GAO
Highlights

AUTOMATED TRUCKING

Federal Agencies Should Take Additional Steps to Prepare for Potential Workforce Effects

Why GAO Did This Study

Automated vehicle technology may eventually make commercial trucking more efficient and safer, but also has the potential to change the employment landscape for nearly 1.9 million heavy and tractor-trailer truck drivers, among others. GAO was asked to examine the potential workforce effects of automated trucking.

This report addresses (1) what is known about how and when automated vehicle technologies could affect commercial trucks; (2) what is known about how the adoption of automated trucks could affect the commercial trucking workforce; and (3) the extent to which DOT and DOL are preparing to assist drivers whose jobs may be affected. GAO reviewed research since 2014 on automated trucking technology, viewed demonstrations of this technology, and analyzed federal data on the truck driver workforce. GAO also interviewed officials from DOT and DOL, as well as a range of stakeholders, including technology developers, companies operating their own trucking fleets, truck driver training schools, truck driver associations, and workforce development boards.

What GAO Recommends

GAO is making four recommendations, including that both DOT and DOL should continue to convene key stakeholders as the automated trucking technology evolves to help the agencies analyze and respond to potential workforce changes that may result. DOT and DOL agreed with the recommendations.
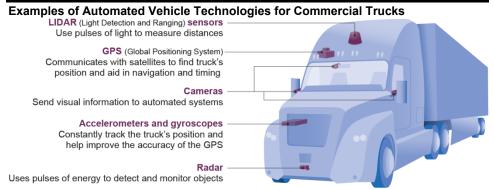
What GAO Found

Automated trucks, including self-driving trucks, are being developed for long-haul trucking operations, but widespread commercial deployment is likely years or decades away, according to stakeholders. Most technology developers said they were developing trucks that can travel without drivers for part of a route, and some stakeholders said such trucks may become available within 5 to 10 years. Various technologies, including sensors and cameras, could help guide a truck capable of driving itself (see figure). However, the adoption of this technology depends on factors such as technological limitations and public acceptance.

Examples of Automated Vehicle Technologies for Commercial Trucks

LIDAR (Light Detection and Ranging) **sensors**
Use pulses of light to measure distances

GPS (Global Positioning System)
Communicates with satellites to find truck's position and aid in navigation and timing

Cameras
Send visual information to automated systems

Accelerometers and gyroscopes
Constantly track the truck's position and help improve the accuracy of the GPS

Radar
Uses pulses of energy to detect and monitor objects

Source: GAO analysis of interviews with technology developers. | GAO-19-161

Stakeholders GAO interviewed predicted two main scenarios for how the adoption of automated trucks could affect the trucking workforce, which varied depending on the future role of drivers or operators. Technology developers, among others, described one scenario in which self-driving trucks are used on highway portions of long-haul trips. Stakeholders noted this scenario would likely reduce the number of long-haul truck drivers needed and could decrease wages because of lower demand for such drivers. In contrast, groups representing truck drivers, among others, predicted a scenario in which a truck would have an operator at all times for complex driving and other non-driving tasks, and the number of drivers or operators would not change as significantly. However, stakeholders lacked consensus on the potential effect this scenario might have on wages and driver retention. Most stakeholders said automated trucking could create new jobs, and that any workforce effects would take time—providing an opportunity for a federal response, such as any needed policy changes.

The Department of Transportation (DOT) is consulting with the Department of Labor (DOL) to conduct a congressionally-directed analysis of the workforce impacts of automated trucking by March 2019. As part of this analysis, DOT and DOL have coordinated to conduct stakeholder outreach. However, they do not currently plan to convene stakeholders on a regular basis to gather information because they have focused on completing this analysis first. Continuing to convene stakeholders could provide the agencies foresight about policy changes that may be needed to prepare for any workforce effects as this technology evolves.

_____ **United States Government Accountability Office**