

Electric Vehicles, Autonomous Vehicles & Transportation Funding?

Senator Jeff Brandes and Chris Evers

Senator Jeff Brandes founded
the Florida Policy Project
focusing on four initiatives

Insurance

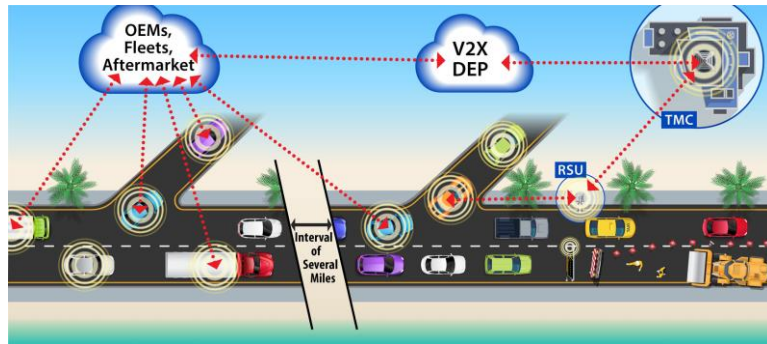
Criminal Justice Reform

Transportation

Housing Affordability

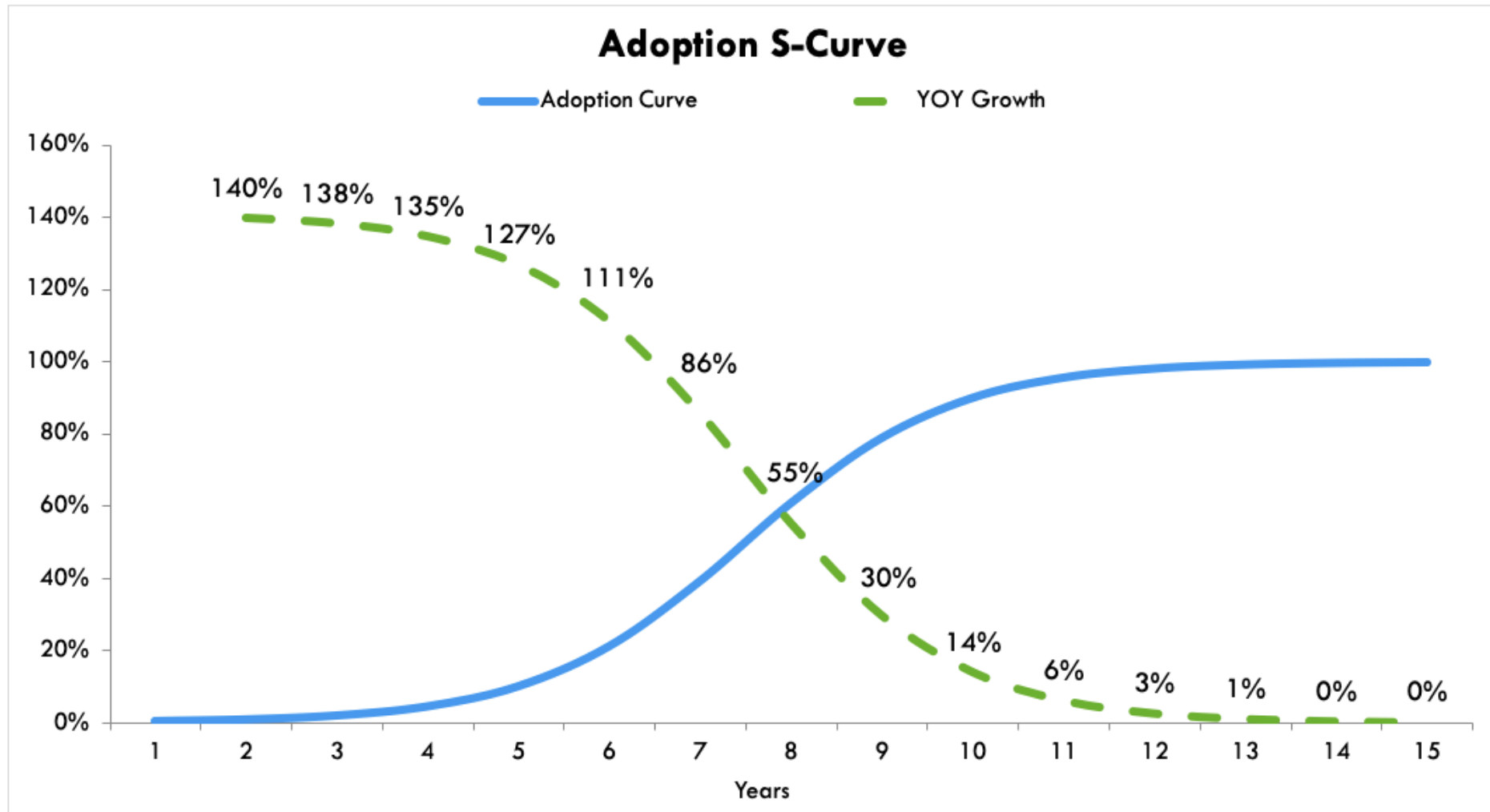


“We are at the cusp of the most transformative period of time in the transportation sector since the advent of the Interstate System in the 1950’s.”



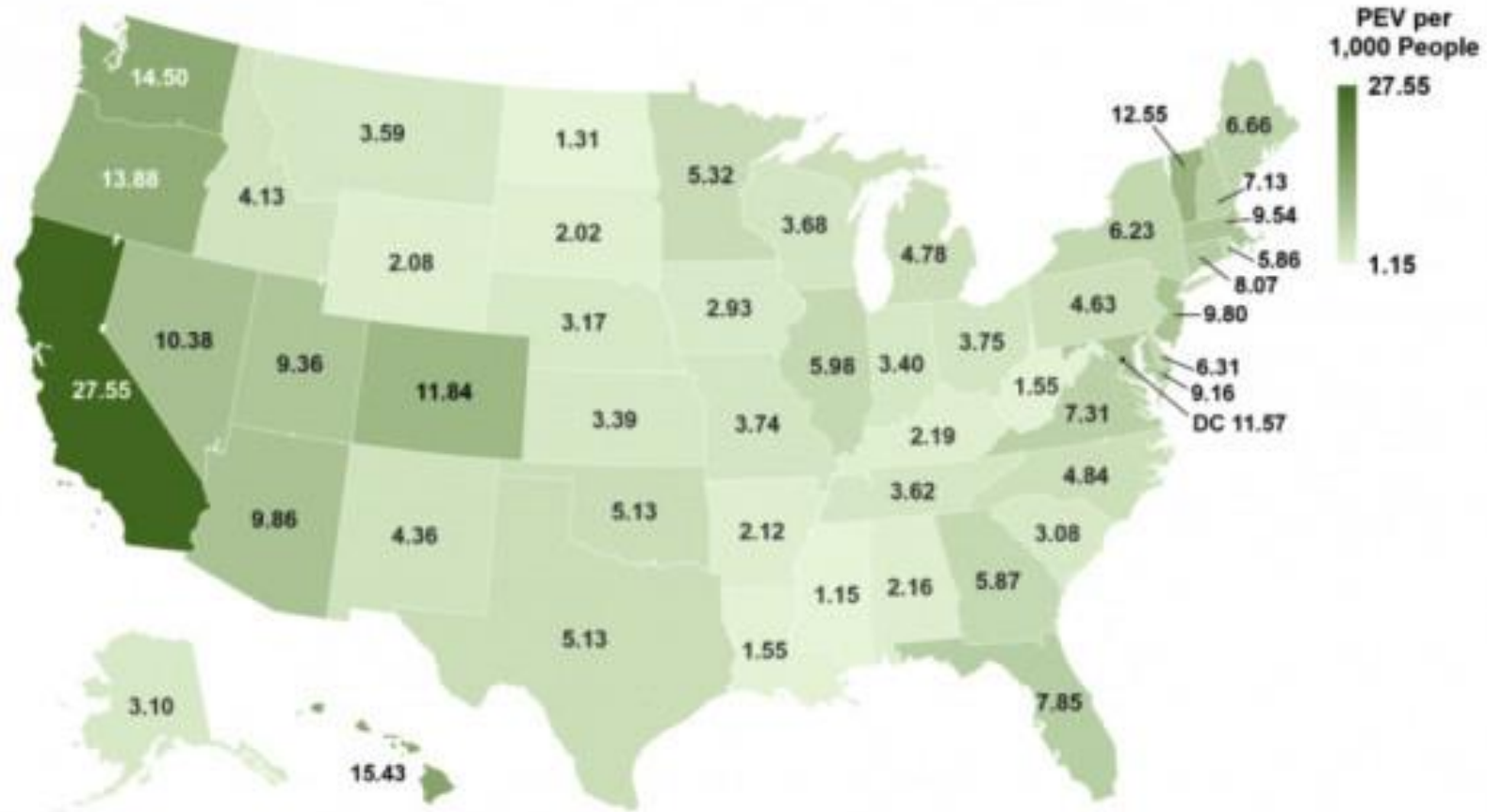
Electric Vehicles

Senator Jeff Brandes and Chris Evers



Source: ARK Investment Management LLC, 2019 | ark-invest.com

PEV Registrations per Thousand People, 2022





Florida's EV Program

September 8th, 2023

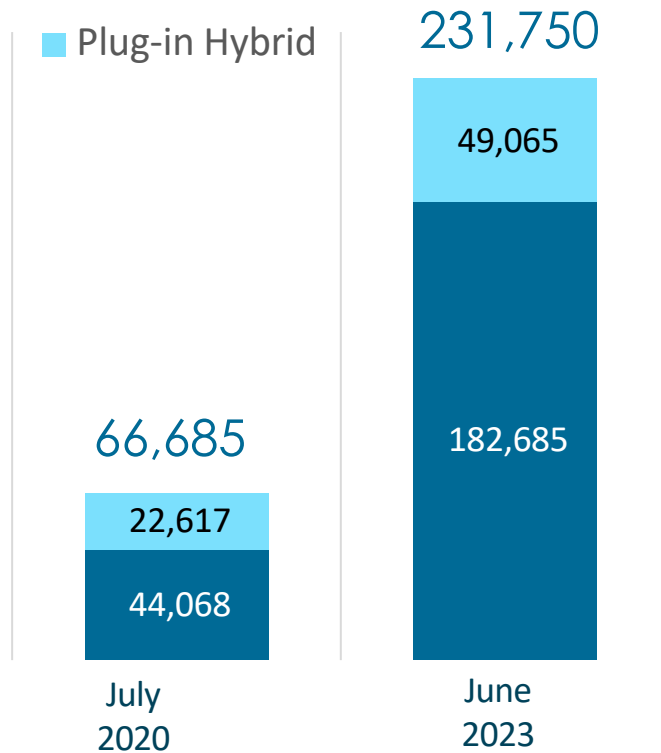
Session: 10:30 AM-12:00 PM

Current Florida's EV Market Adoption

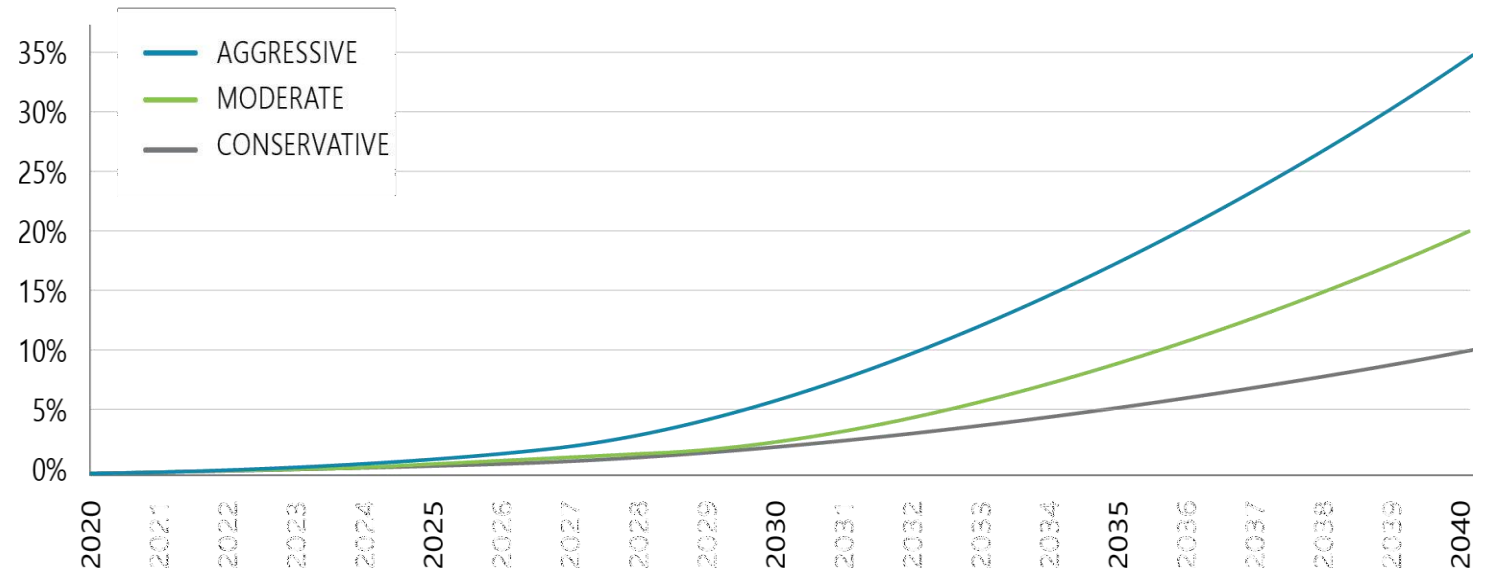
Florida EV Registrations

■ Battery Electric

■ Plug-in Hybrid



FDOT MA3T Model with Industry Projections



Major entities such as Volvo, Ford, Honda, GM, Toyota and others have been announcing their plans to expand into the EV market over the next two decades.

Setting the Stage

- **NEVI Formula Program**
 - \$5B to State DOTs over 5 Years
 - \$198 million to Florida over 5 years

Early Florida Efforts

- Florida Transportation Plan (FTP) includes EV
- Volkswagen Settlement (2016)
- Electric Vehicle Infrastructure Master Plan (2021)

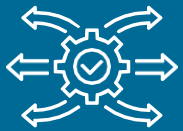


Florida's EV Program



EVMP

*Electric Vehicle
Infrastructure
Master Plan*



EVIDP

*Electric Vehicle
Infrastructure
Deployment Plan*

6,168 Miles

of Alternative Fuel Corridors (AFC)

50 Miles

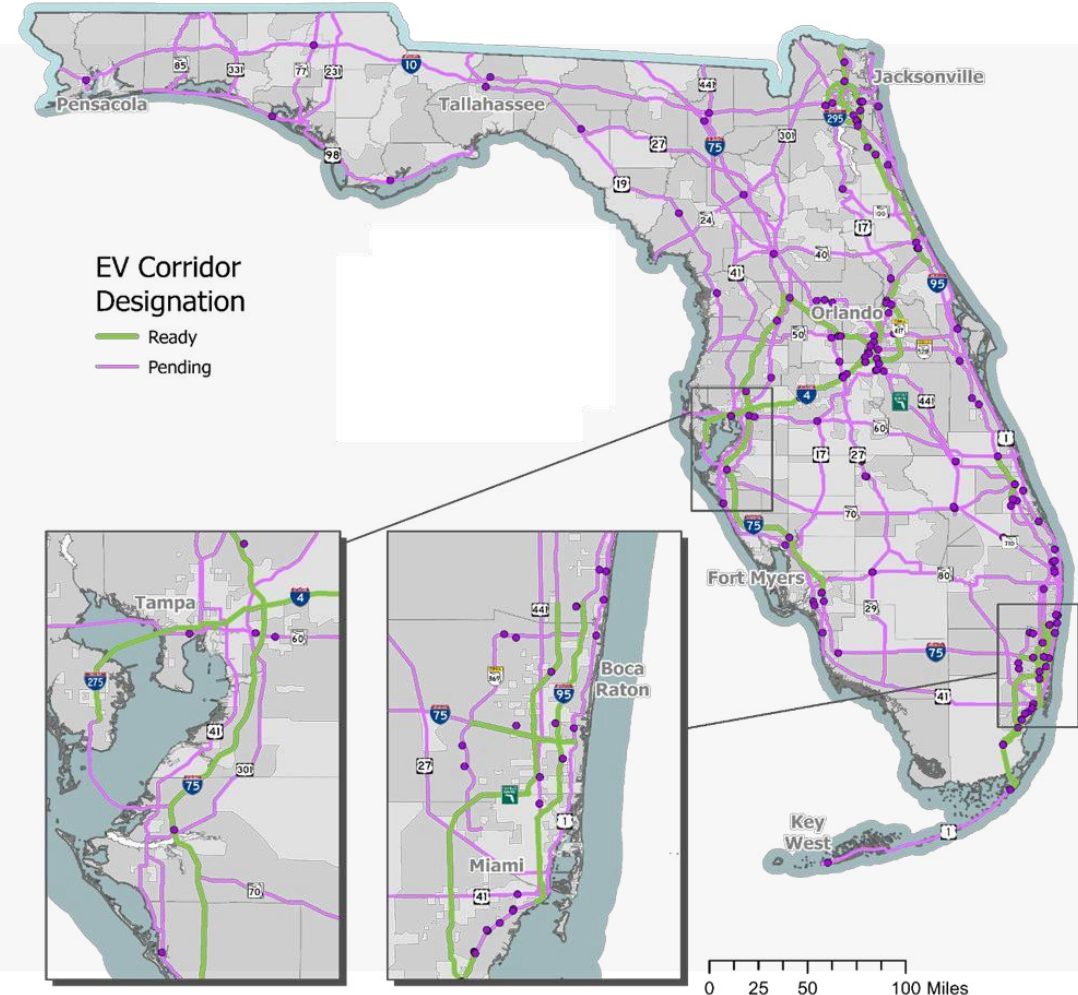
Spacing with
minimum of 4 ports

1 Miles

Distance from AFC

5 Years

of operations and
maintenance



Autonomous Vehicles

Senator Jeff Brandes and Chris Evers

The Google logo is centered in the upper half of the image. It consists of the word "Google" in its signature multi-colored font: blue 'G', red 'o', yellow 'o', blue 'g', green 'l', and red 'e'. The background is a high-angle, wide shot of a large server room with rows of server racks and a complex network of overhead cables and pipes, all illuminated with a cool blue light.

Google



How do transportation agencies transform experiences?

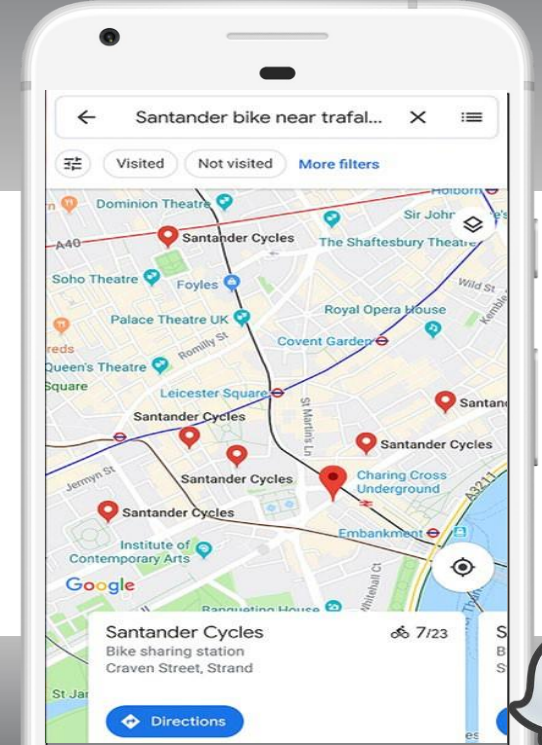


Google Search

I'm Feeling Lucky

Transforming Traveler Experiences

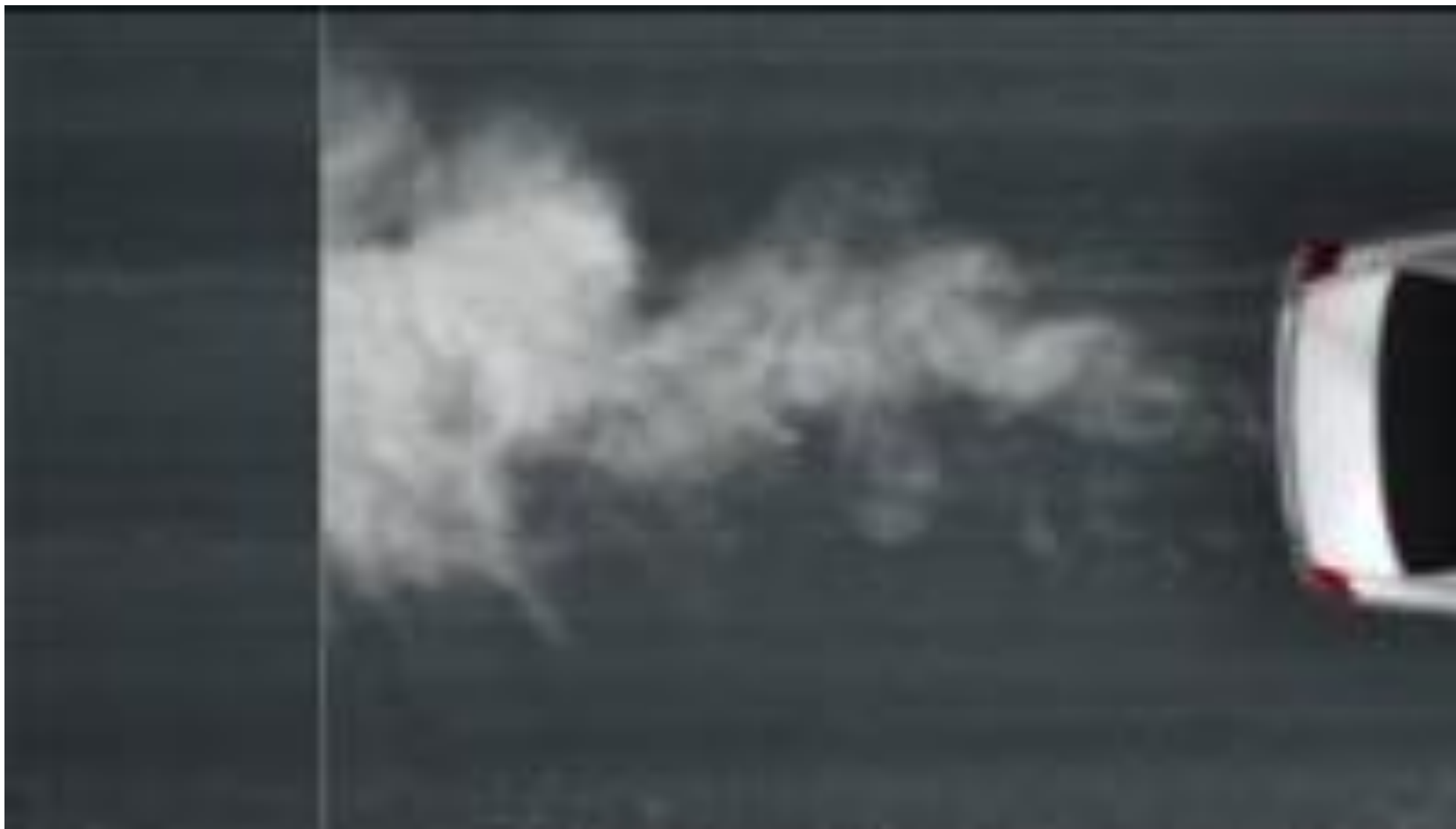
Google Maps



androidauto

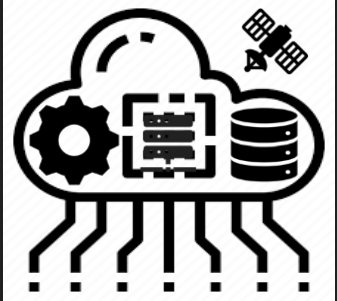


Google



Moove.ai

Platform that integrates datasets and extracts unique insights to understand Safety and Risk conditions



**SEAMLESS
INTEGRATION OF
DIVERSE VEHICLE
BEHAVIOR, ROAD
CHARACTERISTICS &
ENVIRONMENT DATA**

**CONTEXTUALIZATION & CLASSIFICATION DERIVED FROM
A GROWING STACK OF DIVERSE LARGE DATASETS**



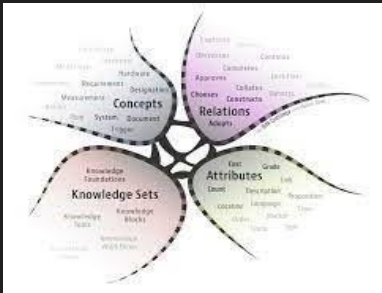
**10+ TRILLION
VEHICLE EVENTS**



**15M+ CONNECTED
VEHICLES**



**+100 ROAD WEATHER
CONDITIONS**



**DATA ONTOLOGY
WITH SPATIAL
TEMPORAL
DIMENSION ML-AI
MODEL(S)**



**60+ BILLION
ROAD FEATURES**



**50+ MILLION
ROAD SEGMENTS**



**REALTIME LOCAL
HAZARD ALERTS**



Vehicle-to-Everything (V2X) Data Exchange Platform

FAV Summit - Emerging Data Session

September 7th, 2023



FORD MOBILITY

Google

iteris®

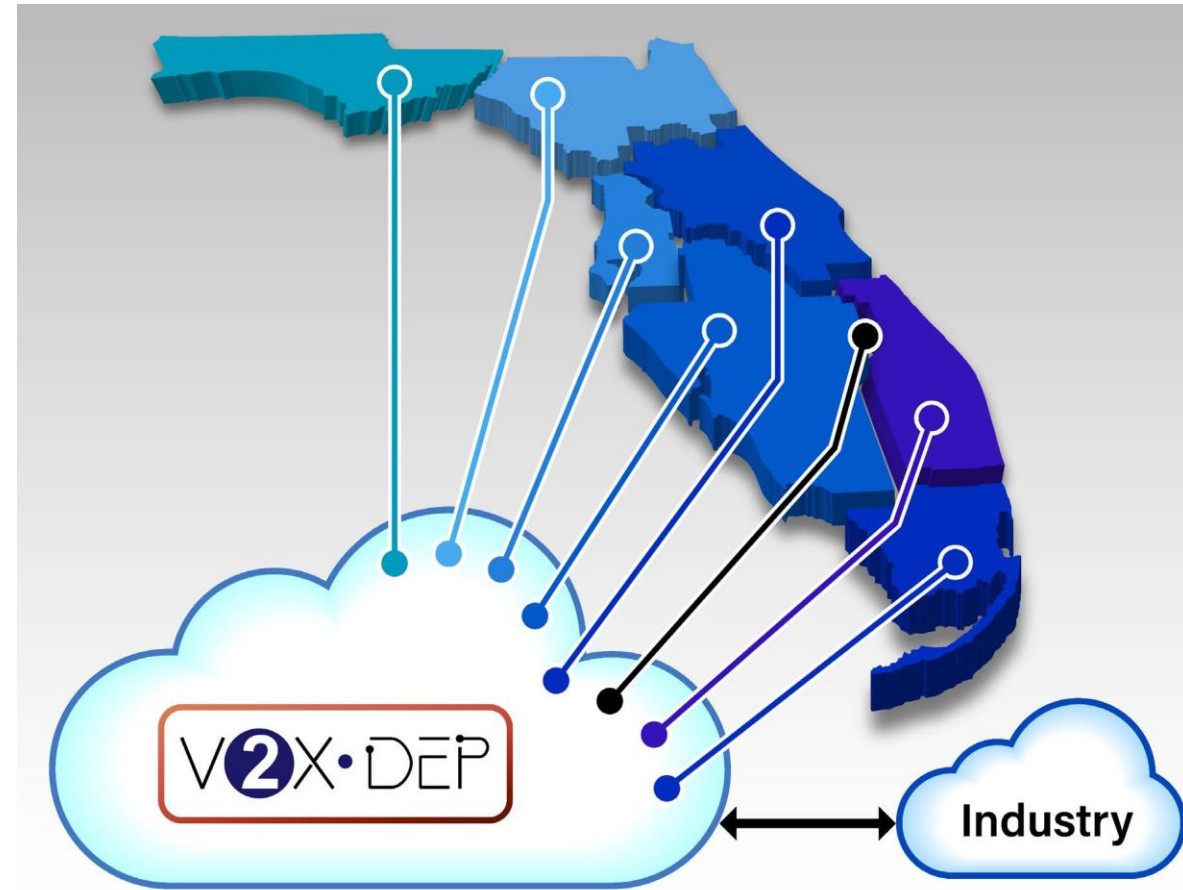


SOUTHWEST RESEARCH INSTITUTE



Agenda

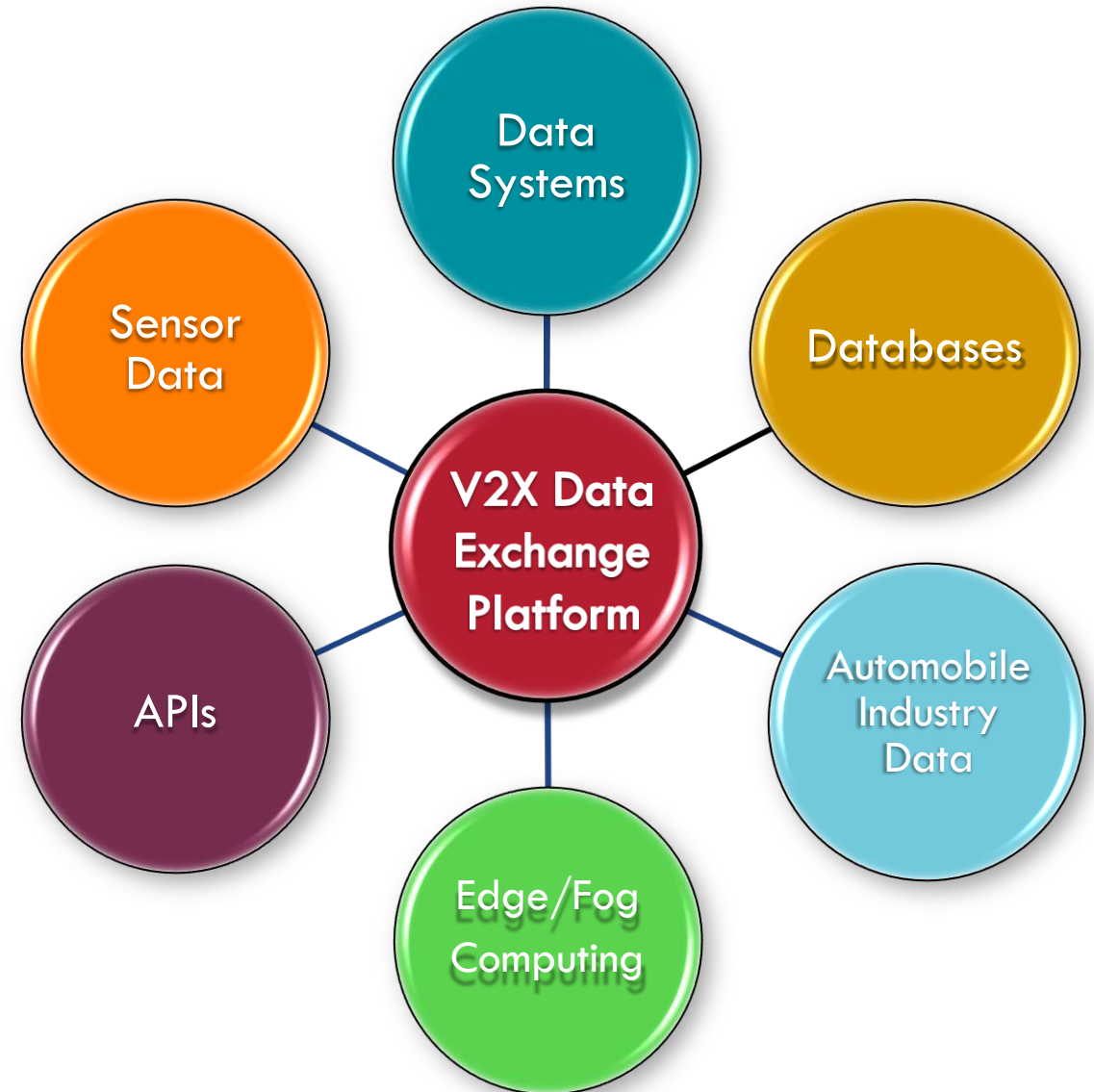
- V2X Data Exchange Platform
Background
- Architecture
- Emerging Data / APIs
- Connected Vehicle Data Framework
- Questions





V2X Data Exchange Platform Concept

- V2X data platform:
 - ▶ Ingests data from **CAV devices** (roadside units (RSUs) and on-board units (OBUs))
 - ▶ Ingests data from **ITS devices**
 - ▶ Ingests data from **third parties**
 - ▶ Potentially interacts with **SunGuide®**
 - ▶ Allows data to be shared between computer programs, data systems, and users
- Ultimate solution for data generated in all CAV projects in Florida

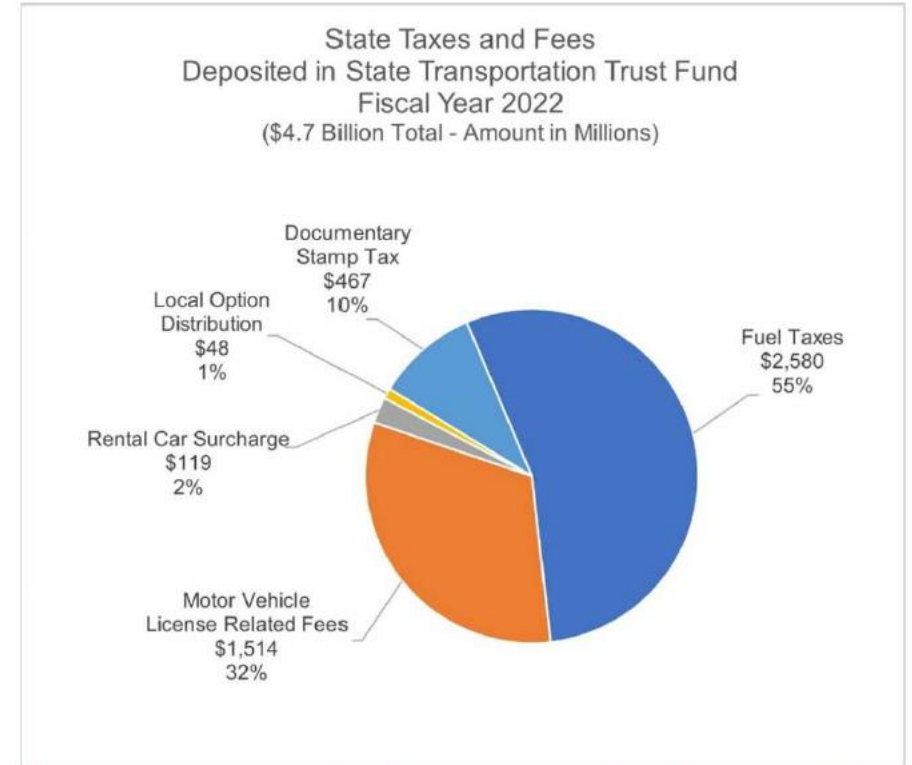


Transportation Funding?

Senator Jeff Brandes and Chris Evers



During your time in the Senate you worked with a number of us here at FAC/FACERS and APWA, what were some of the takeaways from your time working on Transportation issues?

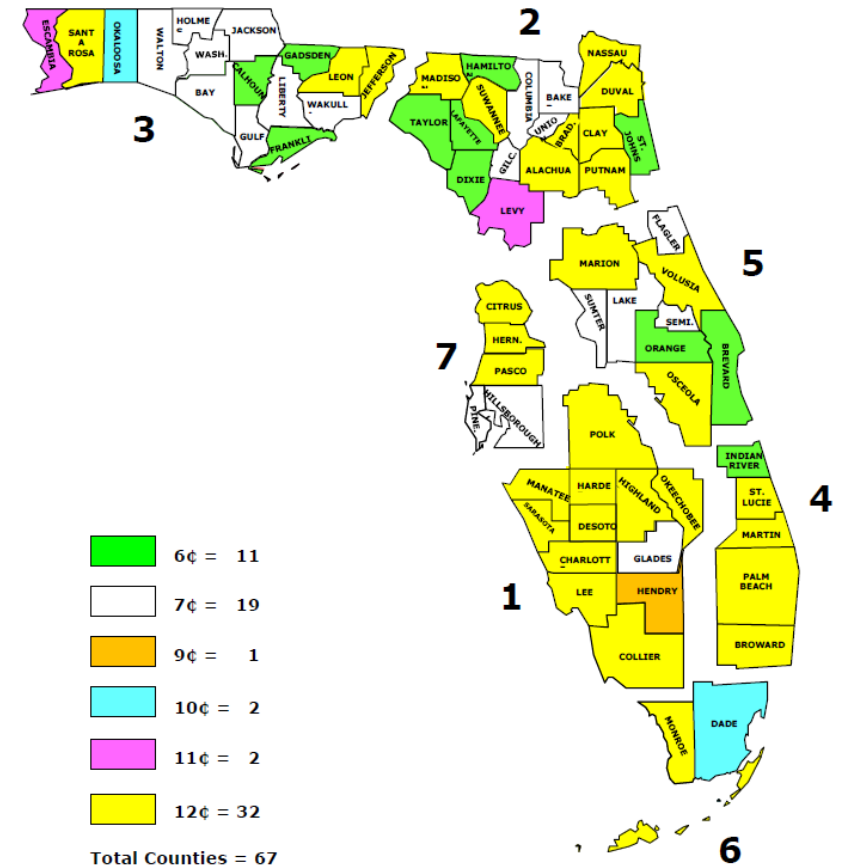


Source: Transportation Revenue Estimating Conference (August 2022), Documentary Stamp Tax receipts (Fiscal Year 2022).

What's your perspective on how FDOT and local governments can bridge the growing funding gap caused by adoption of EV's?

Locally Imposed Motor Fuel Taxes

Tax Rates (¢/gal) as of January 1, 2023

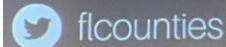


What are you hearing on 2024 legislation like SB 28/HB 107 – License Taxes?

2024 Legislation

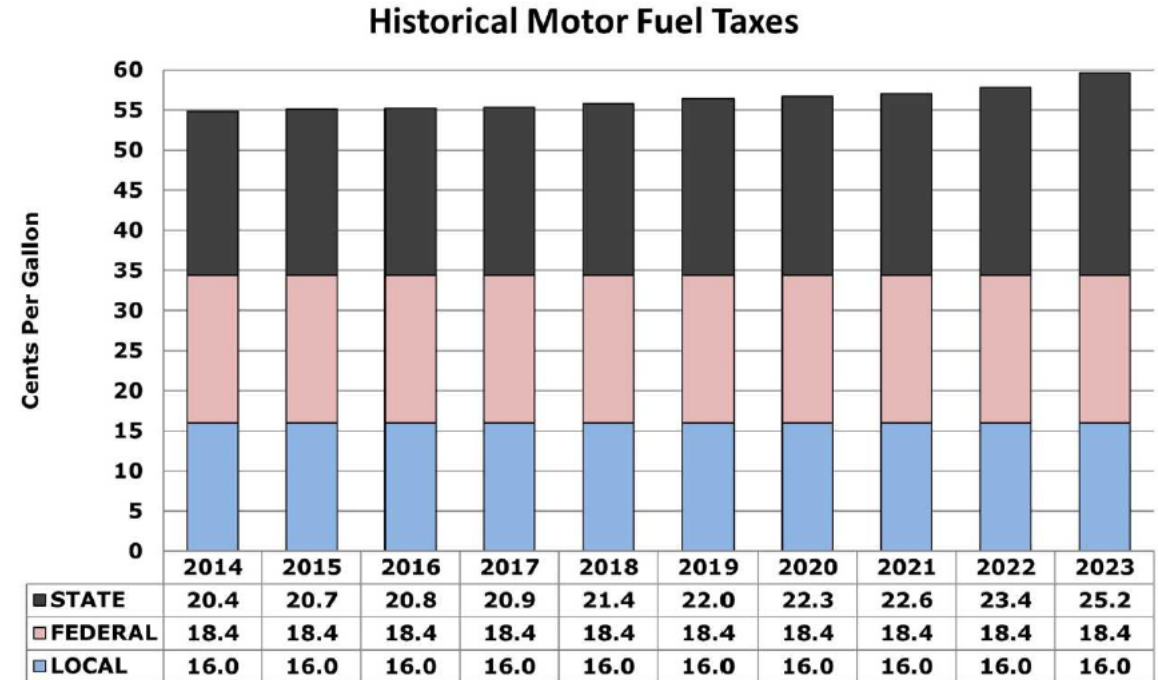
SB 28/HB 107 (Hooper/Esposito) – *License Taxes*

- Imposes additional tax on the registration of Electric Vehicles (EV's) and Plug-in Hybrid Electric Vehicles (PHEV's):
 - \$200 annually for EV's and \$50 for PHEV's
 - These figures increase to \$250 and \$100, respectively, in 2029
 - 36% allocation for counties
- Intent is to supplement “lost” fuel tax revenues from more electric vehicles on the road
- Hooper's 2023 bill, SB 1070, passed the Senate before dying in House Messages; No House companion existed last year
- Other States: GA, AL, MS, LA, et al.



#FACinAction

How much progress has been made in Tallahassee on funding frameworks to replace the loss of gas tax revenue?



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Discussion and Questions?

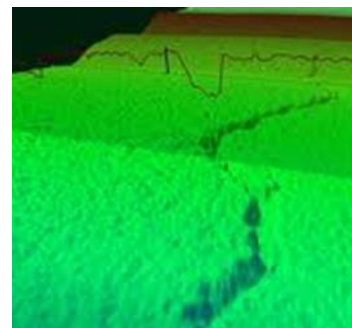
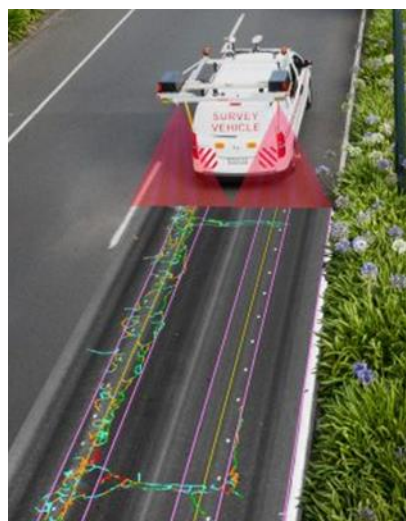
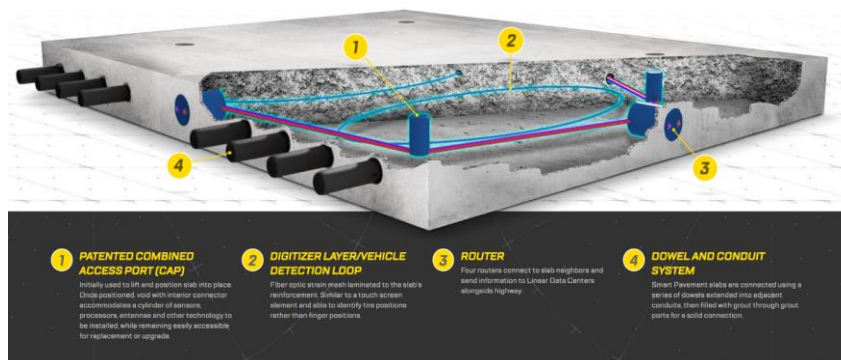
The Future



The transition to new technologies creates new challenges

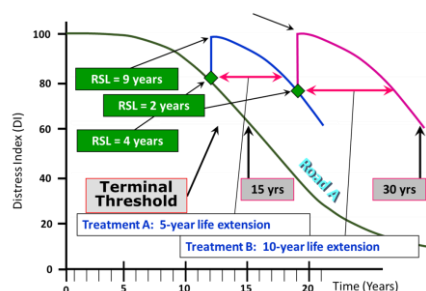
Segments of the industry will see radical change unlike any we've seen

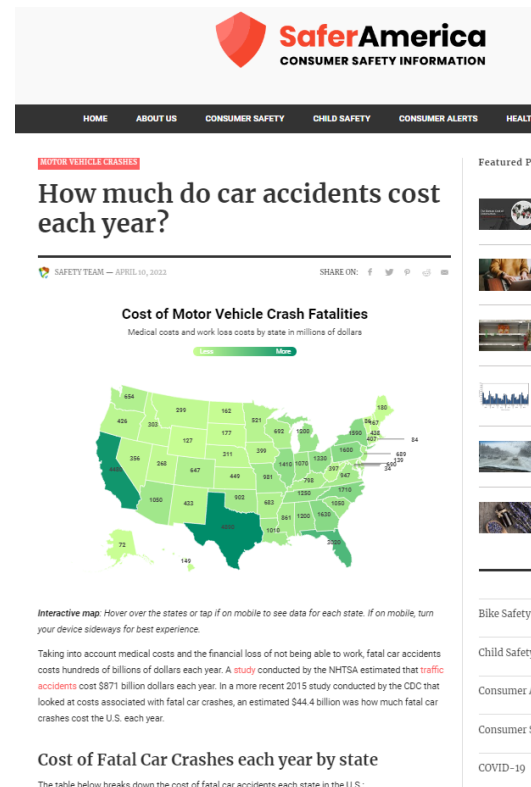
What will be different?



Just the beginning:

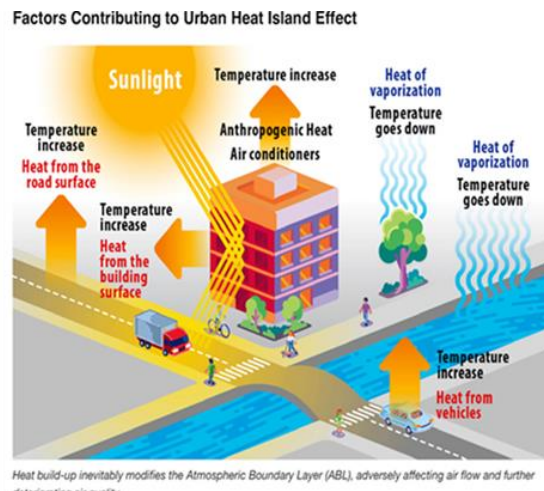
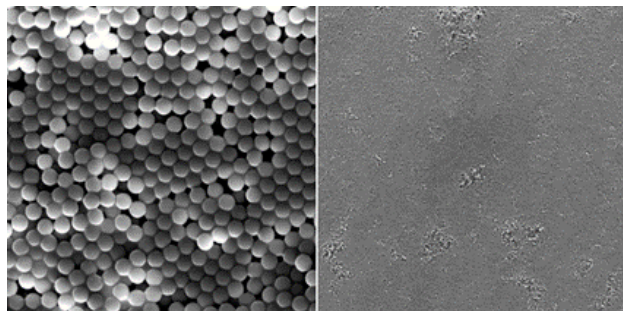
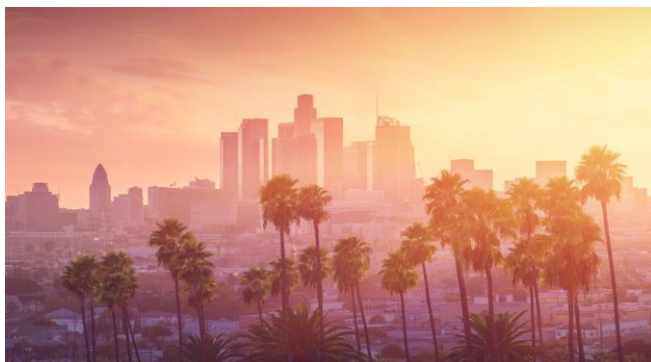
1. Pavement Management
 - a) Smart roads with sensors
 - b) Drone/autonomous inventory
 - c) Predictive distress modeling
 - d) AI treatment selection
2. Roadway Design
 - a) Virtual machine learning
 - b) AI assisted design
 - c) Faster permitting process
 - d) Streamlined surveying





As autonomous roads make transportation safer, our focus changes

1. Shift from driver centric to technology centric
2. Changes to the insurance sector, health care, productivity gains will be significant



The nearly \$1T savings will at first go into technology

1. Savings can be invested in other safety initiatives
2. Mandate to tackle UHI, mobile source air, microplastic pollution

Here come the Autobots!



As autonomous roads make transportation safer, our focus changes

1. Shift from driver centric to technology centric
2. Mandate to tackle UHI, mobile source air, microplastic pollution



The construction site of the 2040's will:

1. Have way less humans
2. Some tasks will be completely automated
3. Construction vehicles will operate in gangs on their own "turf" (geofence)
4. Robots will assist

How do we prepare?



1. Planners need to enable IOT through connectivity
2. Pavement markings more important than ever
3. More/heavier vehicles will use our roads/ROW
4. Become change agents, create less risk averse work environment

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