

THE LOWDOWN

Sheriff Charles S. Blackwood

NC Vision Zero (NCVZ), a program of the Governor's Highway Safety Program (GHSP), has an ambitious goal. NCVZ wants to see zero crashes, serious injuries, and fatalities on state roadways. Most of us might initially be tempted to disregard this goal as unrealistic, especially given that the number of North Carolina traffic fatalities last year was the highest in almost five decades. But if asked how many traffic deaths would be acceptable within your family this year, what would you say? I think you would quickly join Team Zero.

NCVZ pursues this goal through collaborative, data-driven interventions. Brian Whitehurst, a lieutenant with my office, is the regional law enforcement liaison to the GHSP. Tasked with all things related to traffic, communications, and logistics, he manages the four speed awareness signs we purchased with GHSP funds.

These sophisticated devices use radar to measure the speed of approaching vehicles. They display a "Thank You" message if the speed is appropriate or a "slow down" message if it is not. My deputies routinely ask motorists during traffic stops if they know how fast they were travelling. A surprising number of times, the answer is "I'm sorry. I have no idea." Speeding violations often represent accidental inattention, not deliberate disregard. These speed signs can provide the visual jolt a driver needs.

The signs are efficient, impartial, and accurate data collection workhorses. The onboard computer records and reports information such as how many vehicles pass the sign per hour, allowing Lieutenant Whitehurst to see when traffic volume is highest and at what time of day motorists exceed the posted speed by the highest percentage. Sometimes we deploy the signs in an area known to have multiple crashes; other times we place them in response to the request of residents.

Two important traffic metrics guide enforcement campaigns. One is the 50th percentile speed, which is the speed at or below which 50 percent of the drivers travel on a particular segment of road. The other is the 85th percentile, a number representing the speed at which 85 percent of drivers on a given road would travel at or below if there were no speed limit signs or speed controlling measures. Speed awareness signs are generally able to capture how fast a vehicle is traveling before a motorist can respond to seeing it. Software calculates these metrics every hour, providing rich information about traffic patterns. Speeds in between these percentiles are the "common sense

metric,” as they tend to closely track the actual safe speed for a section of road. In fact, research shows drivers travelling at speeds between the 50th and the 85th percentile are unlikely to have a crash caused by excessive speed. It also reveals those who exceed the 90th percentile have a significantly higher risk of crashing.

We know these signs are effective. When Lieutenant Whitehurst looks at the graph of average speed on a specific road, the speed almost always declines after a sign is installed. Generally, he leaves a sign in a location for a week or two before moving it. This is long enough to achieve positive effects, but not so long that travelers in that area stop “seeing” the sign.

Some of the information the signs collect is interesting, but not very useful. We might learn the highest speed recorded last Tuesday in a 35-mile-per-hour zone was 60 mph and the lowest was 25. The high speed might have been an ambulance; the low might have been someone driving slowly looking for a lost pet. In other words, single data points don’t tell us anything, but if the sign reveals the highest speed per day is always around the same time, it may be wise to post a deputy in the neighborhood to modify this recurring behavior.

Engineers built several interesting safety features into these devices. For example, Lieutenant Whitehurst is able to set the maximum speed the sign will display, regardless of a passing driver’s actual rate of travel. Unfortunately, in the absence of such a safeguard, some motorists might be tempted to make the sign flash 100 while taking a photo for social media! Additionally, the signs have integrated cameras which record photos of anyone tampering with or vandalizing the device.

To end where I began, the Vision Zero goal is ambitious and worthy of aggressive pursuit. We want you, your family members, and your neighbors to “arrive alive” every journey, every day. If you have a traffic safety concern, please give Lt. Whitehurst a call at (919) 245-2916 to discuss what we can do to help.