TSS PRECAUTIONS

TSS[1] is designed to support driver awareness, decision making and vehicle operation. However, it is not intended to be overly relied upon, and it does not replace safe driving. Drivers are responsible for their own safety, and must always obey traffic speed limits and laws, and focus on the road while driving.

PRE-COLLISION SYSTEM (PCS)[2]

Applicability:
Toyota Safety Sense™ C (TSS-C) | Toyota Safety Sense™ P (TSS-P) | Toyota Safety Sense™ 2.0 (TSS 2.0)

PCS[2] is premised on safe driving by the driver. It is not a system that will avoid collisions under all conditions. Do not depend on the system or use it in place of emergency brake operation. PCS operation is dependent on the front grille-mounted millimeter-wave radar (TSS-P, TSS 2.0) or windshield-mounted laser system (TSS-C) and in-vehicle camera's ability to detect and see clearly a preceding vehicle or pedestrian[3] on relatively straight roadways, as well as the visibility/detectability of the preceding vehicle/pedestrian itself. PCS may not operate if it does not recognize a preceding vehicle or pedestrian. PCS is not designed to detect animals or other objects. Situations such as a fogged, dirty, broken or tinted windshield or rain, snow, ice or sticker-covered camera, grille-mounted millimeter-wave radar or laser may affect PCS operation. Intense light from the front or inclement weather obstructing camera, radar or laser detection, or sharp curves in the road, may affect PCS operation. Also, changes to the vehicle's height or angle from load or towing over the specified limit, suspension or tire modifications/chains or lift kits may affect PCS operation. Furthermore, if a preceding vehicle is not correctly recognized, unneeded driver alerts or automatic braking may occur, so drivers need to pay continuous attention to the surrounding conditions, the direction of travel and vehicle's location on the road. Ultimately, drivers are responsible for their own safe driving, steering, braking, the vehicle speed and operation, and distance to a preceding vehicle at all times. (NOTE: Vehicles equipped with TSS 2.0 may also detect a bicyclist, in addition to a vehicle or a pedestrian.)

PCS[2] may not recognize a vehicle or a pedestrian in the following conditions and environments:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	When a preceding vehicle cuts in front of you suddenly, abruptly steers, accelerates or decelerates, or is offset compared to your vehicle
If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning	If the rear-most surface of the preceding vehicle is small, low or irregularly high
When visibility to the front is poor due to inclement weather (rain, snow, fog, dust raised by wind, sandstorm, blizzard, etc.)	If the camera and/or radar (TSS-P and TSS 2.0) or laser (TSS-C) is misaligned or being blocked (by a wiper blade, etc.)
When a pedestrian or vehicle suddenly appears in front of the vehicle	When something is on the sensor such as bugs, dirt, ice, a sticker, etc.
When driving on an up or down slope	When the sensors detect something that is not a preceding vehicle or pedestrian
When very close to a preceding vehicle with a similar speed (approximately 6.5 feet or less) or coming close to a preceding vehicle after changing lanes	If camera recognition conditions are poor shortly after starting the vehicle or when the camera is hot, such as when parked in the sun
Motorcycle or bicycle may not be detected (TSS-C and TSS-P only)	While making a left/right turn and for a few seconds after making a left/right turn
If the vehicle in front does not have its taillights on	When driving through steam or smoke, or in inclement weather such as heavy rain, fog, snow or a sandstorm
When a vehicle or a pedestrian approaches your vehicle head-on or nearly head-on	When driving in low light (dusk, dawn, etc.) or when driving without headlights at night or in a tunnel
When approaching the side or front of a vehicle	If the wheels are misaligned
When the overall width of the preceding vehicle is narrow (such as an Ultra Lightweight Vehicle or motorcycles)	If the front of the vehicle is raised or lowered, has high ground clearance, or has a low rear end, such as a low bed trailer
If a preceding vehicle has a small rear end, such as an unloaded truck, or is carrying a load which protrudes past its rear bumper	When a very bright light, such as the sun or the headlights of oncoming traffic, shines directly into the camera sensor
If a vehicle ahead is irregularly shaped, such as a tractor or side car	After the hybrid system has started and the vehicle has not been driven for a certain amount of time
If the sun or other light is shining directly on a detectable object ahead	When a detectable object ahead is not directly in front of your vehicle

PCS[2] may not recognize a vehicle or a pedestrian[3] in the following conditions and environments (cont.):

If a detectable object cuts in front of your vehicle or emerges from beside a vehicle	When the vehicle is hit by water, snow, dust, etc. from a vehicle ahead
If a detectable object ahead makes an abrupt maneuver (such as sudden swerving, acceleration or deceleration)	While driving on a hill or curve, and for a few seconds after driving on a curve
When suddenly cutting behind a preceding detectable object	If your vehicle is skidding, wobbling, or being driven at extremely high speeds
When pedestrians are walking in a group or are close together	When a pedestrian abruptly changes walking speed, is walking fast or is running out from behind a vehicle or a large object
When a pedestrian is staying close to or walking alongside a wall, fence, guardrail, vehicle or other obstacle	When a pedestrian collides with the edge of the vehicle
When a pedestrian has clothing with brightness/color similar to scenery and that blend into the background	When a pedestrian is walking on top of metal on the road surface
When a pedestrian is walking at high speed of approximately 5 mph or higher	When a pedestrian is 3 feet or shorter or 6.5 feet or taller
When a pedestrian suddenly appear from behind or alongside a vehicle	When a pedestrian has a part of the body hidden by any object
When a pedestrian is close to abrupt changes in lighting, such as at tunnel exits	When a pedestrian leans forward, crouches, squats, or lies down
When a pedestrian is staying close to or walking alongside a wall, fence, guardrail, vehicle or other obstacle	When a pedestrian wears oversized clothing (a rain coat, long skirt, etc.), obscuring the pedestrian's silhouette
When a pedestrian pushes a stroller, wheelchair, wheelbarrow or other vehicle	When a pedestrian carries large baggage, holds an umbrella, etc., hiding part of the body
When a pedestrian is wearing white that reflects sunlight and looks extremely bright, or is in the dark, such as at night or while in a tunnel	When a bicyclist is moving fast, or is riding a small bicycle for children or a bicycle with large baggage (TSS 2.0 only; TSS-C and TSS-P vehicles do not detect bicyclists)

PCS[2] may operate in the following conditions, even if a collision is not likely:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	When driving on a narrow path surrounded by a structure, such as in a tunnel or on an iron bridge, or through a place with a low structure above the road (low ceiling, traffic sign, etc.)
When there is an obstacle, vehicle, pedestrian, object, or parked car at the point of entering a curve, in a curve or at an intersection	When turning around a curve where there is a pedestrian to the front of your vehicle on a sidewalk
When the camera and/or radar (TSS-P and TSS 2.0) or laser (TSS-C) are misaligned	While passing near a pedestrian or through a group of pedestrians
When there is a metal object (manhole cover, steel plate, etc.), steps, dip, or a protrusion on the road surface or roadside	If a pedestrian suddenly crosses in front of your vehicle, or suddenly stops while crossing
When passing an oncoming vehicle when turning right or left or passing an oncoming vehicle around a curve	When passing a preceding vehicle or a leading vehicle turning to the left or right
When driving on an uneven road, or when driving through weeds, steam or smoke	When passing through parked cars or driving between vehicles
When suddenly getting close to another vehicle that is driving ahead	When driving on a narrow road with roadside guard rails, telephone poles, trees, etc.
Upon detecting a raised intersection, sign or advertisement board in front of the vehicle	When a crossing pedestrian or bicyclist approaches very close to the vehicle
While driving up or down a slope, where metal such as a steel plate (manhole cover) is in front of the vehicle	When passing under an object (billboard, etc.) at the top of an uphill road
When rapidly closing on an electric toll gate barrier, parking area barrier, or other barrier that opens and closes	When driving through or under an object that may contact the vehicle, such as thick grass, tree branches, or a banner
When passing a vehicle or pedestrian, or vehicle in an oncoming lane that is stopped to make a right/left turn	When the vehicle is hit by water, snow, dust, etc. from a detectable object ahead
When changing lanes while overtaking a detectable object	When using an automatic car wash
When rapidly closing on a preceding vehicle, or overtaking a preceding vehicle that is changing lanes	When there are patterns or paint on the road or a wall that may be mistaken for a detectable object

PCS[2] may operate in the following conditions, even if a collision is not likely (cont.):

When driving on a road where relative location to a detectable object ahead in an adjacent lane may change, such as on a winding road	When driving near a TV tower, broadcasting station, electric power plant, or other location where strong radio waves or electrical noise may be present
If the front of the vehicle is raised or lowered, such as when the road surface is uneven or undulating	When driving near an object that reflects radio waves, such as a large truck or guardrail
When approaching an object on the roadside, such as guardrails, utility poles, trees, or walls	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning

In the following situations, PCS[2] may not operate properly and should be disabled:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	When transporting the vehicle via truck, boat, train or similar means of transportation
When the vehicle is towing over the specified limit or is being towed	When the vehicle is driven in a sporty manner or off-road
When inspecting the vehicle using a drum tester such as a chassis dynamometer or speedometer tester, or when using an on-vehicle wheel balancer	When a compact spare tire or an emergency tire puncture repair kit is used, tire chains are installed, or the tires are the incorrect size, not properly inflated or very worn
When the vehicle is raised on a lift with the engine running and the tires are allowed to rotate freely	When temporarily attaching accessories (such as snow removing equipment) that obstruct the front sensor to the vehicle
After a strong impact has been applied to the front bumper or front grille, due to an accident or other reasons	If the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning

PCS[2] will not operate when the following operations are performed:

While VSC[4] is active or the accelerator or brake is pressed	While driving at very high speeds or backing up
If the shift lever is in Reverse	If VSC[4] is disabled, only the pre-collision warning function will be operational
If a battery terminal has been disconnected and reconnected and then the vehicle has not been driven for a certain amount of time	When the L4 operation indicator lights up, only the collision warning is enabled (only vehicles with L4 mode)

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of PCS operation, precautions and limitations.

DYNAMIC RADAR CRUISE CONTROL (DRCC)[5]

Applicability:
Toyota Safety Sense™ P (TSS-P) | **Toyota Safety Sense™ 2.0 (TSS 2.0)**

DRCC[5] is a system designed for driving on expressways and highways. DRCC is not designed for, and should not be used in traffic conditions that are encountered when driving on roads other than expressways and highways. Attentive and responsible driving is necessary even when DRCC is active, otherwise an accident may occur. DRCC operation is dependent on the millimeter-wave radar and in-vehicle camera's ability to detect a preceding vehicle, as well as the detectability of the preceding vehicle itself. While driving, drivers will need to continually pay attention to the distance between vehicles, respect the leading vehicle and surroundings, and decelerate or accelerate to ensure distance between their vehicle and the preceding or following vehicles is safe. Situations such as a dirt, rain, snow, film, ice or sticker-covered/broken front Toyota emblem blocking the radar or camera all may affect DRCC operation.

In the following conditions, DRCC[5] may lead to an unexpected accident, so do not use the system:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When driving in inclement weather such as rain, fog, snow or a dust storm	When raindrops, snow, ice, road debris, or film/metal coatings are present on the millimeter-wave radar sensor or front glass
When driving on roads with a lot of traffic or around a sharp curve	When driving in traffic conditions leading to frequent acceleration and deceleration

In the following conditions, DRCC[5] may lead to an unexpected accident, so do not use the system (cont.):

When driving on slippery road surfaces, such as on ice or snow	When leaving your lane while on an expressway, etc.
When driving on steep/short inclines and downhill slopes	When exiting from, or when entering or merging onto a freeway
When the warning tone sounds frequently	When the camera and/or radar are misaligned

In the following conditions, DRCC[5] may not be able to maintain appropriate distance between vehicles:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When the preceding vehicle has an extremely high ground clearance	When the vehicle speed returns to the set speed after accelerating
When driving on curved or narrow roads	When the camera and/or radar are misaligned
When driving on roads that have overhanging/covering structures, such as a tunnel or bridge	When the preceding vehicle is pulling an empty trailer, etc., making rear surface area very small (including motorcycles)
When driving in inclement weather such as rain, fog, snow or a dust storm	

In the following conditions, DRCC[5] detection of the preceding vehicle may be delayed or may not be feasible:

When a preceding vehicle cuts in front of your vehicle at a close distance	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When the camera and/or radar are misaligned	When the preceding vehicle is a motorcycle
When driving in inclement weather such as rain, fog, snow or a dust storm	

In the following conditions, DRCC[5] may inadvertently operate or may not be able to detect the leading vehicle:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When the preceding vehicle leaves the sensor detection area, such as at a curve or due to steering input	If a vehicle in another lane is interpreted as being in your lane when driving in a curved or narrow lane
When the preceding vehicle is driving at the edge of the lane and is not in the detection area	When driving in inclement weather such as rain, fog, snow or a dust storm
When the camera and/or radar are misaligned	

DRCC[5] will not operate in the following conditions:

If the preceding object is a stopped vehicle or a preceding vehicle with a speed dramatically slower than your own vehicle

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of DRCC operation, precautions and limitations.

LANE DEPARTURE ALERT (LDA)[6]

Applicability:
Toyota Safety Sense™ C (TSS-C) | Toyota Safety Sense™ P (TSS-P) | Toyota Safety Sense™ 2.0 (TSS 2.0)

LDA[6] operation is dependent on the in-vehicle camera's ability to see clearly and detect visible lane markers on relatively straight roadways, as well as the visibility of the lane markers themselves. LDA does not operate if it cannot recognize visible lane markers. Situations such as a fogged, dirty, broken, or tinted windshield or rain, snow, ice or sticker-covered windshield blocking the camera may affect LDA operation. Also, changes to the vehicle's height or angle from hauling heavy loads, towing over the specified limit, suspension lowering/lifting, or tire modifications/chains may affect LDA operation. Furthermore, if lane markers cannot be correctly recognized, there are cases where unneeded driver alerts may occur, so the driver needs to pay continuous attention to the surrounding conditions, the direction of travel and vehicle's location on the road. Ultimately drivers are responsible for steering input and vehicle operation at all times. (NOTE: Vehicles equipped with TSS 2.0 may also detect curbs and road edges, in addition to lane markers.)

LDA[6] may not operate as designed under the following conditions:

- When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered
- If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
- When driving in inclement weather such as rain, fog, snow, dust storm, etc. blocking camera visibility or lane marker visibility
- When the camera and/or radar are misaligned
- When approaching objects on the roadside that may be misunderstood as a white line, such as a guard rail, curb, reflection, pole, etc.
- When driving at a branching or merging road location
- When driving around locations with sharp curves or undulations or for a period of time after turning due to camera recognition

LDA[6] operation may be reduced under the following conditions:

- When the camera and/or radar (TSS-P and TSS 2.0) or laser (TSS-C) are misaligned
- When approaching objects on the roadside that may be misunderstood as a white line, such as a guard rail, reflection pole, etc.
- If there is not a clearly marked lane or clearly defined road edge (Road Edge Detection only available with TSS 2.0)
- If the road surface is bright (strong light reflection), light (concrete), wet (rainy weather, after rainfall, puddles, etc.)
- If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning

LDA[6] may stop temporarily under the following conditions:

- When amount of light changes dramatically, such as at a tunnel exit/entrance
- If the vehicle moves up and down (uneven/bumpy road) or when driving on slippery roads where camera angle changes relative to the lane markers
- When the camera is bathed in strong light (headlights from oncoming vehicle, sunlight, reflection from surrounding vehicles)
- If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning

LDA[6] will not operate under the following conditions:

- If driving on an unpaved road
- When driving too close to a preceding vehicle, blocking the camera from seeing the lane markers
- If the windshield is fogged up

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of LDA operation, precautions and limitations.

AUTOMATIC HIGH BEAMS (AHB)[7]

Applicability:
Toyota Safety Sense™ C (TSS-C) | Toyota Safety Sense™ P (TSS-P) | Toyota Safety Sense™ 2.0 (TSS 2.0)

AHB[7] operation is dependent on the in-vehicle camera's ability to see clearly and detect preceding headlights or taillights, as well as the visibility of the preceding headlights or taillights themselves. Situations such as a fogged, dirty, broken, or tinted windshield or rain, snow, ice or sticker-covered windshield blocking the camera may affect AHB operation. Drivers are responsible for paying attention to their surroundings and directly confirming the safety of their surroundings by turning high beams ON and OFF manually as needed.

In the following conditions, the system many not be able to accurately detect surrounding vehicles and light:

When driving in inclement weather such as rain, fog, snow or a dust storm	When driving on a road with frequent curves or when there is a sharp curve
When driving on a road that is uneven (rough roads such as stone paving, gravel road, unpaved road, etc.)	If a vehicle in front is driving without lights, irregular lights, odd colored lights or where the light axis is offset
When road conditions go up and down frequently	When the windshield reflects something on the dashboard
When there is light similar to headlights or taillights in the vicinity	If there is a vehicle in front with very dirty headlights or taillights
When surroundings become light and dark frequently	When there is an object in front that strongly reflects light (mirror, sign, etc.)
When the vehicle is inclined front-to-back or side-to-side while driving (for example, uneven load or tire pressure, changes to suspension, when being towed)	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of AHB operation, precautions and limitations.

ROAD SIGN ASSIST (RSA)[8]

Applicability:
Toyota Safety Sense™ 2.0 (TSS 2.0)

RSA[8] operation is dependent on the in-vehicle camera's ability to see clearly and detect select preceding road signs, as well as the visibility of the select preceding road signs themselves. Situations such as a fogged, dirty, broken or tinted windshield or rain, snow, ice or sticker-covered windshield blocking the camera may affect RSA operation. Drivers are responsible for paying attention to their surroundings and directly confirming the accuracy of posted road signs.

In the following situations, the system may not activate or may show an incorrect display:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When mud, snow, ice or sticker covers the windshield or windshield area is dirty or fogged over	When driving in heavy rain, sticking snow, heavy fog or the splash from a preceding vehicle
When driving around bright lights or strong reflections from signs, road surfaces or other vehicles, or oncoming headlights	When the sign is covered with dirt or a sticker, or is faded, rotated or bent
When the sign is small or low contrast, especially if the sign is electronic or illuminated with non-uniform ambient light	When all or part of the sign is hidden by objects like vehicles, leaves, trees, poles, etc.
When the camera is misaligned	When visibility is poor or there are drastic changes in brightness
When the sign is located in a ramp way or just after a turn/ junction, too far offset or too low, or posted beyond the intersection/corner	When a traffic sign sticker is placed on the back of a truck or vehicle
When an unknown sign has a shape or design that is very similar to a known sign	When traveling between countries with different units or driving lanes
If there is a specific time associated with the displayed speed, such as school zones	When there is not enough time to recognize the sign due to high-speed driving

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of RSA operation, precautions and limitations.

LANE TRACING ASSIST (LTA)[9]

Applicability:
Toyota Safety Sense™ 2.0 (TSS 2.0)

LTA[9] is a system that operates only when Full-Speed Range DRCC[5] and LDA[6] are activated. The LTA system is designed for driving on expressways and highways. LTA is not designed for, and should not be used in traffic conditions that are encountered when driving on roads other than expressways and highways. Attentive and responsible driving is necessary even when LTA is active, otherwise an accident may occur. LTA operation is dependent on the vehicles millimeter-wave radar's ability to detect a preceding vehicle as well as the in-vehicle camera's ability to see clearly and detect visible lane markers on relatively straight roadways, as well as the visibility of the lane markers themselves. LTA does not operate if it cannot recognize visible marked lanes or a preceding vehicle. While driving, drivers need to continually pay attention to the distance between vehicles and surroundings, and decelerate or accelerate to ensure a safe distance between their vehicle and preceding/following vehicles. Situations such as a fogged, dirty, broken, or tinted windshield or rain, snow, ice or sticker-covered windshield or anything blocking the Toyota emblem radar sensor and/or the in-vehicle camera may affect LTA operation. Also, changes to the vehicle's height or angle due to suspension or tire modifications/chains may affect LTA operation. Furthermore, if lane markers cannot be correctly recognized, there are cases where unneeded driver alerts may occur, so drivers need to pay continuous attention to the surrounding conditions, the direction of travel, and the vehicle's location on the road. Ultimately, drivers are responsible for steering input and vehicle operation at all times.

In the following conditions, LTA[9] may not operate as designed:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	If the vehicle is modified or if the vehicle cannot be driven in a stable manner, such as when the vehicle has been in an accident or is malfunctioning
When driving in inclement weather such as rain, fog, snow, dust storm, etc. blocking camera visibility or lane marker visibility	When driving around locations with sharp curves or undulations or for a period of time after turning due to camera recognition
If a vehicle in another lane is interpreted as being in your lane when driving in a curved or narrow lane	When the preceding vehicle is driving at the edge of the lane and is not in the detection area
When the camera and/or radar are misaligned	When driving on slippery road surfaces, such as on ice or snow
When amount of light changes dramatically, such as at a tunnel exit/entrance	When the camera is bathed in strong light (headlights from oncoming vehicle, sunlight, reflection from surrounding vehicles)
When the preceding vehicle leaves the sensor detection area due to steering input	When there are raindrops, snow, ice, road debris, or film/metal coatings on the millimeter-wave radar sensor or front glass
When driving on roads with a lot of traffic, curved or narrow roads, steep/short inclines or downhill slopes	When the road surface is bright (strong light reflection), light (concrete), wet (rainy weather, after rainfall, puddles, etc.)
When leaving a lane while on an expressway, when exiting from a freeway, or when entering or merging onto a freeway	When there are traffic conditions leading to frequent acceleration and deceleration
When approaching objects on the roadside that may be misunderstood as a white line, such as a guard rail, curb, reflection pole, etc.	If the vehicle moves up and down (uneven/bumpy road) or when driving on slippery roads where camera angle changes relative to the lane markers
When the vehicle speed returns to the set speed after accelerating	When the leading vehicle has a very small rear surface area, such as a vehicle pulling an empty trailer
When the preceding vehicle has high ground clearance	When the warning tone sounds frequently
When the preceding vehicle is a motorcycle	When driving at a branching or merging road location
When a preceding vehicle cuts in front of your vehicle at a close distance	When driving on roads that have overhanging/covering structures, such as a tunnel or bridge

LTA[9] will not operate under the following conditions:

When vehicle angle/stance is changed, for example if the vehicle is towing or is loaded down with weight over the specified limit, or is lifted or lowered	When driving too close to a preceding vehicle, blocking the camera from seeing the lane markers
If the windshield is fogged up	If the preceding object is a stopped vehicle or a preceding vehicle with a speed dramatically slower than your own vehicle
When the camera and/or radar are misaligned	If driving on an unpaved road

This section is abbreviated and does not include all precautions or limitations. Refer to a Toyota *Owner's Manual* for a more comprehensive description of LTA operation, precautions and limitations.

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.** The Pedestrian Detection System, part of the Advanced Pre-Collision 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 collision avoidance system and is not a substitute for safe and attentive driving. System effectiveness depends on many factors, such as speed, size and position of pedestrian and weather, light and road conditions. See Owner's Manual for additional limitations and details. **4.** Vehicle Stability Control (VSC) is an electronic system designed to help the driver maintain vehicle control under adverse conditions. It is not a substitute for safe and attentive driving practices. Factors including speed, road conditions, weather and driver steering input can all affect whether VSC will be effective in preventing a loss of control. See Owner's Manual for additional limitations and details. **5.** Dynamic Radar Cruise Control is designed to assist the driver and is not a substitute for safe and attentive driving practices. System effectiveness is dependent on many factors including road, weather and traffic conditions. See Owner's Manual for additional limitations and details. **6.** 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. **7.** Automatic High Beams operate at speeds above 25 mph. Factors such as a dirty windshield, weather, lighting and terrain limit effectiveness requiring the driver to manually operate the high beams. See Owner's Manual for additional limitations and details. **8.** Do not rely exclusively on Road Sign Assist (RSA). RSA is a driver support system that utilizes the vehicle's forward facing camera and navigation system (when data is available) to recognize certain road signs and provide information to the driver via the multi-information display and/or Head-Up display. Effectiveness is dependent on road, weather, vehicle and sign conditions. Use common sense when using RSA and do not drive distracted. See Owner's Manual for additional limitations and details. **9.** Lane Tracing (Trace) Assist (LTA) is designed to read visible lane markers and detect other vehicles under certain conditions. When potential lane departure is detected, LTA provides a visual warning and either an audible alert or vibration in the steering wheel and can apply a slight steering force. 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.