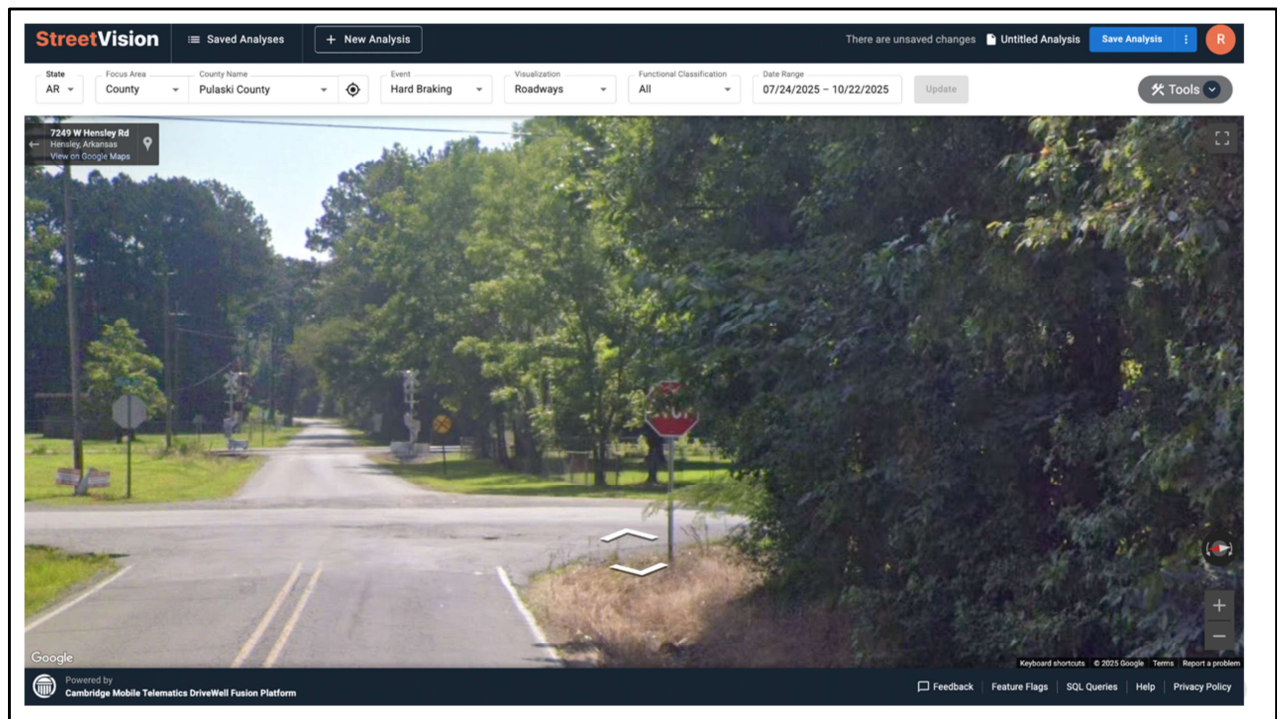
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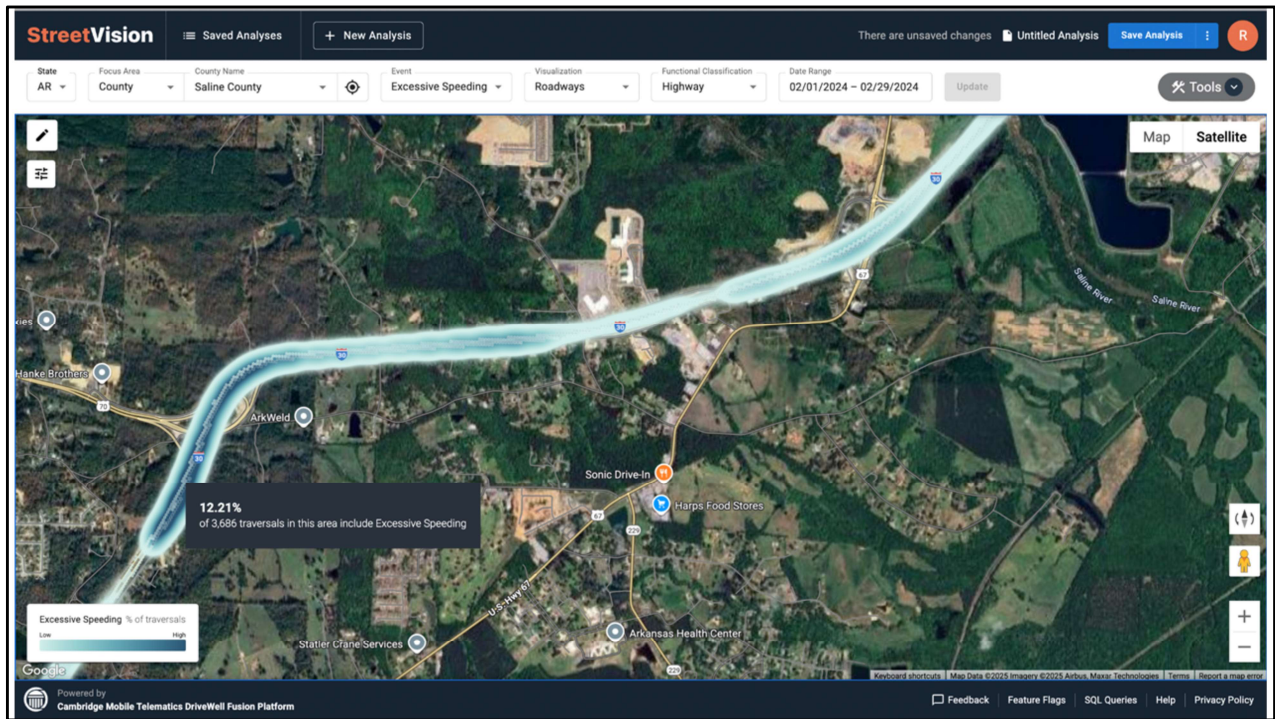


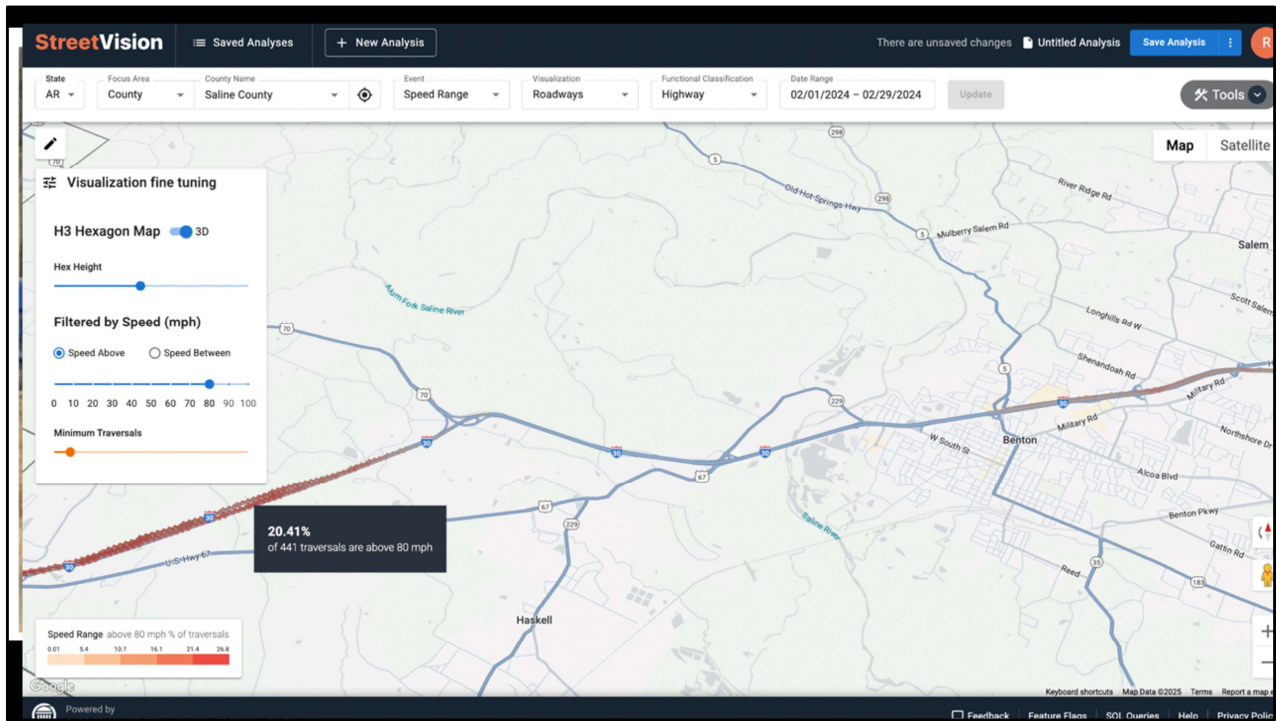
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Thank You



rmcmahon@cmt.ai

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