

Railroad Performance enhancement through Effective Maintenance Planning

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Abstract

Maintenance planning plays a great role in rail roads .It not only prevents the costly reconstruction of these roads, but it also minimizes the death tolls caused by derailment through the increases of passenger as well as goods carriage safety coefficient.

According to studies conducted in some developed countries such as the United States and Italy, applying new strategies of maintenance as a part of comprehensive rail management systems reduced maintenance costs up to 1.5 times. This issue has been received little attention in Iran. This paper aims at finding an optimized approach adapted to the present situation of Iran railroads through the investigation of the modern approaches of maintenance employed throughout the world.

To achieve this aim, firstly the whole network is studied to know its features and rail road condition data is collected and secondly a condition index will be developed to assess the condition of rail roads and appropriate models applied .Then, maintenance models are applied including the cost associated with each treatment and improvement corresponding to each maintenance action. Finally, life cycle cost analysis is performed to come up with a comprehensive maintenance plan indicating which section of railroads when should be maintained and what maintenance actions should be deployed.

Through comparison of a conventional approach being used at present with the proposed model of this study, it will be shown that the rail road maintenance costs decrease considerably.

Keywords: Maintenance Planning, New strategies

