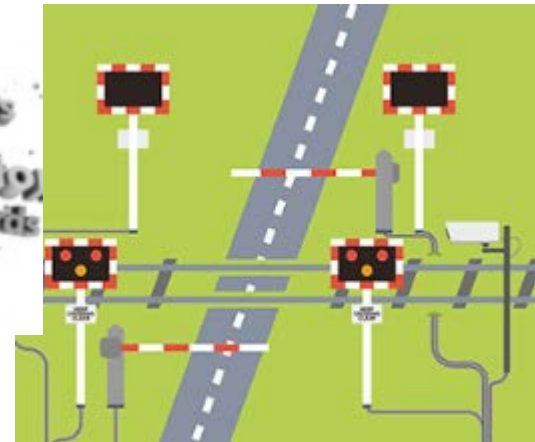
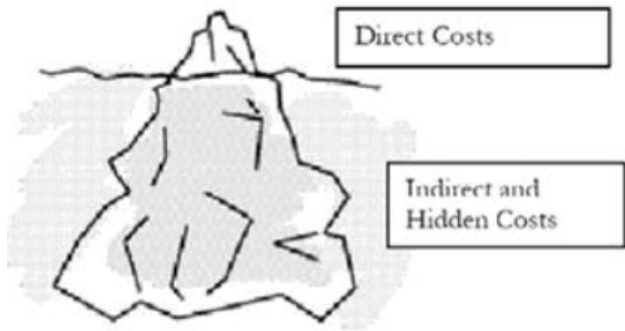


Progress achieved by the Group of Experts for Improving Safety at Level Crossings

Mr. Lukasz Wyrowski, Sustainable Transport Division
SC.2 70th session, Geneva, 22-24 November 2016



Progress



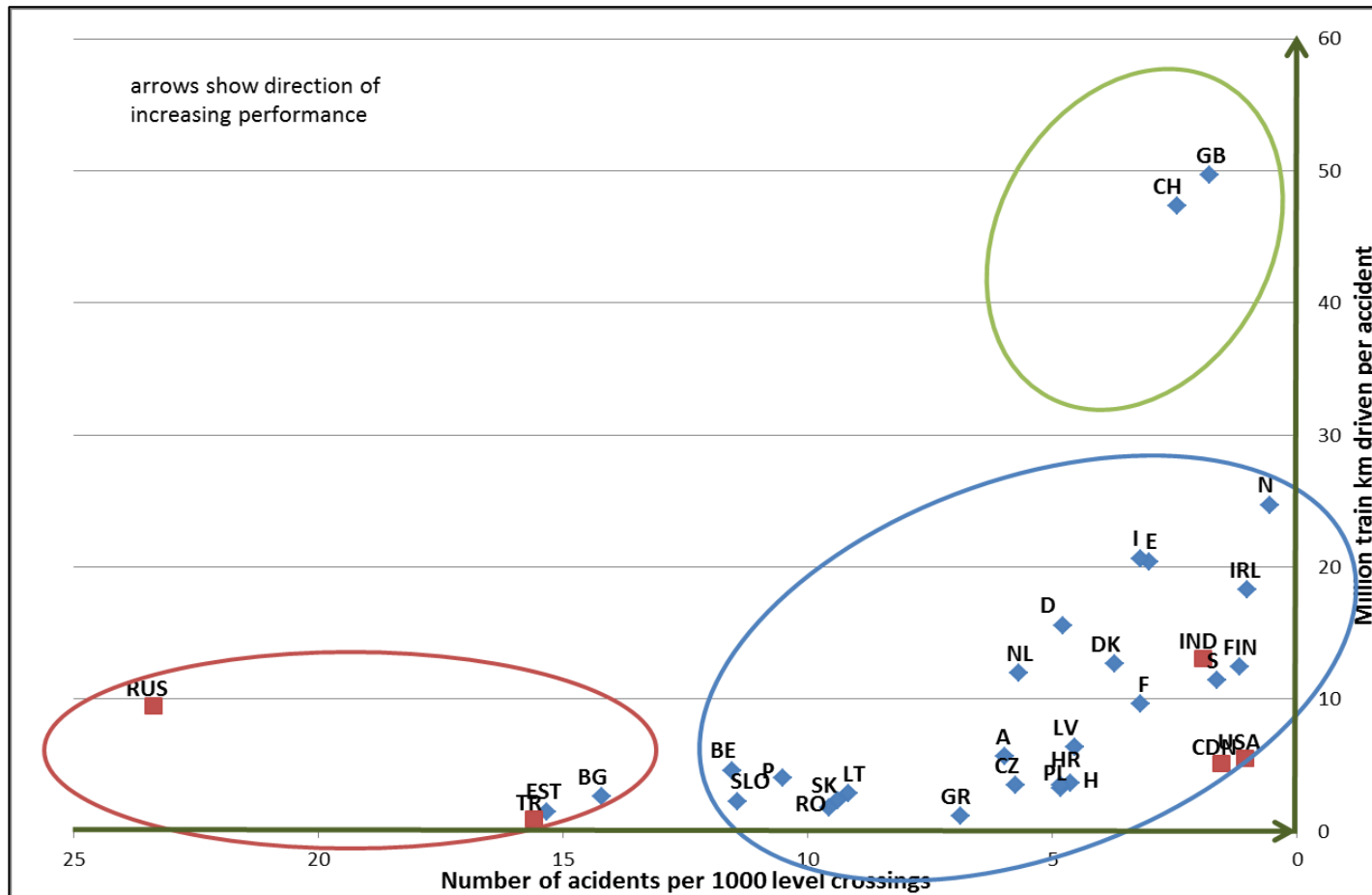
Progress



- Finalization of report
 - Part one: a review of knowledge and practices and recommendations
 - Part two: a strategy offering a level crossing safe system approach

Report: Part one

- Safety at level crossings



Report: Part one



- Level crossing data

Issue	Main indicator	Sub-indicator
Train network characteristic	1 Million train-km	
	2 1,000 line-km	
Level crossing characteristics	3 Total number of level crossings	3.1 1,000 level crossings
	4 Passive level crossings	
	5 Active level crossings	5.1 Manual
		5.2 Automatic with user-side warning
		5.3 Automatic with user-side protection
		5.4 Rail-side protected
Type of accident	6 Total number of fatal accidents	6.1 Per 1,000 level crossings: indicator 6 per indicator 3.1
		6.2 Per million train-km: indicator 6 per indicator 1
		6.3 Per 1,000 line-km: indicator 6 per indicator 2
		6.4 At passive level crossings

Report: Part one



- Costs of accidents

<i>Effect</i>	<i>Impact</i>	<i>Cost-Component (from TRB)</i>	<i>Cost-component (from CSIs)</i>
Primarily	Direct	Property Damage	Cost of material damages to rolling stock or infrastructure
		Other direct costs	Cost of damage to the environment
	Indirect	Work-related productivity loss	
		Tax loss	
	Intangible	Quality of life	Economic impact of casualties
		Pain and suffering	
Secondary	Supply chain disruption	Rerouting and increased emissions	
		Freight and passenger delays and reliability	Cost of delays
		Increased inventory and its spoilage	
		Prevention	
		Lost sales	

Report: Part one

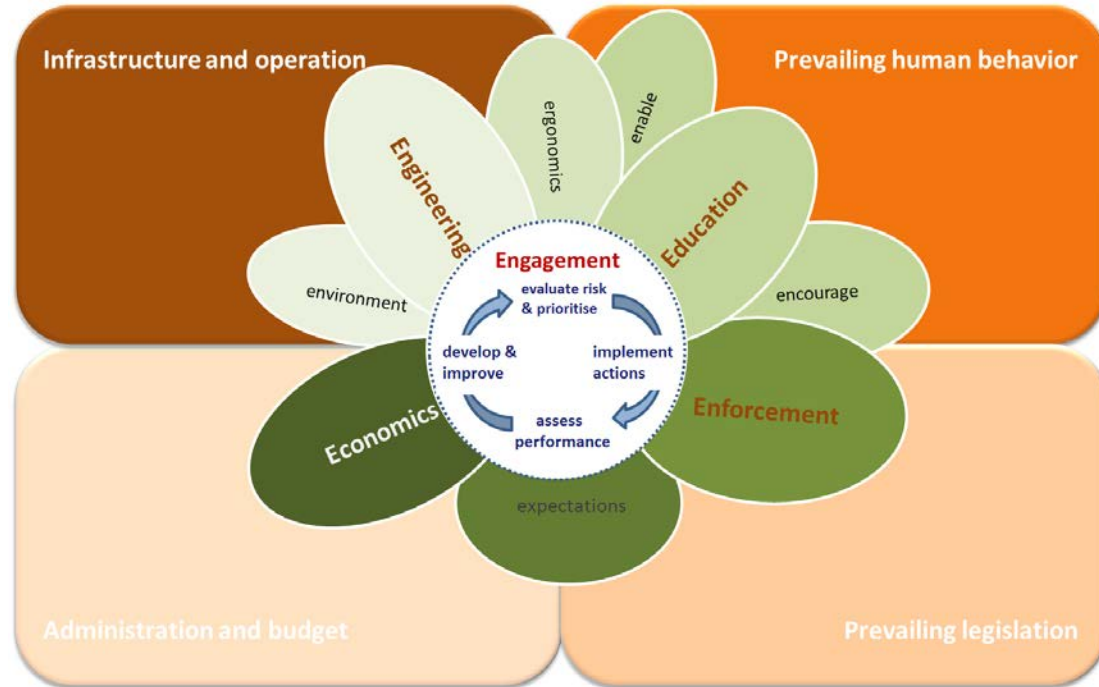


- Recommendations
 - Enforcement
 - Education
 - Human factors
 - Infrastructure, technology, vehicles
 - Legislation
 - Management techniques and risk assessment

Report: Part two



- Engage and cooperate to achieve vision zero
- At level crossings vision zero = zero accidents
- How? – implement a level crossing safe system approach



Report: Part two

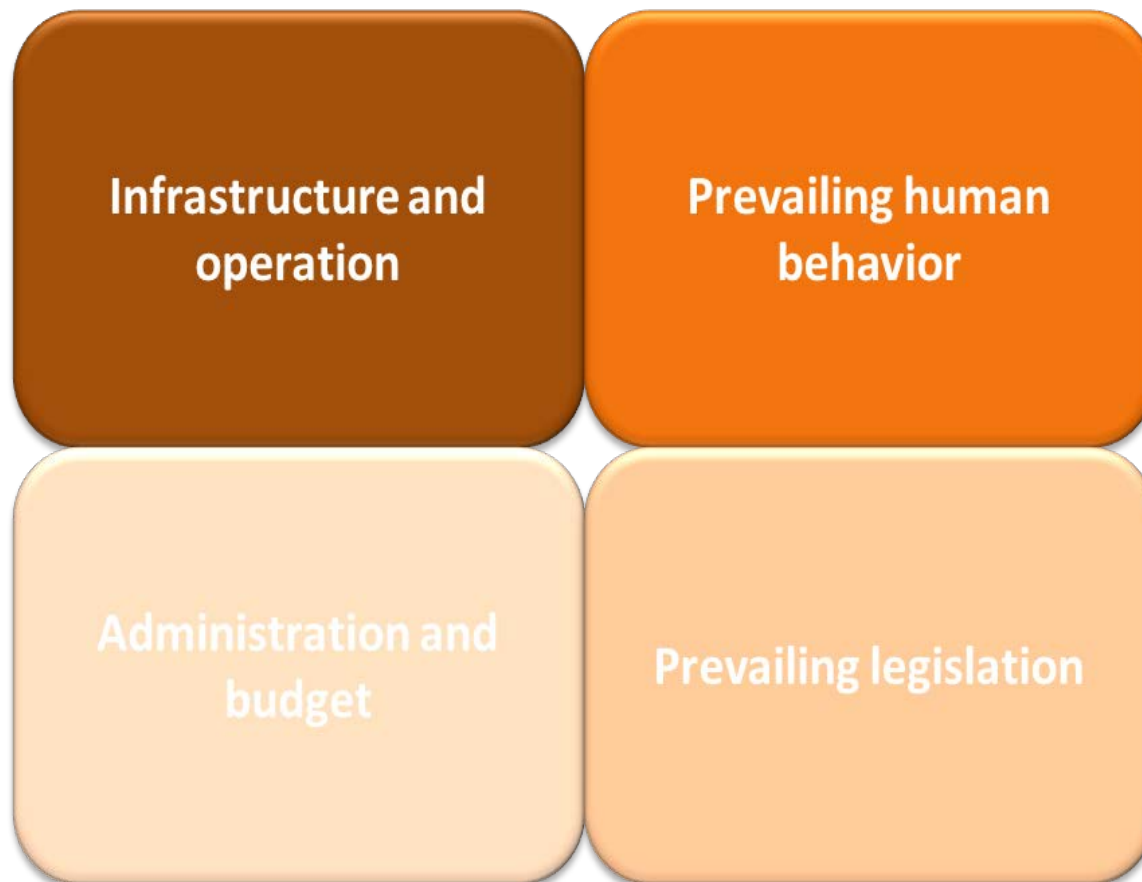
- A safe system approach – action spaces



Report: Part two

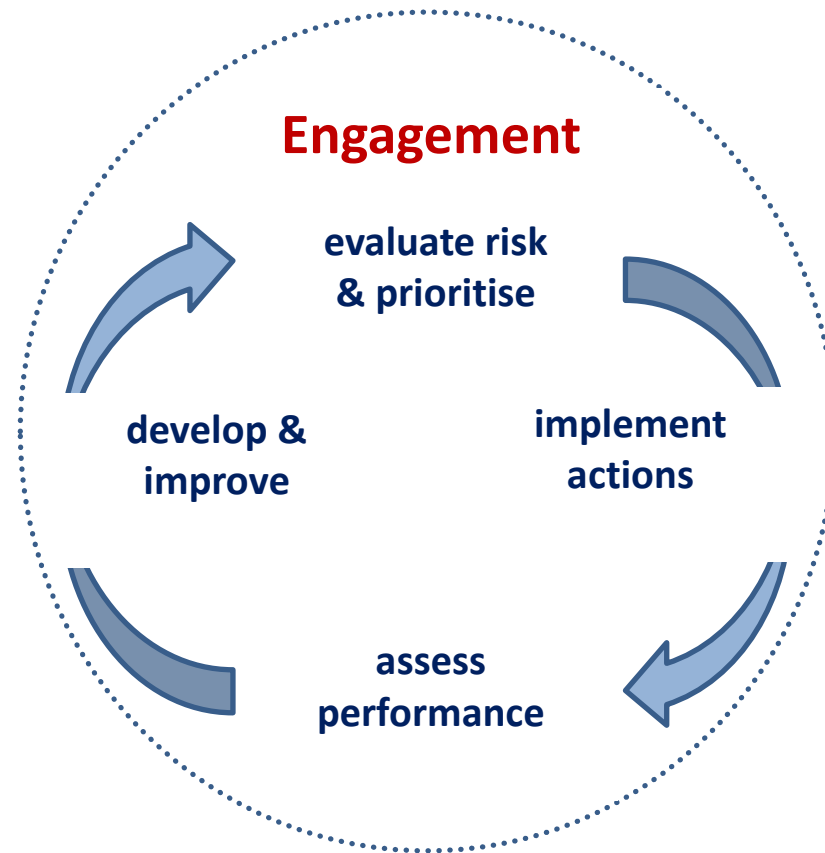


- A safe system approach – risk areas



Report: Part two

- A safe system approach – implementation



Report: Part two



- Plans of action to support application of the level crossing safe system approach for achieving vision zero
 - International action plan
 - National action plan

Summary



For safer level crossings

- Report from Expert Group
 - Assessment of major areas for level crossing – identification of gaps in these areas and recommendations for improvements
 - Proposal of level crossing safe system approach for enhancing safety
- Level crossing film (55k views, UNECE's # 1 hit)
- Many experts interested having a level crossing working party established at UNECE