



Hear the Call for Help! How Emergency Vehicle Detection Can Make Your Car a Force for Good

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Let's imagine a beautiful day where the sun is shining, your favorite song is cranked up, and you are singing along as you drive home from work on a Friday afternoon. Just as you prepare to belt out the final verse, an emergency vehicle flies by with the sirens blaring. This exact scenario has happened to me. With the music turned up so loud I couldn't hear the emergency vehicle sirens as it approached behind me. In this moment, I felt the surge of adrenaline pulse through me. My mind scattered and my eyes searched around the car... thinking, 'I need to get over, but where?' The problem with this experience and experiences like it is that emergency vehicles are in a rush to get to their destination, and every second of delay could negatively affect the outcome of the person in need of help. This scenario is a perfect example of when the ability to detect a siren can meaningfully help in a high-stress situation.

Emergency Vehicle Detection (EVD) is Cerence's solution, allowing the vehicle to recognize emergency siren signals and the direction from which the siren is approaching. Once a siren is identified, the media volume inside the vehicle can be lowered, and the location of the siren can be identified and displayed on the infotainment system. This helps any driver – whether listening to music or not – respond to the siren quickly and move so they do not impede the emergency vehicle.

Pulling Over to Make a Difference

A recent EVD study conducted by the Cerence Design, Research, Innovation, and In-Vehicle Experience (DRIVE) lab investigated drivers' expected uses and perspectives on siren detection. The study provided many insights into users' views on this technology in vehicles, finding drivers welcoming it. One such driver exclaimed, "Great idea! Looking forward to seeing it implemented."

Participants mentioned EVD would be valuable when the siren is approaching from behind, when the siren is approaching from an unknown direction, or when the driver is approaching an intersection. "I love this idea. The more informative the alert could be, the better, in my opinion. No one ever wants to be the person in the way of an emergency," said another driver. When vehicles on the road are equipped with this technology, they don't only help the drivers, but help the first responders and the people who are calling for help. Imagine you are having an emergency and you require immediate help and find out that the emergency responders were late because people wouldn't move out of their way on the road. Imagine that you are an emergency responder and you are trying to get to an emergency but can't because people won't move out of your way. We've all seen that person, who for whatever reason, does not pull over when an emergency vehicle is approaching. As you know from my experience, delaying emergency services from reaching someone in need is a very unsettling feeling.

Un-Silencing the Siren

When a siren is detected, 67% of participants wanted to be notified immediately and want all other audio in the vehicle turned down. Just like my experience blasting the radio, participants said siren detection would be most valuable when there is loud audio inside or outside of the car (music, passengers talking, highway driving, or city noise), in heavy traffic situations, and in suburban/urban settings. They want to know where the siren is, the direction it's going, and how far away it is. Another study participant said, "I like the idea of this technology, especially if it can detect which direction the siren is moving so as to better inform the driver if they need to move out of the way."

Similar to other DRIVE Lab studies, we see that drivers want multi-modal interaction. Drivers want both auditory and visual notifications. Other drivers went a step further and wanted their vehicle to slow down and pull over for them, much like similar technologies like curb detection or park assist do to help the driver.

Beyond the convenience of having the car pull over automatically, siren detection gives the gift of time. Thinking back to that Friday afternoon, being alerted to siren earlier would have allowed me to keep calm and respond without uncertainty. It is our job as drivers not only to look out for our passengers, but to look out for others around us. Siren detection allows me to confidently say, "your call for help is heard."

To see Cerence EVD in action, check out this [video](#).