



**Economic and Social
Council**

Distr.
GENERAL

TRANS/WP.6/2002/7
11 September 2002

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on Transport Statistics
(Fifty-third session, 25-27 November 2002,
agenda item 7 (b))

TRANSPORT DATABASE AND INFORMATION SYSTEMS DEVELOPMENT

Status report on the Trans-European North-South Motorway (TEM) Project Database

Transmitted by the secretariat

Note: The Working Party, at its fifty-second session, expressed interest in following progress made in the application of the geographic information system (GIS) in the transport sector. With this in mind, the Project Central Office of the Trans-European North-South Motorway (TEM) Project wishes to inform the Working Party about the developments on GIS within the TEM Project. The relevant information is reproduced below.

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**REPORT ON TEM (TRANS-EUROPEAN NORTH-SOUTH MOTORWAY) DATABASE
AND MAPPING ACTIVITY**

1. In the framework of the TEM Project in which 13 Central and Eastern European countries participate, two databases (TEMSTAT 1 and TEMSTAT 2) have been established. TEMSTAT 1 reflects the status of the existing and future TEM motorway network, while TEMSTAT 2 presents the status of the national road system, fulfilling the function of missing connections, as well as of the remaining E-road (AGR) and TINA links.
2. In these databases, the following data have been stored at the TEM Project Central Office (PCO) in Warsaw:

- motorway/road number (international/national)
- lengths of sections (in operation, under construction, planned)
- number of carriageways/lanes
- lane and shoulder widths
- maximum longitudinal gradient
- lengths within built-up areas
- lengths of road having design speed less than 60 km/h
- lengths of missing climbing lanes
- lengths of bridges with bearing capacity less than 60 T
- number of at-level railway crossings
- number of underpasses with clearance less than 4.5 m
- estimated travel times (cars, trucks)
- traffic volumes (AADT) according to the last census.

The data collection and processing is based on the uniform reference system, consisting of sections, subsections and portions of subsections.

3. On the basis of the decision of the twenty-sixth session of the TEM Steering Committee (25-27 November, 1996, Geneva), the TEMSTAT data collection commenced in 1997. Data thus obtained are being processed and analysed by the Project Central Office in Warsaw. The twenty-eighth session of the Steering Committee (22-26 November 1997, Geneva) further decided that the TEMSTAT forms, together with the reference system, would be revised and updated annually and that a special co-ordination meeting of experts responsible for data supply would be convened every year.
4. In accordance with this decision, the TEMSTAT Coordination and Training meetings were held in Istanbul, Turkey (25-27 March 1998), in Prague, Czech Republic (30 March-1 April, 1998), in Vilnius, Lithuania (7-9 April 1999) and in Budapest, Hungary on 17-19 April 2000, on 18-20 April 2001 and on 8-9 April 2002.
5. At these meetings, the problems related to the TEMSTAT data collection and processing, to the reference system and mapping are being discussed and clarified on a country-by-country basis.
6. As from 1999, data on the status of the network as of 1 January each year are communicated to the TEM PCO by contact persons from the 13 participating countries electronically. This information is also used to describe the annual status of the TEM network (see annex).
7. As regards the TEMSTAT maps, the TEM PCO is in position to produce these basic types of maps in the ArcView format:
 - maps showing the present status of the TEM corridor and main (AGR, TINA) road network in the TEM region
 - maps showing the existing (in operation) and future (under construction, in design stage, planned) motorway network in the chosen time horizons
 - maps showing the present or forecasted traffic flows in the chosen time horizons.

All these maps may cover either the whole TEM region, separate member countries or selected areas (e.g. vicinity of a big city or industrial agglomeration).

8. As from the year 2000 annually, on the basis of the data transferred by the member countries, the separate TEMSTAT road/motorway infrastructure maps of all TEM member countries mostly on the scale 1:750000 are launched by the TEM PCO and made available to the member countries in hard and electronic copies. By integration of individual TEMSTAT country maps, the map of the whole TEM region is also being produced.
 9. Furthermore, as from the end of 2002, the TEMSTAT data transferred electronically by the member countries and processed by the TEM PCO will be interactively linked to the TEM mapping system, making it possible to introduce the reported annual infrastructure changes to the respective maps automatically and thus terminating the transformation of the TEMSTAT mapping system to the full-fledged GIS one.
 10. Within the framework of the co-operation of the TEM PCO with the WERD (Western European Road Directors), which commenced in 2001 in Budapest, the joint meeting between the TEM and WERD Road Data and Trans-European Road Network (TERN) Subgroups was held on 29–30 April 2002 in Bratislava, Slovakia. The meeting recognized the need to harmonize data collection and processing procedures, reference and mapping systems of the EU accession countries of Central and Eastern Europe with those of the Union and recommended to elaborate the respective proposals to be submitted to the UNECE and the European Commission for consideration. The supply and exchange of data needed for the functional evaluation of the TERN, taking into account the accession countries will be dealt with at the meeting of the WERD Subgroup on TERN in September 2002 in Lucerne, Switzerland, in which the TEM representative will take part.
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Annex: TEM Project Central Office

STATUS OF TEM NETWORK (as of 01.01.2002)

COUNTRY	Total length km	PROGRAMMED (in study, preliminary design and design phases)		UNDER CONSTRUCTION		IN OPERATION		COMPARATIVE INDICATORS		
		one carriageway	both carriageways	one carriageway	both carriageways	one carriageway	both carriageways	% of total TEM length	CONSTRUCTION PROGRESS (% of length under construction)	DEGREE OF COMPLETION (% of length in operation)
Column No.	1	2	3	4	5	6	7	8	9	10
AUSTRIA	485	35	36	-	-	35	414	2.0	-	89.1
BOSNIA and HERZEGOVINA	792	-	792	-	-	-	-	3.3	-	-
BULGARIA	925	-	617	-	15	19	274	3.9	1.6	30.7
CROATIA	1627	317	833	61	33	127	396	6.8	3.9	28.3
CZECH REPUBLIC	972	-	429	-	16	-	527	4.1	1.6	54.2
GEORGIA	1053	-	1045	-	-	-	8	4.4	-	0.8
HUNGARY	1624	65	1012	-	98	65	449	6.8	6.0	29.7
ITALY	1519	-	4	-	-	-	1515	6.4	-	99.7
LITHUANIA	733	186	11	13	-	253	456	3.1	1.0	79.5
POLAND	3373	893	1750	24	188	36	482	14.1	5.9	14.8
ROMANIA	2937	-	2696	-	134	-	107	12.3	4.6	3.6
SLOVAKIA	897	-	486	17	55	8	331	3.8	7.1	37.3
TURKEY	6921	4131	504	-	321	-	1965	29.0	4.6	28.4
TOTAL	23858	5627	10215	115	860	543	6924	100.00	3.9	30.2