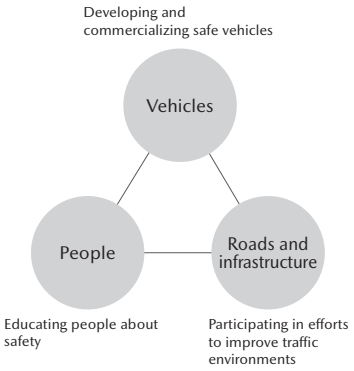
REALIZING A MOTORIZED SOCIETY FREE FROM TRAFFIC ACCIDENTS

Aiming to achieve a safer and accident-free automotive society, Mazda promotes safety initiatives from the three viewpoints of vehicles, people, and roads and infrastructure. a

a Three Viewpoints of Safety Initiatives



Initiatives in Vehicles

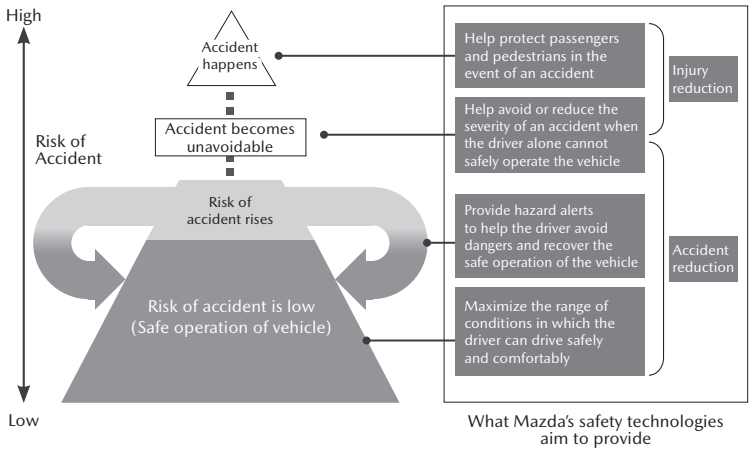
Mazda aim to realize a safer and accident-free automotive society by creating system where all people, wherever they live, can enjoy unrestricted mobility.
While continuing to further enhance its safety technologies, Mazda works on technology development with the belief that technologies will demonstrate their true value only when their use becomes widespread.

Mazda Proactive Safety: Mazda's Safety Philosophy

Mazda's safety philosophy, which guides the research and development of safety technologies, is based on understanding, respecting and trusting the driver.

To drive safely it is essential to recognize potential hazards, exercise good judgment and operate the vehicle in an appropriate fashion. Mazda aims to support these essential functions so that drivers can drive safely and with peace of mind, despite changing driving conditions.

Since drivers are human beings, and human beings are fallible, Mazda offers a range of technologies which help to prevent or reduce the damage resulting from an accident.



By providing a good driving environment and excellent handling stability to support the drivers' safer driving, Mazda aims to maximize the range of ordinary driving conditions in which the driver can concentrate on driving without anxiety or stress.
If the risk of an accident increases, the sensing functions on the vehicle provide hazard alerts to help the driver avoid danger, thereby supporting safer driving. Moreover, understanding that human nature means that mistakes cannot be totally eliminated, Mazda offers safety functions on its vehicles that help prevent such human errors as much as possible, and if an error occurs, help prevent an accident or reduce the resulting damage.
Mazda places the highest focus on improving ordinary driving conditions to remove possible causes of an accident rather than on a "what if"-based approach (preparing for possible results). Through providing these safety technologies based on a respect and understanding of human nature, Mazda supports driver's safer and more secure driving.

Continuously Evolving Basic Safety Technologies as Standard for All Vehicles

Aiming to realize an automotive society that offers safety and peace of mind, Mazda promotes continuous evolution of basic safety technologies, such as the ideal driving position and pedal layout, excellent visibility, and human machine interface, and will install these in all vehicles as standard.

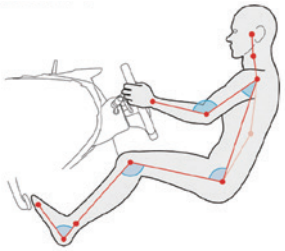
Ideal Driving Position

The major driving operation devices, including the pedals and the steering wheel, which are interface between man and vehicle, are located in an ideal position for a driver to operate them with ease and without fatigue.

Pursuing the Ideal Joint Angle for Comfortable Driving b

The driving position is designed based on the theory of the "comfortable joint-link angle," the joint angle at which the driver of any physical type can exert strength quickly and properly. For Mazda3, which was introduced in 2019, the adjustable range of the telescoping mechanism*1 has been extended and the driving position adjustment accuracy has been improved to provide the driver with a more comfortable driving position. The above design modification has reduced the tightness a small driver feels when he/she moves the seat forward. The front console layout has also been renewed. In particular, the cup holder position has been moved to the front of the shift lever.

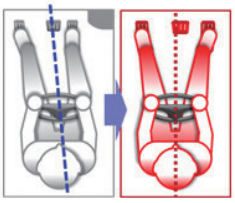
b Image of comfortable joint-link angle



Ideal Pedal Layout c

The front tires and tire houses have been repositioned farther forward to realize an offset-free, ideal pedal layout where the driver can stretch his/her foot forward and naturally rest it on the accelerator pedal when he/she sits in the seat. The distance between the accelerator pedal and the brake pedal has also been reviewed and optimized. As a result, the driver can enjoy driving more comfortably for many hours in a relaxed posture while operating the pedals more smoothly. These design improvements reduce both driving fatigue and the possibility of the driver stepping on the wrong pedal when braking in an emergency.

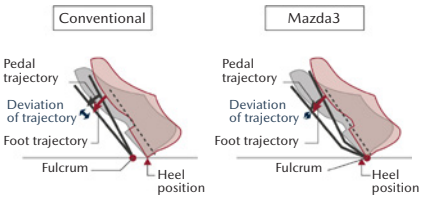
c Comfortable layout enabling easy operation



Organ-Type Accelerator Pedal d

With an organ-type accelerator pedal, the driver's heel is placed on the floor, and the driver's foot and the pedal follows the same trajectory. This makes accelerator pedal control easier because the heel position is stabilized. For the 2019 Mazda3, Mazda has developed a new organ-type accelerator pedal structure in which the pedal fulcrum is positioned more closely to the driver's heel when compared with conventional accelerator pedals of this type. The new accelerator pedal minimizes the deviation of its trajectory when depressed, enabling the driver to use his/her calf muscles more efficiently.

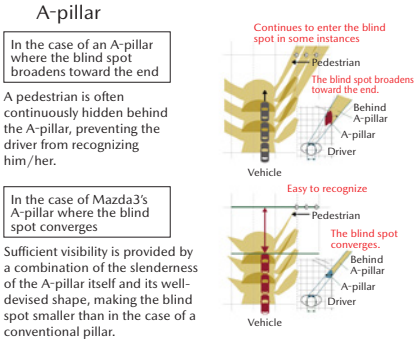
d New and conventional organ-type accelerator pedal



Excellent Visibility e

Mazda considers it important to secure good visibility to help the driver prevent accidents by supporting his/her ability to predict and react to his/her surroundings, such as road environment, other vehicles, obstacles, and pedestrians including children. To expand the vision through the door mirror so as to improve the visibility of pedestrians and obstacles, door mirrors of all Mazda passenger vehicles currently available on the market are installed on the outer door board in a lower position. For the 2019 Mazda3 and subsequent models, the visibility has been further enhanced by a combination of the inherent slenderness and the well-devised shape of the A-pillar. Visibility for children is especially cared.

e Opening angle enlarged by improved A-pillar



*1 A mechanism to move the steering wheel back and forth.

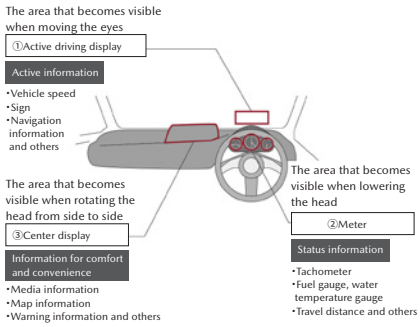
"HMI Concepts" to Minimize Causes of Careless Driving f

Human Machine Interface (HMI) refers to the equipment and mechanisms to facilitate transmission of various information between the driver and the vehicle. Mazda's thoroughly human-centered cockpit design minimizes the three factors*1 that cause careless driving: cognitive distraction, visual distraction, and manual distraction.
The information necessary for driving is presented in order of priority, so that the driver can concentrate his/her attention on driving and thus reduce cognitive distraction. Indications in front of the driver's seat have been simplified to make the display easier to see and thus reduce visual distraction. Indicators and other intuitively operable devices are installed to reduce manual distraction.

i-ACTIVSENSE Advanced Safety Technologies*2 g h

Mazda is committed to continuous evolution of i-Activsense advanced safety technologies, to deliver safer, more reliable cars to a greater number of customers, from beginners to elderly drivers. Mazda's i-Activsense is an umbrella term covering a series of advanced safety technologies, developed in line with Mazda Proactive Safety. They include active safety technologies that support safer driving by helping the driver to recognize potential hazards, and pre-crash safety technologies which help to avert collisions or reduce their severity in situations where they cannot be avoided.
As a result of ongoing steady technological evolution, in 2020, two new safety features were added to the i-Activsense umbrella: a Smart Brake Support <Turn-Across Traffic> (SBS), and an Emergency Lane Keeping <Blind Spot Assist> <Road Keep Assist> (ELK). These new technologies have been adopted for the MX-30.
The Company has completed application of six technologies, including the collision damage reduction brake (Advanced Smart City Brake Support or Smart Brake Support) and an acceleration suppression device that functions when the driver depresses the wrong pedal (AT Acceleration Control), for all 11 major models*3 sold in Japan, as standard equipment. Under the new vehicle safety concept "Safety Support Car S (Suppocar S*4)" recommended by the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism, these models qualify for the "Wide" Suppocar S category (as of September 2021).
Furthermore, based on its human-centered design philosophy, Mazda has developed a Driver Monitoring system, which detects driver's drowsiness and careless driving. As a technology aimed at preventing accidents caused by a decrease in the driver's attention, due to sleepiness, or taking one's eyes off the road when distracted by a child on the rear seat for example, this technology has been adopted for the Mazda3, the CX-30, and other models following that. In September 2020, this system earned Mazda the 14th Kids Design Award*5 (sponsored by the Kids Design Association, a Japanese nonprofit organization).

f Designing a cockpit that enables the driver to concentrate his/her attention on driving



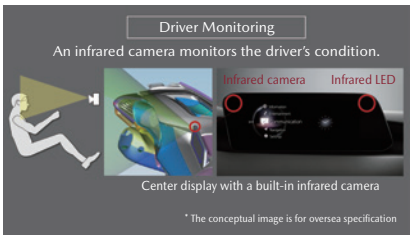
1. Vehicle speed and other "active information that should be checked at every moment" are shown in the active driving display.
2. The amount of fuel and other "status information necessary for checking the status of the vehicle" are shown by meters.
3. Media information and other "information for comfort and convenience" are shown in the center display.

g Technologies made standard equipment on the 11 major models sold in Japan (For details, see p. 80.)

- Advanced Smart City Brake Support (Advanced SCBS) /Smart Brake Support (SBS)*
- AT Acceleration Control*
- Lane Departure Warning System (LDWS)*
- Adaptive LED Headlights (ALH)* or High Beam Control (HBC)* (either according to the grade)
- Blind Spot Monitoring (BSM)
- Rear Cross-Traffic Alert (RCTA)

* Technologies to be equipped to qualify for the "Wide" Suppocar S category

h Driver Monitoring



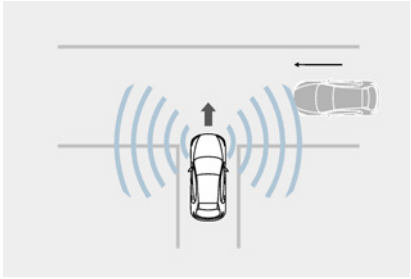
*1 The following are three factors that cause careless driving.
• Cognitive distraction: The driver is distracted by something other than vehicle control, such as checking the position of a switch and its operation method.
• Visual distraction: The driver takes his/her eyes off the road to check the information or for other purposes.
• Manual distraction: The driver strongly moves his/her body and adopts an awkward posture to operate a device.
*2 i-Activsense technologies are designed to reduce damage and/or injuries resulting from accidents. However, each system has its limitations, and no safety system or combination of such systems can prevent all accidents. These systems are not a replacement for safe and attentive driving. Please drive carefully at all times and do not rely on technology to prevent an accident.
*3 Applied models: Mazda2, Mazda3, Mazda6, CX-3, CX-30, CX-5, CX-8, Roadster/MX-5, and Roadster RF/MX-5 RF
*4 A popular name for a safe-driving support car designed to prevent traffic accidents, which have been a societal problem in Japan. It is particularly recommended for use by aged drivers.
*5 This award is granted to supreme works that address social issues related to children and child-raising among products, services, spaces, activities and research that fulfill the following objectives: children's safe and secure lives; the cultivation of children's sensitivity and creativity; and the creation of a society that supports having and raising children.

i-ACTIVSENSE advanced safety technologies

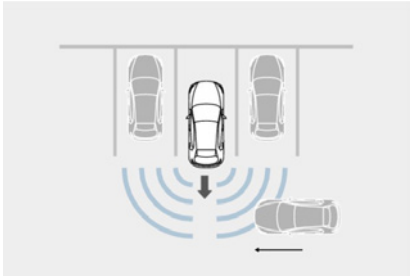
	Abbreviation	Name	Effective when	Function
Hazard Recognition Support	AFS	Adaptive Front-Lighting	Driving forward (night)	Turns the headlights automatically to illuminate in the direction the driver is steering
	HBC	High-Beam Control System	Driving forward (night)	Detects oncoming traffic and vehicles in front, automatically switching between high beam and low beam settings.
	ALH	Adaptive LED Headlights		
		Glare-free High Beam	Driving forward (night)	Detects oncoming traffic and vehicles in front, automatically controlling the area illuminated by the high beams to maintain maximum visibility.
		Wide Light-Distribution Low Beam	Driving forward (night)	Illuminates areas on either side of the vehicle that conventional low beams cannot reach.
		Highway Mode	Driving forward (night)	Raises the axis of lighting when travelling at highway speeds, making it easier to see road signs and obstacles as early as possible.
	—	360-degree View Monitor	Driving forward (at reduced speed) Reversing	Projects on the center display images of the vehicle's top view, as well as front, rear, and right/left views, by using the four separate cameras installed on all sides of the vehicle.
	BSM	Blind Spot Monitoring	Driving forward (changing lanes)	Alerts the driver to the presence of vehicles in the blind spot with an icon in the wing mirror. If the driver indicates to change lanes, the icon flashes and a warning beep sounds.
	LDWS	Lane Departure Warning System	Driving forward	Warns the driver with a sound (or vibrating steering wheel) and a visual display if the vehicle starts to stray from its lane.
	FOW	Forward Obstruction Warning	Driving forward	Detects vehicles in front and warns the driver with a visual display and alarm if there is a risk of collision.
	FCTA	Front Cross Traffic Alert i	Driving forward (at reduced speed)	Detects a vehicle approaching from the right or left front blind spot at an intersection and issues an acoustic or visual warning in response to the approaching state of the vehicle.
	RCTA	Rear Cross Traffic Alert	Reversing	Alerts the driver with an icon in the wing mirror and a warning beep if it detects vehicles approaching from either side while backing out of a parking space or garage.
Collision Avoidance / Damage Reduction Support	SBS	Smart Brake Support	Driving forward	Detects vehicles ahead, oncoming traffic when attempting a right turn, pedestrians (daytime and nighttime) and bicycles (daytime) via a radar sensor and a camera. If the system determines that a collision is likely, it engages damage mitigation brakes to slow down the vehicle and either reduce the severity of the collision or helps to avoid it.
	Advanced SCBS	Advanced Smart City Brake Support	Driving forward	Engages damage mitigation brakes when there is a risk of frontal collision. This helps to avoid head on collisions or reduce the severity of one if it occurs.
	—	AT Acceleration Control [Driving forward]	Driving forward (at reduced speed) Driving forward (starting)	Issues a warning and simultaneously controls the engine output to prevent sudden acceleration, if the accelerator pedal is depressed more than necessary even if there is an obstacle in front of the vehicle.
	—	AT Acceleration Control [Reversing]	Reversing (at reduced speed) Reversing (starting)	Issues a warning and simultaneously controls the engine output to prevent sudden acceleration, if the accelerator pedal is depressed more than necessary even if there is an obstacle behind the vehicle.
	SBS-R/ SCBS R	Smart Brake Support <Rear> / Smart City Brake Support <Reverse>	Reversing	Engages damage mitigation brakes to stop or slow the vehicle when there is a risk of collision with an obstacle behind the vehicle.
	SBS-RC	Smart Brake Support <Rear Crossing> j	Reversing	Detects vehicles approaching the right, left or rear side of the vehicle when reversing, and engages damage mitigation brakes when a collision is considered unavoidable.
	LAS	Lane-Keep Assist System	Forward	Provides steering assistance to return the vehicle toward the center of the lane if the driver starts to stray from the lane.
	ELK	Emergency Lane Keeping <Blind Spot Assist> <Road Keep Assist>	Changing lanes / Driving forward	Detects lane markings and centerlines and provides steering assistance when the driver tries to change lanes and there is a risk of collision with a vehicle approaching from the rear side. Detects grass, curbs, etc. on the road shoulders through a camera and provides steering assistance when the car is likely to depart from the road.
	DAA	Driver Attention Alert k	Driving forward	Monitors the vehicle's behavior and recommends a rest stop if signs of driver fatigue or reduced concentration are detected.
	—	Driver Monitoring	Driving forward	Detects a changes in the facial feature points of the driver via a driver monitoring camera to estimate the degree of the driver's fatigue and sleepiness, and warns the driver with a display or sound, or accelerates the timing of the damage mitigation brake's warning.
Driving Support	TSR	Traffic Sign Recognition System	Driving forward	Automatically detects speed limits and indicates speed limit in the Active Driving Display.
	MRCC	Mazda Radar Cruise Control	Driving forward	Measures the distance to the car ahead and controls speed to maintain a safer following distance.
	LAS	Lane-Keep Assist System (Line Trace)	Driving forward	Provides steering assistance to help keep the vehicle centered in the lane.
	CTS	Cruising & Traffic Support l	Driving forward	In addition to maintaining driving operation that keeps the distance from the vehicle ahead constant, the steering assist function helps the vehicle run along the lane or along the running locus of the vehicle ahead.

Technologies used for the 2019 Mazda3 and subsequent models

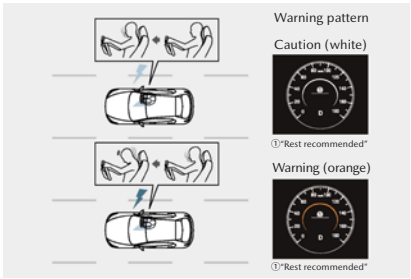
i Conceptual figure of the operation of FCTA



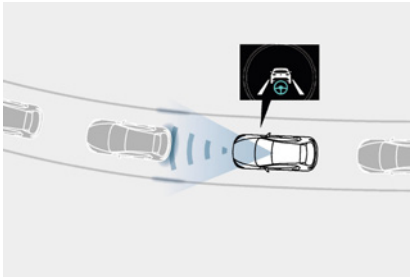
j Conceptual figure of the operation of SBS-RC



k Conceptual figure of the operation of Driver Monitoring



l Conceptual figure of the operation of CTS

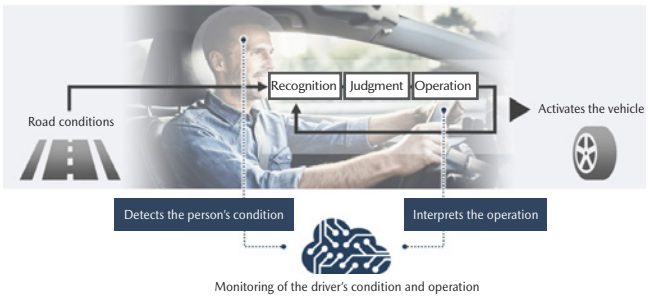


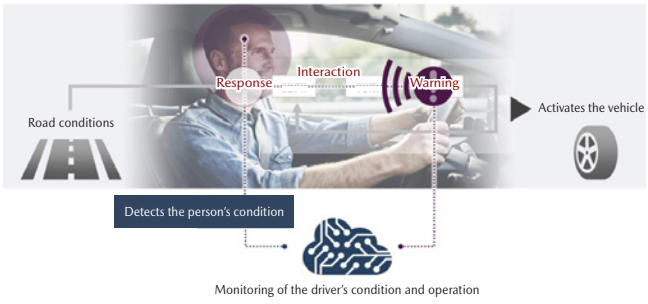
Human-centered Advanced Driving Support Technology MAZDA CO-PILOT CONCEPT

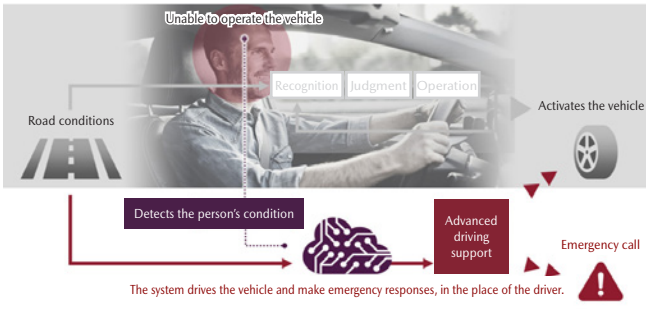
m

The Mazda Co-Pilot Concept is Mazda's unique concept for human-centered advanced driving support technology. This concept envisages a driving support system that monitors the driver's condition and operating behavior at all times, and it stands ready to intervene to assist the driver should an emergency occur. If the system detects that a sudden change has occurred in the driver's physical condition—for example, the driver gets drowsy or loses consciousness—an alarm is issued to alert the driver. Furthermore, if it is deemed difficult for the driver to continue normal operation, the system decelerates and stops the vehicle and places an emergency call if necessary. The Company aims to reduce the occurrence and damage caused by serious accidents by minimizing injury to the driver, passengers and people around the vehicle.

The Company plans to introduce Mazda Co-Pilot 1.0, which helps the vehicle evacuate to the shoulder as much as possible on an expressway or motorway or stay in its lane and stop in the same lane on an ordinary road, starting from its Large Products from 2022. Looking at the future, the Company also aims to further develop the system and release Mazda Co-Pilot 2.0, which will be the combination of a technology that detects the signs of various changes in the driver's condition, such as sudden health complication, and a technology that leads the vehicle to a safer place, automatically changing lanes and pulling over to the shoulder on an expressway or evacuate to a safer place on standard road.







* This system is not intended to allow autonomous driving while the driver is asleep or inattentive.

m Autonomous Driving Technologies as Standard Equipment

"Mazda Co-Pilot Concept," employing advanced driving technologies

2021: Start of Demonstration Testing
2022: Adoption of Mazda Co-Pilot 1.0 for Large Products
From 2025 onward: Adoption of Mazda Co-Pilot 2.0

Technologies to Mitigate Injuries in an Accident

Focusing mainly on vehicle damage morphology and the mechanisms by which damage develops in the human body (human study) in the event of an actual traffic accident, Mazda has been promoting the development of safety technologies that help mitigate injuries to vehicle occupants and pedestrians in the event of a traffic accident. The Company has been dramatically enhancing the collision safety performance of Mazda vehicles by using leading-edge safety technologies, including vehicle body structures made of highly rigid ultrahigh-tensile steel plates that can improve the energy absorption efficiency and the occupant protection structure the Company has developed based on the study of human characteristics to minimize injury to the occupants. Mazda's major safety technologies are described below.

Lightweight, high-rigidity, safer body:
Vehicle body skeletons are constructed of highly rigid ultrahigh-tensile steel plates to securely receive impacts and vehicle body frame structures are designed so that they can efficiently absorb and distribute impact energy transmitted from the front, rear and both sides of the vehicle. Vehicle bodies constructed as above minimize the deformation of the cabin.

Occupant protection:
To reduce injuries to the occupants, Mazda has developed various human characteristic-based injury protection structures and uses them in its vehicles.

Pedestrian protection:
Mazda uses various methods to reduce injury to pedestrians in the event of a collision.

Technologies Used in Mazda3 and subsequent models

The following technologies have been used in the Mazda3, which was launched domestically in May 2019.

Lightweight, High-rigidity, Safer Body

Ultrahigh-tensile steel plate
Compared with the previous model, the percentage of ultrahigh-tensile steel plates having a strength of 980 MPa or more was dramatically increased from approximately 9% to approximately 30%. In addition, Mazda used the world's first* cold-stamped vehicle body structural parts made of 1,310 MPa-class ultrahigh-tensile steel plates.

Frontal collision safety performance
The bumper beam was elongated in the lateral direction and a perimeter beam was newly installed to minimize the damage to the collision partner.

Side collision safety performance
Shock dispersion type hinge pillars and rear body structures were used to securely receive the collision impact, thereby minimizing the deformation of the cabin.

Occupant Protection

Front seat
The rigidity of seat frames was increased and the cushion side frames was constructed so that they can absorb collision impact force. The above design modification is designed to reduce the injury to occupants' neck by constraining the heads at the initial stage of a rear-end collision and, at the same time, suppressing the reaction of the seat back when it returns from a backward tilted position to the original position.

Seatbelt
The front seatbelt was reconstructed so that the lap anchor can be attached to the seat. This minimizes the slacking of the belt even after the occupant moves the seat to any longitudinal position, making it possible to help quickly secure the occupant's body to the seat in the event of a collision.

Driver's seat knee airbag
Mazda installed driver's seat knee airbags for the first time. If a collision occurs, these airbags will deploy around the driver's knees to help limit the forward movement of the driver, thereby reducing injuries to his/her chest, belly, and legs.

Front side airbag
To reduce the impact load that will be applied to the occupants' ribs and their neighboring areas which are sensitive to collision impact force, Mazda used airbag systems (two-chamber type) that were designed after taking into account the load bearing performance of the human body.

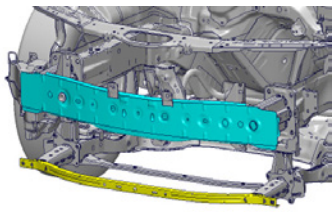
Pedestrian Protection

Head protection measures
To reduce the impact force and injury to a pedestrian when his/her head hits the bonnet (hood) in the event of a collision, Mazda optimized the distance between the outer and inner panels of the bonnet and the impact absorption structure of the inner panel. The above design modification enables the bonnet to absorb large energy at the initial stage of a collision with the pedestrian's head and to softly and uniformly receive the head after the collision.

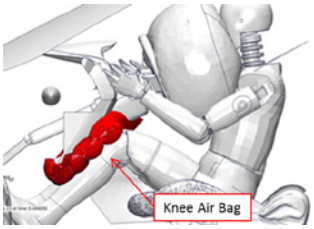
Leg protection measures
The upper and lower legs of the occupant are supported by the face upper and the lower stiffener, respectively, to prevent the legs from bending like a bow, thereby reducing damage to the ligaments and knees in the event of a collision.

Lightweight, high-rigidity, safer body

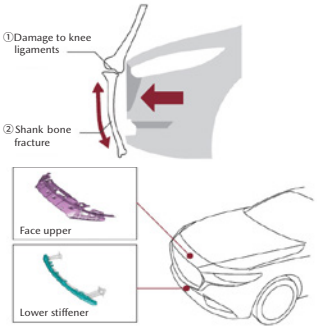
Front body structure



Driver's seat knee airbag



Leg protection measure



* As of January 2019, according to Mazda data

External Evaluations for Mazda's Safety Technologies

Mazda has earned high evaluations for its safety technologies.

Third Party Safety Evaluations

Rating by vehicle model (As of the end of November 2021)

		Demio/ Mazda2	Mazda3	Atenza/ Mazda6	CX-3	CX-30	CX-5	CX-8	CX-9	MX-30	Roadster/ MX-5
Japan	J-NCAP*1 (Collision Safety Performance Tests)	5-Star (2014-2015)	—*6	5-Star (2013-2014)	5-Star (2015-2016)	—*6	5-Star (2017-2018)	5-Star (2017-2018)	—*5	—*6	—*6
	J-NCAP*1 (Advanced Safety Vehicle (ASV) Technology Assessment)	ASV+ (2014)	—*6	ASV+++ (2018)	ASV+++ (2018)	—*6	ASV+++ (2018)	ASV+++ (2018)	—*5	—*6	—*6
US	US-NCAP*2	—*5	5-Star (2021MY)	5-Star (2021MY)	5-Star (2021MY)	5-Star (2021MY)	5-Star (2021MY)	—*5	5-Star (2021MY)	—*6	—*6
	IIHS*3	—*5	21TSP+	21TSP+	21TSP+	21TSP+	21TSP+	—*5	21TSP+	—*6	—*6
Europe	Euro-NCAP*4	4-Star (2015)	5-Star (2019)	5-Star (2018)	4-Star (2015)	5-Star (2019)	5-Star (2017)	—*5	—*5	5-Star (2020)	4-Star (2015)

Change in rating in the last three years*7

		2019	2020	2021
Japan J-NCAP*1 (Collision Safety Performance Tests)	5-Star	5	5	5
	4-Star	0	0	0
US US-NCAP*2	5-Star	4	6	6
	4-Star	0	0	0
Europe Euro-NCAP*4	5-Star	3	4	5
	4-Star	3	3	3

∗1 Japan New Car Assessment Tests: Vehicle collision safety performance evaluations conducted by the National Agency for Automotive Safety and Victims' Aid. For collision safety performance, 5-Star is the highest possible rating.
For Advanced Safety Vehicle (ASV) Technology Assessment, ASV+++ is the highest possible rating (from 2018 to 2019).
∗2 National Highway Traffic Safety Administration's 5-Star Safety Ratings program. 5-Star is the highest possible rating.
∗3 Insurance Institute for Highway Safety: Safety performance evaluations by an independent, nonprofit organization funded by auto insurers. Top Safety Pick + (Plus) is the highest possible rating.
∗4 European New Car Assessment Programme: An independent agency comprised of the transport authorities of European countries, etc. 5-Star is the highest possible rating.
∗5 Not yet introduced as of the end of November 2021.
∗6 Not evaluated.
∗7 As of the end of November 2021

TOPICS **Mazda Earns the IIHS 2021 Top Safety Pick+ (2021 TSP+) Award, the Highest Safety Rating, for the Second Consecutive Year**

Seven Mazda U.S. specification models,*1 including the 2021 model year's Mazda3 and Mazda CX-5, tested by the U.S. Insurance Institute for Highway Safety (IIHS) have been awarded the nonprofit organization's highest safety rating. The Company won the highest award for the second consecutive year. In addition to conducting crashworthiness tests (including a moderate overlap test, small overlap tests, side crash tests, a head restraints test, and a roof strength test), the IIHS evaluates headlight performance and frontal crash prevention by means of auto-braking and forward collision warning systems.

∗1 2021 model year Mazda3 sedan and hatchback, Mazda6, Mazda CX-3, Mazda CX-30 (built after September 2020), Mazda CX-5 and Mazda CX-3 currently on sale in the U.S.

Initiatives with People

It is said that most traffic accidents are caused directly or indirectly by human behavior. Mazda endeavors to raise safety awareness among adults and children through various means of communication.

Raising Traffic Safety Awareness

In cooperation with local municipalities and organizations, Mazda and its Group companies in Japan and overseas conduct various activities to raise safety awareness. In FY March 2021, Mazda continued safety-awareness-raising activities that had been conducted since 2017 with the aim of increasing the seatbelt usage rate in cooperation with the Hiroshima Branch of the Japan Automobile Federation (JAF). The importance for all car occupants to wear a seatbelt was explained through the simulation of a collision at a speed of 5 km/h, quizzes to raise children's safety awareness, and shock absorption experiments with toy cars. In addition, a safe driving seminar for aged drivers was held at a local community center.

Safe Driving Demonstration

Starting from FY March 2015, Mazda has held the Mazda Driving Academy, an experience and training program to help customers in Japan learn the theories and techniques to control their cars easily, comfortably and safely. A variety of curriculums tailored to the needs and level of the customers are offered, from basic driver training of drive, turn, and stop, to the exciting experience of driving on a racing circuit, with the aim of improving their driving skills and raising the awareness of safe driving. In FY March 2021, the Mazda Driving Academy was held five times.

n Raising awareness of using a seatbelt and child seat

o Driving position lecture

p Experiencing sudden braking

Initiatives with Roads and Infrastructure

Initiatives toward Realizing a Safe Automotive Society with ITS*1

Traffic accidents and congestion are serious social problems in many countries and cities. To solve these problems, worldwide efforts have been taken to introduce advanced technologies for roads and automobiles. As an automobile manufacturer, Mazda has been proactively supporting the ITS project driven by the government and private sector, and working collaboratively with the national and local governments and related companies in order to realize a society where the road traffic is safe and accident-free.

Technology to Notify the Driver of Unseen Dangers

Mazda is promoting research and development of ITS as a means to monitor the objects in a distant position that cannot be detected by Mazda's advanced technology i-Activsens or the areas in an intersection that cannot be seen from the driver.

ITS Projects Mazda Participates

Project	Description	Organizer
ASV (Advanced Safety Vehicle)	Research and development to realize a system to assist safer driving utilizing cutting-edge technologies, including communication-based driving safety support systems. In 1991, the project's first phase was launched, and currently discussions are under way as to the sixth phase	Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism
ITS Connect*	The ITS Connect Promotion Consortium promotes practical application and widespread use of a driving support system combining automobile-related technology with new ITS communication technology. The consortium aims to achieve a safe anxiety-free transportation society, by studying the fundamental technology for the driving support system (ITS Connect), which utilizes ITS dedicated frequency band, and carrying out operation support.	ITS Connect Promotion Consortium
Hiroshima Sandbox	Effective use of communication-type ITS systems and open cloud data to enhance the safety and convenience of public transportation systems and make transportation smoother by realizing priority traffic signal control for public transportation systems, minimizing hazardous events at intersections and other places, and promoting ride sharing by increasing transfer convenience.	Hiroshima Prefecture

* Website of ITS Connect Promotion Consortium (https://www.itsconnect-pc.org/en/)

*1 ITS: Intelligent transport system uses telecommunications technology to bring together vehicles, people, and the traffic environment, with the aim of easing traffic congestion and reducing the number of accidents throughout Japan.

Mazda's Primary Safety Technologies and Social Activities

(As of November 2021)

	Category	Accident reduction		Injury reduction
		Basic safety (Maximizing the range of conditions in which the driver can drive safely and comfortably)	Preventive safety (Mitigation of risk/damage from an accident)	Collision safety (Minimizing injuries in accidents)
Primary Safety Technologies	Vehicles	Offers the ideal Driving Position ■ Ideal pedal layout ■ Organ-type accelerator pedal Supports both Safety and Driving Pleasure ■ A lightweight cross member with high rigidity ■ Active Driving Display ■ A-pillar/door mirror for improved front field vision ■ Power Windows with Injury Prevention Function ■ G-Vectoring Control Plus (GVC) ■ G-Vectoring Control Plus (GVC Plus) Helps to avoid danger ■ Brake Assist and EBS ■ 4-Wheel Antilock Braking System (4W-ABS) ■ Dynamic Stability Control (DSC) ■ Brake Override System (BOS)	Hazard recognition support ■ Blind Spot Monitoring (BSM)/Rear Vehicle Monitoring (RVM) ■ Front Cross Traffic Alert (FCTA) ■ Rear Cross Traffic Alert (RCTA) ■ Lane Departure Warning System (LDWS) ■ Front Obstruction Warning (FOW) ■ 360 Degree View Monitor ■ Emergency Signal System (ESS) ■ Adaptive Front Lighting System (AFS) ■ High Beam Control System (HBC) ■ Adaptive LED Headlight (ALH) Minimizes damage in an accident [When moving forward] ■ Smart Brake Support (SBS) ■ Advanced Smart City Brake Support (Advanced SCBS) ■ AT Acceleration Control ■ Lane-Keep Assist System (LAS) (Lane Departure Averting Assist) ■ Emergency Lane Keeping (ELK) ■ Driver Attention Alert (DAA) ■ Driver Monitoring (DM) [When reversing] ■ Smart City Brake Support [When reversing] (SCBS-R) ■ Smart Brake Support [When reversing] (SBS-R) ■ AT Acceleration Control ■ Smart Brake Support [Rear side] (SBS-RC) Driving support ■ Mazda Radar Cruise Control (with Stop & Go function) (MRCC) ■ Lane-Keep Assist System (LAS) (Line Trace) ■ Cruising & Traffic Support (CTS) ■ Traffic Sign Recognition System (TSR)	Helps to protect drivers/passengers in accidents ■ Use of Straight Basic Skeleton ■ Continuation Technology/Multi-Load Path Structure ■ Cruciform Section Front Frame ■ Ultrahigh-tensile Steel Bumper Frame ■ SRS Airbag System (Driver's seat, front passenger's seat, curtain, front-side airbags and driver's knee) ■ Soft Interior to Absorb Impacts ■ Front Seats Designed to Reduce Impacts to the Neck / Rear Seats that Resist against Luggage Flying Forward ■ Pre-Tensioners and Load-Limiter Seatbelts ■ Collapsible Brake Pedal ■ ISO-FIX-Compliant Child Seat Anchoring point ■ Impact-Absorbing Steering Column Minimizes damage in an accident with pedestrians ■ Impact-Absorbing Bumpers ■ Impact-Absorbing Hood ■ Active Hood
Social activities	People	Safety Education		
		■ Presentation of safety technologies at various events		
	Roads and Infrastructure	Initiatives for a Safe society		
		■ Development of Advanced Safety Vehicles (ASVs*1) ■ Road-Vehicle Communication ITS (ITS Connect, Hiroshima Sandbox)		

*1 ASV: Advanced Safety Vehicle