
**DEVELOPMENT SYSTEM INFORMATION
DECISION SUPPORT MAINTENANCE OF RAILWAY**

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ABSTRACT

Condition railroad existing and it's development in province of Central Java to purpose can service user train with safety, comfortable, fluent and cost reachable. For to reach service of standard necessary remedial action be continue. Maintenance was done for this with schedule maintenance with use track recording cars three times in year. But measurement result base on geometry deterioration without was known component structure railroad defect. To solution need objective study assessment condition each segment and development system information decision support of maintenance track.

This case study in this research is done at Kedungjati-Gundih segment to take primary data with use visual inspection like this rail, fastening, joint, tie, ballast and environment area. Deviation geometry measurement use manual tool. This study use method track structure condition index (TSCI). The TSCI is computed from Tie Condition Index (TCI), Rail and Joint Condition Index (RJCI), and the Ballast and Subgrade Condition Index. Utilizing index scale ranging from 0 to 100, these index derived from presence, severity, density of defect based track distress. From method coefficient deterioration was development by Japanese National Railway can know type vehicle caused by heavy distress, loading condition, structure condition. Analyst result assessment method TSCI was transformed to application program so product development system information of maintenance railroad.

Analyst result show that breakage of value occur 82,8 with Index value condition as 17,2 at Karangsono-Gundih segment and 23,246 at Gedangan-Telawa segment. Both segments were catagorized very poor with scale priority maintenance number as 7, means a whole of repaired job or rehabilitation. Deterioration structure as generally is caused by settlement ballast, because ballast fouling and death caused by growth vegetation and it is not resiliency. Fastening system breakdown, rail indicate rail defect caused fatigue, rail life exceed life service, failure and undulate. Likewise, decay of ties due to weather and tie life (20 year) exceed life (10 year) service so can not support cycle loading, finally all the factors mentioned above caused track geometry deterioration.

This study can conclude that failure track is determined by loading (passing tonnage), speed and structure condition, although low loading and operating restriction. From development system information decision support of maintenance track could known type defect, component distress, and condition index e overall each segment fast.

Keywords : information, maintenance, track structure