Approached by Project Partners

- Defense Contractor
- Developing unmanned ground systems for US military
- Adapted unmanned systems to TMA truck

- TMA builder and outfitter
- Extensive industry experience
- Safety innovator

- Kratos & Royal needed a partner willing to deploy the tech
- Colas (UK) and CDOT (US) stepped up
Why a TMA?

• It’s intended to be hit - but still has a driver
• Often the only protection in mobile operations
• CDOT TMAs struck by the public 26 times in the past four years
• Nationwide danger - for example Texas loses one TMA a week
Project Vision

- Remove driver from TMA truck
- Decrease risk of operations
- Increase efficiency of operations
- Pursue cutting-edge technology to improve highway management
How it Works

- ATMA autonomously follows a leader vehicle
  - Leader transmits high-accuracy position, speed, heading
  - Follower matches leader’s movements using steering, throttle, brake actuators
- Front mounted radar on follower provides obstacle detection
  - Only reacts to obstacles in the path between leader and follower
  - Emergency stops upon obstacle detection
Equipment Retrofit

• Leader requires installation of
  • Communications and GPS antennae
  • Control module
  • Emergency stop controls

• Install on CDOT vehicle took 1 day

• Follower vehicle systems came pre-installed on purchased vehicle
CDOT Deployment

- Installed lead vehicle systems on paint truck
- Conducted performance verification scenarios on closed track
  - Initially with prototype vehicle
  - Final tests with CDOT’s purchased truck
  - More detail on this phase of the project later today
- First operational use on August 18
Questions?