

How does the JR East Group promote our safety initiatives?

The JR East Group has made many improvements to our equipment each year in order to ensure the safety of places frequented by large numbers of people—station platforms and railroad crossings—as well as the safety and reliability of our train operations themselves.

Enhancing safety equipment

Priority improvement plan for safety equipment

The *Safety Plan 2008* earmarks a total of 400 billion yen over a five-year period for the prevention of major accidents. We are investing these funds into safety measures, including the implementation of earthquake-resistant measures based on our experiences with the Niigata Chuetsu Earthquake, and the installation of ATS-P/PS automatic train stop systems ahead of schedule.

In fiscal 2006, we plan to spend approximately 149 billion yen for investment in safety measures, including enhanced measures against large-scale earthquakes,

strong winds, rockslides, and other natural disasters. This is approximately 31 billion yen more than we budgeted in the previous fiscal year.

Installing safety equipment

In order to prevent train collisions, we have installed ATS (automatic train stop) and ATC (automatic train control) systems on all the conventional railway lines, and ATC systems on all the Shinkansen lines. The ATS systems have continuous speed monitoring functions, and we are in the process of establishing ATS-P/PS systems that are instrumental in enhancing safety on curves and at other locations. We are also increasing the number of lines with ATS-P/PS systems according to plan, and on lines with the new systems, we are instal-

ling them at more curves, turnouts, and line terminals. Following the accident on the JR West's Fukuchiyama line, the Japanese Ministry of Land, Infrastructure and Transport required JR East to take measures to prevent excessive speeds on 63 curved line sections. These measures have already been completed by the end of fiscal 2005.

Station platform safety

We have put a wide range of equipment into place at our platforms to ensure the safety of our customers, including mats that detect fallen persons and objects; emergency train-stopping systems; image-processing device to detect fallen persons; and barriers to prevent people and objects from falling between railway cars.

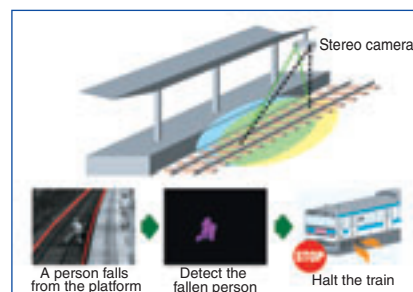
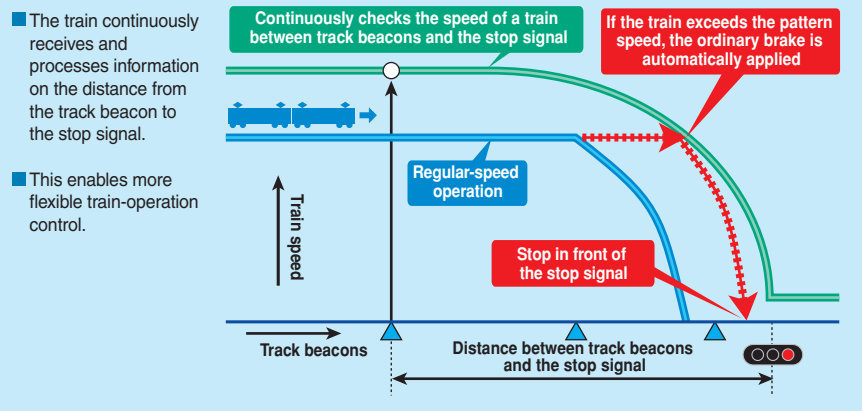
Rail lines and locations with ATC, ATS-P, ATS-PS systems

(As of the end of March 2006)

- : Lines with ATC, ATS-P
- : Lines planned to be equipped with ATS-P
- : Lines with ATS-PS
- : Locations planned to be equipped with ATS-PS



Outline of the ATS-P system



JR East has developed an image-processing device to detect fallen persons, which is now in use at Shinjuku Station.



Train drivers are notified of any danger through emergency stop buttons placed on platform columns.

Preventing crossing accidents

JR East is installing crossing-obstruction detectors, larger barriers, and other equipment in order to prevent accidents at railway crossings. Thanks to these efforts, we have succeeded in reducing crossing accidents to roughly a third of the levels of 20 years ago. Over the past several years, however, the numbers of these kinds of accidents have been increasing. In fiscal 2005, there were a total of 74 railway-crossing accidents, including head-on and side collisions with automobiles and motorcycles.

In addition to the measures we have been introducing to date, we are making additional efforts, such as making railway-crossings more visible, in accordance with the characteristics of each crossing.

Initiatives to prevent accidents during maintenance work

JR East is committed to preventing accidents during maintenance by systematizing maintenance work, and researching, developing, and introducing new safety equipment.

We are enhancing our maintenance-safety regime by installing TC-type wireless alarm systems that notify our employees working on railway tracks of an approaching train, and track short circuit detectors that force signal lights to turn red.

We have also developed a viable system for preventing trains from approaching by such means as having workers turn signals red when performing work via a handheld device, utilizing the Advanced Transport Operating Control System (ATOS), a train-control system that uses the latest computer technology and information. The system has already been introduced on all major lines in the Tokyo Metropolitan Area. This system is designed to improve our maintenance workers' safety by preventing human error.

Disaster preparedness

JR East has installed rain gauges, water-level meters, seismographs, anemometers, and other weather observation systems for disaster prevention along the railway lines, in order to rapidly collect necessary information for safe train operations. The data obtained through the weather observation systems are monitored automatically at all times by our command and technical centers and other facilities via an online system using telecommunication lines. If a value of these observation systems exceeds a regulation or alert threshold, the location in question is automatically displayed, and an alarm sounds to ensure that transport restrictions and inspections are carried out quickly and without fail.

We are also reinforcing seismic-resistance capabilities of elevated tracks and other structures as a measure against earthquakes. The measure is proceeding according to plan: we completed seismic retrofitting in the southern Kanto and Sendai regions as well as areas near active faulting in fiscal 2000, and are currently performing seismic retrofitting in areas other than the above-mentioned regions and active fault zones.



We are reinforcing seismic-resistance capabilities of elevated Shinkansen-track support columns ahead of schedule.

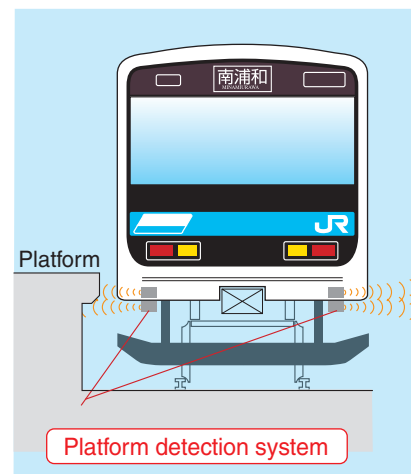
Our responses to Niigata Chuetsu Earthquake

The earthquake that struck the Chuetsu region in Niigata Prefecture on October 23,

2004 caused the Joetsu Shinkansen train *Toki 325* to derail, and damaged our tunnels, elevated tracks, and other structures greatly. In response to this earthquake, we moved ahead of our schedule for seismic retrofitting of elevated tracks and other structures, a work that we have been performing as a measure following the Great Hanshin-Awaji Earthquake. Additionally, we are improving our earthquake detection and other systems, and examining ways to prevent Shinkansen derailments and to keep trains near the track if they do derail, in order to minimize damage in case of derailments.

Developing safety technologies

JR East is committed to improving safety through research and development. We have already created viable solutions for preventing accidents at railway crossings through the development of large-sized obstruction detectors among other measures. We have also developed a backup system that prevents crews from opening train doors where there is no platform (platform detection system), which was put in place on the Keihin Tohoku Line in fiscal 2006.



Ultrasonic sensors are installed on the front and back ends of the train. Unless one of the sensors detects a platform, the doors will not open.