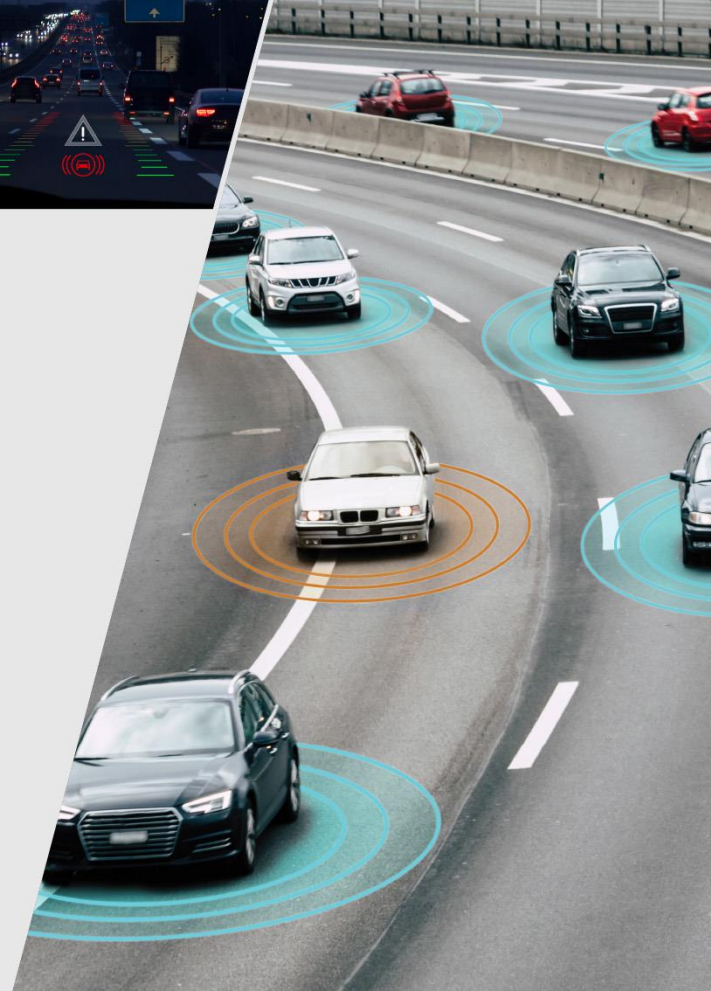




Fort Worth District

Technology at TxDOT



February 9, 2024



HELP

#EndTheStreakTX

End the streak of daily deaths on Texas roadways.

TxDOT.gov (Keyword: #EndTheStreakTX)

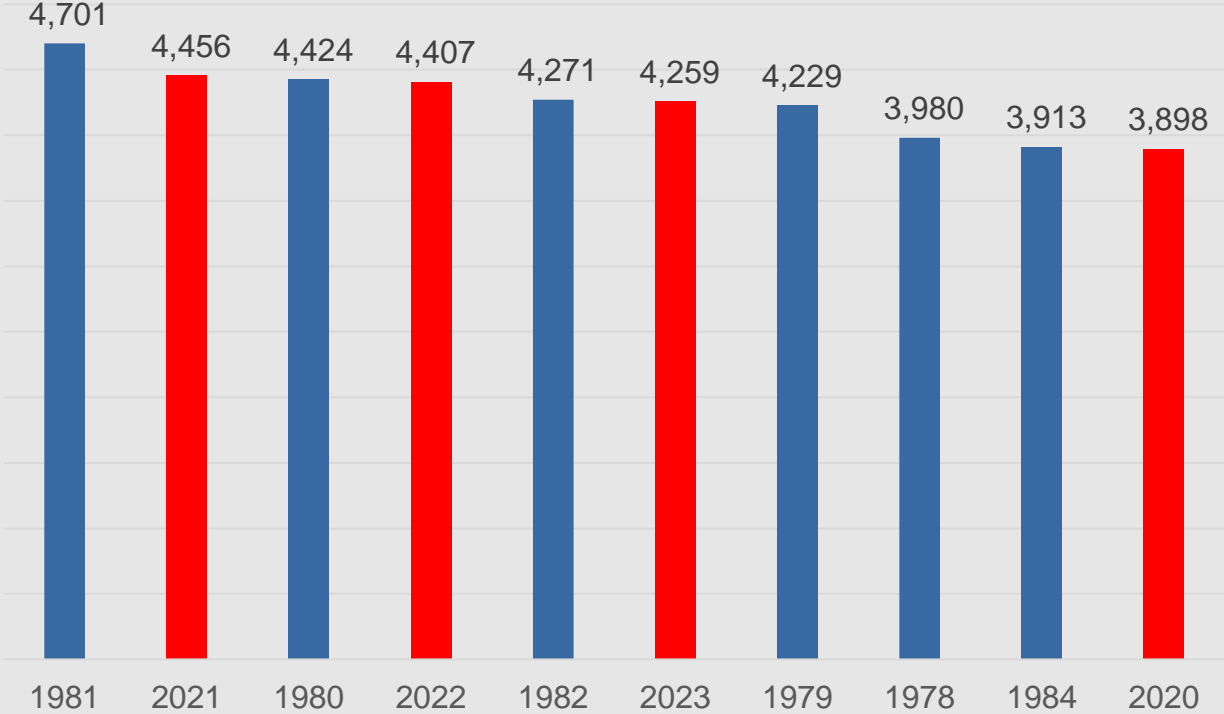


#EndTheStreakTX Toolkit





Top 10 years for Fatalities



2023 YTD Fatalities Summary



Contributing Factor	Fatalities	% Fatalities
Speed	1,315	33%
Impaired Driving	1,142	29% *
Seat Belts	1,088	28% / 43%
Pedestrian	738	19%
Motorcyclist	569	14%
District Driving	371	9%
Work Zone	184	5%
Pedalcyclist	98	3%

As of 12/18

* Impaired driving has a significant reporting lag

** First % is of all fatalities, Second % is of fatalities for which seatbelt was an option



Connected and
Autonomous
Vehicle (CAV)

CAV Workgroup is a group that was developed to provide a single point of contact, strategy, plan, and communications/education.

TTTF identifies emerging technologies and analyzes the economic, engineering, and policy impacts they may have as well as integrating those technologies into existing programs, plans, and projects.

Texas
Technology
Task Force
(TTTF)

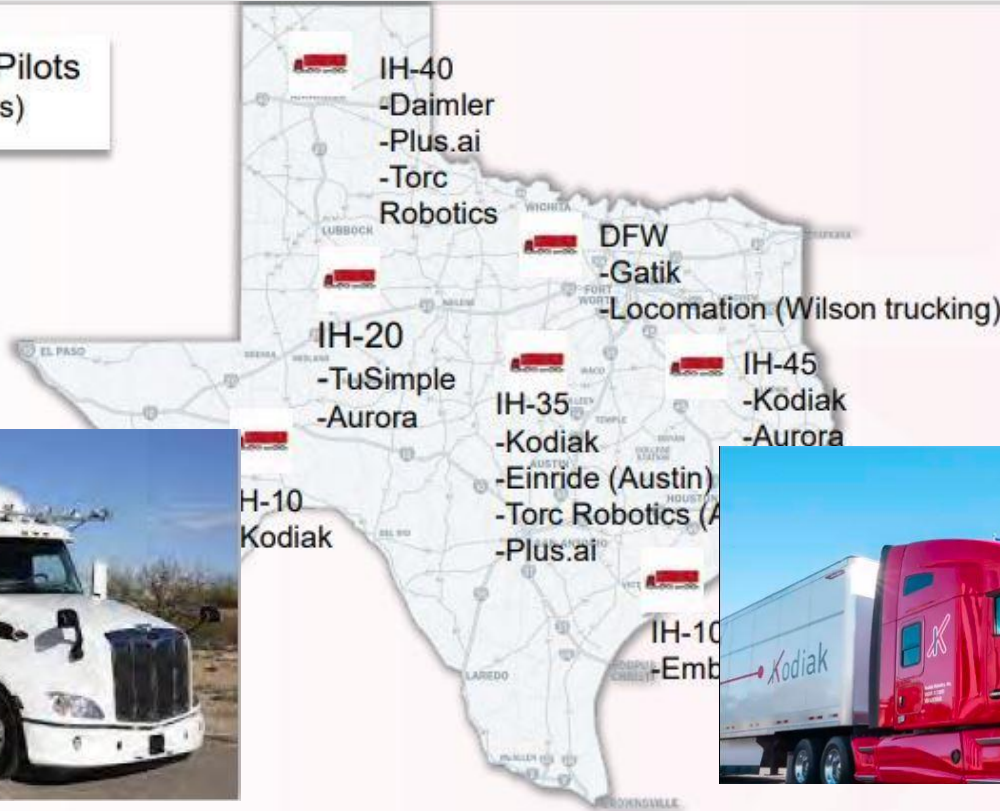
Texas
Innovation
Alliance
(TIA)

TIA is an action network of local, regional, and state agencies and research institutions who are committed to addressing community mobility challenges by creating a platform for innovation.

Autonomous Freight



Deployments and Pilots
(Over the Past 5 Years)



Autonomous Freight

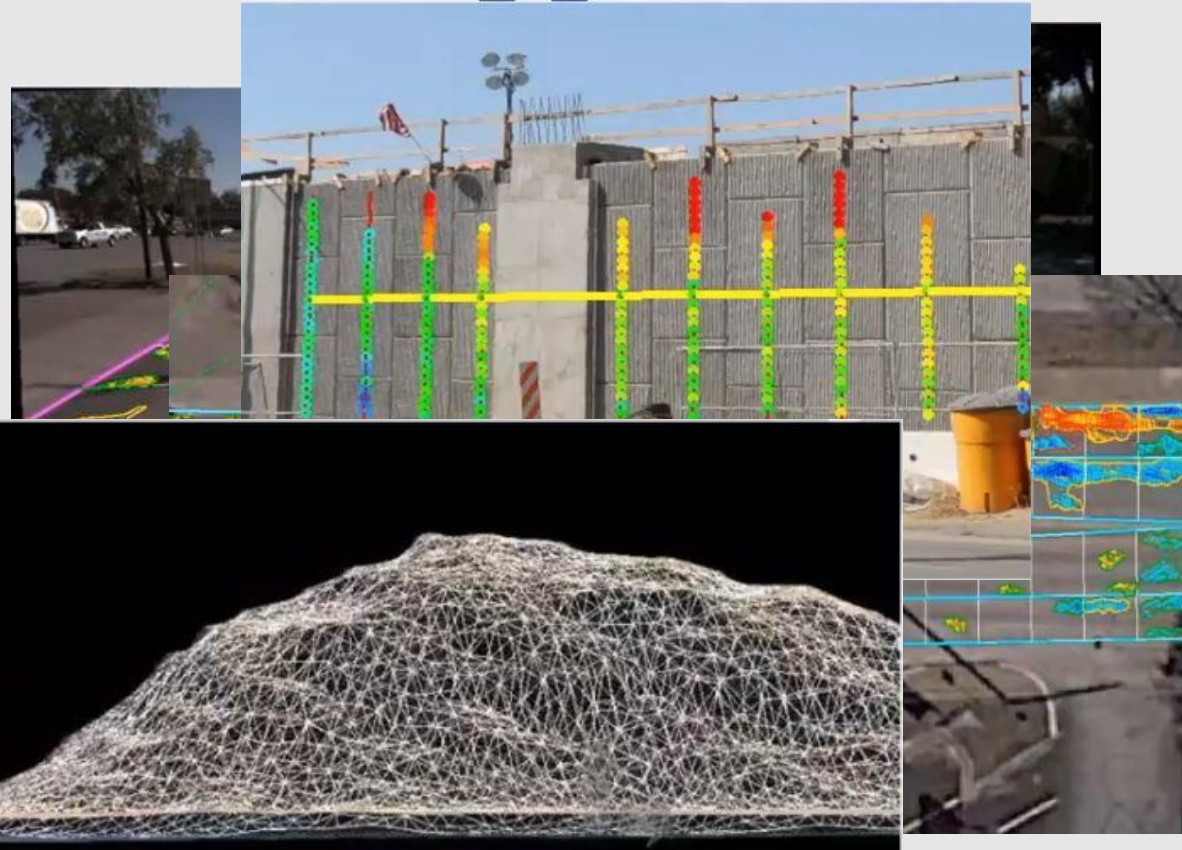


- Short-haul logistics
- Delivery robots
- Aerial





- Analyze pavement defects
- Rutting, shoving
- Road surface analysis
- Plumbness of wall
- Stockpile measurements



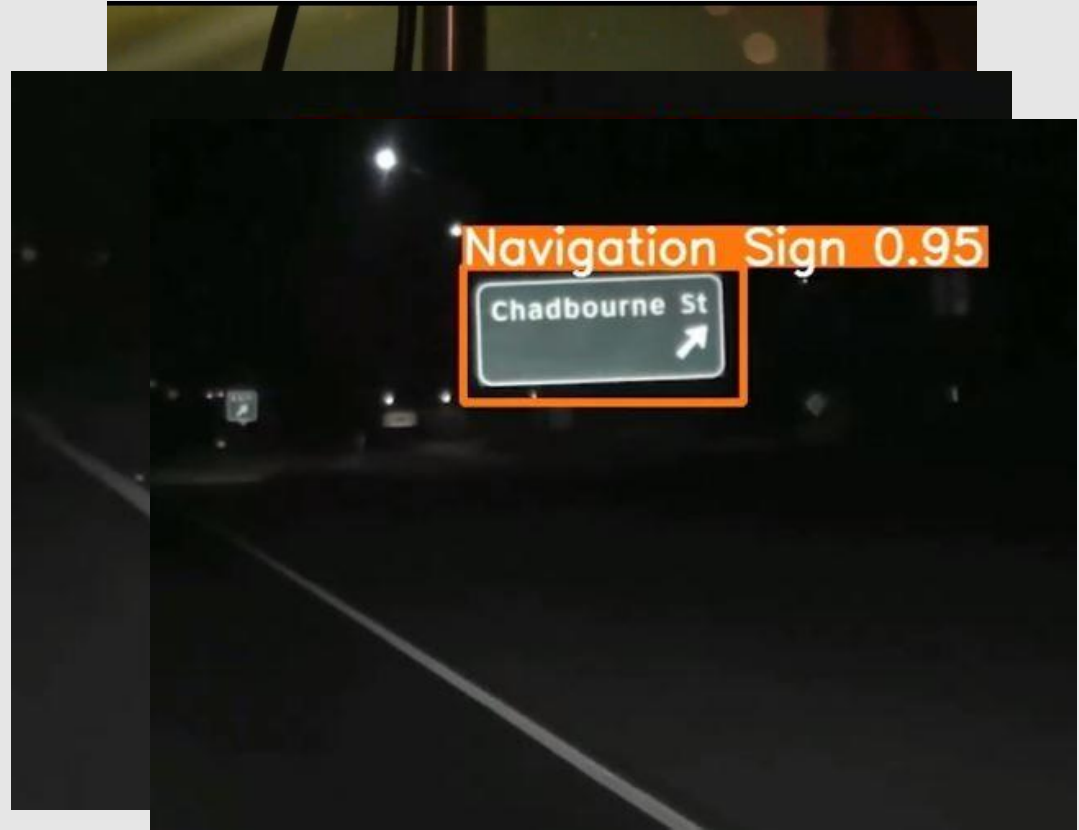


- Bridge Vertical Clearance
- Verify clearance after:
 - New construction
 - Reconstruction
 - Overlay





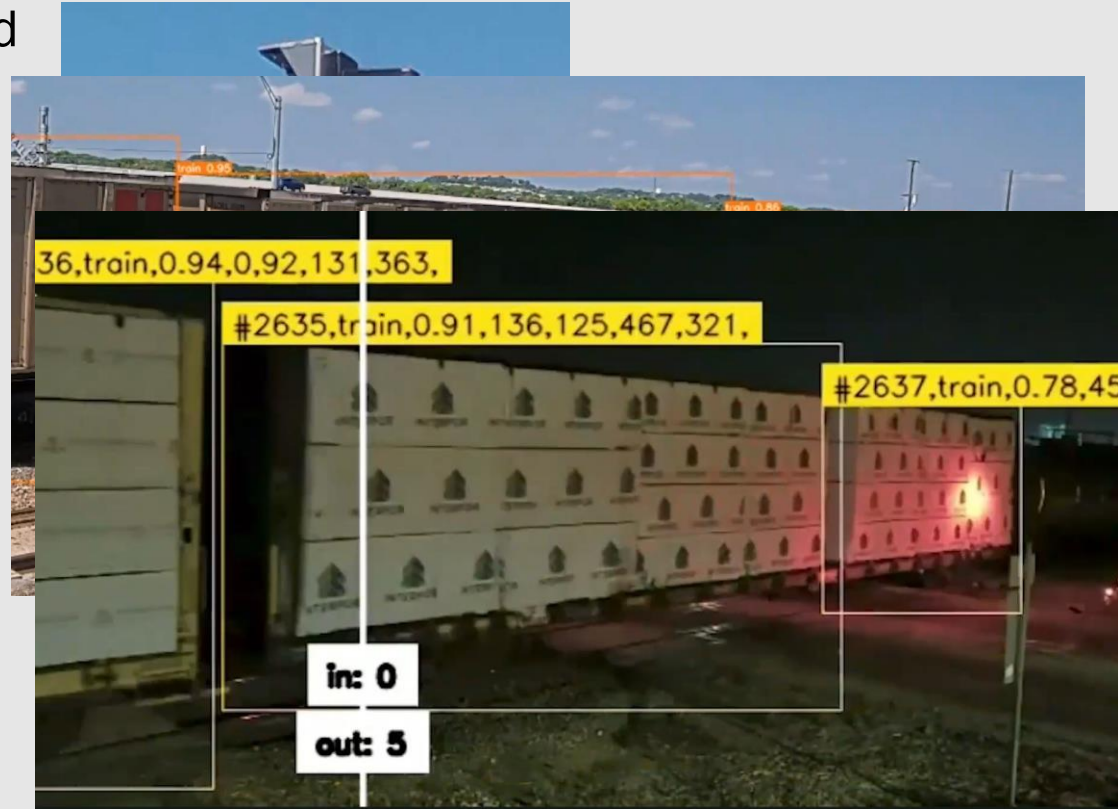
- Signs and pavement marking retroreflectivity
- Looking for deficiency
- Consistency in evaluation
- Removing human subjectivity
- App instead of hand-logging
- Identify signs, kind of sign (guide, warning, regulatory)
- Location



Waco District – Video Detection



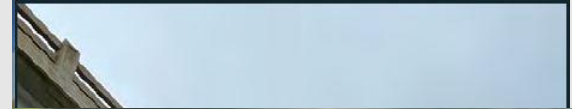
- Detect when crossings blocked
- Notify emergency services





- Aerial
- Ground
- Underwater

Pivot



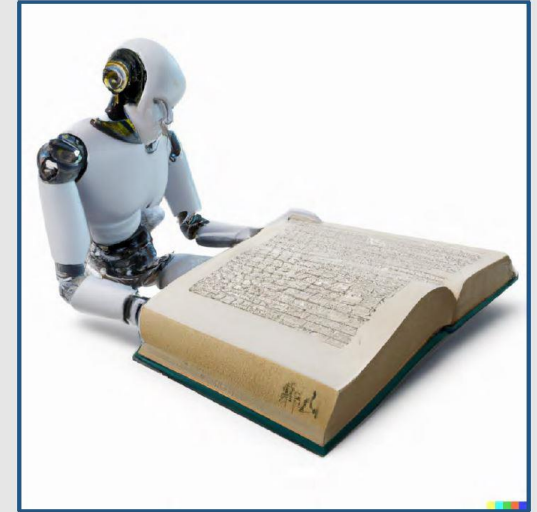


- Replacing traditional hardcopy plans with digital design models
- Spring – 1st fully digital pilot project
- Small project in San Antonio
- 3D Model will be legal document





- Will change how we use data, how we think about data, how we interact with data
- Working on a strategic plan
- How do we use it – processing images, optimize funding, etc
- Pilots
 - Dallas – looking at crash prediction
 - Corpus Christi – digitizing historical plan sets
 - PEPS checking invoices



Created by: DALL-E2 (OpenAI)

Future Use Cases



- Detect incidents and notify emergency services
- Use traffic patterns, weigh in motion, pavement type to predict when pavement will need rehabilitation or maintenance





**BE SAFE.
DRIVE SMART.**