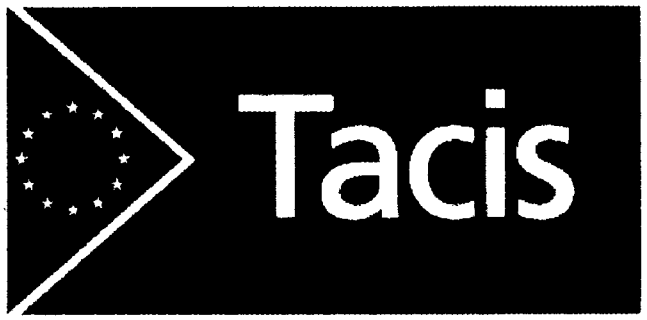
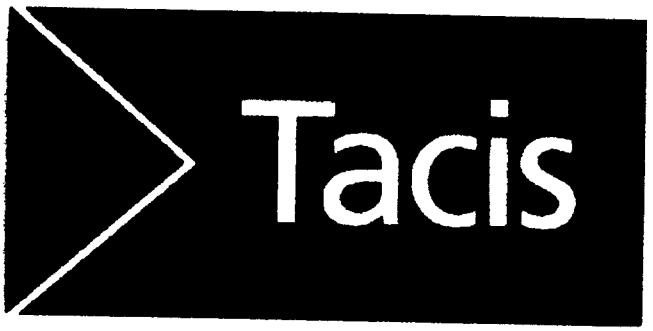


Forwarding - Multi-modal
Transports Systems

Progress Report

September 1996



Forwarding - Multi-modal
Transports Systems

Progress Report

September 1996

PROJECT PROGRESS REPORT

PROJECT TITLE	FORWARDING-MULTI-MODAL TRANSPORT SYSTEMS
PROJECT NUMBER	TELEREG 9201
COUNTRIES	SOUTHERN REPUBLICS OF THE CIS AND GEORGIA

NAME	LOCAL OPERATORS	EC CONSULTANT
	TRACECA REGION MINISTRIES OF TRANSPORT	BCEOM in association with: SYSTRA and DE-Consult
ADDRESS	TRACECA REGION MINISTRIES OF TRANSPORT Project Regional Co-ordination: ISKOMTRANS Ap. 13, 18, 56, Vinograd St. 480091, ALMATY KAZAKHSTAN	BCEOM Place des Frères Mongolfier 78286 GUYANCOURT FRANCE
TEL. NUMBER FAX NUMBER	Tel: (3272) 60 50 98/ 56 48 Fax: (3272) 62 49 53	Tel: (1) 30 12 48 00 Fax: (1) 30 12 10 95
CONTACT PERSON	ISKOMTRANS M. Vladimir A. UTEBEKOV General Director	BCEOM Project Director: P-M Ringwald Project Manager: J. Caceres

DATE OF REPORT	September 1996
REPORTING PERIOD	Progress Report
AUTHOR OF THE REPORT	Jose Caceres

EC M & Team	----------	----------	----------
EC DELEGATION	----------	----------	----------
TACIS BUREAU	----------	----------	----------
	name	signature	date

TABLE OF CONTENTS

Pages

Table of Annexes

1. P .OJECT SYNOPSIS

PROJECT TITLE	FORWARDING-MULTI-MODAL TRANSPORT SYSTEMS
PROJECT NUMBER	TELEREG 9201
COUNTRIES	SOUTHERN REPUBLICS OF THE CIS AND GEORGIA
PROJECT OBJECTIVES	The overall objectives of this study are to assess the condition of the multi-modal transport system, determine priority actions for the design and development of commercially oriented multi-modal transport services in the TRACECA Region. This is to be achieved, first by enhancing the capability of various groups of technical and administrative staff, and secondly, through providing assistance and training to intermodal organisations on multi-modal business management.
PROJECT OUTPUTS	* Phase 1: identification of the existing problems and recommendations to organise the multi-modal transport. * Phase 2: transfer of intermodal technologies to a TRACECA intermodal freight transport working group through practical studies, «on-the-job training» activities including a study tour in E.U. * Phase 3: proposals for future investment to promote and develop commercially attractive and competitive intermodal services from both the economic and technical point of view

PROJECT ACTIVITIES	1. Assessment of the existing multi-modal transport services in the area.
	2. Setting up an intermodal freight transport group, which will carry out a series of activities:
	  * examine Western countries multi-modal systems from a technical and commercial point of view;
	  * familiarise with intermodal E.U. technologies
	  * creation of contacts with potential customers of TRACECA intermodal transport services (meeting with relevant multi-modal transport companies and organisations).
	3. Elaboration of a case study and proposals directed at promoting and developing commercially attractive and competitive intermodal services
	4. Training on concrete problems
	Follow up and overall review of the project

PROJECT START	30 January 1996
PROJECT DURATION	11 months: from February 1996 till January 1997

2. SUMMA .Y OF THE PROJECT PROGRESS

2.1. Summary of the preparatory activities

The contract was signed on December 13, 1996. The project started on 30 January 1996. A first visit to all the eight TRACECA countries was conducted by the Team leader during the period 29 January 1996 to 15 March 1996. The purpose of the visit was to explain and agree with representatives of Partners Organisations on the objectives, the organisation of the work, the structure of the work programme and the specialist input (local and expatriate) as well as their timing. In some countries, specially in Georgia and Armenia, the recipient institutions were not yet prepared to assign the local transport organisations and experts to be involved in the project and asked for additional time to decide on the definitive local organisation.

On the basis of discussions and agreements, the Consultant prepared and sent to the main recipient institutions a document summarising the project objectives and the structure of the work programme, as well as the profile and expected input from the « local group of experts ». The local group of experts was asked to be composed by three specialists representatives from the various transport modes: rail, road, and maritime and waterways. They were provided with a « Guide for the collection of basic data » to start the work between mid-March to mid May, before the visit of expatriate experts to the region.

On the other hand, preparatory activities related to the second phase (StudyTour in the E.U. countries) were initiated. The Consultant defined the profile of the expected participants (one high ranking decision-maker and one high level specialist per country) and asked the main Recipient Organisations to select the persons composing the Country delegation

During this preparatory period, the Team Leader was asked by the TRACECA management to incorporate active assistance to the local operators, in particular to the shipments along the TRACECA route of cotton from Uzbekistan and oil equipment from Poti. To take account of this request, some modifications of the initial programme have been introduced. A specific survey have been prepared on the cotton movement from Uzbekistan.

The Inception Report (English version) was produced and forwarded to the different TACIS CU and DG1 bodies concerned two months latter, after the effective date of start (project signed on December 13 and started on January 30). The Russian version, however, has incurred a two-week delay.

2.2. Summary of the Project Progress since the start

Thanks to this preparatory work, the activities of phases 1 and 2 (Analysis and Recommendations and Study Visit in E.U. countries) started satisfactorily. The present report presents the main findings since the start.

It should be noticed that remarks made by the Monitoring and Evaluation Team concerning the change of tasks numbering as presented in the Inception report was found confusing. To take account of suggestions and facilitate the monitoring work, this Project Progress Report follows the initial task numbering and structure. The activities since the start may be summarised as follows:

PHASE 1: Analysis and Recommendations (Months 1 - 6)

Task 1 and 2 (General task and Discussions with Partner Organisations): The problems of identifying local transport organisations have been solved and « local experts groups » were able to work on the project.

Task 3 refers to a Detailed survey of the multimodal transport. The data collection have been initiated by the local experts groups on the base of th « Guide for the collection of basic data » or questionnaire attached to the Inception Report.

This questionnaire sent to local experts was only partially filled revealing that the design, based on western concepts of the multimodal transport, was poorly adapted to the local context established on quite different principle basis. However, the questionnaire was a useful tool as it outlined the frame of the work and established a basis for a comprehensive discussion between local and western experts. Through these discussions, both teams of experts (expatriate and local) completed the questionnaire.

The Preliminary assessment of the existing system (Task 4); as well as the Identification of strengths and weaknesses of the existing system (Task 5) and the Recommendations for improvements of systems (Task 6) were performed during various visits to the region organised from May to August 1996. The first visit, (from the 11th to 29th May in six of eight the TRACECA countries) was performed by all the team members together to clear out the objectives and the contribution expected from each member of the team.

Task 7 consist of a Summary of EU experience with multimodal transport: a special report was prepared and distributed to the participants during the Study Visit in E.U. countries.

PHASE 2: Study Visit in E.U Countries (Months 3 - 6)

The second phase of the project, (Study visit in E.U countries) was carried out as planned in the Inception Report. The visit to Europe included the 5 following tasks:

Task 8: Preparation of the study tour in EU countries
Task 9: Setting up an intermodal freight transport group
Task 10: Study visit to logistic organisation in EU countries
Task 11: Study tour in EU countries
Task 12: Evaluation of the study tour (training and information needs)

The Task 12 consisted of a final evaluation of results as compared with the initial objectives. A ten-questions questionnaire as well as a final general and individual meetings were used to evaluate the effectiveness of the Study Tour. Reproduced in full in an attached appendix, the answers show that the initial objectives were fully attained.

PHASE 3: Case study and training (Months 6-11) : The third phase correspond to activities for the next period, summarised in the next following section. It comprises the following tasks:

Task 13: Selection of multi-modal corridor and preparation of supports
Task 14: Identification and selection of participants
Task 15: Preparation of the case study and training programme
Task 16: Execution of the case study in a selected intermodal corridor
Task 17: Evaluation and conclusions

3. SUMMARY OF PROJECT ACTIVITIES FOR THE NEXT PERIOD

This final phase of the study is focused on the design and execution of practical solutions or cases studies to assist local operators to improve the current multimodal transport situation along the TRACECA route. On the other hand, through the definition of investment projects the team of experts should answer to short an medium term problems posed by container shipments along the corridor:

The project activities for the next period comprise the following tasks:

Task 13: Selection of multi-modal corridor and preparation of supports
Task 14: Identification and selection of participants
Task 15: Preparation of the case study and training programme
Task 16: Execution of the case study in the selected intermodal corridor
Task 17: Evaluation and conclusions

The Selection of multi-modal corridor (Task 13): clearly identified by the TRACECA management and local partners involved in the programme, the project team should concentrate its efforts on the selected TRACECA corridor.

The identification and selection of participants (Task 14) should be centred around the persons involved in this particular project: final recipients and the delegation named to take part in the study tour and project activities, decisions-makers, local experts and operator, both from public and private sector.

The preparation of the case study and training programme (Task 15) should be carried out on the basis of the main findings and conclusions presented in this Progress Report, after final approval of the programme by the TRACECA counterparts.

The execution of case studies in selected intermodal corridor (Task 16). It is intended to organise a practical and comprehensive seminar in Tashkent with the participation of relevant persons involved in the project, both from Central Asia and Caucasian countries, instead of the two small workshops suggested in a initial attempt. Within the seminar under preparation, the team of experts should develop main recommendations and solutions presented in this Progress Report, including the problems related to cotton movements from Uzbekistan and Oil equipment from Poti.

Additionally, to take account of suggestions from the TRACECA counterparts, the local and expatriate experts should determine the profitable investment projects that could be the subject of financing by International Banks (European Bank for Reconstruction and Development, World Bank, etc.).

Evaluation, conclusions and follow-up actions (Task 17) will be carried out in the final step by the Team Leader. He will synthesise the contributions by the experts and counterparts for the various project components of the work programme.

A Final Report will be produced at this stage.

4. PROJECT PROGRESS IN REPORTING PERIOD

PHASE 1: Analysis and Recommendations

4.1. Task 1: General Task

This is a general tasks to deal with the everyday management of the project: execution of tasks, progress assessment, control of expenditure, corrective actions, support team management etc. The task output includes reporting activities as follows: Inception Report (produced within two months of the commencement of activities); the Interim Report (at the end of month 6); the Draft Final Report (at the end of the month 11); and the Final Report (within 6 weeks after the receipt of the Draft Final Report).

4.2. Task 2: Discussions with relevant counterparts / Multi-modal organisations and consulting groups.

After solving initial difficulties with getting representatives from different modes of transport at one table and to decide the definite local organisation and experts assigned to in the Study, the Team Leader, Jose CACERES and the Team of experts met with local relevant decision-makers and operators during the period from February to August 1996 to present the project, collect relevant data and physically visit the key sites of the multimodal system in the eight TRACECA countries. A list of relevant contacts made by the team leader and expatriate experts, including the local team of experts is attached to Annex 1.

4.3. Task N° 3: Detailed Survey of the Multimodal system

To gather intermodal transport supply and demand data, a two-hundred question questionnaire was used (reproduced in full in the Inception Report). As noticed, the difference in concepts used in Europe as compared with the TRACECA countries turned the questionnaire rather difficult to translate and to complete by local teams. For the same reason, the writing of this report was reconsidered so as to be as clear as possible. Before explaining what the experts found to pose a problem, the ideal concept is briefly defined.

Three series of visits were organised : first in February 1996 with two members of the team who had visited all the TRACECA members States. A second visit in May: all the team members travelling together, often by land, from Almaty to Poti through Tchinkent -Tashkent - Bukhara - Tchardjou - Ashgabat -Turkmenbaschi - Baku - Tbilissi. A final series of individual visits were carried out during July and August 1996 through all the TRACECA States, including the visit to the Georgian ports of Poti and Batumi.

The data collection work, based on the questionnaire, was organised by the Team Leader who provided expatriate experts with an instruction plan : subjects and countries to be covered by each of the experts during their individual visits. The collating of this material enabled elaboration of a synthesis by subjec t:

Marc Landrin	= multimodal trucking activities
Bernard Francou	= multimodal port activities
Claude Durand	= organisation Combined & Marketing;
Frank Prescha	= rail combined transport aspects,
Paul Pezant	= traffics & planning aspects
Jose Caceres	= multimodal logistics and general syntheses

4.4. Task N° 4: Preliminary Assessment

The data collected through the questionnaire completed by discussions with relevant counterparts have been carefully analysed by the team of experts to produce the preliminary assessment presented below. As noticed, the « questionnaire » used for the data collection revealed important conceptual differences between the TRACECA and European countries. To facilitate the reading by local or foreign persons involved, the presentation of main findings was reconsidered. Before explaining what the experts have identified to pose a problem, the concept used as a reference is, wherever necessary, briefly defined.

The organisation of the assessment, still tentative, comprises:

- general multimodal transport environment,
- traffic flows through the selected TRACECA corridor
- technological aspects,
- operational aspects
- management and marketing aspects

4.4.1. General multimodal transport environment

4.4.1.1. The concept of multimodal transport

The concept of multimodal transport is here defined as:

> « the « organisation of carriages of goods in one and the same loading unit (container, swap body or semi-trailer) which uses successively several modes of transport without handling of the goods themselves in changing modes. The organisation falls under the control and responsibility of one unique organiser (ex; freight forwarder, etc.) ».

Compared with single mode or fractionated transports, it offers various advantages:

- solutions to road carriers (alternatives to "pure road transport" in the long-distance market)
- it provides freight traffic to railways companies,
- It reduces transport costs by eliminating manipulation of goods (only the « boxes » are handled),
- it improves the security (against breakage, theft , etc., ..) and reliability of transport made under the responsibility of independent combined transport operators,
- it makes transportation time shorter,
- it simplifies commercial, transport and customs procedures and payment transactions,
- it optimises the use of the existing infrastructure and rolling stock while reducing the need for investment in trucks and road maintenance.

In return, the combination of various transport modes in a single transport chain requires a major organisational, technical and infrastructure means to organise:

- the initial journey by road transport
- the concentration of traffic flows around a reduced number of terminals (at both ends to give rise to pendular traffics),
- the transhipment operations at selected terminals,
- the main journey by rail,
- the transhipment operations at port and shipping transports,
- the final delivery by road hauliers (by individual firms or by the combined transport operator with its own means).
- The co-ordination of actions between partner's countries to set up common goals to meet the international container transport requirements: co-ordination of schedules; appropriates organisation at both ends of the selected routes; flexible tariff system, etc..

The key principle is based on the notion of modal complementary: concentration of container traffic flows by road at selected reduced number of terminals; rail traction from terminal to terminal by specia' - d container freight train (Block trains). As grouping of transport operations and creating specific infrasti ..ture requires rather large investment and specific organisation, individual transports firms, road carriers and railways companies, have a vital interest to join their forces. This means that special combined transport companies[i] must be created.

4.4.1.2. Organisational environment in TRACECA countries

The observed situation in TRACECA countries is characterised by a poor perception of the notion of complementary between the various transports modes. Main reasons are:

- strong preference of railways which have practically been the only transport mode in use: the transport policy, was and still remains focused chiefly on the railways,
- organisation largely compartmentalised at the economical and political level: poor interaction between transports modes, with a large predominance of railways structures.
- poor development of road transport companies,
- poor adaptation to multimodal transport at the factories' premises.

Currently, each participant (railway, national and international trucking companies, etc) has a specific and mono-modal approach which excludes any type of collaboration and joining interests with other partners. Needless to say, there are not independent combined transport operators able to assume the responsibility of organising international multimodal container traffics from the origin to final destination.

Railways continue to use the general organisation and procedures (tariffs, liability regulations, container exchange, use of wagons, etc.) which were in force for container traffic in the former Soviet Union. The fracturing of rolling stock resources (specialised wagons and container fleet) between the various national railway networks did not facilitate common work. Indeed, container traffic is considered by each railway network as a type of railway traffic used for a specific type of goods. It is never dissociated from railway operations set up for freight traffic. Although the technology used is specific to container traffic, old habits and behaviours inherited from the Soviet era continue to prevail. Specific technical and operational constraints (final collect and delivery by truck, provision of containers, special tariff for containers, special high speed through trains, simplified documents, procedures and regulations, etc.) are not integrated and accomplished.

As for trucking sector, whereas its traditional role, largely confined to local distribution by small lorries, is changing. The direction of such changes is not altogether the right one: instead of concentrating in the natural short/medium distance market, most of the road hauliers, poorly equipped, are operating individually in a particularly very long distance market, far from co-operating with railways (no sub-contracting agreements to perform the main long distance traction by rail, from terminal to terminal).

However, in most of TRACECA countries a reorganisation of trucking activities is under development due to the efforts of freight forwarders such as « TERMINAL » and « KAZINTERFRAKT » in Kazakhstan and « CAUTREX » in Georgia, BK-INTRANS in Uzbekistan. They are able to propose International container services. These dynamics private companies are partially filling the gap left by the absence of specialised combined transport companies.

The most remarkable company is SHOHSTRANS (Uzbekistan), a specialised subsidiary company which represents the Ouzbeki Railways General Management and also manages container traffic in a relatively autonomous way. The company was established two years ago by an initiative from the Cabinet of Ministers; The creation of this company was decided by the authorities to reduce the dependence on foreign forwarders for the Uzkek international traffic. Nevertheless, SHOHSTRANS mixes the functions of a multi-modal transportation operator for the Railways and a forwarding agent. Although the firm's effectiveness is reinforced by this situation, other container traffic operators have doubts regarding the neutrality of the firm.

[i] By evaluating the transport needs of individual firms, the independent combined transport company is able to negotiate attractive tariffs from the Railways Company (they buy rail traction on a basis of the wholesale price). By reselling these services to individual firms (on a basis of attractive retail prices) they make a profit. The benefits are reinvested to finance the required infrastructure (hey act precisely as a "freight transport wholesaler". Examples of such organisations are INTERCONTAINER and the IURR companies (International Union of Rail-road Companies), two structures visited during the study tour (more details in the Task 11).

Indeed, even if SHOHSTRANS can take advantage of its railway affiliation, the firm is submitted, as any other container traffic customer, to the rules and regulations regarding multi-modal traffic enacted and applied by the Railways.

At last, the multimodal transport business is also restricted by the low number of local shipper using container instead of the traditional transport by rail wagons for their export operations. In the same order of ideas, local established foreign firms are suffering from this situation because they cannot easily make use of unloaded containers used for imports. Most of the container are parked or sent back empty.

4.4.2. Traffics flows and planning aspects

4.4.2.1. Introduction

For planning purposes it is important to inventory and compare the existing infrastructure and equipment with the minimum physical requirements for the practicability of container transport, taking account of traffic flows on the main links.

If the data related to supply elements have been relatively easy to obtain, the data on traffic flows posed particular problems: no reliable database was available. Data is often aggregated and is not homogeneous so it is difficult to cross-check the information on the means of transport, final destination, packaging and the kind of cargo.

Before considering traffic flows on the TRACECA corridor, it is not useless to produce a general picture of this specific corridor as compared with the two other existing alternatives. Indeed, the preference of one particular corridor differs from one country to another according to their geographical position, the reliability of transit routes and the destination market. In this respect, the general current situation is as follows:

- The traditional North route: the reliability of this rail link is still under strong influence of the MPS (Russian railways information system). However, the traffic on this line is decreasing as the traffic between Central Asia and Southern countries and China increases. « Pure » road transports, still not significant, is developing. For countries such as Kazakhstan, and to a lesser extent for Kyrgyzstan, Tadjikistan and even Uzbekistan, this corridor is still the first choice.

- The South route to Europe via Turkey through Tejen and Saraks: the traffic on this rail link is not yet significant. However, a project to built a rail line around the north of Lake Van is expected to boost the traffic capacity to 4 millions tons per year. Nevertheless, the problem of two breaks in gauge change from CIS standard of 1,520 mm to tracks with a width of 1,435mm hampers a normal traffic and considerable operational and technical resources are needed to make these axle gauge interchanges efficient. On the contrary, « pure » road transport is noticeably developing with Turkey and Iran and, to a lesser extent, with Pakistan and Afghanistan.

- The TRACECA route to Europe through the Caspian-Sea: as a result of political unrest in the Caucasus, the traffic have been drastically affected and declined from 5 millions tons annually to about one million ton. At present, there are only two ferries operating between Turkmenbaschi and Baku, compared with seven ferry services scheduled during the former Soviet time. Uzbekistan and Turkemenistan are the largest Central Asian users. But traffic volumes sent by this corridor are still quite low. However, traffic is expected to increase. Regional agreements concluded in May 1996 between Central Asian countries (Turkmenistan and Uzbekistan) and the Caucasian countries are generating new traffic (i.e. 100.000 tons of cotton from Uzbekistan by the year 2005). Through the present TRACECA programme, the European Union is examining the transport and transit conditions and this gives a new impetus to this transport corridor. Theoretically, this corridor is the best suited to Central Asian countries, specially for the trade with Mediterranean countries: Italy, France and Spain, Greece, etc.

The organisation of this part of the study, as far as traffic is concerned, is as follows:

- the traffics from/to main rail terminals ,
- traffic from/to Caspian Sea and Black Sea Ports:
    - * from/to Aktau
    - * from/to the port of Turkmenbashi,
    - * from/to the port of Baku,
    - * recent container traffic flows trend (between Turkmenbashi and Baku)
    - * from/to the port of Poti
    - * from/to the port of Batumi

4.4.2.2. Traffics from/to main rail terminals

Available statistics are particularly poor: as rarely dissociated from the railway normal traffic, data on the number of containers handled is unreliable and uncompleted; final destinations is not known or in the best case just up to the « destination frontier ». The following table resumes the number of unloaded and loaded containers in the TRACECA countries (detailed traffic figures, terminal by terminal, is attached in annexe 2).

Container Movement in Railway Terminals -
Year 1995

COUNTRY	TERMINAL	LOADED			UNLOADED		
		Large size (ISO 20-40")	Medium size	Total	Large size (ISO 20-40")	Medium size	Total
ARMENIA	Karmir/Blur	158	0	158	426	6	432
AZERBAIJAN	Baku	0	400	400	0	166	166
GEORGIA	Total (country)	158	400	558	426	172	598
KAZAKHSTAN							
Almatinskaya		4 597	34 098	38 695	1 344	9 317	10 661
Tselinaya		2 859	24 171	27 030	2 648	5 163	7 811
Z.Kazakhstanskaya		2 923	13 690	16 613	NA	0	0
	Total (country)	10 379	71 959	82 338	NA	14 480	18 472
KYRGYZSTAN		1 300	7 895	9 195	2 583	842	3 425
TADJIKISTAN	Total (country)	8 421	16 507	24 928	407	940	1 347
TURKMENISTAN		1 789	11 605	13 394	NA	0	0
UZBEKISTAN	Total (country)	6 983	31 640	38 623	NA	0	0
Total Caucasian C.		316	800	1 116	852	344	1 196
Total Central Asia.		28 872	139 606	168 478	NA	16 262	23 244
TOTAL MOVEMENT		29 188	140 406	169 594	NA	16 606	24 440

As the table shows, it is rather hazardous to base a serious analysis on the available data. However, some comments, exclusively made on large containers (20 feet ISO-container), are as follows:

- In the Caucasian countries, the traffic from/to rail terminals is reported to be low. Not having any rail terminal in good conditions, Azerbaidjan is serving container traffic by trucks. Similar, in Georgia and Armenia, traffic is largely served by road transport. Loaded container represents only 37% of the overall large container movements. It reflects the « unbalanced » character or the traffic. It results in a low productivity as most of container must be sent back empty.

- in Central Asian countries, large containers represents only 17% of the total « loaded » containers, reflecting the large predominance of small containers, mainly used in the domestic market. Kazakhstan is the largest user of 20 feet ISO-container, followed by Tadjikistan and Uzbekistan. The traffic from/to rail terminals is unbalanced in all cases, but the sense differs from one country to another. For instance, in Kazakhstan and Tadjikistan the number of loaded containers represents more than 50% of the unloaded containers while in Kyrgystan the situation is exactly opposite. This means, for Tadjikistan, that a large number of containers must return empty to the freight generating locations for being re-loaded. The situation of Uzbekistan has been in-depth studied (special report is attached in Annex 3): largely unbalanced, the international container traffic is posing a huge problem to foreign firms established in the country because about 80 % of unloaded large container must be parked somewhere or sent back empty.

As for recent trends, available figures produced by railways companies suggested that container movement in rail terminals is rapidly decreasing.

Recent Trends in Container Movements
in Railway Terminals

COUNTRY	Railway Company	LOADED CONTAINERS					
		Large Size			Medium Size		
		1993	1994	1995	1993	1994	1995
Armenia			135	158		14	0
Azerbaidjan		0		0	2 451		400
Georgia			466	74		3 505	757
Kazakhstan	*Almatinskaya*		7 927	4 597		66 401	34 098
	Tselinaya	8 586	5 206	2 859	58 713	42 986	24 171
	Zapado-Kazakh.	8 760	4 739	2 923	36 135	27 182	13 690
	Total (country)		17 872	10 379		136 569	71 959
Turkmenistan		7 311	4 025	1 789	40 807	24 117	11 605

in Kazakhstan and Turkmenistan rail container traffic is decreasing respectively from 9000 units in 1993 to 3000 units in 1995 and from 7300 units in 1993 to 1800 units. By contrast, from discussions with freight forwarders, road traffic (mainly carried by Iranian and Turkish hauliers) is developing in detriment to the railways. The deterioration of the rolling stock and handling equipment at rail-terminal as well as at customer's premises partly to explain this situation.

4.4.2.3. Traffic from/to the Port of Aktau

Still low, container traffic from/to Aktau is rapidly increasing. The following table summarises the situation (in thousands tons):

	Export	Import	Total
1993	0	1.1	1.1
1994	2.2	1.0	3.2
1995	3.5	6.6	10.1

During the first 8 months of 1996, the number of loaded containers (exports) represented 1, 512 tons (about 150 TEU) while the unloaded containers represented 1,183 tons. Virtually, all movements of container are with Iran. They contain consumable goods, asbestos, polystyrene, plywood. There are loaded container on the deck of cargo ships with a maximum of 30 units per trip. This means that not always all containers can be loaded on a particular ship.

In the short-term only limited volumes of containers from Aktau can be expected to follow the TRACECA corridor. Long distance traffic cannot justify a ferry service between Aktau and Baku. But trade between Azerbaidjan and Kazakhstan (petroleum products from Azerbaidjan, cereals from Kazakhstan) may be sufficient to justify it.

The oil Industry may be interested in transporting cargo from Europe and USA through the Black Sea. An oil company visited during on-site visit last August says that they are bringing 20-25 containers/year from the US through St Petersburg Port and further down by railways. The interviewed company is not satisfied with present transport conditions. A difficulty they face is the absence of forwarders. Several companies expressed interest in setting up an office in Aktau - including SAGA of France - but it has not been done yet. On the other hand, some spare parts or drilling equipment are coming from Frankfurt by air with transhipment in Baku.

4.4.2.4. Traffic from/to the Port of Turkmenbashi.

The following table summarises the general traffic trend (including the two existing terminals included), since 1987, expressed in thousands tons.

	1987	1991	1992	1993	1994	1995
Via Ferries terminal	5 803	2 061	1 247	855	698	782
Via Piers	2 132	2 032	991	388	214	263
Total (oil excluded)	7 835	4 093	2 238	1 243	912	1 045

In general, the traffic has dramatically decreased: from almost eight millions tons in 1987 to only one million in 1995.

Detailed 1995 traffic nature figures provided by the port of Turkmenbaschi (in tons) are as follows:

Nature of the Traffic	incoming	out-coming	Main destinations
VIA PIERS			
Building materials	42000	42000	to Baku and other ports
Salt	79000		from Bekdash (46 000 are sent to Turkmenistan by train)
		33000	to Baku
cotton		12000	to Baku for Azer. textile factories
metal products		10000	export
Chemicals/fertilisers		10000	
flour	4000		imported via Baku
equipment and others	27000		from Iran
full containerised (in 20 TEU)	4000		about 400 TEU
TOTAL via piers in tons	156000	107000	TOTAL in and out = 263 000 T.
VIA FERRY TERMINAL			
Total volume from BAKU	314000		
Total volume to BAKU		468000	
Num. rail cars from BAKU	4133		
Num. rail cars to BAKU		5663	
TOTAL via ferry services in tons	**314000**	**481000**	**equals to 782 000 Tons**
TOTAL OF RAIL CARS	**4133**	**5663**	**equals to 9 799 units**

Comments:

- Apart from 47 000 tons of salt (salt represents 50 % of the incoming traffic, via piers, and come from the small port of Bekdash) and 27 000 tons of equipment from Iran, the traffic of this port is connected with Baku (about 90 %). Via piers, commodities such as equipment, cotton, fertiliser and part of the metal

products (ingots) are containerisable. But only 4000 tons are full container traffic (about 400 TEU, in 1995).

- The traffic via ferry terminal is more than three time higher than the traffic via piers. Two ferries, three times a week (12 round trips/week) are deserving this connection. The number of trucks and rail cars are reported. Trucks (some of them carrying containers) represents in average 50% of the loads embarked into the ferries. (10 000 rail cars made the rest).

4.4.2.5. Traffic from/to the Port of Baku

The following figures provided by the Caspian Shipping company summarises the structure and trends of the traffic registered in 1989 and 1995, expressed in thousands ton/year:

	1989	1995	in %1995
TOTAL LIQUID BULK CARGO	**7 753**	**797**	**47.1 %**
Crude oil inbound	3 076	66	3.9 %
Oil products outbound	4 247	164	9.7 %
Oil products inbound	0	300	17.7 %
Fresh water outbound	430	267	15.8 %
TOTAL DRY BULK CARGO	**493**	**112**	**6.6 %**
Building material inbound	398	7	0.4 %
Salt inbound	95	105	6.2 %
TOTAL FERRIES (tares included)	**4 126**	**782**	**46.3 %**
Baku to Turkmenbashi	1 995	314	18.7 %
Turkmenbashi to Baku	1 722	468	27.6 %
Baku to Bektash	0	0	0 %
Bektash to Baku	392	0	0 %
Baku / Aktau round-trip	17	0	0 %
TOTAL ALL KINDS INCLUDED	**12 372**	**1 691**	**100.0 %**
of which ferry terminal	**4 126**	**782**	**46.3 %**

Comments:

- the total cargo loaded and unloaded via all the berths declined from 20.5 millions tons in 1989 to 5,7 millions tons in 1995. As a results, the port infrastructure is under utilised. The decline have been more pronounced for bulk traffic than for general cargo.

- At present, liquid bulk cargo and ferry traffic are the two main activities of the port.

- Ferry traffic representing 30 % in 1989 is now amounting near to 50 % of the total throughput. Container traffic, via ferry terminals, is reported to represent only about 300 TEU.

- The traffic is unbalanced: traffic from Turmenbaschi to Baku is one third higher than the traffic in the opposite direction. As a result, the net rate of loading is quite low. It must be noted that tares of rail cars in the total throughput is particularly high: the ferries are carrying about 35 % of dead-weight.

4.4.2.6. Recent traffic flows trends between the ports of Turkmenbashi and Baku

The following two tables produced by the Caspian Shipping Company summarises the traffic flows nature and trends in both sense between these two ports for the period 1993-1995 (in thousands tons/year):

	1993	1994	1995
BAKU - TURKMENBASHI			
Perishable foodstuff	1.3	8.8	0.8
Frozen food		8.6	15.5
Beverages	12.1	11.0	7.9
Textile	67.0	2.9	5.9
Ore	4.4.	23.	25.4
Raw mat./ Building materials	9.3	5.1	7.9
Chemicals		9.4	10.6
Oil products	5.8	9.6	9.5
Equip/vehicles/metal products	11.2	57.9	132.1
Other	22.7	18.2	19.2
Tares of rail cars	74.2	86.5	79.2
TOTAL WITH TARES	208.0	241.0	314.0
TOTAL WITHOUT TARES	133.8	154.5	234.8

TURKMENBASHI - BAKU			
Grain	23.6	34.5	39.4
Salt		4.4	7.3
Sugar	1.8	11.5	14.5
Perishable foodstuff	2.9	8.8	5.8
Frozen food	0.8	5.3	2.8
Beverages...	0.3	1.9	3.6
Raw textile / Cotton	0.3	1.0	2.0
Cement	16.4	11.4	83.5
Raw mat;/ Building Materials	30.3	7.8	32.8
Timber		.5	1.3
Chemicals	13.4	4.0	27.3
Oil products	46.4	60.6	6.2
Metal products	5.6	9.8	11.5
Equip./vehicles/metal products	77.8	50.9	106.5
Paper / Cellulose		0.6	0.9
Other	18.6	4.2	13.5
Tares of rail cars	81.0	92.4	109.1
TOTAL WITH TARES	319.2	309.6	468.0
TOTAL WITHOUT TARES	238.2	217.0	358.9

Comments:

- from 1993 to 1995, the total traffic from Baku to Turmenbaschi (without tares) doubled. This is mainly due to the spectacular growth of equipment/vehicles/metal products, specially in the direction Baku -->Turmenbaschi (multiplied by 12). As rail tares weight is almost stable, there is a reason to suppose that the largest part of the traffic increases (100.000 tons) is passing by trucks (via ferry terminals). It seems that road traffic is filling in the gap left by the disorganisation of the railways and the absence of combined transport organisation.

- To a lesser extent, perishable goods traffic such as fruit and vegetables (available from June to September) are also rapidly increasing. In 1995, foodstuff and beverages, textile products and equipment represented about 53 000 tons in Eastbound (22 %) and 28 000 tons in Westbound (8%) . If fertilisers are added (most of this traffic is prepacked in bags), the volume of containerisable is to 63.000 tons in East bound (about 6 300 TEU).

- Although the nature of the traffic is evolving towards easier containerisation, the use of this technique remains minor: less than 1% of the total traffic is containerised (About 350 TEU).

4.4.2.7. Traffics from/to the Port of Poti

The following two tables summarises the traffic movements at the Georgian port of Poti in 1995, expressed in thousands tons/year:

COMMODITIES	1 000 Tons.	%	Countries Origin/Destination
IMPORT. TOTAL	**1 388**	**100**	
Bulk	**697**	**50 %**	
Coal	4		
grain	641		Georgia
ore	2		Georgia
bauxite	50		Azerbaidjan
Oil	**476**	**34 %**	**Georgia / Armenia**
General cargo	**137**	**10 %**	
flour/Foodstuff, sugar	115		Georgia / Armenia
meat	5		Azerbaidjan
equipment	9		Georgia/Armenia/Azerbaidjan
other break bulk	9		
Containers (1000 t.)	**78**	**6 %.**	**Georgia,/Armenia/Azerbaidjan**
N° of units	**(5 999)**		

EXPORT. TOTAL	**389**	**100 %**	
Bulk	**145**	**37 %**	
Manganese ore	43		Georgia
Copper concentrate	46		Armenia
scrap iron	36		Georgia
other	20		
Oil	**146**	**37 %**	**Azerbaidjan**
General Cargo	**81**	**22 %**	
metal products	48		Georgia / Azerbaidjan
timber	1		Georgia
fertilisers / chemicals	23		Georgia / Azerbaidjan
equipment	5		
other	4		
Containers (tonnage)	**17**	**4 %**	**Georgia/Armenia/Azerbaidjan**
N° of units	**(3 296)**		
GENERAL TOTAL	**1 777**	**60 %**	**Georgia (containers exc.)**
		22 %	**Armenia (containers exc.)**
		18 %	**Azerbaidjan (cont. exc.)**

Main comments from this table are as follows:

- as other ports in the former Soviet Union ports, traffic in Poti has dramatically declined: from 4.5 millions tons in 1989 to 1.1 million in 1992. Nevertheless, from 1993 to 1995, the traffic increased to 1.6 millions tons. This is mainly due to food products generated by the World Food Program and also due to recent oil equipment traffics connected with oil industry recent developments. Part of the World Food Program traffic have been forwarded to Kyrgyzstan, Tadjikistan and Moldavia (about 15% of this food traffic).

- Although Poti still remains a port for Oil and Dry bulk, its traffic is diversified. It must be underlined the rapid containerisation process in progress: imports and export containers increased from 23 000 tons in 1992 to about 90 000 tons in 1995 (9000 TEU). This growth is expected to continue for at least two reasons. Firstly, empty containers from the World Food Program are available for being stuffed in export operations. Secondly, the rehabilitation of the oil industry results in import containerised traffic.

- With 50% of the container traffic passing through the port, Armenia is the biggest user of container, followed by Georgia (30 %) and Azerbaidjan (20%). But the traffic is largely unbalanced. Most of the containers must be sent back empty.

- Other general cargo traffic consisting of pipes, metal products, or homogeneous cargo in bags are not constainerisable. Containers excluded, the Georgian trade generates 60% of the traffic, Armenia 22 % and Azerbaidjan 18 %.

- Container movement from/to Central Asia is included in the 20% of container traffic registered with Azerbaidjan. According to discussions with some forwarders, container traffic from Central Asia

represents only about 3 % of the container traffic of Poti (270 TEU). It is mainly a question food products forwarded by the Food World Progr mme.

- There is a significant traffic of RO/RO vessels carrying cars and trucks from/to Bulgaria

Traffic forecast have been performed by Rogge Marine Consulting. It takes account of new routes that should be organised by shipowners, including RO/RO services with Ukraine and Bulgaria and container ship lines. These Traffic forecast are as follows:

RO/RO services: 200 000 t. in year 2000
300 000 t. in 2005

Containers: 400 000 t. in 2000 (about 4 000 TEU)
1 million t. in 2005 (about 10.000 TEU)

Given the present throughput, these figures seems rather optimistic; nevertheless, it confirms that the traffic is becoming diversified in favour of container traffic. The port will probably be turned towards the containerised cargo. By 1997, four lines handling 800 containers per month are expected to operate. As it is demonstrated in the sections dedicated to the technical and operational aspects, the existing infrastructure is not compatible with such traffic volumes. Specific investment will be needed.

On the other hand, the « Regional Agreement on Transport Issues » (Uzbekistan, Turkmenistan, Azerbaidjan and Georgia) is expected to boost the traffic from Central Asia to Georgia: the Government of Uzbekistan decided to ship part of the cotton exports to Europe through the TRACECA corridor: 10 000 tons in 1996, 30.000 tons in 1997 and 100.000 by the year 2000. However, these cotton movements are still carried by open-wagons and, unless something changes, would not have any influence in the container traffic along the TRACECA corridor.

4.4.2.8. Traffic from/to the Port of Batumi.

The following table summarises the traffic movements at the Georgian port of Batumi in 1995, expressed in thousands tons/year:

Nature of the traffic	1 000 T.	%	Origin/Destination
IMPORT. TOTAL	**894**	**100 %**	
Bulk	**533**	**60 %**	
Coal	4		
grain	529		
Oil	**238**	**27 %**	**Georgia / Armenia**
General cargo	**122**	**13 %**	
flour/Foodstuff, sugar	115		Georgia / Armenia
equipment	1		
other break bulk	6		Georgia/Armenia/Azerbaidjan
Containers	**0**	**0 %**	
EXPORT. TOTAL	**490**	**100 %**	
Bulk	**18**	**4 %**	
Manganese ore	18		Georgia
Oil	**404**	**82 %**	**Azerbaidjan**
General Cargo	**68**	**14 %**	
metal products	46		Georgia
foodstuff	20		Georgia
other	2		
Containers	**0**	**0 %**	
GENERAL TOTAL	**1 384**		

Main comments from this table are as follows:

- the traffic has declined from 3 millions tons in 19[illegible] to 1.4 million in 1995: currently, the traffic level is, as compared with Poti, almost the same. However, being found more convenient, Poti is expected to play a greater role on exports/imports operations, specially for general cargo.

- The port of Batumi do not have neither container nor RO/RO traffic. The existing traffic is mainly composed by bulk trade (oil and grain) which constitute 84 % of the total throughput: grain amounted 529 000 tons and oil 238 000 tons. As for general cargo, this is only 190 000 tons, essentially food products from the World Food Program (flour, rice, sugar and foodstuff).

- There is about 10 000 tons of Uzkek cotton shipped by rail and stored in the sheds of the port. It is said to be a traditional practice of Uzbeks traders: to store the cotton at ports sheds and commercialise it from there (15.000 tons in Le Havre; 15.000 tons in Bremen, 15.000 tons in Trieste, Baltic ports, etc.).

- The road network around the Batumi port is in bad condition and very sinuous: grade is up to 20%. Consequently, articulated trucks are experiencing difficulties to reach the port. This explain the larger use of the railway and somehow, the traders' preferences for Poti.

4.4.4. Technological aspects

4.4.4.1. Introduction

The organisation of the technological aspects are centered around the following broad headings:

- rail and road infrastructure
- ports infrastructure and equipment
- rail terminal network
- other technological aspects : road fleet and rolling stocks, loading units and unit loads.
-

4.4.4.2. Rail and Roads Infrastructure

The railway network in all TRACECA-countries is a broad gauge network (Russian gauge with 1520 mm). Thus, normal gauge wagons can not be used and the freight has to be unloaded on the interface points (such as Brest, Druzhba, Sarakhs). In case of urgent necessity, it is necessary to change the bogies of the wagons or the space between the wheels in the wheelsets (this is needed for special wagons).

The types of permanent way on CIS-railways are heavier than on the UIC-Railways. Thus, the maximum load per axle for trunk lines is defined with 23 - 24.5 t (most of the railways visited defined the maximum load with 23 t). The track layout and the gradients used on the main lines cause no special problems for the practice of multimodal transport. However, it must be noted that the Georgian section Sestafoni - Khashuri has a particularly high gradient: 32% between the stations Kharagouli and Likhi. On this section, an assisting pusher locomotive is often needed.

In general the maximum train weights amount to about 3000-3500 t with some exceptions (e.g. between Sestafoni and Khashuri 2500 t). The maximum train length is 850 m (on some sections 1050 m). Thus, there is no major problem to organise special multimodal trains as container trains are normally shorter and lighter than normal heavy freight trains.

The following table as well as the chart at the end this section, summarises the current state of the main rail infrastructure along the TRACECA corridor. (A detailed description of rail and roads infrastructure, as well as a series of country maps is presented in annexe 4).

Present State of the Main TRACECA corridor

Section	State
Poti (GEO) - Senaki	single track lir , electrified
Senaki - Kolobani	single track line, electrified
Kolobani - Samtredia - Brozeula	double track line, electrified
Brozeula - Rioni	single track line, electrified
Rioni - Sestafoni - Shorapani	double track line, electrified
Shorapani - Dzirula	single track line, electrified
Dzirula - Marelisi	single track line with double track sections, electrified
Marelisi - Tbilissi - Beyuk-Kjasik (AZE)	double track line, electrified
Beyuk-Kjasik (AZE) - Gyandzha - Baku	double track line with one small single track section near Akstafa (bridge over Kura river), electrified
Turkmenbashi (TUR) - Ashgabat - Chardzhev - Farap-Khodzhadavlet (UZB) - Bukhara - Marakhand	single track line, non-electrified
Marakhand - Samarkand - Dzhizak	double track line, non electrified, but electrification is planned for the short term
Dzhizak - Dustlik - Syrdarya	double track line, under electrification (completion expected for 1997)
Dzhizak - Khavast - Syrdarya	double track line, electrified
Syrdarya - Tashkent - Tchengeldy (KAZ) - Arys - Tchimkent - Dzhambul - Lugovaya - Berlik 1 - Otar	double track line, electrified
Otar - Almaty 1 - Sary-Ozek	single track line with double track sections, electrification planned
Sary-Ozek - Aktogay - Druzhba	single track line, non-electrified

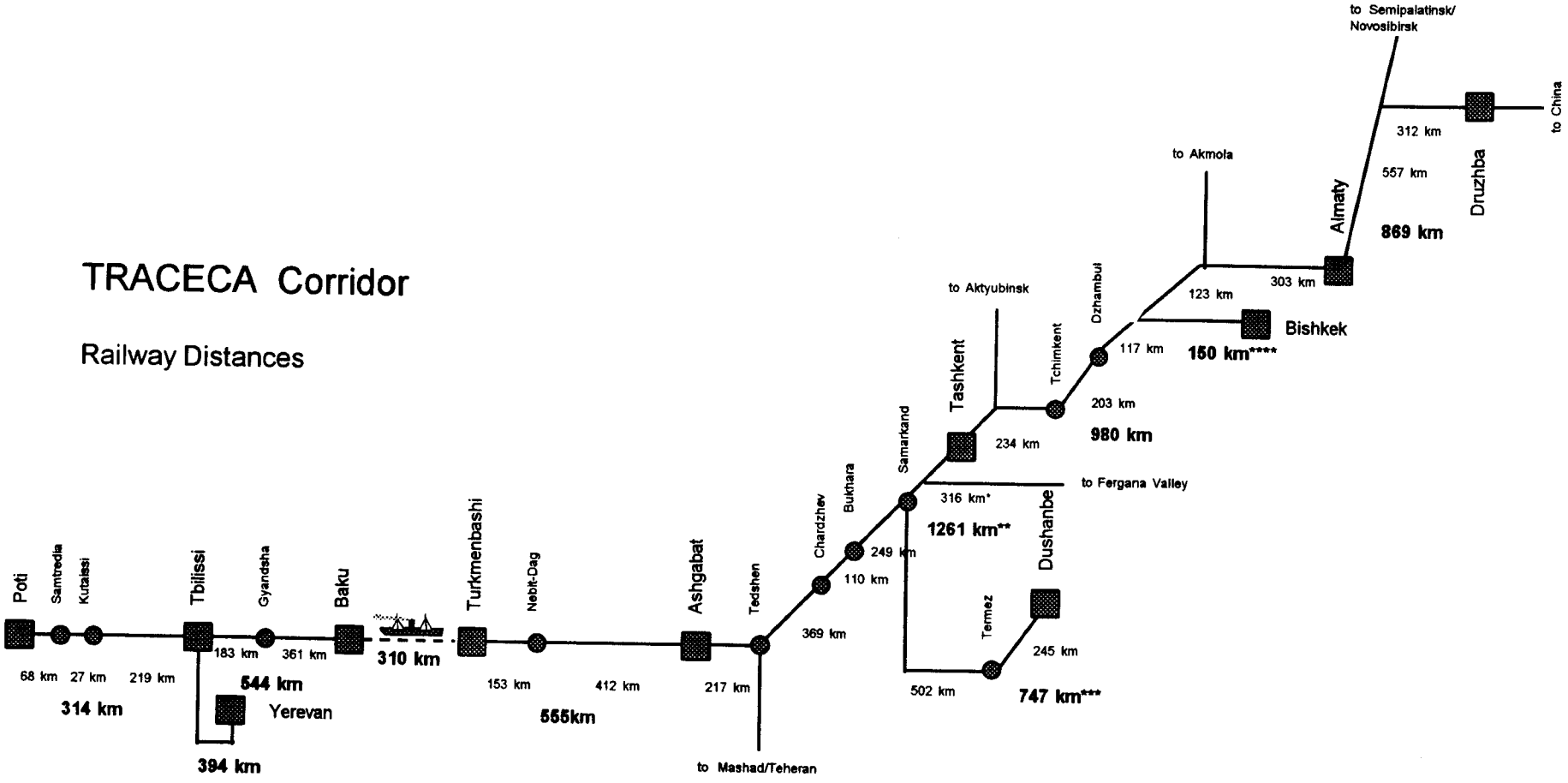
The connecting lines to Armenia (from Tbilissi Uzl.), Kyrgyzstan (from Lugovaya station in Kazakhstan) and Tadjikistan (from Samarkand or Bukhara in Uzbekistan) are single track lines and with the exception of the line to Armenia (Tbilissi - Gyumri - Vanadzor - Yerevan) non-electrified.

As for roads, the existing infrastructure, being rather in good state, does not represent any impediment for the practice of multimodal transport. In Kazakhstan, nearly the entire road network is made up of at least two lanes. In general, roads are in a relatively good state. Over 50 % of the 20.000 km of roads of Kyrgystan are paved and in sufficiently good condition. However, one of the main roads connecting Bishkek to Osh, the two major industrial centres, is degenerating. Automotive transport , with about 72% of the freight traffic, is by far the most important transport mode of Kyrgystan. In Uzbekistan, the two main links: a north-east↔south-west link connecting Tashkent to Karakul in Turkmenistan, (through Bukhara, Navoi and Samarkand) is estimated to be as follows: 42% of the road from Tashkent to Karakul and a south-west↔north-west link between Termez and Nukuss via Bukhara (677 kilometres) is good state or under repair while 58% is deemed to be in fair conditions. The road from Turkmenbaschi to Chardjiev is in good condition.

in the Caucasian region, the principal road in Georgia, the « Magisterial », running from the Azeri border through Tbilissi, along the Valley between the two ranges of the Caucasus has a pavement in a acceptable condition.

TRACECA Corridor

Railway Distances



* via Dzhizak - Dustlik - Dzhetysaj - Syrdarya
(the distance via Dzhizak - Khavast - Yangier - Gulistan - Syrdarya is 354 km

** via Dzhizak - Dustlik - Dzhetysaj - Syrdarya
(the distance via Dzhizak - Khavast - Yangier - Gulistan - Syrdarya is 1299 km

*** from Samarkand

**** from station Lugovaya

4.4.4.3. Ports Infrastructure and equipment

From a multimodal point of view, installations for dry bulk cargo or oil terminal are excluded. The interesting elements to examine are confined to:

- container ports related design (container terminal and RORO terminal)
- the storage container capacities
- handling facilities
- Vessels (here only RO/RO vessels and ferries)

Container ports related design

Ideally, a terminal designed for containers consists of a large enough platform totally free of any building where the storage and circulation around the containers rows are easy to perform. Along the quay wall, rail mounted cranes of 40 tons are available to handle the container from a ship to any type of land transport support. To facilitate operations (circulation of trucks, roll-trailers, transfers, storage, etc.) rail tracks (from cranes or railways) are embed into the floor. At one border of the platform, there is a CFS shed (Container Freight Service) for stuffing and unstuffing the containers. At the opposite border, railways tracks are located. To accelerate the handling and transfer, the terminal is provided with mobile equipment (tractors, trailors, or roll-trailers, straddle carriers or stackers and forklifts). The administrative building is located at the entrance gate of the terminal so that the containers movements can be controlled.

As for RO/RO terminals, the main platform, large enough, must be free of building or rail tracks to make trucks circulation and control procedures (clearance before embarking, etc.) as easy as possible. According to the type of RO/RO vessels, a RO/RO ramp is needed or not. For ships with a stern ramp, it must have an inclined slop on the quay apron. For ships with a quarter ramp or a side ramp, any specific installation is needed.

The following table summarises the situation observed in the TRACECA countries.

	PORTS	Key observations
General remarks	**all ports**	Apart from Baku, there is risk to be flooded by the rising level of the Caspian Sea (2 meters from 1977), particularly in Turkmenbaschi: at the ferry terminal the maximum operating limits are almost attained. Problems with the rail tracks (from railways and cranes) not embed into the floor makes operations difficult (open storage, circulation of trucks, waste of time, etc.) in all the ports. The backup areas for efficient container operations have been seriously underestimated in all ports. In Baku, there is a serious lack of parking space for trucks. It makes the co-ordination and operations particularly difficult (trucks represents 50% of the ferry traffic).

Main infrastructure	**Aktau**	The port of Aktau, designed for oil and bulk ore, comprises a grain and an oil terminal. Most of the traffic moves through two oil berths and three cargo berths (12 berths in total).
	Turkmenbaschi	The port has one quay for general cargo (400 m long; 180 m. wide, offering access to vessels up to 8.50m draught) and one ferry terminal provided with two berths. One of the two berths is in bad status. The mobile steel pontoon (87 m; long and 9.8 m. wide) located at the end of the shunting yard (1000 m long fitted with eight main tracks) is also in bad status.
	Baku	The port has two main infrastructures: a general cargo quay or mole named « the main complex » and a ferry terminal. The mole (380 m; long and 200 m. wide) has been designed for direct handling from ship to rail cars. It has a RORO ramp. It is interesting for container and RORO traffic. As for the ferry terminal, it has the same design as in Turmenbaschi. It is able of berthing two ferry-boats at the same time. Embarking operations are easier than in Turkmenbaschi
	Poti	The port of Poti comprises a general cargo quay and a container terminal. There are ten berths (two for grain, six for other bulk, one for container and one for general cargo) all served by rail. Due to the limited port storage facilities for general cargo, all consignments are on a direct delivery basis whereby cargo is loaded straight from vessels onto rail cars or trucks for immediate dispatch from the port.
	Batumi	There is a general cargo platform. A RORO ramp not used, too close to the city centre
Handling facilities	**Aktau**	Poorly underprovided because of the tradition of loading and discharging direct to rail wagons. Container are currently handled over the general cargo berth, without specialised equipment.
	Turkmenbaschi	Restricted lifting capacity of the 6 cranes (insufficient for 20 feet containers). There is no RORO ramp.
	Baku	Sufficient handling equipment: 8 cranes along the western quay side of the mole (40 tons) and 3 other along the eastern quay side (20 tons) are sufficient to handle 40 feet ISO-containers. The 50 roll-trailers available are under utilised.
	Poti	The general cargo has cranes with a pulling capacity of 16 to 32 tons. On the container terminal, there are 3 rail mounted cranes capable of handling 40 feet containers. One floating crane of 100 tons is also available.
Storage container facilities	**Aktau**	Poorly underprovided because of the tradition of loading and discharging direct to rail wagons. There is no yard available for stacking containers.
	Turkmenbaschi	Poorly underprovided. As container traffic is only 400 units, problems are not serious. Forecast of 10.000 TEU by the year 2005 have been produced. Not able to operate with such traffic volumes.
	Baku	The 6 sheds in the middle of the mole providing more than 2 ha of storage capabilities. Largely sufficient even if there is 10.000 TEU to be handled.
	Poti	The general cargo and grain berth congested by rail tracks not embed on the ground restrict the storage capacity to only 16.000 m^2. Difficult circulation for trucks. The container terminal has a platform of 24 000 m^2 (congested by rail tracks). Only 6000 m^2 are available for operating and storing containers (about 560 TEU).
	Batumi	There is only a small container terminal. limited port storage facilities for general cargo

Vessel fleet	**Caspian Shipping Company**	the fleet of the Caspian Shipping C.o. includes: • 20 tankers, of 5 000 Dwt • 5 tankers of 12 000 Dwt • 9 tankers of 5500/7500 Dwt • 12 dry cargo ships of 3000 Dwt • 11 dry cargo ships of 4 000 Dwt • 2 RO/RO ships 125 m. long, with a capacity of 100 t, 365 cars or 84 trucks and 107 cars, or 33 trailers and 105 TEU. • 8 Railroad sea cargo-passenger ferries of 154 m. long There is no specialised container carrier ships (containers cross the Caspian Sea loaded on trucks or wagons). Most of the container carrier ships owned by the company have been chartered and operates out of the Caspian Sea. Only ferries operate on the Caspian Sea: out of eight, four are under repair, two are serving on the Black Sea and four are on the Caspian sea, but only two are in service (three trips a week).
	Georgian Shipping Company	The GSC is no the only company operating at this port. The GSC has 44 vessels. One third are reported expensive to operate. They need repair. Technologically obsolete. Joint ventures with foreign firms have been signed to meet repairs of 19 vessels.

4.4.4.4. Rail container terminal network and handling equipment

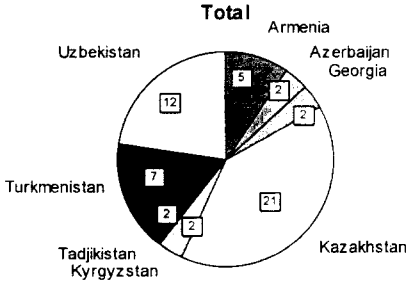
The FSU railways operated about 240 container terminals. About 50 of them (excluding terminals for medium sized containers) are located in the TRACECA region (20 %). About 20 rail terminals are directly located on the main TRACECA corridor. In addition to the railway terminals, some large industrial plants receive containers in their own private sidings. Representatives terminals from the three categories have been visited.

- large: Almaty 2 , Shumilovo (old + new), Obesberdyev-Kuliyevo
- medium: Alamedin, Tbilissi Tov., Khyrdalan
- small: Serger, Bukhara 2

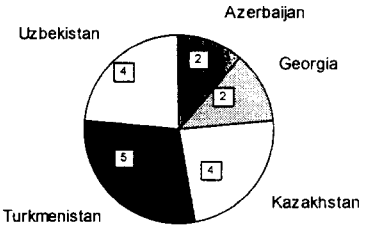
Unfortunately it was not possible to visit and get reliable data from private sidings[ii].

Most of the railway terminals in the region are concentrated in Kazakhstan (about 40 %) and in Uzbekistan (about 25 %). A very low developed network of container terminals has been ascertained in Azerbaidjan, Georgia, Kyrgyzstan and Tadjikistan, consisting of two terminals per country only. The following figures summarises the situation:

Number of Railway Container Terminals in Total



Number of Railway Container Terminals on Main TRACECA Corridor



[ii] Some of the railway administrations informed that the use of containers on private sidings of former large industrial plants has collapsed as a result of the economic crisis. Most of these local companies had no own terminals, they loaded and unloaded the containers directly on the railway wagon (because of the lack of heavy cranes or reach stackers). Doing this they need assistance of a terminal nearby to twist the containers in this way to be able to open the front wall doors. This does not concern some Western companies (e.g. Daewoo in Uzbekistan) which are at present working with containers as they are using private terminals.

The level of covering the territory by container terminals as well as the physical position of the terminal network does not represent a worth mentioning weak point of the multimodal transport system. Existing terminals are located near by all capitals of the TRACECA countries and all the most important industrial regions and large cities in Central Asia[iii]. A chart produced at the end of the section summarises the location of the main railways container terminal on the main TRACECA corridor.

The average (theoretical) « catchment » area (or area of coverage, expressed in km² per terminal) is partcularly high for small countries. Kyrgyzstan and Kazakhstan terminal network are less « catching ». The examine of the terminal position respects with the main TRACECA-corridor shows that 18 terminals are directly on the alignment and two others can easily be also involved in traffic services along this corridor.

Average (Theoretical) Catchment Area of the Railway Container Terminals on the Main TRACECA-Corridor

Terminal	Theoretical distance on TRACECA Main corridor covered by the terminal[iv], km
(Poti Sea Terminal)	34
Samtredia	168
Tbilissi Tov.	154
Gyandzha	314
Khyrdalan (or Baku Sea Port)	188
Turkmenbashi	77
Nebit-Dag	271
Obesberdyev-Kulijevo	379
Mary	287
Serger	133
Bukhara 1	155
(Tintchlik)	95
Ulugbek	152
Dzhizak	192
Shumilovo	148
Tchimkent	312
Dzhambul	378
Almaty 2	454
Taldy-Kurgan	210
Druzhba	498

Comments:

- five terminals in Turkmenistan, four in both Kazakhstan and Uzbekistan as well as two both in Azerbaidjan and Georgia are directly on the corridor.
- additionally to these terminals there are some terminals located on branch lines very closed to the main corridor[v]: Taldy-Kurgan in Kazakhstan (about 50 km of the main corridor) and Tintchlik in Uzbekistan (near Navoj, about 20 km of the main corridor).
- in general there is no need for new terminals to cover existing freight potential.

The biggest terminal problem is connected with necessary improvements of technical standards:

- to handle 40' containers, terminals operations require to use 2 cranes. The terminal Shumilovo (Shoshtrans) is the only one equipped with modern reach stackers with spreaders able to lift 20' and 40' containers and stacking 5 x [vi] (Boss G36-38 Retractor) of the BOSS company (UK). From the point of view of the handling equipment it is the best terminal in the region.

[iii] such the Fergana valley (with Andizhan, Fergana, Kokand, Margilan, Namangan, Osh, etc.); Gafurov (Tadzhikistan), Akmola, Aktyubinsk, Atyrau; Bukhara/Navoj, Chardzhev, Dzhambul, Dzhezkazgan, Ekibastus/Pavlodar, Karaganda/Temirtau, Karshi, Koktchetav, Kustanaj, Kzyl-Orda, Nukus, Petropavlovsk, Samarkand, Semipalatinsk, Taldy-Kurgan, Tashaus, Tchimkent, Uralsk, Urgentch, Ust-Kamenogorsk. Similar, in the Caucasus region, Gyandzha, Gyumri, Kutaisi (only via Samtredia, about 50 km distance), Rustawi (via Tbilissi), Sumgait, Vanadzor (former Kirovakan) are well covered.

[iv] The catchment area of a terminal on the corridor was defined as the half way to the neighbouring terminal (in both directions) or the way to the border, if the neighbouring terminal will be a foreign terminal.

[v] not mentioned in the figures (Annex)

[vi] there is practised maximal a threefold stacking because of the local conditions

- to handle 40 feet containers, an automatic fixing of 40' containers are impossible to use because of problems of adjusting of the spreaders. Telescopic spreaders with folding grapple arms or simply gears for lifting 40 feet containers are cruelly lacking.

- small terminals are poorly equipped (Gyandzha, Samtredia) with only two cranes per 10 t lifting capacity only. These cranes have to work synchronously to lift together one 20' container!. At present about 40 or 50 % of terminal cranes are out of operation (lack of spare parts, no necessity because of decreased volume of traffic), a lot of them were cannibalised.

- under the crane, the maximal possible trains length capability is 20-25 container flat wagons (on most terminals, maximal length capacity under the crane is 10-12 wagons). Therefore, there is a restricted possibility for a full direct train running into or out of the terminal (only possible by shunting trips from/to the neighbouring station or shunting yard by shunting locomotives).

- storage areas, existing only under the crane, are not paved. Additional storage areas are located outside of the crane area. Very poor condition of the pavement of the storage areas as well as of the connecting roads to the terminal (very often near to off-road conditions, the latter concerns the well-equipped terminal in Shumilovo, too). Damaged pavements (concrete, asphalt, concrete panels or simply consolidated grounds with gravel) obstruct the use of mobile reach stackers,

- there is only one or two tracks under the crane/cantilever. only one loading lane for lorries under the cantilever. The chances for future development are restricted by the lack of available areas on-site (e.g. Tbilissi Tov. Bukhara 2, Almaty 2, etc.)[vii]. Furthermore, the terminals have not "independent" facilities. (these are only a part of the loading and unloading facilities of a existing railway station). There is a need to repair the fences to prevent the entrance of non-authorised persons and of larceny of freight.

In particularly critical situation, the state condition of Khyrdalan terminal near Baku (out of operation for more than one year):

- the terminal is poorly designed to be approached by road trucks carrying containers,
- most of the cranes are out of order (no spare parts, partly cannibalised),
- very poor condition of pavement of the storage areas and the loading lines (large potholes, steel reinforcement jut out of the concrete),
- fences damaged or not at all, no illumination,
- poor condition of rail tracks.

The consultants was said there is a project existing for this terminal reconstruction (one Million USD investment, according to the Azerbaidjan railways). Lack of funds stops the realisation. Taking into consideration the unfavourable location of the terminal (with respect to the city), the bad climatic conditions (exposed to stormy winds weather, force more than 6, and this during about 240 days per year the wind), it is advisable to reconstruct the terminal in an alternate location, near Baku (e.g. in the port of Baku!).

New terminal projects are underway (in Buchara in Uzbekistan, Akmola/ Tchimkent and Aktau). The Kazakh Transportation Ministry hopes to stir national and international interest from participants to involve them in the financing of these new facilities. However, funding and profit margins of improvements required are not covered due to low traffic context. In any case the organisation of these traffic concentrations, in favour of multi-modal transportation, remains to be defined.

In spite of the poor condition of the terminals, the Consultant considers in the short and medium term there is no major impediment to deal with the traffic handling of 20 ' containers. However, In long run a big proportion of the old cranes should be replaced. When planned (no urgent need), these improvements should be concentrated on a very reduced number of terminal locations: Baku, Tashkent[viii], Almaty and may be Tbilissi, Ashgabat, Bukhara or Samarkand as well as the Fergana valley or Akmola/both aside of the main corridor.

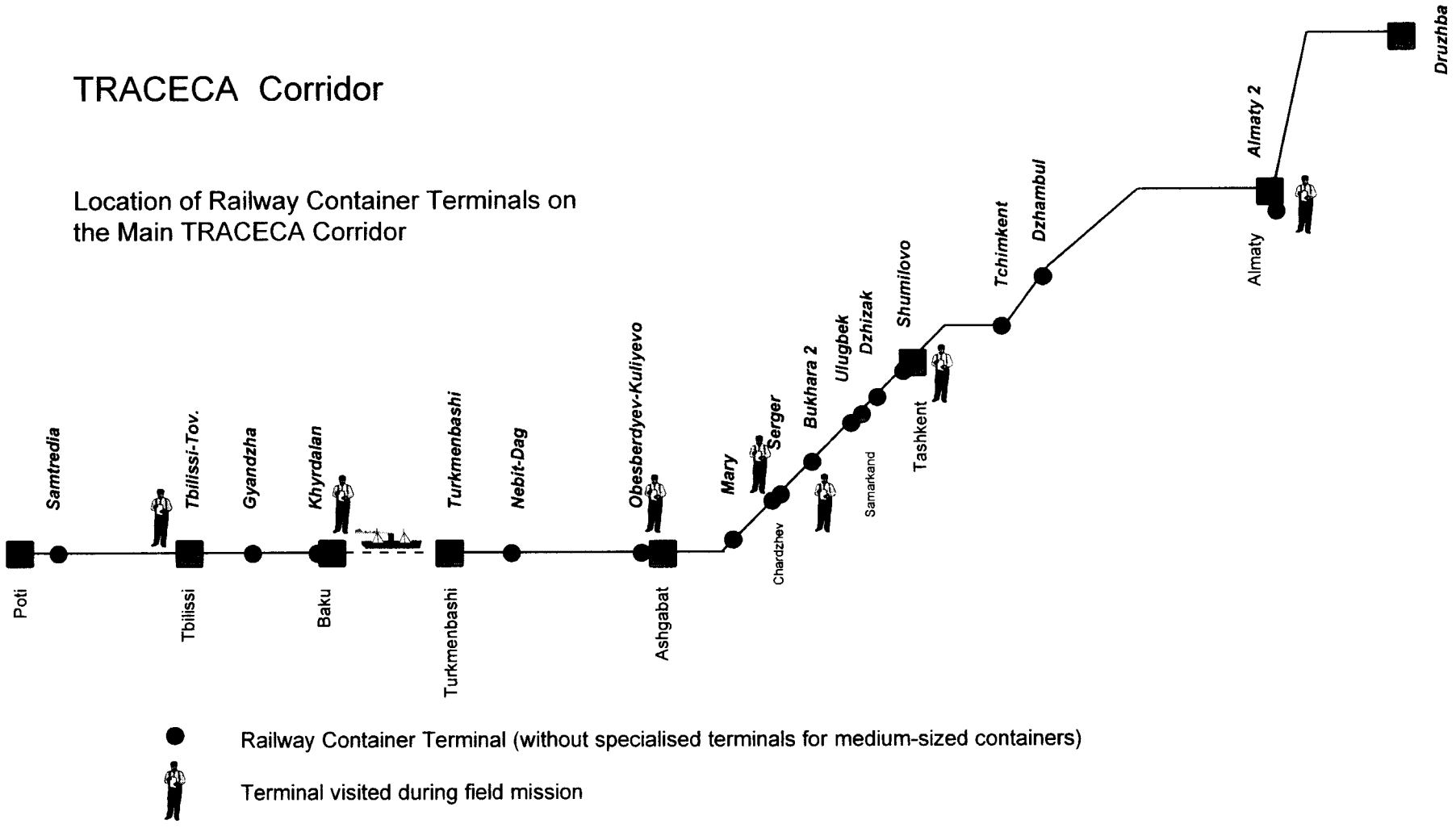
A detailed description of these terminal is given in Annexe 5).

[vii] this does not concern to some terminals built outside or on the edge of existing stations (e.g. Khyrdalan, Obesberdyev-Kuliyevo, etc.)

[viii] already done taking into consideration the well developed state of the Shoshtrans-Terminal in Tashkent-Shumilovo

TRACECA Corridor

Location of Railway Container Terminals on the Main TRACECA Corridor



● Railway Container Terminal (without specialised terminals for medium-sized containers)

Terminal visited during field mission

4.4.4.5. Other technological aspects (rolling stocks, truck fleet, containers and pallets)

Rail wagons

For carrying of 20' and 40' containers on the railways the following wagon types are used:

- series-produced specialised container flat cars with prolonged axle-base and cushioning device for three 20' containers or one 40' container and one 20' containers
- converted wagons (former normal flat wagons or wagons with stanchions) for two 20' containers (or one 40' container)[ix]
- normal flat wagons or open wagons (especially for empty containers), in this case additional fixing of the containers is required.

Normal flat wagons or open wagons will be used in case of non-availability of specialised wagons only. In general the railway administrations informed that the use of these wagons is insignificant, but during the mission, in some terminals this type of wagon with containers has been seen.

The specialised container flat cars are only cars with twin-axle bogies and roller bearing axle boxes. Two-axle cars are not used in commercial operation. The broad-gauge wagons of all CIS railways are coupled by means of automatic central buffer couplers. The coupling of these wagons with wagons of European standard-gauge railways (screw couplings) is not possible without additional technical equipment.

Most of the railways (Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan) have no problems to cover the demand of wagons for container traffic. For example the Kazakh Ministry of Transport and Communication estimates that for the next 5-7 years no procurement of wagons will be necessary (with the exception of specialised tank wagons). Similar information was given by Turkmenian and Uzbek railway authorities[x]. On the other hand, a lot of freight cars are out of operation and turned off (especially normal open, covered and flat wagons). For medium and long term, problems could arise (in case of rapid increase of traffic), especially on the smaller railways like Azerbaidjan and Georgia[xi].

Not being dramatic, a particular problem with container carrier wagons is connected with the means to cover the maintenance demand. Such problem differs from one country to another. In their own work shops or wagon depots, Kazakhstan and Uzbekistan are perfectly able to cover a high level of maintenance. Kyrgyzstan have plans, but is now in a deficit position. In the Caucasus region as well as in Tadjikistan, maintenance is posing some problems, especially for container flat cars.

Truck Fleet

In general, TRACECA countries are poor provided with trucks and chassis able to carry containers. The availability differs from one country to another. Very limited in Tadjikistan, Turkmenistan, in the Caucasus. Kazakhstan, Uzbekistan, Kyrgystan are better provided. Turkish and Iranian operators, largely represented in the region, compensates the lack of semi-trailers capable of carrying 20 and 40 feet ISO containers. But they do not take part in the multimodal traffic (even if they are carying containers).

Containers

The concept of container is the only type of modern unit load known in the TRACECA countries (swap body are unknown). Container transport is predominantly based on handling of 20' containers.

[ix] a big proportion of the rebuilt of old flat wagons into container cars (3000 wagons per year) was done at the Bukhara repair shop (Uzbekistan) of the former Soviet Central Asian railways. Now this programme has been stopped.

[x] The Uzbekistan railways plan only the procurement of specialised covered wagons for cotton transport

[xi] In general as a result of the specific problems of the last years in these two countries the rolling stock situation is poorer than on the Central Asian railways.

According to the former Soviet standards the system of unified transport units is divided into three groups:

- large containers (20', 40')[xii]
- medium-sized containers (3 t and 5 t)
- small containers (0.25 and 1.25 t)

As noticed, medium-sized containers are largely predominant, only used for domestic traffic and for internal CIS-traffic. The real stock of large containers consists of a fleet of 20' and 40' containers. The stock of 20 feet container is large enough as compared with potential traffic. These containers comply with the international ISO-standards and other international rules for container traffic (e.g. CSC). The 20' containers fleet is only universal 20' ISO-containers (1-CC, 1-C) with a door on one front wall of the container. Special containers such as open-top, open-sided, flats as well as tank containers and refrigerator containers are not available. Some local chemical industry companies have their own tank containers (Kazakhstan), concrete data on this was not available.

The owners of 20' containers are the railways, the sea shipping companies, the inland navigation companies, road traffic companies, forwarders and industrial and trading companies. The proportion of the railways in the overall FSU 20' container stock amounted to about 45 %.

The stock has to be divided between new independent railway authorities. In 1992, a methodology of division of container stock between the railways has been prepared by the Moscow Railway Research Institute and agreed between the Railways in the Framework of the Railway Transport Council of the CIS. The date of real division and the future technology of container operation are still under discussion. Railway administrations of the TRACECA countries expect the following numbers of 20 ' ISO containers:

Railway administration		number of 20' containers expected
Armenia		
Azerbaidjan		1817
Georgia		1719
Kazakhstan		9179
of them	Alma-Atinskaya Railway	36 % = about 3300
	Tselinnaya Railway	26 % = about 2400
	Western-Kazakh Railway	38 % = about 3500
Kyrgyzstan		
Tadjikistan		
Turkmenistan		1649
Uzbekistan		about 10000

After the division of the container stock an outsized container stock will be available. Thus, there is no necessity for the railways to obtain new 20 feet containers within the next few years.

The biggest problem with container is their poor condition. One of the reasons is the often improper handling of the containers at the terminals and at the customers premises. As the current stock is getting old the condition of the containers has significantly worsened. Only two of the 19 FSU railways repair shops for containers are located in TRACECA region (Almaty/Kazakhstan/ and Termez /Uzbekistan/).

As for the 40 feet container, The FSU railways did not own any 40' containers at all. The use of such containers is increasing, but, as noticed, there are various problems connected with: lack of cranes or reach stackers able to handle them, lack of semitrailers/chassis, no return cargo.

Pallets

In TRACECA countries, palletisation is almost unknown: even for goods which can by essence be palletised, (i.e. non-ferruginous metals in Uzbekistan). Operators do not consider the use of pallets as a module/fraction of an ISO container. One of the main reason have to do with the structure of the existing distribution channels, still largely dominated by small shop owners. Although, major retailer distribution networks is under

[xii] the standards did foresee also 10' and 30' containers which were not used in reality

development, the use of pallets is confined to some recent supermarkets created by foreign firms. The question of getting back the unloac' pallets dissuade exporters from systematic palletisation of their consignment. When used, pallets c.e of « last use » type. Furthermore, the lack of pallets handling equipment (lift, trans.-pallets, etc.) and appropriate stacking installations also explains the little use of pallets made. This situation slows down the process towards the containerisation.

4.4.5. Operational aspects

4.4.5.1 General

From the customers point of view, the purpose of multimodal transport techniques is the offer of « door-to-door » transport services in the most technical and economical form, as compared with single transport alternatives.

From the operators point of view, multimodal transport offers solutions to road carriers (alternatives to "pure road transport" in the long-distance market), and provides freight traffic to railways companies. In general, it reduce their running costs, improves the quality of transport services and optimises the use of the existing infrastructure and rolling stock while reducing the need for investment in trucks and road maintenance.

By looking at the composition of running cost of each transport mode, it is easier to understand why combined transport is in theory, the most economical transport alternative for large land-locked countries as the Central Asian countries. The operating costs of each largely depends on the distances to cover since the proportion of fixed cost and variable costs is not the same in all cases. Railways operations are characterised by a high proportion of fixed cost (infrastructure, rolling stock, etc.) that have to be covered in the same way regardless the length of the journey. Consequently, short distances journeys by rail are relatively expensive. On the contrary, the cost road transport operations are largely variable (fuel, tyres, maintenance, driver cost, etc., represents about 70% of the total cost) and this mode has a comparative advantage for short distances journeys. Up to a certain distance (break-even distance, about 500 kilometres in Europe), road transport is more economical. For longer distances, say 1000 kilometres, the railway has a clear economical advantage. However, railways are poorly qualified to provide « door-to-door » efficient services. Final deliveries from the destination terminal should be better done by road hauliers. However, to be viable, both transport operators should go into partnership: creation of an independent « Combined Transport Company », with a capital share divided, say fifty-fifty.

Such alternative demands to be efficient at every link of the single transport chain:

- Road operations from/to terminals
- Rail container terminal operations
- Rail traction operations
- Operations at Ports
- Documentary issues

4.4.5.2. Road Operations from/to Terminals

In addition to the higher cost on the long distance market, a driver alone is no able to deliver a shipment by road over distances more than 400 kilometres/day. To offer attractive freight rates on the long distance market, roads carriers should concentrate their activity on the haulage of containers from the user's premises to the closer combined rail terminal. Ideally, the main traction may be subcontracted to one independent combined transport operator (in its turn, this company should subcontract main traction to the railways)

To assume the responsibility for the delivery from the destination terminal to the consignee, road carriers and/or freight forwarders must extend their operations at the « other end » which implies to find reliable contractual partners. All these operations must be carried out carefully as they represents, in general, 35% of a total cost of a combined transport.

On TRACECA countries, from each railway terminal, customers have to rely on their own to transport their freight to the destination point, using either their own t ·ks or those of a trucking company they selected and paid (i.e. « Militzer und Munch » in Ashgabat, « .azinterfreight » in Almaty , « Cautrex » in Georgia). Customers can also use, under exceptional circumstances, the trucking company selected by the Railways or the railways trucking services. In the latter case, it should be noted that as the terminal trucking of containers has been designed by the Railways as a simple extension to the railway freight forwarding system. the system has not been specifically designed to group and concentrate/distribute available freight in a given geographical area.

This general context partly explains why the system is encountering difficulties to spontaneously generate a multi-modal organisation with additional services, re-loading of containers, and possible re-use of empty containers. As a result of this break down of the trucking activity, empty containers remain idle: i.e. BOUYGUES containers in Turkmenistan (Bikrava), DAEWOO containers in Uzbekistan, MAV in Ashgabat, etc.

The trucking sector, poorly provided with chassis and appropriates trucks, is using the available fleet in inappropriate market segments. They approach container traffic as a type of long distance freight forwarding towards Russian ports in Europe or in Asia for freight loads requiring a high level of transportation protection and safety. The overall container profit margins are necessarily low.

4.4.5.3. Rail container terminals operations

With the exception of the Shoshtrans-terminal in Shumilovo all the terminals are in the property and under direct management of the railway administrations. The technology of the terminal operation is closely connected to the technology of the work of the whole railway station. The terminal siding service is as a rule, organised by using the facilities and the rolling stock of the neighbouring freight station.

Direct entrance of trains from the network into the terminal sidings as well as direct departure from the terminal sidings respectively is impossible. It has never been required in the past because of the lack of specialised container trains. The transfer of the wagons with containers to/from neighbouring stations (or inside the station respectively) is organised by traditional shunting trips.

The containers unloading operations is based on a very high proportion of transhipment via the storage area (no direct unloading between rail and road). However, at the beginning of the chain, containers are direct loading from the chassis on the wagon. Containers are loaded so as the front wall doors is inside (door-to-door or door-to-front wall if there are three 20' containers on one wagon) whereby the containers can not be opened on the way to prevent larceny of goods. Consequently, single containers have to wait for a second container to the same station or to the same CIS-railway. As result, container terminal operations are time consuming.

4.4.5.4. Rail traction operations

The performance of combined transport rail operations essentially depends on the transport techniques adopted: rail traction from A to B by « Block trains » or traction individual wagons trains by successive shunting. Special « Block trains » means suppression of costly shunting operations, stops. These techniques are the key to reduce rail traction cost which usually represents 30% of the total cost and increase the quickness, reliability and security of transport operations. Furthermore, by suppressing the shunting railways companies do not need to deal with collecting and delivery operations: immobilisation of the rolling stock at the users premises is suppressed and the turnover is therefore improved; working procedures are simplified and the need for infrastructure is reduced to a lowest possible level. However, block trains demand a regular traffic (as an example: 100.000 tons/year allows to compose a daily 20 wagons special container train with a capacity of 40 TEU).

in Caucasian region as well as in Central Asia, specialised freight container rail traction system do not exist. The transport of container is still subjected to freight traffic rules and regulations applied by each railway network to a general rail freight traffic: no transportation masterplan. The train paths of the schedule is only

used if the number of wagons match the pre-defined gross weight or length of trains. Otherwise the train path is not respected. Thus, all the train paths are in principle only opti[illegible]l trains (they only run if the number of wagons is found sufficient). As there is no real constant timetable [illegible] goods trains, the clients can not rely on the railway operational system: no guarantee of a regular or just-in-time train service.

In others words, as container is subject to the same general railway rules, the train formation is, as for the general traffic, still based on the « operational targets »: the stations form trains only when a pre-defined « target » (maximal gross weight or with the maximal train length) is attained. The carriage of single wagons and groups of wagons is realised by a hierarchical system of marshalling and shunting yards:

- the first level: The marshalling stations as well as the border stations are connected by inter-marshalling yard trains.
- the second level: small shunting yards are subordinated to the marshalling stations. They have to form/split up primarily local freight trains to/from neighbouring marshalling yards.
- the third level: stations (including the private sidings connected with them) are subordinated to the stations with shunting yards. Between the stations and the shunting yards transfer trains are running.

This results in irregular freight forwarding, a much lower level of traffic on the main line, excessive wagon downtime on singular points along the route: borders, etc. This is a major drawback as compared to the average freight forwarding time required for exchanges between TRACECA countries and Western Europe through competing routes (via Chop and Brest). What's more, no complete train set, shuttle train or trains can cross the boarder without being further re-assembled. Besides, as the trucking activity is disconnected with the rail activity, the concentration of freight loads at main terminals is made too slowly.

Furthermore, the poor condition of railtrack, rapidly worsening in the last few years, results in an average service speeds very low:

- Azerbaidjan 35 - 40 kph
- Georgia 20 - 30 kph
- Kazakhstan 35 - 40 kph
- Kyrgyzstan 35 - 40 kph
- Turkmenistan: 40 - 45 kph
- Uzbekistan 40 - 45 kph (on some TRACECA sections up to 70 kph)

The maximal possible speed on the line amounts to 80 kph only (only some sections especially in Uzbekistan with 90 or 100 kph). The lack of railtracks maintenance makes that some thousands of kilometres are permanently under speed restrictions.

4.4.5.5. Operations at Ports

The ferries used on the Caspian sea can load either 28 rail cars or 30 trailers. + 4 trucks + 150 passengers. If the wagons are carrying containers, the maximum capacity of the ferries is about 60 units. When only wagons embark, operations take one hour (40 minutes for disembarking). Taking account of time for embarking passengers and some idle time for administrative procedures, the call lasts between three to five hours.

The technique of ferry wagons means 35 to 50 % of the shipload tare or dead-weight and a waste of space (no stacking possibilities). For a fully loaded ship of 2550 Dwt capacity, only 600 or 800 tons of goods can be loaded. Such a low loading rate obviously restricts the profit margin. RO/RO ships, currently chartered in other seas, should be used, if traffic enough, to carry containers on roll-trailors (special chassis to roll the container onto the ship). A large stock of roll-trailors in good conditions are under used in Baku. By adopting multimodal practices and techniques it should be possible to reduce the unit cost of maritime transport. The rail ferries should rather be only used for passengers traffic and rail cars loaded (bulk commodities). With one RO/RO vessel serving Baku-Turmenbaschi, an efficient multimodal transport could be envisaged.

4.4.5.6. Documentary issues

For the practice of international transportation the following documents are in general necessary.

Administrative documentation:

- A set of bills issued by the client which are accompanied by a « list of content: goods description » commercial invoice, etc. These bills must in certain cases contain specific details as required by the country's administrative bodies, the sender or receiver.
- A « transport instruction note » made out by the loader who takes on, if need be, the obligations of the transport operator in the carrying out of his duties.

Transportation documentation: a contract of transport: bill of loading, waybill, International transport document LTA . This transport document may be established for the whole of the journey or broken down into corresponding sections of the journey. These take into consideration the journey taken through each country and the mode of transport used.

Legislative documentation: Upon leaving the country of origin, at each border crossing and at the moment of entry of the country of destination, the respective customs administrations require the presentation of documents concerning the freight and the mode of transport used.

Financial documents: In order to process certain means of international payment, the following documents are required:

- on the part of the forwarding agent: a paper vouching for the taking in charge of the merchandise, e.g. a « Through bill of loading » TBL.
- on the part of the receiving agent: partaking in the obtention of certain methods of payment on receivership:
    - * acceptance draft,
    - * bill of exchange,
    - * bank statement, (freezing of funds), etc.

On the TRACECA countries, apart form the sending of SMGS rail waybill or CMR[xiii] international consignment, the above procedures along with their corresponding documentation are not well known by the senders and operators. Beforehand, the totality of these operations were carried out under the responsibility of the centre of purchasing and sales in Moscow.

Border customs offices are set up with no uniform customs procedures and no standards formalities adopted. This causes long delays resulting into slowing down scheduled train speed and increased travel time. Transportation operations are not facilitated by the heavy procedures of the administration of these countries. The INCOTERMS are poorly understood (confusion between CIF and FOB). A simplification of paperwork accompanied by an adaptation of documents corresponding to European standards would be welcomed and appropriate staff training would be essential.

4.4.6. Management and Marketing Aspects

4.4.6.1. General

The large Central Asian countries are the most land-locked countries in the world. Four of them are 1500 kilometres far from the nearest seaport. To Western Europe markets, distances involved can reach up to 10 000 kilometres. By land and by « pure » rail, distances are:

- 4200 km to Brest;
- 4000 km St Petersburg;
- 5200 km to Chop;

[xiii] Convention on the contract for the international carriage of goods by road

- 4985 km to Istanbul;
- 3885 to Bandar Abbas; 4230 to Odessa.

The export/imports transport problems posed by the land-locked position combined with the remoteness from main trade markets calls for specific transport answers. Current alternatives are just insubstantial: high transport costs, poor quality service (delivery time, reliability, safety, etc.). These handicaps are obviously affecting the competitiveness of export/import and consequently the trade development with Europe.

The alternative of multimodal transport through the Caspian Sea (2950 kilometres to Poti and Batumi) is to be considered, in a multimodal operating approach, as an interesting alternative to single modes services, in meeting the customer's desires: low cost, good quality (quickness, short delays, etc.).

4.4.6.2. Transport charges

Rail shipping charges per ton of wheat from the Black Sea ports of Novorossiysk or Vladivostock to Tashkent can amount as high as 74 % of the purchase price abroad of the leading import product, the wheat[xiv]. Because of the relatively high-value character of the product, the situation for the cotton, the leading export product, official charges amounted in 1994 no more than 6 % of the value of the product.

According to some European traders interviewed during the mission, pure rail shipping charges are about 50 % lower than « pure » road transport charges. To complete the picture, it must be taken into account unreliable transport conditions, long delays and uncertainty for traders.

As for the third alternative, the combination of advantages from both road and rail single modes to ship import/export flows by container through the shortest link to Europe (the TRACECA corridor) and organising the operations under the responsibility of a unique combined transport operator, the service is virtually non existing yet. Even if the traffic shipment are through various modes, the approach to container traffic in use is mono-modal. This does not encourage freight customers and forwarders to use containers on this corridor.

The survey made reveals that container traffic is low and decreasing. Main operators are mostly using competing routes. For instance, the French company BOUYGUES, is forwarding containers by « pure » rail (100 containers/month with furniture and heavy equipment) from France and Benelux countries to Ashgabat through Cop (Zahony) and Brest (Malazsevice). The alternative was found to be the beeter, after preliminary studies. Organised by MILITZER and MÜNCH, the shipment, although requiring up to 27 days is considered reliable enough. Some other examples, (imported traffic from Italy to Kazakhstan organised by DOLPHIN, via COP (ZAHONY); food aid supplied by the European Community to Turkmenistan via Riga) shows that trade operators and freight forwarders are in favour of this « pure » rail alternative.

The absence of true operators in countries of TRACECA and the situation described in previous sections explain the lack of appropiated answers. The Railways as forwarding agents and land terminal managers, the Poti Port as port servicing operators and the Ferry Company operating on the Caspian sea deal with freight traffic in containers as with any other type of traffic, using similar statistical and tariff methods. As no specific resources or figures are used to manage this type of traffic, multi-modal transportation cost components are not available. Currently, it is not possible to use an economic interest based approach to multi-modal transportation along the TRACECA corridor: charges are here clearly higher at present.

If the trucking undertaken by customers or trucking companies selected by them is contractually negotiated, railway transportation tariffs, servicing in land terminals, trucking by companies selected by the Railways and transit tariffs for wagons crossing the Caspian Sea are based on published tariffs. Railway tariffs are always calculated on the basis of the MTT (Transit tariff applied by railway networks under the Soviet influence) kept as a tariff tool and reference for international traffic along TRACECA routes.

Today as in the past, container traffic is still discriminated because the standard tariffs exceed those applied by wagon loads (tariffs are expressed in monetary units/ton). No economic justification provided by the Railways can explain this discrimination which maintains high level of wagon traffic which could be transported by containers. It also introduces trucking as a false alternative to ship containers over long

[xiv] Source: Central Asia's Trade Links with the World. UNDP Project RER/95/001. 1995.

distances. Rebates granted for certain types of traffic (i.e. export of Ouzbeki cotton) are based on tariffs where the cost per container always exceeds that per wagon. Certain regular export trends (Ouzbeki fertilisers) cannot sustain such tariffs (Poti-Baku: one 20 feet container is about 400 USD).

It should be noted again that there is no door to door set freight forwarding tariff and that each current participant (railway or ferry network) draws its fee without any concern for what the customer should pay for a door to door service. Current tariffs applied for container wagons on ferries of the Caspian Sea are deemed prohibitive and destructive as far as traffic development is concerned (Turmenbaschi-Baku: one 20 feet container is about 380 USD)

Payment terms and conditions for railway transportation are those specified by the MTT: they indicate tariffs applied by each network in local currencies (e.g. Swiss Franc) to the last border prior to the destination station. This tariff can at times be negotiated with the railway network of the destination station. The tariff system is based on the former Soviet Union's approach to container traffic. None of the participants have a cost/profit oriented approach.

The fact that the railway production is not based on the concept of a direct container train crossing the border, prevents any type of tariff policy proposal per train scheduled with a minimum number of wagons. A satisfactory organisation of multi-modal transportation generating major savings in terms of railway operations expenses is cruelly lacking. Nevertheless, the low level of railway traffic combined with the lack of organisation hampers any type of productivity increase for TRACECA railway networks.

4.4.6.3. Marketing related aspects

In general, current participants in container freight forwarding have a poor perception of marketing techniques as a tool to increase sales. They just try, when asked, to meet the needs of freight forwarders or shipping companies which intend to use container transportation in Caucasian countries or in Central Asia. In most cases, the initiative come from the customer itself. Operators have not any elaborated marketing strategy. Customers usually require special tariff measures or a general rebate, in the form of commissions shared with an intermediary company (i.e. Zheldor or "transit" subsidiary company of the railway networks as Azerail in Baku). However, certain national transportation intermediary companies which display a great deal of imagination and use innovative approaches (CAUTREX in Georgia, SHOHSTRANS or BK-INTRANS in Tashkent, KAZINTER FREIGHT or TERMINAL in ALMATY) gradually replace specialised railway departments and try to successively require lower tariffs from multi-modal transportation suppliers as well as an increased service quality.

4.4.6.3. Commercialisation

The leading exports products are in general sold « Ex-Works »(prices at the factory door) or in the best cases « FOB » (free on board, frontier or port) . The practice of « CIF » sales (prices includes the freight charges and insurance) which means a larger input from local carriers are made impossible. Transport operations from local leading industries are often entrusted to state-owned organisations still operating with traditional methods. These companies, currently doing a good business, should however work better: productivity gains could be generated if local firms could be able to control the entire transport operations from « door to door ».

4.5. Task 5: Strengths and Weaknesses of the existing system

The next table synthesises the strengths and weaknesses of the existing system.

Definition	Assets	Weak points
Organisation	Some dynamics private companies are partially filling the gap left by the absence of specialised combined transport companies	Each participant has a mono-modal approach which excludes any type of collaboration with other partners. There are not independent combined transport operators able to assume the responsibility of organising international multimodal container traffics from the origin to final destination.
Traffics		
From/to rail Terminals	« Regional Agreement on Transport Issues » (Uzbekistan, Turkmenistan, Azerbaidjan and Georgia) is expected to boost the traffic from Central Asia to Georgia.	In the Caucasian countries, the traffic from/to rail terminals is reported to be low. The is « unbalanced ». most of container must be sent back empty. In Central Asia, although the overall traffic is increasing, rail container traffic is dramatically decreasing at present time.
From/to Ports	Turmenbaschi: commodities such as equipment, cotton, fertiliser and part of the metal products (ingots) are containerisable	But only 4000 tons are full container traffic (about 400 TEU, in 1995). The traffic via ferry terminal is more than three time higher than the traffic via piers. The ferries are carrying about 35 % of dead-weight.
	Baku: From 1993 to 1995, the total traffic from Baku to Turmenbaschi has doubled. The nature of the traffic is evolving towards easier containerisation. The volume of containerisable is at least 63.000 tons. (6 300 TEU).	The largest part of the traffic increases (100.000 tons) is passing by trucks (via ferry terminals). Less than 1% of the total traffic is containerised (About 350 TEU).
	Poti: from 1993 to 1995, the traffic increased to 1.6 millions tons. Rapid containerisation process in progress: from 23 000 tons in 1992 to about 90 000 tons in 1995 (9000 TEU)	Container traffic from Central Asia is very low: about 3% of the overall container traffic.

Technological Aspects		
Rail and Roads	In general, there is no major problems to organise special multimodal trains as container trains are normally shorter and lighter than normal heavy freight trains.	However, it must be noted that the Georgian section Sestafoni - Khashuri has a particularly high gradient: 32% between the stations Kharagouli and Likhi. On this section, an assisting pusher locomotive is often needed.
Ports		
General		Rising level of the Caspian Sea. Problems with the rail tracks (from railways and cranes) not embed into the floor makes operations difficult.
Storage capabilities	Largely sufficient in Baku, even for a traffic of 10 000 TEU. 6000 m² in Poti.	The backup areas for efficient container operations have been seriously underestimated.
Handling equipment	Sufficient in Baku and in Poti.	In Turmenbaschi, the lifting capacity of the 6 existing cranes is insufficient for 20 feet (but possible).
Vessel fleet.	The Caspian Shipping C own two RO/RO ships able to carry up to 66 containers (equivalent to a 28 wagon container train).	These vessels have been chartered and operate out of the Caspian Sea. Currently, there is no RO/RO deserving Baku-Turmenbaschi
Roads	Pavement is in acceptable conditions. No problems to organise the collection and deliveries by road from/to terminal.	
Rail container terminal	The number of rail terminal and their alignment as well as the area of coverage allows to practice Multimodal transports.	Technical standards of main terminals are poorly adequate to the handling of large containers. Critical Situation in Azerbaijan: the Khyrdalan terminal must be reconstructed.
Rail wagons	Most of the railways (Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan) have no problems to cover the demand of wagons for container traffic	Some problems to meet the maintenance requirements.
Truck fleet		Underprovided.
Container	The stock of 20 feet container is large enough as compared with potential traffic. These containers comply with the international ISO-standards and other international rules for container traffic (e.g. CSC). Some local chemical industry companies have their own tank containers (Kazakhstan), concrete data on this was not available.	The biggest problem with container is their poor technical condition. Special containers such as open-top, open-sided, flats as well as tank containers and refrigerator containers are not available.
Pallets		Operators no not consider the use of pallets as a module/fraction of an ISO-container. This slows down the process towards containerisation.

Operational Aspects		
Road operations		Customers have to rely on their own to transport their freight to the destination point, using either their own trucks or those of a trucking company they selected and paid. A railway system exists, but has not been specifically designed to group and concentrate available freight in a given geographical area. As a result, empty container, often remain idle.
Terminal operations		Based on a high proportion of transhipment via the storage areas. They must be loaded door to door or door to the front wall: time consuming.
Rail operations		Train formation for containers is subject to the same general rules, based on « operational target »: the train run only when a pre-defined number of wagons is attained. Traction is realised by a hierarchical system of successive shunting operations.
Port operations		Only via ferry: 35% of the load embarked is tare weight.
Documentary issues		No uniform border customs procedures, no standard formalities: long delays.
Marketing Aspects		
Tariff		Container traffic is discriminated because the standard tariffs exceed those applied by wagon loads (tariffs are expressed in monetary units/ton).
Marketing		Operators have not any elaborated marketing strategy.
Commercialisation		Leading exports are generally sold « Ex-works » instead of « FOB ». Local operators have a poor control on transport from origin to final destination.

4.6. Task 6: Recommendations for improvement of systems

4.6.1. General Strategy

Apart from some handling difficulties at certain points, there is no major technological obstacle to practice mulmtimodal transport through the TRACECA corridor. On the other hand, the various parties involved in container traffic, particularly the Railways and international transport firms, have an extensive experience in almost all aspects of container traffic and can therefore easily participate in any related-project.

The major problem is organisational in nature: restrictive approach and partner's difficulties to combine their respective transport skills: each partner involved in international freight traffic has a mono-modal approach which excludes any type of collaboration and does not encourage customers and forwarders to use containers. As a result, the container international traffic along the corridor is virtually non existing..

To revitalise the debilitated container transport system, it is recommended to implement three actions categories:

- initial revitalisation of the corridor (general policy measures)
- accompanying operating measures to revitalise the corridor
- other recommendations and « case studies »

« General policy measures »: a minimum traffic is absolutely necessary to set up a multimodal transport system. Strong political support is initially required. Decision-makers from each country should facilitate the initial shipments: « Targeted products » (cotton, tobacco, fertilisers, metal in ingots...) and progressive targeted volumes (about 10 000 tons per country: 1000 TEU/year per country) should be enough to initiate the revitalisation of the corridor (a 20 wagons container train every two days could be envisaged). Such political decisions should be absolutely temporary. After revitalisation, the multimodal chain must be able to compete with other routes according to free market principles, based on the shipper's free transport modal choice. A series of operating and organisational measures should accompany the political decisions. These measures must be implemented, immediately after the political decision, in « step by step » basis.

« Accompanying measures »: with a minimum container traffic level, it should be conceivable to reorganise the system and rapidly be in a position to efficiently respond to a specific shipper's transport demands. These measures are of two type:

⇒ Immediate measures : organise the shipment of « targeted » product and volumes, using the existing transport equipment and technology. To this end, a « Container National Transport Commission » should be created in each TRACECA country. A selected and reduced number of partners from the different sectors (decision-makers, users, railways, road hauliers and freight forwarders) should work together to define and execute a « combined transport plan »: how to containerise the « targeted » product, how to collect and concentrate this containers from the shipper' premises to the closest main selected terminal, how to form a special container train, etc.

⇒ Other accompanying measures: the implementation, after approval, of the « combined transport plan » should be monitored by a team of specialist working on behalf of the official members of the Commission. The problems encountered should be reported and the Commission must decide how to proceed. Once the main problems are solved and the interests of involved parties are joined, it is recommend to create a joint company or « Group of Economic Interest ». This independent joint-company should be able to group and manage transport operations and create, on its own, the required supplementary container infrastructure. This is to be made by reinvesting the benefits from its activities: marketing and evaluating the transport needs of individual firms, buying rail and maritime transport (on a basis of the wholesale prices), selling combined transport services to individual firms (on a basis of attractive retail prices). In a further step, it should be envisaged to create a large « TRACECA Container Transport Union » to co-ordinate the overall operations along the corridor. The main expected benefits resulting from this strategy are as follows:

* make cease the dramatic decline of rail container traffic and reduce rail traction costs: with 50 000 tons of container traffic, it is economically and technically conceivable to form multi-group container trains from each country and a « container block train to Poti » of 20 wagons (40 TEU) every two days. A « nodal » point location should be decided.
* The question of cost-effectiveness for replacing the handling equipment in Turkmenbaschi, should be easier solved.
* The question of cost-effectiveness of getting back to the Caspian sea one of the RO/RO vessel (currently chartered and sailing in the Mediterranean Sea) should also be easy to realise.
* The problem of retrieving the wagons from Caucasian countries (said unreliable) to Central Asian countries, should disappear.
* the problem of underprovision and appropriate use of the truck fleet should be easier to envisage.
* The problem of returning unloaded container, more complex, can also be, at least partially, solved, in most cases.

Other recommendation and « case studies » should be subject to further development through the « cases studies » contemplated during the third on-going phase.

4.6.2. Initiation of the revitalisation of the corridor

The revitalisation of the container system should facilitate the economic integration process because the container is the systematic vector used for import/exports goods: 70% of international trade is made by container.

A political strong support is the first condition to revitalise the container system. Decision-makers from partner States from Central Asia and the Caucasus region should decide to send by container, through the corridor, « targeted » progressive volumes of a selected exporting products (cotton, tobacco, fertilisers, metal in ingots...) to bait the revitalisation process. It is recommended, each country to send 10 000 tons in 1997, (1000 TEU/year) through the TRACECA corridor to give way to a efficient container system. A minimum volume of 50 000 tons (5 000 TEU/year) should allow to envisage a 20 wagons container train every two days.

TRACECA countries, which have already decided to provide freight to the corridor (Uzbekistan, Turmenistan) should encourage local shipper and transport partner to use containers instead of current used open-wagons.

4.6.3. Accompanying operating measures

4.6.3.1. Immediate actions

To set up a « National Container Transport Commission » (NCTC)

The « targeted » product shipments to Europe should be organised through a « National Container Transport Commission » conceived to combine the various partners' skills and tools: Railways, road hauliers and freight forwarders, large international trader and industrial firms, etc.

Composed by selected motivated partners from different organisations (local decision-makers, users, railways, road hauliers and freight forwarders and TACIS experts), the official members of the « Container National Transport Commission » should assign, at the operating level, the specialists from each partner organisation responsible for executing the decisions taken and reporting to the Commission on results.

The first activity of the executive team consists of preparing a report, within two months, containing the directions and actions to allow the first « targeted » products shipments to take place during the month of

March 1997. The TACIS experts should have to participate in the launching of the Commission (definition of goals) and in the validation of the decisions stated in the Final Report:

The « NCTC » activities should comprise the three following steps:

⇒ small market survey in Europe
⇒ setting up an operational plan
⇒ monitoring of first results and defining follow-up actions,

Step 1: Small market survey.

It is a matter of knowing the position of seller and buyers of the « targeted » products in connection with the use of containers in both sense of the trade flow: TRACECA <-->Europe. In principle, the return of unloaded container with « targeted » products to Europe, should interest some large local and European firms involved in specific East-West traffics because it should help to reduce transport costs. For the TRACECA country's economies, the creation of pendular traffics combined with the modernisation of the international sales procedures (« targeted» product could be sold « CIF » instead of « FOB » or « Ex-works ») should be beneficial for all the other exporting sectors of the economy.

Conducted under the guidance of the «NCTC », a marketing TACIS expert in Europe and a marketing NCTC local expert should produce within one month a report on the traders' position in this respect and find out the conditions under which the containers should be placed in a « pendular » movement. If the container unbalance is too important, « triangular » movements possibilities (container passing through a third country before returning to the TRACECA region) should be envisaged.

Step 2: Operational plan

The local and TACIS European experts should prepare, within two months after the market survey, an operational plan that clearly specifies how the Commission should be involved in the following problems:

- organisation of the shipment from and to terminals (elaboration of a Transport Plan)
- definition of the conditions under which the railways make the transport rolling available
- monitoring of the wagons sent to Poti.
- organise the administrative aspects and transport documents
    * International transport contracts specific to multi-modal operations
    * possibility of editing documents such as TBL-FIATA to facilitate international payments
- negotiate the tariff with the Shipping Companies and international railways (tariff, availability of transport means, choice of routes, documentation..)
- negotiate the conditions under which the empty containers generated by imports flows can be used by TRACECA States exporters. This requires to:
    * Inventory the fleet of empty containers,
    * find an agreement with selected large shippers and other main container users
    * inventory the fleet of empty containers (type, number, location, etc.)
    * find a suitable financial agreement with the other TRACECA « NCTC » to make use of empty containers, where needed.
- establish co-operation agreements with the owners of containers such as SEALAND
- establish an « specification book » for the loading of containers and the certification of goods

- organise the transfer of responsibility along the entire single combined transport chain
- Assign a « NCTC » responsibl ›fficer for:
    * negotiations with the European railways administrations
    * organisation of the operations in all the transit and destination countries
    * locating transport correspondents
- Establish commercial agreement with European shippers exporting to Central Asia and Caucasus in order to encourage them to accept the return of this container to Europe loaded with « targeted » products.

In the report to be produced, the NCTC should clearly indicate the local container operator who will be in charge of setting up the traffic.

Step 3: monitoring of first results and defining follow-up actions

The third step would consist of monitoring the first shipments to validate the actions decided in the previous phase.

4.6.3.2. Other accompanying measures: Management of a Combined transport Traffics.

Based on the previous experience, it is recommended, to envisage the creation of a multi-modal joint company or « Group of Economic Interest ». The independent joint-company, launched by the NCTC official members, should be created for the sake of all current participants in container transportation. The general interest of the project and resulting productivity increases (reduced costs) should be highlighted at the initial step, for the sake of the Railways, forwarding agents, major importers/exporters, potential customers, customs (and Ministries), road forums, etc. This question should be subject to a « Case Study ».

The role of the proposed company is similar to the European combined transport operators: a sort "freight transport wholesaler" and combined transport organiser. The companies activities should be:

- to evaluate the transport needs of individual firms,
- to buy rail traction at interesting conditions,
- organise initial and terminal road services (by sub-contracting, for instance),
- to resell multi-modal services to individual firms on a basis of attractive retail prices.
- to control over the effectiveness of terminal services, ensure through setting up actual multi-modal a transportation operators in charge of co-ordinate the logistics involved in finding, loading, handling, and distributing available containers,
- to regulate arrivals and departures of containers loaded on the main terminals.

The benefits from its activity must allow the Company to reinvest and finance the supplementary required infrastructure: new terminals, handling equipment, nodal points management, etc.

In a further step, and based in the cumulated experience, the national combined transport companies should set up a true TRACECA multi-modal transportation operator able to integrate the inter-modal activities in an international community of interests at the TRACECA corridor level. The installation of such an international operator in Central Asia and Caucasia is an ambitious project which could be negatively viewed by local and individual interests, and which should require a diplomatic approach (debates aimed at convincing local authorities and time).

4.6.4. Other recommendations and « case studies »

Most of the following proposed recommendations should be developed under a form of « case study » and presented to the participants during a practical workshop to be held in Tashkent by the middle of November. The recommendations are related to the following subjects:

- Cotton movement from Uzbekistan (see special report in annexe)
- Rail operations improvement,
- Management improvements
- Marketing aspects
- maritime port container related improvements

4.6.4.1. Rail operations improvements

Definition of a network of essential „key" terminals on the TRACECA route (« case study »

In a preliminary step, the following key terminal must be selected:

⇒ Poti (only transhipment to the railways) - Tbilissi - Baku (Ferry Port) -
⇒ Turkmenbashi (Port) - Ashgabat (Obesberdyev-Kulijevo) -
⇒ Bukhara (if the planned cotton transhipment centre will work with containers) -
⇒ Tashkent (Shumilovo) - Almaty - Druzhba (unloading on Chinese gauge)

However, this railway network should be ruled by an agreement with locally elected representatives. Financial aid and support in terms of capital investment should focus on these sites, and on technical equipment and data transmission system modernisation (fax, telex, container identification system, etc.).

Definition of additional points for side streams (« case study »)

⇒ Yerevan (separation in Tbilissi)
⇒ one terminal in the Fergana valley (separation in Bukhara, Samarkand or Shumilovo)
⇒ Bishkek (separation in Lugovaya) or an additional terminal in the Tchu/Dzhambul area
⇒ Sarakhs (separation in Ashgabat or Tedzhen/Mary)
⇒ Central Kazakhstan (separation in Lugovaya or Berlik)

Setting up specialised trains with multi-modal traffic (« case study »)

In terms of long distance freight forwarding, improvements can result from setting up specialised trains with multi-modal traffic, if the volume of freight traffic is sufficient. These trains would be organised as shuttle trains departing at set times, crossing borders without having to be re-assembled and serving major sites exclusively. The special container train between the previous mentioned points (medium and long term) should be improved or using of a fixed (guaranteed) train schedule using through freight trains as far as possible (short and medium term)

⇒ train Poti - Tbilissi - Baku
⇒ Turkmenbashi - Ashgabat - Bukhara - Tashkent (with prolongation to
⇒ Almaty - Druzhba in case of traffic demand)

This mmust be contemplated with minimisation of operational stops on the way (treatment on intermediate stations, changing of locomotives and loco crews, operations on border and exchange stations)

Investment studies for equipment of the key terminals

Improve pavement of the storage areas, purchase of one reach s .ckers with spreaders for 40' containers per terminal, repair of one crane per terminal if necessary as reserve for the reach sticker, improvement of approach road, etc.): only a restricted number.

Improvement/installation of information system (container tracking and tracing): « case study »

⇒ integration of the Caucasus region
⇒ independent tracking and tracing of containers (may be support to Central Asian railways in development and put in operation of the planned CIS-system)
⇒ integration of the terminals in the systems (now only marshalling stations)

4.6.4.2. Management improvements

Reorganisation of the railway tariff policy (« case Study »)

A reorganisation of the railway tariff policy applied to railway multi-modal transportation is required in order to:

⇒ dissociate container railway tariffs from MTT tariffs,
⇒ create a specific tariff for International Transportation Units (UTI),
⇒ design door to door or terminal to terminal tariffs and possible home to home without any additional duty,
⇒ express all tariffs in a single currency,
⇒ introduce reduced tariffs for all the rebates encouraging productivity increases (quantity, round trip tickets to facility re-loading, possible empty runs, etc.),
⇒ plan payment terms and conditions for customers, compatible with national currency exchange legislation,
⇒ tariff specialists should be asked to participate in this project and their analysis should be supervised by an "innovator",
⇒ To set new tariffs, we will have to take into account transportation network costs and market tariffs (competitors using other modes or other routes competing with TRACECA). Each railway network will have to have a good understanding of costs or develop a general approach to railway costs along international routes.

Setting up documentation simplified procedures

As far as documentation is concerned, SMGS methods and regulations should be implemented by setting up simplified procedures between the TRACECA railway networks. Due to the complex administration system of railway networks, and in view of the difficulty for Caucasian and Central Asian networks to work jointly using similar methods, this will be a medium term goal. In order to start up this project, it is recommended to use SMGS methods, except for railway networks container exchanges and monitoring purposes along the TRACECA corridor, which should be based on SPK methods.

An active supervision and information method should be set up according to systems used by certain customers (Western forwarding agents active in Central Asia) with their Western partners (INTERCONTAINER group) and the Russian Railways and subsidiary companies.

Setting up an exchange or joint use (pool or reciprocity contract) of wagons (containers/wagons)

It is recommended to set up an exchange or joint use (pool or reciprocity contract) of wagons (containers/wagons) exchanged between various railway networks. The idea of integrating all these technical resources in a centralised management system seems premature although it should not be overlooked or dropped.

The privatisation of terminal management

The privatisation of terminals should be reviewed to ensure profit margins and ...sibly the participation of private investors in necessary capital investments.

4.6.4.3. Marketing recommendations

Design of a marketing strategy (« case study »)

Prejudices, historical and political conflicts as well as any type of actual or imagined war situations should be overcome in order to encourage multi-modal service suppliers along this route to improve the service provided and tariffs. In addition a marketing strategy should be designed, based on improved service quality and lower tariffs, to attract existing traffic currently using competing routes, or new traffic generated in view of the quality of the service provided.

The best advertising campaign should be based on "transportation tests", it should also strongly involve current participants and should encourage the participation of an operational team in the containerisation of « targeted products » to emphasise the credibility of this route.

4.6.4.4. Ports container related improvements recommendations

The following recommendations for improvements, should be developed during the workshop. They should include the different weak points detected at the five ports during the preliminary assessment.

In the Port of Turkmenbaschi

On the general cargo, n the short-term, It is recommended:

- ⇒ to rebuilt the pavement of the platform,
- ⇒ to fit in the rail tracks of the cranes and the railways,
- ⇒ to dedicate one shed as a CFS for stuffing/unstuffing the containers with « targeted products),
- ⇒ to purchase two cranes of 40 tons capacity and three reach stackers for loading containers on the rail cars, the trucks and the trailors as well as for stacking the containers on two levels,
- ⇒ to purchase two tractors for roll-trailers.

In the medium term, it is recommended:

- ⇒ to locate the railways station at the border of the terminal in order to leave the space between the quay apron and the sheds totally empty in order to facilitate the circulation and the handling operations as well as the storage and stacking of the containers,
- ⇒ to suppress the first range of sheds in order to create space for stowing the containers.

On the ferry terminal, in the short term, it is recommended:

- ⇒ to dedicate one wharf to the traffic of cars, trucks and trailers. For that purpose, to surface the pontoon bridge with steel sheets or at least take out the rail tracks of the railways so that the loading operations can be eased,
- ⇒ to prepare an area for turning the trucks and trailors, just beside the access to the pontoon.

On the medium term, it is recommended to create space for parking the trucks waiting for the embankment and set up services (toilets, food market for the drivers, etc.).

In the Port of Baku

On the main complex, in the short term, it is recommended:

⇒ to reorganise the layout by keeping two berth (350 meters) on the western side of the mole, where there are the two cranes of 40 tons.
⇒ to get rid of the three cranes located on the second range of cranes on the side of the shed C5.
⇒ to clear the front part of the mole where there is the RO/RO ramp so that the circulation gets easier between the container and the RO/RO terminals. These two parts of the main complex will constitute the multimodal terminal of at least 2 hectares. The railways tracks will be fitted in the ground for allowing the circulation of the mobile handling equipment.
⇒ to use the remaining space of the western side forparking the trucks waiting for their loading on the ferry terminal; this is only provisional as long as there is a low container activity on this mole.

In the medium term, it is recommended:

⇒ to shorten the elevated quay up to the C5 shed in order to facilitate the operation of the RO/RO vessels.
⇒ to create a link road between the main complex terminal and the ferry terminal so that the multimodal terminal is easily connected with railways, roads, RO/RO cargo ships and ferry boats.

On the ferry terminal, two recommendations are suggested, depending on the traffic and techniques used:

⇒ If the container traffic increases and is carried by the ferry boats (from/to the ferry terminal of Turkmenbaschi), it will be necessary to dedicate one wharf to the traffic of cars, trucks, trailors and containers on roll-trainers.
⇒ If containers and trucks/trailors are carried on RO/RO cargo vessels, their handling will take place in the RO/RO terminal of the main complex, that is to say directly on the proposed multimodal terminal.
⇒ If the traffic of general cargo increases on the main complex and there is a need for open storage space, the western side of the mole will not receive any longer the railcars, trucks and trailors queuing for embankment; in this case, it will be necessary to find a place for the vehicles outside the port borders.

As for the vessel fleet, in the medium term, it is recommended:

⇒ to bring back into the Caspian Sea one of the RO/RO cargo vessel type "Kompositor Kara Karaev" of 125 meters long with a capacity of 84 trucks Kamaz or 33 trailers and 66 containers TEU. This ship is able to serve the Turkmenbashi / Baku line once every two days. It will be put on line as soon as the works for dedicating one wharf of the two ferry terminals to RO/RO cargo ships will be completed and as soon as the number of containers carried daily will justify it.. If the road transport evolution leads to use trailors instead of trucks, it is proposed to carry only the trailors and not the tractors, which allows to reduce the waste of space aboard and to reduce the running cost per unit. (It implies international agreements for the traction of trailors by tractors of other countries.).

⇒ to tranship the containers from the rail cars to the RO/RO ships to avoid the waste of space when carrying the containers on the rail cars. This method avoid to bring back empty rail cars on the ships and pay useless freight costs.

As for the general organisation and management, it is recommended:

⇒ the privatisation of the handling companies is required to introduce competition. The creation of joint ventures with foreign firms should bring investments and new methods,
⇒ to separate the port authorities and the national shipping companies, in order to avoid discriminatory tariff and procedures.
⇒ to create an international statistical board common to the TRACECA countries and to all the modes of transport; this board will be in charge of collecting the data on the containers and rolls with origins/destinations, kind of goods, packaging and successive mode of transport used by the shippers,

⇒ to monitor the movements of the containers and rolls thanks to a network of information (computer, information system ...). This information improves the general productivity of the system, reduces the transport.

In the Port of Poti

Preliminary remark: The analysis of the present situation has shown that there is a very small container yard and the handling operations are made difficult because of the cranes and rail tracks crossing the terminal. There is no possibility of extending this yard. But there is a project to build a new terminal on the finger pier. The implementation of the project contemplated by SEALAND (shipowner), must be encouraged.

On short term, the multimodal team of experts recommends:

⇒ to encourage the building proposed by SEALAND on the finger pier.
⇒ to purchase new handling equipment including in the current container terminal (now insufficient),
⇒ to purchase a mobile reach stackers and forklifts. if the quay allows to support a heavy charge on the wheels of the equipment. (3 or 4 tons) or to build a new terminal outside the port territory as the one of Cautrex.

On the medium term, it is recommended to build a mixed terminal (container and RO/RO) on the new area recuperated from the Navy in the North outerport.

In the Port of Batumi

This port has no space for containers and RO/RO traffic.
Since there is a project of building a ferry terminal on the east side of the basin, it would be interesting to build a multimodal terminal on the eastern quay by using the 4 hectares of space recuperated by suppressing the obsolete building currently located behind the quay. (this space is too close to roads and railways networks).

4.7. Task 7: Summary of E.U experience with multi-modal transport

To clear out the key for the success of EU experience with intermodal transport, and to facilitate the understanding of European multi-modal systems (as compared to the TRACECA region system), a summary report of EU experience with multi-modal transport is shown in Annexe 6. It has been prepared by the Team Leader and explained to participants during the study visits.

PHASE 2: Study Tour in EU Countries.

The second phase of the present project, consisted of a Study visit in Europe. The objective of this visit was to :

- ensure a real exposure of Traceca multi-modal groups to European Unions' practices through a visit to selected multi-modal sites and organisations to identify relevant information and training needs.
- To create permanent links between Traceca and West European multi-modal bodies to follow-up the various recommendations done within the project and to ensure the harmonised implementation of a multi-modal chain.

The Study TOUR was carried out as planned in the Inception Report, between from the 15th to 28 June 1996 (month 5) in two European countries (Germany and France). Relevant persons from the UIRR[i] and the EIA[ii] took active participation in the Study Visit. Furthermore, relevant managers from INTERCONTAINER (head office in Switzerland) and from the company « POLZUG », a German-Polish combined transport company, met with the delegation in Metz (France) and in Hamburg, respectively.

It should be noted that the initially proposed visit of INTERPORTO (Italy) did not materialised : difficulties with visa for the Tadjiks and Khirghys (Italy is not a party to Schengen Convention and has no consular representation in many Central Asian countries).

The activities related to the Phase 2 are presented in the following order:

* technical preparation (Task 8),
* the selection of participants (Task 9),
* the practical organisation (Task 10)
* execution of the Study tour in Europe (Task 11)
* evaluation of the study tour (Task 12)

4.8. Task 8: Technical Preparation of the Study Tour

The technical programme was prepared during the month of May in consultation with TRACECA management and the national authorities. It covered the different European organisations, vectors (road; rail; maritime) and facets of multi-modal transport chains as well as technologies and associated logistic related services of multimodal plates-forms. The task 11, presented in further section, presents the list of these organisations as well as the activities performed during the E.U. Tour. The different components of the Tour programme is presented in Annexe 7.

4.9. Task 9: Setting up an Intermodal Freight Transport Group

In consultation with TRACECA management and National authorities, the Consultant defined the profile of the expected participants (one high ranking decision-maker and one high level specialist per country) and asked the main Recipient Organisations to select the persons composing the Country delegation. The intermodal transport group of 16 relevant persons was constituted. The participation in the E.U. Study Tour was the first activity of this group, called to promote a new container transport organisation in the TRACECA countries

It should be noted that the participants from Turkmenistan could not participate in the Study Visit. The first participant, the head of the Transport Department within the Cabinet of Ministers had been involved in another Study Tour organised during the same period by another TRACECA project. As for the second, health reasons did not allow the Vice-ministry of the Automobile Transport to take part in the Study Tour.

[i] International Union of Rail-Road Combined transport Companies.
[ii] European Intermodal Association

The replacement was actively examined. The chief of the International External Relations within the Turkmen Railways had the desire to participate, but the short time available (one week) was insufficient to be provided with the corresponding visas and organise the activities within the Turkmen Railways caused by the absence of 15 days.

The final list of the multimodal modal transport group is presented in Annexe 8.

4.10. Task 10: Study Tour Logistics Organisation

The practical organisation of the visit (accommodation, meeting points, travel arrangements, schedule and timing of visit, etc.) was carried out during April and May by the Study Tour Logistic support expert. A detailed programme of the study visit as well as the list of persons met is given in Annex.....

4.11. Task 11: Execution of the Study Tour in Europe

The Study Tour was carried out during the 15 - 27 June 1996. The activities performed involved the following organisations:

International European Multi-modal Organisations.

- The INTERNATIONAL UNION OR RAIL-ROAD COMPANIES (IURR) and INTERCONTAINER (ICF): the two European Combined Transport competing groups (The UIRR is the Combined Transport Group dominated by the road hauliers and their federation, while INTERCONTAINER, the second largest competitor, is dominated by the railways companies).
- The EUROPEAN INTERMODAL ASSOCIATION (E.I.A). The EIA forms the European structure which promotes the components of the intermodal products (techniques, equipment, organisation of the chain and the definition and creation of supply).

Multi-modal National Authorities and Professional Unions.

- Combined transport Authorities from the FRENCH MINISTRY OF TRANSPORT
- The « GROUPEMENT NATIONAL DE TRANSPORT COMBINE » (GNTC) . One of the largest French Professional Union.

The Maritime Facet of Combined Transport

- PORT OF HAMBURG,
- The Hamburger Hafen-und Lagerhaus-Aktiengesellcshaft (HHLA)
- Container Terminal division of HHLA at Burchardkai,
- « POLZUG » a German-Poland joint venture company specialised in Combined Transport.

European rail « Nodes »

- The « European Nodal Point » managed by INTERCONTAINER. Metz (France).

Regional multi-modal platform

- Visit of the Multimodal regional Complex of Avignon, managed by NOVATRANS

Rail-road terminals

- The Hamburg-Billwerder Combined Transport Terminal managed by « KOMBIVERKEHR »,
- The Combined Transport of Creteil managed by NOVATRANS.
- The Combined Transport Terminal of Valenton (France), managed by the SNCF and the CNC (Compagnie Nouvelle de Conteneurs).
-

The Road Facet of Combined Transport

- The medium size French transport company « T.A.V », specialised in Rail-Road Transport by swap bodies (90 % of the Traffic).
- CALBERSON- Grand Export » the largest French forwarding Company, with multimodal activities throughout the world.

International European Multi-modal Organisations.

Meeting with the UIRR representatives.

The IURR responsible for Marketing and European affairs, Mrs Susanne Kuschel presented to the participants the structure, the role, the activities and the position of the UIRR in the combined transport market.

With a traffic of 3.7 million TEU (Twenty-foot Equivalent Units), which represents more than 50% of the total European combined transport output, the IURR is the largest group of combined transport in Europe. Members of the UIRR are present in 17 countries in Europe. Their clientele is strongly oriented towards the road sector. In most cases, the UIRR companies are the largest operators in their respective countries and to fulfil their role they generally own their wagons and run the terminal they serve. A KOMBIVERKEHR terminal, in Billwerder (Germany) was visited to illustrate the presentation of the activities of IURR members.

Transport by container[xv] and swap-bodies[xvi] (the dominant techniques within the IURR) represents two-thirds of the total number of consignments, while transport by semi-trailers[xvii] lies at 16%. The annual average growth rate of traffic is nearly 3%. More specific data show that the international traffic of the UIRR companies largely exceeds national traffic. International traffic is growing by 14% a year. The average distance for multi-modal transport, national and international, is 755 km. (Brochures describing the company and its activities were distributed to the participants)

Meeting with INTERCONTAINER representatives.

The presentation of INTERCONTAINER was carried out during a conference held in Metz, by the Director of the Business Unit Central and Eastern Europe, Mr Peter Schmelter and the Route Manager, Mr Andrej Burnashev. After the presentation of INTERCONTAINER activities in Europe as well as in Central Asia and Caucasus, the principal of the "nodal point" was explained to the participants, as well as the information systems "Euronet" and "Qualitynet", which are used as aids in international traffic operations. Established in Belgium and having its main office in Basel, Switzerland, INTERCONTAINER is owned by 26 railway companies. In 1994, INTERCONTAINER transported 1.3 million TEU. The average transport distance is 1000 kilometres. (Brochures describing the company and its activities were distributed to the participants)

[xv] There are " land containers ", maritime containers and air container. Land containers are designed for an optimal use in rail-road combined transport (standardised according to International Railways Union norms). Maritime Containers are designed to be used in a cellular ship and are conforming to International Standard Organisation (ISO standards).

[xvi] Used only in rail-road movements.

[xvii] Any vehicle intended to be coupled to a motor vehicle in such a way that part of it rests on the motor vehicle and a substantial part of its weight of its load is borne by the motor vehicle. These may have to be specially adapted to be used in combined transport.

The presentation was followed by a discussion between INTERCONTAINER representatives and the participants on the possible involvement of INTERCONTAINER in Central Asia and Caucasian countries. Mr Schemelter explained that INTERCONTAINER, working in a competitive market, is open to anyone who desires to become a member, under three conditions:

- to have an operating railway network;
- to accept the operating methods and concepts of the company, and
- to participate in the capital of the group.

Further contacts and discussions were planned. Mr Schmelter was invited to visit the region and discuss the conditions under which INTERCONTAINER could be involved in the development of the combined transport market in the TRACECA region.

Meeting with the EUROPEAN INTERMODAL ASSOCIATION (EIA) Representatives.

The General Secretary of the EIA, Mr Bernard Teillet, presented the EIA : the structure, objectives and activities of the Association. Created two years ago by the railways and road operators, the EIA is composed by 26 active members from the combined transport groups (IURR and INTERCONTAINER), from other partners involved in the multimodal business such as equipment dealers, insurance companies, banks etc. The EIA have been created to promote exchanges between partners, to detect productivity gaps, to optimise transport costs and to constitute a professional entity able to influence the official authorities on the financial contributions required to promote this technique.

The EIA strategy for reducing operating costs are focused on three main components:

- reduce the rail traction cost which represents 30% of the total cost of combined transports by the introduction of « Block Trains » techniques in replacement of traditional A to B traction by individual wagons through successive shunting.

- reduce rail terminal operation cost by compressing the cost of haul operations, representing 35% of a combined transport operation. This can be achieved, explained Mr Teillet, by reducing the number of trucks affected to this mission and by doing trucking operations more flexibly in terms of schedule: the terminal haul operations could be spread over the day instead of concentrated in narrow intervals (from 6h to 8h and from 18h to 20h).

- The third component of the strategy consists of reducing the handling operations costs by increasing the automatisation of terminals and by reducing personnel cost, rather high in Europe.

Another subject of particular interest for the participants was the Mr Teillet's explanation of the functioning principles of the Association: the EIA has a small permanent structure, essentially composed of himself and of various working groups from the different member companies. To support the cost of the functioning of the EIA, all members provide a fixed amount of about 2000 USD, plus a contribution varying from 400 to 4000 ECU according to the turnover of the company. It was noted that the working groups are not paid by the EIA, but work on the basis of their own company interest. Regular meetings are organised to review the progress of the work performed by these working groups.

Finally, Mr Teillet explained the various financing systems contemplated in Europe through the PACT programme[xviii]. The programme can finance up to 50% of the cost of project feasibility studies and 30% of the costs of project measures. The programme has been successful and the European Commission is now studying how to transform this pilot programme into a longer term and large scale Community programme, including Eastern countries.

[xviii] PACT: Pilot actions in the Field of Combined Transport. Initiative launched by The European Commission to bring about a lasting improvement in the quality of combined transport. Projects financed by the Commission must cover international routes of European interest and may concern any combination of rail-road or inland waterways transport and may include sea crossing where this is unavoidable.

Multi-modal National Authorities and Professional Unions.

Meeting w Representatives from the FRENCH MINISTRY OF TRANSPORT

The representatives of the French Ministry of Transport offered the opportunity to clarify the role of the authorities on the functioning of the Combined Transport Sector. The Conference was headed by the Director for International Economic Affairs within the Ministry of Transport, Mr Mousnier-Lompré. Jean Michel Etienne, author of various works on the financing of public infrastructures by private funds and Mr Maurice Belmain, responsible for Multimodal transport policy within the Ministry, presented an overview of Combined Transport issues in Europe.

Of particular interest for the participants was the Mr Mousnier-Lompré's presentation on the role and structure of the French Ministry of Transport in the combined transport sector. Some of the delegations, in particular from Azerbaidjan, Georgia and Tadjikistan showed a great interest in possible assistance to strengthen their respective Transport Institutions are one the most important weaknesses the development of appropriate transport policies. Mr Sadihov, the Head of the Transport sector in Azerbaidjan, noticed that institutional support is a national priority for the country. This matter has been chosen by Azerbaidjan to be included in the EU "Indicative Programme" for assistance.

Mr J.M. Etienne presented the French system of financing public transport equipment by private funds. He explained how, by contractual agreements, French private firms participate in the financing of the infrastructure: in return for their investment, the private sector is compensate by keeping under autonomous control the operation and management of infrastructures. A 200-page book, in Russian, specifically dedicated to this matter was provided to the participants. (A copy may be made available by the Team Leader).

Mr M. Belmain presentation was focused on the main reasons to develop the combined transport network in Europe, from the point of view of the authorities. He explained the technical difficulties encountered in the development of combined transport, in particular in the field of technical norms (infrastructure, vehicle fleet and service standard). He said that a large variety of existing standards and parameters for combined transport road-rail in Europe, creates obstacles to develop harmonised transport system. A recent ECE[xix] study which makes an inventory of the existing standards in Europe, shows, on an internationally comparable basis, the actual situation as compared with the minimum standards and parameters prescribed in the "European AGTC[xx]. This 130-page document was provided to the participants (a copy may be made available by the Team Leader).

Meeting with the management of "GROUPEMENT NATIONAL DE TRANSPORT COMBINE"(GNTC).

The General Secretary of the GNTC, Mr Jacques Rossi, presented the GNTC: objectives, structure and activities. Of particular interest for the participants was the role of these types of professional Unions. The GNTC is one of the two representative of French professional Unions created by road hauliers to preserve and defend the interests of the members in the combined transport business. The principle of functioning is similar to the one of the EIA.

Following Mr Rossi's presentation, the Team Leader and actors the Operating Expert summarised the role and positions of the different actors involved in the combined transport business. Two different levels may be distinguished:

- At the "policy level", there are two main actors : the Ministry of Transport, authority in charge of defining the rules of the game and the Professional Unions, such as the "GNTC" , emanating from the profession to defend the interest of any specific sector. To facilitate the discussions which preceded the main decisions to be taken by the authority, individual firms, represented by a valid body, can influence the authorities decision.

[xix] Economic Commission For Europe of the United Nations.
[xx] European Agreement on Important International Combined Transport Lines and Related Installations

- At the "operating level", the actors are individual firms and large groups of economic interest. For instance, economic int ·st companies such as NOVATRANS, (a IURR's member) are created to meet the necessity of grot .ıg transport operations and creating infrastructure (this can not be assumed by individual firms). Furthermore, a group of economic interest such as NOVATRANS can offer to individual firms the possibility of being in a stronger position when negotiating with large suppliers such as National Railways Companies: by evaluating the transport needs of individual firms, NOVATRANS is able to buy rail traction on a basis of the wholesale price. By reselling these services to individual firms (on a basis of attractive retail prices) they make a profit. The benefits allow the group NOVATRANS to reinvest the profit and finance the infrastructure. They fulfill their role by being a sort of "freight transport wholesaler".

The Maritime Facet of Combined Transport

The Port of Hamburg (Germany)

The visit to the Port of Hamburg and the HHLA container terminal at Buchardkai (Hamburger Hafen-und Lagerhaus-Aktiengesellcshaft) offered the possibility of understanding the maritime facet of combined transport in EU countries. The extensive tour of the harbour in the "Senatsbarkasse" boat was conducted by the General Manager of the Container Division of HHLA , Mr. Winfred Furnell, and the Executive Manager, Mr. Rainer Boller. They presented the main infrastructure of the Port as well as the main activity including economic indicators, the status, the organisation and the main actors concerning the port, etc.

Summary: Hamburg, the largest industrial city in Germany, is now located at the transport hub of a market with more than 400 millions inhabitants. About 60 % of the traffic is coming from or to going to the city or its hinterland. This reads like an excerpt from a brochure on the port of Hamburg registered a traffic is 65 millions tons per year. While the general cargo traffic is decreasing, the container traffic is rapidly increasing. Since 1985, the container turnover has doubled. In 1995, a total of nearly three millions TEUs puts Hamburg in the seventh spot in the world container port league. Hamburg's port economy expects container turnover to exceed four million TEUs but the year 2000..

The port has an essential role on three types of traffic : between Europe and the Far East where its hub role is increasing (about 45 % of the total container traffic) and to or from the Scandinavian countries (about 15 % of the total traffic). New emerging market from Eastern Europe is a major commercial prospect. Institutionally and legally, the port of Hamburg depends on the Land of Hamburg. Its management is largely performed by Ministry of Commerce of the Land of Hamburg (Wirtschaftsbehorde). Traditionally, the handling is performed by two corporations: BUSS and Carl Tiedeman for cargo handling operations and the operators for the land handling. The development of the container traffic is abating the difference between these two professions.

The Container Terminal of Burchardkai (Germany)

After the Port, the delegation visited the Container Terminal of Burchardkai. This terminal managed by the Hamburger Hafen und Lagerhaus (HHLA), is one of the two HHLA container terminals . With a total traffic of 1.2 million TEUs[xxi], HHLA is one of the largest operators of the Port of Hamburg. This is about 60% of the total container traffic of the Port and 54% of the general cargo. The terminal operated by HHLA is equipped with container berths totalling 2,570m length, depths 9.8m-15m served by 16 container gantry cranes (35t-70t), one quarter ramp and one stern-ramp RO/RO facilities. It comprises: 16ha (container parking 79ha); storage facilities 14,600 TEUs. Rail facilities : terminal of 5.4 ha with six tracks totalling 2,400 m served by three rail-mounted Peiner (38t) and two Aumund (35t) road/rail transfer gantries. The freight handled represents 84% of the total traffic.

[xxi] TEU: Twenty-foot Equivalent Unit (6.10m). A standard unit for counting containers of various lengths and for describing the capacities of container ships or terminals. One standard 40' ISO Series 1 container equals 2 TEUs

A German-Poland joint venture « POLZUG » (Germany)

In a second part of the visit to HHLA, a main firm involved in the rail container business was presented: The company POLZUG, a joint venture created by the Polish Railways (40%); the HHLA (40%) and EgonWenkInteranational forwarders as well as KOMBIVERKEHR (20%). The « POLZUG » activities were described by the management of the company: Mr Walter Schulze and Mr Manfred Schmidt.

Of particular interest was the presentation of the new Block train from Slawkov to Kiev (starting in July 1996) supported by the government of Germany. The participants express the desire of connecting Kiev to Odessa (Poti is connected to Odessa by ferry). POLZUG management said they would pay attention to possible developments in this direction. It depends on the traffic.

European rail « Nodes »

The « Node » of Metz (France)

The visit of the "European Nodal Point » managed by INTERCONTAINER was directed by Mr Kieffar, Director of the Centre. The principal of the "Nodal Point » of Metz (France) was explained: at strategically favourable location, wagons from multi-group trains (trains from various origins, with shipments for two or more destinations) are exchanged and combined to form new, single-destination through trains. The choice of Metz to build a « Node » was explained as a result from its central position in connection with North-South traffic flows: Rotterdam - Italy; Germany-Spain. At this central point, multi-group trains from the North of Europe and going to different regions in Italy are formed to directly reach the specific final Italian point of destination.

The particular train building includes a sorting area composed of 40 rail track sections. Sorting operations for a specific train are performed in 15 minutes. This explains the importance given to the information systems. Some time before the train arrives in Metz, a list of wagons is faxed from the terminal of origin. With this list in hand, the INTERCONTAINER operators instruct the railway company (SNCF) on the required sorting operations to be performed. At the same time, the same information is also transmitted to the Head Office in Basel. The centralisation of all information related to a wagons position allows INTERCONTAINER to keep their customers informed in real time. The information system is called "Euronet".

Particularly interested by this information technique, the participants had a discussion with INTERCONTAINER management on the possibility of using such type of system. Mr Schmelter explained that It is necessary to specifically define the field of intervention of INTERCONTAINER: conditions under which the transport operation is performed, origin and destination points, commercial conditions (FOB or CIF). To clear out this possibilities, representatives from INTERCONTAINER were invited to pay a visit to the region.

Multimodal Regional Platforms

The Regional multi-modal terminal of Avignon (France)

The visit of the regional multi-modal terminal of Avignon, managed by NOVATRANS (member of the IURR), was directed by Mr Claude Arocas, Regional Director. Mr Arocas presented the role, the capital structure, the market and the equipment of NOVATRANS. The group capital structure is dominated at 60% by the profession of road carriers (40% of the capital belongs to the National Railways Company). With its own 19 terminals, 15 mobile gantry cranes and 1000 rail-wagons, NOVATRANS is able to link 200 terminals in Europe. Connections are performed by 60 trains per day running at speeds of 120 km/h.

Of particular interest was the presentation of the role and position of NOVATRANS in the combined transport market. In France, like in most European countries, there are two national competing operators: NOVATRANS (dominated by the road profession) and the Company Nouvelle de Conteneurs, the CNC (dominated by the railways sector). These national companies are represented at a European and international level by the IURR (dominated by road companies) and INTERCONTAINER (dominated by national railways companies).

Essentially, the difference between the two kinds of operators resides in the nature of the services offered. NOVATRANS mainly operates in the continental mar' ' and does not provide door to door services (the trucking from the terminal to the users premises is pe' .med by road carriers). On the other hand, the group dominated by the railways companies, such as CNC in France, are able to provide door to door services, including the provision of containers, and the terminal haulier by road with its own means. In both cases, their role consists of offering solutions to road carriers (alternatives to "pure road transport" in the long-distance market) and, at the same time, provide freight traffic to railways companies.

During the last 25 years, the traffic handled by road carriers has been increasing dramatically to the detriment of the railways. Today, road infrastructures are congested and air pollution from road transport is high. Furthermore, the consolidation of the European market creates an advantage for trade over longer distances where railways are more cost-efficient. There is a real desire in Europe to find new solutions. The growth rate of 14 % per year of international combined transport traffic can be explained as a result of this particularly new context.

Rail-road Terminals

The Hamburg-Billwerder Combined Transport Terminal of " KOMBIVERKEHR " (Germany)

A visit to the Hamburg-Billwerder Combined Transport Terminal of " KOMBIVERKEHR ", member, as NOVATRANS, of the UIRR was conducted by the Director for the North region, Mr Reinhard Rühr. He explained the activities of the rail-road Company. Created in 1991, this " KOMBIVERKEHR rail-road terminal is one of the biggest in Germany. The traffic capacity of the terminal is 340,000 TEU per year. At present there are about 1000 trucks passing every day through the terminal.

Of particular interest for the participants was the technology issues and the investment required for such type of installations. The terminal is 3km long and equipped with five electronic mobile cranes (41t). It represents an investment of 6.4 million DM, including the five cranes. In many cases, investment of up to ECU 3 millions are enough to create a rail-road terminal in Europe.

The Valenton Combined Transport Terminal of the « Compagnie Nouvelle de Conteneurs » (France).

The visit to the CNC Terminal, managed by the CNC (Compagnie Nouvelle de Conteneurs) and the French National Railways Company (SNCF) was conducted by Mr Jean Clapies, General Secretary, and by the Regional Director of CNC, Mr Jean Paul Cordier. The CNC, is, as most of the INTERCONTAINER members, an "integrated operator". They are able to offer « door-to-door » services. With its own means (8000 containers, 5000 wagons, 220 partners), the CNC could cover all the required services at each link of the single multimodal chain: rail traction, provision of containers and the end haulier.

The CNC operates in the "continental market" as well as in the maritime market. In the maritime market, they mainly work on behalf of international forwarders and ship-owners. Annual traffic is 2.3 millions tons.

Of particular interest for the participants was the question related to the unitisation of loads[xxii]. By using pallets, the consolidation into a container of loads from different customers dispatching their goods to the same destination is made easier. Up to 1948, the railways services were only provided to large customers able to dispatch 10t of freight daily. The CNC was created to allow the SNCF customers to dispatch 2 tons of loads every day instead of waiting 5 days before having access to operators provision.

The pallet is to a container, what a container is to a train or to a vessel. It allows to increase the productivity of the logistic chain by simplifying the handling operations. In Europe, close to 90% of solid freight flows are palletised.

On the other hand, Mr Clapies explained the particular problems posed by the "normal container" of 2.32m wide, which is not compatible with the pallets[xxiii] used by the distribution sector. The introduction of ISO

[xxii] Unit load: pallets and prepacked unit to be put into a container to facilitate the loading and unloading operations.
[xxiii] Pallets are of standards dimensions - 1000mm x 1200mm (ISO) and 800mm x 1200mm (CEN) or " Europallet ".

"pallets" made obsolete the use of 2.32m wide container: swap bodies can be loaded with 33 pallets while the capacity of the 2.32m wide container is only 24.

The Road Facet of Combined Transport

The Study Tour included meetings to two contrasted but complementary road transport companies involved in the combined transport market: The TAB : a medium-sized road company and The CALBERSON-GE: the largest International forwarding company in France

The National Road Company: TAB

The "T.A.B" is a medium-sized French transport company, specialised in Rail-Road Transport by swap bodies on the European market. Combined traffic represents 90% of the « T.A.B. total traffic. The company owns 100 trucks and 350 swap bodies. Every day, the company hands 100 swap bodies over to the railways. This represents 90% of the total traffic.

Concrete examples were used to illustrate the company' s principle of functioning and organisation. The international activities of such a company are performed thanks to the European network of correspondents. The company passed various mutual agreements with fellow members to ensure the delivery of swap bodies to the final consignees. Such an organisation allows TAB to work in the international market with a reduced fleet truck, only involved in short distance operations. As a results the company is in good financial health: low driver costs, good quality service (deliveries to final customers are performed without delay); optimised routes etc.

Of particular interest was the discussion on the nature of the commercial relationships between the different partners involved and the type of transport contracts that come within the scope of sales operations:

- the contract between TAB and the customer to be invoiced (the seller or the buyer depending on the commercial sales conditions negotiated by the traders).
- the contract between TAB and its rail-road container-transport supplier (NOVATRANS)
- the contract between NOVATRANS and the Railways (invisible for TAB)
- the conditions under which the delivery and the payment for transport services are performed by the TAB's correspondents.
- the contents of the agreement between TAB and its correspondents

The examples clarified these important aspects of the combined transport business. After visiting the company installations, the delegation was invited to assist to a rail-road terminal, to follow one specific TAB swap-body operation.

The International Forwarder " CALBERSON - G.E"

The visit started with a conference performed by Ms Victoria Chkoulanova, a Russian native responsible for marketing development department for the CIS Republics within CALBERSON. After presenting the company. Mrs Chkoulanova described the transformation and present organisation of the European transport market, where large forwarding companies co-exist with small and medium-sized road operators.

This co-existence has been made possible thanks to particular relationships between the operators. Large international operators, such as CALBERSON, are characterised, among other things, by a capability to provide an extended transport and logistic support to the industrial firms working throughout extended geographical areas. The activities covered are from the order preparation to final delivery through storage management, packaging, transportation, customs warehousing, etc. This gives to large operators a strong commercial position: they « have the freight », but only few trucks.

Contrary to large groups, small and medium-sized road companies have a reduced range of services to offer and are often, from the commercial point of view, in a less good position. Furthermore, they often have cash flow problems. By working under contract with large forwarders, small companies do not need to worry so

much about finding freight traffic or taking on complex transport administrative procedures. They are sure of being paid in time: they « have the truck » but almost no freight.

Small companies compete for sub-contracting agreements with the largest operators. Large operators compete for having freight transport contracts with the final customers.

The Georgian delegation was particularly interested by the documentation issues (commercial, legal and transport contracts). They asked the Team Leader to elaborate a proposal on practical training courses within transport companies and organisations, such as those visited during the study tour. The proposed idea would consist of sending one person from each TRACECA Republic to be trained on the successive links of the combined transport chain for a duration of at least 5 days.

4.12. Task 12: Evaluation of the Study Tour

On June 27 and 28 1996 the Consultant organised a special meeting with all the participants to evaluate the effectiveness of the study tour as compared with the initial objectives ; which where :

- to ensure a real exposure of Traceca multi-modal groups to European Union practices through a visit of selected multi-modal sites and organisations to identify relevant information and training needs ;
- to create permanent links between Traceca and West European multi-modal bodies to follow-up the various recommendations done within the project and to ensure the harmonised implementation of a multi-modal transport chain.

To this end a specific questionnaire was used. It contained 10 questions. The result of the evaluation, (the answers of participants are produced in full in Annexe 9), can be summarised as follows:

1. Do you think the objectives of the study visit matched with Traceca countries multi-modal needs? Why?.

In the opinion of all the participants, the answer to this question is yes.

2. What relevant information and what training needs have you identified?

All the participants said to be satisfied with the information received. However, the Uzbek delegation found that not enough practical documents were distributed. As for the training needs, the participants, especially from Georgia, pointed out the need for a specific practical training within companies such as CALBERSON. The Georgians intend to create a Multi-modal forwarding company with the participation of the Georgian Railways. The managers from Calberson replied they have the required experience to perform such training courses. They are at present providing on-the-job training to Russian managers within the frame of the TACIS programme « Productivity Initiative Programme » (transfer of management know-how needed to operate in an open market economy and develop business relations).

3. What permanent links did you create with representatives of West European multi-modal?

Three of the country delegation said they did not have the real possibility of creating such links. The rest of the participants considered they have had the opportunity to create good contacts (specially with INTERCONTAINER and NOVATRANS) and are ready to develop them. For instance, the delegation from Tadjikistan said they concluded a contract with transport group (KOMBIVERKHER) and have invited INTERCONTAINER representatives to visit the country.

4. What do you think about multi-modal European systems you have seen? In Germany? In France?

All the participants have a positive opinion of all visited sites and the high professionalism of the people met in Germany as well as in France.

5. Do you think the implementation of a multi-modal chain between Traceca and EU countries is feasible? Why? What are the corresponding barriers? How to overcome them?

Almost all the participants said that such multi-modal chain is not only feasible but essential. However, they are aware of the difficulties in overcoming the existing barriers such as the lack of harmonised customs procedures and political problems.

6. What other multi-modal sites would you like to visit in the future? Why?

Italy have been named as desirable place to visit in the near future because of the relevance of the multi-modal transport in that country. For opposite reasons, Spain and Greece have also been named: the problems of developing combined transport could be closer or similar to their concern. In the opinion of the Georgians and Tadjiks the multi-modal sites in the CIS countries or Central Europe are the best suited to TRACECA countries.

7. What did you enjoy the best during this study tour? Why?

Unanimously, what the participants appreciated the best was the organisational aspects related to Multi-modal transport system.

8. What did you not enjoy during this study tour? Why?

Some of the participants said they would have liked to have had access to detailed working procedures at the different points of the multi-modal chain. The language and interpretation have been found sometimes deficient.

9. If such kind of study tour would have to be done again during the next months, what would be necessary to modify (objectives, content, countries, sites, tour organisation, etc.)?

In the opinion of various participants, the content of the study tour could have been more detailed.

10. If the previous questions did not allow you to express your opinion on this study tour, you can do it hereafter:

Apart from the Azerbaidjan delegation, not answers have been given to this question. The Azeri delegation have prepared an provided the Team Leader with a two-page report on suggestions for the organisation of the multi-modal transport within the frame of the TRACECA programme. The question of assisting local governments in the creation or reinforcement of the transport structures at the government level (creation of a Ministry of Transport) was particularly clearly expressed.

5. PROJECT PLANNING FOR THE NEXT PERIOD

PHASE 3: Case Studies and Investment Projects

This final phase of the study will essentially focus on the design and execution of practical solutions through cases studies, the determination of profitable investment projects and the conclusion and follow-up activities of the project. It comprises the five following tasks:

Task 13: Selection of multi-modal corridor and preparation of support
Task 14: Identification and selection of participants
Task 15: Preparation of the case study and training programme
Task 16: Execution of the case study in selected intermodal corridor
Task 17: Evaluation and Conclusions

On the other hand, the Consultant has been asked to take account of a certain number of suggestions formulated by the TRACECA management in Brussels and integrate them in its work approach. The solutions or recommendations to be proposed should integrate as far as possible such elements as: production of a consistent project objective (expected benefits resulting from the implementation of the project); identification locof local partners as well as the borrower organisation to be involved in the implementation of project must be identified.

5.1. Task 13: Selection of Multi-modal corridor and preparation of supports

The Consultant should concentrate his efforts on the TRACECA corridor, already identified by the TRACECA management and local partners involved in the present programme.

5.2. Task 14: Identification and selection of participants

The identification and selection of participants will be focused on the persons involved in this particular project: final recipients and the delegation named to take part in the Study Tour and project activities, decisions-makers, local experts and operators, both from the public and private sector.

5.3. Task 15: Preparation of the case study and training courses

Based on the conclusions from the previous phases, the expatriate experts, in close collaboration with the local counterparts, should develop proposals, by means of a case study on the TRACECA corridor, to bring active assistance to multimodal shipments along the Trans-Caspian corridor.

The different subjects will be submitted to final approval by the recipients. Some of the subjects have been already suggested by the local authorities (Kazakhstan, Georgia, Uzbekistan) as well as by the TRACECA management in Brussels.

As a tentative, the seminar content should be as follows:

- Conditions under which combined transport companies should be created and operated.
- Forms of co-operation between partners to allow container shipments along the corridor ;
- Example of organisations: Cotton movement from Uzbeksitan to Poti. (The problem, the objective, the actions to be developed, the expected benefits, the partners to be involved and the required organisation)

- Rail-road specific operating approach to be practised by various technical partners involved: road hauliers and freight forwarders, railways, combined transport operators, users, shipping lines, ports.
- Tarification approach to encourage a larger use of container along the corridor.
- Operating approach to allow development of container traffic across the Caspian Sea

5.4. Task 16: Execution of case studies

It is intended to organise and execute a comprehensive seminar in Tashkent with the participation of relevant persons involved in the project, both from Central Asia and Caucasian countries, instead of the two small workshops suggested in a initial attempt. Within the seminar under preparation, the team of experts should develop main recommendations and solutions presented in this Progress Report, including the problems related to cotton movement from Uzbekistan and Oil equipment from Poti. This approach should allow to gather at one table the various partners, from the different TRACECA countries, to discuss on concrete forms of organisation. The seminary should take place during November 15-18.

Additionally, it is intended to conclude the seminar by evaluating the most feasible projects and present in the next report various « project investments » that could be financed or co-financed by International Banks (European Bank for Reconstruction and Development, World Bank, etc.). It is intended to produce « bankable project files » presented under the following broad headings:

- description of the project objective
- expected benefits
- investments required to realise these benefits .
- local partners involved
- potential investors (public or private)
- financial scheme (financing or co-financing) .

5.6. Task 17: Evaluation and Conclusions

Evaluation, Conclusions and follow-up actions will be carried out in a final step, by the Team Leader. He will synthesise the contribution of the experts and partners suggestions for the various project components of the work programme.

A Final Report will be produced at this stage

6. Project planning tables

In the following pages the project planning tables are presented :

- form 2.2 "Project progress report",
- form 2.3 "Resource utilisation form"
- form 2.4 "Output performance report".
- form 1.6 « Plan of Operations for the next period ».

TABLE 2.2 : PROJECT PROGRESS REPORT AND PLANNING FOR THE NEXT PERIOD

Project Title : Forwarding - Multimodal Transport Systems	Project Number : TELEREG9201	Country : Southern Republics of the CIS and Georgia - TRACECA	Page : 1
Planning Period : February 1986 / August 1996 Total Planed: Feb 1996 - Jan. 1996	Prepared on : Sept 1996	EC Consultant : BCEOM in association with SYSTRA and DE-Consult	

Project Objectives : To assess the condition of the multi-modal transport system, determining the priorities actions for the design and development of commercially oriented multi-modal transport services and providing training.

No	MAIN ACTIVITIES	TIME FRAME 1996							Planning for the next period					INPUTS						
		Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.97	Jan.97	PERSONNEL EC Consultant		COUNTERPART		EQUIPMENT & MATERIAL	OTHERS (flights)	
														Planned	Utilised	Planned	Utilised	Planned	Planned	Utilised
1	General task													1.5	1	3	2		2	2
2	Discussions with relevant institutions													0.5	0.5	0.5	0.5			
3	Deailed survey (basic data collection)													1.5	1.5	9	9			
4	Preliminary assessment of the Multi-modal system													2	2	2.5	1.5		10	8
5	Strengths and weaknesses of the system													1	1					
6	Recommendations for improvements													3.25	4.5	1	1			
7	Summary of the E.U. experience with multimodal													1	1					
8	Preparation of the study tour													0.5	0.5	3	2.5			
9	Setting up an Intermodal transport group													0.5	0.5					
10	Study tour logistic organisation													0.5	0.75	0	1			
11	Execution of the study tour													1	1					
12	Evaluation of the study tour													0.5	0.5					
13	Selection of multimodal corridor													-	-					
14	Identification of participants for the case study													0.25						
15	Preparation of the case study and Invest. projects													5		5				
16	Execution of the case study													1.5				Training aids	6	
17	Evaluation and conclusions													0.5		1			1	
													Total	21.00	14.75	25.00	17.50		19.00	10.00

TABLE 2.3 : RESOURCE UTILISATION REPORT

Project title : Forwarding Multimodal Transports Systems	Project number : TELREGG9201	Country : Southern Republics of the CIS and Georgia-TRACECA	Page :1
Planning period : from February 1996 to August 1996	Prepared on : Sept 1996	EC Consultant : BCEOM in association with SYSTRA and DE-CONSULT	
Project objectives : to assess the condition of the multi-modal transport system, determining the priorities actions for the design and development of commercially oriented multi-modal transport services and provide training"			

RESOURCES/INPUTS	TOTAL PLANNED	PERIOD PLANNED	PERIOD REALISED	TOTAL REALISED	AVAILABLE FOR REMAINDER
PERSONNEL					
Project Manager: J. Caceres	8.5 work months	6.5 work months	6.5 work months	6,5 work months	2 work months
Technology expert: F. Prescha	2.25 work months	1.25 work months	1.35 work months	1.35 work months	0.9. work months
Operational Expert: M. Landrin	2.25 work months	1.25 work months	1.50 work months	1.50 work months	0.75 work months
Management Expert: C. Durand	2.25 work months	1.25 work months	1.55 work months	1.55 work months	0.7 work months
Marketing Expert: B. Francou	2.25 work months	1.25 work months	1.25 work months	1.25 work months	1 work months
Transport Planner: P. Pezant	2.5 work month	1.25 work months	1.25 work months	1.25 work months	1.25 work months
Study Tour assistant: Gauthier	1 work months	1 work months	1.35 work months	1.35 work months	- 0.35 work months
Total expatriates experts	21 work months	13.75 work months	14.75 work months	14.75 work months	6.25 work months
Local experts	25 work months	19 work months	17.5 work months	17.5 work months	7.5 work months
EQUIPMENT AND MATERIAL					
Equipment and training aids	Study tour and and case studies training supports				
OTHER INPUTS					
International flights	19 *return tickets*	12 (*24 one way ticket*)	10 (*20 one way ticket*)	10 (*20 one way ticket*)	9 (*18 one way ticket*)

TABLE 2.4. OUTPUT PERFORMANCE REPORT

Project title : Forwarding Multimodal Transports Systems	Project nr : TELREGG9201	Country : Southern Republics of the CIS and Georgia-TRACECA	Page : 1
Prepared on : Sept 1996		EC Consultant: BCEOM in association with SYSTRA and DE-CONSULT	

Ouput results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
Inception Report	2 weeks delay for the Russian version	translations of documents	Contract signed on December 13. The project effective started on 27 January.
Study Tour in E.U countries (Phase 2)	Realised as planned in the Inception Report.		
Progress Report	English version produced at the end of September. Originally, the submission was foreseen at the end of July. Russian version will required at least two weeks more. It will be produced by the end of October.	The completion of the Preliminary Assessment Task 4 and the Recommendation and Analysis task N° 6, to be executed during month 2 and 3, has been finally postponed to integrate comments and suggestions from the TRACECA countries participants to the Study Tour in E.U countries. This task has been finally carried out during the period from May to August.	

TABLE 2.5: STAFF ASSIGNMENT SCHEDULE

Project Title : Forwarding - Multimodal Transport Systems	Project Number : TELEREG9201	Country : Southern Republics of the CIS and Georgia - TRACECA	Page : 1
Planning Period : May 1995 - February 1996 - August 1996	Prepared on : Sept. 1996	EC Consultant : BCEOM in association with SYSTRA and DE-Consult	

Project Objectives : To assess the condition of the multi-modal transport system, determining the priorities actions for the design and development of commercially oriented multi-modal transport services and providing training.

No	EXPATRIATES EXPERTS	TIME FRAME 1996										TIME FRAME 1997		INPUTS		
		Feb	March	April	May	June	July	August	Sept.	October	Novembre	December	January	PERSONNEL		(flights)
														Field	Home	
1	Project Manager and Logistic expert													6.5	2	4
2	Technoloy expert													1.75	0.5	3
3	Operations expert													1.75	0.5	3
4	Management Expert													1.75	0.5	3
5	Marketing Expert													1.75	0.5	3
6	Transport Planner													1.75	0.75	3
7	Study Tour logistic support														1	
													Total	**15.25**	**5.75**	**19**

7. Annexes

Detailed information is presented in various documents attached to the present report.

Annexe 1: List of Relevant Contacts Made During the Mission
Annexe 2: Container Movement in Railway Terminals
Annexe 3: Uzbek Cotton Movement
Annexe 4: Summary of Rail and Road Infrastructures
Annexe 5: TRACECA Rail Container Terminals
Annexe 6: Summary of European Experience with Multimodal Transport
Annexe 7: Study Tour Programme
Annexe 8: List of Multimodal Transport Participant to the Study Tour in E.U. Countries
Annexe 9: Study Tour Evalution Results

ANNEXE 1:

LIST OF RELEVANT CONTACTS MADE DURING THE MISSION

Country	G	Person	Organisation	Position
ARMENIA	Mr	SUMBATYAN Sergey	ARMEN-TRANSFORWARDER	Deputy Chairman
ARMENIA	Mr	AKOPIAN Levon	Armenian Railways	First Deputy Manager
ARMENIA	Mr	AMBARTSOUMIAN G.	Ministry of Transport and Communication	Head of the Foreign Relations Department
ARMENIA	Mr	SHAHNAZARYAN. Ashot	Ministry of Transport and Communication	First Vice Minister of Transport
ARMENIA	Mr	SUMBATYAN. M.	Armen-transforwarder	Chairman
ARMENIA	Mr	BALYAN Souren	ARMEN-TRANSFORWARDER	President
ARMENIA	Mr	YESSAYAN. A.	World Food Programme	Head of Logistic Department
AZERBAIDJAN	Mr	GASSUMOV. C.	GTC Global Transport	Local Director (German Company)
AZERBAIDJAN	Mr	AIVOZOV	Ministry of Economy	Deputy Head of the Transport Department
AZERBAIDJAN	Mr	NADIRLY. V.	Azerbaidjan Railways	Director of Railways
AZERBAIDJAN	Mr	MAMEDOV. A.	BAKU International Trade Port	Director of the Trade Activities of the Port
AZERBAIDJAN	Mr	TEIMUROV. T.	Caspian Shipping Co (Baku)	Deputy Manager
AZERBAIDJAN	Mr	MAMEDOV	"Azerail" Stock Company	Head Export-Import Department
AZERBAIDJAN	Mr	AZKEROV	"Azerail" Stock Company	Deputy General Director
AZERBAIDJAN	Mr	IZMAILOV	Azerbaidjan Railways	Deputy Head of the Freight Department
AZERBAIDJAN	Mr	SADIKHOV. Icram	Ministry of Economy	Head of the Transport Department
AZERBAIDJAN	Mr	DSHAFAROV. N.	Azintrans (International Road Company)	Adviser of the President
AZERBAIDJAN	Mr	NAMEDOV	Port of Baku	Deputy Manager of the Port
AZERBAIDJAN	Mr	SAMEDOV	Azerbaidjan Railways	Head of Freight Department
AZERBAIDJAN	Mr	PONOMARTCHUK	Azerbaidjan Railways	Head of the Technical Department
AZERBAIDJAN	Mr	KIAZIMOV. Sultan	Port of Baku	Deputy Manager
BELGIUM	Mr	TEILLET Bernard	European Intermodal Association	General Secretaire
BELGIUM	Mrs	KUSCHEL Susanne	International Combined Transport Union, UIRR.	Marketing and European Affairs
FRANCE	Mr	ETIENNE Jean	French Minitsry of Transport	Head of Public Works Department
FRANCE	Mr	CORDIER. J.P	Compagnie Novelle de Conteneur. CNC	Regional Director
FRANCE	Mrs	CHKOULANOVA. V.	Calberson G.E.	Chief for CIS Transport Operations
FRANCE	Mr	RIVET Christian	French Railways - SNCF	Head of Combined Transport Division
FRANCE	Mr	ROSSI. Jacques	French National Union for Combined Transport	General Secretaire
FRANCE	Mr	KIEFFEAR	SNCF-Metz	Manager of the Metz "node" Station
FRANCE	Mr	CLAPIES. J.	Compagnie Novelle de Conteneur. CNC	General Secretaire
FRANCE	Mr	JORAJURIA.R.	Novatrans	Head of Valenton Terminal
FRANCE	Mr	MOUSNIER-LOMPRE	Ministère des Transports et de l'Equipment	Head of Foreign Relations Division
FRANCE	Mr	AROCAS. Claude	Novatrans	Regional Director
GEORGIA	Mr	DOLBAYA	National Transport Council	Deputy Director
GEORGIA	Mr	MITAISHVILI. R.	Ministry of Economy	Deputy Minister/ Head of Transport Department
GEORGIA	Mr	TSOMAIA. George.	CAUTREX (Cau-trans-Forwarder)	Head of the Company

Country	G	Person	Organisation	Position
GEORGIA	Mr	CHUBINISHVILI. T.	Georgian Institut for Scientific and Tech Informt.	Deputy Manager
GEORGIA	Mr	JOBAVA. M.	BCC GEORGIA	Local Business Developper
GEORGIA	Mr	TODUA	Georgian Railways	Deputy Head Traffic Department
GEORGIA	Mr	VASHAKIDZE. R.	Georgian Railways	President of the Georgian Railways
GEORGIA	Mr	KUKUJIDZE Jemal	Port of Batumi	Port Director
GEORGIA	Mr	NAKAIDZE Guram	Centre for TRACECA problems	Chairman of the Centre
GEORGIA	Mr	CHKHEIDZE. Alexander	International Road Carriers Associatiation	President of the Association
GEORGIA	Mr	KERVALISHVILI. T.	Gruzzheldorepspeditsiya (Freight Forwarder)	Deputy Head
GEORGIA	Mr	ZIBZIDADZE Alex	Georgian Railways	Chief Engineer
GEORGIA	Mr	GORSHKOV Teimuraz	National Transport Council	Head of Transport Studies Department
GEORGIA	Mr	AKAKI. Chaidze	National Transport Council	Chairman of the Council
GEORGIA	Mr	TKEBUTCHAVA. V.	International Road Carriers Associatiation	Head of the Association
GEORGIA	Mr	LOMADZE	National Transport Council	Vice Chairmain of the Council
GEORGIA	Mr	GELIADZE. V.	Port of Poti	Head of the Port
GERMANY	Mr	SCHULZE-FREYBERG. W.	Polen-Hamburg Transport Gmbh	Deputy Manager
GERMANY	Mr	RUHR Reinhard	Kombiverkerhr (Combined Transport Company)	Manager
GERMANY	Mr	BOLLER. R.	Hamburger Hafen-und Lagerhaus	Executive Manager
GERMANY	Mr	FURNELL. W.	Hamburger Hafen-und Lagerhaus	Head of the Marketing / Container Division
KAZAKHSTAN	Mr	URAZBEKOV	Ministry of Transport and Communication	Head of Railways Transport Division
KAZAKHSTAN	Mr	FLUGGE Mario	M&M Kazakhstan	Managing Director
KAZAKHSTAN	Mr	ATIMANOV. S.	International Transport Services	Deputy Manager
KAZAKHSTAN	Mr	KAPLAN. Eduard	Research Inst. of Road Transport (NIIAT)	Deputy Director
KAZAKHSTAN	Mr	UTEKBEKOV. Vladimir	ISKOMTRANS	General Director
KAZAKHSTAN	Mrs	SAGIMBAYEVA. S.	ISKOMTRANS	Chief Manager
KAZAKHSTAN	Mr	TARANENKO. Arkadi	Ministry of Transport and Communication	Head of the Transport Department for Science and Techni
KAZAKHSTAN	Mr	MUKHAMEDJANOV Kanat	Ministry of Transport and Communication	Deputy Minister
KAZAKHSTAN	Mrs	SABETOVA. R.	KAZINTERFREIGHT, Forwarder	Deputy General Director
KAZAKHSTAN	Mr	PARFYONOV D.	BUTYA (Private trader company)	Deputy General Director
KAZAKHSTAN	Mr	SEGAL Ilya	Railways Department	Manager Department
KAZAKHSTAN	Mr	IRGIBAYEV. S.A.	International Road Carriers Associatiation	Head of the Association
KAZAKHSTAN	Mr	ALIGHUZINOV Serik	Ministry of Transport and Communication	First Vice Minister of Transport
KAZAKHSTAN	Mr	MUKHAMEDJANOV. N.	Ministry of Transport and Communication	Deputy Minister
KAZAKHSTAN	Mr	TEMIRBAYEV	Ministry of Transport and Communication	First Deputy of Railways Transport Department
KAZAKHSTAN	Mr	ZAVIALOV Anatoly	Kazavtotrans Road Company	General Director
KAZAKHSTAN	Mr	KOKREVJBAYEV	State Company Almatyzheldorexpediciya	General Director
KAZAKHSTAN	Mr	SDERZHIKOV. V.	Maritime and Inland Waterways	Maritime Transport Economist

Country	G	Person	Organisation	Position
KAZAKHSTAN	Mr	ATYMANOV	Almaty Railways	Head of the International Transport Department
KYRGYZSTAN	Mr	AL TREGASHVILI. L.	State Instituteof Road Design	Director of the Institute
KYRGYZSTAN	Mr	IRSALIEV. Almazbek	Ministry of Transport and Communication	Head of Economic and Foreign Relations
KYRGYZSTAN	Mr	MATYUSENKO.	State Institute of Road Design	Road Engineer
KYRGYZSTAN	Mr	SATYBALDIEV. Jeantoro	Ministry of Transport and Communication	First Vice-Minister
KYRGYZSTAN	Mr	ALIBEGASHVILI. L.	State Institute of Road Design	Director of the Institute
KYRGYZSTAN	Mr	ALEXEYEV	Kyrgyzheldorexpediciya	Deputy Manager
KYRGYZSTAN	Mr	ISMANKULOV. K.	Militzer & Munch Forwarder	Local Manager
KYRGYZSTAN	Mr	RACHMATULIN. R.	Ministry of Transport and Communication	Head of Roads Division
KYRGYZSTAN	Mr	SMATOV Nurdin	Ministry of Transport and Communication	Head of the Automobile Division
KYRGYZSTAN	Mr	KOULIEV Takhar	"DOSTUK" Transport Company	General Director
KYRGYZSTAN	Mr	ZAKIROV Adam	Ministry of Transport and Communication	First Deputy Minister of Transport
KYRGYZSTAN	Mr	ZAKIROV Zuleyman	Government of Kyrgyzstan	Head for the Department of Transport and Communication
KYRGYZSTAN	Mr	TALASBAYEV	Kyrgyz Railways	Chief Engineer
KYRGYZSTAN	Mr	TAKYRBASHESHEV	Kyrgyz Railways	First Deputy of the General Director
KYRGYZSTAN	Mr	ZAKIROV Adam.	Ministry of Transport and Communication	Deputy Minister
SWITZERLAND	Mr	BURNASHEV. A.	INTERCONTAINER	Route Manager
SWITZERLAND	Mr	SCHMELTER Pierre	INTERCONTAINER-Bale	Directeur for Central Europe
TADJIKISTAN	Mr	BOLTOV. Victor	Ministry of Economy	Vice Minister of Economy
TADJIKISTAN	Mr	MIRZOEV. Timur	State Design Research Institute	Director
TADJIKISTAN	Mr	CHODIEV Bakhrom	Tadjik Railways	Chief Engineer
TURKMENISTAN	Mr	YAZBERDIEV. M.	Ministry of Transport and Communication	Head of the Transport Department within the Cabinet of
TURKMENISTAN	Mr	KHALYKOV. H.	Turkmenistan Railways	Head of the Turkmenian Railways
TURKMENISTAN	Mr	SEIDOV	Turkmenian Railways	Head of the Station Obesberdyev-Kuliyevo
TURKMENISTAN	Mr	DURAIEV	Port of Turkmenbaschi	Head of the Port
TURKMENISTAN	Mr	ALLAKULIEV. Oraz.	"Turmenvneshtrans" (Internat. Road Company)	General Manager
TURKMENISTAN	Mr	TOURAYEV. Rasheed	Ministry of Automobile Transport	Deputy Minister
TURKMENISTAN	Mr	KAZANOV	Turkmenian Railways	Deputy Head of the Railway District Chardzhev
TURKMENISTAN	Mr	IVANOV	Turkmenian Railways	Deputy Head. Fowarding Department
TURKMENISTAN	Mr	BAKHALOV	Turkmenian Railways	Head of teh Department for Operation and Commercial Pe
TURKMENISTAN	Mrs	BIASHIMOVA	Turkmenian Railways	Heas of the Department for International Economic Relatio
TURKMENISTAN	Mr	ALTINAZAROV. A.	Customs Authorities	Chief of Statistical Department
TURKMENISTAN	Mr	VERHEIJEN Peter	M&M Turkmenistan	Local Manager
TURKMENISTAN	Mr	RECHOV A.	BOUYGUES-Turkmenistan	Local Director
TURKMENISTAN	Mr	ELANTSEV. V.	Ministry of Transport and Communication	Adviser
TURKMENISTAN	Mr	DURDIEV. H.	Turkmen Sea Transports Department	Chairman

Country	G	Person	Organisation	Position
TURKMENISTAN	Mr	ALLAKULLIEV. O.	"Turkmenvneshtrans"	General Manager
TURKMENISTAN	Mr	DJEPAROV. Siedar	Ministry of Automobile Transport	Chief of Economic and Foreign Relations
TURKMENISTAN	Mr	MAMEDOV Mered	State Railways of Turkmenistan	Deputy Manager
UZBEKISTAN	Mr	SERGELI	Autochservis	Operational Manager
UZBEKISTAN	Mr	HO-KYON SHIN	WOO JIN (DAEWOO's container supplier)	Director
UZBEKISTAN	Mr	CHADMANOV. A.	Shosh-Trans	General Director
UZBEKISTAN	Mr	GANIEV. E.	Ministry of International Trade	First Vice-Minister
UZBEKISTAN	Mr	ZUFAROV. S.	Autochservis	President
UZBEKISTAN	Mr	KURBANOV. B.	SEA LAND	Sales Manager for Central Asia
UZBEKISTAN	Mr	GUBAREV	Uzbek Ralways	Head of the Wagon Service Department
UZBEKISTAN	Mr	DYATCHKOV. V.	OUZKHLOKOPROMSBYT (Cotton distribution)	Vice-President
UZBEKISTAN	Mr	KODYROV. S.	Tashkent Inststitute of road Engineers	Director
UZBEKISTAN	Mr	KAN. K.	GIPROTRANS (Design Research TransP Inst.	Director
UZBEKISTAN	Mr	NURITDINOVICH. G.	UZAVTOTRANS	Deputy Manager
UZBEKISTAN	Mr	PHAROUKH. A.	OUZKHLOKOPROMSBYT (Cotton distribution	Director for International Logistics
UZBEKISTAN	Mr	ISMAILOV. V.	UZAVTOTRANS State Joint Stock	Deputy of the Board Chairman
UZBEKISTAN	Mr	DAVIDOVITCH	Uzbek Railways	Head of Department of International Relations
UZBEKISTAN	Mr	BAKHOLDIN	Uzbek Ralways	Head of Operational Department
UZBEKISTAN	Mr	BABADZHNOVA	Uzbek Ralways	Head of the Computer-based Management Syst-m
UZBEKISTAN	Mr	IBRAGIMKHODAJAEV. S.	UZAVSTOTEKNICA	Deputy Manager
UZBEKISTAN	Mr	KHALISSOV. Murat	Shosh-Trans (Forwarder Uzbek)	Deputy Manager
UZBEKISTAN	Mr	ERKINOV. Navruz	Uzkek Railaways	Head of Economic and Foreign Relations
UZBEKISTAN	Mr	KASYMOV. B.	Road Carriers Association and "Uzintrans"	General Manager
UZBEKISTAN	Mr	DUBINCHIK. George	Shosh-Trans (Forwarder)	Deputy Director
UZBEKISTAN	Mr	ONKIS. V.	Ministry of Foreign Trade	Head of the Railways Department
UZBEKISTAN	Mr	ALIEV Mansur	UZAVTOTRANS State Joint Stock	Deputy of the Board Chariman
UZBEKISTAN	Mr	NADJIMITDINOV. K.	UZAVTOTRANS State Joint Stock	Chief adviser for foreign econmic activities
UZBEKISTAN	Mr	GUBATCHEV	Uzbek Ralways	Deputy Head of Department of International Relations
UZBEZKIZTAN	Mr	KASYMOV. B.	International Road Carriers Associatiation	Head of the Association

ANNEXE 2:

CONTAINER MOVEMENT IN RAILWAY TERMINALS

Container Movement in Railway Terminals -

Year 1995

COUNTRY	TERMINAL	LOADED			UNLOADED		
		Large size (ISO 20-40")	Medium size	Total	Large size (ISO 20-40")	Medium size	Total
ARMENIA							
	Karmir/Blur	158	0	158	426	6	432
	Total (country)						
AZERBAIJAN							
	* Baku	0	400	400	0	166	166
	Total (country)						
GEORGIA							
	* Poti						
	* Batumi tov.		5	5			
	* Kutaisi 2		3	3			
	* Zestafoni						
	* Samtredia 1						
	* Tbilisi tov.	74	725	799	50	20	70
	Telavi						
	* Khashuri		4	4	8		
	* Kaspi						
	* Gori gruz.		2	2			
	* Rustavi gruz.		18	18			
	Total (country)	74	757	831	58	20	78
KAZAKHSTAN							
Almatinskaya Railways							
	* Arys	4	295	299	5	33	38
	Turkestan	10	776	786	157	974	1 131
	* Chimkent	737	3 586	4 323	22	48	70
	Kurgasyn						
	* Tulkubas						
	* Tatty		47	47			
	* Lugovaya		330	330		10	10
	* Kuragaty		9	9			
	* Shu	2	578	580			
	Sary-Shagan		796	796	26	413	439
	* Zhambyl	558	2 485	3 043	34	899	933
	Karatau	1	583	584		94	94
	Zhanatas	20	93	113		10	10
	Chaldala					168	168
	* Almaty I	1	19	20			
	* Almaty II	2 206	12 414	14 620	864	4 186	5 050
	* Sary-Ozek	9	420	429			
	Taldy-Kurgan	543	2 967	3 510		10	10
	* Ush-Tobe		459	459		75	75
	Tekeli	15	14	29			
	* Druzhba						
	Ayaguz	3	466	469			
	Semipalatinsk	253	2 745	2 998		10	10
	Konechnaya	1	34	35			
	Korshunovo	1	34	35	8	11	19
	Neverovskaya		90	90	4	249	253
	Shemonaikha	1	240	241			
	Zaschita	231	3 095	3 326	224	1 983	2 207
	Leninogorsk		394	394		110	110
	Serebryanka		380	380		22	22
	Zyryanovsk	1	739	740		12	12
	Ustkamenogorsk						
	Otar		10	10			
	Sub-Total	4 597	34 098	38 695	1 344	9 317	10 661

Tselinaya Railways		railway				
Amankaragai		242	242			
Dzhetygara	692	319	1 011	18	54	72
Zhelezorudnaya						
Kushmurun				2		2
Komsomolets		75	75			
Kustanai	189	1 799	1 988		1 219	1 219
Mailina		254	254	14	96	110
Agadyr		123	123		7	7
Balkhash	11	1 156	1 167	10	139	149
Dzhezkazgan	132	1 044	1 176	179	63	242
Zhana-Arka	1	131	132	18	58	76
Novo-Dubovsk				6		6
Zhana-Aul				6		6
Karaganda-Pas.	297	4 014	4 311	495	863	1 358
Karaganda-Ugoln.						
Karaganda-Nov.						
Karazhal		230	230		87	87
Osakarovka		177	177		9	9
Temir-Tau	9	1 024	1 033	4	113	117
B.Metalurgicheskaya						
Murza						
Nurinskaya						
Ar-Kul		93	93		25	25
Volodarskoe		228	228			
Kokchetau	170	1 461	1 631	759	558	1 317
Borovoe		637	637		600	600
Makinka		233	233		10	10
Novo-Ishimskaya	1	110	111			
Suly	1	116	117			
Taincha		200	200		39	39
Aksu	767	1 230	1 997	14		14
Arkalyk	45	909	954	64	11	75
Atbasar		402	402	5	22	27
Derzhavinskaya	5	615	620	4	219	223
Dzhaksy		112	112			
Ermentau		202	202		11	11
Esil	1	466	467	19	7	26
Tselinograd	169	2 366	2 535	390	554	944
Shortandy						
Boschakul						
Ermak	1	407	408		212	212
Ermak-Gruzovoi	106	19	125	28	38	66
Pavlodar		4	4	5		5
Pavlodar-Port				30		30
Pavlodar-Severnyi						
Pavlodar-Yuzhnyi	231	2 267	2 498	387	53	440
Ushkulyn						
Scherbakty	1	30	31		66	66
Ekibastuz	30	1 423	1 453	164	11	175
Kzyl-Tu		45	45			
Sorokovaya						
Maikuduk		8	8			
Post 120						
B.Mikhailovka						
Karagaily						
Smirnovo				27		27
B.P.7					12	12
Chaglinka					7	7
Sub-Total	2 859	24 171	27 030	2 648	5 163	7 811
Zapadno-Kazakhstanskaya Railways						
Kzyl-Orda	74	1 385	1 459			
Tura-Tam	110	2 078	2 188			
Aktubinsk	1 644	3 101	4 745			
Zhilaevo	365	2 200	2 565			
Atyrau	256	1 724	1 980			
Mangyshlak	474	3 202	3 676			
Sub-Total	2 923	13 690	16 613	NA	NA	NA
Total (country)	10 379	71 959	82 338	NA	NA	NA

KYRGYZSTAN			railway			
	Bishkek - I		4 963	4 963	833	833
	Rybachye		584	584	108	108
	Karabalta	25	590	615	5	5
	Alamedin	860		860	506	506 1 012
	Dzhalal-Abad	99	599	698	125	125
	Osh	292	991	1 283	1 005	335 1 340
	Kyzyl-Kiya	24	168	192	1	1 2
	Total (country)	1 300	7 895	9 195	2 583	842 3 425
TADJIKISTAN						
	Dushanbe-2	7 400	11 638	19 038	403	695 1 098
	Kurgan-Tube	10	374	384		236 236
	Khudzhant	947	3 944	4 891	4	9 13
	Kanibadam	64	551	615		0
	Total (country)	8 421	16 507	24 928	407	940 1 347
TURKMENISTAN						
	* Krasnovodsk		1 439	1 439		
	* Nebit-Dag		763	763		
	* Gyzylarbat		365	365		
	* Ovezberdy-Kulievo	548	3 714	4 262		
	* Kaahka		365	365		
	* Tedzhen		365	365		
	Maiskaya	365	880	1 245		
	* Bairam-Ali		365	365		
	Gushgy		365	365		
	* Chardzhou-2		1 524	1 524		
	Gazodzhak		365	365		
	Zerger	541		541		
	Seidi		365	365		
	Dashkhouz	335	365	700		
	Amudarya		365	365		
	Total (country)	1 789	11 605	13 394	NA	NA NA
UZBEKISTAN						
	Total (country)	6 983	31 640	38 623	NA	NA NA

* means: terminal located on main TRACECA CORRIDOR

NOTE: Statistics for unloaded containers are generally either incomplete or non-existing

ANNEXE 3:

UZBEK COTTON MOVEMENT

1. Introduction and Background

Partner States from Central Asia and the Caucasus region have asked the TRACECA programme management to provide specific technical assistance related, among other issues, to the shipment of cotton through the TRACECA corridor.

During a meeting organised in Brussels on 25 March, the management of the TRACECA project asked project managers to incorporate active assistance to the shipment along the TRACECA route of cotton from Uzbekistan. In the case of the Multi-modal Transport project, this is to be examined firstly within the scope of the case studies foreseen within the third phase of the present project.

A decision was taken to set up a Shipment Task Force in charge of dealing with this issue. CVs and firm proposals were requested and asked to be sent to M. Stroobants.

To approach this issue, the team of experts of the Multimodal Transport project conducted a specific survey in Uzbekistan during May and June to analyse the existing problems and prepare a proposal to assist the Uzbeks entities involved in the cotton shipments along the TRACECA route.

This Study Inception Report presents the results of such investigations and proposes concrete solutions to overcome the problems detected, particularly in the field of international transport by container.

The Uzbekistan cotton market

In Uzbekistan, approximately 40 % of the GDP is generated in agriculture, about 50 % in Industry and the rest in mining, construction and services. In agriculture, cotton is the most important crop, accounting for 40 % of gross value of agricultural production. Nearly 40 % of arable land is consecrated to cotton production. With a production of about 3 million tons per year, the country is the third world producer (approximately 20% of the world production). The cotton represents the most important hard currency source (80 % in 1993).

Not having transformation industries, the cotton activity is largely limited to the shelling process. The transformation in cotton linen and cloth material involves only 15 % of cotton.

Traditionally, the cotton has been exported to Russia. In the last few years, the exports, (representing about 50 % of the production) headed primarly for countries outside of the CEI countries. The European Union is by far the most important market for the uzbek cotton. The export to Europe represents 80 % of total exports. Most important customers are in Germany, Italy and France.

The development of the cotton transport and market business will be affected by two main factors: Firstly, by the stabilisation of arable land dedicated to cotton and the development of other source of production. In particular the cultivation of wheat will be promoted to reach a certain level of self-sufficiency. Secondly, by the desire of the Uzbek authorities to exert control on the commercialisation process. To this end, various measures are contemplated. Firstly, it is contemplated to create a large storage centre for cotton in Buchara with a capacity of 50.000 tons. Secondly, the Uzbek authorities will authenticate the quality of the product by guaranting international customers (through registered Uzbeks certification authority) the origin and the quality of the cotton. It is clear that the setting up of such a quality policy should facilitate the international traffic by container.

Operating problems related to the transport of cotton.

During Soviet times, the cotton was generally forwarded to the sorting centre of Ribnoye, near Moscow, and then exported to the Black Sea ports and the Baltic's ports.

At present, most of the cotton is forwarded:

- by train to the Baltic ports warehouses and then commercialised (FOB) from the ports.
- by block-train Tashkent-Europe, via the South of Russia, and with a transhipment in BREST (FOB Russian Border) to Rotterdam. From Rotterdam, the cotton is fowarded to the rest of Europe.

Recent developments make use of the Trans-Caspian corridor, the shortest link to Europe, an interesting alternative for Central Asia. As part of the Regional Agreement on Transport Issues , the Government of Uzbekistan have decided to ship part of the cotton exports to Europe through the TRACECA corridor: 10 000 tons in 1996, 30.000 tons in 1997 and 100.000 by the year 2000.

A recent shipment of cotton from Uzbekistan to Poti through the TRACECA corridor has been carried out by the firm " OUZKHLOPROMSBYT " as part of a 4000 ton cotton shipment from Uzbekistan to Brazil. The operation has been a success and shows that there are no major technological obstacles (infrastructure and vehicle fleet) for the shipment of cotton from Uzbekistan to Poti. Whilst the main railway infrastructure and rolling stock are not always in good state and not always in line with Europeans standards, they are however able to allow transport operations through the corridor.

However, the question of retrieving the wagons to Uzbekistan and the transfer of responsibility for the shipment seems to be unreliable. A monitoring system is required to complement the Regional Transport Agreement.

Operations are also handicapped by the difficulties on obtaining information on tariffs as well as the implementation of international standard procedures: commercial procedures and transport and transit documentation.

Technological problems related to the Transport of cotton

The transport of cotton currently performed largely by open-wagons. It is reported to be difficult to find wagon of good quality. In order to prevent cotton shipments from fire, the wagons must be hermetically closed which requires the doors or any other defective place of the wagon to be covered with kraft paper secured with a special glue. This operation is reported to be expensive, partly because the raw material used for this is imported from Russia.

The handling technologies used at most of the cotton factories have been designed to load the cotton in rail open-wagons. This explains the little use made of containers for the cotton transport operations. But the management of major factories visited during the survey (YANGUI-YOUL, more than 50 % of the cotton exported to Europe; and TCHINAZ, able to use 20" or 40" container), said they are in favour of the use of containers and are prepared to implement the necessary measures to enable it.

Important cotton storage facilities exist in the various districts, some of them with a capacity of 50 000 tons (AV ALTINE: storage of cotton from the factories located in the district of SYR-DARYA). Nevertheless, the storage installations are lacking in some important areas of concentration. A project to create a large storage centre in Buchara with a capacity of 50.000 tons, is already contemplated to deal with this important issue. Such storage installations should allow the modern train formation techniques such as a " Block train " from Buchara to Poti to be put into practice.

In conclusion, it seems that for the present traffic level there is no urgent need for investment either in road and rail infrastructure or in vehicle fleet. However, the handling techniques require some improvements to adapt the cotton traffic to the widespread use of containers. Finally, the adoption of standard commercial and transport procedures as well as the monitoring of wagons through the TRACECA corridor must be improved.

Container international transport context.

Foreign firms established in Uzbekistan are experiencing particular transport problems due to the poor adaptation of the Uzbek transport system to the use of containers and swap bodies that are dominant in the world trade market: 70 % of international trade flows are shipped by containers.

The example of the UZ-DAEWOO AUTO, a car assembling factory, illustrates the situation. The imported car parts from Korea are transported by container. The problem posed to the transport department is the return of unloaded containers. Over a period of 12 months, there is a need for the re-loading and the sending back to Korea of about 8 100 TEU (twenty-foot equivalent units). Up to now, most of the containers are sent back empty.

The Uzbek Government is prepared to allow DAEWOO transport department to carry 100 000 tons of cotton fibre in chaff but Korea imports little volumes of Uzbek cotton. DAEWOO is still looking for a solution to this problem. They are now studying the possibility of commercialising the Uzbek cotton in the south-east Asian market, by shipping the containers thorough China (Droujba). No attempts have been made to sent this cotton to Europe.

Yet, the return of containers loaded with Uzbek cotton to Europe, by the TRACECA corridor, and from Europe to Korea with Europeans products could be conceivable. The Uzbek market for cotton is essentially located in Europe. A market from Europe to Korea exits too. Such a relatively complex transport operation requires the renovation of the Uzbek cotton commercialisation channels.

Commercialisation and Transport Organisation.

About 80% of the cotton from some 350 cotton firms are at present commercialised under the responsibility of the Ministry of International Economic Relations. The operations of transport and transit are entrusted to the state transport company " OUZVESHTRANS ". The firm is in a monopoly position. It operates with traditional methods and does not seem able to offer the most attractive rates and high quality of service adapted to the multi-modal transport of cotton to Europe. As the cotton is sold « ex-works » or in the best cases « FOB », the uzbeks can not, at present, guarantee (at 100%) to the final customer the uzbek origin of the cotton. Furthermore, they can not keep logistics and transport costs under control. This may handicap the competitiveness and the commercialistaion of the product.

The arrival on the market of some new transport firms, created under the form of Joint Venture should allow the opening of the transport market to open competition. One of these new firms is specialised in international transport by container. The limited company, SHOSH-TRANS, is a forwarding company. It has its own container terminal at the Chomilovo-Tachkent, equipped with modern handling systems for 20" and 40" containers and its own road chassis for the transport of containers(about 100 units). Shosh-Trans is studying the possibility of opening a second container terminal at Buchara.

The aim of SHOSH-TRANS is to increase the competitiveness of transport by container. This is to be achieved by designing and implementing new transport and logistics schemes that allow pendular traffic: reduce the rate of shipment with empty container and decrease the immobilisation time.

At present, only 10 % of the containers used for import operations are used for shipment with exported goods. The short term objective of the company is to increase this rate to 50 % by using the cotton to fill the containers exported. To this end, they are carrying out some trials with two cotton firms.

It is thus conceivable that by combining the uzbeks' transport skills, the use of containers could be increased. This calls for mutual agreements between the various parties (containers' main users, cotton firms, transport forwarders, railways' company, etc.). In principle, such agreements would be beneficial for all the partners involved in the international trade. By working together, It should be possible to facilitate the establishment of pendular container traffic.

For the Uzbek economy, the creation of pendular traffics and the possibility of controlling the commercialisation circuit (the cotton could be sold « CIF » instead of « FOB » or « Ex-works ») is perfectly in line with the authorities objectives. The resulting modernisation of the transport system could also help all the other exporting sectors of the economy.

However, the implementation of such an option calls for a renovated transport organisation. The creation of a competent independent body is required. A « National Transport Commission » composed by members from all the partners involved in the international trade) is proposed to help the Uzbeks reach their goals. The TACIS programme should provide the required technical assistance to deal with this issue.

2. Objectives of the assistance required

The wider objective is to set up a local organisation able to efficiently respond to the specific shipper's transport demands. It is a question of facilitating the existence of pendular container traffic to keep transport costs at more competitive levels. This calls for a new organisation of combined transport in Uzbekistan. The organisation should be composed by representatives of different sectors involved in the international trade: the State, the Users and the Transport Operators (road, railways and multimodal).

It is proposed to create a "National Transport Commission " (or Shipment Task Force) composed by one representative from:

- OUZVESHTRANS
- UZBEK Railways
- OUZKHLOKOPROMSBYT
- MINISTRY OF ECONOMIC RELATIONS
- SHOSH-TRANS
- TACIS experts (two European experts).

The commission should produce within two months (September -October) a report containing the directions and actions to allow the first shipment of cotton to take place during the last month of 1996.

3. Description of the work

The work should comprise three steps:

- small market survey in Europe
- operational plan
- monitoring of first results

The work should start by a market study to sound out the opinion of the European customers concerning the modification of the commercialisation methods to a large use of containers through the TRACECA corridor. This one-month study should be carried out in Europe in September.

The second step consists of operational mission in Tashkent by two European experts for two months. They should actively participate in the writing of a business plan that clearly specifies how the Commission should be involved in the following problems:

- organisation of the shipment from and to Terminals (elaboration of a Transport Plan)
- definition of the conditions under which the railways make the transport rolling available
- monitoring of the wagons sent to Poti.
- organise the administrative aspects and transport documents
    * International transport contracts specific to multi-modal operations
    * possibility of editing documents such as TBL-FIATA to facilitate international payments
- negotiate the tariff with the international railways (tariff, availability of transport means, choice of routes, documentation..).
- negotiate the conditions under which the empty containers generated by imports flows can be used by uzbeks exporters. This requires to:
    * Inventory the fleet of empty containers in Uzkekistan,
    * find an agreement with DAEWOO and other main container users
    * inventory the fleet of empty containers in Kirghistan, Kazakhstan and Tadjikistan.
    * find a suitable financial agreement with the Kazakhs and Kirghys to make use of empty containers
- establish co-operation agreements with the owners of containers such as SEALAND
- establish an specification book for the loading of containers and the certification of goods
- organise the transfer of responsibility along the entire logistic chain
- Assign a responsible officer for:
    * negotiations with the European railways administrations
    * organisation of the operations in all the transit and destination countries
    * locating Uzbeks transport correspondents
- Establish commercial agreement with European shippers exporting to Uzbekistan in order to encourage them to accept the return of this container to Europe loaded with cotton.

In the report to be produced, the commission should clearly indicate the Uzbek operator who will be in charge of setting up the traffic.

The Multi-modal Transport project Operating expert should have to:

- participate in the launching of the Commission in order to define in detail the goals of the mission
- to validate the decisions stated in the Final Report.

The third and final step would consist in monitoring the first shipments to validate the actions decided in the previous phase.

4. Contacts made with Partners and organisations

The activities to be developed involves partners from the State; from the transport sector and from the industrial sector.

Preliminary contacts have been already established with the following persons and organisations:

UZBEK Railways: **Activity:** Main traction of container and wagons along the TRACECA corridor.	M. DAVIDOVITH, Responsible for Container Division within the railways.
OUZKHLOKOPROMSBYT **Activity:** Organism responsible for the Distribution next to the Cotton Industry	DYATCHKOV. V. Vladimirovith. Vice President. PHAROUKH Arkramov, Director of Logistic International Relations
MINISTRY OF ECONOMIC RELATIONS	
OUZVESHTRANS: **Activity:** Transport and transit operator for cotton	M. GANIEV Elyor, First Vice Minister M. GANIEV is directly concerned by the activity of the OUZVESHTRANS
SHOSH-TRANS; **Activity:** Forwarder; Carrier specialised in container traffic (Limited company: Transrail/ Uzbek Railways/ Transbusines Express (MPS and Sealand)	M. CHADMANOV Alexandrovitch, General Director M. KHALISSINOV Murat, Deputy Director
TACIS Programme	As proposed below.

The official members of the Commission should assign the specialists from each organisation responsible for executing the decisions taken and reporting to Commission on results.

Contacts taken next to the representatives of the users:

- UZ- DAEWOO: M. HO-KYON SHIN, Director and the supplier of containers: WOO JIN (activities in Anvers in Europe)
- SERGELI-Autechservis: M. ZUFAROV Sabir, President.

International Operators with activities in Uzbekistan:

- SEA LAND: M. KURBANOV Baktiyar, Sales Manager - Central Asia.
- INTERCONTAINER

5. Composition of the E.U. experts team

The team of experts may be essentially composed by:

One expatriate expert based in Europe to conduct the market survey during September.

Two permanent expatriates experts based in Tashkent for 2 months:

- one operational expert with practical experience in the field of International combined transport
- one expert specialised in the field of container transit and transport documentary procedures

Additional input is also required for the supervision and co-ordination of decisions stated in the Final Report:

- Launching the Transport Commission,
- supervision and validation of decisions stated in the Final Report.

6. Expected output

The experts should produce a Draft Final Report within two months, starting from September. The report must describe the directions and actions to be implemented so as to allow the first shipment of cotton to take place during the last month of 1996.

ANNEXE 4:

SUMMARY OF RAIL AND ROAD INFRASTRUCTURES

SUMMARY OF RAIL AND ROADS INFRASTRUCTURES

From Kazakhstan to Georgia, the transport network involved by the TRACECA corridor is summarised as follows:

Kazakshtan

Kazakhstan railways system comprise around 12,600 kilometres. It is operated by three regional networks: the Almaty network serving around 4,000 kilometres around Almaty, the Tselinaya north-eastern network serving around 4,900 kilometres and the country and the western and north-western network serving around 3,700 kilometres. From Almaty rail lines goes in three main directions: to Russian Federation borders in the north; to Uzbekistan border and to the shores of the Caspian sea. The main links involved by the TRACECA corridor, the line which connect Almaty to the Port of Aktau and the to Tchengeldy in the direction to Tashkent, are summarised as follows:

- **Almaty - Aktau:** This line connect Almaty with the port of Aktau, through Kandagach (2,192 km from Almaty); over a distance of 3,289 kilometres. The route is single track over the 311 kilometres from Almaty to Shu, double track over the 1,881 kilometres from Shu to Kandagach and from there single track again over the 1,097 kilometres to Aktau. The line is electrified from Almaty to Shu and over the 2,429-km section from Arys to Aktau..
- **Almaty - Tchengeldy:** This line links Almaty and Tchengeldy at the border with Uzbekistan. The lines goes through the Uzbekistan and Turkmenistan and would serve cargo from Kazakhstan to port of Turkmenbashi on the Caspian sea. The route, long of 930 kilometres, goes around the border between Kazakhstan and Uzbekistan through Shu, Jambyl, Shimkent and Arys.The entire route is electrified.

As for the road network, it comprises 87,800 kilometres of public roads divided in national roads (around 17,400 km) and local roads (around 70,400 km). Nearly the entire road network is made up of at least two lanes. In general, roads are in a relatively good state. This partly explain that long distances road operations are developing.

Kyrgyzstan

Kyrgyzstan occupies the Tien Shan mountain range which stretches for hundreds of kilometres across the north-eastern part of Central Asia. Over 94 % of the country has altitudes of more than 1000 meters above sea level, and about 40 % is more than 3000 meters. (average elevation is 2,750 meters). The country commands a well developed network, adjusted to geographical characteristics. The roads constitute the basis of the network; Over 50 % of the 20.000 km of roads are paved and in sufficiently good condition. However, one of the main roads connecting Bishkek to Osh, the two major industrial centres, are degenerating. Automotive transport , with about 72% of the freight traffic, is by far the most important transport mode of Kyrgystan.

As for rail network, it consists of small line 340 km long, which goes through the Chu Valley (the most developed industrial region of the country) in the north and links up with a Kazakhstanian railways network. The line is one of the Kyrgyzstan possibilities to integrate a multimodal YTRACECA corridor. An small line in the south, connects the country to with Uzbekistan. It travels from Kok-langak (50 km north of Osh) to Andijan (Uzbekistan) and Bekabad (Tadjikistan). From there, railways shipment to Tashkent in the North or Samarkand in the south rail links exits.

Uzbekistan

Reflecting the distribution of the main economical and industrial centres, the infrastructure is well developed in the south and south-eastern parts of the country and much less in the central and western parts, (mainly made up of deserts). During Soviet times, Tashkent was the headquarters of the Central Asian network covering all railway lines in four of the five Central Asian republics (with the exception of Kazakhstan). At present, the rail network of around 3,380 kilometres (with a track gauge of 1,520 mm) comprises three main links:

1. **Tashkent - Tchengeldy** in Kazakhtan: 79 km, the route connects Eastwards with Almaty and west[illegible]d with the section Tashkent-Khochadavlet. The line is double track and entirely electrified.

2. **Tashkent - Khodchadavlet** (at the border between Uzbekistan and Turkmenistan: 685 km, it goes through the cities of Dzhizak (203 km), Samarkand (131 km), Navoi (138 km) and Bukhara (93 km) and Khodchadavlet 120 km further west. The line is partly double tracked between Bukhara and Khodchadavlet (over around 60 km) and completely double track between Dzhizak and Samarkand (131 km). It is mostly single tracked between Tashkent and Dzhizak, and completely single tracked between Samarkand and Bukhara. Then, the line continues to the port of Turmenbaschy on the Caspian sea. The entire link is diesel operated.

3. **Tashkent - Karakalpakia** (at the border between Uzbekistan and Kazakhstan): 1,850 kilometres. it travels to Chardjev (around 20 km), Gasodjak (322 km), Shabat (112 km), Takhyatach (72 km), Kungrad (101 km). The line straddles the border between Uzbekistan and Turmenistan. The two countries are experiencing some difficulties in defining inter-operability regulations. This situation is such that the Uzbeks are now planning the construction of a 342-km new line, single track and non-electrified, which would link Uchkuduk with Nukusss and by-pass Turkmenistan. The Uzbeks railways are also planning the reconstruction of the existing Navoi and Uchkuduk (290 km) line.

As for the road network of Uzbekistan, it comprises around 43,250 kilometres divided in international roads (around 3,250 km), state roads (around 18,600 km) and local roads (around 21,400 km). The are two main links: a north-east↔south-west link connecting Tashkent to Karakul in Turkmenistan, (through Bukhara, Navoi and Samarkand), and a south-west↔north-west link between Termez and Nukuss via Bukhara. 42% of the road from Tashkent to Karakul (677 kilometres) is estimated to be in a state of good repair while 58% are deemed in fair conditions.

Tadjikistan

Tadjikistan (143 000km²) is one of the most land-locked countries of Central Asia . The north of the country is almost separated from the rest of the territory by the Alai mountains located in Kyrgyzstan. The existing rail lines in the north, travels between western and eastern Tadjikistan from Kanibadam (at the border with Kyrgyzstan) Sovetabad (near Khodjent) and Bekabad. From there, two existing branches connects the system with Samarkand and Tashkent (Uzbekistan). In parallel to the rail line, there is a road connection between western and eastern which is in poor condition.

The south-western Tadjikistan is depending on the rail corridor from Termez, in Uzbekistan. Commodities are forwarded from Termez, to Jougan-Tube where two branches connects Dushanbe and Kouliab respectively.

Turkmenistan

The transport infrastructure, not so extensively developed as in other republics, reflects the distribution of population, rather sparse, (4.3 million inhabitants with 500,000 in Ashgabat) this large country (480,000 sq.-km) is mainly made up of deserts (around 90% of the territory). Its geographical position makes the country a typical transit country and the development of transport infrastructure could provide currency revenues in transit rights.

The railways of Turkmenistan comprise around 2,200 kilometres. Its entirely operated with diesel traction and out of 40 kilometres of double tracks around Ashgabat, the network is single tracked. The main line connects Ashgabat with Tashkent and with the port of Turkmenbashy (over a distance of 557 kilometres). From Turkmenbaschi, a ferry link travels across the Caspian sea to Baku (Azerbaidjan). The line section connecting Ashgabat to Tashkent goes through Mari (343 km) and Chardjev (243 km). From Chardjev the line continues to Gasodjak (319 km) and then enters in Uzbekistan (for 112 kilometres) before entering again in Turkmenistan (for 71 kilometres).

As for the road network of Turkmenistan, it comprises around 13,600 kilometres of public roads divided in state roads (1,700 km), republic roads (around 4,800 km) and local roads (around 7,100 km). Around 81% of

the road network is made up of road of category IV and V with only around 7% of road of category I and II. The road from Turkmenbaschi to Chardjiev is in good condition.

Azerbaidjan

The Azerbaidjan railway system comprises 1,700 kilometres distributed in a north-western and western direction. The main line linking Baku to Tbilissi, is of particular interest for freight movements between Central Asia and Europe. The line starts at the Caspian sea port of Baku where traffic coming from other Caspian sea ports via ferry services, mainly Turmenbaschy (Turkmenistan) is picked up. To a lesser extent, Aktau (Kazakhstan) also provides traffic Baku. From Baku, the rail line goes to Beyuk Kyacik (the border between Azerbaidjan and Georgia) over a distance of 484 km through Alyat (69 km), Eblach (210 km) and Akstafa (162 km). It continues to Tbilissi and further on to the Black sea ports of Poti and Batumi. The entire link is double track and electrified.

As for the road network, there is connection between Baku and Georgia. From Black sea ports to Baku, according to cost studies made by the logistics Advisory Unit from the World Food Programme, shipments by rail is the most effective option.

Georgia

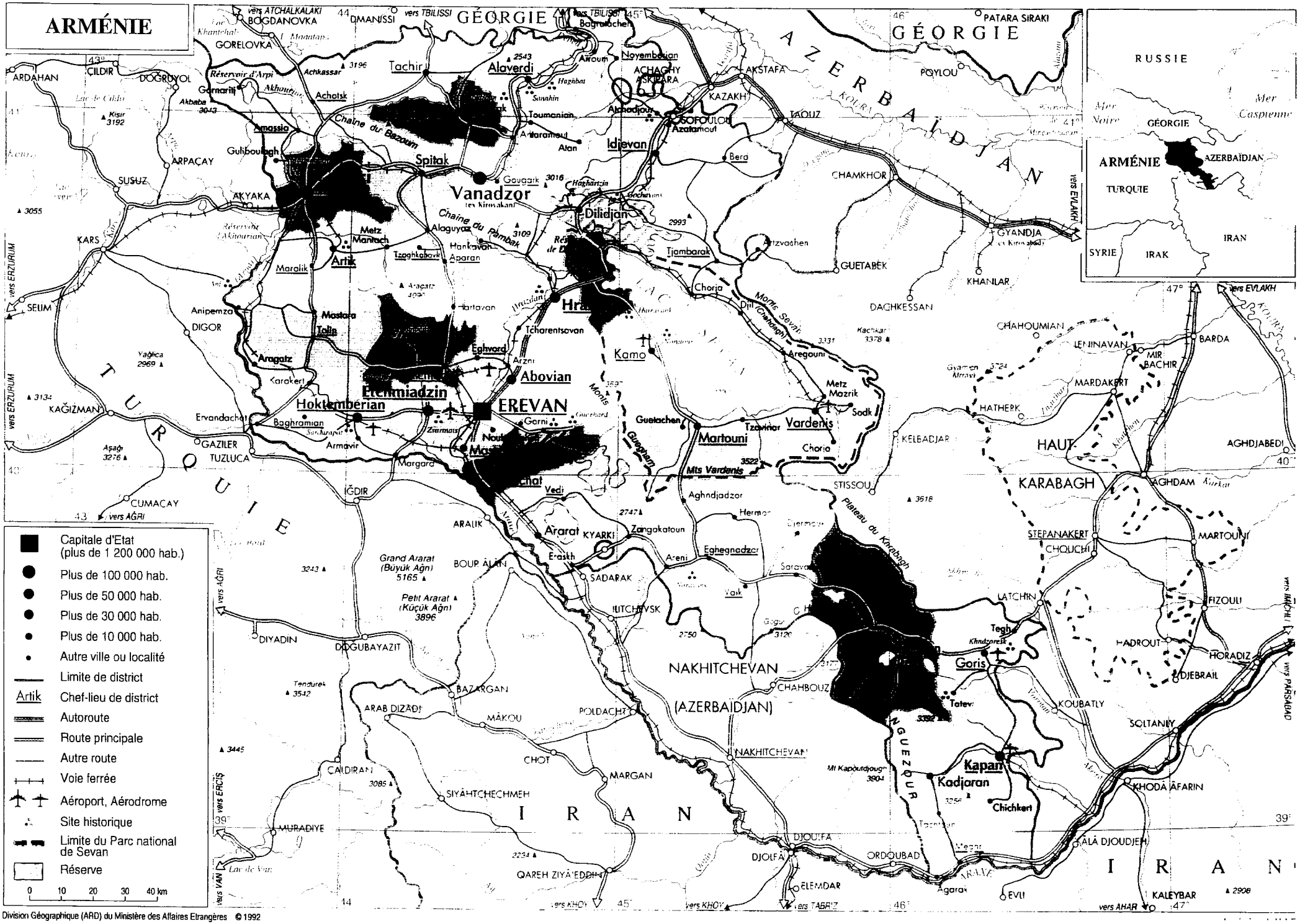
The railways comprises 1,500 kilometres. The line connecting the Azeri network to the Georgian port of Baku is of major interest to freight movements between Central Asia and Europe. The line goes from Gardabani (the border between Georgia and Azerbaidjan) to Samtredia (250 km) through Tbilissi. At Samtredia, two branches connects respectively Batumi and Poti. The distances are 401 km between Gardabani and Batumi and 363 km between Gardabani and Poti. Both links are double track from Gardabani to Samtredia (295 km) and from there single track to Batumi (106 km) and to Poti (68 km).

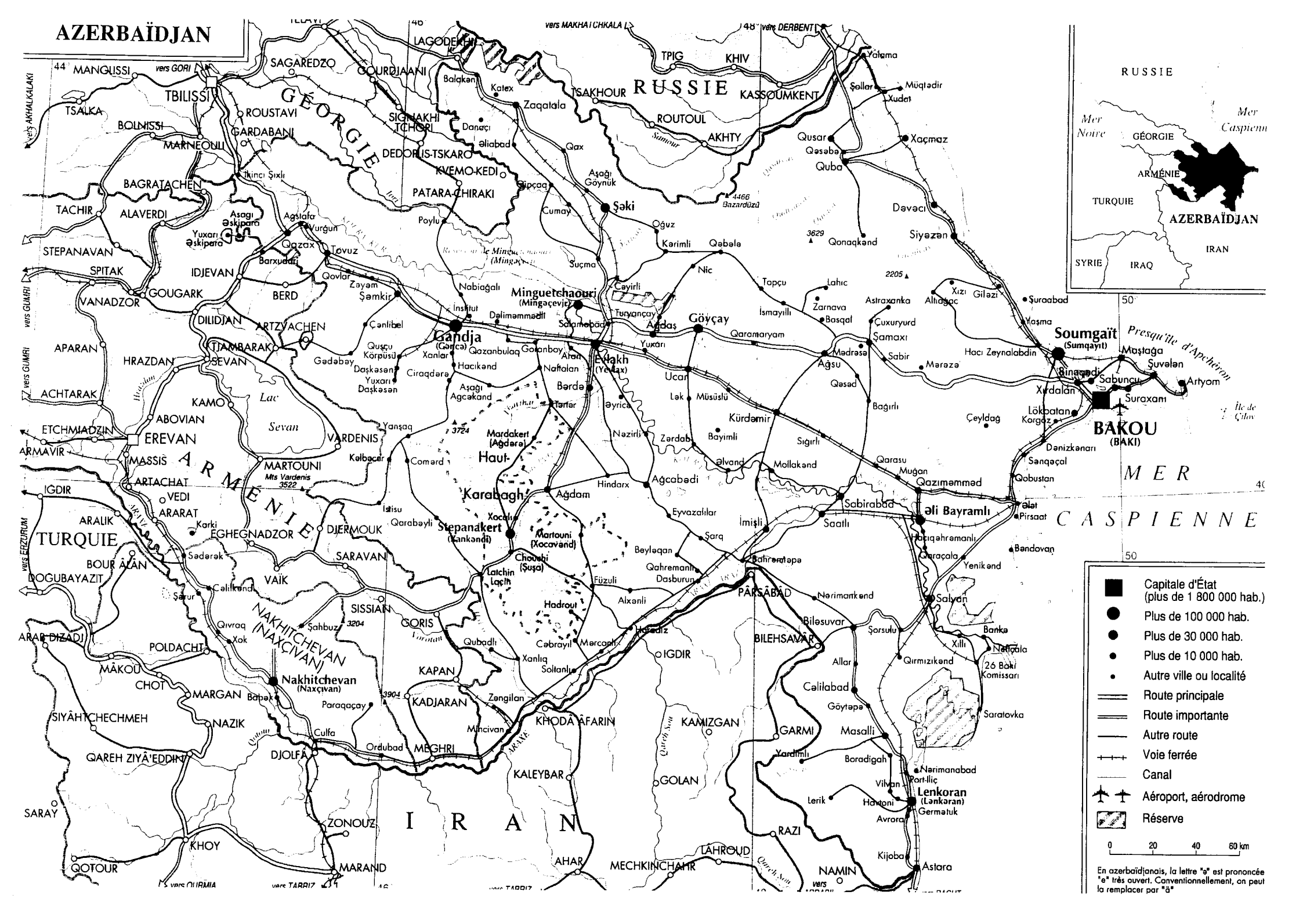
The principal road in Georgia, the « Magisterial », runs from the Azeri border through Tbilissi, to the Black sea (Sukhumi); There is trifurcating system at Samtredia, close to the black sea, where two roads provide access to Poti and Batumi. The roads runs along the Valley between the two ranges of the Caucasus. The pavement is acceptable. The secondary roads appears to be in poor condition. Container transit traffic by this road transport, very little at present, may be developed.

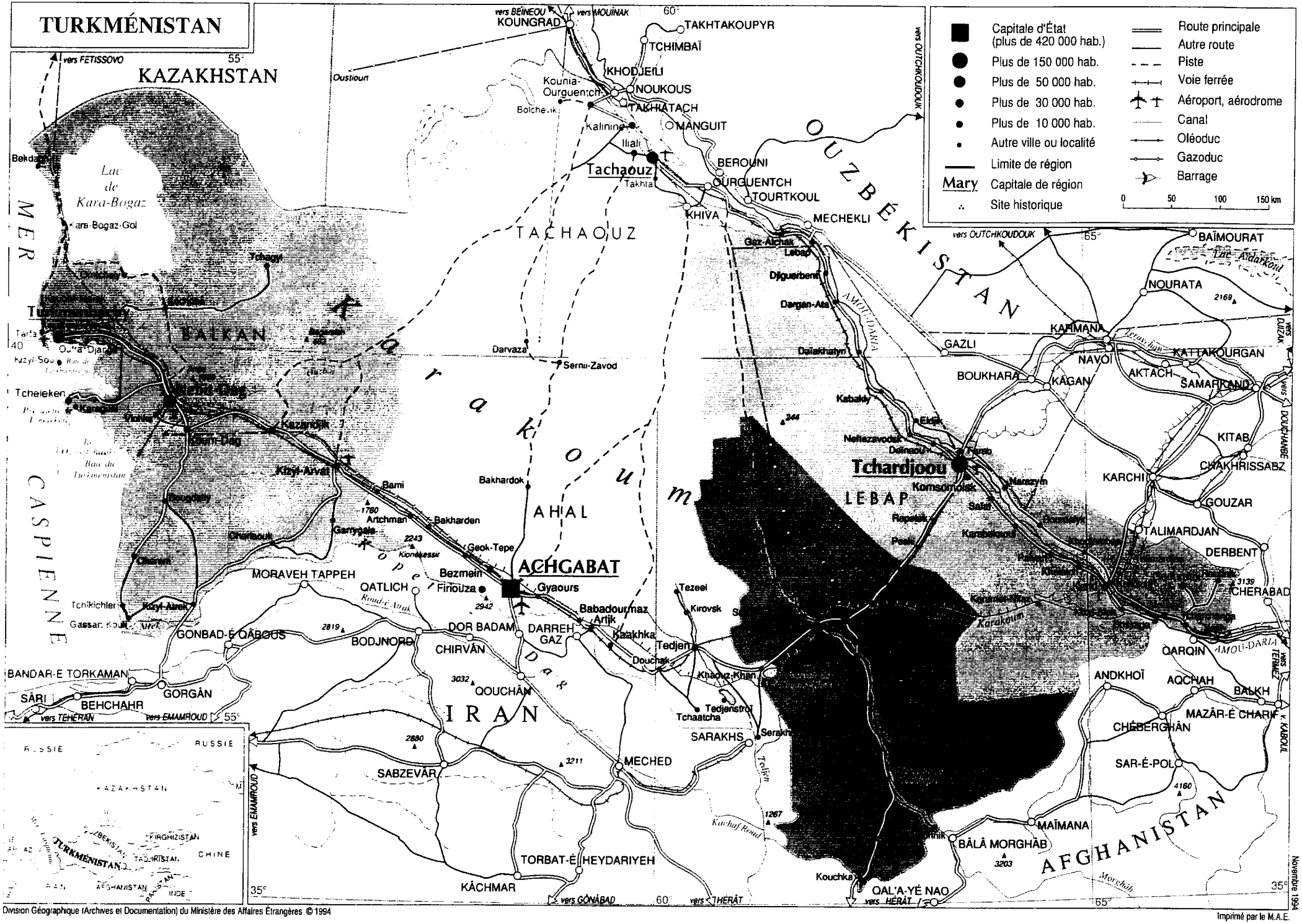
Armenia

The railways of Armenia is made up of around 800 route-kilometres. Rail lines links Erevan to Baku and Tbilissi. The connection with Tbilissi goes through Akhurian and Giumry and touch the Georgian territory at Bagratashen. The entire link is single track. Small section between Giumry and Akhurian is diesel operated. From to Bagratashen (157 Km) the line is single track and electrified. Due to political disagreements with neighbouring countries (Turkey and Azerbaidjan), this is the only railways in operation to the port of Poti and Batumi (Yerevan-Giumri--Airum-Bagrataschen-Georgia). From Poti and Batumi to Armenia, shipments are forwarded both road and rail.

Janvier 1995


ARMÉNIE
GÉORGIE
AZERBAÏDJAN
TURQUIE
IRAN
RUSSIE
Mer Noire
Mer Caspienne
SYRIE
IRAK
Vanadzor
Spitak
Idjevan
Dilidjan
Artik
Kamo
Abovian
Etchmiadzin
Hoktemberian
EREVAN
Martouni
Vardenis
Goris
Kapan
Kadjaran
Chichkert
Meghri
NAKHITCHEVAN
(AZERBAIDJAN)
Grand Ararat (Büyük Ağri) 5165
Petit Ararat (Küçük Ağri) 3896
Lac de Sevan
Lac de Van
Plateau du Karabagh
HAUT KARABAGH
Capitale d'Etat (plus de 1 200 000 hab.)
Plus de 100 000 hab.
Plus de 50 000 hab.
Plus de 30 000 hab.
Plus de 10 000 hab.
Autre ville ou localité
Limite de district
Chef-lieu de district
Autoroute
Route principale
Autre route
Voie ferrée
Aéroport, Aérodrome
Site historique
Limite du Parc national de Sevan
Réserve
0 10 20 30 40 km
Division Géographique (ARD) du Ministère des Affaires Etrangères © 1992
Juin 1992

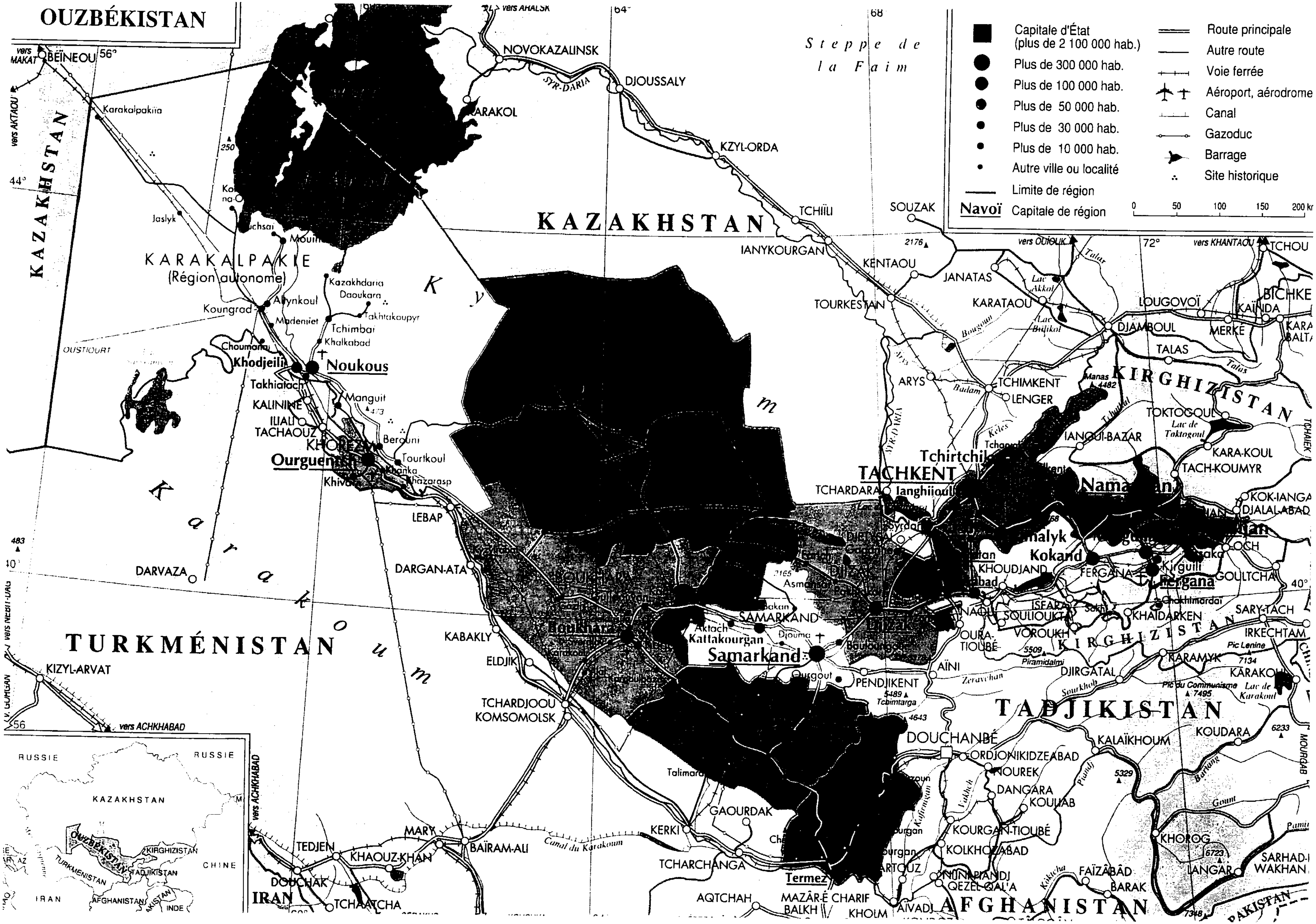

AZERBAÏDJAN
RUSSIE
GÉORGIE
ARMÉNIE
TURQUIE
IRAN
MER CASPIENNE
Mer Noire
Mer Caspienne
SYRIE
IRAQ
TBILISSI
GOURDJAANI
SAGAREDZO
TSAKHOUR
KASSOUMKENT
ROUTOUL
AKHTY
Şəki
Qax
Zaqatala
Balakən
Katex
Danəçi
Əliabad
Aşağı Göynük
Cumay
Oğuz
Qəbələ
Qonaqkənd
Siyəzən
Dəvəçi
Xaçmaz
Quba
Qusar
Qəsəbə
Şollar
Müqtədir
Xudat
Yalama
Gəncə
Gandja
Göyçay
Ağdaş
Yevlax
Mingueltchaouri
Mingəçevir
Ucar
Kürdəmir
Bərdə
Tərtər
Ağcabədi
Hindarx
Karabagh
Stepanakert
Xankəndi
Xocalı
Martouni
Xocavənd
Chouchi
Şuşa
Latchin
Laçın
Hadrout
Füzuli
Beyləqan
Zərdab
Bayımli
Sığırlı
Mollakənd
Qarasu
Muğan
Qazıməmməd
Sabirabad
Saatlı
İmişli
Şərq
Eyvazalılar
Ağdam
Mardakert
Ağdərə
Haut-
Nəzirli
Əyrıcə
Lək
Müsüslü
Bağırlı
Çeyldağ
Lökbatan
Korgöz
Xırdalan
Sumqayıt
Soumgaït
Presqu'île d'Apchéron
Binəqədi
Sabunçu
Suraxanı
Artyom
Şuvələn
Mərəzə
Sabir
Madrəsə
Ağsu
Qəsəd
Cuxuryurd
Samaxı
Hacı Zeynalabdin
Yaşma
Şuraabad
Giləzi
Xızı
Alıağac
Astraxanka
Zarnava
Basqal
İsmayıllı
Topçu
Lahıc
Nic
Çəyirli
Turyançay
Salamabad
Yuxarı
Qaramaryam
Dəlimməmədli
Institut
Nabiağalı
Suçma
Qərimli
Qazax
Tovuz
Barxudarlı
Ağstafa
Vurğun
Yuxarı Əskipara
Aşağı Əskipara
Poylu
Qovlar
Zəyəm
Şəmkir
Çənlibel
Qaşçu
Körpüsü
Daşkəsən
Yuxarı Daşkəsən
Gədəbəy
Xanlar
Qazanbulaq
Goranboy
Aran
Naftalan
Hacıkənd
Ciraqdərə
Aşağı Agcakənd
Yanşaq
Kəlbəcər
Comərd
Istisu
Qarabəyli
Sarıyataq
Qarabağlar
Qaradağlı
Ağdaban
Qaraçanar
Qaraçala
Yenikənd
Bəndovan
Pirsaat
Ələt
Sanqəçal
Qobustan
Dənizkənarı
Bakı
BAKOU
(BAKI)
Əli Bayramlı
Hacıqəhrəmanlı
Bahərəttəpə
Şərqi Dəşburun
Qəhrəmanlı
Dəşburun
Alxanlı
Hadrut
Çəbrayıl
Mərcanlı
Xanlıq
Soltanlı
Qubadlı
Zəngilan
Mincivan
Xocalı
Latchin
Laçın
Füzuli
Beyləqan
Şərq
Eyvazalılar
İmişli
Saatlı
Sabirabad
Qazıməmməd
Muğan
Qarasu
Mollakənd
Əlvənd
Sığırlı
Bayımli
Zərdab
Nəzirli
Əyrıcə
Lək
Müsüslü
Bağırlı
Çeyldağ
Lökbatan
Korgöz
Xırdalan
Sumqayıt
Soumgaït
Binəqədi
Sabunçu
Suraxanı
Artyom
Şuvələn
Mərəzə
Sabir
Madrəsə
Ağsu
Qəsəd
Cuxuryurd
Samaxı
Hacı Zeynalabdin
Yaşma
Şuraabad
Giləzi
Xızı
Alıağac
Astraxanka
Zarnava
Basqal
İsmayıllı
Topçu
Lahıc
Nic
Çəyirli
Turyançay
Salamabad
Yuxarı
Qaramaryam
Dəlimməmədli
Institut
Nabiağalı
Suçma
Qərimli
Qazax
Tovuz
Barxudarlı
Ağstafa
Vurğun
Yuxarı Əskipara
Aşağı Əskipara
Poylu
Qovlar
Zəyəm
Şəmkir
Çənlibel
Qaşçu
Körpüsü
Daşkəsən
Yuxarı Daşkəsən
Gədəbəy
Xanlar
Qazanbulaq
Goranboy
Aran
Naftalan
Hacıkənd
Ciraqdərə
Aşağı Agcakənd
Yanşaq
Kəlbəcər
Comərd
Istisu
Qarabəyli
Sarıyataq
Qarabağlar
Qaradağlı
Ağdaban
Qaraçanar
Qaraçala
Yenikənd
Bəndovan
Pirsaat
Ələt
Sanqəçal
Qobustan
Dənizkənarı
Bakı
BAKOU
(BAKI)
Əli Bayramlı
Hacıqəhrəmanlı
Bahərəttəpə
Şərqi Dəşburun
Qəhrəmanlı
Dəşburun
Alxanlı
Hadrut
Çəbrayıl
Mərcanlı
Xanlıq
Soltanlı
Qubadlı
Zəngilan
Mincivan
Nakhitchevan
(Naxçıvan)
Babək
Paraqaçay
Şahbuz
Şərur
Çəlikənd
Qıvraq
Xok
Sisian
Goris
Vorotan
Kapan
Kadjaran
Meghri
Ordubad
Culfa
Djolfa
Khodâ Âfarin
Kaleybar
Golan
Kamizgan
Garmi
Masalli
Yardımlı
Boradigah
Lerik
Havoni
Avrora
Germətuk
Lenkoran
(Lənkəran)
Port-Iliç
Nərimanabad
Vilvan
Kijoba
Astara
Razi
Namin
Mechkinchahr
Ahar
Lahroud
Khoy
Qotour
Maraand
Zonouz
Saray
Qareh Ziyâ'eddin
Siyâhtchechmeh
Nazik
Chot
Margan
Makou
Poldachi
Arab Dizadj
Dogubayazit
Bour Âlan
Aralik
Igdir
Vedi
Ararat
Eghegnadzor
Djermouk
Saravan
Vaïk
Sédarak
Karki
Artachat
Massis
Armavir
Etchmiadzin
Erevan
Vardenis
Martouni
Mts Vardenis
3522
Sevan
Lac Sevan
Hrazdan
Sevan
Tjambarak
Achtarak
Aparan
Kamo
Abovian
Artzvachen
Dilidjan
Idjevan
Berd
Gougark
Vanadzor
Spitak
Stepanavan
Tachir
Alaverdi
Bagratachen
Marneouli
Gardabani
Roustavi
Bolnissi
Tsalka
Mangussi
Sagaredzo
Sighnakhi
Tchori
Dedoplis-Tskaro
Kvemo-Kedi
Patara-Chiraki
Tchrdili
Ikinci Şıxlı
Danəçi
Əliabad
Qax
Aşağı Göynük
Cumay
Oğuz
Qəbələ
Qonaqkənd
Siyəzən
Dəvəçi
Xaçmaz
Quba
Qusar
Qəsəbə
Şollar
Müqtədir
Xudat
Yalama
Gəncə
Gandja
Göyçay
Ağdaş
Yevlax
Mingueltchaouri
Mingəçevir
Ucar
Kürdəmir
Bərdə
Tərtər
Ağcabədi
Hindarx
Karabagh
Stepanakert
Xankəndi
Xocalı
Martouni
Xocavənd
Chouchi
Şuşa
Latchin
Laçın
Hadrout
Füzuli
Beyləqan
Zərdab
Bayımli
Sığırlı
Mollakənd
Qarasu
Muğan
Qazıməmməd
Sabirabad
Saatlı
İmişli
Şərq
Eyvazalılar
Ağdam
Mardakert
Ağdərə
Haut-
Nəzirli
Əyrıcə
Lək
Müsüslü
Bağırlı
Çeyldağ
Lökbatan
Korgöz
Xırdalan
Sumqayıt
Soumgaït
Binəqədi
Sabunçu
Suraxanı
Artyom
Şuvələn
Mərəzə
Sabir
Madrəsə
Ağsu
Qəsəd
Cuxuryurd
Samaxı
Hacı Zeynalabdin
Yaşma
Şuraabad
Giləzi
Xızı
Alıağac
Astraxanka
Zarnava
Basqal
İsmayıllı
Topçu
Lahıc
Nic
Çəyirli
Turyançay
Salamabad
Yuxarı
Qaramaryam
Dəlimməmədli
Institut
Nabiağalı
Suçma
Qərimli
Qazax
Tovuz
Barxudarlı
Ağstafa
Vurğun
Yuxarı Əskipara
Aşağı Əskipara
Poylu
Qovlar
Zəyəm
Şəmkir
Çənlibel
Qaşçu
Körpüsü
Daşkəsən
Yuxarı Daşkəsən
Gədəbəy
Xanlar
Qazanbulaq
Goranboy
Aran
Naftalan
Hacıkənd
Ciraqdərə
Aşağı Agcakənd
Yanşaq
Kəlbəcər
Comərd
Istisu
Qarabəyli
Sarıyataq
Qarabağlar
Qaradağlı
Ağdaban
Qaraçanar
Qaraçala
Yenikənd
Bəndovan
Pirsaat
Ələt
Sanqəçal
Qobustan
Dənizkənarı
Bakı
BAKOU
(BAKI)
Əli Bayramlı
Hacıqəhrəmanlı
Bahərəttəpə
Şərqi Dəşburun
Qəhrəmanlı
Dəşburun
Alxanlı
Hadrut
Çəbrayıl
Mərcanlı
Xanlıq
Soltanlı
Qubadlı
Zəngilan
Mincivan
Capitale d'État (plus de 1 800 000 hab.)
Plus de 100 000 hab.
Plus de 30 000 hab.
Plus de 10 000 hab.
Autre ville ou localité
Route principale
Route importante
Autre route
Voie ferrée
Canal
Aéroport, aérodrome
Réserve
0 20 40 60 km
En azerbaïdjanais, la lettre "ə" est prononcée "e" très ouvert. Conventionnellement, on peut la remplacer par "ä"



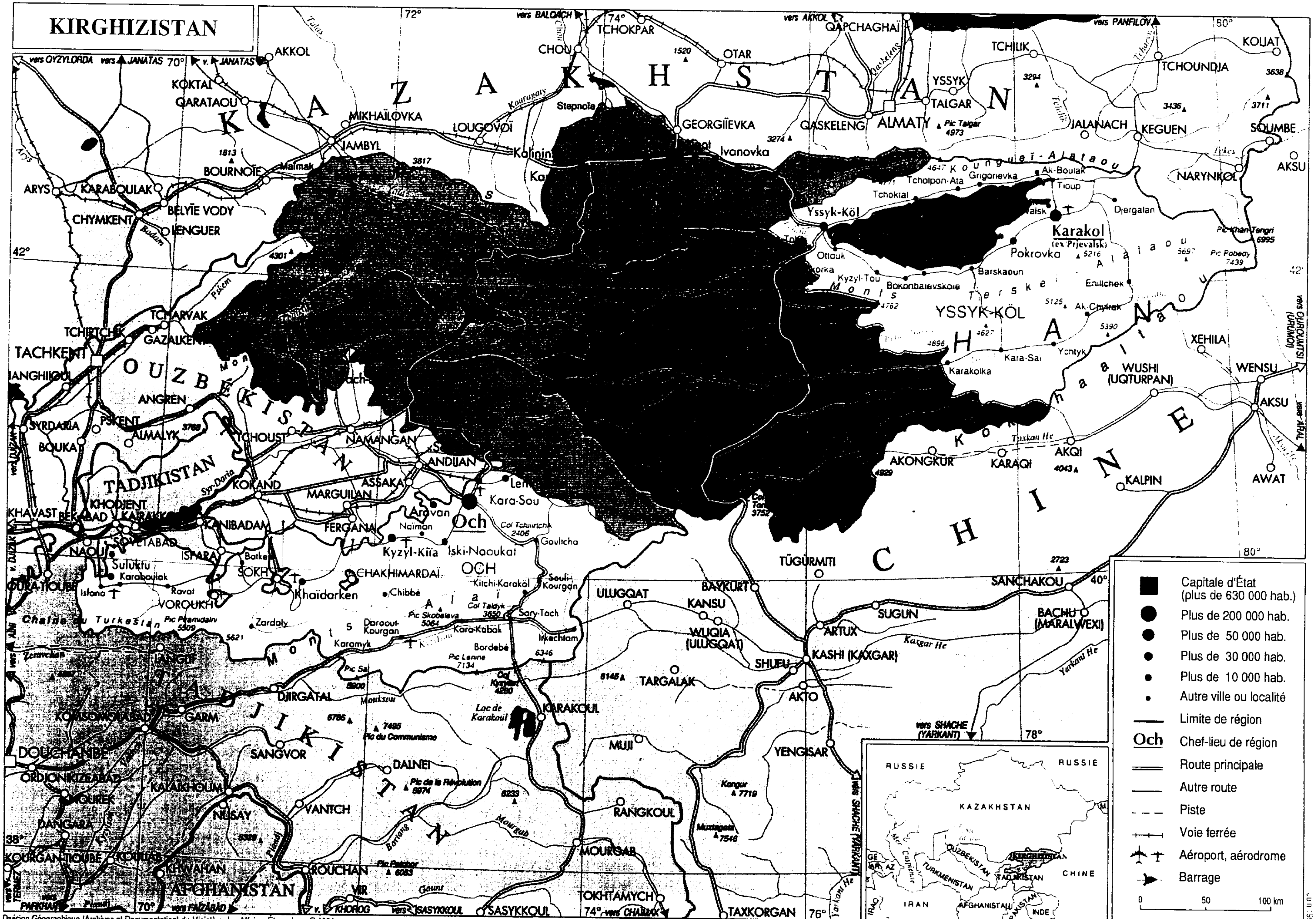
Division Géographique (Archives et Documentation) du Ministère des Affaires Étrangères © 1994

Novembre 1994

Imprimé par le M.A.E.

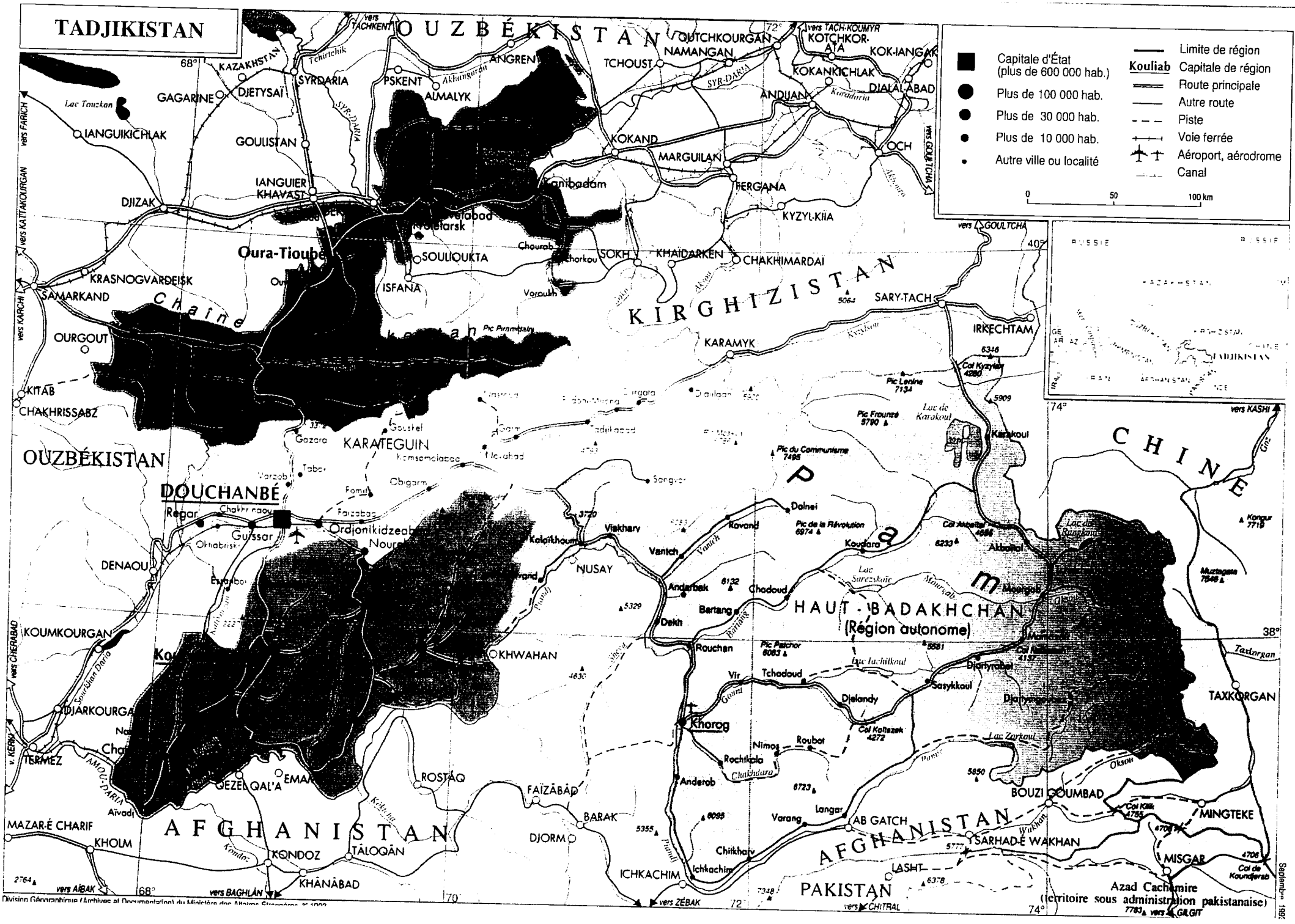

OUZBÉKISTAN
Capitale d'État (plus de 2 100 000 hab.)
Plus de 300 000 hab.
Plus de 100 000 hab.
Plus de 50 000 hab.
Plus de 30 000 hab.
Plus de 10 000 hab.
Autre ville ou localité
Limite de région
Navoï Capitale de région
Route principale
Autre route
Voie ferrée
Aéroport, aérodrome
Canal
Gazoduc
Barrage
Site historique
0 50 100 150 200 km
KAZAKHSTAN
TURKMÉNISTAN
TADJIKISTAN
KIRGHIZISTAN
AFGHANISTAN
IRAN
PAKISTAN
KARAKALPAKIE (Région autonome)
Steppe de la Faim
Karakoum
Noukous
Ourguentch
Khodjeili
KHOREZM
Boukhara
Samarkand
TACHKENT
Tchirtchik
Kokand
Fergana
Namangan
Termez
Kattakourgan
Djizak
NOVOKAZALINSK
DJOUSSALY
KZYL-ORDA
TCHIILI
SOUZAK
IANYKOURGAN
KENTAOU
TOURKESTAN
JANATAS
KARATAOU
DJAMBOUL
LOUGOVOÏ
MERKÉ
TALAS
BICHKEK
ARYS
TCHIMKENT
LENGER
TOKTOGOUL
IANGUI-BAZAR
KARA-KOUL
TACH-KOUMYR
KOK-IANGAK
DJALAL-ABAD
OCH
GOULTCHA
SARY-TACH
IRKECHTAM
KARAKOL
BEÏNEOU
Karakalpakiia
Jaslyk
Koungrad
Takhiatach
KALININE
TACHAOUZ
Khiva
LEBAP
DARGAN-ATA
DARVAZA
KABAKLY
ELDJIK
TCHARDJOOU
KOMSOMOLSK
KIZYL-ARVAT
TEDJEN
KHAOUZ-KHAN
MARY
BAÏRAM-ALI
KERKI
GAOURDAK
TCHARCHANGA
AQTCHAH
MAZÂR-É CHARIF
BALKH
KHOLM
DOUCHANBÉ
ORDJONIKIDZEABAD
NOUREK
DANGARA
KOULIAB
KOURGAN-TIOUBÉ
KOLKHOZABAD
AÏNI
PENDJIKENT
OURA-TIOUBÉ
VOROUKH
DJIRGATAL
KALAÏKHOUM
KOUDARA
KHOROG
LANGAR
SARHAD-I WAKHAN
FAÏZÂBÂD
BARAK
KHOUDJAND
ISFARA
SOULIOUKTA
KHAIDARKEN
KARAMYK
Pic Lenine 7134
Pic du Communisme 7495
Canal du Karakoum
SYR-DARIA
RUSSIE
CHINE
INDE

KIRGHIZISTAN

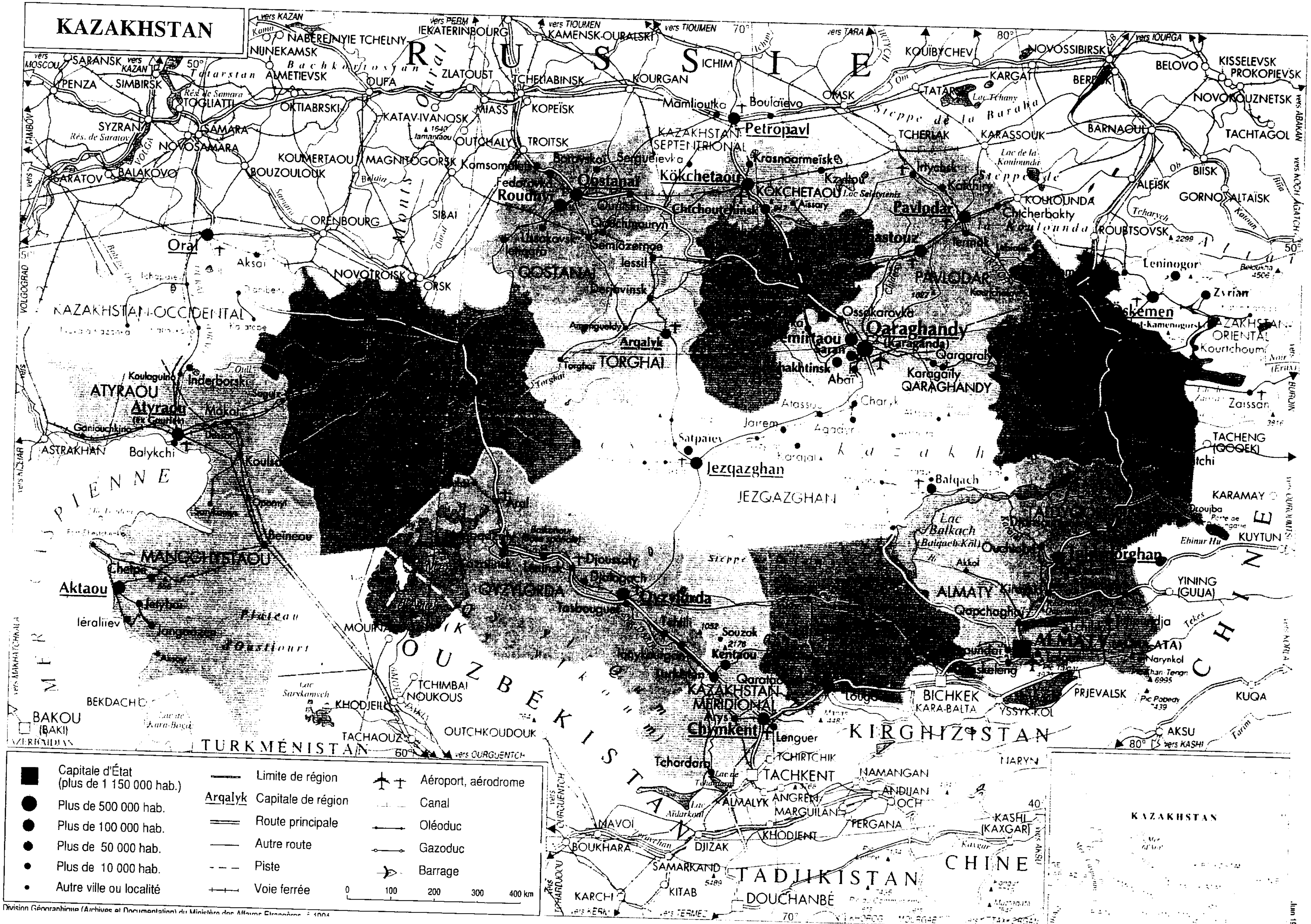


Division Géographique (Archives et Documentation) du Ministère des Affaires Étrangères © 1994

Imprimé par le M.A.E.


TADJIKISTAN
OUZBÉKISTAN
KIRGHIZISTAN
AFGHANISTAN
PAKISTAN
CHINE
DOUCHANBÉ
HAUT-BADAKHCHAN
(Région autonome)
Azad Cachemire
(territoire sous administration pakistanaise)
Capitale d'État (plus de 600 000 hab.)
Plus de 100 000 hab.
Plus de 30 000 hab.
Plus de 10 000 hab.
Autre ville ou localité
Limite de région
Kouliab Capitale de région
Route principale
Autre route
Piste
Voie ferrée
Aéroport, aérodrome
Canal
0 50 100 km
Division Géographique (Archives et Documentation) du Ministère des Affaires Étrangères, 1992

KAZAKHSTAN



Division Géographique (Archives et Documentation) du Ministère des Affaires Étrangères - 1994

ANNEXE 5:

TRACECA RAIL CONTAINER TERMINALS

Railway Container Terminals in TRACECA-Region

Country	Railway Administration	Terminal	Location/Railway Junction	Location Related to the Traffic flow	Remarks
Armenia	Armenian Railway	Vanadzor (former Kirovakan)	Vanadzor	Tbilissi - Gyumri - Yerevan line	lifting capacity of cranes 20 t
Armenia	Armenian Railway	Abovyan	Yerevan	Idzhevan - Yerevan - Masis line	lifting capacity of cranes 20 t
Armenia	Armenian Railway	Gyumri (former Leninakan)	Gyumri	Tbilissi - Gyumri - Yerevan line	lifting capacity of cranes 20 t
Armenia	Armenian Railway	Karmir Blur	Yerevan	Idzhevan - Yerevan - Masis line	lifting capacity of cranes 20 t
Armenia	Armenian Railway	Sevan 2	Razdan/Sevan	Idzhevan - Yerevan - Masis line	lifting capacity of cranes 24 t
Azerbaijan	Azerbaijan Railway	Gyandsha	Gyandsha	main TRACECA-Corridor	lifting capacity of cranes 10 t, 2 cranes available (handling together 20' containers !!!)
Azerbaijan	Azerbaijan Railway	Khyrdalan	Baku	main TRACECA-Corridor	terminal out of operation for more than 1 year, in very bad condition, 2 older "Valmet" container lift trucks (16 t lifting capacity, 1 damaged, 1 out of operation), 3 cranes for 20 t lifting capacity (2 of them damaged), visited during field mission
Georgia	Georgian Railway	Samtredia 2	Samtredia	main TRACECA-Corridor	lifting capacity of cranes 10 t, 2 cranes available (handling together 20' containers !!!), at present out of operation
Georgia	Georgian Railway	Tbilissi-Tov.	Tbilissi	main TRACECA-Corridor	lifting capacity of cranes 20 t, 2 cranes available, visited during field mission
Kazakhsta..	Alma-Atinskaya Railway	Alma-Ata 2	Almaty	main TRACECA-Corridor	4 cranes for 20 t, visited during field mission
Kazakhstan	Alma-Atinskaya Railway	Druzhba	Druzhba/border station with China	main TRACECA-Corridor	only unloading terminal on the interface between Russian broad gauge and European standard gauge used in China; 2 cranes with 30.5 t lifting capacity, covered terminal ! (location often exposed to stormy winds)

Kazakhstan	Alma-Atinskaya Railway	Dzhambul	Dzhambul	main TRACECA-Corridor	lifting capacity of cranes 20 t
Kazakhstan	Alma-Atinskaya Railway	Semipalatinsk	Semipalatinsk	Kazakh - Siberian route	lifting capacity of cranes 20 t
Kazakhstan	Alma-Atinskaya Railway	Taldy-Kurgan	Taldy-Kurgan	branch-terminal line, about 50 km distance to TRACECA-corridor in the Almaty - Aktogay section	lifting capacity of cranes 24 t
Kazakhstan	Alma-Atinskaya Railway	Tchimkent	Tchimkent	main TRACECA-Corridor	lifting capacity of cranes 20 t
Kazakhstan	Alma-Atinskaya Railway	Zashita	near Ust-Kamenogorsk	branch-terminal line to the Kazakh - Siberian route	lifting capacity of cranes 20 t
Kazakhstan	Southern Ural Railway (Russia)	Petropavlovsk	Petropavlovsk	Petropavlovsk corridor the southern way of the Russian Transsiberian route (the terminal as well as the whole corridor is leased to the Russian railways)	
Kazakhstan	Tselinnaya Railway	Akmola (former Tselinograd)	Akmola	Petropavlovsk - Akmola - Karaganda - Tchu line (part of a Northern Transasia corridor)	lifting capacity of cranes 20 t
Kazakhstan	Tselinnaya Railway	Arkalyk	Arkalyk	branch-terminal line to the Akmola - Southern Ural (Russia) line	lifting capacity of cranes 20 t
Kazakhstan	Tselinnaya Railway	Dzhezkazgan	Dzhezkazgan	branch-terminal line to the Petropavlovsk - Akmola - Karaganda - Tchu line	lifting capacity of cranes 20 t
Kazakhstan	Tselinnaya Railway	Ekibastus	Ekibastus	Akmola - Pavlodar line in the North-east part of Kazakhstan	lifting capacity of cranes 20 t

Kazakhstan	Tselinnaya Railway	Karaganda	Karaganda	Petropavlovsk - Akmola - Karaganda - Tchu line (part of a Northern Transasia corridor)	lifting capacity of cranes 24 t
Kazakhstan	Tselinnaya Railway	Koktchetav	Koktchetav	Petropavlovsk - Akmola - Karaganda - Tchu line (part of a Northern Transasia corridor connecting Siberia to Kazakhstan and China)	lifting capacity of cranes 20 t
Kazakhstan	Tselinnaya Railway	Kustanaj	Kustanaj	Koktchetav - Southern Ural line to Russia	lifting capacity of cranes 20 t
Kazakhstan	Tselinnaya Railway	Pavlodar Yuzhn.	Pavlodar	Koktchetav/Akmola - Siberian route to Russia	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Aktyubinsk	Aktyubinsk	Southern Transasia Route (China/Kazakhstan-Russia)	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Atyrau (Guryev 2)	Atyrau (former Guryev)	Connecting route between Russian and Western Kazakhstan	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Kzyl-Orda	Kzyl-Orda	Southern Transasia Route (China/Kazakhstan-Russia)	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Mangyshlak (Aktau)	Aktau	branch-terminal line to the port of Aktau (included in TRACECA-programme, but not on main corridor)	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Tyuratam	Tyuratam	Transasia Route (China/Kazakhstan-Russia)	lifting capacity of cranes 20 t
Kazakhstan	Western-Kazakh Railway	Zhilaevo	Uralsk	Uralsk-corridor in the outermost Northwest part of Kazakhstan (part of the Southern Transasia Route)	lifting capacity of cranes 20 t
Kyrgyzstan	Kyrgyzskaya Railway	Alamedin	Bishkek	main Kyrgyz railway corridor connecting Bishkek with the main TRACECA-corridor (at Lugovaya station in Kazakhstan)	lifting capacity of cranes 20 t, two cranes available, visited during field mission
Kyrgyzstan	Kyrgyzskaya Railway	Osh	Osh	branch terminal line to Uzbek Fergana valley line	lifting capacity of cranes 20 t, two cranes available
Tadjikistan	Tadjikistan Railway	Dushanbe 2	Dushanbe	branch terminal line Termez - Dushanbe	lifting capacity of cranes 24 t

Tadjikistan	Tadjikistan Railway	Gafurov (former Leninabad)	Gafurov	Fergana valley line	lifting capacity of cranes 20 t
Turkmenistan	State Railway of Turkmenistan	Gazatchak	Gazatchak (near Uzbek border)	Chardzhev - Bejneu line, connecting Central Asia with Western Kazakhstan and Russia	lifting capacity of cranes 20 t
Turkmenistan	State Railway of Turkmenistan	Mayskaya	Mary	main TRACECA-Corridor	lifting capacity of cranes 20 t
Turkmenistan	State Railway of Turkmenistan	Nebit-Dag	Nebit-Dag	main TRACECA-Corridor	lifting capacity of cranes 20 t
Turkmenistan	State Railway of Turkmenistan	Obesberdyev-Kuliyevo	Ashgabat	main TRACECA-Corridor	lifting capacity of cranes 20 t, visited during field mission
Turkmenistan	State Railway of Turkmenistan	Serger	Chardzhev	main TRACECA-Corridor	lifting capacity of cranes 25 t, 2 cranes available, visited during field mission
Turkmenistan	State Railway of Turkmenistan	Tashaus	Tashaus	Chardzhev - Bejneu line, connecting Central Asia with Western Kazakhstan and Russia	lifting capacity of cranes 20 t
Turkmenistan	State Railway of Turkmenistan	Turkmenbashi (former Krasnovodsk)	Turkmenbashi	main TRACECA-Corridor	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Andizhan Sev.	Andizhan	Fergana valley line (southern section)	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Assake	Andizhan	Fergana valley line (southern section)	lifting capacity 40 t, private terminal (Daewoo)
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Bukhara 2	Bukhara	main TRACECA-Corridor	lifting capacity of the crane 20 t , only 1 crane available, visited during field mission
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Dzhizak	Dzhizak	main TRACECA-Corridor	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Kakir	Kokand	Fergana valley line (southern section)	lifting capacity of cranes 20 t

Uzbekistan	State joint-stock railway company "Uzbek Railways"	Karshi	Karshi	Samarkand/Bukhara - Termez line to the outermost East of Turkmenistan and to southern Uzbekistan and Tadzhikistan	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Margilan	Fergana	Fergana valley line (southern section)	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Nukus	Nukus	branch terminal line to the Chardzhev - Bejneu line, connecting Central Asia with Western Kazakhstan and Russia	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Raustan	Namangan	Fergana valley line (northern section)	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Shumilovo (old)	Tashkent	main TRACECA-Corridor	lifting capacity of cranes 20 t, two cranes available, railway-owned terminal for 20'-containers
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Shumilovo (Shoshtrans)	Tashkent	main TRACECA-Corridor	2 "Boss" Reach stacker for 40'-containers, additionally 2 older cranes for handling of empty containers, most modern terminal in TRACECA region, owned by the Shoshtrans Company, a Russian-Uzbek-Swiss company (with participation of the Uzbek Railways") visited during field mission
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Tintchlik	Bukhara	branch terminal line to the main TRACECA-Corridor near Navoi (distance to the TRACECA-Corridor about 20 km)	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Ulugbek	Samarkand	main TRACECA-Corridor	lifting capacity of cranes 20 t
Uzbekistan	State joint-stock railway company "Uzbek Railways"	Urgentch	Urgentch	Chardzhev - Bejneu line, connecting Central Asia with Western Kazakhstan and Russia	lifting capacity of cranes 20 t

ANNEXE 6:

SUMMARY OF EUROPEAN EXPERIENCE WITH MULTIMODAL TRANSPORT

SUMMARY OF EUROPEAN EXPERIENCE WITH MULTIMODAL TRANSPORT

Introduction

The term "multimodal transport" corresponds to the carriage of goods by at least two different modes of transport. When a loading unit of merchandise is sent in this manner and remains unchanged throughout the chain of transport, this comes under the term of "intermodal transport". A characteristic of intermodal transport in Europe is the maximum use of rail, waterway or sea so that the distance covered by road at the commencing and terminal points is kept to a minimum. This is known as "combined transport".

Multimodal transport makes the most of the advantages particular to each mode of transport it employs. Rail transport is appropriate for transporting large quantities over long distances whereas transport via heavy goods vehicles (HGV) is pertinent for the collection and distribution of goods over medium and short distances. This means that rail and road modes are not so much seen in competition with each other but rather as complimentary. Furthermore, by benefiting form the advantages of each, multimodal transport responds well to the growing environmental constraints imposed on transportation.

Non-accompanied Transport

The most common form of multimodal transport is via containers, swap body (freight carrying units used only in rail/road movements) and articulated lorry. This non-accompanied transport, within which only the loading unit is transported by rail, represents about 80% of the market for combined transport.

Non-accompanied transport requires a whole range of techniques, organisation and infrastructure. This means that transport and consignment companies need to be equipped with special containers which may be transhipped by means of mobile or gantry crane for vertical loading. These road vehicles equipped with swap bodies or in the form of semi-articulated lorries are slightly more expensive than standard lorries. Furthermore, the transport company must be careful that the container which is to be off loaded at the terminal is directed to the correct destination. To this end, a number of companies have come round to either setting up their own office at the other end or entrusting this to another partner.

Accompanied Transport

The Rolling Road is a train that allows a heavy goods vehicle to be carried as a whole along with its driver, hence the term "accompanied" transport. The road vehicle is loaded onto a special low loader wagon via a ramp which is known as horizontal loading. A wagon equipped with couchettes (sleepers) is attached to the train for the use of the accompanying driver. At the end of the rail journey, the driver recuperates his/her lorry in order to take the goods to their destination.

The great advantage of this is that the driver can rest during the train journey. The duration of the train journey is recognised by legislation in several countries as rest time which allows the adhering to of working hours. Moreover, working conditions are improved by avoiding night shifts.

The Rolling Road trains can be rapidly loaded and unloaded and so are particularly adept to cases where multimodal transport needs to take place in a relatively short space of time. It is a very flexible technique which is accessible to all road hauliers including small companies and occasional users. This is because this method does not require special equipment or adaptation neither on the side of the hauliers, the users nor the infrastructure of the terminals. For this reason, they are often used for short and medium haul transportation (200 to 400 km) as well as for cases where the rotation of trains needs

to be quick. Given these facts, the Rolling Roads technique could be the answer to multimodal transport in Central and Eastern Europe.

However, there is a downside to this system. The principal inconvenience of the Rolling Road is that, in addition to the goods, the whole of the lorry needs to be transported as well. Also, the height of the wagons needs to be 40 to 50 cm greater than the norm, which may cause problems with existing transport infrastructure (height of bridges, width of tunnels). Thus, where fully equipped terminals are available, the practice of accompanied transport is less economically efficient than non-accompanied transport.

Rolling Stock

Road hauliers are not alone in investing in multimodal transport. The need for appropriate rolling stock is indispensable for the system to be economically viable. The railway companies are currently equipped with several thousand wagons designed for the transportation of different types of loading units. Furthermore, a good number of multimodal firms own sizeable private wagon stocks. These include low loader wagons used for the Rolling Road, pocket wagons which have recessed pockets to accept the road wheels of semi trailers and swap bodies, double stack wagons which carry containers on two levels as well as non-accompanied types of containers and swap bodies.

Freight Villages

An appropriate set-up is required for the practice of non-accompanied transport. Large sites known as freight villages have evolved which include a terminal along with the necessary administrative facilities associated with goods handling. A dense freight village network has emerged in the most parts of Western European states and this continues to develop. The presence of a terminal has not necessarily been the result of heavy financial input. A mobile crane is sufficient for a start although the largest terminals generally work with gantry cranes.

The Railway Operators and Companies

Multimodal transport relies on the expertise and the co-operation of different parties. The railway companies provide the network and rolling stock along with necessary staffing. The operators buy the rail traction from them. The acquisition of wagons is shared between the railway companies and the operators. The terminals are run by the railway companies in conjunction with either the operators or private local users. The operators establish their services based on these elements and market either the whole of the loading chain or the terminal traffic to carriers and forwarding agents.

Over the past few years, more and more transport for swap-bodies and articulated lorries has been offered to road hauliers. The creation of multimodal transport companies structured on a co-operative model roots from an initiative taken by agents and transport companies as well as their federations.

The national railway companies only own a minor part of the capital. At present, more than 1000 transport companies and agents, often small and medium enterprises of which many have heavily invested in multimodal transport, have joined the 17 companies belonging to the International Union of Combined Rail-Road Transport (UIRR). The members of UIRR organise and market the transport form terminal to terminal by rail. It is the road haulier who sees off the merchandise at the terminal and who will see that a handling company or a partner at the arrival terminal will dispatch the goods to the client. It is the transport hauliers and marketers themselves who mastermind the transport system, investing in equipment such as swap bodies and liftable articulated lorries. They also and participate in the financing of the UIRR members, thus contributing in the development of activity in multimodal transport. The organised co-operation between road and rail is the principal foundation of the success that the multimodal transport groups are bringing about.

There also exist several private operators who take part in multimodal transport on their own accord. These tend to concentrate on certain categories of goods, such as chemicals and cistern tanks, or offer haulage capacity on multimodal trains to a third party.

The railway transport market is becoming more liberal. The original principal established that containers were only to be transported by either container firms or railway companies and that lorries and their loading units only by multimodal transport companies. This practice is beginning to die out with the growing presence of operators in all sections of the market. However, complex questions result over the matter of monopoly rights. For example, the members of UIRR are in competition with the railway companies who are their exclusive suppliers.

In most of the European countries, the railway companies come under private law. The railway legislation 91/440 obliges all EEC members to reduce the debts of the railway companies and guarantee them a management system separate from the state. These two measures have radically changed the outlook for railway transport.

It is the responsibility of the State members to ensure the obligatory separation of the railway operation and the railtrack as well as overseeing the option of institutional separation. With respect to the transport sector of the railway companies, this needs to intervene on the market side as an private company, whislt the railway network comes under national management of the concerned States. It is these two groups which will cover the financial costs of infrastructure and who will deduct fixed user prices in function of distance, train composition and other criterion (speed, axle loading, etc.).

Within the international multimodal transport sector, all the railway companies, including the private companies recently formed, will be able to have free access to the whole of the European railway network. The multimodal transport as such is in a unique position given that, for the rest of the passenger and goods traffic, the railway companies themselves can only offer the use of railway infrastructure in their originating countries.

Even through the aims are clear, it is difficult to imagine the scenery of railways will be tomorrow. One thing is sure however: multimodal transport is called to play a key role in the development of goods trafficking.

The Haulier's Choice

Multimodal transport is generally accepted for its environmentally friendly aspects. However, this fact alone will not convert more than a few companies and transportation agent to this technique. Although the loading scene does not benefit form any environmental bonus, multimodal transport brings economic advantages which constitutes the determining factor for a haulier company.

Multimodal transport, whether it be in the form of accompanied or non-accompanied transport, helps the companies to lower their variable costs of petrol, tyres and vehicle maintenance. Furthermore, the vehicle life is prolonged and the vehicle stock can be diminished as a consequence if the company invests in the appropriate multimodal transport equipment.

The savings made on staffing costs should not be underestimated. By switching to multimodal transport, a company can transport greater quantities of merchandise for the same number of staff. Given the current strict legislation on the subject of rest and driving time, a single driver can only make up to 700 road km in one particular day. Checks on driving and resting time will become more rigorous over the course of the next few years.

Many firms are now sending dangerous goods by rail or water way at every possible instance. The more condense the transport network becomes, the more companies are trying to send their goods by rail.

It is not unusual to find companies who, because of time saving on round trips, have had a 20% augmentation in goods transported with the same number of personnel and overhead costs. Still more

companies have found damages to goods is notably reduced when using multimodal transport. However, there needs to be the assurance that the transport cost by rail does not grow more rapidly than that of road so that companies will be at less risk when investing in multimodal transport equipment.

Operational Aspects

From the point of view of the hauliers and rail companies, the direct train is the most advantageous because it is highly cost saving in terms of manoeuvres of wagons at the railway terminals. For this same reason, these trains are very reliable which is a must when dealing with "just-in-time" operations. Wagons are added or taken off at the terminal in function of required capacity. The navette trains are a special variety of direct trains: their composition is fixed.

Next to the direct trains, the grouping trains constitute the base of the multimodal network. They are trains made up of envois headed for two or more destinations. The groups of wagons are swapped between trains at the rail depots to form new trains with one destination. The nodal points or "hubs" allow a particularly advanced form of train. The principal railway operators adopt more and lore the solution of nodal points for technical and quality reasons.

Certain criteria must be taken into account when road vehicles with their unit load use the rail in the form of multimodal transport. The usual dimensions of rail wagons is superseded. The upper limit for the height and the breadth of unit loading is defined in the rail dimensions. This is restrained in certain conditions when encountering tunnels, bridges and even the roofs of stations. The draft of all the unit loads used in multimodal transport is thus coded by means of a yellow panel which informs the train driver of the dimensions of their unit loading. These permit the differentiation of loading units. The dimensions of all the rail link infrastructure are known. As a general rule, there are few restrictions for the containers and the swap-bodies. Even the alpine tunnels have been enlarged over the past few years in such a way that the articulated lorries used in multimodal transport can take them. It is the "jumbo" containers that continue to cause a problem and generally the British articulated lorries. As for the Rolling Road which permits the loading of whole lorries, this only exists in countries where the present network has an adequately dimensioned infrastructure.

Multimodal transport is in principle apt to transport all goods which would otherwise be transported over long distances of road. In practice, only the goods with specific requirements of strict time limits are restricted. Goods which need to be transport under controlled temperature (i.e. refrigerated) are mainly sent by fast and direct trains. "Green" freight, that is to say fruits and vegetables, have other rules: they must often be delivered by 04.00 a.m. in markets, a time that does not correspond to a previously practised timetable. On a positive note, it is better to transport dangerous goods by rail as the safety records of rail are much better. Over the last years, legislation has rendered the conditions of the transportation of dangerous goods more strict. The higher the safety requirements on the road are enforced, the more goods will be assigned to multimodal transport.

Several criteria come under consideration over the acceptability of multimodal transport. One of these is timetabling. The timetable plans in most demand are, on a national scale those of type A/B -leave in the evening, arrive the next morning - and internationally, those of type A/C - unloading the following day. Thus, multimodal transport takes advantage of night time travel which allows the carriage of goods to their destination in time for processing the following morning.

More often than not, the demands of the client represent a difficult task for the railway companies who need to fit these into their plans. The same goes for the operators who must make the offer to the client and, in most cases, provide the wagons. Not every demand of the clients can be satisfied. One major factor is that freight traffic must share the railway capacity with passenger traffic. Added to this are stoppages for technical reasons such as the change of locomotives at borders require because of different electric systems.

The need for international links in multimodal transport is becoming more vital with the growing integration of Europe. In correspondence with that which has happened with passenger travel, real quality offers are being developed for stronger links across Europe.

Offers to the Client

Multimodal transport is in an ever continuing process of diversification and orientation towards the needs of the client. Performance links are now offered even for the furthest destinations.

Multimodal transport has seen important development over the past few years between the largest port in the world Rotterdam and its hinterland. This primarily concerns rapid transport of containers by rail. The direct train destination Prague is one of the most recent trains in service. In mid-May 1995 a shuttle train was put into service following A/B plan between Rotterdam and Switzerland. A multimodal set-up consisting of a train link between Rotterdam and France, Spain and Italy, has been operational since the end of June 1995. This train called the "Mediterranean Shuttle" circulates 5 times a week both ways. This offers transit times within 24 hours for Spain as well as for Central and Southern Italy.

Hungary is on the way to transferring a considerable part of its traffic to rail. Between Wel (Germany) and Szeged (Hungary) some 25 000 road trains took the Rolling Rail in 1994. Hungary is well equipped with ports situated at the North Sea, Brême and Hamburg. The Hansa-Hungari-Container Express which carries almost all types of containers offers branch trains from the Hungarian terminal to countries such as Romania, the Ukraine, Greece, Bulgaria and Turkey.

These are examples of multimodal transport systems that have been set up whenever potential markets permit.

Mobilisation Constraints

The European transportation market is in full growth. The exchange of goods and the resulting demand in transport services are growing even more rapidly as trans-border economic activity intensifies. The abolition of the iron curtain at the end of 1989 has furthermore accelerated traffic growth. The experts estimate that international transport will have a 60 % growth rate over the period 1988 to 2010.

The traffic however is being presented with more and more constraints. Transport infrastructure is desperately saturated and traffic congestion is part of every day life in all European states.

In response to this, a number of states are taking great measures to compensate for deficiencies in infrastructure. In 1994 the European Commission put forward a plan of action under the title of Trans-European Network (TEN). This defines the principle projects of the Community on the subject of infrastructure and co-ordinates the adopted measures through the different State members. Pressure will continue to be applied for the financing of the modes of transport which best respect the environment, that is to say rail and water ways.

Moving on from the financial problem comes the acceptability of traffic politics. Today, it is not possible to just decide to pump financial resources necessary for the construction of infrastructure projects. The people of the European states are less ready to accept the construction or the extension of infrastructure on a large scale. Opposition on all sides lengthens the planning time table.

Along the same line, there is a greater public awareness of the fact that growth of traffic has damaging effects on the environment. Traffic has been defined as one of the determining factors of the greenhouse effect. The European office of Statistics, Eurostat, estimates that the consumption of crude oil in 1988 solely by the transportation sector in the European Community lies at 211.5 million tonnes. This represents 30 % of the total energy consumed by these countries. It is road transport which far outstrips all other modes consuming 84.4 % compared with 2.5 % for fluvial and 2 % for rail. In the mean time, the most industrialised states are committed to the reduction of harmful gasses into

the atmosphere. Concern resides mainly over carbon dioxide emissions because of its links with the greenhouse effect.

Pollution is not the only inconvenience caused by traffic. Scientists have endeavoured for several years to evaluate the whole of the damaging effects of traffic and to gather these under the term "external costs". From the calculations of the OECD (Organization for Economic Cooperation and Development), the global economic cost of road traffic - that is to say atmospheric and sound pollution, traffic congestion and accidents - would in itself attain 5 % of GDP (gross domestic product).

It is clear that any methods of action to be adopted need to ensure a mobility system which respects the environment. The necessity of associating different modes of transport and integrating them in a global concept is becoming obvious as traffic congestion becomes a more pressing matter. The European Commission, however, sticks to solutions which conform to the marketing laws. So, it is not a question of looking for directives from above. The optimal solution must result from different forces present in the market. The policies decided upon will have to determine and influence the conditions of competition in a way that all the modes of transport contribute fairly to the social costs of infrastructure which concern them. Until this point can be guaranteed, public support will be necessary for certain modes of transport to develop.

The turning of Europe towards multimodal transport does not in any way signify that competition between the modes of transport will be excluded. Nor does it mean that the lorry will be excluded from the market. Quite the opposite. It is in the nature of multimodal transport to bring together the use of different modes of transport. This is seen by the fact that it is precisely the companies and marketers of transport as well as their respective organisations who have participated and will continue to participate towards numerous European companies of multimodal transport.

Promotion Measures

Multimodal transport is presented by international transport policies as potentially the most beneficial. It is with this vision that the European Commission has established a multimodal European network which is of great community interest. Moreover, a series of legal measures have been undertaken over the course of the last years in order to improve the framework conditions of multimodal transport. This support towards transport policy aims to compensate multimodal transport for the contribution in capital that they bring in the form of reduction of social costs. These include the reduction of costs borne by the economy following accidents causing damage to the environment. Whilst pushing for all modes of transport to pay for social costs they cause, the European Commission feels that it is necessary to promote multimodal transport. It has therefore brought in a series of measures to compensate for inconveniences intrinsic to multimodal transport. This is known as compensation for disadvantage.

The companies who use multimodal transport can, in the most part of countries, economise on transportation tax. A company which uses multimodal transport lessens the road congestion of infrastructure it otherwise might have caused. This goes against equality in treatment if this company must support the costs of road use (taxes on vehicles, petrol and road tolls) as well as the costs of the use of a second mode of transport. This haulier thus acquires the right of reimbursement of the taxes corresponding to the non utilisation of road infrastructure. The sum of this tax reimbursement is a function of the number and the length of journeys made with multimodal transport. Another measure is the exemption of prohibition of running times (weekends, public holidays) or, in the case of the Rolling Road, the recognition of the rail travel time as resting time for the lorry driver.

The possibility of introducing public means of investment in multimodal transport is of great importance. This would include, for example, the purchasing of wagons or other specialised equipment necessary for complete multimodal set up. In certain cases the European Union authorises the Member States to subsidise the running costs over the course of the introduction of a multimodal project. It is quite an exception that the European Commission has established regulations authorising state aid towards multimodal transport development. Normally, the principle of community backing is to eliminate in all measures possible state aid.

Apart from the European Commission, there are other institutions from the European Union structure which are committed to multimodal transport. Also, the UN has stated in the document "European Agreement on Important International Combined Transport Lines and Related Installations" the primary objectives on the subject of multimodal infrastructure. This document includes the augmentation of average speed for multimodal trains to 100 to 120 km/h. Taking this further, this document rules that the length of trains can be 600 to 750 metres. There is further discussion on the increasing of permissible loading.

Development and Perspectives

The success of multimodal transport will depend on commitment to its development. For years now, the technique of transhipment has been the subject of intense research and alternative solutions are already being implemented. The aim is to achieve the transhipment of one mode of transport to another as automated as possible, directly form one train to another, in the same way that rail passengers make connections.

Over the last few years, research has been going on into what is known as bimodal systems. This technique is already being used in the USA with the "Road-Railer" or rail-road. During the rail journey the articulated lorries are supported by bogies which transform them into a sort of "wagon unit" for transport by rail. Upon reaching the destination terminal, the articulated lorries are separated form their bogies. The trailer can thus continue its journey without a great loss of time. This system is also well adapted to traffic which is unequal in different directions. The bimodal system is only being slowly introduced in Europe. A direct service between Munich and Verona was opened in 1995 with the support of the European Union.

Loading units (containers and swap bodies) are also in the forecourt of technical development. The aim is to improve the swap body which, as freight carrying units, are not strong enough to be stacked. A growing number of transport companies and agents rely on "Jumbo" and "Mega" crates to send bulky goods. In order to be able to integrate these at a later stage with other intermodal chains, there is more and more call for the crates to be technically adapted. The possibility of stacking the crates in the same way as containers is another part of the idea.

It is no longer possible to imagine multimodal transport without modern computerisation techniques. Given that the physical transport of goods is considered more and more by industry as being an integral part of production itself, the information concerning the transport must be available as quickly as possible. Modern information technology allows the merchandise to be followed throughout its journey. This is possible thanks to automatic identification which, in the USA, already takes part in every day procedures of railway companies. This technique will also be introduced to Europe with pilot studies being currently undertaken by several railway enterprises and hauliers.

The European Commission supports the development of multimodal transport through different promotion programmes of which the pilot programme called "PACT" (Pilot Actions for Combined Transport) is part. The aim of this programme is to make intermodal transport even more efficient in the short term, by helping the existing techniques in the domain of transhipment, information technology and telecommunications to be introduced on site.

The progress that has taken place up until now is most encouraging. As multimodal transport includes such a wide range of demands and techniques any development calls for a united effort from all concerned parties. In this way, long term growth in the multimodal sector will be able to respond to transportation problems.

ANNEXE 7:

STUDY TOUR PROGRAMME

TACIS- TRACECA PROGRAMME/ FORWARDING MULTIMODAL TRANSPORT
EUROPEAN STUDY TOUR PROGRAMME (15 - 29 JUNE 1996)

Date	*Time*	*Event*	*Organisation / Contact*	*Remarks*
SATURDAY 15	From 10 a.m. to 11 p.m	Arrival of Participants	Hotel « OPER »: Str, Prehbahn 15, Tel : 40 35 60 10/ Fax: 40 35 60 1 31 Hamburg	All the participants are invited to get the HOTEL OPER by Taxi. The Hotel is close to the Pammtour rail station (15 min from the airport/ about 30 DM by taxi).
	19H00 p.m.	Welcome meeting with José CACERES. Project Manager.		
SUNDAY 16		Free	Free day in Hambourg	Hotel « OPER » Hamburg.
MONDAY 17	9H30 a.m.	Pick up of the group at the St Pauli-Landungsbrucken (Bruke 5) for an extensive tour of the harbour in the « Senatsbarkasse » (boat owned by the government of Hamburg).	The Hamburger Hafen und Lagerhaus Mr. Gerhard ANGERER Tel: 49 40 30 88 35 21 Fax: 49 40 30 88 33 55 and	Interpret: Dorte PUTTFARKEN. Tel: (49 40) 47 83 01 Fax:(49 40) 48 16 35
	11H00 a.m.		The International Union of Rail-Road Companies Mrs Susanne KUSCHEL Tel: 32 2 425 47 93 Fax: 32 2 425 38 27	Transport: a bus is picking us up to the Hambourg Hafen und Lagerhaus.
	12H30 p.m.	• Visit of the HHLA container Terminal at Burchardkai: • Meeting with the HHLA management • Guided tour	Port of Hamburg: Terminal Hamburger Hafen und Lagerhaus (HHLA)	Transport: the « Senatsbarkasse », boat owned by the government of Hamburg
	14H00 p.m.	Lunch		Lunch: in the HHLA Restaurant at Burchardkai
		Return to the City of Hamburg		

Date	*Time*	*Event*	*Organisation / Contact*	*Remarks*
TUESDAY 18	11H00 a.m.	Visit of the Hamburg-Billwerder Combined Transport Terminal	Terminal Hamburg-Billwerder Mr Rurh Kombiverkehr, Gebietsleiter Norddeutschlan. Tel: 49 40 78 91 206 Fax: 49 40 78 13 47	Interpret: : Dorte PUTTFARKEN
	17H30 p.m.	Flight from Hamburg to Paris		Flights Tickets: José CACERES
	19H30 p.m.	Arrival in Paris	Hotel « IBIS »	Transport: Bus FLAB Hotel « IBIS », la Bastille.
WEDNESDA	10H30 a.m.	Guided Visit of the LOUVRE	Musée du Louvre, Paris Béatrice DUBOST Tel: 40 20 51 66 Fax: 40 20 58 24	Interpret: Aurelie GAUSSELIN. Transport: Paris Metro
	14H00 p.m.	Free		Lunch:
THURSDAY 20	9H30 a.m.	Meeting with the authorities from the French Ministry of Transport and Communications. Subject: The Financing of Transports Infrastructure.	FRENCH MINISTRY OF TRANSPORT AND COMMUNICATIONS Mr MOUSNIER-LOMPRE. Tel: 40 81 28 05 Fax 40 81 27 70	Interpret: Mme TOMASHEVSKI Transport: RER
	18H00 - 22H00 p.m.	Visit of the Valenton Combined	SNCF and CNC (Compagnie Nouvelle de Conteneurs) Mr. Georges VIALLA Tel: 40 16 64 29 Fax: 40 16 64 56	

Date	*Time*	*Event*	*Organisation / Contact*	*Remarks*
FRIDAY 21	8H30 a.m. 11H00 p.m. 11H45 a.m. 12H30 p.m. 15H00 p.m.	Visit of one of the most important Combined Transport Paris Terminal (Creteil) • Meeting with the Management: • the « Groupement National du transport Combiné »,GNTC. • Film related to « combined transport techniques) • Meeting with the management of T.A.V. Lunch • Presentation of a Forwarding Company intermodal activities	NOVATRANS (Rail-Road Transport Company) The GNTC is a French Combined Transport Group of Companies. Mr BRUNIER The T.A.V; is a French multimodal operators, specialised in Rail-Road Transport by swap bodies. Calberson International. Mr. Marc Landrin. Road Expert for the Project. Tel: 40 64 73 72 Fax 43 27 23 96	Interpret: Mme TOMASHEVSKI Transport: FLAB Bus
SATURDAY 22 **SUNDAY 23**	Paris Paris	Free Free		
MONDAY 24	6H56 a.m. 10H00 a.m. 13H00 p.m. 15H00 p.m. 9H00 p.m.	Travel Paris-Metz • Presentation of Intercontainer • Examine of possible links with TRACECA countries Lunch Visit of the Metz International « Nodal Point » Travel from Metz to Paris	INTERCONTAINER. Mr. Pierre Schmelter. President of Intercontainer. Mr. Kieffer. Director of Intercontainer. Tel: 41 61 278 23 16 (Bale) Fax: 41 61 278 23 12 (Bale) Lunch:	Interpret:: Mme TOMASHEVSKI Transport Hotel - Gare de l'EST: Metro Transport Paris- Metz: TGV Transport Gare- Terminal: Mr KIEFFAR Lunch Transport: TGV

Date	*Time*	*Event*	*Organisation / Contact*	*Remarks*
TUESDAY 25	9H00 a.m. 19H00 p.m.	Coordination meeting with the Expert Team. • Pre -evaluation of the Study Tour. • Possible re-orientation of the Program • Special dinner with the management of BCEOM and SYSTRA.	Hotel « IBIS» Organised by SYSTRA and BCEOM	Interpret: Mme TOMASHEVSKI Restaurant: « le Bois Doré »
WEDNESDAY 26	9H00 a.m. 12H00 15H29 p.m. 18h54	Meeting with the Management of the « EUROPEAN INTERMODAL ASSOCIATION ». • Activities of the Association • Relations with Eastern Countries • Possible development wit the TRACECA countries. Travel from Paris to Avignon Arrival in Avignon	« EUROPEAN INTERMODAL ASSOCIATION Mr Bernard TEILLET. Director of the Association. Tel: 514 42 07 Fax: 514 56 54 Head Oficce: Brussels/ Belgium. Place: SYSTRA Head Office. 5 Av du Coq. Paris Lunch	Interpret::Mme TOMASHEVSKI Transport: Metro - RER Transport Paris- Avignon: TGV Hotel FIMOTEL: 8 Bd St Dominique 84 Avignon
THURSDAY 27	9H00 a.m. 14H00 p.m. 16H00 p.m.	Visit of the Multimodal Complex of Avignon: • Marketing of the Intermodal Traffic • Advantages of the Intermodality • Operating techniques • Visit of the Terminal City tour Travel from Avignon to Paris	NOVATRANS Mr Claude AROCAS. Chief of the Centre Mr; LESIEUR; Marketing Director. Tel: 90 86 80 25 : 90 86 38 32 Fax: 90 86 17 02 .	Interpret:: Mme TOMASHEVSKI Transport: TGV

Date	*Time*	*Event*	*Organisation / Contact*	*Remarks*
FRIDAY 28	9H30 a.m.	Meeting with the Management of BCEOM and special lunch Evaluation of the Study Tour: • Information and training needs • Possible Investment Projects • shipments along the TRACECA corridor.	BCEOM Jean KOCH, General Manager Paul Marie RINGWALD. Division Manager José CACERES. Project Manager. Paul PEZANT, Planner Economist. Paul Marie RINGWALD. Division Manager José CACERES. Project Manager. Paul PEZANT, Planner Economist.	Interpret: Mme TOMASHEVSKI Lunch: BCEOM
SATURDAY 29 **SUNDAY 30** **MONDAY 31**		Departure of the participants to their respective countries.		

ANNEXE 8:

LIST OF MULTIMODAL TRANSPORT PARTICIPANT TO THE STUDY TOUR IN E.U. COUNTRIES

STUDY VISIT IN E.U COUNTRIES

Multimodal Transport Delegation from Central Asian and Caucasian countries

ARMENIA :

M. Gerbert AMBARTSOUMIAN, Chief of Foreign relations Department within the Ministry of Transport and Communications of the Republic of Armenia.
M. Levon AKOPIAN, First Deputy Manager of the Armenian Railways

KAZAKHSTAN

Mr Serik ALIGUZHINOV, Premier Vice Ministre des Transports et Communications
Mr. Anatoliy ZAVYALOV, General Manager of « KAZAVTOTRANS »
Mr. Vladimir UTEBEKOV, General Manager of ISKOMTRANS (Research Institute for Transport Sector Complex Problems).

AZERBAIDJAN

M Ikram SADIKHOV, Head of the Transport Department within the Ministry of Economics.
M Musa MAMEDOV, Deputy Manager of the Port of Baku.

UZBEKISTAN

M. Murat Khalisov ADILOVICH. Deputy Manager of « Shosh-Trans », Multimodal Operator and Chief of the Tashkent Container Terminal.
M. Gulyamov NURITDINOVICH. Deputy Manager of « UZAVTOTRANS Corporation».

TADJIKISTAN

M. Timur MIRZOEV, Genaeral Director of the Institut for Studies and Projects of Tadjikistan
M. Bakhrom CHODIEV, Chief Engineer of Tadjik Railways.

GEORGIE

M. Teimuraz GORSHKOV, Chief of Transport Studies within the « National Transport Council of Georgia».
M. Alexander ZIBZIDADZE, Chief Engineer of Georgian Railways.

KYRGHYSTAN

M. Tahkhar KOULIEV. General Director of the Transport Company « DOSTUK »
M. Nurdin SMATOV. Chief of the Automobile Division within the Ministry of Transports.

Annexe 9:

STUDY TOUR EVALUTION RESULTS

STUDY TOUR EVALUATION

KAZAKHSTAN

Dear Mr. Jose Caceres,

Let us thank you once again for the warm reception during our staying in France and Germany. We hope that all we have seen and heard will help us to find adequate ways of organisation of multi-modal transport in Kazakhstan.

Please, find herein our answers to the questions on study tour evaluation (mission) which are as follows:

1. Yes it is, because, in our opinion, the multi-modal transportation is the present and the future of the transport complex as a whole and it will be able to provide the clients with the most profitable and reliable transport services in the field of an international trade.

2. During the period of the present study tour we have received a complete and relevant information on multi-modal transportation in the West Europe. We hope to receive as an additional information, the drafts of all the accompanying documents which are required to be used in the process of the multi-modal transportation (with customs procedures and without them).

3. Though the visits and contacts with all the companies were of some interest, we would like to point out our particular interest in further development to be forseen with NOVOTRANS. To our mind, an organisational structure and the methods of work of NOVOTRANS can be taken as a basis for the organisation of multi-modal transport companies in Kazakhstan.

4. In Germany: we were impressed by the port of Hamburg. In France: practically everything we have seen is impressive. We have received a lot of information which is being worked at and analysed and we hope to use it in a very effective and reasonable way while organising multi-modal transport system in Kazakhstan.

5. Yes, it is. It is necessary to create (to change the structure of the already existed) multimodal transport companies taking as a basis all the best which we have seen in Germany and France but with our changes in order to make it appropriate to our conditions and possibilities.

6. We would like to get acquainted with the working process particularly in the field of border customs stations with the different track lines, the procedure of customs formalities and customs clearance, passage of wagons and the other operations. We are interested also in automobile borders customs procedures especially on the borders.

7. The programme of the tour was organised at a high level, but sometimes there were some drawbacks in its execution (ex. transport service, interpretation).

8. The interpreter had to be more professional with the knowledge of specific transport terminology. Sometimes it was rather difficult to understand the meaning.

9. See point N°6.

10. Though it was a great interest in the role of the Ministry of Transport, we did not receive enough information about the concrete activity of the Ministry. It was not clear either what was the role of the government in the matters of the organisation of multi-modal transport and which structures of the Ministry took part in a state regulation of the multi-modal transport system.

Best regards,

The First Deputy Minister: S. Aliguzhinov

Members of the delegation: A. Zavyalov; V. Ytebekov

TADJIKISTAN

1. Yes, I do. There is a real demand for such kind of organisation in our Republic where 92% of cargo traffic is carried out by automobile transport.

2. We were interested in the subjects realted to the structure of the organisations visted and the working procedures, in particular in the field of multipurpose terminals (terminals in Hamburg and the terminal of TAB co.). We like you to consider the necessity of giving more details on this matter. On the other hand, the development of the engineering is of particular interest for us. This knowledge can be used by the specialists of our Republic.

3. We have concluded a contract (subcontract) with a transport group (KOMBIVERHKER) for the development of a multimodal transport organisation in our country. We have also invited the representatives from INTERCONTAINER, met in Metz, to visit our Republic.

4. In Germany: The most appropriate experience is that of the company-of multi-modal transport in Hamburg (Kombiverhker). In France: the experience of the small company such as TAB and the visit to INTERCONTAINER turned out to be interesting.

5. The implementation of a multi-modal chain between the counties of TRACECA and EU is an essential need. It is necessary to organise: the base for the development of a network terminals in Tadjikistan; to prepare the legislative base, to simplify at a maximum customs procedures and to join all the technical standards and terms of transportation.

6. We really think that the visit of multi-modal sites in former social countries (Bulgaria, Chekoslovakia etc.) as their are close to our present structure, must be visited.

7. The organisation of terminals and the communication system (possibility to install the equipment of a new generation) needed for the transportation of cargo to the consignee without any delay.

8. The structure and content of working procedures in the terminals have been not presented in a wide and comprehensive way.

9. The content is to be modified: It is necessary to diversify visits to the sites and to present the work of the terminals in a wider way (ex. the existing problems of the terminals, different ways of their solution, etc.). Countries: Bulgaria and Chekoslovakia.

10. After detailed and careful consideration of all the received material, the delegation of the Republic of Tajikistan will send the additional suggestions to the address of the organisers of the multi-modal transport study tour.

29.06 .96 T.D. Mirzoev

UZBEKISTAN

1. Yes, I do.

2. The exchange of the experience between the TRACECA and the European Union and the visits to German and French terminals gave us the necessary information. However, we did not receive enough practical information. For instance, the visits to terminal were often limited to demonstrations of the loading-unloading mechanisms.

3. In Germany I made contacts with the representatives from HHLA. In France: with representatives from INTERCONTAINER

4. In this respect and in general I would like to mention lack of customs problems between the countries of the European Union . Will the customs barriers be eliminated between the countries of TRACECA and the European Union?. In Germany, while visiting the container terminals, I liked the organisation of the working system itself and the availability of wagons for transportation of semi-trailers. In the port of HHL I was interested by the loading - unloading mobil carriers. Regarding France, I think that the orga[illegible]ation of the working process in CNC and NOVOTRANS and the SNCF cargo schedule are particularly in[illegible]sting.

5. Yes, I do. The implementation of multi-modal chain between Traceca and EU is possible. The only obstacle that may be overcame is the customs barrier. In order to overcome this obstacle it is necessary to create the Customs Union of TRACECA countries.

6. I would wanted to have a detailed information on the organisation of multi-modal carriage in Switzerland and Germany.

7. The organisation of works in Metz carried out by INTERCONTAINER.

8. It would have been better to include also excursions to the historical places of interest in Germany and France.

9. A practical demonstration of the working process of the terminals, beginning with the issuance and completion of shipping documents (documents of carriage) up to the moment of cargo delivery to the consignee.

No answer Signed Mr. Khalisov, Deputy Manager from SHOSH-TRANS

UZBEKISTAN *(M.* Kh. Goulamov).

1. Yes, because it help us to get acquainted with the existing difficulties in a transport system of our region.

2. Yes. But I have to say that It is necessary to cover the role of the road transport in a multi-modal transport operations in a wider way and, at the same time, to show and define all the existing types of transport documents with the corresponding examples.

3. During this particular tour study it was not my aim.

4. In GERMANY: the working procedures in the field of multimodal transport is being fulfilled at a high professional level. In FRANCE: The achievements of scientific and technical progress are widely used (computerisation).

5. I think it is possible. But some difficulties in crossing the borders (periods and delays while making borders customs formalities) must be overcame.

6. I would be interesting to visit the multi-modal sites in Italy and England.

7. What I liked the best was the possibility to communicate with the participants from others Traceca countries. Furthermore, the study visit gave us the possibility to be informed about the latest achievements of the developed companies in the sphere of multi-modal sites.

8. Existing language barrier.

9. In order to achieve the final aim in EU countries, it is necessary to study in details the gains, the drawbacks and the existing difficulties.

10. No answer. Mr. Kh. Goulamov, UZAVTOTRANS Corporation

AZERBAIDJAN

1. On the whole, yes. The visits to the enterprises (companies), discussions with their staff, getting the answers to the questions which we were interested in, all these gave us the positive results.

2. What I have identified is the following: the inexisting interdepartmental barriers within transport insitutions; the concentration of commun matters within one single body, the quality of connections between the different companies, agents (on a contract basis) to perform door-to-door transportation operations and finally, the equipment of the terminals.

3. I Hope to concrete the established contacts with the port of Hamburg and with INTERCONTAINER.

4. On the whole, the opinion is positive, but at the same time, we have noticed that the terminals are not fully loaded.

5. In order to make it possible it is inevitable to solve a number of political and economical problems.

6. It would be useful to visit not only the already well developed sites, but also the sites which are being built and face some particular difficulties on the initial stage of their organisation. We could take their experience into our consideration while organising multi-modal transport system in our Republic.

7. The organisation of multi-modal traffic without interference from any other parties. Conditions and terms of transportation between the countries.

8. The visits were very much pleasant. Everything we saw was positive.

9. In order to amplify the knowledge about multi-modal sites and to study the matters of an economic character, it would be interesting to visit countries such as Spain and Greece, closer to us.

10. Three pages of suggestions have been given to M. Caceres..

Mr I. SADIKHOV, Head of the Transport Department within the Ministry of Economy of Azerbaidjan.

GEORGIA *(* Mr.A.Zibzibadze)

1. Yes, I do. At present the transportation of cargo by railway is one of few export possibilities of Georgia, and multi-modal transport meet the requirements of Georgia.

2. There is an interest to get to know in details the experience of French Railways. It would have been better to visit SNCF in order to be acquainted with the work of this field.

3. At present stage, the established contacts are not of the business character. In order to establish permanent business contacts in future, it is necessary to identify the needs and demands of Georgia on the basis of examination of the concrete offers of some companies. During the visit to CALBERSON, the discussion dealt with the possibility of the establishment real contacts.

4. Everything was done at the highest level.

5. Yes, it is possible. However, border crossing problems and legal issues should be solved.

6. The sites of the CEI, because they are equipped in the same way as the terminals in Georgia and function under the same conditions of developing market economy.

7. Most of all I liked the visit to CALBERSON, because during that visit the discussion dealt with the possibility of the establishment of real contacts.

8. The negative sides of multimodal systems, if there are any, were not shown.

9. It is necessary to widen the study of the experience of the concrete companies and organise the training of the Georgian specialists.

10. No answer

GEORGIA *(* Mr. T.Gorshkov)

1. Yes but it is necessary to define the aims and range them in accordance with the objectives in question .

2. The technical process and working procedures have been detected as an essential question. The Georgian delegation request training assistance through on-the-job training courses in the field of legal aspects; transport documentation procedures and working procedures in order to create a company in Georgia.

3. The programme did not give the possibilities to establish the concrete, business contacts, though they were desirable.

4. In germany: Satisfactory. In France: Satisfactory

5. Feasible and indispensable.

6. Can not answer this question because first of all it is necessary to determine the needs of our own country as well as the ways of solution of multi-modal transport problems

7. The organisation and the level of the meetings.

8. Important matters have been treated superficially.

9. To study the companies' activities from the lowest up to the highest level.

10. No answer

Mr. Gorshkov, National Transport Council

ARMENIA

1. Yes, I do. For the development of our economy, it is necessary to have an advanced system of freight traffic.

2. During our tour study we have received relevant information.

3. We have managed to develop direct contacts with the management of leading European companies such as INTERCONTAINER and NOVOTRANS.

4. In Germany: Positive opinion. In France: Positive opinion

5. The implementation of a multi-modal chain is not only possible, it is absolutely essential. Certain political problems can arise and some obstacles must be overcame by joining forces.

6. (6)There are a lot of multi-modal svstems in Italy which worth to be studied.

7. The organisation of a working process in NOVOTRANS.

8. I am not satisfied with the social and cultural programme of the group. It would have been better to organise the cultural programme during the weekends.

9. It is better to reduce the number of participants in order to organise the programme in a more compact way.

10. It is necessary to co-ordinate the time schedule of the programme, the arrival and the departure time with the participants beforehand. Furthrmore, it is not correct to change the programme of the tour study during its preparation period.