U.S. Department of Transportation

Queue Warning

Queue warning systems inform drivers of upcoming delays or congestion to reduce crash rates, especially rear-end collisions. These systems are typically found in work zones and other areas that experience dense traffic.

HOW IT WORKS

Queue warning systems typically feature a dynamic message sign (DMS) and/or other Intelligent Transportation Systems (ITS) roadway equipment that provide traveler information to drivers about upcoming road conditions. These systems may use vehicle-to-everything (V2X) communications to enable vehicles within the queue event to automatically broadcast their queued status information to nearby upstream vehicles and to centers (ARC-IT).

BENEFITS

Implementing queue warning systems can reduce crash risk, average travel time, and speed variability on the roadway.

Source: FHWA

- In Minneapolis, a queue warning system was found to reduce crashes by 56 percent and near-crashes by 69 percent after two years (2024-B01822).
- In Florida, queue warning implemented as part of an integrated active traffic management system was estimated to reduce travel time up to nearly 6 percent and reduce crash risk up to 28 percent (2022-B01696).
- In Texas, a small-scale study indicated that the end-of-queue warning system reduced crash potential by 18 to 45 percent and reduced the proportion of lane closure crashes with high severity (injury or fatal crash) by 17 percent (2020-B01510).