

# Audi and Navistar partner to improve emergency vehicle and school bus safety



- Audi and Navistar leverage Volkswagen Group relationship to further expand road-safety use cases and develop technology to provide Audi drivers, emergency vehicle drivers and bus drivers with real-time warnings to enhance safety and help prevent collisions
- Deployment to warn school bus or emergency vehicle drivers of fast-approaching vehicles at a school bus stop or intersection, as well as warn Audi drivers of upcoming stopped school buses or directional notification of where an active emergency vehicle is approaching from
- Deployment use cases designed to show safety benefits and also pave the way toward automated driving through connectivity.

Herndon, VA - April 21, 2022 – Audi and Navistar have partnered to further develop and demonstrate potential safety enhancing C-V2X technology in Navistar emergency vehicles and school buses. The partnership allows for both companies to develop use cases and safety enhancing demonstrations in close collaboration as members of the Volkswagen Group. First deployments are expected to begin this summer.

While the transportation sector as a whole has made great safety improvements over the years, C-V2X technology is one major step toward safer mobility for drivers, students, paramedics, patients and more. Audi and Navistar, working with Applied Information and Traffic Control Corporation, have partnered to research how to improve safety and driver information in school zones, school bus stops and emergency vehicle situations. Connected vehicle technology has the potential to prevent some of the roughly 25,000 school zone injuries and 100 fatalities reported annually.<sup>1</sup> – A NHTSA study of ambulance crashes over a 20-year period estimate that 1,500 injuries and 29 fatalities are attributed to ambulance crashes on average per year.

While Audi and Applied Information have already demonstrated the potential uses of school zone technologies, the partnership, in close collaboration with Navistar, will allow IC Bus school bus drivers to receive a visual and audible warning signal of a vehicle approaching a school bus stop – in a situation that the vehicle may not be able to stop. The warning is designed to enable the school bus driver to intervene and advise the passengers exiting the bus to not enter the roadway, or get on or off the bus only when it is safe to do so.

Studies show that stop-arm violations—when a car drives past a stopped school bus illegally—continue to be one of the most significant dangers to children and other vulnerable road users around school buses with an estimated 17 million stop-arm violations reported in the U.S. in 2019.<sup>2</sup>

In one Sacramento school district, over 300 vehicles drove past school bus stops while in the process of loading or unloading kids.<sup>3</sup> The additional warning provided via C-V2X technology would warn bus drivers and allow them to potentially avert every parent's worst nightmare. The driver in the approaching car would also receive a warning signaling that a school bus is stopped ahead. These benefits demonstrate the strength of C-V2X communications and foreshadow the level of connectivity required for automated driving in the future.

Each year, 100 firefighters die and another 100,000 are injured in approximately 30,000 crashes.<sup>4</sup> In order to help improve safety for emergency vehicle operators and drivers as a whole, Audi and International Truck, a subsidiary of Navistar, as well as our technology partners Applied Information and Commsignia, will demonstrate a whole new C-V2X application. When an emergency vehicle is on call, Audi vehicles equipped with the new software can receive an audible and visual warning from the direction from which an ambulance or other emergency vehicle is approaching. When every second counts, this warning is expected to allow ambulances and other emergency vehicles to navigate their way to a patient in need or a hospital for treatment faster. The directional warning is designed to help direct drivers to get out of the way sooner than in usual scenarios where the emergency vehicle is only visible when the emergency vehicle is in their direct line of sight.

Audi and Navistar are both companies at the forefront of developing technological advancements to improve mobility in their respective vehicle segments, as well as leaders in the transition toward electrification and utilizing connectivity as we move toward an automated driving future that will provide greater mobility and

safety for all.

At Audi of America, we believe the Future is Electric. By 2025, our U.S. model lineup will be 30 percent electrified, including fully electric and plug-in hybrid vehicles. Globally, we are committed to net CO2 neutrality by 2050. In 2021, Audi sold 196,038 vehicles in the U.S. and more fully electric models than ever before, with electric vehicle deliveries up by more than 50% over 2020. Learn more about who we are and how we're working to create a more sustainable, innovative, and inclusive future at [audiusa.com](https://www.audiusa.com) or [media.audiusa.com](https://media.audiusa.com).

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