



## Digital Alerts Give Drivers a Head Start on Safety

A 2026 University of Illinois field study finds that in-vehicle digital alerts dramatically change how drivers approach emergency scenes – earlier, slower, and more predictably.

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When a first responder or roadway worker is standing on the shoulder of a highway, the danger isn't just that approaching vehicles might not slow down; it's that they might not slow down in time, or slow down all at once, unpredictably. Researchers call this speed variability, and it's one of the most dangerous features of roadside incident scenes. The more erratic the braking behavior across approaching vehicles, the more chaotic and unpredictable conditions become for people working feet from live traffic.

A February 2026 report from the University of Illinois and the Illinois Center for Transportation (ICT) evaluated how digital alerting affects vehicle speed, driver behavior, and compliance with Illinois' Move Over law (Scott's Law). Scott's Law, which requires drivers to slow down and change lanes when approaching stationary roadside crews or emergency vehicles, was enacted in 2002 following the death of Chicago Firefighter Lt. Scott Gillen.

### THE STUDY

Researchers conducted two real-world field experiments on Illinois freeways using a helicopter hovering at 1,000 feet to capture aerial video of roughly 10 hours of traffic. From that footage, they extracted detailed vehicle trajectories such as speed, lane position, and lane-change timing, for thousands of vehicles across multiple scenarios to understand whether digital alerts measurably change how drivers behave before they ever see a flashing light.

Speed variability dropped by

43%

when digital alerts were active

Digital alerts increase driver  
reaction distance by

4x

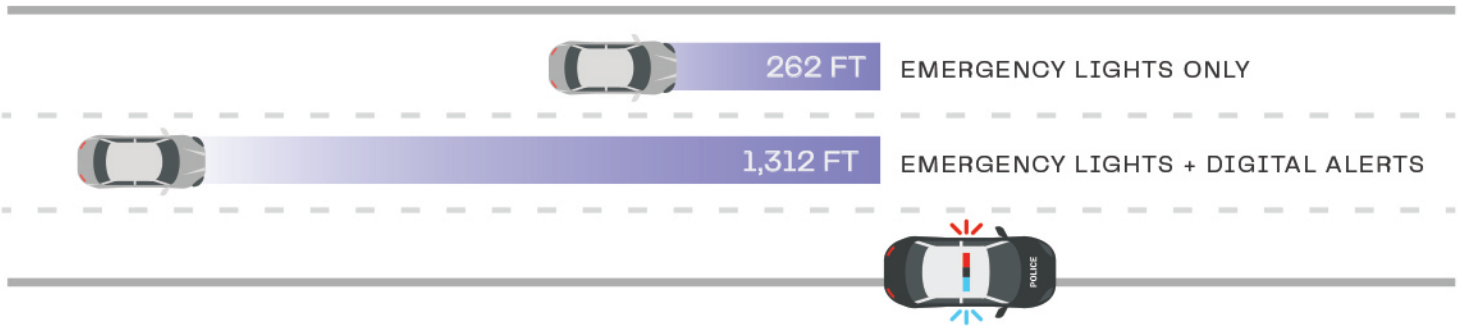
vs. emergency lights alone



*Emergency Vehicle Notification – Alert Message Varies by Alert Type*

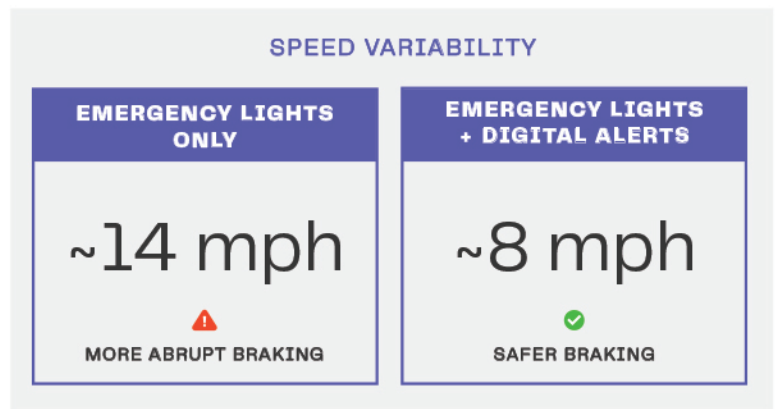
**Drivers React Sooner**

With digital alerts & emergency lights active, drivers began decelerating up to a quarter mile away. That is 1,312 feet of lead time compared to just 262 feet without digital alerts. For the person standing on the shoulder, digital alerting means the difference between a line of traffic slowing calmly ahead of them and a succession of vehicles swerving and braking unpredictably just feet away.



**Smoother, Safer Braking Behavior**

Emergency lights alone produced a sudden speed decrease of nearly 14 mph as drivers reached the emergency vehicle. When a digital alert was added, that number dropped to about 8 mph and is spread out over a much longer stretch of road. This means slower braking, calmer traffic, lower chain-reaction risks, and a safer environment for the people working on the shoulder.



**Conclusion**

The data shows that digital alerts give drivers something flashing lights can't: advance notice. By the time a driver actually sees an emergency vehicle on the shoulder, the digital alert has already been effective. Digital alerts prompt earlier lane changes and gradual, controlled slowdowns, creating a much safer environment for first responders and roadway workers and significant reducing the risk of a collision.

**Source:** Talebpour, A, Liu, P, Yousefi, M, & Hsiao, C.-C. (2026). Evaluation of Digital Alert Systems Associated with Emergency Response Vehicles and Compliance with Move Over Law. Report FHWA-ICT-26-003. Illinois Center for Transportation. <https://doi.org/10.36501/0197-9191/26-003>