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DEVELOPMENT OF A EUROPEAN TRANSPORT DATABASE SYSTEM
Status Report on the Trans-European North-South Motorway (TEM)
and the Trans-European Railway (TER) Databanks

Note by the secretariat

At its tenth session, the Working Party learned about the development of the TEM and TER databases, and the activities undertaken by the Working Party on Transport Statistics (WP.6) on the design and implementation of a European Transport Database System (TDS) (TRANS/WP.5/22, paras. 67-69). At its eleventh session, the Working Party took note of the progress made in the establishment of these databases, and asked to be informed also at its forthcoming session. Furthermore, the Working Party decided that the secretariat would prepare an informal note giving information on the contents of the TEM and TER databases along with a comparison of similar data being collected by other international organizations in order to avoid a duplication of work (TRANS/WP.5/24, paras. 69-71).

This note has been prepared by the secretariat following the request of the Working Party.

Please note that the distribution of documentation for the Working Party on Transport Trends and Economics (WP.5) is no longer "restricted". Accordingly, the secretariat has adopted a new numbering system whereby all working documents other than Reports and Agendas will be numbered as follows: TRANS/WP.5/year/serial number. Reports, Agendas, resolutions and major publications will retain their previous numbering system (i.e. TRANS/WP.5/21).

DEVELOPMENT OF A EUROPEAN TRANSPORT DATABASE SYSTEM

TRANSPORT DATA COLLECTION EFFORTS IN EUROPE

The ECE is currently active in a number of transport data collection efforts:

- The Common Questionnaire. This questionnaire has been jointly established by ECE together with Eurostat and the European Conference of Ministers of Transport (ECMT). The common questionnaire annually collects data for all transport modes (railway, road, inland waterway, oil pipeline transport, maritime transport and intermodal transport). The information collected by the common questionnaire includes infrastructure, transport equipment, traffic and transport measurements. Only global, national figures are collected.

- AGR, AGC and AGTC Agreements. The information collected for the European Transport Networks refers to infrastructure conditions and traffic. Data are typically collected every 5 years, although there are some differences according to each particular network:

S AGR data on both, traffic and infrastructure conditions, are collected every 5 years within the so-called road census (census of motor traffic on main international traffic arteries). The road census was last conducted in 1995, and the results were published by the ECE; they are also available in a GIS system. The Working Party on Transport Statistics recently held an ad hoc meeting on the road traffic census (TRANS/WP.6/AC.2/14/Add.1), which made a set of recommendations to Governments in order to conduct the 2000 Combined Census and Inventory.

S Data collection on both, infrastructure characteristics and traffic flows, have also been conducted for the AGC and AGTC networks. Traffic collection has been completed for 1990 and is under way for year 1995. The inventory of infrastructure characteristics of AGTC corresponding to year 1992, was published in 1993 (Inventory of existing AGTC standards and parameters). As AGTC and AGC networks share most of their lines, a common collecting effort has recently been launched for both networks, and data is being collected for year 1997.

- TEM and TER projects. TEM and TER databases have been developed by their respective Project Central Offices (PCOs) in the last years. Both databases are slightly different in structure:

S The TEM PCO has developed two databases: TEMSTAT1 gathers data on the progress of the planning, designing and construction effort of

the TEM network. The data concerning the existing infrastructure characteristics and traffic flows is included in TEMSTAT2. These databases are updated once a year (see annex 1 for further details).

- S** The TER PCO has recently changed the structure of its database. The so-called Section 1 includes general data for every country (similar to that collected by the Common Questionnaire, including information on railway equipment), and data focused on the TER network (concerning infrastructure characteristics and traffic). The inventory of the TER network is quite exhaustive, as it includes tunnels, overpasses and bridges. Data on combined transport traffic is also collected. No details have been thus far made available on the structure of the Section 2.

PERSPECTIVE FOR FURTHER DEVELOPMENT

For the scope of WP.5's activities, it seems that these databases offer a good potential for any attempt to develop a multimodal analysis of transport, both in Europe and in the TEM/TER region. Nevertheless, it should be noted that each of those collecting efforts have been conceived to cope with the needs of each particular network or project. The Working Party might wish to co-operate with other bodies (TEM and TER PCOs, WP.6, SC.2, WP.24...) in this task. In fact, a number of recommendations might already be suggested:

- S** the inventory and traffic collection efforts for AGC and AGTC should be made in the same year, and at best the same year as the E-road census. Accordingly, the competent Working Parties should be recommended to conduct their next data collection for the year 2000;
- S** in order to facilitate the multimodal analysis, the Working Party might wish to further examine the contents of the E-road census and the AGC/AGTC inventory and traffic collection, and to identify further data needs;
- S** it could be useful to request data on investments in transport infrastructure (construction, upgrading and maintenance) in the AGC, AGR and AGTC networks;
- S** TEM and TER PCOs could be encouraged to co-operate in the development of a multimodal analysis of their region.

ANNEX 1. TRANS-EUROPEAN NORTH-SOUTH MOTORWAY (TEM) PROJECT

(See also TRANS/WP.5/1998/9 for background information.)

On 5 June 1998, a Cooperation Agreement was signed between the UN/ECE TEM Project and the TINA Secretariat in Vienna, according to which the TEM Project Central Office (PCO) had to deliver the data on TEM and AGR networks by 30 April and 30 September 1998, respectively. The TINA Secretariat allocated to the UN/ECE TEM Project a grant amounting to US\$ 38,108 for the implementation of these tasks.

In accordance with the provisions of this Agreement and the decisions of the twenty-ninth session of the Steering Committee (Geneva, 16-18 June 1998), the PCO received the completed TEMSTAT 1 and TEMSTAT 2 data forms from Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Hungary, Lithuania, Poland, Romania, Slovakia and Turkey, processed and transferred them to the TINA Secretariat on 27 April and 23 September 1998, respectively.

The TEMSTAT database, consisting of these 10 countries' tables and TEMSTAT forms earlier received from Austria, Georgia and Italy, updated in 1999, was used to produce the 1999 TEM Status Report (TEM/WP.165). The database will also be used for the elaboration of the TEM Promotion Brochure, the TEM Network Map and the TEM Traffic Flows Map.

ANNEX 2. TRANS-EUROPEAN RAILWAY (TER) PROJECT

(See also TRANS/WP.5/1998/9.)

One of the main objectives of the TER Project is **to develop a database on the railway and combined transport system in the region.**

In order to provide in time the necessary information for the elaboration of the pre-feasibility and feasibility studies, the TER countries agreed on the establishment of a TER Data base System. To enable the member Governments to simplify the collection and control of the data, as well as to have overview on the processing of data with the limited availability, the restructuring process was agreed upon. With this, the transfer of the data collection in the EXCEL to the ACCESS format was completed. Within the restructuring process, the latest data (year 1998) from Section I are almost completed in the TER Databank.

In this respect, a Training Course on the Implementation of the Restructured TER Databank on 1 - 4 March 1999 in Maribor, Slovenia was organized for TER member countries' data experts.

At the same time, the TER Network is indicated in the Geographic Information System (MapInfo). It is very likely that all the Section I data of the TER Databank would be available in the GIS during the year 2000. TER is in a position to participate in the elaboration of studies with other companies, consultants etc. based on its own databank. Between the TER Project Central Office and the TINA Secretariat a co-operation agreement was concluded and realised.

TER PROJECT. LIST OF DATA INCLUDED IN SECTION I OF THE TER DATABANK

With the new structure, data is separated into two sections. In Section 1, more general data, available without limitation from each TER country, is included. Detailed technical data is included in Section 2.

The following data are defined as Section I of the TER Databank:

1. Master file

- 1.1 Record Number
- 1.2 Country Code
- 1.3 National Time table Code
- 1.4 Name of Start Node of the Line Section
- 1.5 Name of End Node of the Line Section
- 1.6 Start Node Code
- 1.7 End Node Code
- 1.8 AGC or TER Line Code 1

- 1.9 Section code
- 1.10 Main Location of the Start Node *3
- 1.11 Data relate to Year
- 1.12 Control Value

2. General data per Country

- 2.1 Record Number
- 2.2 Country Code
- 2.3 Name of the Country
- 2.4 Size of the Country
- 2.5 Number of Inhabitants in the Country
- 2.6 Gross Domestic Product (GDP)
- 2.7 Foreseen growth of the GDP
- 2.8 Total length of the rail network (Km)
- 2.9 Number of Passengers Travelling by rail per year
- 2.10 Number of passengers kilometres per year
- 2.11 Foreseen growth of the rail passenger transport
- 2.12 Number of tonnes transported by rail per year
- 2.13 Number of tonnes kilometres realised per year
- 2.14 Foreseen growth of the rail freight transport
- 2.15 Total number of railway workers
- 2.16 Control Value

3. Code file

- 3.1 Record Number
- 3.2 Country Code
- 3.3 Start Node Code
- 3.4 Railway Enterprise
- 3.5 Railway Service Operator
- 3.6 Railway Code
- 3.7 AGC or TER line Code 2
- 3.8 AGC or TER line Code 3
- 3.9 Pan European Code 1
- 3.10 Pan European Code 2
- 3.11 Pan European Code 3
- 3.12 Data Relate to Year
- 3.13 Control Value

4. Line section File

- 4.1 Record Number
- 4.2 Country Code
- 4.3 AGC or TER Line Code 1
- 4.4 Section code
- 4.5 Length of Line Section

4.6	Type of Line Section	
4.7	Max. Speed Allowed by the Track	*1
4.8	Design Speed	*1, 4, 5#
4.9	Load Limits for Railway Lines	
4.10	Number of Tracks	
4.11	Distance between Axes of Tracks	*4
4.12	Track Gauge	
4.13	Loading Gauge	*4
4.14	Rail Structure gauge	*4
4.15	Traction System	
4.16	Two-way Direction Operation	*1, 4,
4.17	Type of signalling	*4
4.18	Max. Gradient	*1, 4, 8
4.19	Min. Radius of Curve	*1, 4, 8
4.20	Max. Capacity of Line Section	*1, 4, 8
4.21	Authorised mass per axle wagons < 100 km/h	*4, 8
4.22	Authorised mass per axle wagons < 120 km/h	*4, 8
4.23	Year of Construction of the Line Section Track	
4.24	Year of Last Main Overhaul of Line Section Track	*1, 4
4.25	Data relate to Year	
4.26	Control Value	
5.	Nodes	*4
5.1	Record Number	
5.2	Country Code	
5.3	Start Node Code	
5.4	Node Type	
5.5	Station type	
5.6	Distance of the Node from the Main AGC or TER Line	
5.7	Access to the station	
5.8	Intermodal operation	
5.9	System of traction on Border Station and on Border tracks	
5.10	Abbreviation of the Connected Country	
5.11	Average truck waiting time	
5.12	Combined Transport Border Crossing Possibilities	
5.13	Minimum Main Track Length	*1
5.14	Minimum Siding (Track) Length	
5.15	Minimum (Main) Passenger Platform Length	*1
5.16	Number of tracks	
5.17	Maximum Speed on Switches	*1, 7
5.18	RO-LA Transit Trains	*1, 7
5.19	RO-LA Export or Import Trains	*1, 7
5.20	Combined Transit Transport	*1, 7
5.21	Combined Export or Import Transport	*1, 7
5.22	Block or Shuttle Trains Transit	*1, 7
5.23	Block or Shuttle Export or Import Trains	*1, 7

5.24	Mixed Freight Transit Trains Inspected	*1, 7
5.25	Mixed Freight Transit Trains without Inspection	*1, 7
5.26	Mixed Freight Trains Export or Import Inspected	*1, 7
5.27	Mixed Freight Trains Export or Import without Inspection	*1, 7
5.28	Processing Time for Passenger Long Distance Trains	
5.29	Processing Time for Passenger Regional or Local Trains	
5.30	Type of Passenger Border Control	
5.31	Customs Procedure for Freight on the Border	
5.32	Track Gauge	
5.33	Change of gauge	
5.34	Phyto Inspection	
5.35	Veterinary Inspection	
5.36	Nuclear safety Inspection	
5.37	Dangerous Goods Transported across the border	
5.38	Year of Last Main Overhaul of Node	*1
5.39	Data Relate to Year	
5.40	Control Value	
6.	Bridges	*4, 5, 6
6.1	Record Number	
6.2	Country Code	
6.3	AGC or TER Line Code 1.	
6.4	Section Code	
6.5	Location from the Start Node of the Line Section	*1
6.6	Length of Bridge	*1
6.7	Number of Tracks	*1
6.8	Loading Gauge	*1
6.9	Rail Structure Gauge	*1
6.10	Test Train	*1
6.11	Year of Last Main Reconstruction of Bridge	*1
6.12	Data Relate to Year	
6.13	Control Value	
7.	Tunnels and Overpasses	*4, 5, 6
7.1	Record Number	
7.2	Country Code	
7.3	AGC or TER Line Code 1.	
7.4	Section Code	
7.5	Location from the Start Node of the Line Section	*1
7.6	Length of the Tunnel	*1
7.7	Number of Tracks	*1
7.8	Loading Gauge	*1
7.9	Rail Structure Gauge	*1
7.10	Year of Last Main Reconstruction of Tunnel	*1
7.11	Data Relate to Year	

7.12 Control Value

8. Level crossings *4, 5, 6

8.1 Record Number

8.2 Country Code

8.3 AGC or TER Line Code 1.

8.4 Section Code

8.5 Location from the Start Node of the Line Section

8.6 Number of Tracks

8.7 Type of Protection of Crossing

8.8 Year of Last Main Overhaul of Level Crossing *1

8.9 Data Relate to Year

8.10 Control Value

9. Operational data *1,4,5,6,8

9.1 Record Number

9.2 Country Code

9.3 AGC or TER Line Code 1.

9.4 Section Code

9.5 Minimum Travel Time for Passenger Trains

9.6 Minimum Travel Time for Freight Trains

9.7 Number of Present Freight Train

9.8 Number of Present Passenger Train

9.9 Freight Net Load * 7

9.10 Passenger - km per year * 7

9.11 Passenger Gross Load

9.12 Freight Gross Load

9.13 Passenger Train Movements

9.14 Freight Train Movements

9.15 Countries involved

9.16 Definition of route (relation)

9.17 Type of service

9.18 Frequency of service

9.19 Data Relate to Year

9.20 Control Value

10. Locomotives or Railcar (abbreviated to: Locos/Rcars) *4

10.1 Record Number

10.2 Country Code

10.3 Locos/Rcars Code

10.4 Type of Locos/Rcars

10.5 Railway Enterprise Code 2.

10.6 Total Number of Locos/Rcars owned by the Railway
Enterprise *1

10.7	Total Number of Locos/Rcars but not owned by the Railway Enterprise	*1, 5
10.8	Type of Power Driven	
10.9	Length over Buffers	
10.10	Wheelset Gauge	
10.11	Maximum Axle Load	
10.12	Maximum Speed	
10.13	Data Relate to Year	
10.14	Control Value	
11.	Coaches	*4
11.1	Record Number	
11.2	Country Code	
11.3	Coach Code	
11.4	Type of Coach	
11.5	Railway Enterprise Code 2.	
11.6	Total number of cars owned by the Railway Enterprise	*1
11.7	Total number of cars but not owned by the Railway Enterprise	*1, 5
11.8	Average Length over Buffers	
11.9	Wheelset Gauge	
11.10	Maximum Axle Load	
11.11	Maximum Speed	
11.12	Data relate to Year	
11.13	Control Value	
12.	Wagons	*4
12.1	Record Number	
12.2	Country Code	
12.3	Wagon Code	
12.4	Type of Wagon	
12.5	Railway Enterprise Code 2.	
12.6	Total Number of Wagons owned by the Railway Enterprise	*1
12.7	Total Number of Wagons but not owned by the Railway Enterprise	*1, 5
12.8	Average Length over Buffers	
12.9	Wheel set Gauge	
12.10	Maximum axle load	
12.11	Maximum speed	
12.12	Data relate to Year	
12.13	Control Value	
13.	Combined Transport Quantity	*1,4,5,8

- 13.1 Record Number
- 13.2 Country Code
- 13.3 Railway Enterprise Code 3.
- 13.4 Total number of TEU Export
- 13.5 Total weight of Combined Transport Export
- 13.6 Total number of TEU Import
- 13.7 Total weight of Combined Transport Import
- 13.8 Total number of TEU Transit
- 13.9 Total weight of Combined Transport Transit
- 13.10 Data relate to Year
- 13.11 Control Value

NOTES:

- *1 Romania requires inclusion of these data into Section II.
 - *3 New item for location of the node on the National Railway Network
 - *4 Austria requires inclusion of these data into Section II.
 - *5 Russian Federation information pertains only to Railways.
 - *6 Czech Republic.
 - *7 Poland requested inclusion of these data into Section II.
 - *8 Slovenia requested inclusion of these data into Section II
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