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A STUDY FOR ESTIMATING SUSPENSION TIME OF RAILWAY LINES DUE TO EARTHQUAKE

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ABSTRACT: When an earthquake occurs and ground motion observed along railway line exceeds a criterion, the railway line operation is suspended to inspect railway facilities and structures. Furthermore if they are damaged due to the earthquake, the railway line operation is suspended until damaged structures finish repairing. In this study, the methods to estimate the suspension time which need to inspect and to repair railway facilities and structures are constructed. The validation of the methods is checked by comparing estimated and observed suspension times during the 1987 Chiba-ken Toho-oki earthquake. Applying the method in the Tokyo metropolitan area, suspension time of railway lines during scenario earthquakes are estimated. The estimation indicates the operation of major railway lines in the area may be suspended for two weeks or more when the anticipated Tokyo M_{JMA}7.3 earthquake occurs.

Key Words: Earthquake, Railway, Suspension time, Damage estimation, Scenario earthquake