Feature Article

Response to the Noto Peninsula Earthquake - Activities Related to Road Structures -

Road Structures Department

The Road Structures Department dispatched staff to the areas hit by the 2024 Noto Peninsula Earthquake immediately after its occurrence, and investigation of the status of disaster damage to road structures was carried out, and at the same time the staff provided advice on recovery and a proposal, etc. for the orientation of the revision of the technical standards. This article presents an overview of such investigation, etc.

Introduction to the activities

1. Emergency investigation and support for technical evaluation

In order to swiftly respond to an emergency request, specialty staff for road structures were dispatched to the site on the day following the date of occurrence of the earthquake and started the activities.

In cooperation with the Hokuriku Regional Development Bureau, the Public Works Research Institute, etc., the statuses of damage in a wide range were grasped through investigation, etc. by means of a helicopter flying overhead, and at the same time advice was provided to the road administrator, concerning technical evaluation of various types of structures that suffered large-scale damage, such as the Otani Tunnel where the tunnel liner spalling occurred, and risks of secondary disasters.

Photo-1 Investigation by flying overhead over the areas where large-scale slope failures occurred

Photo-2 Investigation of the tunnel where the large-scale liner spalling occurred

2. Investigation for understanding mechanisms of disaster damage and for grasping new challenges

Ground motions were evaluated from the viewpoints of impact on road structures, and verification was carried out on the fact that expected performance was demonstrated in bridges designed after the Southern Hyogo Prefecture Earthquake after which the seismic design standards were significantly revised, and others.

On the other hand, mechanisms of disaster damage were analyzed concerning characteristic damage to various types of structures such as that in the connecting section on the abutment back face, and new problems related to a review of the technical standards, etc. were grasped.

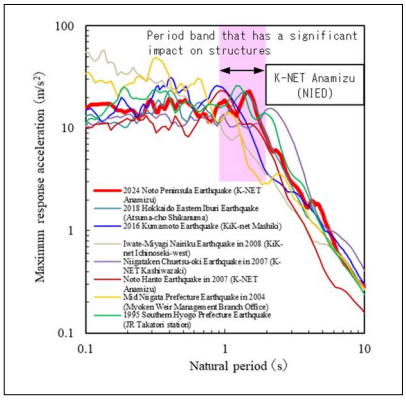

Figure Comparison of acceleration response spectra with those of the earthquakes in the past

Photo-3 Investigation of mechanisms of disaster damage in the connecting section on the abutment back face

3. Advice on the method of recovery and a proposal for the orientation of the revision of the technical standards

We participated in the Road Recovery Technology Study Committee as members of the Committee, providing advice on the method of recovery based on the mechanisms of disaster damage, and at the same time made a proposal for the orientation of the revision of the technical standards disaster damage in the Subcommittee on Road Technology meeting of the Council for Social Infrastructure by summarizing the disaster damage in the meeting.

Photo-4 Road Recovery Technology Study Committee

We will continue to provide support for the road recovery in the Noto Peninsula and make the revision of the technical standards well into the future, by utilizing the knowledge, etc. that has been accumulated in our organization.

☞For more detailed information, visit:

- Civil Engineering Journal, Vol. 66 No. 8 "Statuses of Damage to Road Structures in the 2024 Noto Peninsula Earthquake and Efforts to Be Made in Future"
- 22nd Road Technology Subcommittee, Document (https://www.mlit.go.jp/policy/shingikai/road01_sg_000688.html)
- Technical Note of National Institute for Land and Infrastructure Management, No. 1320 Report on Damage to Infrastructures by the 2024 Noto Peninsula Earthquake