



Laser Tech

# **How Georgia Put Advanced LIDAR Technology to Work in Reducing CMV-Related Traffic Crashes**

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## **Georgia is the No. 1 state in the nation to do business, but it's also No. 4 in the nation in number of fatal crashes involving commercial motor vehicles (CMVs).**

CENTENNIAL, Colorado - To fight the rising tide of CMV accidents, Georgia is leaving no rock unturned in its quest to find more innovative, effective solutions to increase highway safety.

The state's rank in fatal CMV crashes weighs heavily on the Motor Carrier Compliance Division (MCCD) of the Georgia Department of Public Safety, the agency charged with enforcing commercial vehicle safety laws and also the lead [Motor Carrier Safety Assistance Program \(MCSAP\)](#) agency in Georgia.

This thriving southeastern state has experienced rapid population and business growth in a short amount of time, and the by-product of that growth means large-scale increases in commercial traffic on the roadways of Georgia. Today, more than 3 million trucks travel through Georgia inspection stations every month, and it's up to the MCCD to take on the incredibly difficult task of maintaining a safer transportation environment while the roadways continue to get more congested.

MCCD officials wondered what additional efforts they could implement to ensure an effective crash reduction program that changes unsafe CMV driver behavior over time. Part of the solution was to focus on educational and enforcement efforts to change driver behavior in the short term, and sustain efforts to dramatically reduce CMV-related traffic deaths in the long term.

But the department also had to assess whether it was utilizing every tool at its disposal to effect the greatest possible change in commercial vehicle safety. That's when department officials started exploring groundbreaking LIDAR technology that could change how it enforced two major factors contributing to crashes involving commercial motor vehicles – speeding and following too closely.

### **CMV Traffic Swells Amid Statewide Growth**

Georgia has been the top place to do business in the United States for five straight years, according to [Site Selection magazine](#). With more than 1,200 miles of interstate highways, one of the busiest airports in the country (Hartsfield-Jackson Atlanta International), and deep-water ports in Savannah and Brunswick, both of which experienced record growth in 2017, commercial trucking continues to be crucial to the state's business environment.

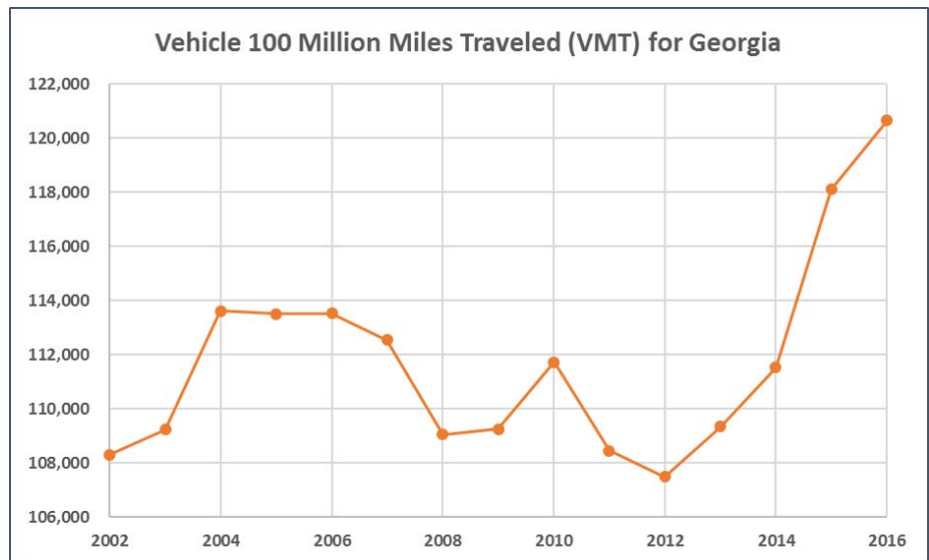
Since 2010, the Peach State has averaged more than 3,000 new motor carriers starting business each year, and more than 64,000 registered motor carriers hit the roads on any given day. With estimates projecting Georgia's population to rise to [nearly 11 million people by 2020](#), and a [major port expansion and harbor deepening in Savannah](#), CMV traffic across the state will increase by as much as 60 percent.

More commercial vehicles on the road means the increasing potential for more CMV-related accidents, something Major Johnny Jones, commanding officer in the Georgia Department of Public Safety's MCCD unit, is well-aware of.

"From 2013 to 2016, Georgia reported more than 7,500 CMV-involved crashes that caused injuries, and CMV-involved work zone crashes increased 48 percent over the past two years alone," Maj. Jones said.

“We have to have better preventative measures to reduce the amount of crashes involving large trucks and buses in Georgia.”

In 2017, approximately 18 people a month were killed in traffic crashes involving commercial vehicles in Georgia, and one of the major causes of CMV-related accidents in the state is due to drivers following too closely. Following too closely is Georgia’s second-leading crash causation factor involving CMVs (after improper lane usage), and it’s no surprise given how difficult it is to unexpectedly brake large commercial trucks in short distances.



Department of Public Safety analysts examining state crash data discovered that rear-end collisions account for 25 percent of CMV crashes statewide, and that number rises to 33 percent in high-crash corridors. The speed of a commercial motor vehicle is very much relative in determining how quickly a large truck or bus can brake within a certain amount time and distance. At 60 mph, [it takes a 40-ton commercial vehicle approximately 335 feet to stop](#), just over the length of a professional football field.

Truck drivers who fail to give the proper amount of space to a vehicle in front of them, or those who are cut off by lighter-weight vehicles, then, have little margin for error.

Armed with this information, the Georgia Department of Public Safety’s MCCD focused more heavily on reducing the number of trucks following too closely and improving safety on the state’s roadways. However, the only tools officers have historically had to recognize following-too-closely infractions were based on training and experience, which varies from officer to officer.

“We use RADAR and LIDAR technology for speed detection, but except for training and experience we have not had technology that would help us enforce Georgia’s following-too-closely law,” Maj. Jones said. “However, a few years ago, we discovered a patented LIDAR technology that measures time and distance between vehicles, as well as vehicle speed. This technology also was equipped with both photographic and video capabilities.”



## Embracing Laser Speed Technology with Video

The [Federal Motor Carrier Safety Administration \(FMCSA\)](#) recognizes the need for additional financial support to improve traffic safety in high-risk regions and provides states reporting the most CMV crashes with MCSAP grants to help reduce collisions involving such vehicles.

As the lead MCSAP agency for Georgia, MCCD uses those funds to reduce CMV-involved crashes, fatalities and injuries through consistent, uniform and effective CMV safety programs, which includes the inspection of CMVs and CMV drivers. In accordance with state and national standards, all 270-plus law enforcement officers in MCCD are thoroughly trained to perform North

American Driver/Vehicle inspections on large trucks and buses. In addition to personnel and training, MCCD also invests this funding in education and awareness programs, which includes educating the motoring public, the commercial vehicle industry and other law enforcement agencies in Georgia.

But the agency also uses both state and federal funding to reinvest in more modern traffic enforcement technologies. In 2014, the Georgia MCCD purchased speed detection LIDARs with digital video capabilities because they could capture several things officers believed could help reduce rear-end collisions:

- Vehicle speed
- The time and distance between vehicles
- Photographic and video evidence that could support speed and following-too-closely violations

Suddenly, some of the MCCD's traffic safety awareness campaigns were taking a different shape.

"We often highlight the capabilities of our department on social media and through media PSAs to emphasize commercial vehicle safety programs in our state," Maj. Jones said. "But at every opportunity, we educate the public and trucking organizations about the cutting-edge LIDAR capabilities that we now possess. We want drivers to know that we can measure their speed, the time and distance between two vehicles, take their picture and capture their tag number, all at the same time."

### Reducing Risk, Increasing Safety on Georgia Roads

The same manufacturer that released the very first commercial LIDAR speed device in the 1990s developed one of the most sophisticated laser photo/video speed enforcement tools available today. The device collects and stores a complete chain of video evidence for speeding and tailgating violations, along with a high-resolution image that identifies vehicle make, model and license plate number.

"It's unlike any other piece of equipment out there," Maj. Jones said. "This single device, with its ability to enforce speed and tailgating issues, has transformed how we can monitor commercial vehicles and enforce Georgia state law relative to following too closely. It is able to capture these critical measurements and support them with video and photo evidence."

Since 2014, MCCD has increased its following-too-closely citations by 275 percent and its speed violations have increased more than 300 percent, something Georgia law enforcement experts say will help seriously reduce the risk and severity of CMV-related crashes. With over 200 of the video-enabled laser speed enforcement devices in use today, Maj. Jones said, MCCC plans to purchase more as the agency continues to hire officers and as roadway safety efforts continue to progress.



In fact, the Georgia Department of Public Safety's traffic enforcement programs have earned several FMCSA commendations since deploying these laser speed enforcement devices. The department earned an honorable mention for Safety Enforcement for 2015-16, and in 2016, it earned the distinction of winning FMCSA's top honor – the Safety Enforcement Award – in commercial vehicle safety.

As the state continues to grow and the roads become more congested, and as long as motorists are being killed and injured on Georgia roadways, Maj. Jones says, the Georgia Department of Public Safety will continue to invest in innovative solutions that are proven to help deter dangerous driving habits across the state.

"If we're going to dramatically improve commercial vehicle safety in Georgia, we need all the tools we can get to effectively accomplish that mission," he said. "This innovative, dependable LIDAR technology with video and photographic capability helps us keep up with traffic enforcement amid rising business and population expansion, and helps us create a safer transportation environment for our citizens and our nation's motorists."