9. Safety Initiatives

9-1 : Toward a Collision-Free Mobile Society

Based on the concept of “Safety for Everyone,” Honda aims for a collision-free mobile society, where not only drivers and riders, but indeed everyone sharing the road, can safely and confidently enjoy the freedom of mobility. In April 2021, Honda declared its goal of zero traffic collision fatalities* involving Honda motorcycles and automobiles worldwide by 2050 and is accelerating its safety initiatives. Honda’s safety initiatives began in the 1960s with its safe driving promotion activities, the first of their kind among motorcycle and automobile manufacturers. Honda’s safety initiatives have now expanded to include everyone involved in traffic society, from drivers to pedestrians, from children to the elderly, and are being actively promoted not only in Japan but also in countries and regions around the world. In the area of technology, Honda has pioneered several new technologies across the world, based on the concepts of “setting higher targets exceeding regulatory requirements” and “if it does not exist, we will make it.” In addition to these initiatives by individual Honda companies, Honda is also actively collaborating with governments, local communities, and individual companies to improve the road environment, among other things. With the advancement of online services and other technologies, it is now possible to lead a life without moving around. However, Honda believes that people’s curiosity will continue to drive them to expand their sphere of activities and enjoy the real world with its rich sensibilities. Ensuring safety is an important initiative to expand freedom of movement. Honda will continue to pursue safety that not only protects people, but also encourages their curiosity and enhances the joy of mobility.

Global Safety Slogan

Safety for Everyone

Honda dreams of a collision-free mobile society where our customers, and everyone sharing the road, can safely and confidently enjoy the freedom of mobility.

Not only does Honda’s slogan “Safety for Everyone” embrace its approach of pursuing safety in a way that matches each individual, but it also follows its belief that ensuring the safety of each member of society will consequently make society as a whole safer and mark a step forward to a collision-free mobile society.

* Traffic accidents involving Honda motorcycles and automobiles: Traffic accidents involving Honda motorcyclists and automobile riders, as well as pedestrians and bicyclists (i.e., all traffic participants, except for intentional and malicious violators of the rules, and persons who are incapable of fulfilling their responsibilities)

9-2 : Direction of Activities

Honda is working on traffic safety with a focus on the three elements of human ability (awareness-building activities), performance of mobility (technological development) and traffic ecosystem (collaboration, and development of systems/services).

Human Ability

Honda believes that efforts are needed to support the enhancement of human ability, ranging from driving skills to psychological and mental aspects, such as cognition, judgment, and compassion toward others, for all people involved in traffic society. Honda will translate these efforts into awareness-building activities matched to individual awareness, experience levels and physical capabilities.

Performance of Mobility

Honda believes that a mix of capabilities is needed to appropriately complement or augment human ability. These include the capability to protect the human body, the capability to avoid collisions to the greatest extent possible, and the capability to capture the intention of a person and convey it to the vehicle and other people. Honda intends to gain an even deeper understanding of the human body and consciousness and evolve its efforts to develop more people-oriented technologies.

Traffic Ecosystem

The traffic environment is subject to constant change due to traffic congestion, bad weather and various other factors. Honda believes that preventing accidents or mitigating their damage in such a traffic environment requires dynamically understanding its holistic picture(the traffic ecosystem). This encompasses the interrelation between the diverse elements, including pedestrians, motorcycles, and automobiles, that constitute the traffic environment as well as roads, telecommunications, and other infrastructure, and letting these elements connect organically. Honda will proactively work toward this goal through an open approach, including cooperation with various countries and regions and collaboration with other companies, thereby contributing to the healthy functioning of traffic society. Honda will address traffic accidents caused by various factors by evolving the technologies and activities of the three elements of safety on individual basis, as well as by combining each of them.

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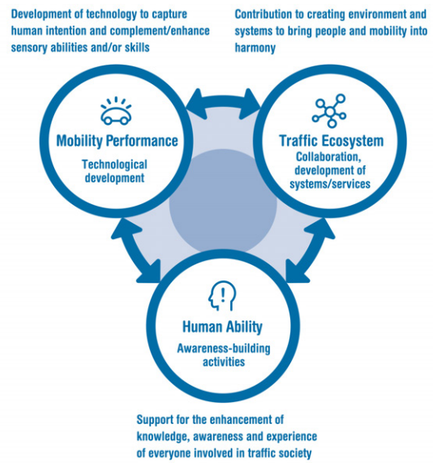
Three elements of safety



Source:：Honda ESG Data Book 2023

9-3 : Honda’s Approach to Human Capabilities

In 1970, Honda established the Traffic Safety Promotion Operations in Japan and subsequently a department dedicated to promoting activities overseas within the Operations in 1972. Since then, Honda has been reinforcing its efforts overseas by establishing Traffic Education Centers* in various countries and cooperating with local dealers. As of March 2023, Honda is carrying out traffic safety promotion activities in 43 countries and regions throughout the world, including Japan. Honda’s activities are based on the ideas of “Safety handed down from person to person” by conveying the importance of traffic safety directly to customers at dealers and to provide “participatory experiential education” under the guidance of expert instructors. In Japan, Honda has developed activities to deliver safety for all ages, from children to seniors, and provided education and actual training on traffic safety to more than 6.72 million customers to date in cooperation with Honda Traffic Education Centers, motorcycle and automobile dealers, local corporations, and schools. Overseas, particularly in emerging countries, there are areas where regulations, traffic rules and road infrastructure are not yet fully developed even though motorization is rapidly progressing. As such, the increase in the number of fatal traffic accidents has become a social issue. Therefore, Honda is undertaking activities matched to the traffic situation of each country while collaborating with local governments and relevant organizations.

* Traffic Education Centers: Honda facilities where internal and external instructors on traffic safety are trained and driving safety education is provided to corporations, schools and individual customers

9-4 : Safety Initiatives Chronology

1964	Safety Driving Training Center opened at Suzuka Circuit and training for motorcycle policemen and patrol car drivers begins.
1966	Training expanded to include motorcycle police officers nationwide.
1970	Traffic Safety Promotion Operations established.
	Safety education booklet "Safety Driving: Safety Points (for motorcycles and automobiles)" distributed with all motorcycle models.
1971	National organization of Traffic Safety Promotion Operations established, with 2,500 instructors nationwide. Safety Club established.
1972	Overseas Driving Safety Promotion Committee established within Traffic Safety Promotion Operations. Prefectural branch instructors assigned.
1973	Rainbow Fukuoka traffic education center established. Launched campaign for driving safety instructors (10,000 driving safety instructors trained by 1974).
1978	Suzuka Circuit traffic education center renovated. Honda Motorcyclist School (HMS) established.
1980	“All Japan Safety Club Gathering,” a national organization of good riders established. Rainbow Saitama traffic education center established.
1982	In Brazil, Honda do Brasil opened traffic education centers in Sao Paulo and Rio de Janeiro. Rainbow Hamamatsu traffic education center established.
1985	Rainbow Osaka traffic education center established. Singapore Safety Driving Center (SSDC) opened in Singapore.
1988	Safety and New Challenge activities developed. In the U.S., AH established the Rider Education Center by Honda.
1989	A.P. Honda of Thailand established Traffic Safety Promotion Operations. Ladies Riding School established in Japan.
1990	Bukit Bato Driving Center (BBDC) established in Singapore. A.P. Honda Traffic Safety Education Center established in Thailand.
1991	Commenced training for safety and environmental promotion staff at automobile dealerships. Honda Driving School (HDS) held.
1992	Suzuka Mobility Study Group established. Driving Safety Management Forum (for corporate driving safety personnel) held.
1996	Honda motorcycle riding simulator announced. Rainbow Kumamoto traffic education center established.
	“Sharply Reading Traffic Conditions,” teaching material for predicting danger completed.
1997	Safety coordinators assigned within automobile sales companies. Active Safety Training Park Motegi established.
1998	Riding advisor training for motorcycle dealers commenced. Riding simulators installed in overseas traffic education centers.
1999	Ayatorii Hiyoko Edition completed. Honda Vietnam traffic education center opened.
2001	Honda automobile driving simulator announced. First National Driving School Instructor Safe Driving Competition held.
2002	Rainbow Hamanako traffic education center established. BBDC conducted first overseas safety coordinator training.
2003	Safe driving instructor training conducted at three Chinese motorcycle joint ventures (Chongqing, Guangzhou, Shanghai)
2007	Honda Healthy Driving School for the elderly opened. Suzuka Circuit Traffic Education Center renovated.
2009	Regional promotion blocks in Tochigi, Saitama, Hamamatsu, Suzuka, and Kumamoto established. Honda Safety Navigation System released.
2010	Honda Bicycle Simulator launched for sale. Honda Video KYT (Kiken yosoku training) launched for sale.
2011	“Traffic Safety Video Course” and “Silver Rakushu University” educational programs provided for the elderly.
2012	Driving ability evaluation support software for rehabilitation for Honda Safety Navigation System released for sale.
2016	Traffic safety education instruction manual for high school students provided. “Learn Traffic Safety with Dekiru-Nyan” for 4- to 5-year-old children provided.
2017	DSP (Driving Style Suggestion) program launched to visualize driving habits at the Suzuka Circuit Traffic Education Center.
2019	“Minna de Anshin (Safe Driving Behavior Diagnosis)” and “Honda SENSING Awareness Video” programs launched for automobile dealers’ customers.
2020	Astra Honda Motor Traffic Education Center launched in Indonesia.
2022	Educational videos for motorcycle users offered through webinars and YouTube.

9-5 : Honda's Approach to Mobility Performance

Honda engages in technological development by fully understanding the real accident situations in a real-world traffic environment comprising multiple types of road users, including motorcycles and automobiles, and by conducting detailed analyses of accident mechanisms. To date, Honda has developed the world's first*1 pedestrian dummy, an anthropomorphic model used to reproduce the human body's kinematics during a collision with an automobile, and has established the world's first indoor omnidirectional crash test facility to conduct research into more realistic crash configurations. In addition, the Company has developed and introduced new technologies, such as the SRS Airbag System for the driver's seat, the Advanced Compatibility Engineering (ACE) body structure, and the Collision Mitigation Braking System (CMBS) (a world first) for automobiles*2, and the mass-produced airbag system for motorcycles (a world first). Since 2014, Honda has been expanding the application of Honda SENSING and Acura Watch, driving safety support systems that assist in accident avoidance, to each of its automobile models. In 2022, the Company launched Honda SENSING 360, which has evolved into an omni-directional safe driving support system based on the knowledge and know-how accumulated through the research and development of Level 3 autonomous car technologies. Since motorcycle accidents account for the majority of traffic accidents in emerging countries, Honda aims to expand the application of Honda SENSING with motorcycle detection function to all automobile models and equip more motorcycles with its advanced braking systems, such as ABS and CBS, and headlights that provide better visibility to riders and make them more visible to other road users in the future. In developed countries, the Company aims to apply these technologies, which cover a wide range of fatal collision situations envisioned by Honda, to all automobile models by 2030, including Honda SENSING 360, enhanced pedestrian protection and collision mitigation performance, and advanced automatic accident reporting systems.

*1 Based on Honda's research

*2 A safety-oriented body structure that efficiently disperses and absorbs collision energy in the engine compartment when automobiles collide with each other. It offers significantly greater occupant protection and reduces the damage to the other impacted vehicles.

9-6 : Safety Technology Chronology

1960s	Automobile	1963 Two-point seat belts as standard equipment (S500)
		1964 Three-point seat belts as optional equipment (S600) [Japan-first]
		1967 Monocoque body (N360)
		1968 Disc brakes (S800M)
	Motorcycle	1969 Disc brakes (Dream CB750 FOUR) [World-first for motorcycles]
1970s	Automobile	1971 Began research on radar including distance control
		1973 Honda ESV unveiled at the 4th International ESV Conference
		1976 Three-point ELR seat belt (Accord)
		1979 Halogen headlights (Civic)
1980s	Automobile	1981 Car navigation system "Electro-Gyrocator" [World-first]
		1982 Four-wheel antilock braking system (Prelude) [Japan-first]
		1986 Began research on automatic driving
		1987 Honda 4WS, a steering angle-responsive four-wheel steering system (Prelude) [World-first]
		Driver-side SRS airbag system (Legend) [Japan-first]
1990s	Automobile	1990 SRS airbag system for the front passenger seat, Honda's unique top-mounted system (Legend) [Japan-first]
		Seat belt pretensioner (Legend) [Japan-first]
		1993 Body designed for all-round collision safety (Accord, Ascot, Rafaga)
		1995 Advanced Safety Vehicle ASV-1 Automatic Braking
		1996 Automated driving road system public experiment
		1997 Vehicle Stability Assist VSA (Accord, Torneo)
		Highway driving support system HiDS announced
		Pre-tensioner ELR seat belt with load limiter (Accord, Torneo)
		1998 Pedestrian Injury Mitigation Body (HR-V) [World-first]
		i-SRS airbag system (Legend) [World-first]
		i-side airbag system with a front-passenger posture detection (Legend) [World-first]
		POLAR pedestrian dummy [World-first]
2000s	Automobile	2000 Public road tests of the HiDS highway driving support system begin
		Advanced Safety Vehicle ASV-2 rear-end collision speed reduction system
		Indoor omni-directional crash test facility [World-first]
		Second-generation pedestrian dummy POLAR II
		2002 HiDS highway driving support system (Accord)
		2003 AFS Adaptive Front Lighting System (Step Wagon)
		Rear-end collision mitigation brake system CMBS + E-pretensioner (Inspire) [World-first]
		Compatibility body (Life)
		2004 Intelligent night vision system with alarm (Legend) [World-first]
		SH-AWD four-wheel steering system (Legend) [World-first]
		2005 Advanced Safety Vehicle ASV-3 Inter-Vehicle Communication
		2008 Multi-view camera system
		Advanced Safety Vehicle ASV-4 Inter-vehicle and Roadside-to-vehicle communication
		DSSS Driving Safety Support System
		i-SRS airbag system (variable capacity) [World-first]
		Pop-up hood system (Legend)
		Third-generation pedestrian dummy POLAR III
	Motorcycle	2000 Advanced Safety Research Vehicle ASV-2 extended to motorcycles
		2005 Airbag system for motorcycles [World-first]
		ASV-3 advanced safety research vehicle completed (design for improved visibility, etc.)
		2008 Public road test of ASV-4 advanced safety research vehicle
		New brake system for supersports models - electronically controlled combined ABS [World-first]
2010s	Automobile	2010 Blind Spot Information
		2013 Lane Watch
		Emergency stop signal
		ELR seatbelts with rear 3-point load limiter
		CTBA City Brake Active System
		2014 Advanced Safety Driving Assist System Honda SENSING and Acura Watch announced
		SRS driver-side knee airbag system
		2015 Advanced Safety Vehicle ASV-5 inter-vehicle communication
		i-SRS internal pressure-retaining airbag for front passenger seat
		2016 Driving support system utilizing traffic signal information
		2018 Traffic jam assist (traffic jam driving assist)
	Motorcycle	2018 Electronically controlled combined ABS for large tourers (Gold Wing)
2020s	Automobile	2020 Front center airbag
		2021 Level 4 automatic driving compliant traffic jam pilot (Legend)
		Honda SENSING 360, an omnidirectional safe driving support system announced
		2022 Next-generation Honda SENSING 360 and Honda SENSING Elite technologies announced

9-7 : Honda's Approach to Traffic Ecosystems

In 1998, Honda started to offer "Internavi," a car navigation system in Japan that is equipped with communication functions to support safe driving by providing drivers with information on traffic congestion and disasters using driving data collected from Honda vehicles. In 2013, Honda launched a Safety Map service that integrates and analyzes various information, such as emergency braking information collected through the Internavi system, information on traffic accidents provided by the police and local governments, and traffic information provided by local residents. This service on Honda's website allows users to learn in advance about areas where accidents frequently occur. In addition to being used by ordinary people, the Safety Map has also been used by local governments and other organizations to improve roads by adding road markings, etc. The total number of road improvement measures taken since 2013 is over 150. These efforts have evolved since then, and in 2017 the Company launched Honda Drive Data Service, a data service that displays dangerous areas on a map in real time, aiming to address social issues, including disaster prevention and traffic accident prevention. Honda is also conducting a demonstration experiment of the Road Hazard Condition Monitoring System, which shares information on dangerous road conditions detected by ADAS cameras, such as road surface sinking and road construction, with other vehicles in the vicinity, including motorcycles. In addition, Honda is participating in D-Call Net®*, an emergency automatic notification system. This system utilizes vehicle-connected technology, commonly called AACN (Advanced Automatic Collision Notification), to estimate the probability of fatality and serious injury in the event of an accident, and automatically notifies the fire department and cooperating hospitals from the vehicle involved in the accident. In the future, the Company plans to develop a system that expands the scope of coverage to include accidents involving pedestrians and motorcycles to save even more lives. Looking toward the future, in 2021, Honda unveiled its Safe and Sound Network Technology, which connects all traffic participants, i.e., people and mobility vehicles, through telecommunications to predict risks before accidents occur and support accident avoidance. The Company is accelerating industry- and public-private sectorled efforts toward social implementation of the technology from 2030 onward.

* D-Call Net® is a registered trademark of the NPO Helicopter Emergency Medical Service Network (HEM-Net).

9-8 : Aiming for zero traffic fatalities involving Honda motorcycles and automobiles

Honda aims to achieve zero traffic collision fatalities involving Honda motorcycles and automobiles worldwide by 2050. To achieve this goal, Honda has also set a milestone of halving the number of global traffic collision fatalities involving Honda motorcycles and automobiles by 2030*1. This applies not just to new models but also to Honda motorcycles and automobiles already on the market. Therefore, it is important to promote activities that lead to safety as well as produce vehicle models equipped with safety technologies.

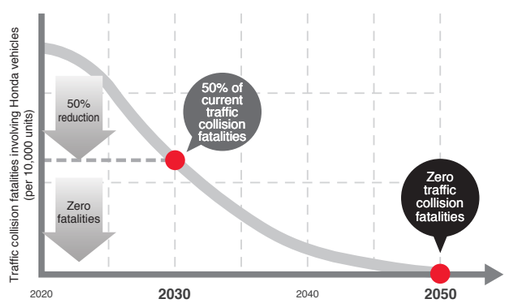
Toward 2030

In this context, the biggest challenge in achieving the 2030 milestone is fatal motorcycle accidents in emerging countries. Honda has a social responsibility as the manufacturer with the largest supply of motorcycles. To address this issue, Honda is employing educational activities in the hope of providing all people with opportunities to gain knowledge and skills in traffic safety, including safe driving. Honda also aims to expand to motorcycles the application of advanced braking systems such as ABS and CBS as well as headlights that provide better visibility to riders and make them more visible to other road users. Honda also aims to extend the application of Honda SENSING with a motorcycle detection function to all automobile models. In developed countries, as a further initiative, Honda is applying Honda SENSING 360, which has evolved into an omni-directional safe driving support system utilizing the knowledge and know-how accumulated through the research and development of Level 3 autonomous cars*2, to all automobile models. Honda will also work with other companies to develop technologies that utilize telecommunications and other transportation infrastructure that will lead to the reduction of fatal accidents.

Toward 2050

These efforts through 2030 will reduce many traffic fatalities, but in order to achieve zero traffic accident fatalities involving Honda motorcycles and automobiles worldwide by 2050, it will be necessary to address vulnerable road users, such as pedestrians and riders of two-wheeled vehicles, including bicycles. Therefore, we must ensure that these vulnerable road users are prepared at an earlier stage to avoid accidents in situations where they may occur. To realize this, Honda is promoting the research and development of Safe and Sound Network Technology, which connects all traffic participants (i.e., people and mobility vehicles) via telecommunications to predict risks before accidents occur and support accident avoidance.

Honda's safety targets



*1 Halve the number of traffic accident fatalities per 10,000 vehicles involving Honda motorcycles and automobiles worldwide in 2030 compared to 2020.

*2 A condition in which the automatic operation system replaces all driving operations in a limited area that meets specific driving environment conditions. However, during the operation of the automatic operation system, if there is a risk that the automatic operation system may not operate properly, an alarm will be issued to prompt the driver to perform driving operations, and the driver must respond appropriately.