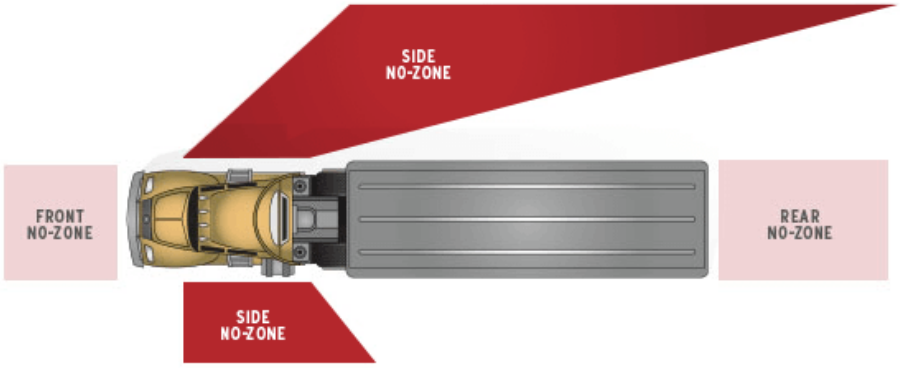
Blind Spots: Why are they Dangerous?

A **blind spot** in a vehicle is an area that the driver cannot directly observe while operating controls. During transport, driver visibility can be affected by various circumstances such as turning or inclement weather conditions. In such situations, accidents are more likely to happen, and limited visibility in a blind spot places the driver in a higher position to experience a mishap.

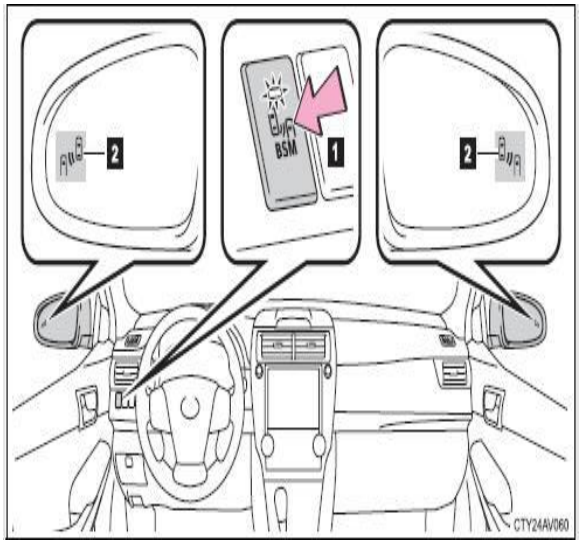


Delivery vehicles, such as large trucks, have a larger blind spot area referred to as a **no zone**. There are several no zone areas located around large trucks. The front, rear, and driver's side of a large truck contain no zones of the entire length of a car. The right side of the vehicle has a no zone of two lanes and several areas in which a fellow driver cannot be seen. Collisions with large delivery trucks often occur in no zones.

Other than circumstantial blind spots, there are blind spots caused by a vehicle's design. The parts of a typical vehicle that impact driver visibility include the dashboard, windshield, and pillars (vertical supports of a car's window area). As seen in the diagram above, a delivery truck has an even greater area in which the driver cannot see due to design. Good driver visibility is essential to safe road traffic and transportation.

Blind Spot Monitoring System

While mirrors aid in alleviating vehicular blind spots, it does not eliminate them, especially in a larger vehicle such as a delivery truck. The **blind spot monitor** is a vehicle-based sensor device that detects nearby vehicles and alerts the driver. Warnings can be set by the individual driver to be audible, tactile, vibrating, or visual. These options are presented to suit each driver's specific needs and preferences while operating a vehicle.

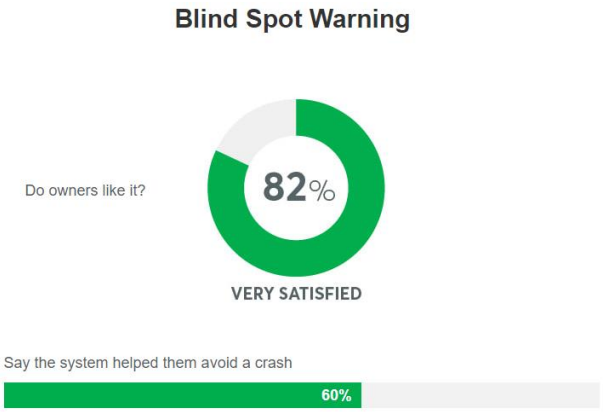


Blind spot monitors do more than monitor blind spots. Due to the sensor detecting nearby vehicles and objects, alerts include **cross traffic alerts**, which warns the driver while backing out of a parking space when another object or vehicle is approaching or obstructing the path. An upgrade in the blind spot monitoring system incudes emergency steering. This automatically steers

and/or brakes when a driver performs a maneuver that is unsafe due to an object or vehicle occupying the blind spot or no zone.

The blind spot monitoring system increases the awareness of the driver, increases response time, and makes the passenger(s) feel safer. A blind spot monitoring system accurately and consistently views spots drivers cannot always track while driving, and alerts give active notifications of objects nearby or in blind spots, allowing the driver to react accordingly.

A recent survey conducted showed driver satisfaction of 82% with a blind spot monitoring system installed.



How Does it Work?

The technology uses **ultrasonic sensors** that are installed in the front and/or rear bumpers to detect surrounding objects and traffic. Alerts are installed inside of the vehicle, usually near the rear view mirrors, but sometimes near the steering wheel.

Blind spot monitors will warn the driver by illuminating a notification light on or near the side view mirrors on the appropriate side of the vehicle. Drivers can also opt for an audible beep or tone, a vibration, or all types of alerts at once.

Most basic systems will alert if a car or object is in a blind spot, but there are more advanced versions available that will let the driver know when a vehicle is about to be in a blind spot or no zone. Cross traffic alerts and lane change assists extend the range of the side sensors as much as three to five car lengths and will monitor the speed of oncoming vehicles. With that information, the system will, in a way, predict the future, alerting the driver of an upcoming car or object that is about to enter a blind spot or no zone.

A limitation of the system is that most only work at speeds above 20-35 miles per hour to prevent false positives. Some audible alerts only warn when the turn signal is used, and if a driver does not typically use a signal, forgets, or uses it late, the alert will be ineffective. This limitation is relevant only for blind spot monitors; cross traffic alerts and lane change assists use sensors that are sensitive to different situations and speeds.

What is the Cost?

Systems start as low as $250 and can be just over $500 (per vehicle) if it includes cross traffic alerts and lane change assists.