Improvement for Provision of Information upon Suspended Train Services

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When train services suspended after accidents resulting in injury or death, or for other reasons, many passengers require the information concerning the resumption of services available as soon as possible. At present, however, it is not always possible to meet such requirements. The Railway Technical Research Institute (RTRI) is therefore currently under promoting a research to solve such a problem, as summarized in the following:

First, RTRI is studying whether the reaction of passengers and the use they make of the information changes when prospective information provided rapidly, even though it is uncertain. RTRI is also studying whether passengers react differently if the information is ambiguous to include different content.

Second, RTRI is discussing ways to support and improve the duties of the dispatchers and station staff members who transmit and convey appropriate information to passengers involved in suspended train operations. For this purpose, RTRI aims to improve various aspects of the software such as manuals for PA system and vocational materials for on-the-job training.

In the first part of this study, RTRI planned experiments to obtain data by accurately reproducing the scene at the station where passengers encountered with suspended train services. In these experiments, RTRI used audiovisual apparatus to demonstrate the situation at the station and the timing of the PA system of advisory information as a series of time events in a given scenario (Fig. 1); the test subjects were the information announced by acoustic means (Fig. 2).

In this study, RTRI adopted the following two different scenarios.

Scenario 1: Test subjects are provided initially with prospective information on the resumption of train services 10 minutes after the occurrence of the accident. They are then given information successively, including changes on the train schedule (new scenario)

Scenario 2: Test subjects were unprovided with information until the information on the schedule was almost definitive (conventional scenario).

For comparison, RTRI adopted the following two themes in Scenarios One and Two.

Theme 1: Usefulness of the information provided to passengers at stations

Theme 2: Timing to determine the action taken by passengers (taking an alternative route or waiting for the resumption of train services)

Regarding the theme 1, the number of passengers who judge that the scenario-1 is more useful is approximately three times that of the passengers who support the scenario-2 (Fig. 3). This means that even uncertain information is acceptable as significant, when offered rapidly.

Regarding the theme 2, when train services suspended due to an accident involving injury or death, the number of passengers who have not determined their actions 30 minutes after the occurrence of the accident is only 5% in the scenario-1 whereas the corresponding figure is 29% in the scenario-2.

In the second part of the study, RTRI implemented an interview of the dispatchers and distributed a survey questionnaire to the station staff belonging to a railway company (Company A) in the Tokyo metropolitan zone. As a result, it was evident that information on the resumption of train services generally transmitted unsatisfactorily, or passed on 10 minutes after the occurrence of an accident as recommended by Company A. It was also proven that the less railway employees evaluate the usefulness of non-definitive information for passengers, the less positive they are in transmitting the information.

To make employees, or information providers, of railway companies understand the concrete merits of providing information effectively and to reduce the number of complaints by passengers seeking to obtain information on the expected development of the situation after an accident, RTRI will provide “a PA system manual for use in abnormal situations” and “materials for on-the-job training.”

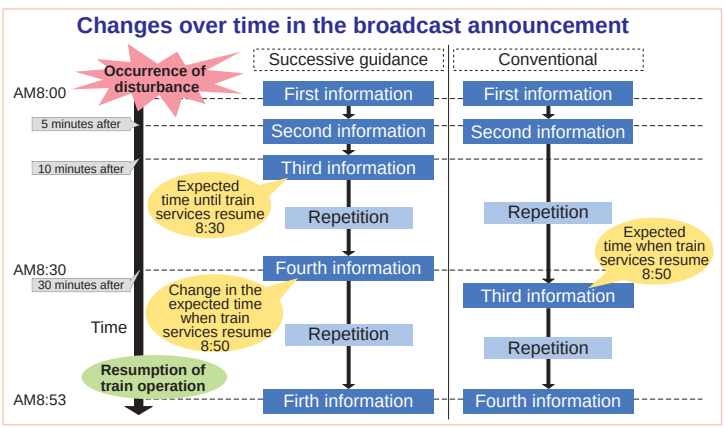

Fig. 1 An example of advisory information

Fig. 2 A view of an indoor experiment

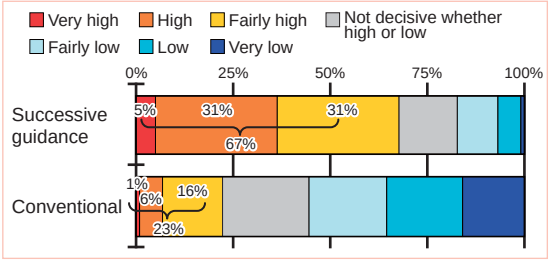

Fig. 3 Usefulness of the information provided at stations (evaluation of the scenario of an accident involving injury or death)