

Improve safety of railways

Enhancing safety, with the Fukuchiyama Line derailment accident as the starting point

The derailment accident on the Fukuchiyama Line

On April 25, 2005, issues at the West Japan Railway Company resulted in an accident on the Fukuchiyama Line, an extremely serious accident resulting in 106 fatalities and 563 injured passengers. We pray for all the victims of the accident and would like to express our sincerest apologies to their bereaved families. We would also like to express our deepest sympathies and sincerest apologies to the injured passengers and their

families.

For the immense anxiety that the accident caused, we offer the deepest apology possible to our customers and those in the local community.

We will continue to make concerted efforts for all persons affected by the accident, while striving to further enhance safety measures and reform our corporate culture.

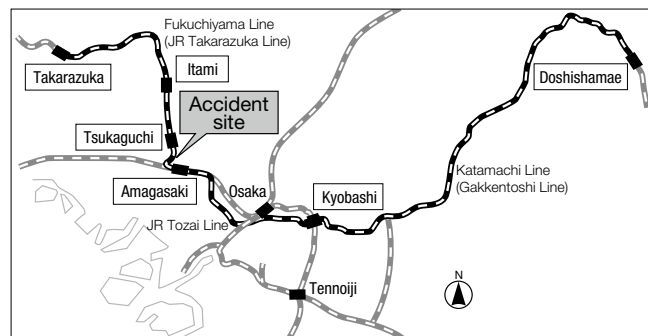
Overview

Date/time Monday, April 25, 2005, approx. 9:18 AM
Weather conditions: sunny

Location Between Tsukaguchi Station and Amagasaki Station on the Fukuchiyama Line
Approx. 1,805 m before Amagasaki Station (Amagasaki City, Hyogo Prefecture)

Train involved Rapid train from Takarazuka Station bound for Doshishamae Station
Train No. 5418M (EMU 207 series, 7 cars)

Summary Between Tsukaguchi Station and Amagasaki Station, train No. 5418M entered a rightward curve with a radius of 304 m at approximately 116 km/h—greatly exceeding the speed limit of 70 km/h for the corner. As a result, the first through fifth train cars derailed, causing the first and second cars to collide with an apartment building on the left side of the direction the train was traveling. In this derailment, 106 passengers and the train driver were killed. Furthermore, 562 passengers and 1 pedestrian walking near the scene were injured.



Cause of the accident

From the *Railway Accident Investigation Report* issued by the Aircraft and Railway Accidents Investigation Commission (now the Japan Transport Safety Board)

It is considered highly probable that the train driver's delay in applying the brake resulted in the entry of the train into a 304 m-radius rightward curved track at a speed of approximately 116 km/h, which was far higher than the specified speed limit of 70 km/h, and the running of the train along the curved track at the high speed caused the first car of the train to fall left and derail, which caused the second to fifth cars to derail.

It is considered probable that the train driver's delay in applying the brake is attributable to the diversion of his attention from driving the train to (1) listening to the dialogue between the conductor and the train dispatcher by radio communication, which was caused by his belief that he had been hung up on by the conductor while he had been talking to the conductor on the intercom to ask him to make a false

report and (2) making up an excuse to avoid being put on an "off-the-train" re-training course.

It is considered probable that the West Japan Railway Company's train driver management system in which drivers who caused an incident or a mistake are put on an "off-the-train" re-training course that can be considered as a penalty or are subjected to a disciplinary action and drivers who did not report an incident or a mistake they had caused or made a false report about such an incident or mistake are put on an even harder "off-the-train" re-training course or subjected to an even harder disciplinary action may have (1) caused the driver to make the call to the conductor on the intercom to ask him to make a false report and (2) caused the diversion of the driver's attention from driving the train.

Continuing reflection and passing on the lessons of the accident

No matter how much time has elapsed since the accident, and no matter how many generations pass, we must never let it be forgotten, instead making the derailment accident on the Fukuchiyama Line the starting point for all of our safety initiatives. Looking to the future, to ensure that we pass on the serious reflections and lessons that this accident has taught us,

we have reviewed the problems that were present in our corporate culture and safety management at the time and formulated "Achieving Railway Safety into the Future," which outlines what we should hand on as a compass for safety in the future. This was announced in March 2021.

Points to reflect on, and their background

At the time of the accident, JR-West had not put in place systems to identify and deal with risks when planning and implementing management policies, and we did not have an ATS (Automatic Train Stop) system with speed check functions installed on the curve where the derailment occurred. Moreover, our understanding of human factors was insufficient, and we had reeducation measures in place that were seen as being punitive. Further, there were problems within our organization, including stagnating technical capabilities and a decreasing

awareness of safety, excessive top-down communications, and overconfidence due to our previous successes.

As this shows, at the time of the accident, there were a slew of issues in every aspect of our safety management, and we had been unable to build a company-wide framework for ensuring safety and establish a corporate culture in which safety is the highest priority. We have deeply reflected on our failure to fulfill our responsibilities as a company entrusted with the lives of our passengers.

Reflections on the derailment accident on the Fukuchiyama Line

We had been unable to build a company-wide framework for ensuring safety and establish a corporate culture in which safety is the highest priority. In other words, we did not fulfill our responsibility as a company entrusted with the precious lives of passengers.

Major background factors to reflect on (Problems rooted in the organization)

How to address safety and ensure it in an organizational context

- We had not based our thinking on the idea that risk is inherent to operating a railway, and thus efforts must be made to prevent possible accidents with serious consequences, regardless of the laws and regulations.
- Because of strongly embedded perceptions that specialist divisions should be responsible for their own activities, management was not prepared to work together with the entire organization to make safety a top priority.

Dealing with employees who stand at the forefront of safety

- We were not working from the concept that any person may make a mistake, which led to the spread of idealistic instruction that had the potential to be perceived as punitive.
- Front-line employees were under the expectation that they should do what they had been told, exactly as they had been told, and as an organization JR-West had not yet matured to a level that allowed the opinions of its employees to be heard, recognized the personalities and independence of each person in the company, and improved the safety and quality of service through proactive effort.

Attitude toward society and overconfidence and excessive pride in railway operations

- We had grown overconfident and excessively proud of our operations, and we lacked the humility to learn from outside our own organization.

Learning from the lessons of the accident

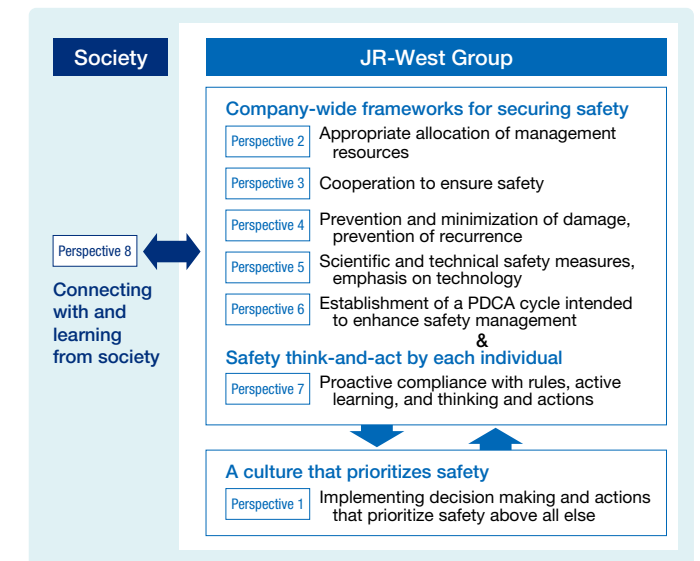
In order to continue to operate safe railways in the future, we must create a company-wide framework for ensuring safety and leverage that framework to encourage safety "think-and-act" by each individual.

These activities will give rise to a culture in which safety is the highest priority, leading to the construction and improvement of systems and increased safety-oriented thinking and action by all individuals. Repeating this cycle will allow continuous improvements to safety.

In addition to promoting safety initiatives within the company, we will work to connect with and learn from society while gaining the cooperation of our customers and society at large, thus further improving railway safety.

Based on the lessons learned from the accident on the Fukuchiyama Line, we defined the following essential perspectives in achieving safety.

Essential perspectives in achieving safety



Initiatives based on the essential perspectives in achieving safety

We will periodically check the direction and effectiveness of our safety initiatives, which are based on the essential perspectives in achieving safety, as we build mechanisms that improve safety and raise the level of our safety management. Moreover, we will

work harder on employee education by, for example, increasing their understanding of the purpose and background of the safety initiatives and making them aware of the role they have to play in putting these into action.

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Memorial Grove (Inori no Mori) at the accident site

The place where the Fukuchiyama Line accident occurred holds great importance. It recalls the sorrow felt by those who lost their lives, the grief of their families, and the painful memories of those injured. It also preserves traces of the aftermath of where the train derailed and crashed. It is thus the site of Memorial Grove, which serves as a place to remember and lay to rest the souls of those who perished, while also leaving a record of the accident for those who come after. The site will keep the accident from being forgotten and will convey the preciousness of life to society and future generations. It will help JR-West reflect on the accident and will act as a physical pledge to ongoing safety as the company continues to carefully and responsibly preserve the site for all future generations.



Efforts to keep the accident in mind and think and act accordingly

Based on our strong determination to prevent an accident such as that on the Fukuchiyama Line from ever occurring again, we conduct training and other initiatives to increase the awareness of each employee regarding safety. This will ensure that we do not forget this accident and will allow us to put the lessons learned from it into practice in our daily work.

Safety Day and workplace initiatives

In order to never forget the Fukuchiyama Line accident and to build a corporate culture that prioritizes safety above all else, we have made the 25th of each month Safety Day to mark the accident's occurrence on April 25, 2005. Company-wide activities are held on this day.

Besides visiting Memorial Grove, employees of each workplace plan and implement a range of activities, including first-aid training for customers, discussions among employees in different jobs, viewings of interviews with victims of the accident, and talks by employees who were there at the time.

Visiting the Memorial Grove

By visiting the Memorial Grove, a site of great importance holding many different emotions for victims, as well as the reality of the accident, employees learn the facts of the accident and the extent of the tragedy it entailed, as well as about the importance of life, in order to keep the accident front and center in their minds. This helps to ensure that they then put this awareness into practice by prioritizing safety in both thought and action.



Workplace initiatives (Amagasaki Station)

At Amagasaki Station, employees visit the Memorial Grove every month and clean the visitation route, reminding them of their responsibility to ensure safety.

Also, every month on Safety Day, all employees take part in education intended to maintain an awareness of the Fukuchiyama Line derailment accident. Young employees act as lecturers and share with other employees what they have learned, such as what happened at the time of the accident and the efforts made after the accident, so as to prevent the incident from being forgotten. By having employees who joined the company after the accident talk about the accident in their own words, it provides an opportunity for them to become personally invested in the accident and to make them conscious of what it is they should be doing. In addition, by hearing about the accident from the perspective of younger employees, the other participating employees gain a deeper understanding of the accident, thereby helping motivate all employees in the Amagasaki Station district to work together to prevent accidents.



Learning at the Railway Safety Education Center

We are working in a variety of ways to cultivate a safety-first mindset in employees, such as by fostering learning at the Railway Safety Education Center, a facility where reflection on the Fukuchiyama Line derailment accident and the lessons learned from past accidents and disasters are taught in a systematic way.

We also deepen employees' understanding of occupational accidents and human factors through instruction at the Safety Experience Building, where employees can learn about countermeasures through hands-on experience.



Responding to victims

We will continue to respond to the needs of those who suffered from the Fukuchiyama Line derailment accident through concerted ongoing efforts to listen closely to their thoughts and opinions.

Memorial ceremony

To express our condolences to those who died in the Fukuchiyama Line derailment accident, in September 2005 we held a Memorial Ceremony and Safety Event. We have followed this up with a Memorial Ceremony every year on April 25.

Explanation meetings

Every year we hold explanation meetings at which the company president and other associated executives inform accident victims directly of our improvements to safety and initiatives we have taken to address issues, as well as receiving input from them.



Initiatives toward creating a society that affords safety and peace of mind

As a company entrusted with the precious lives of passengers, we are committed to reflecting on the gravity of allowing such a major accident to occur and, as part of creating a society that affords safety and peace of mind, we established the JR-West Relief Foundation in April 2009. The foundation strives to enrich

people's hearts and lives by engaging in projects that provide physical and mental care to those affected by accidents and disasters, while also joining projects for building safer local communities.

Hosting events

The foundation holds Life Seminars presented by guest speakers from various fields, which focus on life from multiple perspectives and strive to provide participants with the opportunity for personal reflection. As an event marking its 10th anniversary, the organization now holds an annual essay contest for elementary and junior high school students on the topic of life, and shares the best submissions with the community.

Offering grants

The foundation offers grants to support groups and research projects working on preparations and recovery care for accidents, natural disasters, and unforeseen tragedies, in an effort to create a society that affords safety and peace of mind. Furthermore, in order to help promote emergency aid/life support training in local communities the foundation subsidizes AED practice equipment and also supports a group whose achievements include providing Inochi no Denwa (a suicide prevention line servicing the six prefectures of the Kansai area).



A Life Seminar



Essay contest booklet

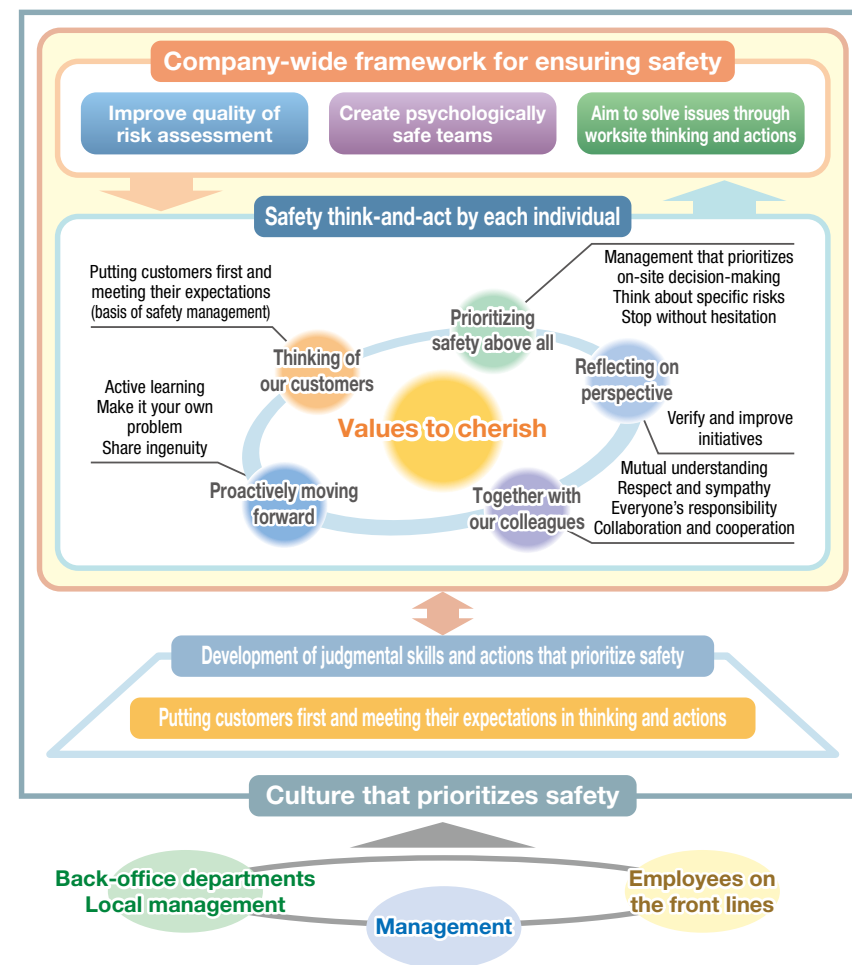
Improve safety of railways

Initiatives to improve safety

Preventing an accident such as that on the Fukuchiyama Line from ever occurring again is the responsibility and unwavering commitment of the JR-West Group.

The JR-West Group Railway Safety Think-and-Act Plan 2027, which started in fiscal 2024, reviews past safety initiatives and implements further measures to improve safety. In line with this plan, and in order to fulfill our mission of getting customers to their destinations safely, we pursue a more robust approach to safety, seeking to improve it based on a strong awareness of putting customers first and meeting their expectations, so that we can build a trustworthy railway that customers can use again and again with peace of mind.

JR-West Group Railway Safety Think-and-Act Plan 2027



Starting with the management team, everyone in the JR-West Group shares the five values we want to cherish (prioritizing safety above all, thinking of our customers, proactively moving forward, together with our colleagues, and reflecting on perspective). We will respect each other, speak frankly, and create “psychologically safe teams” that learn and improve through challenges. We will share worksite problems across departments and organizations and, together with our colleagues, tackle them through on-site thinking and actions.

In addition, in order to increase the effectiveness of the systems that have been put in place thus far, we will work to improve the ability of the entire organization to get things done through such measures as identifying and dealing with serious risks across departments and organizations, implementing

practical training and improving technical capabilities, and making improvements based on understanding the actual situation using the principle of the “three actuals.” In order to meet customer expectations and gain society’s trust, the management team is taking the lead while the entire JR-West Group works together to carry out the plan. Regarding investment in safety, we have updated the JR-West Group Medium-Term Management Plan 2025 to increase investment in safety over the five-year period from fiscal 2024 to fiscal 2028 to 610 billion yen, an 80 billion yen increase from the initial planned amount. In recognition of the fact that safety remains our top priority, we will continue to steadily make needed safety investments based on the JR-West Group Railway Safety Think-and-Act Plan 2027.

Key initiatives in JR-West Group Railway Safety Think-and-Act Plan 2027

Platform safety

- Maintain platform gates and safety screens to prevent train-involved accidents caused by customers falling off the platform



Moveable platform gates

Railway crossing safety

- To prevent collisions between trains and large vehicles at railroad crossings, install devices that verbally notify train drivers when a vehicle is stuck on the crossing



Derailment prevention guards

Earthquake countermeasures

- Implement measures to improve safety during earthquakes, such as seismic reinforcement and installation of derailment prevention guards

Create a culture that puts safety first

- Establish management that prioritizes on-site decisions
- Promote a mindset of putting customers first and meeting their expectations



Training to stop trains without hesitation

Strengthen framework to ensure safety throughout the organization

- Improve quality of risk assessment
- Create psychologically safe teams
- Aim to solve issues through on-site thinking and actions



Collaboration across departments and organizations

Safety think-and-act initiatives by each individual

- Share and actively practice the five values we want to cherish



Sharing risk-related information before starting work

Object-based and policy-based improvements

- Enhance safety through object-based and policy-based improvements
- Provide safe and reliable transportation (improve transportation quality)

Connect with society and learn from outside the company

- Engage in dialogue with relevant organizations regarding responses to natural disasters and other incidents
- Promote efforts to learn from and implement safety measures used by other railway companies and related organizations

■ Review of fiscal 2024

There were no train accidents that resulted in casualties among customers. However, with regard to train labor accidents that resulted in fatalities among employees, one employee at a group company lost their life in August 2023, and another

employee at a partner company in December. We take very seriously the loss of our colleagues’ irreplaceable lives and will ensure that safety measures are implemented based on an understanding of the facts of the situations.

Objectives over the 5 years through FY2028	FY2024 results
Train accidents that result in casualties among customers None	None
Train labor accidents that result in fatalities among employees None	2
Objectives to achieve by FY2028	Results at the end of FY2024
• Object-based improvements Platform safety Among stations covered by the barrier-free fare system, 1. Install platform gates at stations with more than 100,000 passengers Installation rate: 60% 2. Install platform gates or platform safety screens at stations with fewer than 100,000 passengers Installation rate: 50%	1. Installation rate: 48% 2. Installation rate: 12%
Railway crossing safety Install devices that verbally notify train drivers when a large vehicle is stuck on the crossing 1. Railroad crossings equipped with radio notification systems Installation rate: 90% 2. Railcars equipped with image recognition systems Installation rate: 60%	1. Installation rate: 60% 2. Installation rate: 4%
Earthquake countermeasures Earthquake countermeasures for the Sanyo Shinkansen 1. Measures to prevent structural collapse (bridge pier reinforcement) 2. Measures to prevent large track subsidence (reinforcement of rigid frame abutments) 3. Measures to prevent significant train deviation (installation of derailment prevention guards in high-priority sections) } Installation rate: 100%	1. Installation rate: 90% 2. Installation rate: 36% 3. Installation rate: 67%
• Desired state A state in which a safety-first culture is fostered, a system for ensuring safety throughout the organization is established, and safety think-and-act initiatives are practiced by all individuals	Management that prioritizes on-site decisions, a mindset of putting customers first and meeting their expectations, the creation of psychologically safe teams, on-site thinking and actions, and thinking and actions based on the five values we want to cherish

Progressing as planned

Improve safety of railways

Initiatives to improve safety

Putting customers first and meeting their expectations in thinking and actions

Counterterrorism training using actual Sanyo Shinkansen trains (Hiroshima Station)

We conduct a variety of training to improve safety. During these training sessions, we check our ability to put into practice the JR-West Group Railway Safety Think-and-Act Plan 2027 principle of putting customers first and meeting their expectations and to prioritize on-site decision-making.

Every year, practical training using actual trains are conducted on the Sanyo Shinkansen line. This training includes not only our employees but also police and people from group companies from areas along the route.

In December 2023, a simulated terrorist attack drill was conducted at Hiroshima Station. Employees at Hiroshima Station, who would likely be the ones to receive the first report of a terrorist attack, commented that they were able to get a good idea of how to work together and respond if a real terrorist attack were to occur.



Training at Hiroshima Station

Improving our judgment and ability to act by conducting training that closely mimics real-life situations

In order to carry out this training, it's important to have close cooperation with the participating sites and the departments in charge of the Shinkansen. For this simulated terrorist attack, we ran an actual train. This made coordinating with the various police headquarters along the route difficult, but it enabled us to carry out truer-to life training.

Listening to the feedback from employees who took part in the training, I feel that it helped improve their practical skills.

We will continue to hold training that involves many different people and will strive to ensure that safety is the number one priority when making decisions and taking action.

Transport Safety Department,
Chugoku Regional Head Office
(now Kurashiki Management Station
assistant manager)
Yoshiteru Hara



Fostering greater learning by conducting practical training, and improving response capabilities through continued training

If a terrorist attack were to actually occur, Hiroshima Station would likely be the first place to receive a report, and we endeavored to make the training more practical by conducting "blind training," in which station employees were not informed of the content of the training in advance. In addition to internal cooperation, we were also able to confirm the cooperation of police and other organizations.

Since the training is conducted while normal train operations continue, it is not possible for all employees to participate. Thus, we believe it is important to share the results of training so that everyone has the same awareness and will be able to respond in the same way.

Hiroshima Station assistant manager
(chief of security),
Chugoku Regional Head Office
(now Miyoshi Management Station manager)
Hiroataka Sumi



Company-wide frameworks for securing safety

Improving safety device-initiated braking performance in rainy weather (Shimonoseki Depot, Hiroshima Branch)

In the Hiroshima area, it has been reported that certain railcar models are more likely to experience safety device-initiated braking in rainy weather.

The rolling stock and operations departments then worked together to put in place a system for reporting any events as soon as they occurred. After collecting data and analyzing it, they were able to determine that wheel slippage was the cause.

After that, we conducted further examination, both inside and outside the company, and, after repeated driving tests, made improvements that resolved the issue.



Driving test

Solving on-site problems by sharing them across departments and organizations and working together with colleagues

Since the issue in this case was safety device-related, we approached it from a variety of angles, not just with regard to the rolling stock, but also the relationship with driving operations and ground facilities. The first thing that was needed was to accurately understand the facts of the event, but, this time, we were particularly concerned with figuring out how to collect the appropriate data and how to quantitatively analyze that data to identify the cause.

A variety of on-site data can be obtained from railways. It was extremely useful that we were able to identify the cause by combining feedback from the crew with data analysis and then work with various parties to find a solution.

Shimonoseki Depot, Hiroshima Branch,
Chugoku Regional Head Office
(now Digital Solution Headquarters)
Kousuke Nishitani



Safety think-and-act by each individual

Using a risk map to facilitate construction preparation meetings (Osaka Civil Engineering Center)

Because the Osaka Civil Engineering Center covers a wide area, it is necessary for experienced employees to share their know-how within the center to ensure train operation-related tasks are carried out safely and confidently.

To address this issue, we created, through a process of trial and error, a risk map that shows each individual risk on a map of the service area.

At construction preparation meetings held to confirm the construction plan with group companies, partner companies and others, we use this risk map to share risk-related information with those engaged in the construction work. We make sure that necessary risk reduction measures are incorporated into the plan.

We are also continually updating the risk map to respond to changes in things like elevated tracks and the surrounding environment.



Using a risk map in a construction preparation meeting

Devising ways for each employee to more effectively consider specific risks before starting work

The Osaka Civil Engineering Center's service area is extensive, covering 405 km along railway lines. Therefore, although there may be cases where site-specific work needs to be done for the first time, or for the first time in a long time, we decided to create a risk map that would help ensure that even young employees can work safely and with confidence.

When compiling the data, it was extremely difficult to draw out the knowledge of veteran employees. We also sought to expand the map by incorporating the knowledge and experience of on-site workers from group and partner companies. Some veterans have said that they learned about risks they were not aware of before, and we feel that the results have been greater than we had imagined.

Osaka Civil Engineering Center,
Kansai Regional Head Office
Toru Ikeda

