

REVIEW AND ANALYSIS OF THE
ECONOMIC COSTS OF LEVEL
CROSSING ACCIDENTS
PROGRAMME OF WORK - ITEM A

INFORMAL PAPER

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WHY?

- ◉ Reliable financial data is necessary to recommend new investment expenditure
- ◉ The data on financial costs of Level X accident necessary to recommend new measures: human factor issues, changes to the investigation methodology, etc, introduction of new technologies
- ◉ Valid argument during the discussion with governments and politicians

GOALS

- ◉ Develop a comprehensive taxonomy of level crossing accident costs, their contributing factors and their order of magnitude.
- ◉ Develop an analytical framework that enables the estimation and forecasting of level crossing accident costs and effectively support resource allocation decisions.
- ◉ Prepare a catalogue of main measures for improving safety at level crossings including their typical costs.

PROPOSAL- THE REPORT TRB 755

Effect	Impact	Cost Component
Primarily	Direct	Property Damage
		Other direct costs
	Indirect	Work-related productivity loss
		Tax loss
	Intangible	Quality of life
		Pain and suffering
Secondary	Supply chain disruption	Rerouting and increased emissions
		Freight and passenger delays and reliability
		Increased inventory and its spoilage
		Prevention
		Lost sales

FINDINGS FROM THE SURVEY

- ◉ 24 replies are available coming from 22 UNECE countries:
 - ◉ input to national safety plan (2 countries);
 - ◉ reports to ERA under CSI data (2 countries);
 - ◉ criteria for (EU) mandatory accident investigation (1 country)
 - ◉ cost-benefit studies (1 country)

TYPES OF COSTS CONSIDERED

Type of costs	Nr of countries
Property damage costs	16
Rescue services	3
Insurance	3
Work related productivity costs	6
Costs of casualties	5
Environmental damage costs	7
Investigation costs	1
Costs of delays	7
Costs of rerouting	1
Prevention costs	1
Lost sales	1

ADDITIONAL POSSIBLE COSTS TO BE CONSIDERED

Property damage:

Damage to railways infrastructure

Damage to rolling stock

Psychological assistance to staff (trauma, etc)

Lost work due to sick leave

Reputational costs

Investigation costs

Legal costs

ESTIMATION OF COSTS OF HUMAN LIFE IN UNECE COUNTRIES

- ◉ In 6 of 22 countries are the costs of human life established at the national level.
- ◉ One country reported that VPF is used as a method (defined by the Directives 2004/49/EC and 149/2009/EC),
- ◉ one country provided reference to HEATCO study.
- ◉ One country uses expert opinion estimate at the national level.

COST OF FATALITIES

- ◉ Statistical value of human life loss
- ◉ The World Bank methodology
- ◉ Need to calculate it for different countries depending on the size of their economy
- ◉ Need to have comparative data:

Presentation of the SLV in PPP or percentage of GDP

COST OF SERIOUS INJURY

- ◉ The World Bank methodology to assess the cost of serious injury
- ◉ Other available methodologies
- ◉ Similar comments as in relation to the statistical value of life loss

RECENT STEPS

- All EG members were asked for national case studies/papers (and any other inputs)
- The EG members from IMs - were asked for average/typical/range of costs,
- There is the need to repeat the call and extend the deadline until end of March

SUGGESTIONS

- ◉ The USA example as the good practice (a practical tool kit to asses the costs)
- ◉ The need to get more feedback from the experts group
- ◉ The need to assess the potential costs of the tool preparation and to the indicate the potential financing sources
- ◉ The need to include good practices:

UK, FRA