Autonomous TMA Truck (ATMA)
CDOT Evaluation and Performance Verification

Developed By

Launching In Collaboration With
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 will autonomously follow 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
Results

• Lane accuracy within +/- 4 in
• Gap distance much more consistent than human driver
• Accurate following in cornering and slalom setups
• Performed turns as tight as 45 ft radius
• Identified software and hardware changes to be made
  • CDOT’s production model will address issues found in evaluation of prototype
  • Further suggested modifications will be implemented in future