TRUCK PLATOONING
UTILIZING COOPERATIVE ADAPTIVE CRUISE CONTROL

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PARTIALLY AUTOMATED TRUCK PLATOONING

• Connected vehicle technology enables the vehicle to continuously communicate and coordinate travel with other trucks to follow each other at close proximity

• **Level 1 – Driver assistance**
  - **Vehicle** controls coordinated speed and braking with the lead vehicles
  - **Driver** maintains steering control at all times (always ready to take full control)

• **Level 2 – Partially automated**
  - **Vehicle** handles all steering, braking, and acceleration tasks
  - **Driver** responsible for watching traffic and responding to system prompts
KEY COMPONENTS

- Antenna
- Video Camera
- Laser Scanner
- Steering System

REAL-TIME SYSTEM DISPLAY
DRIVER-CENTRIC DESIGN
RADAR

FOLLOWING LEAD VEHICLE
LEADING VEHICLE

VEHICLE TO VEHICLE COMMUNICATION

https://www.youtube.com/watch?v=eBfUSo4sFTU
TRUCK PLATOONING IMPLEMENTATION

BENEFITS
• Public - Improved road efficiency and travel time, reduced congestion and greenhouse gases
• Fleet operators - Reduced fuel usage, delivery times, and operating cost, increased driver retention
• Truck Drivers - Reduced driving workload and fatigue
• Safety - V2V, vehicle detection, and collision avoidance technologies

CONCERNS
• Technology still in testing phase
• Driving in Metropolitan, urban and/or congested areas
• Interaction with other motor vehicles, traffic impediment
• Safety
  - Lack of platooning indicator or signage requirements
  - Smaller vehicles cut in between
PILOT PROGRAMS AND TESTING

- CALTRANS and FHWA
- Wyoming DOT and FHWA
- Michigan DOT and FHWA, Peloton
- Florida DOT and Peloton
- Tennessee DOT (waiting for technology)
- Texas DOT, FHWA and Texas A&M TTI (Level 2 testing)

Beyond testing

- Peloton is predicting it will go live with a commercial customer around midyear, probably in Texas
- Michigan could have trucking firms and the military operating with the technology this year (Michigan DOT)
- Memphis-based FedEx Freight and Arkansas-based Walmart, have plans to use the technology
ENABLING LEGISLATION

• Autonomous vehicles or connected technologies, are generally not expressly prohibited, however:
  - Many states have following too closely statutes (FTC) (motor vehicle codes)

• Some states have begun revising their FTC rules to allow for platooning or its testing

• States working on possible agreements for multi-state testing
  - I-10 corridor L.A. to Houston
  - I-40 corridor TN, AR and OK

• Current Oklahoma statutes are interpreted to prohibit
EXAMPLE LEGISLATION

TENNESSEE

• Authorizes a person to operate a platoon on the streets and highways of this state after the person provides notification to the department of transportation and the department of safety

ARKANSAS

• A person may operate a driver-assisted truck platooning system on a street or highway by submitting a plan for approval by the Arkansas Highway Commission, or 45 days must pass after the plan is submitted to the commission, and the plan has not been rejected
QUESTIONS?

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You can find this presentation at acogok.org/truck-platooning