UNITED NATIONS



# **Economic and Social Council**

Distr. GENERAL

ECE/TRANS/WP.6/2006/1 27 March 2006

Original: ENGLISH

# **ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

Working Party on Transport Statistics

Fifty-seventh session Geneva, 7-9 June 2006 Item 4(c) of the provisional agenda

# METHODOLOGICAL DEVELOPMENTS AND HARMONIZATION OF TRANSPORT STATISTICS

Submitted by the Government of the Czech Republic

<u>Note</u>: In view of the interest of the Working Party to continue having an exchange of views regarding the availability of data in the CARE database (TRANS/WP.6/149, para. 14) the Government of the Czech Republic has prepared a document which is reproduced below.

# **CARE** - European accident database

- 1. CARE (Community Road Accident Database) involves at present highly disaggregated data on road traffic accidents in 14 former EU member states since 1991 (without Germany). They are the data on individual accidents as collected by the member states in police databases. Great Britain and Northern Ireland data are, beside this, managed separately. Some countries have a certain delay for some years in providing data. The enlargement of CARE for all 25 EU member states as well as Switzerland, Norway and Iceland is planned in the near future (probably already in 2006).
- 2. Beside these data, also so called quick indicators data are provided monthly by the member states. They include main accident indicators (number of accidents, number of killed and injured in traffic accidents every month).
- 3. Some selected aggregated data, as well as quick indicators data and CARE general description, are available on the public CARE website: <a href="http://europa.eu.int/comm/transport/care/">http://europa.eu.int/comm/transport/care/</a>.
- 4. CARE database deals only with accident circumstances, not with causes. For data interpretation it is also necessary to take into consideration some limitation for data use due to certain differences in definitions in various countries. Some of these differences and specifications cannot be completely removed within data transformation from national databases into CARE database. It concerns e.g. number of killed, seriously and slightly injured people, traffic participant types, vehicle types, etc.
- 5. CARE database is created from individual national accident databases by means of transformation rules (logical terms linking national and CARE databases variables and values). CARE is a set of records of all police registered road traffic accidents (with injury) from member states in common structure. Of course, not all items of common structure can be filled for all countries.
- 6. There is also a CARE website (<a href="https://care.eu-admin.net/wi">https://care.eu-admin.net/wi</a>) with privileged user access. Usually 3 people per country are authorized to access it, e.g. representatives of transport ministry, traffic police and research institute. They can then work with the whole content of CARE database, i.e. to create own summary reports on the base of selected filters, or to read in advance prepared common reports.
- 7. The connection to the database is realized through the special government network TESTA (not through the Internet directly). There is a communication software (in some versions) which support the work with database (selection of different classes of objects and related filters). The output is always an aggregate value (not a single accident record).

#### (a) Basic data classes are:

(i) accident data - collision type (frontal, rear, lateral, side by side, with pedestrian, animal, chain collision, single vehicle with parking vehicle, single vehicle with obstacle, single vehicle without obstacle), accident severity (with fatality, serious

injury, slight injury, with injury), weather (dry, fog, rain, snow, sleet, wind), road type (inside urban area, outside urban area, motorway), junction (crossroad, fourarms, three-arms, roundabout, with railway, other and unknown), lighting (daylight, twilight, darkness with street lights, darkness without street lights),

- (ii) personal data (age, sex, driver, front passenger, rear passenger, pedestrian, injury severity fatality, serious injury, slight injury, without injury),
- (iii) time data (year, month, day, hour),
- (iv) vehicle data (vehicle type passenger car, bus, heavy goods vehicle, light goods vehicle, road tractor, agricultural tractor, motorcycle, moped, bicycle),
- (v) country data (state code).
- (b) Special filters are: with pedestrian participation, without pedestrian participation, with participation of selected type of vehicle.
- (c) The used operators for the time data are: greater, smaller, equal, between, etc.
- (d) Basic output indicators are:
  - (i) number of killed (within 30 days, as well as according to national definition);
  - (ii) number of injured total, serious and slightly;
  - (iii) number of not injured;
  - (iv) number of injury accidents; and
  - (v) number of participating vehicles.
- (e) It is possible to create statistic reports, cross-tables of different level, with different indicators reported, with selected filter conditions, include some special conditions, in different report configuration, include graphs. The final output can be loaded and imported, e.g. into XLS or CSV file.

# **Defined variables CARE + 1:**

- 1. month
- 2. day in month
- 3. day in week
- 4. hour
- 5. age of participant
- 6. age of driver
- 7. age of passenger
- 8. age of pedestrian

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- 9. sex of participant, sex of driver
- 10. sex of passenger
- 11. sex of pedestrian
- 12. injury severity of participant (fatality, serious injury, slight injury, injury, without injury, unknown)
- 13. injury severity of driver (fatality, serious injury, slight injury, injury, without injury, unknown)
- 14. injury severity of passenger (fatality, serious injury, slight injury, injury, without injury, unknown)
- 15. injury severity of pedestrian)
- 16. type of participant (driver, passenger, pedestrian, unknown)
- 17. type of passenger (front, rear, unknown)
- 18. type of vehicle (agricultural tractor, bus, passenger car, taxi, moped, motorcycle, goods vehicle more 3,5 t, goods vehicle less 3,5 t, other motor vehicle, other non-motor vehicle, bicycle, road tractor, road tractor with semi-trailer, other, unknown)
- 19. collision type (with animal, chain / rear, frontal, lateral, with parking vehicle, with pedestrian, single vehicle without obstacle / with obstacle, other, unknown)
- 20. accident severity (with fatality, with injury, with serious injury, with slight injury)
- 21. lighting (darkness without lighting, darkness without street lights, darkness with street lights lit, darkness with street lights unlit, daylight, twilight, unknown)
- 22. natural lighting (darkness, daylight, twilight, unknown)
- 23. street lights (without street lights, street lights lit, street lights unlit, unknown)
- 24. weather (dry, fog / mist, rain, snow, sleet, strong wind, other, unknown)
- 25. junction (yes, no, unknown)
- 26. junction type (four-arms, level crossing, without crossing, roundabout, three-arms type T / Y, other junction, unknown)
- 27. area type (inside urban area, outside urban area, unknown)
- 28. motorway (yes, no, unknown)

#### **Defined variables CARE** + 2:

- 1. registration country (home, other EEA [European Economic Area = EU 25 + Switzerland, Norway, Iceland], other / unknown)
- 2. nationality\* (home, foreigner, unknown)
- 3. vehicle age (0, 1-2, 3-5, 6-10, 11-15, >15, unknown)
- 4. driving license age (0, 1, 2, 3, 4, 5, >5, unknown)
- 5. road surface condition (snow / ice, dry, slippery, wet, other / unknown)

- 6. region / province (level NUTS 1, NUTS 2)
- 7. speed limit (<30, 30-50, 51-80, 81-100, 110, 120, unknown)
- 8. alcohol test (tested, not tested, refused, unknown)
- 9. psychophysical circumstances\* (drugs/ medicine/ fatigue, sudden illness, other/ unknown)
- 10. alcohol level (BAC)\* (<0.5 g/1, >0.5 g/1, <0.8 g/1, >0.8 g/1, >1.5 g/1, unknown)
- 11. movement of pedestrian (crossing, walking, unknown)
- 12. carriageway type (dual, single one way street, single two way street, unknown)
- 13. number of lanes (1, 2, 3, >3, unknown)
- 14. manoeuvre of vehicle (straight ahead, reversing, stopping, overtaking, changing lane, turning left, turning right, U-turning, other, unknown)
- 15. junction control (controlled, uncontrolled / unknown)
- 16. security equipment\* (seat belt, crash helmet, unknown)
- 17. road markings (no, yes, unknown)
- 18. hit and run after accident\* (no, yes, unknown)
- 19. accident type (see typological catalogue)

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<sup>\*</sup> for driver, passenger, pedestrian