FLETC Researches Vehicle Manufacturer's Safety Enhancements

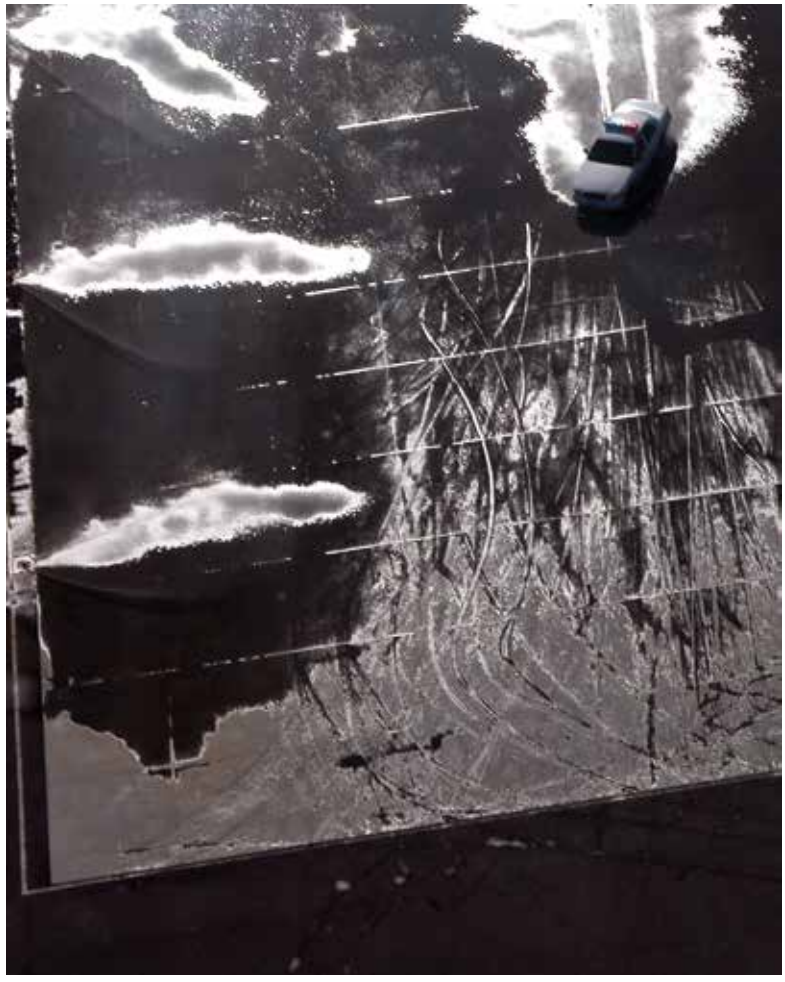
By Jon Holland, FLETC Senior Instructor

When training tens of thousands of students a year, safety is a critical element. That is especially true when it comes to the Federal Law Enforcement Training Center (FLETC) driver training.

So it is no wonder when the FLETC received new police vehicles equipped with the vehicle manufactures stability system that the staff conducted research to ensure that the system would enhance the safety of students and instructors.

The FLETC took delivery of nine new police package vehicles, each equipped with a vehicle manufacturer's stability program. FLETC instructors, in an effort to test the stability system program, took the vehicles onto a training skid pad. "It was noticed that when the stability program was in the full on position, the vehicle would not over rotate or spin completely around," said Driving Instructor Tom Carr. "We noticed that when we attempted to make a tight turn at speed on the slick surface, the vehicle would immediately start idling the engine down while simultaneously applying brakes to the wheels that were spinning or loosing traction."

Senior members of the FLETC Driver Training cadre recreated a vehicle training crash. When driving the police vehicle with the stability program in the full- on position while entering a turn at 55 mph, the vehicle would begin to slide off the road. However, the stability system immediately sensed a loss of traction, activated the braking system to the wheels that were sliding and automatically idled the engine down. All of these components allowed the vehicle to maintain its lane integrity. As demonstrated in the initial crash, a vehicle without a stability system negotiating a turn at the same speed would cause the vehicle to lose control and leave the roadway.



FLETC skid pan training

The instructors then took the vehicle onto one of the skid pads for a second testing phase. These pads are 150 feet by 300 feet with a polished concrete surface. The instructors drove the vehicle onto the pad at speeds up to 60 mph and discovered that the vehicle with stability control would not enter into an uncontrollable skid. Next, an instructor operating the same vehicle entered the skid pad at 45 mph, initiated a skid and then

took his hands off the steering wheel. He took his hands off the steering wheel for demonstration purposes only. At that point, the stability system automatically turned the front wheels into the skid, which allowed the vehicle to maintain control.

During the next phase of testing, the instructors set up a "swerve to avoid cone" exercise on one of the high-speed ranges. The exercise was set up on a straight roadway, which had an entrance composed of two cones placed slightly over a vehicle width apart. Approximately 60 feet past the entrance cones, another cone was placed in the center of the roadway. Approximately 60 feet further down the road, four cones were placed in the shape of a box, each twenty feet apart. During this exercise, the driver accelerated on the roadway to a pre-determined speed, and, as the vehicle crossed the entrance of the first two cones, a command was given over the radio to brake left or right. The driver was required to swerve in the direction of the command given, avoid hitting the cone in the center of the roadway and stop within or just past the box of four cones.

On the day of this exercise, the cold and rain supplied an unplanned, but ideal, variable to test the stability control system. During the exercise, vehicles were tested with and without the stability control feature. The drivers approached the exercise at 70 mph and were given the command to brake.

"The research and vehicle testing conducted by our driving instructors has had a tremendous impact on student and instructor safety," said FLETC Assistant Director for Glynco Training Dominick Braccio. "We have incorporated the results of this study in the delivery of our training programs."

The FLETC now utilizes only those vehicles equipped with either traction control and/ or stability control for courses requiring students to drive at high speeds.

"Our instructors are dedicated about improving driver training and decreasing the number of law enforcement traffic deaths and injuries each year," said FLETC Director Connie Patrick. "We are committed to remain vigilant in providing the best possible, and most safe, training for the men and women on the front lines."

Jon Holland is a senior instructor at the FLETC working in the Driver and Marine Division. Holland retired from the Virginia Department of Alcoholic Beverage Control where he served for more than 33 years as a special agent investigating the illegal sale, manufacturing, and transportation of alcoholic beverages throughout the Commonwealth of Virginia. Holland has been involved in driver training since the early 1980s.