

**Japan-Led International Standard on Train Running Time Calculation Issued**

RTRI established the Railway International Standards Center, RISC, and has been promoting development of international standards for railway technologies together with member organizations of RISC. The International Organization for Standardization, ISO, has issued JP-Led international standards on “Running time calculation for timetabling”. RISC will continue making efforts to develop international standards for the technologies in which Japan has many years of experience.

**1. Background**

In order to realize punctual train operation, it is necessary to prepare a feasible and appropriate timetable that specifies a departure time and an arrival time of each train at each station according to each route and type of train. Such timetabling requires accurate running time calculation. Running time is calculated with parameters regarding infrastructure, rolling stock and operational conditions. With these parameters, a running time between stations is obtained by integrating each time calculated from the speed at the specific position. Figure 1 shows a basic flow of running time calculation.

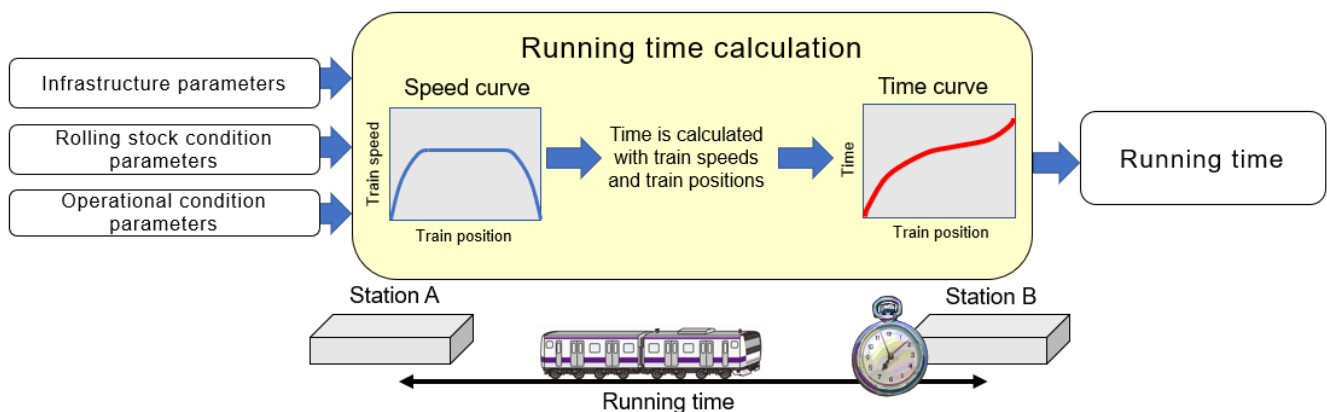


Fig. 1 Running time calculation

For timetabling, a computing system involving a running time calculation function is often used, and similar systems have been developed in many countries as well. Therefore, it would be better that international standards for running time calculation are to be established in order to enhance the quality of railway transport services with punctual train operation. It is splendid when international standards based on Japanese product concepts could contribute to maintain fair markets and competitiveness with stakeholders of railway operations and services. Such standards can also contribute to developing technologies in the related fields in not only Japan but also of other countries that pursue punctual railway operations.

**2. History**

- 2016 RISC started review to set international standards for running time calculation.
- 2017 RISC launched a review panel.

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Railway operators and manufacturers started review of draft international standards.

- 2018 Development of international standards was proposed to ISO/TC 269 (Railway applications) /SC 3 (Operations and services).
- 2019 Each country agreed upon starting review of international standards.  
Japan led the review of the draft for 3 years (Fig. 2).
- 2022 The draft was approved at ISO/TC 269/SC 3 on September 17.  
ISO 24675-1 “Railway Applications - Running time calculation for timetabling - Part 1: Requirements” was issued on October 14.



Fig. 2 Meeting of an international panel

### 3. Short descriptions of ISO 24675-1 “Railway Applications - Running time calculation for timetabling - Part 1: Requirements”

- Input parameters for running time calculation:  
Twelve input parameters regarding infrastructure, rolling stock and operational conditions are described. In order to meet this standard, it is required to use all the parameters to calculate running time for timetabling.
- Verification process for running time calculation:  
Running time calculation is verified by confirming the increase and decrease in running time due to the change of each of the twelve parameters. For example, when only track gradient increases, the running time increases with appropriate running time calculation.