



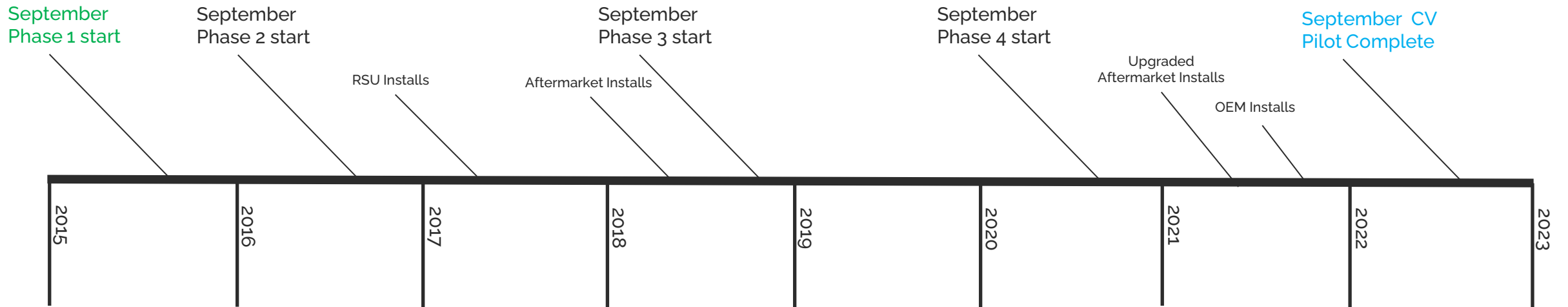
Connected Vehicle Pilot Project Review

September 21, 2022

Walk. Ride. Drive. *Smarter.*



CONNECTED VEHICLE TIMELINE

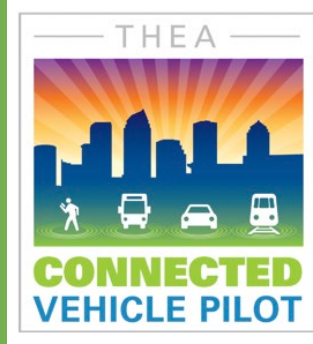


INITIAL CV PILOT (2015 – 2020)



- 1 Square Mile
- 48 Roadside Units
- Over 1,000 Private Participants
- 9 Streetcars
- 10 Buses
- 6 Use Cases
- 9 Applications
- 1.7 Million Basic Safety Message per Day on Average
- 270 Participants per Hour on Average During A.M. Peak Hour

CV PILOT EXTENSION PHASE 4



- 1 Square Mile
- 48 Roadside Units
- Over 100 Upgraded Aftermarket Onboard Units (OBUs)
- Over 70 OEM OBUs
- 6 CV Pilot Applications
- 1 New Application
 - Red Light Violation Warning

PHASE 4 INCREASED SAFETY AND MOBILITY



17 Potential Crashes were Prevented



21 Potential Pedestrian Crashes were Prevented



14 Wrong Way Drivers were Warned



19 Warnings for Red Light Violation were Provided



Over **5,200 Advisories** were Provided

PHASE 4 DATA INTERACTIONS

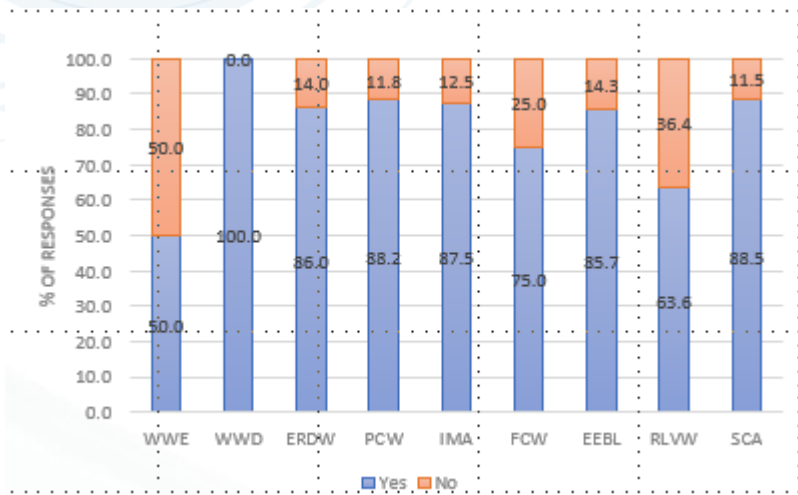


- 152,571 interactions between OBU-equipped vehicles
 - 18,500 OEMs (Honda, Hyundai, Toyota)
- 3.1 billion Basic Safety Messages (BSM)
- 26.4 billion Signal Phase and Timing Messages (SPaT)
- 3.4 billion MAP messages
- 71.9 million Traveler Information Messages (TIM)
- 22,147 V2V and V2I warnings

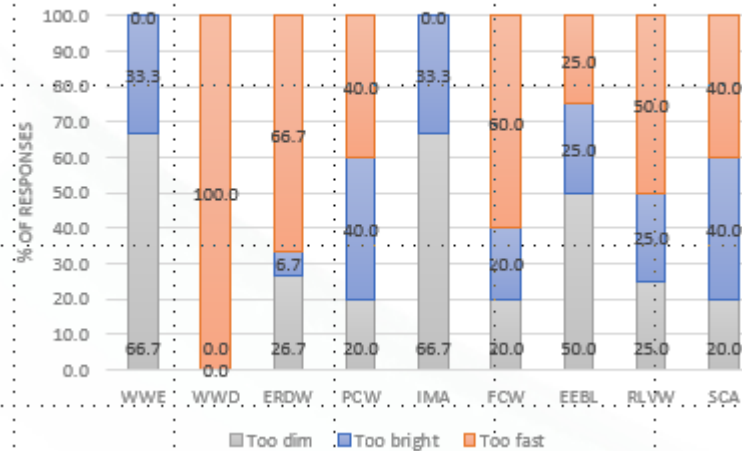
PARTICIPANT OBSERVATIONS



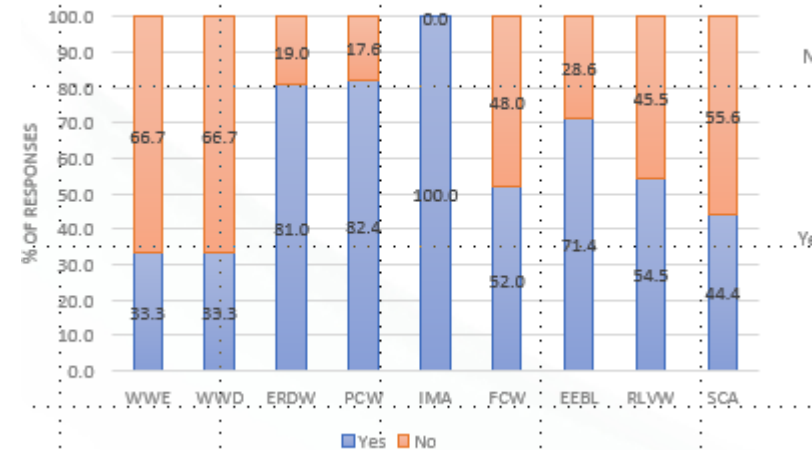
Warning Clarity



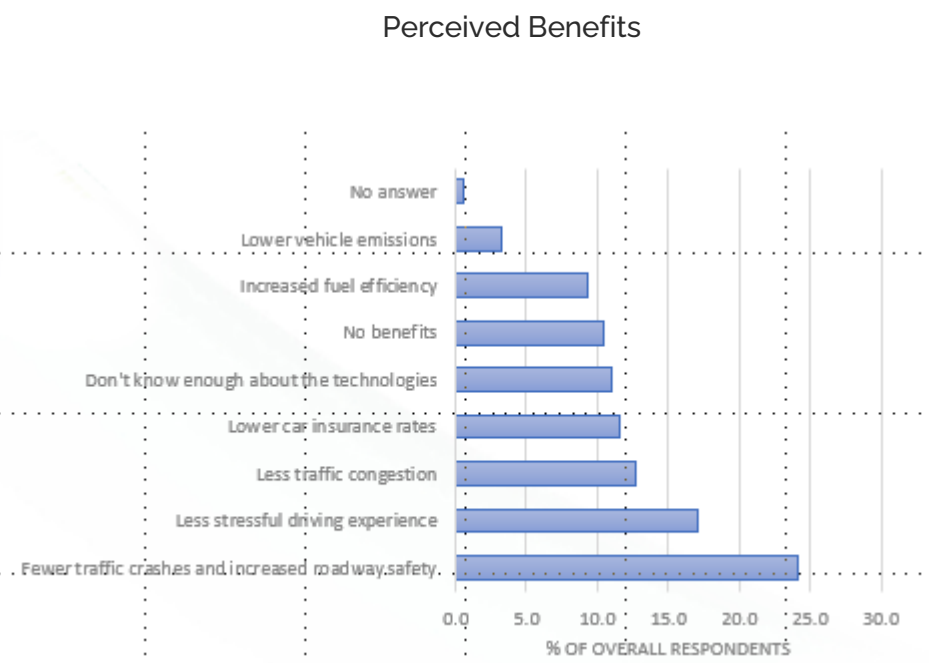
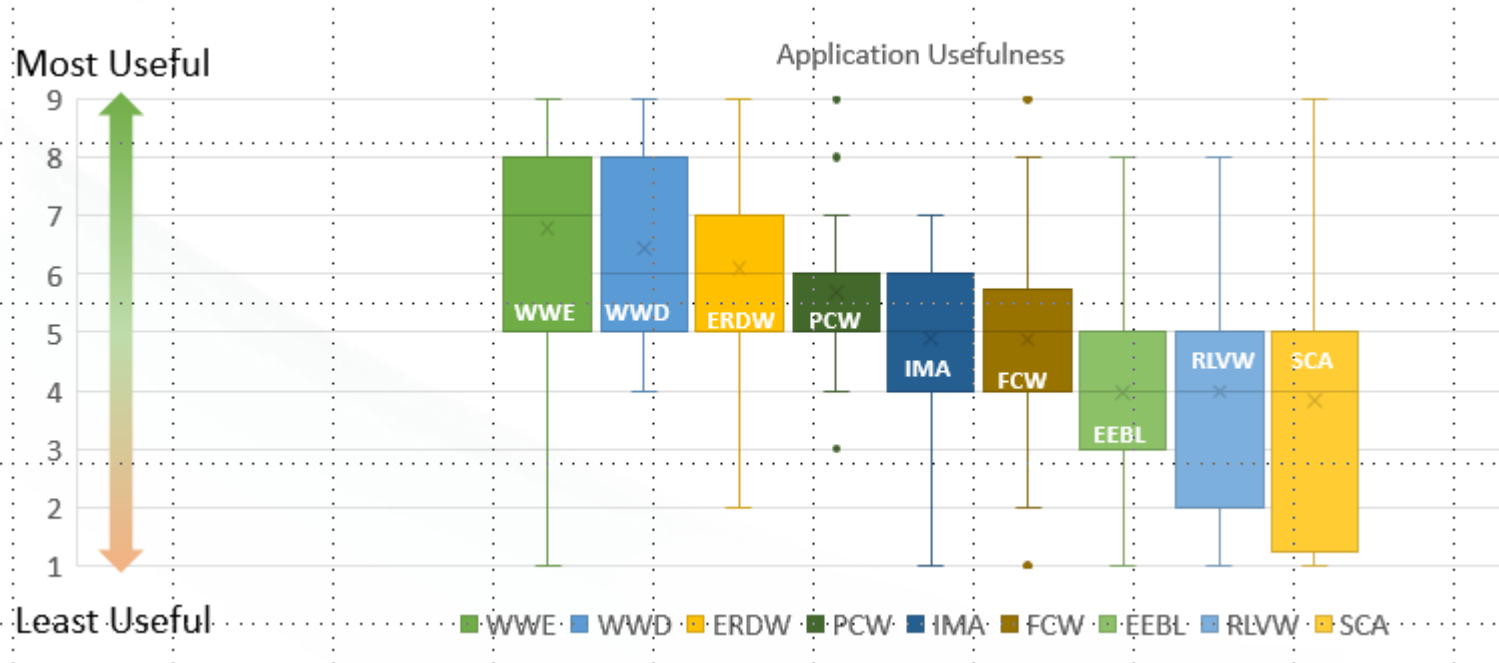
How was the Human-Machine Interface?



Did the app help you avoid a conflict situation?



PARTICIPANT OBSERVATIONS



FOUNDATION CV PILOT LEADS TO FUTURE INITIATIVES



- Operate and Maintain Existing Infrastructure
- Ready for Technology Transition
- Apply for Strengthening Mobility and Revolutionizing Transportation Grant
- Integrate with FDOT I-4 Florida Regional Advanced Mobility Elements (FRAME) Project

FUTURE CONNECTED TECHNOLOGY PROJECTS



Partner	CV Pilot 2 70/30 Match	THEA	I-4 FRAME Integration 50/50 Partnership
THEA	<ul style="list-style-type: none"> Continuing CV Pilot, but with OEMs to identify issues with deployment. Signal Interference testing 	FDOT - D7 (PM) - Central Office	<ul style="list-style-type: none"> Using I-4 Connector, Integrating CV Pilot into I-4. Creating a Real-World CV Corridor from Tampa to Orlando, that can measure benefits and issues. This project deploying infrastructure to build on in future.
USDOT			
THEA	<ul style="list-style-type: none"> Deploy Connected Technology using a mix of existing tech (DMS, Sat Radio) with CV at ramps and areas of potential high conflict. 		

THANK YOU!



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CV PILOT – PHASE 4 SPECTRUM INTERFERENCE TESTING



- Supported USDOT Spectrum Interference Testing
 - Provided Spectrum Interference Test Stand (DSRC, C-V2X, UNII-4)
 - Provided vehicles and staff to assist USDOT with Onsite Testing at THEA
 - THEA Testing Provided Data used in USDOT Findings at the USDOT V2X Summit