MoDOT's Driverless TMA Initiative

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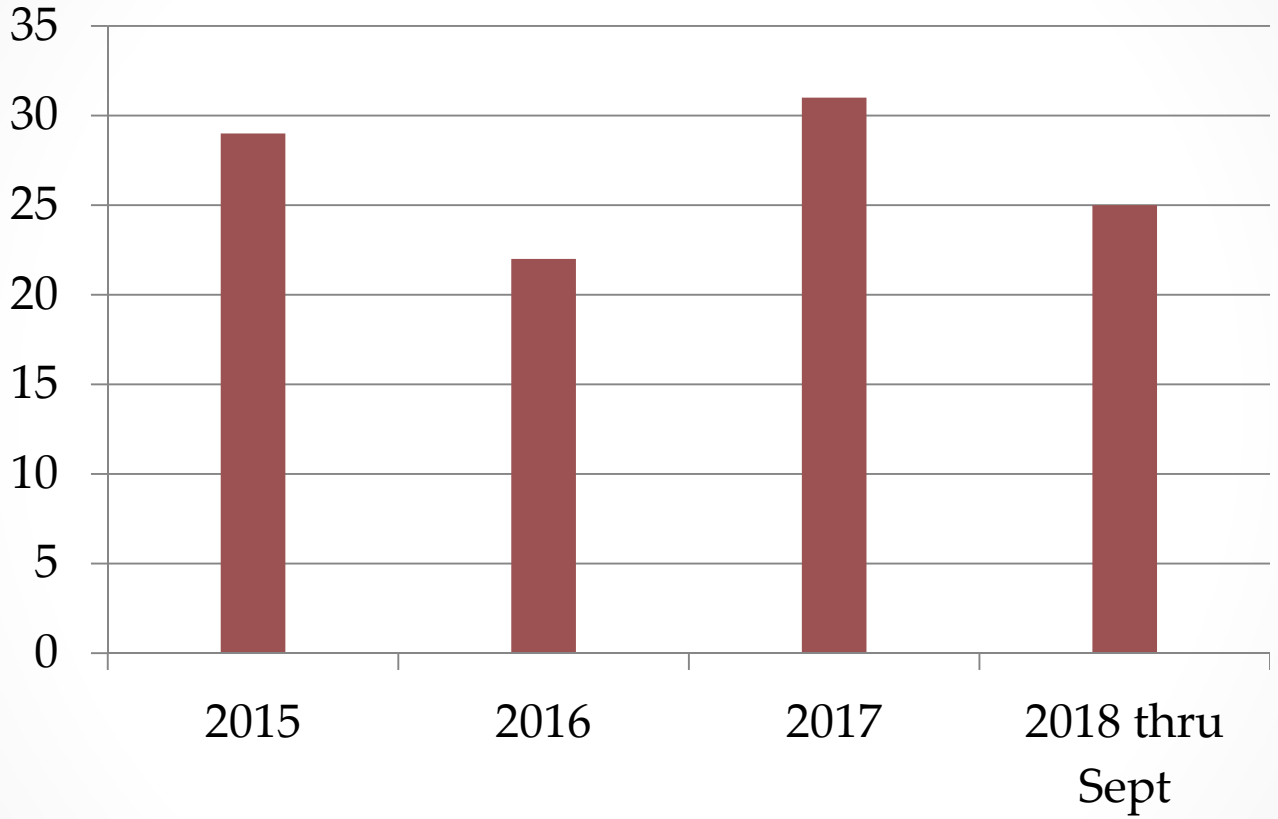
MoDOT TMA Incidents




WEIGHT
LIMIT
65
CAR WASH

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
  - Partially funded with Federal SPR Funds
  - International trucks w/ MASH TMA
- No payment until it performs
  - Training, component testing & verification
  - 32 Hour closed road test
  - 250 Hour live work zone test


NS
NATIONAL SEATING
71100E0C50
90600.032
S/N VN171103160936
HINO VNL STAT 2-PASS
This seat meets all applicable requirements of DOT Motor Vehicle Safety Standards Nos. 209 and 210.
The material in this seat as originally manufactured conforms to the requirements of F.M.V.S.S. #302 SFD541-200
PROMASTER
Fuse 20Amps
Display
LED
Red=Problem
KRIEGER


TESTED
MICRO SYSTEMS
KRATOS UNMANNED SYSTEMS
MICRO SYSTEMS, INC.
KRATOS UNMANNED SYSTEMS DIVISION
ROLLER
Follower


COLORADO
Department of
Transportation

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?

Acknowledgements

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Questions?