



Safety Analysis of a Railway Transport System By Bayesian Network: Rabat/Salé Tramway Case

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The development of the urban railway transportation (trams) has increasingly become important in Morocco because of its quality of mass transportation with low emissions and advantages provided: transportation cost at reach of travelers compared with the excessive cost of fuel of car's acquisition and maintenance, decrease traffic jam and vehicle pollution in cities, mainly in ways leading to administrative, tourist and industrial districts, besides saving travel time, since this means of transportation uses a dedicated lane. The urban integration of the Tramway was not without effect on the cities of Rabat and Salé. In fact, accidents between Tramway and road users whether they are pedestrians or vehicles continue to happen, and recorded five to six accidents average monthly of varying severity. Indeed, unlike a train, the tram is an urban vehicle, which runs in the middle of the traffic and pedestrians, and therefore we can not restrict the danger area at the intersection with the road users, as with the train level crossings. In this framework, this study aims to develop a risk model of Tramway accidents in order to evaluate the performance of this transportation mode in terms of safety. This model is based on the identification and analysis of dysfunctions observed on previous accidents between Tramway and road users, which are recorded and processed as an experience feedback in a risk model based on Bayesian Network approach (RB), which is a dynamic analysis, allowing to take into account the aspects of behavioral and temporal system (events related to human or material factors, random events or uncontrolled consequences of accidents, etc.).

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