Wingroad

Improving Safety

Aiming for a Society with No Traffic Accidents

Improving Safety

Improving Safety

Toward an Accident-Free Society

Through innovations in safety technologies and education activities, Nissan hopes to contribute to the realization of a society without traffic accidents. As a company that aims to create vehicles providing a rich and enjoyable driving experience, Nissan is working to secure dependability and safety not just for drivers, but for all members of our "automobile society," including pedestrians and passengers in other vehicles. Our development of safety-related technologies to help drivers avoid dangerous situations before they happen, and to reduce the damage that can take place in case an accident is unavoidable, is a constant process of improvement that involves the analysis of accident data gathered around the world and the meticulous re-enactments of accidents.

Our efforts do not end with the capabilities of our cars. We also take part in educational activities that aim to raise safety consciousness, as well as in the active promotion of Intelligent Transport Systems that improve the driving environment as a whole. As an automaker, Nissan positions safety as one of the pillars of its business activities alongside environmental awareness and energy efficiency.

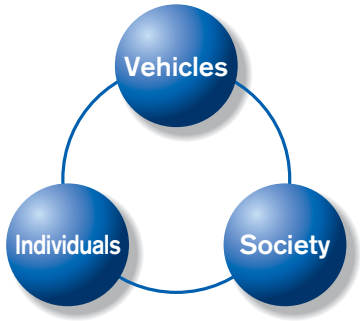
WORKING TO REDUCE RISK

Our Pursuit of Real-World Safety

Statistics show that some 1 million lives are lost around the world each year in traffic accidents. In 2006 Japan saw 6,352 accident deaths. This was the second straight year for this figure to be below the 7,000 mark, but the fatality rate shows no sign of a significant fall.

Taking "real-world safety" as a key concept, we have set the goal of halving the 1995 number of fatalities and serious injuries involving Nissan vehicles by 2015. To this end we are focusing our efforts on the manufacture of safe automobiles. Data from the Institute for Traffic Accident Research and Data Analysis shows that we are making steady progress here: compared with the 1995 figures, the number of fatal and serious injuries per 10,000 Nissan vehicles in Japan was down 27% in 2004 and 34% in 2005.

Nissan collects data on traffic accidents on a worldwide basis. We put this real-world information to use by analyzing it scientifically to pinpoint causes of and trends in accidents. We also carry out simulations and accurate accident re-enactments in our crash laboratories to

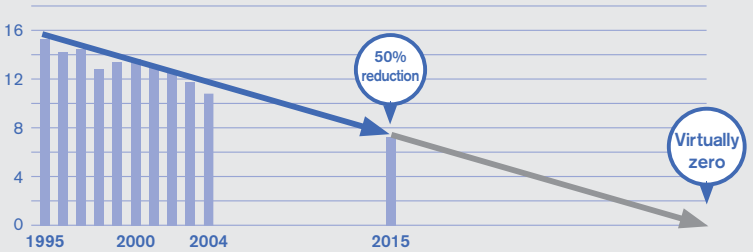


Link

Please see our website for additional details on our safety activities.
http://www.nissan-global.com/EN/SAFETY/

clarify the challenges ahead of us and further refine our safety technologies. We also seek to take this technology one step further, using it to find ways to help maintain safe driving conditions. This continuous process of accident analysis, crash re-creation and technological development allows us to constantly improve our automobiles and contribute to the realization of a truly safe automobile society. Nissan's ultimate desire is "to reduce fatalities and serious injuries in accidents to practically zero" in the future. Our work on safety technologies is carried out with this ideal in mind.

Fatal and Serious Injuries per 10,000 Nissan Vehicles in Japan

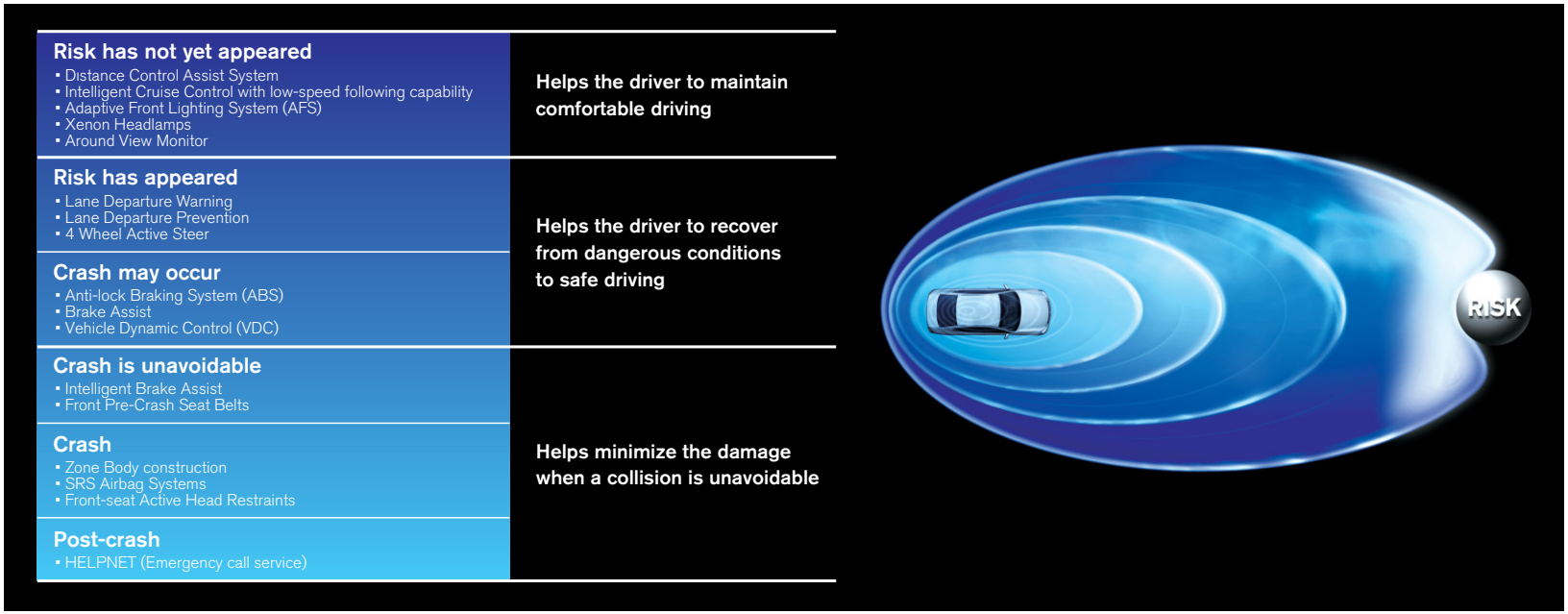


Source: Institute for Traffic Accident Research and Data Analysis (Involvement of Nissan Vehicles in Traffic Accidents)

Vehicles That Help Protect People

SAFETY SHIELD

Since 2004 Nissan has been developing safety technologies based on the unique "Safety Shield" concept—an advanced, proactive approach to safety issues based on the idea that cars



should help protect people. The Safety Shield concept defines an accident in terms of six distinct phases, from "risk has not yet appeared" to "post-crash," putting appropriate measures to work to reduce risks in each of those phases and supporting drivers and passengers by helping to minimize threats to them whenever possible.

People are the central actors in the activity of driving, and our development efforts focus on supporting the driver. We are working to develop systems that provide needed information to the driver and respond accurately to that driver's operations. When risk has not yet appeared, these systems help support the driver by reducing the physical burden of operating a vehicle, thus enabling better concentration on the task of driving. When a collision becomes unavoidable, the car's systems themselves step up to actively assist the driver's operations. And Nissan also provides technologies to help reduce damage during the crash phase itself.

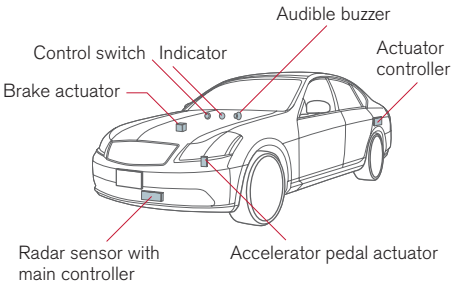
During fiscal 2007, Nissan will introduce world-first technologies including the Distance Control Assist System, Around View Monitor and Lane Departure Prevention in its vehicles.

NISSAN'S NEW TECHNOLOGIES

Helping Maintain Comfortable Driving

The Distance Control Assist System

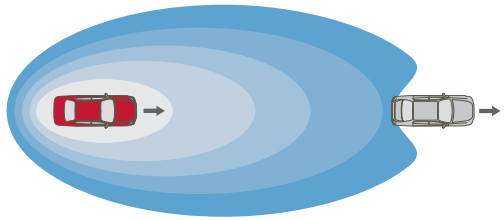
Nissan has developed a number of systems to help support the safety and comfort of drivers and passengers during ordinary driving situations. One of these is the Distance Control Assist System. A radar sensor installed in the front of the vehicle measures distance to the preceding car and the relative speed, helping the driver maintain distance between the car and the vehicle in front. When the driver releases the accelerator or is not pressing the pedal, the system can apply the brakes automatically as needed to maintain an appropriate distance. When the system judges that braking is needed it uses audible and visual alerts to inform the driver; it also lifts the accelerator pedal to assist the driver in switching to the brakes. In stop-and-go traffic, where frequent braking is required, this system helps to reduce the burden on the driver.



Too close to preceding vehicle

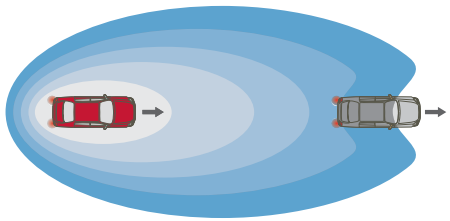
If the driver releases the accelerator, the system automatically applies the brakes.*

* Brakes are applied automatically only when the driver is not pressing the accelerator.



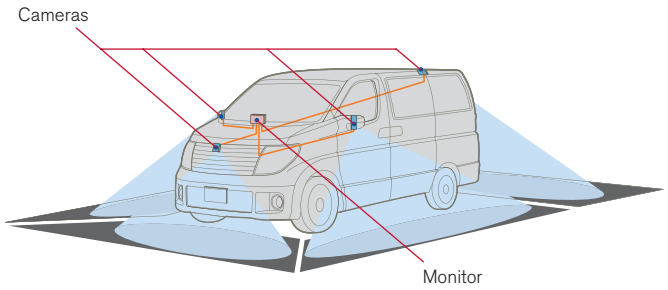
Braking is required by driver
(when preceding driver slows down, etc.)

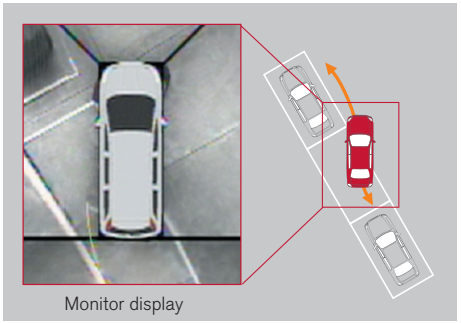
Along with an audible warning and an indicator display, the accelerator pedal rises to assist the driver in switching to the brake pedal.



The Around View Monitor

Our Around View Monitor system, meanwhile, provides the driver with an overhead view of the conditions immediately surrounding the vehicle. Images from cameras at the front, rear and sides form a composite view displayed on the instrument panel. The real-time, surround view provided by this practical system makes it easy to guide the car into a parking space. This innovative system will go into production during fiscal 2007.




Monitor display

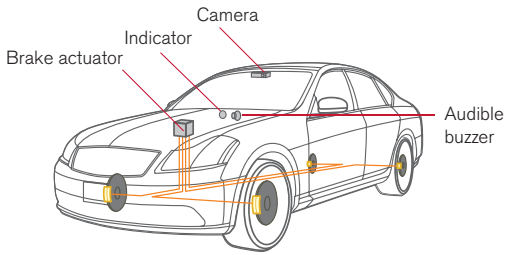
Link

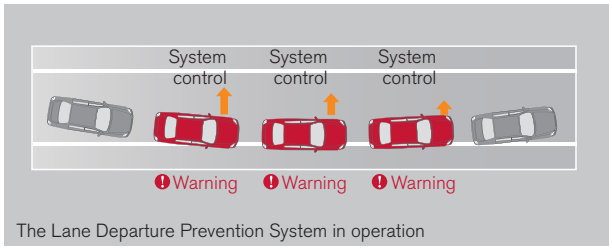
Other Nissan systems to support safe driving include our Intelligent Cruise Control with low-speed following capability, our Adaptive Front Lighting System (AFS) and our Rear View and Side View Monitors. See our website for details.
http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/COMFORTABLE/

Helping Recover from Dangerous Conditions

Lane Departure Prevention

Other Nissan-developed systems are designed to support the driver in case driving conditions become dangerous. Lane Departure Prevention technology provides support to the driver by giving audible and visual warnings when the vehicle approaches the lane divider lines unintentionally. This system also generates force to help turn the vehicle back to the center of the lane, helping the driver to avoid unwanted lane departures.





The Lane Departure Prevention System in operation

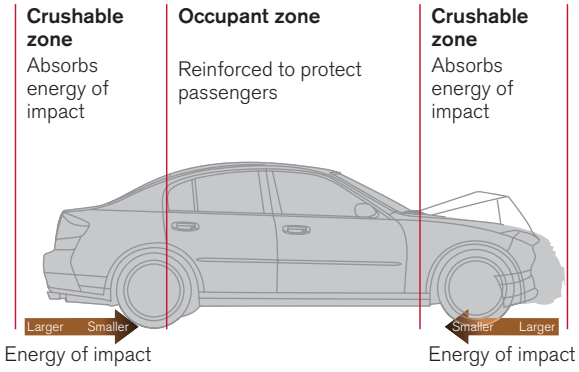
Link

Other Nissan technologies designed to increase safety when driving conditions become dangerous are the Lane Departure Warning system, the 4-Wheel Active Steer technology, Electronic Brakeforce Distribution, the Anti-lock Braking System, Brake Assist and Vehicle Dynamic Control. See our website for details.
http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/RECOVER/

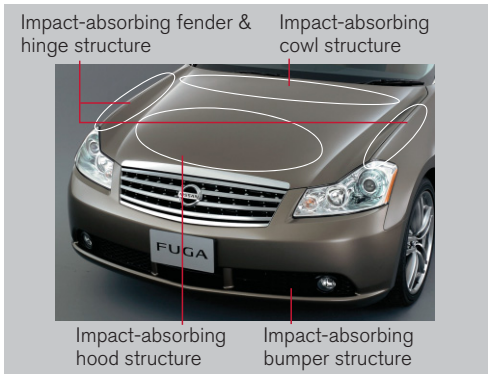
Helping Minimize Damage in Unavoidable Collisions

The crash-compatible Zone Body

When a collision becomes unavoidable, Nissan technologies step in to help minimize danger to the vehicle's occupants. Our Zone Body construction provides separate zones in the car: the crushable zone, or impact-absorbing structures, and the occupant zone, a high-strength cabin that helps to protect the driver and passengers. Beginning with its 2002 model, the March has made use of a crash-compatible Zone Body—an evolution of the technology that aims to increase the protection provided to the car's occupants even as it helps to reduce damage to other vehicles involved in a collision. Pedestrians, too, see the benefits of our safety systems, particularly the impact-absorbing fender, cowl, hood, and bumper structures in the front of the vehicle that help reduce the threat of head and leg injuries resulting from a car-pedestrian collision.



Zone Body construction



Pedestrian injury reduction body

Link

Other Nissan technologies that come into play when a collision is unavoidable include our Intelligent Brake Assist system, Front Pre-Crash Seat Belts, Supplemental Restraint System (SRS) airbag systems and Active Head Restraints. See our website for details. http://www.nissan-global.com/EN/SAFETY/INTRODUCTION/UNAVOIDABLE/

PART OF AN AUTOMOBILE SOCIETY

A Focus on Collaborative Efforts

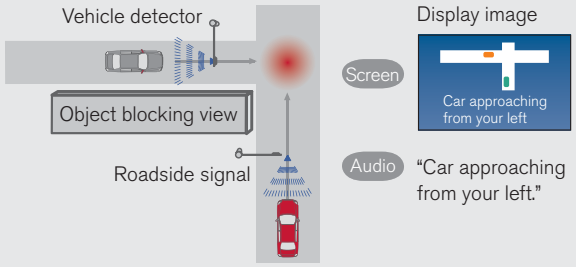
Safety-related technologies alone are not enough to put an end to accidents. Another important part of Nissan's efforts to realize a safe automobile society is its work carried out together with government agencies and other companies. We are now working on experimental projects using ITS, or Intelligent Transport Systems, and carrying out educational activities to increase safety awareness among drivers and pedestrians alike. With the knowledge gained through cooperative work with our various partners, we hope one day to reduce the number of fatalities and serious injuries resulting from automobile accidents to practically zero.

Safety Through the ITS Project

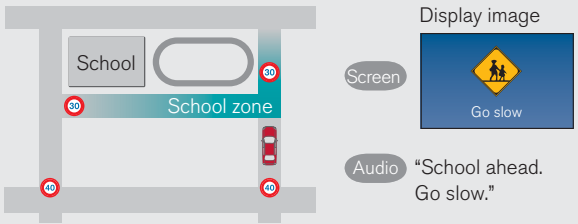
Nissan launched its ITS Project in Japan's Kanagawa Prefecture in October 2006, using the latest information and communication technology in Intelligent Transport Systems that create integrated networks of people, roads and vehicles, thereby aiming to reduce traffic accidents and ease road congestion. The ITS Project connects cars with a data infrastructure including roadside sensors, bringing together information on other vehicles in the area and the surrounding traffic environment. By analyzing this data the system aims to reduce offset collisions, increase safety in school zones, reduce congestion and provide information on the fastest routes available. This ongoing experiment is notable for its inclusion of some 10,000 vehicles in the community, whose drivers evaluate the usefulness of our systems in their everyday lives.

Nissan has also introduced the Carwings system, which makes use of traffic-related statistical data and real-time data from VICS, the Vehicle Information and Communication System, to suggest routes that avoid traffic congestion. In these ways we are looking beyond the car itself to deal with the traffic problems that vehicles cause. The ITS Project uses data links between cars and roads and pedestrian detection systems to contribute to improved safety and lighter traffic congestion. After building a solid track record for ITS in Kanagawa Prefecture, we hope to expand these successful efforts across Japan, and eventually all around the world.

Information system for reduction of intersection collisions
Road-vehicle communication technology to warn drivers of accident risks at dangerous intersections



Speeding information system
Tells the driver to slow down if exceeding the speed limit in restricted areas such as school zones.



PROBE-based vehicle routing system
Individual vehicles automatically transmit vehicle speed and other data, which is used by the system to detect congestion, compute travel times and offer routing information with greater accuracy than current systems.

© 2003—2006 ZENRIN CO., LTD.
All Rights Reserved. (Z07MA-009)

The Nissan Hello Safety Campaign

In 1972 Nissan launched its Hello Safety Campaign to help educate children in Japan about traffic safety issues. The program's activities were expanded in 2003 to involve senior citizens as well. We carry out community-based activities at the grass-roots level three times a year, making them a part of traffic safety awareness programs held each spring and fall and educational programs run during students' summer vacation. Major activities in the Hello Safety Campaign include the distribution of awareness-promotion videos to 1,380 Traffic Safety Association branches across the country and screenings at around 20 public planetariums, as well as the provision of reflective straps to help make pedestrians more visible during dusk and nighttime hours. Since 1987 Nissan employees have collected donations to purchase safety-training materials for organizations that need them.

Fiscal 2006 marked the thirty-fifth year of the Hello Safety Campaign. As an urgent response to a series of high-profile fatal accidents caused by drunk drivers, toward the end of the calendar year Nissan launched a new program for parents and children to work together to prevent this threat to safety.

A keychain distributed as part of the Hello Safety Campaign. The message reminds people not to drive after drinking. (Japan)

Reducing Congestion and Accidents

In March 2007, Nissan began a series of tests at its Technical Center in the city of Atsugi, Kanagawa Prefecture, as part of its development of an Intelligent Transport System (ITS) featuring synchronized communication between traffic signals and vehicles. The facility includes two intersecting main roads, one running east-west for 2 kilometers and one north-south road 1 kilometer long, outfitted with the same traffic signals used on public roads and with roadside optical beacons. Several hundred employee-owned cars that use these roads carry beacon communicators. The data shared between the vehicles and the roadside system allows for the adjustment of traffic-signal changes, depending on vehicle and pedestrian traffic flows, and the optimization of signal timing, including longer turn times for cars crossing opposing lanes. Nissan's wide-ranging ITS experiments aim to create an advanced traffic-control system based on vehicle-to-infrastructure communication.

Protecting Kids from Accidents in America

Traffic accidents are the number-one cause of child fatalities in the United States: statistics show that six children under the age of 15 were killed every day in motor vehicle crashes in the United States during 2005. Compounding this problem, more than 80% of child safety seats are installed improperly. As an automaker, Nissan wants to lessen these numbers, and the Quest for Safety and Snug Kids programs are important parts of our efforts in this area.


A scene from a Quest for Safety forum (USA)

Snug Kids is an industry-leading online guide that provides Nissan and Infiniti customers with a list of child safety seats that fit their current-model vehicle and their child. Found on the Nissan and Infiniti websites, the guide lists seats from a wide variety of manufacturers and also includes general tips to get the best fit in the vehicle.

Nissan developed the Quest for Safety program in 1997 to educate caregivers and parents in low-literacy communities about child seat safety. We hold free local seminars in English and Spanish to teach parents how to correctly install car safety seats and distribute the Quest for Safety Reference Card, a simple, easy-to-read introduction to choosing a child safety seat.

Charity Walk to Fight Drunk Driving

Taking part in a Strides for Change walk (USA)

According to the U.S. National Highway Traffic Safety Administration, 41% of fatal crashes are alcohol-related. Since 2005, Nissan North America has been the national sponsor of the annual Mothers Against Drunk Driving (MADD) Strides for Change walks. As MADD's signature event, the community-driven, noncompetitive 5K walks raise funds and awareness to stop drunk driving, support victims and prevent underage drinking.

As the national sponsor—and as part of its commitment to child passenger safety—Nissan employees certified as safety technicians conduct car-seat demonstrations and provide walk participants with Quest for Safety Reference Cards. Nissan employees also form teams around the country to walk and raise money.

By merging MADD's mission to stop drunk driving with Nissan's commitment to child passenger safety, the walks help raise public awareness and funds to support the prevention of traffic fatalities. Strides for Change attracts more than 10,000 participants and raises more than $1.1 million annually.

As an auto manufacturer, Nissan realizes the importance of educating drivers and making them aware of the consequences of their decisions.

Nissan Safe Driving Forum in Guangzhou, China


A Safe Driving Forum in China

The automobile market is booming in China, and auto safety is becoming an increasingly important issue as a result. In November 2005 Beijing was the site of the first Nissan Safe Driving Forum, a program to improve participants' driving skills and increase safety awareness. Large numbers of customers and media representatives attended the forum, the first such event to be carried out by a Japanese automaker in China.

In 2006 we followed up the Beijing forum with similar gatherings in four locations around the country organized jointly with the China Road Traffic Safety Association. One of these took place over eight days in late July 2006 in the city of Guangzhou in conjunction with the Guangzhou International Motor Show. Instructors were on hand to help drivers learn braking, cornering and other driving skills. Participants also got to test-drive Nissan cars, learn about safety features like

our Anti-lock Braking System and Vehicle Dynamic Control and experience simulated rollover accidents using a Nissan Tiida.

Through events like these Nissan has been able to share its approach to safety with a wide audience, introducing to the Chinese people our Safety Shield concept of cars protecting people and our efforts to realize an automobile society without accidents. We plan to continue educational efforts throughout China to further promote automotive safety.

Testing High Schoolers' Safety Knowledge

Another 2006 safety-related activity was a contest managed by Nissan (China) Investment Co. to test Chinese high school students' knowledge of traffic safety issues. China is today seeing a rise in accident numbers, and we responded by focusing on young people. The contest, which aimed to increase contestants' interest in and understanding of safety matters, began with simple quizzes on basic traffic rules and automotive safety devices. Participating groups then made their own presentations on automotive and traffic safety. After regional preliminary rounds took place in Beijing, Shanghai, Guangzhou and Chengdu, the final contest was held in Beijing in October 2006. In this last round, broadcast nationwide by China Central Television, the team of high schoolers from Chengdu came out victorious. The winning group earned an invitation to Nissan's Tokyo headquarters in November; while in Japan they also visited the Oppama Plant in Yokosuka, Kanagawa.

The final round of the automotive safety contest in China

Messages from Our Stakeholders

Taking Steps to Create Safer Communities

Kristy Hensel
Chief Development Officer
MADD National (USA)

Since 2005 Nissan has supported the mission of Mothers Against Drunk Driving (MADD): to stop drunk driving, support the victims of this violent crime and prevent underage drinking. Nissan is the National Presenting Sponsor of MADD's signature 5K walk, Strides for Change. This event offers corporations and individuals an opportunity to create safer communities by engaging employees and their families in a fun and healthy activity. Walks take place in 30 cities throughout the United States, and individuals may also sign up to be virtual walkers. Like MADD, Nissan has a passion for safer roads and safer communities that is demonstrated through many programs, most notably Quest for Safety and Snug Kids. To support these programs, demonstrations of proper child-safety-seat installation are performed at all Strides for Change events. MADD is proud to team with Nissan to enrich people's lives by creating safer communities.