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ROAD TRANSPORT INFRASTRUCTURE

Trans-European North-South Motorway (TEM) Project – Progress Report

Note by the Project Manager

- 1. The Trans-European North-South Motorway (TEM) is an international motorway and expressway network connecting the Baltic, Adriatic, Aegean and Black Seas.
- 2. In the Project, fifteen Central Eastern and South-Eastern European countries (Armenia, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Georgia, Hungary, Italy, Lithuania, Poland, Romania, Slovakia, Slovenia and Turkey) participate and with it three more countries Sweden, Ukraine and Serbia have observer status.
- 3. Its high-capacity, double and grade-separated carriageways, each with a minimum of two traffic lanes will ensure an adequate quality of services for modern traffic by providing for safety, speed and comfort in accordance with commonly adopted standards, thus contributing to the economic and social development of the whole European continent.
- 4. The United Nations Economic Commission for Europe is its Executing Agency, responsible for technical and administrative backstopping of the Project and the coordination of its activities.

- 5. The total planned length of the TEM network as of 1 January 2006 was 23,316 km, out of which 8,383 km (both carriageways) and 4,793 km (single carriageway) were in operation and 1637 km under construction (Annex 1). The schematic map of TEM Network 2006 is attached to this report as Annex 5.
- 6. Taking into account the corresponding comparative indicators (last three columns of Annex 1), Turkey had the highest percentage of the TEM network length (29.6%), Hungary had the fastest construction pace (24.2% of its national TEM network under construction) and Italy had the highest degree of completion of its TEM network (99.7%). In total, 46.2% of the whole TEM network was in operation and 6.7% of its length was under construction.
- 7. Pending total completion, nevertheless, TEM is already an operational reality because of the TEM Corridor, which consists of upgraded national roads linking the already constructed motorway sections.
- 8. The main objectives set for the Project are:
 - To assist the participating countries in accelerating the construction of the TEM network through the identification of investment needs and priorities, investigation of financial resources needed for its construction and determination of appropriate payback systems for use on the TEM motorway.
 - To assist in designing, building, maintaining, operating and administering the TEM motorway network on the territories of participating countries as part of an integrated European transport infrastructure, thus filling the gaps in the existing motorway network in the region.
 - To pay special attention, in view of the present economic constraints, to the upgrading of existing roads and to envisage the stage construction of motorways.
 - To promote and improve cooperation in all matters concerning road transport between TEM countries having different levels of development.
 - To continue to disseminate the knowledge, expertise and know-how developed so far in the TEM region to other regions of the world.
- 9. In the whole period of 29 years during which the TEM Project has been underway, an efficient type of co-operation and understanding has been established between the respective motorway and/or highway authorities of the participating countries, together with the Project's institutional framework and organizational structure.
- 10. The highest decision-making body of the TEM Project is the Steering Committee, which meets twice a year, determines the policy of the Project as well as the general measures to be taken concerning TEM activities, and takes decisions for common action.
- 11. The TEM Steering Committee held its last (forty-fifth) session on 12-15 June 2006 in Bucharest, Romania. The next (forty-sixth) session of the Committee will be held in December this year in Geneva.

- 12. The Project has a Project Central Office (PCO) set up to coordinate all the activities carried out under the terms of the Programme of Work. It operates under the direction of the Steering Committee and under guidance from the Economic Commission for Europe. The PCO is located in Warsaw and the Polish Government covers office expenses.
- 13. The Project Central Office is headed by the Project Manager. The past TEM Project Managers were made available by the Governments of Greece, Turkey, Romania, former Czechoslovakia, Slovakia and the Czech Republic, respectively. The present Project Manager has been made available by the Government of Slovakia with an assignment until 31 December 2008.
- 14. The TEM has a National Coordinator in each participating country appointed by the respective Government, responsible for the coordination of all Project activities within the country.
- 15. The funding of all Project activities in-kind as well as in cash is provided exclusively by the participating countries. In this respect, the TEM Cooperation Trust Fund has been established, based on the Trust Fund Agreement signed in Geneva in December 1991. According to this Agreement, each participating country contributes USD 7,500 annually to the Project in addition to its in-kind contribution. Under the terms of the Agreement, the UNECE is responsible for the management of the funds contributed in cash. As a result of this, the Project has a well established and permanent arrangement for the continuous administration and coordination of its technical, managerial and economic activities.
- 16. According to the financial report for 2005, approved by the forty-fifth session of the TEM Steering Committee, the total funds available in the year 2005 amounted to USD 148,660 with total expenditures (including UNECE Programme support costs) representing USD 97,367, resulting in a total unencumbered positive balance as at 31 December 2005 amounting to USD 51,292.
- 17. The TEM Programme of Work for 2006, based on the provisions of the Trust Fund Agreement and approved by the forty-fourth session of the TEM Steering Committee (5 7 December 2005, Geneva) is attached to this report as Annex 2.
- 18. Besides the co-operation and assistance activities of the Project regarding the acceleration of the TEM construction itself, the TEM Project performs a piloting function in private sector funding of motorway and road construction and maintenance, focusing on the legal framework for building motorways with foreign credits and concession systems, evaluation of payback systems, including conditions for the application of motorway tolls, investigation and/or development of issues for assessing Public Private Partnership arrangements and technical assistance in the areas of private financing of motorways.
- 19. In the recent period, the scope of technology and know-how transfer in the framework of the TEM has also widened, going from motorway design, construction and operation to the broader field of common motorway and road issues, such as pavement and bridge management, environmental impact assessment, standardization, harmonization of signing, introduction of intelligent transport systems, etc. The forms, tools and techniques used in technology transfer within the TEM vary according to the aim and type of respective activities. They include seminars, workshops and round tables usually organized by one member country jointly with the

TEM Project Central Office in accordance with the annual Programme of Work, often in collaboration with one or more non-TEM institutions or consultants.

- 20. These transfer and technical assistance activities have also included valuable inputs from the other OECD countries, especially from the countries of the European Union and the United States of America. Within the multitude of technology transfer programmes directed now to Central and Eastern European countries, the TEM is unique in that it deals not only with the transfer from the more developed Western countries to the region, but also with the technology transfer, coordination and exchange of experience and know-how between the participating countries of the region themselves. The technical potential amassed, in terms of experts trained, also constitutes a substantial resource now possessed by the TEM Project, which can be capitalized on in other regions.
- 21. The TEM Project collaborates with international organizations dealing with transport issues, especially with the respective Directorates General of the Commission of the European Union, European Conference of Ministers of Transport, CEI (Central European Initiative), CEDR (Conference of European Directors of Roads), US-based HEEP (Highway Engineering Exchange Program), UN/TER Project Central Office in Budapest, International Road Transport Union (IRU), International Road Federation (IRF), Partners for Roads (Dutch initiative) and the European Association of Companies with Concessions for Motorway, Bridge and Tunnel Tolls (ASECAP).
- 22. In the reporting period, the involvement of the TEM PCO in the monitoring of development of Pan-European Transport Corridors went on and was manifested inter alia by the presence of the TEM Project Manager in the meeting of the Steering Committee of Corridor VI, on behalf of its Secretariat, held in Ostrava, Czech Republic on 14 November 2005 and in the meeting held in Graz, Austria on 1-2 June 2006.
- 23. Moreover, the TEM Project Manager participated in the 9th meeting of the Corridors and Areas Co-ordinators Group held in Brussels on 7 March 2006.
- 24. The TEMSTAT database and mapping activity has been successfully developed in the course of the whole reporting period. On 16-17 March 2006, the TEMSTAT Data Collection and Mapping Meeting was held in Prague, Czech Republic, in which the experts of 11 TEM member countries took part. In the meeting, the TEM Status data and TEMSTAT 1 and 2 data for 2006 were transferred to the TEM PCO to be used for elaboration of the TEM Status report, country and regional maps as well as for elaboration of the follow-up activities of the TEM Master Plan.
- 25. The TEMSTAT database represents the basic input to the TEM ArcView mapping programme, consisting of infrastructure status regional and country maps, traffic flows maps and TEM Master Plan maps presenting the envisaged network development until the year 2020.
- 26. In November 1993, with FHWA's and HEEP's financial and technical support, the TEM/HEEP Area V (Central Eastern Europe) was inaugurated as the first one in Europe. HEEP is a non-profit association in charge of promoting free exchange of computer programmes, systems and concepts between its members in the fields of civil engineering, transportation and management with the aim of increasing the effectiveness of computer usage. The establishment of the HEEP Area V provided TEM participating countries and their software experts with free access to the latest developments in highway electronic engineering.

- 27. The TEM/HEEP Area V 2006 Annual Meeting was held in Wisla, Poland on 15-17 May 2006. In the framework of the HEEP Educator and Student Participation Programme, two students from the Technical University of Gliwice were granted a scholarship to present a report on their research achievements at the 2006 HEEP Annual International Conference to be held in Williamsburg, Virginia, USA in September 2006.
- 28. In the reporting period, the already very close cooperation of the TEM Project Central Office with the UNECE further continued. The Project Manager participated in the 68th session of the UNECE Inland Transport Committee held on 7-9 February 2006 and in the meeting of the Working Party on Transport Statistics which took place on 7-9 June this year in Geneva.
- 29. In the framework of continuing collaboration between the UNECE, the TEM Project and Partners for Roads, a Dutch initiative in the field of road infrastructure, the TEM Project Manager was invited to attend the "Europe Developing Together" Seminar in Amsterdam on 5 April 2006.
- 30. The TEM Project Manager also participated in the 3rd Conference on Roads and Regional Development organized by Partners for Roads and the Hungarian Government in Eger, Hungary on 29 31 May 2006.
- 31. At the thirty-ninth session of the TEM Steering Committee, the revised TEM Master Plan Terms of Reference, representing one of the most important outcomes of the TEM Short-term Strategy were approved. The Master Plan is the elaboration of a strategic plan of actions for the implementation of TEM Project objectives in terms of updated and prioritized road transport infrastructure needs of TEM member countries i.e. (1) identification of investment priorities, (2) establishment of a timetable for their realization, (3) assessment of costs involved and of appropriate financing arrangements. In order to secure the necessary continuity of the TEM network to the neighbouring countries, it was decided that the TEM Master Plan should cover also 7 non-TEM countries (Belarus, FYROM, Greece, Republic of Moldova, Russian Federation, Serbia, Ukraine - see Annex 4). Thanks to the kind contribution of the International Road Transport Union (IRU) amounting to 100 000 Swiss francs, the elaboration of the TEM Master Plan (broken down into 10 Work Packages) started in September 2003 and was terminated in April 2005, achieving the intended goals i.e. presenting a consistent and realistic long-term investment strategy for the road/motorway backbone network in the wider TEM region.
- 32. The ultimate goal of the methodology was to identify projects' prioritization in order to support elaboration of a medium and long-term investment strategy in the region concerned and to encourage the realization of projects that had good chances of implementation and fell within the Master Plan objectives. Altogether, 319 projects were included in the TEM Master Plan. The implementation of the TEM network as a whole will need 49.556 billion €
- 33. With the elaboration of its Master Plan, the TEM Project offered a substantial contribution to the extension of TEN-T and the practical implementation of the Pan-European Transport Corridors. Together with the TER (Trans-European Railway) Master Plan, elaborated simultaneously, the TEM Master Plan also assisted in the promotion of intermodal operation and transport modes complementarity and the provision of maximum effectiveness of transport infrastructure.

- 34. In accordance with the approved TEM Master Plan conclusions and recomendations, specific follow-up actions and activities have been envisaged to increase the awareness for the Master Plan implementation and dissemination of its results and outcomes (Annex 3).
- 35. On invitation of the European Commission, DG TREN, the TEM Project Manager together with UNECE Transport Division Director and its Regional Advisor participated in the coordination meeting focused on implementation of both Master Plan's results and High Level Group 2 report. This meeting was held in Brussels, Belgium on 1 February 2006.
- 36. Further information regarding the TEM Master Plan can be found on the UNECE website: www.unece.org/trans.
- 37. In the reporting period, collaboration with the TER Project Central Office in Budapest, established in 1991, continued. The collaboration concentrated mostly on the administration of both Projects, on the possibilities of cooperation with the European Commission in activities having multimodal scope and on the coordination and finalization of all matters concerning the elaboration of the TEM and TER Master Plans.

 $\frac{\text{Annex 1}}{\text{STATUS OF TEM NETWORK (as of 1.01.2006)}}$

COUNTRY	Total length	(in study, design a	AMMED preliminary nd design ases)		DER RUCTION	IN OPE	RATION	COMPARATIVE INDICATORS				
	km	one carriageway	Both carriageways	one carriageway	both carriageways	one carriageway	both carriageways	% of total TEM length	CONSTRUC TION PROGRESS (% of length under construction)	DEGREE OF COMPLETI ON (% of length in operation)		
Column No.	1	2	3	4	5	6	7	8	9	10		
AUSTRIA	485	-	-	35	22	35	428	2.1	8.2	92.0		
BOSNIA and	331	-	311	-	8	-	12	1.4	2.4	3.6		
HERZEGOVINA												
BULGARIA	925	-	617	-	15	19	274	4.0	1.6	30.6		
CROATIA	1465	31	508	6	161	88	742	6.3	11.2	53.7		
CZECH	987	-	320	16	90	16	561	4.2	9.9	57.6		
REPUBLIC												
GEORGIA	1053	-	1045	-	-	-	8	4.5	-	0.8		
HUNGARY	1658	100	444	15	395	67	617	7.1	24.2	39.3		
ITALY	1519	-	-	-	4	-	1515	6.5	0.3	99.7		
LITHUANIA	719	20	83	29	14	254	466	3.1	4.0	82.5		
POLAND	3317	312	2087	56	207	85	626	14.2	7.1	20.1		
ROMANIA	3026	-	2631	-	202	-	201	13.0	6.7	6.6		
SLOVAKIA	935	-	513	3	71	570	362	4.0	7.7	69.2		
TURKEY	6896	-	378	=	288	3659	2571	29.6	4.2	63.8		
TOTAL	23316	463	8937	160	1477	4793	8383	100.00	6.7	46.2		

Annex 2
TRANS-EUROPEAN NORTH-SOUTH MOTORWAY (TEM)
PROJECT PROGRAMME OF WORK FOR THE YEAR 2006

	Objective		Activity	Action	Implemented by		2	006	
No.	Description	No. <u>Priority</u>	Description		33	I	II	III	IV
1.	acceleration of its construction and review of TEM priorities TEM Master Plan final report		Publicizing and promotion of the	PCO Governments UNECE	*				
	TEM priorities			1.1.2. Preparation of the TEM Master Plan Follow-up Brochure/Newsletter	PCO Governments UNECE				*
				1.1.3. Completion of the TEM Master Plan missing or insufficient data	PCO Governments	*	*	*	
				1.1.4. Establishment of priorities based on the new and updated/revised data received	PCO Governments Consultant(s)			*	*
				1.1.5. TEM future development based on the 2005 status	PCO Governments		*		
				1.1.6 Workshop on the TEM Master Plan forecasting methodology	PCO Governments		*		

	Objective		Activity	Action	Implemented by	2006				
No.	Description	No. <u>Priority</u>	Description		l by	I	II	III	IV	
				1.1.7. Updating the TEM Master Plan forecast based on the 2005 census on selected sections of the TEM Master Plan backbone network	PCO Governments		*	*		
	1.1 Wo bot		1.1.8. Workshop on the TEM Master Plan bottlenecks identification and stage construction methodology	PCO Governments				*		
				1.1.9. Updating of lists and maps of TEM Master Plan bottlenecks	PCO Governments				*	
				1.1.10. Monitoring of the Master Plan implementation	PCO Governments UNECE				*	
				1.1.11. Addressing the Master Plan funding questions	PCO Governments UNECE	*	*	*	*	
				1.1.12. Maintenance and upgrading of the TEM Master Plan GIS system	PCO	*	*	*	*	
			1.1.13. Definition of macro-scale Master Plan implementation actions	UNECE PCO Governments				*		

	Objective		Activity	Action	Implemented by		20	006	
No.	Description	No. Priority	Description			I	II	III	IV
				1.1.14. Investigation of possibilities to expedite the construction of the TEM backbone network	PCO Governments	*	*	*	*
		1.2. I.	TEM Integration in the new European Transport Environment	1.2.1. Strengthening TEM as a monitoring and management instrument of Pan-European Corridors development	UNECE PCO Governments	*	*	*	*
				1.2.2. Comparison of the five multimodal transport axes adopted by the High Level Group II with the corresponding sections of the identified TEM Master Plan backbone network	PCO Consultant	*			
				1.2.3. Carrying out the function of secretariat of Pan-European Transport Corridor VI	PCO Poland	*	*	*	*
2.	Promotion of TEM	2.1. I.	Development of new contacts and relationships with neighbouring countries aiming at their joining the Project	2.1.1. Contacts of ECE and PCO representatives with countries in line with the TEM Trust Fund Agreement to discuss the possibilities and conditions of their joining TEM, focusing especially on non-TEM member countries covered by the TEM Master Plan	UNECE PCO	*	*	*	*

	Objective		Activity	Action	Implemented by		200)6	
No.	Description	No. Priority	Description			I	II	III	IV
				2.1.2. Bilateral and multilateral contacts between neighbouring countries encouraged and supported by PCO	PCO Governments	*	*	*	*
		2.2. I.	Providing information on TEM: information brochure, international events, mass media information, etc.	2.2.1. Regular dispatching of press releases and providing other type of information related to Project's actions	UNECE PCO	*	*	*	*
				2.2.2. Disseminating all information about the Project within the countries	Governments	*	*	*	*
				2.2.3. Permanent updating of TEM Project webpage within the UNECE website	UNECE PCO	*	*	*	*
				2.2.4. Preparation of TEM Project and TEM Master Plan brochure	PCO				*
				2.2.5. Feedback members with TEM news	PCO	*	*	*	*
				2.2.6. Presence in European Transport fora	PCO Governments	*	*	*	*

	Objective		Activity	Action	Implemented by				
No.	Description	No. Priority	Description			I	II	III	IV
				2.2.7. Organisation/participation in regional and national events to present the Project	PCO Governments	*	*	*	*
				2.2.8 Strengthening TEM PCO by securing more financial and human resources	UNECE Governments	*	*	*	*
3.	Ensuring safe, sustainable and homogeneous driving conditions on TEM by assisting in TEM design, maintenance, operation and management	3.1. I.	Information on TEM	3.1.1. Performing HEEP Area V regular activities	PCO Poland		*		
	management			3.1.2. Data processing of TEMSTAT databases	PCO	*		*	
				3.1.3. Meeting of TEMSTAT contact persons	PCO Governments		*		
				3.1.4. Elaboration of TEMSTAT 2006 maps	PCO			*	

	Objective		Activity	Action	Implemented by	2006				
No.	Description	No. Priority	Description		J	I	II	III	IV	
				3.1.5. Promotion of TEM Standards and Recommended Practice	UNECE PCO	*	*	*	*	
4.	TEM integration into Pan European transport environment 4.1. Co-operation with respective EC bodies and other EU states' organisations and institutions 4.1.1. Institutional co-operation with EC DG TREN, REGIO, ENLARGEMENT		UNECE PCO	*	*	*	*			
	CHVITOIMENT			4.1.2. Co-operation with CEI (Central European Initiative) in transport related activities of common interest	UNECE PCO respective Governments	*	*	*	*	
				4.1.3. Further strengthening of regular dialogue and co-operation with non-Governmental Organisations (IRU, CEDR, Europlatforms, ASECAP, Eurochambres), Universities and Research Institutions	UNECE PCO Governments Related organizations	*	*	*	*	
	T T		4.2.1. TEM involvement in Central- Eastern European region	UNECE PCO	*	*	*	*		

	Objective		Activity	Action	Implemented by		2	006	
No.	Description	No. Priority	Description		3,	I	II	III	IV
		4.3. I.	TEM involvement in the development of Euro-Asian Transport Linkages	4.3.1. Elaboration of a strategy for the effective involvement of TEM in the development of the Euro-Asian Transport Linkages	UNECE PCO	*	*		
				4.3.2. Transfer of know-how to new member countries involved in the Euro-Asian Transport Linkages and sharing TEM experience and practices with them	UNECE PCO	*	*	*	*
		4.4. I.	Co-operation with other countries and fora	4.4.1. Development of close co-operation with other related initiatives and projects	UNECE PCO	*	*	*	*
				4.4.2. Connection of TEM plans to other components of the network (rail, sea ports, inland ports, airports)	UNECE PCO Governments				*
				4.4.3. Identification and facilitating the connections of the TEM network to the transport networks of neighbouring regions	UNECE PCO			*	*

	Objective	Activity		Activity Action			2	2006	
No.	Description	No. Priority	Description			I	II	III	IV
				4.4.4. Involvement of TEM in supporting the application of new technologies & techniques (ITS, telematics, informatics, etc.)	UNECE PCO Governments	*	*	*	*
5.	Project management enhancement	5.1. I.	Steering Committee activities	5.1.1. Regular sessions	UNECE PCO Governments		*		*
		5.2. I.	Co-operation with UNECE	5.2.1. Continuation and further strengthening of co-operation with UNECE ITC and its subsidiary bodies	UNECE PCO Governments	*	*	*	*
		5.3. I.	Co-operation among TEM countries in all matters concerning road transport	5.3.1. Contacting the Governments with respect to their needs	PCO Governments	*	*	*	*

TEM MASTER PLAN (MP) UPDATED 2006 FOLLOW-UP TIMETABLE

						20	06					
ACTIVITY	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov	Dec.
Publicizing and promotion of MP final report												
TEMSTAT data collection and mapping meeting												
Setting up the MP monitoring mechanism												
Publicizing of MP final complete version												
Comparison of MP backbone network with other networks												
TEM 2006 status report												
Distribution of uniform questionnaire for MP monitoring												
Distribution of revised TEMSTAT templates												
Updating MP 2006 follow-up action plan												
Review and updating MP presentation on UNECE website												
Workshop on TEM MP forecasting methodology												
Return of filled-in uniform questionnaires												
Collection of network and projects' data from Armenia												
TEM backbone network status maps 2005 - 2020												
Elaboration and distribution of revised TEMSTAT 2006 maps												
Workshop on developments in MP and its priorities												
Analysis of financial structure and sources of MP projects												
Completion of MP countries' missing and insufficient data												
Monitoring MP implementation												
Maintenance and upgrading of TEM MP GIS system												
Preparation of MP follow-up brochure/newsletter												

workshop/meeting



