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Design for the Alleviation of Transportation Fatality Risk by the Implementation of New Light Rail Transit

R Huston, BME[1]

P Cardimen, BME[1]

K Halperin, PhD[1]

[1] Department of Mechanical Engineering, Penn State—Erie, Pennsylvania, USA

Abstract

There is a tendency for each engineering community to think of safety only in the context of its own system. Rail engineers think of the safety of the existing rail system and road engineers of the existing road systems. The important safety, however, is that of the entire population. And that safety is considerably higher on rails than on roads. The research question then arises as to whether it is possible to correct an existing road safety problem by design of a rail system. Given the human lives at stake, it is a question worth answering.

A design is presented for correction of the highest death rate road in a particular urban area by installation of a light rail system. The road is a 2.6-mile (4.2-km) stretch of urban arterial that has had 18 fatalities in the past thirteen years. The light rail system is shown to be a possible solution to the problem, both from the standpoint of design and from that of economics. It is predicted that the new design should prevent 1.25 fatalities per year.

safety risk assessment

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