

TTI TRUCK PLATOONING PROJECT

WHAT IS LEVEL 2 TRUCK PLATOONING?

Level 2 truck platooning is an extension of cooperative adaptive cruise control that utilizes automated lateral and longitudinal vehicle control, while maintaining a tight formation of vehicles with short following distances. A platoon is led by a manually driven truck and allows the drivers of the following truck(s) to disengage from their driving tasks and monitor the system performance. Driving in a platoon formation has demonstrated the potential for significant fuel savings benefits and associated reductions in emissions from the vehicles within the platoon.

WHY TRUCK PLATOONING?

Besides driver compensation, the largest operating expense for a line-haul truck is the cost of fuel. At 65 miles per hour, each truck expends about 65 percent of its fuel

consumption to overcome the effects of aerodynamic drag. Many of the large and small fleet operators are currently using a variety of different techniques and technologies to achieve a 1 or 2 percent fuel efficiency gain. However, research suggests that platooning technology can provide a 5 to 20 percent fuel savings, depending on the gap, speed, number of vehicles, and the location of a vehicle within a platoon. Platooning also offers other benefits, such as emission reductions, additional vehicle safety features, and increased highway throughput, just to name a few.



TTI COMMERCIAL TRUCK PLATOONING PROJECT – LEVEL 2 AUTOMATION

With funding from the innovative research program at the Texas Department of Transportation (TxDOT) and partnerships with private industry, the Texas A&M Transportation Institute (TTI) will create a first-of-its-kind comprehensive freight platooning demonstration in Texas. Building upon past and current platooning research projects, the TTI team strives to demonstrate the safety benefits, fuel savings, and emission reductions achieved by extending vehicle automation to freight truck platoons.

The project is planned in three phases:

- **Phase 1:** Conduct a feasibility planning study and proof of concept demonstration.

- **Phase 2:** Develop the concept of operations and requirements for design.
- **Phase 3:** Deploy a commercial truck platooning application in Texas

Building upon the unique expertise of TTI's partners in the project, and leveraging their past experiences in other countries and industries, TTI will ensure minimal risk for the ensuing phases. The project brings together major partners, including government agencies, national labs, truck manufacturers and equipment suppliers, all of which have committed resources in terms of in-kind matching of equipment, engineering services, and intellectual property.

TTI was recently awarded the contract for Phase I of this project through August 2016.



HOW WILL PHASE 1 BE ACCOMPLISHED?

There are two aspects to Phase 1:

- **Conduct feasibility studies:** This portion of the project is designed to investigate and document lessons learned from past platooning projects; identify potential regulatory or legislative roadblocks that could hamper or facilitate introduction of platooning into commercial fleet operations; and explore the possible business cases and implementation scenarios within the existing infrastructure and operation environment. The tasks will focus on the feasibility of deploying 2-vehicle truck platoons on specific corridors in Texas within 5 to 10 years.
- **Demonstrate the technology:** This portion of the project includes developing, testing, and demonstrating the technology (proof of concept) and conducting a workshop to disseminate the results and capture insights and comments from the stakeholders.

For more information on various aspects of this project or to inquire about how to provide input as a stakeholder, please contact:

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