Data and indicators for passenger travel demand – the European perspective

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**Overview**

1) **Pkm** by mode and modal split in the EU
   - Data from 2006 statistical pocketbook
   - Convergence in passenger transport in the EU
   - Sources of pkm data in DG TREN pocketbook
   - Concluding remarks (for part 1)

2) **Vkm** by mode
   - Data use and sources
   - UNECE Handbook
   - Eurostat Task Force
   - Vkm of HGV
   - Concluding remarks (for part 2)
1) Pkm by mode and modal split in the EU

- Data from 2006 statistical pocketbook of DG TREN

**Modal split passenger transport; EU25 in 1995**

- Cars: 73.6%
- Bus & Coach: 9.2%
- Railway: 6.4%
- Tram & Metro: 1.3%
- Air: 6.3%
- Sea: 1.1%

**Modal split passenger transport; EU25 in 2004**

- Cars: 73.5%
- Bus & Coach: 8.3%
- Railway: 5.8%
- Tram & Metro: 1.2%
- Air: 8.0%
- Sea: 0.8%
Convergence in the structure of passenger transport in the EU (1)

Evolution of the share of passenger cars in total land-based passenger transport; 1995-2004 (%)
Convergence in the structure of passenger transport in the EU (2)

Evolution of the share of *buses & coaches* in total land-based passenger transport; 1995-2004 (%)

- **EU25**
- **EU15**
- **EU10**

**Graph Details:**
- X-axis: Years 1995 to 2004
- Y-axis: Percentage
- Data points for EU25, EU15, and EU10

Convergence in the structure of passenger transport in the EU (3)

Evolution of the share of rail in total land-based passenger transport; 1995-2004 (%)
Evolution of passenger car stock, 1995-2005

Growth 1995-2005, %

- **100-124%**
- **75-100%**
- **50-75%**
- **30-50%**
- **20-30%**
- **9-20%**
- No data

EU27: +23.8%
EU15: +20.4%
EU12: +51.5%
Passenger cars per 1,000 inhabitants (2006)

Motorisation rate
(passenger cars per 1,000 inhabitants)
Motorisation rate, 2006

Passenger cars per 1,000 inhabitants

- 600-661
- 500-599
- 400-499
- 300-399
- 200-299
- <200
- No data
Sources of pkm data in DG TREN pocketbook
http://ec.europa.eu/dgs/energy_transport/figures/index_en.htm

- Problem: there is no EU legal act which would ensure the collection of harmonised road passenger transport data

- Whenever we found them, we took data from national statistical publications - as close to the source as possible; (e.g. for passenger car pkm, data have been extracted from BE, CZ, DK, DE, FR, IT, AT, FI, UK, NO, CH statistics)

- If not, then we checked data from the Common Questionnaire (CQ) of ITF, UNECE and Eurostat (e.g. for passenger car pkm, CQ data have been used for ES, LT, HU, NL, PL, SK, SE, IS)

- If not, then we produced own estimates, which we largely based on the evolution of the vehicle stock (e.g. passenger car pkm estimates for EE, EL, IE, CY, LV, LU, MT, PT, SI)

-> main purpose of estimations: calculation of EU-total!
Data sources (cont.);
some remarks to other modes (1):

- **Powered two-wheelers (P2W):**
  - Pkm “production” problematic because only 7 out of 27 EU countries seem to produce and publish estimates for P2W pkm.
  - Estimation difficult because structure and use of vehicle stock (mopeds vs. motor cycles) varies significantly from one country to another and is not always known.
  - Due to low quality of data, only estimate for EU total given in pocketbook.
  - Yet, P2W pkm not negligible (they appear to be more important than urban rail)!
Data sources (cont.); some remarks to other modes (2):

- **Buses and coaches:**
  - Pkm “production” easier because more than 50% of countries publish estimates of bus&coach pkm
  - Problem: coverage may differ (urban, interurban, regular, occasional services: not always all services included in the data)
  - Own estimates (which have to be made for a handful of smaller countries only) based on the evolution of the vehicle stock and an assumed average occupancy rate and mileage
Data sources (cont.); some remarks to other modes (3):

- **Interurban Rail**: data from Eurostat, collected under Regulation (EC) No. 91/2003

- **Urban rail**: nightmare; 11 countries provide their own estimates which are definitely not comparable; the rest is being estimated

- **Air**: airport-to-airport declarations collected under Regulation (EC) No. 437/2003 and use of distance matrix between airports for intra-EU flights only

- **Maritime**: port-to-port declarations collected under Council Directive 95/64/EC and use of distance matrix between ports for intra-EU journeys only (mostly ferry traffic)
Concluding remarks (for part 1)

- Quality of road (and urban rail) pkm data leaves room for improvement

- Frequent methodological changes and breaks in time series are extremely annoying from a user perspective

- Unclear whether data are based on what is going on on the territory of the countries or on the performance of nationally registered vehicles

- TREMOVE update (expected for April 2008) should bring some light into darkness
2) Vkm by mode – data use and sources

- Up to recently: Not very much interest in vkm data
- Now: Huge interest in vkm data (above all for emission calculations and the assessment of climate change impacts)
- Currently available vkm data for non-HGV are mainly based on studies or modelling results (TREMOVE); source of data in these studies: partly national statistics, partly estimates
- So far, the CQ has not much to offer in this respect
- New initiatives to get better vkm data: UNECE and ESTAT task forces
UNECE Handbook on statistics on road traffic – Methodology and experience

- UNECE workshop in Copenhagen in December 2005 created Task Force
- Task Force produced Handbook which covers the following topics:
  - User needs
  - 4 main data collection methods:
    - odometer readings
    - household surveys
    - roadside traffic counts
    - fuel consumption
  - Foreign traffic on national territory
Eurostat Task force on Road Vkm

- Due to rising interest in the subject, which had become obvious during the production of the UNECE Handbook, Eurostat set up its own task force with the aim of getting more data on road traffic volumes and of making the data more comparable.

- TF produced and sent out a questionnaire asking for main methodologies used to get vkm data and for available data.

- Meeting of CCST (covering EU+EFTA+EU candidate countries) in December 2007 decided to add four road vkm tables to CQ.
Vkm tables to be included in CQ (1)

- **Table 1: Road traffic by (detailed) type of vehicle**
  - Passenger cars broken down by fuel used,
  - Distinction between buses, coaches and minibuses,
  - Distinction between mopeds and motorcycles,
  - Goods vehicles by type of fuel, by size class and, for >6t, by type of vehicle (lorry / road tractor)
  - Bicycles(!)

- Data on road traffic on national territory preferred, but data following the nationality principle also ok.

- Ideally, incl. estimations of the traffic volume of foreign vehicles on national territory and of national vehicles abroad
Vkm tables to be included in CQ (2)

- **Table 2: Road traffic on national territory by type of vehicle and by type of road**
  - Road types: Motorways and other roads (further distinction between other roads within and outside built-up areas)
  - Only main categories of vehicle types

- **Table 3: Road traffic on national territory by type and age of vehicle**
  - Only main categories of vehicle types; passenger cars broken down by fuel used

- **Table 4: Road traffic on national territory by type of vehicle and by age and sex of driver**
  - Only main categories of vehicle types
Eurostat Task Force on Road Vkm: Next – actual and potential – steps

- Start of regular, voluntary data collection by CQ in 2008
- Eurostat will assist Member States in assessing, developing and/or improving current data collection processes
- Directive 96/96/EC (on the approximation of national laws related to roadworthiness tests in the EU) should be revised for it to foresee the reading of the odometer during the technical inspections and the passing on of the info to the national authorities. This would provide us with a full coverage of data by vehicle type and age of the national fleet.
Harmonised vkm data for Heavy Goods Vehicles (HGV) are already available

Collected under Regulation (EC) No. 1172/98

### Millions of Vehicle-km of HGV in the EU & Norway

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<th>Year</th>
<th>BE</th>
<th>BG</th>
<th>CZ</th>
<th>DK</th>
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<tr>
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<td>:</td>
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### Vkm by mplw of HGV, EU, 2005

- 0-6 t: 2.0%
- 6-10 t: 5.8%
- 10-20 t: 18.9%
- 20-30 t: 11.5%
- 30-40 t: 30.5%
- > 40 t: 31.4%

### Vkm by age of HGV, EU 2005

- 0-1 y.: 15.4%
- 1-2 y.: 23.9%
- 2-3 y.: 25.6%
- 3-4 y.: 15.8%
- 4-5 y.: 8.5%
- 5-6 y.: 8.7%
- 6-7 y.: 8.5%
- > 7 y.: 4.1%

### Vkm by empty/laden journeys EU (2005)

- Laden: 75%
- Empty: 25%
Loading factor of HGV in the EU – by type of transport operation

- Factors based on tkm and vkm data collected under Regulation (EC) No. 1172/98

<table>
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<th>intl. trsp.</th>
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<td>12.2</td>
<td>8.1</td>
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<tr>
<td>for hire or reward</td>
<td>14.2</td>
<td>16.1</td>
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<tr>
<td>total</td>
<td>12.2</td>
<td>15.8</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Average loading weight of HGV in tonnes
EU25 in 2005
Concluding remarks (for part 2)

- The quality of vkm data in Europe is bound to improve.

- With rising interest in the data, there are signs that more countries are willing to invest in data collection / estimation.

- TREMOVE update (expected for April 2008) should provide a set of fairly consistent vkm (and pkm!) data at a pretty detailed level for 2005 (on which the model will be based).

- It is still a long way until we will have fully harmonised and detailed data on pkm and vkm in the EU. With rising data needs, however, it may one day come true (currently, the predominant mood is rather for reducing the administrative burden and cutting back on statistical requirements).
Thank you for your attention!