

# TOYOTA SAFETY SENSE™ C

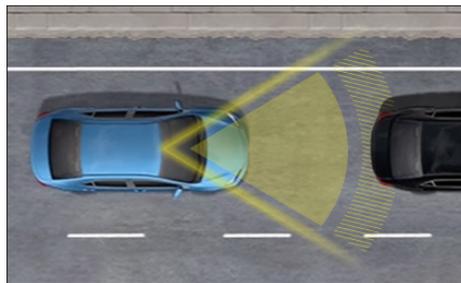
AN ADVANCED ACTIVE SAFETY PACKAGE  
FOR COMPACT VEHICLES



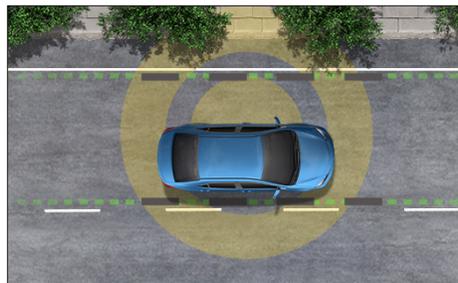
**Crash protection starts with crash prevention.** Collisions that result in injury may be caused by the delay in a driver's recognition of the situation and their ability to react accordingly. According to NHTSA, there were over 7.2 million reported crashes in 2016 – many of which were avoidable.

Toyota Safety Sense™ (TSS)<sup>1</sup> is designed to protect drivers, passengers, people in other vehicles on the road, and pedestrians from harm. TSS represents a major milestone in Toyota's long history of creating advancements and innovations in safety that help prevent crashes and protect people.

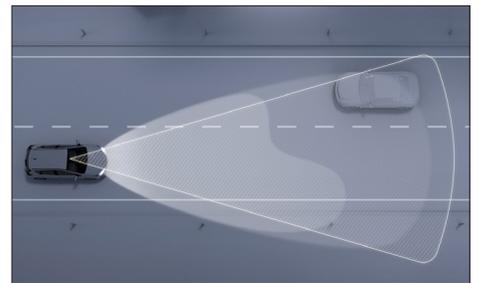
## TSS ADDRESSES THE THREE MOST COMMON ACCIDENT TYPES



Frontal Collisions



Unintended Lane Departures



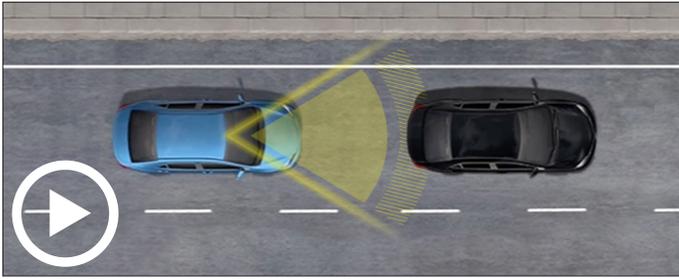
Nighttime Accidents

Under certain conditions, TSS is designed to support driver awareness, decision making and vehicle operation over a wide range of speeds. Packaged together in an integrated system, TSS<sup>1</sup> features help address three key areas of accident protection: preventing or mitigating **frontal collisions**<sup>2</sup>, keeping drivers **within their lane**<sup>3</sup>, and enhancing road safety during **nighttime driving**<sup>4</sup>. However, drivers are responsible for their own safety, and must always drive safely, obey traffic speed limits and laws and focus on the road while driving.

TSS-C<sup>1</sup> is designed for compact vehicles and consists of three active safety and driver assistance systems:

- **Pre-Collision System (PCS)**<sup>2</sup>  
with Vehicle and Pedestrian Detection<sup>5</sup>
- **Lane Departure Alert (LDA)**<sup>3</sup>
- **Automatic High Beams (AHB)**<sup>4</sup>

## PRE-COLLISION SYSTEM (PCS)



PCS<sup>2</sup> is an integrated camera and laser system designed to help mitigate or avoid a potential frontal collision\*. For 2019 model year vehicles, TSS-C's PCS has been enhanced with the addition of pedestrian detection.

### Vehicle Detection

When PCS<sup>2</sup> determines that the possibility of a frontal collision with another vehicle is high, it prompts the driver to take evasive action and brake by using an **audio and visual alert**. If the driver notices the hazard and brakes, PCS may use Brake Assist<sup>6</sup> to provide **additional braking force**.

If the driver does not brake in a set time and the system determines that the possibility of a frontal collision with another vehicle is extremely high, the system may **automatically apply the brakes**, reducing speed to help mitigate the impact or avoid the collision entirely if possible.

### Pedestrian Detection

Under certain daytime conditions, if the Pre-Collision System determines that the possibility of a frontal collision with a pedestrian is high, it prompts the driver to take evasive action and brake by using an **audio and visual alert**<sup>5</sup>. If the driver notices the hazard and brakes, the system may use Brake Assist to provide **additional braking force**.

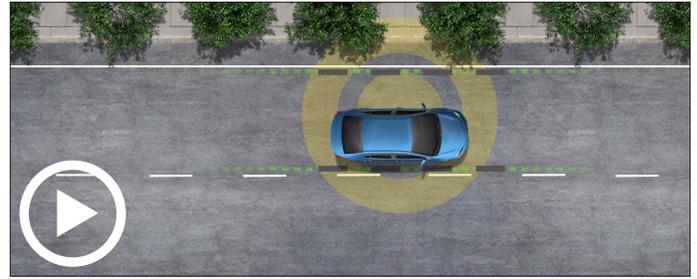
If the driver does not brake in a set time and the system determines that the risk of collision with a pedestrian is extremely high, the system may **automatically apply the brakes**, reducing speed to help mitigate the impact or avoid the collision entirely if possible.

	Operation Speed Range (Alert)	Operation Speed Range (Automatic Braking)	Potential Speed Reduction (Automatic Braking)
<b>Vehicle Detection</b>	7-85 mph	7-50 mph	19 mph
<b>Pedestrian Detection</b>	7-40 mph	7-40 mph	12 mph <sup>7</sup>

## ADDITIONAL RESOURCES

Refer to [Toyota.com/Safety-Sense](http://Toyota.com/Safety-Sense), the [TSS Precautions companion document](#) or a [Toyota Owner's Manual](#) for additional information on TSS operation, setting adjustments, limitations and precautions.

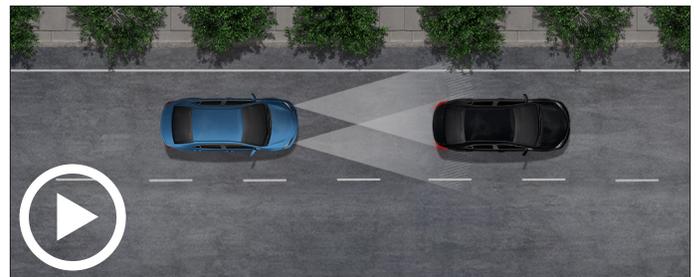
## LANE DEPARTURE ALERT (LDA)



LDA<sup>3</sup> is designed to use an in-vehicle camera to detect lane departure when traveling on **relatively straight roads with clear lane markings**. The system's current operating status is indicated through colored lane marking illustrations on the vehicle's Multi-Information Display (MID). If LDA determines that the vehicle is starting to unintentionally deviate from its visibly marked lane, the system alerts the driver with an **audio and visual alert**. When this alert occurs, drivers must carefully check the surrounding road before safely directing the vehicle back to the center of the lane.

	Minimum Operation Speed
<b>Lane Departure Alert (LDA)</b>	32 mph

## AUTOMATIC HIGH BEAMS (AHB)



AHB<sup>4</sup> is a safety system designed to help the driver see more clearly at night – while reducing glare for other drivers. By using high beams more frequently, the system may allow for earlier detection of pedestrians and obstacles.

When activated, AHB<sup>4</sup> is designed to rely on an in-vehicle camera to help detect the headlights of oncoming vehicles and taillights of preceding vehicles, then **automatically toggle between high and low beams**.

	Minimum Operation Speed
<b>Automatic High Beams (AHB)</b>	25 mph <sup>4</sup>

\* To ensure proper system function, Toyota does not recommend vehicle ride height modification which may adversely affect the operation of the Pre-Collision System (PCS) and Automatic Emergency Braking (AEB), Lane Departure Alert (LDA) and Automatic High Beams (AHB) systems.



## DISCLOSURES

**1.** Drivers are responsible for their own safe driving. Always pay attention to your surroundings and drive safely. System effectiveness is dependent on many factors including road, weather and vehicle conditions. See Owner's Manual for additional limitations and details. **2.** The TSS Pre-Collision System is designed to help avoid or reduce the crash speed and damage in certain frontal collisions only. It is not a substitute for safe and attentive driving. System effectiveness is dependent on many factors including road, weather and vehicle conditions. See Owner's Manual for additional limitations and details. **3.** Lane Departure Alert is designed to read visible lane markers under certain conditions, and provide visual and audible alerts when lane departure is detected. It is not a collision-avoidance system or a substitute for safe and attentive driving. Effectiveness is dependent on many factors including road, weather and vehicle conditions. See Owner's Manual for additional limitations and details. **4.** Automatic High Beams operate at speeds above 25 mph. Factors such as a dirty windshield, weather, lighting and terrain limit effectiveness requiring driver to manually operate the high beams. See Owner's Manual for additional limitations and details. **5.** The Pedestrian Detection System is designed to detect a pedestrian ahead of the vehicle, determine if impact is imminent and help reduce impact speed. It is not a substitute for safe and attentive driving. System effectiveness depends on many factors, such as speed, size and position of pedestrians and weather, light and road conditions. See Owner's Manual for additional limitations and details. **6.** Brake Assist (BA) is designed to help the driver take full advantage of the benefits of ABS. It is not a substitute for safe driving practices. Braking effectiveness also depends on proper vehicle maintenance, tire and road conditions. See Owner's Manual for additional limitations and details. **7.** Results achieved during testing using a vehicle traveling at 12 mph and a stationary vehicle/pedestrian; system operation depends on driving environment (including road and weather) and vehicle circumstances.