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Group of Experts on Improving Safety at Level Crossings

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An evaluation and analysis of the safety performance of types of level crossings in UNECE member States and in selected non-UNECE member States such as Australia, India, New Zealand and South Africa

Submitted by France, Ireland, UK, ERA, UIC and Community Safety Partnerships Ltd.

This informal document submitted by France, Ireland, UK, ERA, UIC and Community Safety Partnerships Ltd summarizes the analysis and further research undertaken by this subgroup prior to the fourth session of the Group of Experts.

1. Data from additional countries

1.1. Readily accessible time series data concerning safety at level crossings is limited in scope when compared with the data reported to Eurostat and European Rail Agency (ERA).

1.2. Taking data from publicly available national statistics generated by rail safety regulators, transport departments, rail industry safety bodies and railways the following national examples address the utility of the data readily available.

1.3. Australia

1.3.1 The Office of the National Rail Safety Regulator has published two annual reports since its inception in 2012. However, the data published only relates to the railways within the states and territories that had passed legislation enabling their participation in the national regulatory system. Thus only 55% of the railways in Australia are covered in the latest annual report for 2013-2014.

1.3.2. Authoritative Information and Statistics to Promote better Health and Wellbeing (AIHW) published a report: *Serious injury due to land transport accidents involving a railway train, Australia 2004-05 to 2008-09* in June 2012.

1.3.3. Australian Transport Safety Bureau (ATSB) publishes regularly updated Australian Rail Safety Occurrence data. At present it extends to 2002-2012.

1.3..4. The Independent Transport Safety Regulator for New South Wales published a useful snapshot of level crossing safety performance in 2011.

1.3.5. The industry safety body – RISSB; and the TrackSAFE Foundation use national data at a high level to help build the case for reducing risk arising at level crossings.

1.3.6. Taken together it is possible to obtain relevant time series data which fits with much of the sorts of data collected in Europe.

1.4. New Zealand

1.4.1 Rail safety statistics, including data for level crossing accidents are updated every six months and are currently available through to June 2014.

1.4.2. As with Australia, publicly available data appears to fit with the European data, to a relevant extent.

1.5. India

1.5.1. In so far as free access is concerned, some relevant data can be obtained from Indiastat. However, there is significant sum needed to obtain access to the data.

1.5.2. Indian Railways' data, specifically that publicly accessible through the organisations Safety Information Management System (SIMS), provides time series data of basic parameters relating to accidents at level crossings involving road vehicles by type of crossing. There is also data relating to the total number of level crossings by type (manned and passive).

1.5.3. However, it has not proved possible to obtain relevant time series data concerning pedestrian fatalities at level crossings as these are seen as non-consequential to the railway.

1.6. Canada

1.6.1 The most complete set of time series data is that published by the Transportation Safety Board (TSB) of Canada, presently covering the period 2004-2013.

1.6.2. The data available from the TSB is by crossing type, including a public-private crossing split and covers both fatalities and serious injuries. The total number of crossings by type of protection is also available.

1.6.3. The Canadian data is sufficient for a comparative analysis alongside the data available from ERA and Eurostat.

1.7. United States of America

1.7.1. The Federal Railroad Administration (FRA) provides an online resource to produce user specified analysis of level crossing safety.

1.7.2. The data available from the FRA is sufficient to enable a meaningful comparison available through ERA and Eurostat.

1.8. Other jurisdictions

1.8.1. Language (or rather the authors linguistic limitations) is a barrier to obtaining consistent and relevant time series data, particularly as very little is available in English.

2. Integrating additional data with that already obtained

2.1. While it is possible to import data from North America and Australia and New Zealand with a credible fit with the data presently collected through the questionnaire and members of the group, it is proposed that the task of providing the data should fall to the jurisdiction concerned. However, care will be needed as the extent to which transit data is or is not included may be significant.

2.2. Wider relevant high-level time series road safety data appears to be available alongside railway safety data for each of the country's examined in the course of producing this informal paper. Further data can be obtained by reference to papers presented at the 2012 Global Level Crossing Symposium (papers by Aidan Nelson and Vojtech Eksler, in particular) and a review of papers from the 2014 Symposium papers will be undertaken to update data from additional jurisdictions.

3. Comparing like with like

3.1. It is proposed that the United Nations standard regional groupings of countries should be adopted in respect of data relevant to safety at level crossings.

3.3 In so far as the European regions and North America are concerned the standard UN groupings for countries having railways are:

Eastern Europe	*Belarus, Bulgaria, Czech Republic, Hungary, Poland, Moldova, Romania, Russian Federation, Slovakia, Ukraine*
Northern Europe	Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom
Southern Europe	Albania, Bosnia & Herzegovina, Croatia, Greece, Italy, Montenegro, Portugal Serbia, Slovenia, Spain, Macedonia (former Yugoslav Republic of)
Western Europe	Belgium, France, Germany, Luxembourg, Netherlands, Switzerland
North America	Canada, United States of America

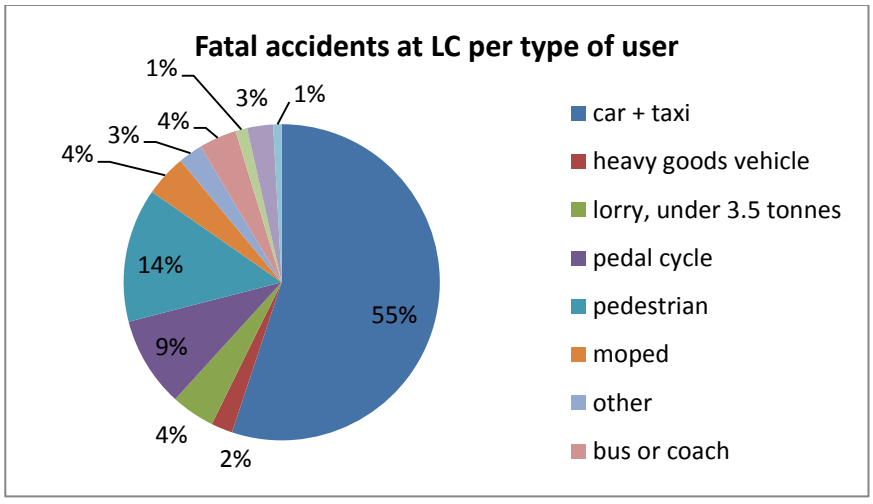
3.4. However, it should be noted that these groupings are imperfect when considering economic development which appears to be material in terms of levels of road traffic and levels of protection provided at level crossings.

3.5. Accordingly, if this working group wishes to adopt a grouping of countries based on their economic development it will be necessary to develop criteria, perhaps based on gross per capita income and the levels of private car ownership.

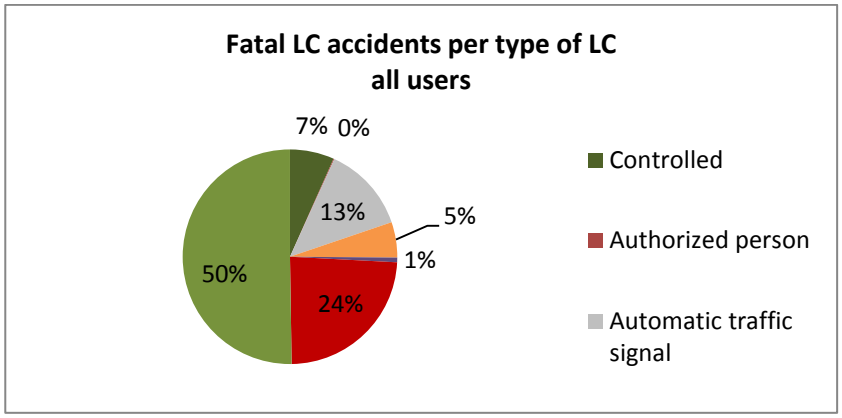
4. Analysing data on level crossing accidents

4.1. An analysis of time series data for 17 European jurisdictions has been undertaken by enquiries of the CARE centralised database on road accidents resulting in death and/or injury across the European Union. Using the time series data available for each jurisdiction from 2001, a total of 2,416 fatal accidents were identified and all data extracted

4.2. Fatal accidents at level crossings by type of user is shown in the table below. It should be noted that an analysis of data for a different set of countries suggests that pedestrians are around 40% of fatal accidents



4.3. In respect of fatal accidents by type of level crossing, the analysis is only possible for 50% of the fatal accidents at level crossings as in the other cases the type of level crossing was not specified and is shown as unknown in the table below.



4.4. Similar analysis by time of day, urban-rural and type of user by urban-rural is possible as is exposure of road users on different types of roads.

4.5. Given the scale of resource available to this working group and time available, it is proposed that analysis is undertaken for all countries and regional groupings using CARE capability. This is subject to retrospective input of data back to 2011 if possible.

4.6. However, this will require agreement of those administering the CARE database that data for non-EU / non-EEA countries can be input to enable broader comparative analysis.

5. Who should host, collect and input the data?

5.1. While each jurisdiction must have the responsibility of collecting their own data and submitting it for analysis, there is a need to consider who hosts the data collected for non-EU / non-EEA jurisdictions.

5.2. If the existing Eurostat, ERA and CARE databases can deliver the required analysis, the next step is to secure agreement that they are prepared to extend their capability to host data and allow analysis of this data with that from EU/EEA jurisdictions.

6. Next Steps

That the Group of Experts considers this document and provides the subgroup with guidance on next steps.