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Working Party on Road Traffic Safety

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 (CSP) presents the outcomes of the actions requested by the Group of Experts of this subgroup:

I. Proposed safety indicators

1. It remains desirable to adopt an existing suite of indicators that are already being used, for example those specified by the European Rail Agency (ERA) / Eurostat. However, the starting point for wider collection and analysis of safety indicators needs to be built around the data sets most likely to be available in all countries prepared to provide national data. Therefore, the proposed indicators have to allow easy aggregation and extraction of data in respect of those jurisdictions collecting more comprehensive statistics and not place an unacceptable burden on those presently collecting less complete data.

2. Clearly, there needs to be a set of baseline definitions against which participating jurisdictions are encouraged to report annually. Where possible, definitions and terms defined in UNECE Glossary for Transport Statistics should be used, complemented, where appropriate, with the definitions used by Eurostat/ERA/UIC.A glossary of terms and definitions will be presented in a formal document for consideration at the sixth meeting of the working group. Where different definitions have been used for submitted data this should be explicitly stated by the party submitting data and covered by way of notes linked

to any comparative analysis. Where a party does not collect the data needed to populate the benchmarking database, these fields should be left blank.

3. Should a country choose to provide retrospective time series data it should be submitted for the years 2005-2014 with the first voluntary annual submission being for 2015 by April 1st, 2016. This will allow the data used in support of the International Level Crossing Awareness Day (ILCAD) annually in June.

4. So far as is possible accidents, fatalities and number of known unauthorised level crossings on national railway systems [which can be significant in developing nations] should be included within the data submitted. Accidents at level crossings on functionally independent transit systems should be excluded.

5. In so far as classes of user are concerned, initially at least, this should be limited to differentiating pedestrian and cyclist from each other and an aggregation of all other users (i.e. overwhelmingly motorised transport) as is the case with data collected annually by the International Union of Railways (UIC) in connection with ILCAD. CARE/CADAS provides a comprehensive taxonomy of road users based on UNECE Glossary for Transport Statistics definitions.

A. The proposed input data sets are:

1.. Number of accidents at level crossings annually by crossing status

- a. Public level crossings
- b. Private level crossings
- c. Unauthorised level crossings

2. Number of accidents at level crossings annually by type of protection

- a. Passive
- b. Active
  - Automatic with user-side warning
  - Automatic with user side protection

3. Number of accidents at level crossings annually by class of user

- a. Pedestrian
- b. Cyclist
- c. All other road users
- d. Railway passengers
- e. Railway employees

4. Number of fatal accidents at level crossings annually by crossing status

- a. Public level crossings
- b. Private level crossings
- c. Unauthorised level crossings

5. Number of fatal accidents at level crossings annually by type of protection

- a. Passive
- b. Active

- Automatic with user-side warning
- Automatic with user side protection
- Manual or rail side protected

6. Number of fatal accidents at level crossings annually by class of user
    a. Pedestrian
    b. Cyclist
    c. All other road users
    d. Railway passengers
    e. Railway employees
7. Number of fatalities at level crossings annually by crossing status
    a. Public level crossings
    b. Private level crossings
    c. Unauthorised level crossings
8. Number of fatalities at level crossings annually by type of protection
    a. Passive
    b. Active
        - Automatic with user-side warning
        - Automatic with user side protection
        - Manual or rail side protected
9. Number of fatalities at level crossings annually by class of user
    a. Pedestrian
    b. Cyclist
    c. All other road users
    d. Railway passengers
    e. Railway employees
10. Number of level crossings at December 31st by crossing status
    a. Public level crossings
    b. Private level crossings
    c. Unauthorised level crossings
11. Number of level crossings at December 31st by type of protection
    a. Passive
    b. Active
        - Automatic with user-side warning
        - Automatic with user side protection
        - Manual or rail side protected

6. Normalising the raw data to enable better comparisons of performance can be undertaken in a number of ways using the data set out above or other publicly available data (e.g. road safety statistics): A glossary of agreed terms and definitions to support the proposed indicators will be provided in the formal paper prepared for the sixth meeting of the working-group..

1. Level crossing accidents per 1,000 level crossings
    a. By status
    b. By type
    c. By class of user
2. Fatal level crossing accidents per 1,000 level crossings
    a. By status
    b. By type
    c. By class of user
3. Fatalities at level crossings per 1,000 level crossings
    a. By status
    b. By type
    c. By class of user
4. Level crossing accidents per 1,000 route kilometres of railway
    a. By status
    b. By type
    c. By class of user
5. Fatal level crossing accidents per 1,000 route kilometres of railway
    a. By status
    b. By type
    c. By class of user
6. Fatalities at level crossing accidents per 1,000 route kilometres of railway
    a. By status
    b. By type
    c. By class of user
7. Level crossing fatalities as a percentage of road accident fatalities
8. Level crossing fatalities per million population

II. Holding and managing the benchmarking data

7. The organisations identified as potential data hosts are UNECE, ERA/Eurostat and UIC. `Of these UIC has the greatest reach globally although safety data is presently collected and analysed at a European level. However, there is a will to adopt the UIC Safety Database in other regions as may be required by its members..

8 Informal discussion with UIC has led to an in indication in principle of its willingness to host a wider geographic suite of level crossing safety data than presently included in the UIC Safety Database and/or collected for ILCAD.

9. As a next step it is suggested that a formal request be made to the UIC to seek its agreement to host the level crossing safety data, to analyse the data annually and to publish the results of the analysis annually in connection with ILCAD.

III. Analysis of data already collected

10. Other commitments have precluded CSP undertaking data input to allow analysis of data previously collected by the sub-group. However, it is hoped to have specimen analysis available for circulation at the meeting on June 16th, 2015.