

Method of Priority Judgment of the Seismic Countermeasure Based on Life Cycle Cost

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Recently, reinforcement of railway structures, countermeasures against vehicle derailments and installation of seismometers for earthquake early warning, have been actively promoted to improve the railway safety against earthquakes. However, it takes a long period until the countermeasures are completely applied to the overall railway line. It follows that an index giving priority to possible countermeasures is required based on their budgets and resulting effects. In this study, as one of the indexes, a method of priority judgment of the seismic countermeasure is proposed based on the difference of life cycle cost for the cases with and without a countermeasure. By using this proposed method, priority of countermeasures is determined considering the inherent properties of a target line, such as their operation, earthquake, soil and structural conditions.