



TEXAS TECHNOLOGY TASK FORCE

Meeting Minutes
Webinar
December 8, 2020

TASK FORCE MEETING

Objectives:

- 1) Discuss the impact that developments in electrification technology have on stakeholders
- 2) Identify major trends and technologies that are playing a role in evolution of digital asset management
- 3) Understand the role public state agencies play in pedestrian safety through technology developments

Key Takeaways:

- EVs will continue to gain market share nationally and in Texas with an estimated 25% of vehicles sold being EVs by 2030. Therefore, public agencies should plan for this trend and monitor legislation addressing EVs at the local, state, and federal levels.
- Florida (EVSE Master Plan) and California (West Coast Clean Transit Corridor Initiative) provide good examples of how DOTs and other agencies can plan for and encourage large scale EV adoption.
- Digital Asset Management (DAM) has transportation-relevant use cases in four key areas: maintenance, data, planning, and supply chain. Advanced technologies present opportunities for TxDOT to save time and money by modernizing bridge inspections, traffic operations, design-build projects, and hurricane response.
- There are several technologies that can be implemented to enable Texas to reach its Vision Zero goals; technologies available today, such as the “talking bus concept,” as well as more advanced sensors and artificial intelligence (AI) applications that can be used to predict crashes before they occur.

12:30 PM | Call-in Period to Do Sound and Technology Check

1:00 PM | Introductions & Updates – Darran Anderson, TxDOT, C. Michael Walton, and UT Austin Research Team

- Darran Anderson of TxDOT and Dr. Walton of the University of Texas at Austin (UT Austin) kicked off the meeting by welcoming participants.
- Dr. Walton introduced the objectives for today’s webinar.
- Andrea Gold, UT Austin, reiterated the mission of the TTTF and introduced the first panel on vehicle electrification.

1:05 PM | Electrification in Texas Primer – Lori Clark and Rebekah Hernandez, NCTCOG

Lori Clark, NCTCOG

- Demonstrated NCTCOG interactive website with electric vehicle and charging infrastructure statewide data: www.dfwcleancities.org
- COVID-19 has caused a decrease in EV registration.
- FHWA has designated some highways as EV corridors.
- Tesla has 57% market share of electric vehicle sales in Texas.
- EVs predicted to account for 25% of passenger vehicle market share by 2030.

Rebekah Hernandez, NCTCOG

- SB 604 required an ‘alternatively fueled vehicles’ study.
 - One proposed bill in the upcoming Texas legislative session proposes \$200 fee for EV registration to help fund the state highway fund.
 - Some Federal bills addressing EV policy may include EV charging infrastructure investments along designated corridors. There is some consensus among bills in the House and Senate.
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1:15 PM | Electrification: Vehicles, Grid, and Charging Infrastructure

Moderator: Charlie Bloch, RMI

Mr. Bloch focused the discussion on the substantial developments being made in several evolving areas of vehicle electrification and potential implications they may have on TxDOT's infrastructure and planning. In particular, significant developments are being made in battery evolution that will expand opportunity for proliferation of EVs into personal, public fleet, and commercial fleet use. Further expansion of EV adoption relies upon several more developments, including charging infrastructure, power grid resilience, and public policy.

Michael Berube, USDOE

- EV battery costs are going down—the price of an EV is expected to be competitive with an internal combustion engine vehicle by 2030.
- Key factors for EV adoption include: reducing battery cost, improving battery recycling, reducing maintenance costs, and advancing smart charging technology.
- The trucking industry is also pursuing fleet electrification to address new business challenges; the short-haul and last-mile markets will be earlier adopters than long-haul.

Michael Maten, GM

- GM is investing \$27 billion in EV and automated vehicles (AV) through 2025.
- GM will launch 30 EV models by 2025.
- Over 50% of the GM product development team is devoted to EVs.
- A minimum range of 300 miles is needed for wide public acceptance of EVs.

Robert Mowat, HDR

- Florida DOT's has developed an Electric Vehicle Supply Equipment Master Plan.
- Florida DOT is considering how EV adoption will impact emergency/evacuation scenarios and planning.
- The West Coast Clean Transit Corridor Initiative includes a study of I-5 from Mexico to Canada and an analysis of access to charging infrastructure.

2:15 AM | Technology Deep-Dive & Discussion: Digital Asset Management – UT Austin Research Team

Presentation on major trends, technologies, and case studies related to digital asset management.

- Digital Asset Management (DAM) has transportation-relevant use cases in four domains: maintenance, data, planning, and supply chain.
- Technologies to watch in the DAM space include: Drones, LiDAR, Enterprise Information Management software, and Blockchain.

2:30 PM | Break

2:40 PM | Pedestrian Safety Technologies

Moderator: Tom Lambert, Houston METRO

Mr. Lambert described the developments across Texas cities, transit agencies, and TxDOT to reach Vision Zero and end traffic fatalities. He emphasized the need to focus on vulnerable road users, especially pedestrians and cyclists, and the power that advanced technologies have to enable Texas transportation agencies to anticipate and reduce pedestrian conflicts.

Uri Tamir, Mobileye

- Fleet vehicles, including transit and other government fleets, are optimal candidates for installing camera technology that can assist with detecting pedestrians, cyclists, and other vulnerable road users.
- Data gathered from CAV radar can be mapped with GIS and used to generate risk maps and safety scores to show where the most crashes and near-misses occur.

Michael Deruytter, FLIR

- Intersections are high conflict zones where traffic cameras can be used to detect pedestrians and cyclists in order to adjust signal phase and timing accordingly.
- Thermal imaging cameras may be able to predict crash scenarios and be proactive instead of reactive.

Dr. Douglas Brooks, SwRI

- SwRI does object detection and classification in both densely populated and rural areas and are working to develop tech that can help vehicles better detect pedestrians in order to prevent crashes.
- In addition, SwRI is studying the specific movements of pedestrians in order to enable vehicles to anticipate human behavior. For example, if a vehicle is able to predict when a pedestrian is about to step into the roadway, the vehicle could slow or take an appropriate evasive action.

Joe Hunt, TxDOT

- Pedestrian deaths are increasing at the state and national level. TxDOT has an ongoing #EndTheStreak campaign and has pledged to end all traffic fatalities by 2050.
- TxDOT is integrating several technologies to improve safety, including installing thermal imaging cameras at intersections, equipping fleet vehicles with cameras, and investing in connected vehicle technology through its Texas Connected Freight Corridors project.

3:40 PM | Closing Remarks and Next Steps – Darran Anderson, TxDOT & C. Michael Walton, UT Austin

- Darran Anderson summarized the key points of the meeting, emphasizing the need to monitor developments in EV policy, digital asset management opportunities for TxDOT, and pedestrian safety technologies.
- Dr. Walton thanked the panelists, Task Force members, and TxDOT for joining and wished everyone a good holiday.

3:45 PM | Adjourn
