MoDOT’s Driverless TMA Initiative

Chris Redline, P.E.
Missouri Department of Transportation
MoDOT TMA Incidents

- 2015
- 2016
- 2017
- 2018 thru Sept

Graph showing incident counts for the years 2015 to 2018 with a peak in 2017.
What is the goal?

Eliminate operator injuries when the rear protective vehicle is impacted by removing the operator from the vehicle.
Higher Education Channel

MoDOT Driverless TMA
System Requirements

• Leader-Follower system
• Cyber security protection
• Safety by multiple layers or redundancy
• Redundant V2V communication
• Non-line of sight V2V communication
• V2V RF hardening for RF interference
• Alignment to national standards and policy
• Retain multiple operations functionality
• Variable follow distances (20’ to 1,500’)
• ±6” lateral accuracy
• ±15’ longitudinal accuracy
System Requirements

• Ability to temporarily pause FT
• Tablet interface
• Ability to function in GPS-denied environments
• Redundant navigation systems
• FT takeover capability
• Collision avoidance
• Arrow panel/turn signal coordination
• Brake & hazard light activation upon impact
• Emergency disengagement of driverless system
• 24 Month warranty after project acceptance
What It Won’t Do

• Platoon to the project at highway speeds
• Follow through signals and intersections
• Laterally offset from the lead vehicle
Contract with Kratos Defense and Security Solutions

• $550K to retrofit two trucks
  o Partially funded with Federal SPR Funds
  o International trucks w/ MASH TMA

• No payment until it performs
  o Training, component testing & verification
  o 32 Hour closed road test
  o 250 Hour live work zone test
Next Steps

• Two trucks in Florida now being retrofitted

• Two trucks delivered to MoDOT in January 2019

• Feb/March training, testing and 32 hour closed road trial

• Remainder of 2019: KC striping train 250 hour trial

• Operate driverless after successful pilot project?
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Questions?