

INTELLIGENT TRANSPORTATION SYSTEM

(Used to Diminish Railway Accidents caused by Earthquake)

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ABSTRACT *Safety is one of the fundamental issues dealt with in various railway systems. Sadly, during the recent years, world statistics have shown Iran standing at the highest point of road transport accidents and losses of life and cost. Evidently, with due foresight and sufficient rail transportation system development, such national catastrophe can be prevented resulting in annual preserve of thousands of lives.*

Fortunately, the number of rail incident casualty and damages compares at a very lower level than that of nation's road transport (Isfandyar, 1382, 8); however, with due heed to the gradual development of railway lines and fleet, and with the procurement of trainsets and high speed trains to be utilized in Iran, it is essential to be prepared in advance for potential problems that may arise in the future.

During the researches partly carried out at libraries and within internet resources, and partially performed during field investigations (and studies of present railway situation), all attempt has been made to find systematic intelligent navigation strategies and heavy-haul, passenger, and self-propelled train control and monitoring systems, etc., in order to overcome railway obstacles so as to reduce railway accidents.

In a follow-up to confront railway accident occurrences by adaptation of intelligent navigation solutions, a concept induced from the two sciences of cybernetics and Information Technology (IT), and an interdisciplinary knowledge of these approaches was put to use. Due to the simplicity of ideas yet their complex treatment (owing to the high level of technology involved) and also with due regard to the financial and time scheduling constraints, a total of 3 sets of analysis are proposed:-

- 1- Short-term (regional) strategies*
- 2- Medium-term (investigative) strategies*
- 3- Long-term (universal) strategies.*