Infiniti M

Improving Safety

Aiming for a Society with No Traffic Accidents

Improving Safety

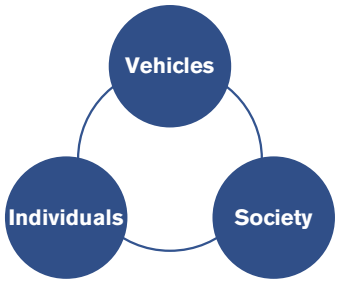
Nissan's Safety Approach

In addition to providing their users with comfortable surroundings, automobiles should function as a convenient, enjoyable mode of transportation that people themselves control as they travel to their destinations. Nissan aims to create cars that embody the "pleasure and richness of driving," but we believe this must be based on a high level of safety. In addition to working to improve the safety of our vehicles themselves, we are carrying out development of Intelligent Transport Systems (ITS) that can help reduce accidents and traffic congestion and educational activities to help raise the safety consciousness of as many people as possible—not just drivers, but pedestrians and passengers in other vehicles as well. As an automaker, Nissan positions safety as a core aspect of its automobile development, alongside factors like the environment and energy efficiency.

Nissan's Concept of Real-World Safety

Each year around 1 million lives are lost in traffic accidents around the world. In 2009 there were 4,914 accident deaths in Japan. This represented a drop of nearly 5% from the previous year, and the figure dropped below 5,000 deaths for the first time since 1952. However, work is still needed to help further reduce accident deaths.

Nissan's fundamental approach is to pursue safety in the real world. Based on this "real-world safety" concept, we are seeking to progress toward the ultimate goal of a world with virtually no accidents leading to death or serious injury. As a first step, we are working to reduce the numbers of fatalities and serious injuries involving Nissan vehicles to half of their 1995 levels by 2015. Toward this end we gather a wide range of data on traffic accidents and through scientific analysis identify accident causes and trends so that we can more effectively develop our safety technologies.



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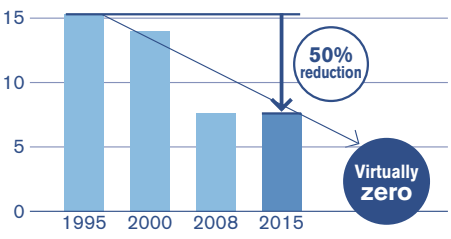
Please see our website for more information on our safety activities.

http://www.nissan-global.com/EN/SAFETY/

Japan

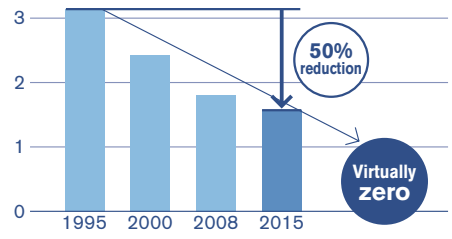
Fatal and Serious Injuries per 10,000 Nissan Vehicles



Source: Institute for Traffic Accident Research and Data Analysis

USA

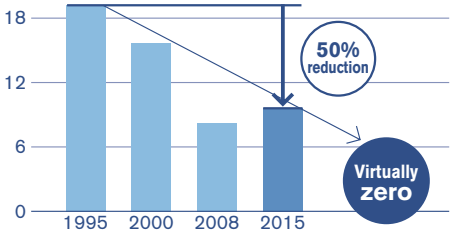
Fatalities per 10,000 Nissan Vehicles



Source: Fatality Analysis Reporting System

Europe (U.K.)

Fatal and Serious Injuries per 10,000 Nissan Vehicles



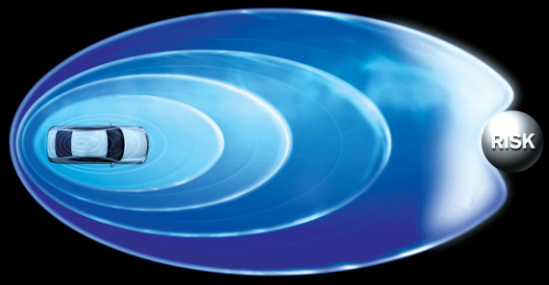
Source: STATS19 data, U.K. Department for Transport

The “Safety Shield” Concept

In its efforts to create safer automobiles, Nissan relies on the unique “Safety Shield” concept, which is based on the idea that cars should help protect people. The concept defines the conditions surrounding a vehicle in terms of six phases, from “risk has not yet appeared” through “post-crash,” and guides our active development of technologies to address each phase.

SAFETY SHIELD

Risk has not yet appeared ▪ Distance Control Assist System ▪ Navigation-enabled Intelligent Cruise Control with full-speed range following capability ▪ Adaptive Front Lighting System (AFS) ▪ Around View Monitor	Helps the driver to maintain comfortable driving
Risk has appeared ▪ Lane Departure Prevention ▪ Lane Departure Warning ▪ 4-Wheel Active Steer	Helps the driver to recover from dangerous conditions to safe driving
Crash may occur ▪ Anti-lock Braking System (ABS) ▪ Brake Assist ▪ Vehicle Dynamic Control (VDC)	
Crash is unavoidable ▪ Intelligent Brake Assist ▪ Front Pre-Crash Seatbelts	Helps minimize injuries when a collision is unavoidable
Crash ▪ Zone Body construction ▪ SRS Airbag Systems ▪ Front-seat Active Head Restraints ▪ Pop-up Engine Hood	
Post-crash ▪ HELPNET (Emergency call service)	



Improving Safety

Developing Safety Technologies

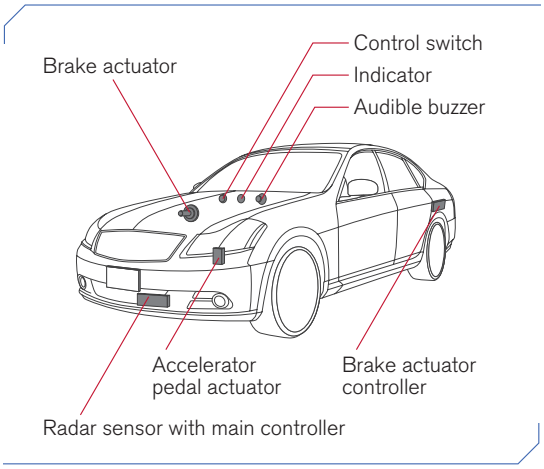
Based on its unique "Safety Shield" concept, Nissan is working to develop automotive technologies from the perspective that people are at the center of the driving experience. Our focus is on solutions that help maintain distance from potentially dangerous conditions. We also provide technologies that aim to activate the vehicle's onboard systems when a collision is unavoidable, thereby helping to reduce injuries.

Putting Drivers at Ease Behind the Wheel

The Distance Control Assist System

Nissan's Distance Control Assist System uses a radar sensor to calculate the distance between the car and the vehicle in front. Based on the gap and relative speed between the cars, the system then supports the driver by assisting with braking and pedal operations, thus helping to maintain a safe space between the vehicles. We first installed this system in the 2007 Fuga marketed in Japan.

We have also developed a world-first technology integrating the car's navigation system together with these functions. Our new system can import data from the navigation system on upcoming curves in the road and help to apply the brakes gradually in preparation for them. When the driver continues depressing the accelerator pedal, the system provides support by lifting the pedal to assist the driver in switching to the brakes. The system also implements smooth deceleration when the accelerator pedal is lifted, helping make it easier to navigate curves. This upgraded system made its debut in the Fuga marketed in Japan in November 2009.



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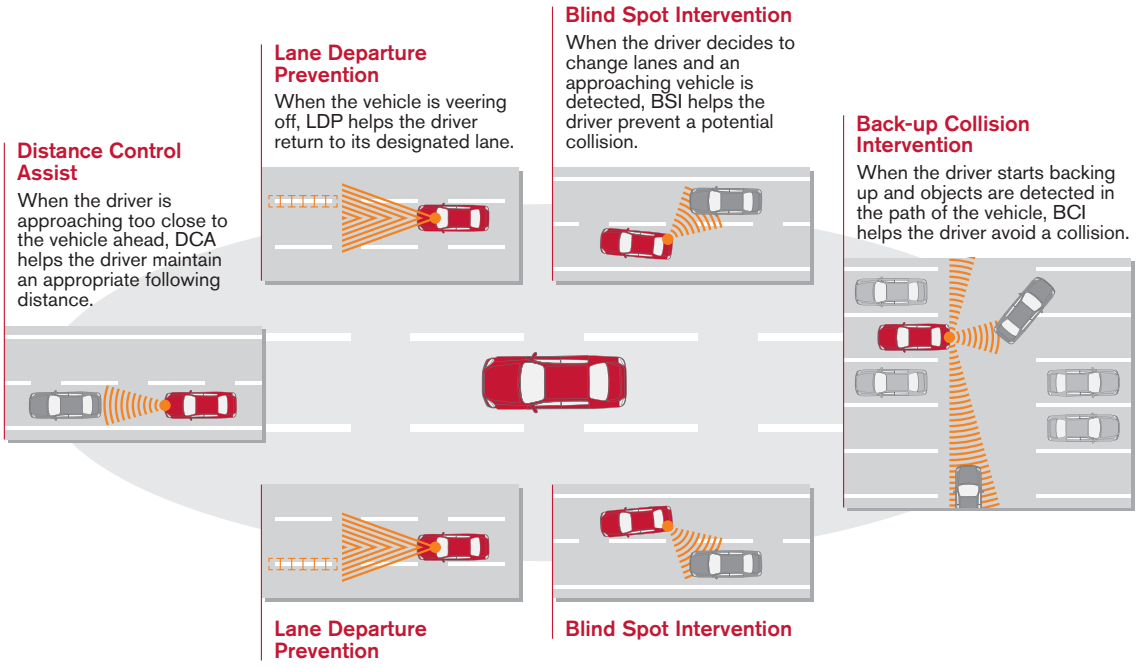
See our website for more information on systems including our Intelligent Cruise Control with low-speed following capability and Adaptive Front-Lighting System (AFS).

http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/COMFORTABLE/

Technologies in the All Around Collision-Free Prototype



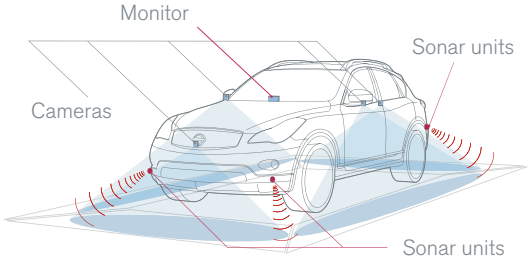
Our New Around View Monitor

The Around View Monitor system made its first appearance in the 2007 Elgrand. We later added the following three functions to this system, launching its upgraded version in the Japan-marketed Skyline Crossover in July 2009.

1. Front/rear wide-view function
   The monitor displays views covering approximately 180 degrees from both the front and rear cameras, helping the driver to check on other vehicles that may be approaching. This helps put the driver at ease when the car travels through blind intersections or exits a parking space. The rear wide-view function in particular is a world first.

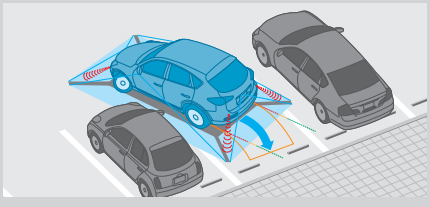
2. Front wide-view function linked to the navigation system
   After the driver registers a location on the navigation system's map, the monitor will automatically switch to front wide-view mode when the vehicle arrives at that location and comes to a stop. This lets the driver check for approaching vehicles more smoothly, without the need to manually activate the front-view camera. We hope this world-first technology will help to enhance users' peace of mind at intersections with poor visibility, for example.

3. Parking Guide function
   This new function enhances our Around View Monitor, making it easier than ever to move the car in and out of garages or parking spaces. The driver can use the touch panel on the navigation screen to get an overhead view of the vehicle in relation to its surroundings, along with audio and visual guidance on parking maneuvers.

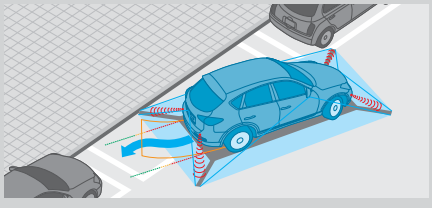


The system gives helpful views when backing into a space.

The Parking Guide system gives the driver an intuitive feel for the vehicle's position while parking.



When parallel parking, the driver can simultaneously check the car's rear, side and curbside front views.



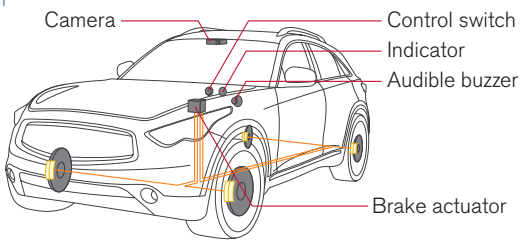
Auto Headlights

The number of accidents involving death or serious injury rises in dim light and rainy conditions. Our lighting system automatically turns on the vehicle lights when external light dims or when the wipers are turned on. By helping improve the car's visibility to nearby pedestrians and drivers, this system helps to reduce accidents. It made its first appearance in the Cube launched in Japan in November 2008.

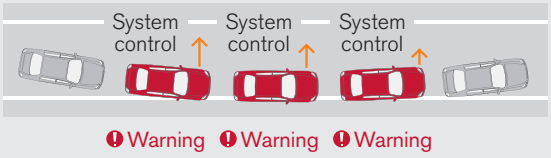
Helping Recovery from Dangerous Conditions to Safe Driving

Lane Departure Prevention

This system helps the driver return the vehicle to its designated travel lane when the vehicle is drifting out of the lane. A camera unit installed behind the rear-view mirror detects lane markers in front of the vehicle and calculates its position relative to them. When the system judges that the car may unintentionally leave its lane, it alerts the driver with visual and audible warnings and briefly activates the brakes on one side of the vehicle to assist the driver's efforts to return to the lane center. We rolled out this system in the Skyline Crossover launched in July 2009 and the Fuga that went on the Japanese market in November that year.



The Lane Departure Prevention system in operation



Blind Spot Intervention

Nissan's Blind Spot Intervention system goes into action when the vehicle approaches the lane markers while another vehicle is detected in the blind spot area. Sensors installed on the sides of the car detect vehicles in the adjacent lanes, and the system alerts the driver with audible and visual warnings. The system also generates a force to help the driver keep the vehicle traveling in its lane.

Back-up Collision Intervention

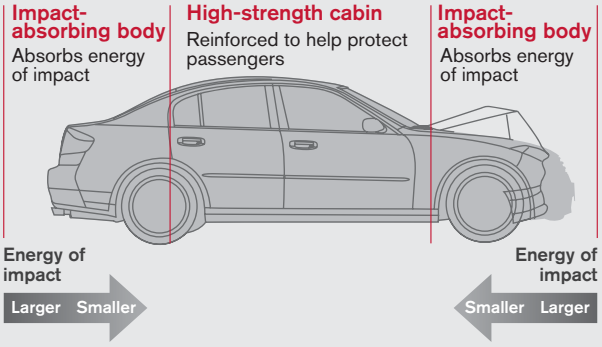
When the vehicle is in reverse, such as backing out of a parking space, Back-up Collision Intervention goes to work. Sensors mounted on the rear and sides of the vehicle are used to detect vehicles and other obstacles in the car's path. If an object is detected, an alarm sounds and then the brakes are activated to help the driver avoid a collision.

Helping Reduce Injuries When a Collision is Unavoidable

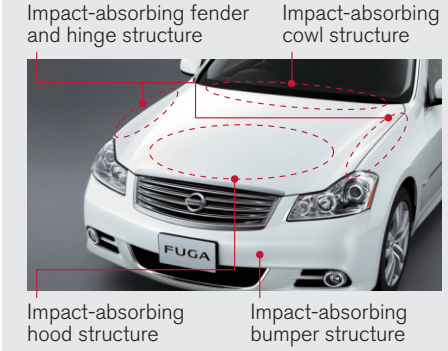
Zone Body

Nissan's Zone Body construction technique creates separate zones in a car: the impact-absorbing body structures and the high-strength cabin that helps to protect the car's driver and passengers. At Nissan we ensure that our body structures conform to safety regulations in Japan and the other markets where our vehicles are sold. We also constantly evolve our designs based on comprehensive analysis of actual accidents. We give thought to pedestrian safety as well in our designs, making use of shock-absorbing structures that help to reduce pedestrian injuries in case of an unavoidable collision.

Zone Body construction



Pedestrian injury reduction body



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Our website has additional information on our safety systems.

http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/RECOVER/

WEB

For detailed information on technologies including our Intelligent Brake Assist, brake-operated pre-crash seatbelt system, SRS curtain airbags and Active Head Restraints, please see our website.

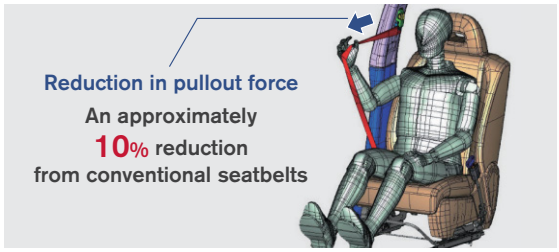
http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/UNAVOIDABLE/

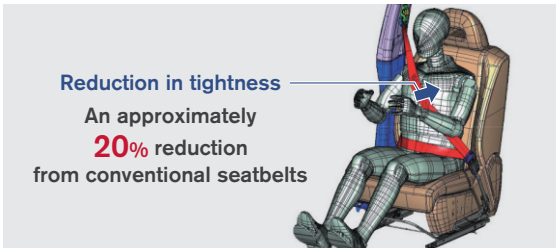
Our Seatbelt Technologies

The seatbelt is a fundamental mechanism for increasing the safety of drivers and passengers in a car. Statistics from Japan's National Police Agency show that when seatbelts are worn, they can reduce accident deaths and serious injuries to one-sixth the rate for front-seat passengers without seatbelts, and one-third for rear-seat passengers.

Nissan has made active efforts to promote the wearing of seatbelts. Our low-friction seatbelts use an irregular herringbone weaving process to create softer webbing, thereby improving seatbelts' ease of extension and comfort. This technology helps reduce friction by around 10% when the belt is pulled out and cuts the feeling of constriction by some 20%. We have also made the seatbelt buckles in our vehicles' rear seats easier to find and use by making them self-standing. The increased ease of use can help promote seatbelt use among rear-seat passengers.

Self-standing buckles help make seatbelt use easier for passengers in the rear seats.





Improving Safety

Working Together with Society

In addition to focusing on its "Safety Shield" concept, Nissan believes that it is possible to create an even safer automobile society by using information from the traffic environment surrounding the vehicles on the road. We are working together with a wide range of governmental agencies, universities and other companies toward the eventual achievement of a safer, more pleasant mobility society making use of ITS—Intelligent Transport Systems that connect people, roads and vehicles via information.

Helping Reduce Accidents and Congestion with ITS

In October 2006, Nissan launched the ITS Project in Japan's Kanagawa Prefecture. This project seeks to use Intelligent Transport Systems to create integrated networks of people, roads and vehicles, thereby helping to reduce traffic accidents and ease road congestion. The ITS Project aims to gather and use information on nearby vehicles and the traffic environment surrounding a car in order to help reduce accidents involving other parties that can be difficult for a driver to see and react to.

We are building on the results of the ITS Project with our development of the brand-new Driving Safety Support System (DSSS). This will be an ongoing project promoted by Japan's National Police Agency and the Universal Traffic Management Society of Japan, an organization operating under its aegis. It uses the latest ITS technologies, such as optical-beacon communication tools to connect vehicles and the network of roads, with the aim of reducing traffic accidents. At intersections with reduced visibility, roadside infrastructure communicates with vehicles to deliver information to drivers via onboard navigation systems, warning them of dangers like crossing collisions and helping make sure they notice stop signs, signals and vehicles stopped at lights. The Fuga marketed in Japan in November 2009 was the world's first to be outfitted for this system. (As of this date there were no DSSS beacons in operation, but the NPA is scheduled to announce the system's operational locations in time for its formal launch.)

Combating Drunk Driving

Traffic accidents caused by drunk driving are an issue of deep concern to society that grows more serious each year. Nissan is taking active steps to help do away with this problem. In August 2007, working with the city of Kita-Kyushu, Fukuoka Prefecture, the Tochigi prefectural government, the town of Kaminokawa in Tochigi and the city of Atsugi in Kanagawa Prefecture, we began trials of a system to help prevent drunk driving.

Nissan has also carried out joint research with the University of Occupational and Environmental Health in Kita-Kyushu on the physiological, psychological and behavioral effects of alcohol on the human body. This research is aiding our development of technologies to quickly and accurately detect the errors and abnormalities in vehicle operation under the influence of alcohol. Other Nissan approaches to help reduce drunk driving include a function added to our Carwings navigation system in Japan that displays warnings against driving under the influence during the most common hours for such behavior, with the aim of increasing driver awareness of the danger of getting behind the wheel after consuming alcohol.

Improving Safety

Our Traffic Safety Activities

A truly safe automobile society cannot be achieved through technology alone. To create a better mobility society in the future, it is important to ensure that as many people as possible, including drivers and passengers in vehicles as well as pedestrians outside them, share an understanding of road safety. Nissan takes part in educational activities to boost this safety awareness, measures to improve drivers' skills behind the wheel and a range of other safety promotions, with the goal of one day reducing the numbers of fatalities and serious injuries caused by traffic accidents to practically zero.

Our Hello Safety Campaign

Each year since 1972, Nissan has carried out its Hello Safety Campaign activities as part of nationwide traffic safety campaigns. In fiscal 2009 we focused on three areas, delivering messages to children and their guardians and to senior citizens: "proper use of seatbelts and child safety seats in all seats of the vehicle," "traffic safety education to raise awareness of dangers in daily life and ways to avoid them" and "eradicating drunk driving."

We gave sets of safety picture cards to kindergartens around Japan.

We created storytelling picture cards and delivered them to traffic safety instructors around Japan in April 2009. We also worked together with driving schools to distribute educational traffic safety cards as part of our efforts to help prevent accidents in all the nation's regions.

Safety Education in Korea and the Middle East

Last year Nissan Middle East FZE produced a booklet titled "Be Safe with Nissan" to help children learn about safety on the road in an enjoyable way. This was followed with a website based on the booklet, launched in October 2009, that uses puzzles, pictures for coloring and other features to make learning online fun as well. The website shares easy-to-understand information with elementary school students in Arabic, English and French.

Children around the Middle East received copies of our safety booklet.

Nissan Korea Co., Ltd. launched its Nissan Kids Safety Campaign in April 2009. This campaign features similar content to that of the Middle East project and uses a website and booklets to educate children on traffic safety.

Promoting Accident Prevention in China

Traffic safety has become an increasingly important issue in China, which is seeing a rapid increase in the number of automobiles on the road. In 2005 Nissan (China) Investment Co. hosted the first Nissan Safe Driving Forum, a program to improve drivers' skills and safety awareness, in cooperation with the China Road Traffic Safety Association. In fiscal 2009 forums were held in September and October. Many customers, government officials and media representatives attended the forums, which featured programs for learning braking, cornering and other driving techniques from qualified instructors, contributing to deeper understanding of traffic safety. Programs for eco-driving skills were also included.

Chinese drivers got to test airbags and other safety features at the forum.

The company also designed a contest to test Chinese high school students' knowledge of traffic safety issues. 2009 marked the fourth year for the event, which aims to increase interest and awareness of safety issues among young people, the drivers of tomorrow. In addition to taking simple quizzes on basic traffic rules, automotive safety devices and environmental issues, participating students made their own presentations on automotive and traffic safety. Nissan will continue its efforts to help prevent traffic accidents.