



INTERGOVERNMENTAL COMMISSION "TRACECA"
OF THE TRANSPORT CORRIDOR EUROPE – THE CAUCASUS – ASIA
PERMANENT SECRETARIAT

МЕЖПРАВИТЕЛЬСТВЕННАЯ КОМИССИЯ "ТРАСЕКА"
ПО ТРАНСПОРТНОМУ КОРИДОРУ ЕВРОПА-КАВКАЗ-АЗИЯ
ПОСТОЯННЫЙ СЕКРЕТАРИАТ

Transit Fees and Tariffs Working Group

Fourth Meeting

TTT Pilot Study Sub Group

10th & 11th March 2004

Baku

Lala Abasova

8

МАЙ

MAY

19

неделя
week

National Monitor

ЧЕТВЕРГ • Thursday

2003

08.00

973073 (office)

09.00

99450 389 26 36 (mobile)

10.00

11.00

l. abasova @ monitors baku.

12.00

13.00

az eurotel. com (office)

14.00

15.00

labasova @ yahoo. com

16.00

17.00

18.00

19.00

20.00

21.00

ДОЛЛАР \$ |

ЕВРО € |

ЗОЛОТО  |

ИЮНЬ

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

June

Вс Пн Вт Ср Чт Пт Сб Вс Пн Вт Ср Чт Пт Сб Вс Пн Вт Ср Чт Пт Сб Вс Пн

1) • Calculation of N.C. - formula

(price
union
paper
contract)

Some other factors for calculation of N.C.

! Infrastructure ^{user-fee} charges do not include no costs for maintenance

- only;
- operations
- signaling.
-

- traffic
- customer relations
- admin.

CHR

• Infrastructure ^{только конкурентное} - Аренд



**DELEGATES ATTENDING FOURTH WORKING GROUP ON TARIFFS
 FOR RAIL, PORTS AND SHIPPING
 TTT Pilot Subgroup**

PERMANENT SECRETARIAT IGC TRACECA
March 10-11, 2004

COUNTRY	AREAS	NAME OF DELEGATE	POSITION
Azerbaijan	rail	Mr. Amiraslan Ashrafov	Head Tariff and Transport Service
	rail	Mr. Husameddin Melikov	Deputy Head Tariff and Transport Service
	rail	Mr. Pencho Popov	Head expert indirection Freight Transports (BDZ)
Georgia	rail	Mr. Tamaz Tsikhelashvili	Head Economic Service Georgian Railways
	rail	Mr. Nodar Latsabidze	Deputy Financial Director
Moldova		Mr. Svetlana Movile	MTC Railway Department Consultant
Romania	rail	Mr. Tanasuica Mugurel	Head Department of Tariffs, Analyses and Costs
Turkey	rail	Mrs. Hulya Cilgi	Turkish State Railways Acting Head Section International Marketing
Turkmenistan	rail	Mr. Klichmurad Annapesov	Head Forwarders & International Settlements Department
Ukraine	rail	Mrs. Taratayko T. P.	Head Marketing Technology, Department of Commercial management, Ukrzaliznytzya
Afghanistan	MFA	Mr. Mohammad Baraki	Director ECO and Regional Organizations
Iran	IE	Mr. Veli Zergeri	Iran Embassy

PERMANENT SECRETARIAT IGC TRACECA
March 10-11, 2004

ORGANIZATION	NAME OF DELEGATE	POSITION
PS IGC TRACECA	Mrs. L.Trenkova	Secretary General of PS IGC TRACECA
PS IGC TRACECA	Mr. Z.Kvatchantiradze	Executive Secretary of PS IGC TRACECA, Ambassador
PS IGC TRACECA	Mr. A.Mustafayev	National Secretary of Azerbaijan PS IGC TRACECA
PS IGC TRACECA	Mr. Mamedov N.	Technical Expert in Maritime Operations
PS IGC TRACECA	Mr. Bely Y.	Technical Expert in Road Transport
UPTFT project	Mrs. E. Stebbings	"Unified Policy on Transit Fees and Tariffs" Project Manager
UPTFT project	Mr. D. Rasbash	Railway Expert
UPTFT project	Mrs. E. Jackson	"Unified Policy on Transit Fees and Tariffs" Project Consultant



TRACECA: UNIFIED POLICY FOR TRANSIT FEES AND TARIFFS (UPTFT)

Transit fees and Tariffs working group– Rail and Maritime Working Group

TTT Pilot SubGroup

Meeting Baku 10th & 11th March 2004.

Purpose of Meeting:

The goal of this workshop is to carry out trials of the proposed TTT as a logical step to its possible general implementation.

The meeting has to therefore plan these pilots in order that sufficient information is obtained in order that the step to general implementation can be taken.

The Deputy Minister of Transport of Azerbaijan will chair the meeting for the first day and the duly elected Chairman of the TFTWG Pilot Study Sub Group the second day.

Specific Objectives of the meeting will be:

- Agree the general objectives for the TTT Pilot
- Agree an outline programme for implementation
- Agree the Tariffs to be tested
- Agree the main parameters for monitoring the TTT pilot related to objectives and the needs for subsequent decision making
- Agree the organisation and resources for monitoring

Arrival

Tuesday 9th March

- Transfer from the Airport to your hotel is arranged – please look for the driver when you arrive.
- Scott Wilson Consultants are pleased to invite you to Restaurant Old City at 20.00 hrs



Day 1 10th March 2004

Objectives:

- **Review rationale behind TTT**
- **Determine general objectives for the TTT Pilot**
- **Determine the Tariffs to be tested**
- **Determine an outline programme for implementation**

○ **10.00 – 10.15** Welcome address by Deputy Minister of Transport of the Republic of Azerbaijan
Chairman of Day 1

10.15 – 10.30 Introduction and welcome by the General Secretary of the Traceca Secretariat

10.30 – 10.45 Introduction to the agenda and programme, UPTFT Team Leader

11.00 - 11.15 Coffee

11.15 – 11.45 Introductions from the delegates

11.45 – 12.15 **Review of rationale behind TTT**

To include review of TTT structure, derivation and revision of national coefficients and application by Team Leader

12.15 – 12.45 General Discussion

○ **12.45 – 14.00** **Lunch (at Inter Grande Turkish Restaurant for all delegates)**

14.00 – 15.15 **Objective 1: Determine general objectives for the TTT Pilot**

Important first step to understand what delegates want from the pilot that may include understanding new costing methodologies, testing simplified wagon load rates, testing euro as denominating currency and measuring impacts on existing and new markets.

15.15 – 15.30 Tea

15.30- 16.30 **Objective 2: Determine the Tariffs to be tested.**

Following consensus on objectives for TTT pilot, new tariffs need to be determined that uses the TTT structure, options may include application to all non-oil traffic to one specific freight such as containers; fixing tariffs for either long run or short run cost recovery.



16.30- 18.30 Objective 3: Determine an outline programme for implementation

Fixing main tasks and their timing for implementation, determination of reasonable timescale for meaningful monitoring, analysis and conclusions.

19.30 Dinner at White Club

Day 2 11th March 2004

Objectives:

- **Determine the main parameters for monitoring the TTT pilot**
- **Determine the organisation and resources for monitoring**
- **Agree and sign the protocol for the TTT Pilot Study**
- **Other Business - Prepare draft agenda for CHR meeting.**

New Elected Chairman

10.00 – 11.00 Objective 4: Determine the main parameters for monitoring the TTT pilot.

Related to objectives for piloting TTT and may include administration and ease of application, understanding and potential of new methodologies; level of market interest, number of customer enquires, affect on volumes of existing traffic and attraction of new traffic.

11.00 – 11.15 coffee

11.15 – 12.15 Objective 5: Determine the organisation and resources for monitoring.

Procedures and proforma, harmonisation, assignment of tasks to participating railways, Traceca Secretariat and consultants. Establishing contacts and lines of communication. Financial and other resource requirements.

12.15 – 13.15 Lunch at Intergrande Turkish Restaurant for all delegates

13.15 – 15.15 Objective 6: Agree and sign the protocol for the TTT Pilot Study

Draft to be circulated in advance, amended during workshop, finalised and agreed in this session.

15.15 – 15.30 Tea

15.30 – 17.00 Other Business Prepare draft agenda for CHR meeting.

Starting point is resolution of IGC in Yerevan October 2003. Prepare draft agenda for circulation and comments by Traceca Railways.

20.00 Dinner Venue to be fixed



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ПО ТРАНСПОРТНОМУ КОРИДОРУ ЕВРОПА-КАВКАЗ-АЗИЯ
ПОСТОЯННЫЙ СЕКРЕТАРИАТ

PROTOCOL

On the results of fourth meeting of railway representatives (experts) concerning tariff policy for railway transit services on the Traceca transport corridor (TFTWG4) Held in Baku 10/11 March 2004

Having agreed to carry out pilot studies using the Traceca Transit Tariff structure for railways or alternatively to observe the results of the said studies undertake to

Implement the TTT structure in accordance with the principles agreed in the Protocol of at the second meeting of the TFTWG signed in Baku 17th October 2002

Applying the TTT for all non-oil freight traffic

Using rates defined in Appendix B to this protocol

Over the railways network included in submissions to the Traceca Secretariat for determination of the TTT National Coefficients

Commencing 1st June 2004 and ending 31st December 2005 ✓

Will during the period of the pilot studies develop the TTT regulatory document that would be signed by parties should the TTT pilot project be considered successful.

Including recommending requirements for administering the TTT on behalf of its participants in line with proposals contained in the draft TTT regulatory document

Furthermore will apply (special) TTT rates for containers stated in Appendix B

And will liaise with ports and shipping companies in Traceca as early as possible during the pilot study to prepare comprehensive through tariffs for containers following the examples in Appendix C.

Will also engage with other Traceca railways for their participation in the pilot studies

Agree to appoint as the coordinating organisation for the pilot studies

And confirm Mr/s..... is acceptable to all parties to act as chairman of the TFTWG for the period required for the pilot studies.

And will submit whatever information tothat is required to establish the TTT pilot studies and to monitor the results in coordination with other participants and expect to receive analysis and results in good time.

Agree to meet again on to finalise the arrangements for the launch of the pilot study

Parties to the pilot studies agree to absorb all costs associated with the implementation of the studies including attendance at TFTWG coordination meetings.



Signed

Insert names

TTT Pilot Study Participants

Azerbaijan

Bulgaria

Georgia

Moldova

Romania

Turkey

TTT Pilot Study Observers

Ukraine

Afghanistan

Others



A1

Governing protocol determining the structure of the TTT

Included for record only

PROTOCOL

On results of second meeting of plenipotentiary railway, maritime administration, seaport and shipping company representatives (experts) concerning tariff policy for railway and maritime transit services on the Traceca transport corridor (TFTWG2)

Baku 17 October 2002

RAIL TARIFFS

The following was agreed by delegates:

- 1) The new rail tariff structure for Traceca transit traffic will be based on normative costs i.e. costs reflecting acceptable technical and financial indicators, acceptable to all TRACECA countries.
- 2) The tariff structure will be based on long run variable costs.
- 3) An allowance will be built in to provide a return on assets of not less than 12% on productive assets to be valued at current replacement costs.
- 4) By December, 30, 2002 the Consultants will make allowances for variations of coefficients from the agreed indicators, i.e. higher tariffs will be applicable to sections of the Traceca network where ruling gradients, train lengths, service standards and other technical and financial indicators exceed those specified.
- 5) The tariff structure will be based on the costs of moving a full wagon (not weight based), i.e. it will vary by type and weight capacity of wagon. The tariff structure will take into accounts the costs of return of empty wagons. The new tariff structure will not apply to less than wagonloads.
- 6) The new tariff structure will consist of four components:
 - (a) Movement tariff (flat rate per kilometre for each wagon type);
 - (b) Terminal tariff (in two sub-parts – per wagon and per wagon-kilometre; and for collection/delivery)
 - (c) Infrastructure user charge per train-kilometre (for access to main track, signalling, communications, power supply)
 - (d) Handling fees and commission per assignment
- 7) In the short run, to build up Traceca transit traffic, discounts should be offered from the new tariff scales down to the levels reflecting normative short run variable costs. These costs will be defined in the working paper. These discounted tariffs will be defined after calculating of tariff rates.
- 8) The tariff currency will be Euro.
- 9) By 15th of December 2002 the Administrations of National Railways are required to respond in written form to the level of wagon costs, infrastructure user charges, terminal charges and commission in the proposals. Failure to do so will be taken by Traceca as acceptance of those cost items.
- 10) Administrations of National Railways will be required to advise the Traceca Secretariat by 30th November of the details that should be taken into account for the estimation of national adjustment factors to then be used as coefficients in the TTT. See Appendix 1 of this Protocol.
- 11) By the 1st of February Administrations of National Railways are to provide comparative analysis for transit traffic on TRACECA corridor by commodities for 2001 – 2002.



A2

National TTT Coefficients

The objective of the TTT National Coefficient is to provide a legitimate basis for adjustment of unified standard rates to reflect essential differences in the configuration of each railway. The basis for the TTT National Coefficients was agreed in TFTWG Protocol 15th-17th October 2002 in Baku. The TTT National Coefficients were subsequently derived from information submitted to the Permanent Secretariat by each Traceca partner between November 2002 and June 2003.

Traceca	Network	TTT
Partner	Included	National
	km	Coefficient
Azerbaijan	500.00	1.10
Armenia	295.00	1.55
Bulgaria	500.00	1.64
Georgia	467.00	1.43
Kazakhstan	4217.00	1.13
Kyrgistan	324.00	1.40
Moldova	207.90	1.10
Romania	2061.80	1.29
Tajikistan	-	1.00
Turkey	6987.00	1.61
Ukraine	950.00	1.16
Uzbekistan	2634.00	1.15
Turkmenistan	-	1.00
Total Network Covered by TTT	19143.7	

1,45 - Romania delegate.

- T'shan will submit data.

Note: TTT National Coefficients of unity are given to countries that have yet to submit railway system data to Traceca Secretariat. TTT National Coefficients can be subject to change based on revised and verifiable data submitted to the Traceca Secretariat.



A3

TTT Part 1

Unified rates for the movement of common wagons

Refer TTT Draft Regulatory Document B4

1. The rates given in the table are based on the normative costs of Traceca railways.
2. The rates have been derived from studies carried out by Traceca in the UPTFT study
3. The full rate includes for the amortisation of assets valued at their current replacement costs and a return on capital of 12% pa.
4. The lowest rate covers only the direct variable costs associated with each train movement. (This provides a floor for discounting).
5. The third party rate is applied if a Traceca national railway does not own the wagon.

€ per wagon km

Handwritten note: "third party" with an arrow pointing to the third party rate column, and "нормативне вартування" written below it.

	lowest rate	third party rate	full rate	Armenia	Azerbaijan	Bulgaria	Georgia	Kazakhstan	Kyrgistan	Moldova	Romania	Turkey	Turkmenistan	Tajikistan	Ukraine	Uzbekistan
TTT National Coefficient				1.55	1.10	1.64	1.43	1.13	1.40	1.10	1.29	1.61	1.00	1.00	1.16	1.15
Wagon Type																
Covered Wagon	0.18	0.25	0.38	0.60	0.42	0.63	0.55	0.43	0.54	0.42	0.50	0.62	0.38	0.38	0.45	0.44
Platform (General Purpose)	0.21	0.22	0.39	0.61	0.43	0.64	0.56	0.44	0.55	0.43	0.50	0.63	0.39	0.39	0.45	0.45
Open-Wagon	0.27	0.24	0.49	0.76	0.54	0.81	0.70	0.56	0.69	0.54	0.64	0.79	0.49	0.49	0.57	0.57
Tanker Wagon	0.44	0.28	0.73	1.13	0.81	1.20	1.05	0.83	1.02	0.80	0.95	1.18	0.73	0.73	0.85	0.84
Isothermal Wagon	0.30	0.23	0.64	0.99	0.70	1.05	0.92	0.72	0.90	0.70	0.83	1.03	0.64	0.64	0.74	0.74
Platform for Containers	0.19	0.22	0.36	0.56	0.40	0.59	0.52	0.41	0.51	0.40	0.47	0.58	0.36	0.36	0.42	0.42

Handwritten note: "currently 15% discount" and "here proposed 50% discount" with a small '5' below it.



A4

TTT Part 2

Unified rates for selected terminal operations

Tariffs for Terminal Services

Refer TTT Draft Regulatory Document B3

Type of Terminal Services	Type of goods	Output Norm	Wagon Type	Rate €	Unit
1	2	3	4	6	7
Loading unloading wagons in good sheds and depots	General goods Packaged items; pallets, bagged goods, building materials, timber out of gauge loads	3000 Tons per year	1,2	6.34	Ton
Loading unloading storage of refers	Perishable Goods - 48 hours cold storage	30,000 Tons per year		11.79	Ton
Collection Delivery of made-up trains Industrial Sidings	Dry and liquid bulk	1 Train per day	3,4,	6.2	Wagon
Collection Delivery of wagon groups from freight yards	All	20,000 Wagons per year	1,2,6	6.8	Wagon
Collection delivery of wagons in Ports	All cargo	100 Wagons per day	All	5.6	Wagon
Gauge Change	All Cargo	100 Wagons per day	All	5.0	Wagon
Loading and unloading containers from rail wagons	All Containerised Cargo	30,000 TEU s per year	5,6	16.73	TEU
Isothermal Storage	Frozen Food	Not Applicable	5	€9, €15	Wagon Day
Border Crossing Operations		10 Trains per day	All	3.0	Wagon



A5

TTT Part 3

Unified rates for the application of Infrastructure User Charges

Traceca Basic Infrastructure User Charges

Refer TTT Draft Regulatory Document B4

The possibility of TTT signatories applying a two-tiered IUC representing a full recovery charge and one that recovers only maintenance and traffic control costs shall be supported by the TTT Authority. The two levels of IUC are stated below.

Minimum IUC	Full IUC
€2.79 Per Train Km	€9.22 Per Train Km
4.65 cents per wagon km for 60 wagon train lengths	15.33 cents per wagon km for 60 wagon train lengths
6.97 cents per wagon km for 40 wagon train lengths	22.95 cents per wagon km for 40 wagon train lengths

€ 3,6 per train/km - European Directive for Infrastructure charges for Europe should cover current maintenance

9.65



A6

TTT Part 4

Unified rates for the application of Handling Charges and Commission

Refer TTT Draft Regulatory Document B5

Basic Charge

A general amount of €20.0 per wagon would be appropriate to recover the costs of administration and handling charges applied by the Traceca initiating railway.

Variations in basic charge

A differential charges for export, import, domestic and transit to reflect their trade facilitation and transport documentation requirements is required. Transit transport, not requiring any documentation from the transit country, will have the lowest handling charges. Fees for each of the types of transport service are

- Export €25 per wagon
- Domestic and Import €15 per wagon
- Transit 10 € wagon.

Additional Charges

Additional charges should be included in TTT Part 4 covering

- Special handling requirements, packaging etc.
- Additional security
- Insurance of consignment
- Wagon tracking
- On-line information
- A full schedule services shall be available from the TTT Authority



B

Experimental Rates for Container Flat Wagons

B1

Application and scope

To be applied to Traceca railway Network submitted to Traceca Permanent Secretariat (declared in the process to obtain TTT national coefficient defined in A2)

B2

Part 1 Wagon Movement Rate

Refer to A3

		Armenia	Azerbaijan	Bulgaria	Georgia	Kazakhstan	Kyrgistan	Moldova	Romania	Turkey	Turkmenistan	Tajikistan	Ukraine	Uzbekistan
	<i>National Coefficient</i>	1.55	1.10	1.64	1.43	1.13	1.40	1.10	1.30	1.61	1.00	1.00	1.16	1.15
Full Rate	0.36	0.56	0.40	0.59	0.52	0.41	0.50	0.39	0.47	0.58	0.36	0.36	0.42	0.41
Lowest Rate	0.19	0.30	0.21	0.31	0.27	0.21	0.27	0.21	0.25	0.31	0.19	0.19	0.22	0.22
Third Party Rate	0.22	0.34	0.24	0.36	0.32	0.25	0.31	0.24	0.29	0.35	0.22	0.22	0.25	0.25

↓
 Үлбәткә
 карар.



B3

Part 2 Terminal Services Charges

Rate for port access - €5.6 per wagon

Rate for border crossing - €3.0 per wagon

Rate for lifting container on/off wagon – €16.73 per TEU

Rate for Gauge Change €5.00 per wagon

B4

Part 3 Infrastructure User Charges

Minimum IUC	Full IUC
€2.79 Per Train Km	€9.22 Per Train Km
4.65 cents per wagon km for 60 wagon train lengths	15.33 cents per wagon km for 60 wagon train lengths
6.97 cents per wagon km for 40 wagon train lengths	22.95 cents per wagon km for 40 wagon train lengths

B5

Part 4 Handling Charges and Commission

Refer to A6

Basic Charge

A general amount of €20.0 per would be appropriate to recover the costs of administration and handling charges applied by the Traceca initiating railway.



C Unified Through Rates for Containers

Examples: Per TEU

C1 Romanian EU/Border to Seraks

Full Rate – Total including marine - €2053.2 (Rail - €1322)

Lowest - Total including marine - €1166 (Rail - €642.4)

C2 Bulgarian EU/Border to Almaty

Full - Total including marine - €2903.5 (Rail – €2092.3)

Lowest - Total including marine - €1594.6 (Rail – €1011)

C3 Moldova / Ukraine to Seraks

Full - Total including marine - €1592 (Rail – €1063)

Lowest - Total including marine - €906.6 (Rail – €528.5)



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PROTOCOL
**of the Third Working Group Meeting of delegates representing railways,
maritime administrations, seaports and shipping companies, concerning tariff
policy for railway and maritime transit services
on the TRACECA transport corridor
Baku, April 15-16, 2003**

Preamble:

At the third meeting of delegates representing the railway, maritime administration, seaport and shipping company experts, concerning tariff policy for railway and maritime transit services on the TRACECA transport corridor, the following issues were considered:

Rail Tariffs

At the second meeting of plenipotentiary representatives held on 15-17 October 2002 the delegates agreed on principal issues of TTT. Below shown are the results of previous discussions, and where appropriate, these items are renewed:

- 1) A new rail tariff structure for new TRACECA transit traffic (TTT) is being designed, based on normative costs. Normative costs are reflective of technical and financial indices, acceptable for all TRACECA countries
- 2) The tariff structure is being based on long run variable costs (LRVC).
- 3) An allowance has been built into the calculations that will provide a return on assets of not less than 12% on productive assets valued at current replacement costs. This rate has been established to comply with long-term requirements of international financial institutions to perspective volume of investments
- 4) The normative cost has been based on the information received from 9 out of 13 countries-members. This is to say that various wagon tariffs may be applied to each segment of TRACECA network, in which established gradient, length of train, quality of services, other technical and financial indices are different from those "normal." Parties failing to submit appropriate information are expected to submit it in 2-weeks term.
- 5) The tariff structure will be based on costs for movement of loaded wagon (ignoring weight), i.e. depending on type and carrying capacity of wagon. The tariff structure will take into account costs on the return of empty wagons. Minimum unit of measurement as set forth in the new tariff structure will be *wagon*.
- 6) A detailed description of the normative cost derivation is provided in the October Working Document. Note that debates over this Document have been continued at the present meeting

of the Group for Transit Fees and Tariffs, until participants of the workshop agreed on all the aspects of the issue.

- 7) The new tariff structure consists of four components:
 - (a) Movement (unified tariff per kilometre by each type of wagon)
 - (b) Terminal (in 2 sub-parts – by wagon and wagon-kilometre for local assemblage and delivery, as well as distribution of wagons at the terminal)
 - (c) Infrastructure user charges per train-kilometre (access to the main railway bed, signalling, communication, electric power, traffic control services)
 - (d) Handling fees and commission paid by a railway company in charge of the traffic.
- 8) In the short run, to encourage the growth of new TRACECA transit traffic, unified discounts will be offered and agreed to comply with basic and normative short-term variable costs.
- 9) The tariff currency will be in Euro (€).
- 10) Members of the Working Group have considered and agreed to assume as a basis:
 - (a) Main mobile TTT rates by each wagon
 - (b) Wagon rates TTT for third party attached
 - (c) Low wagon rates TTT (based on short-run variable costs per unit of product) attached
 - (d) National coefficients TTT attached
 - (e) Modified wagon rates TTT attached
 - (f) Infrastructure user charges for full restoration and operations attached
- 11) All the railway administrations shall within a month consider calculations and forward their notes to the Permanent Secretariat of IGC TRACECA.
- 12) To consider it advisable to draw up a TTT regulating document
- 13) To consider it advisable to have an authoritative TTT body. The issue of financing of the body will be discussed at the meeting of Heads of Railways TRACECA.
- 14) Participants of the meeting highly appreciated the work of TRACECA experts.
- 15) To carry out a comparative analysis of transit traffic via TRACECA corridor, parties involved annually provide IGC with detailed information about freight turnover till 31 March next year.
- 16) National experts have agreed that at the next meeting these recommendations will be submitted to Heads of Railways for consideration.

Ports Tariffs

Delegates have previously agreed the following issues:

- 1) As there is surplus capacity at most TRACECA ports, tariffs for transit cargoes on TRACECA routes will be discounted to a level based on short run variable costs (SRVC), plus a reasonable profit to comply with the national legislation..
- 2) It was agreed that at ports where TRACECA transit traffic accounts for less than 20% of total port traffic (all the ports, except for Baku port):
 - (a) Cargo handling charges for TRACECA transit traffic will be discounted by up to 50% to comply with the national legislation.
 - (b) Port dues (tonnage, channel, berth and harbour dues) for TRACECA freight traffic will be discounted by up to 50% to comply with the national legislation
 - (c) Discounts will be applied for new dry freight on the TRACECA corridor and specifically exclude oil and oil products and other bulk cargoes that move under existing contracts.
- 3) There is a need to compile a traffic data base to measure the benefit of the changes made.

- 4) As some ports and private stevedoring organisations, as well as tow agencies are responsible for fixing cargo-handling tariffs it was agreed that the delegates would ask the relevant Government authorities to influence these organisations with regard to discounts.

Shipping Tariffs

Delegates have previously agreed the following issues:

- 1) Caspian Shipping Company (CSC) will introduce promotional tariffs for new dry TRACECA transit ferry cargoes to take advantage of (a) the ferries' surplus capacity; and (b) the low short run variable cost (SRVC) of carrying additional dry freight.
- 2) Delegates were asked to monitor carefully the effects on transit traffic of changes in tariffs.
- 3) Ukrferries submitted information on existing special rates for carrying TRACECA transit cargoes.
- 4) The national society for railway traffic "CFR Marfa" CA is responsible for regular ferry trips between ports Constantza and Batumi to attract additional freight via TRACECA corridor.

Delegates reported on progress in introducing these promotional tariffs for TRACECA transit traffic and their impact on transit traffic. It was concluded that for transparency, specific transit tariffs should be published

Participants of the Working Group meeting asked the Permanent Secretariat to forward a draft new Memorandum on the creation of the most favourable conditions for traffic via TRACECA corridor countries-members of TRACECA for consideration.

Intermodal (through) Tariffs

Due to the intermodal nature of the TRACECA routes, tariffs should include charges for ports and shipping services on the Black and Caspian Seas. The transit tariffs for rail, sea freight and ports need to be combined in an intermodal (through) tariffs. The process for following this through to the CHR meeting needs to be agreed.

The broad example given for the Afghanistan trade has been used as the model on which a comprehensive price incentive package can be offered to importers, exporters, shipping companies and freight forwarders. An expanded memorandum has been drafted for consideration of the CHR, and maritime service providers.

It is established that this Protocol will be presented at the next meeting of the working group of National Secretaries.

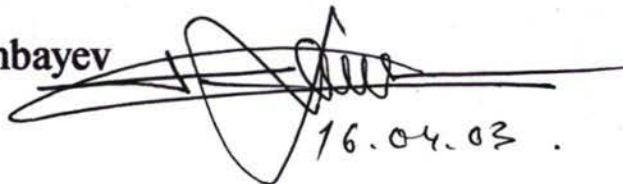
Implementation Audits

The IGC Secretary General and the UPTFT Project Manager are auditing TRACECA countries to assess what steps are being taken to implement the tariff agreements. This process will continue.

**Note to the Protocol of 16.04.2003
of the representative of Aktau sea port (Kazakhstan)**

By Section "Port Tariffs": charges used by sea port Aktau for new transit traffic within TRACECA corridor may be reduced as set forth in the existing national legislation of the Republic of Kazakhstan.

D.B. Kutpanbayev



16.04.03 .

Note of the Ilyichevsk port delegation (Ukraine)

By Item 2: in considering that Ilyichevsk port, according to the new Tariff Guide which came into effect since 1.04.2003, has no right to independently introduce discounts, charges for cargo handling by transit TRACECA traffic may be reduced up to 50% according to the decision of Ukrainian Transport Ministry only, unless otherwise provided by the existing national legislation of Ukraine.

D. N. Kryzhanovskiy

N. V. Bartoshyk

16.04.2003

A handwritten signature in black ink, appearing to be 'N. V. Bartoshyk', written over a horizontal line.

**Note of the Bulgarian delegation by Item 2 Section "Port Tariffs" of
Protocol of TRACECA workshop, 15-16 April 2003**

The Bulgarian delegation cannot assume responsibility for reducing cargo handling charges (item 2 a) and port dues (item 2 b) "by 50%" and offered to write down in the Protocol "up to 50 %" to comply with the local state procedures.

Stephan Zagorov 

16.04.03

Baku

NOTE

Of the representative of “Ukrzaliznitsi”

by item 8:

The issue of discounts of “Ukrzaliznitsi” will be considered after the development and establishment of TTT tariff rates.

TARATAYKO T. P.

Head of marketing and forecast,

dept. of commercial management “Ukrzaliznitsi”

Note

of the representative

of "Uzbekiston temir yullary" to Protocol of 16.04.2003

- by item 4: the national coefficient should take into account not only the gradient, length of train, speed and radius of curved sections, but some other factors as well. Besides, it is essential to substantiate the influence of these factors on prime cost of transportation;
- by item 5: substantiate the unit of calculation of wagon/km payments ignoring an actual loading of wagon;
- by item 7: provide a detailed methodology of cost definition through dividing a tariff into 4 components;
- by item 10: specify payment rates as set forth in the given item;
- by item 12: clearly differentiate the application of two tariff structures – TP CIS and TTT;
- by item 16: "Uzbekiston Temir Yullary" considers it necessary to study and improve TTT prior to its submission to CHR for consideration.

M.Sh.Mirkhamidov

Note
of Kyrgyz railway to Protocol

By item 4: the present information was provided in November-December 2002 and additionally during the meeting of the Third Working Group.

By item 11: this item may be complied with following the related calculations made by Scott Wilson experts.

Head of foreign economic marketing relations department

Romanenko V.

**DELEGATES ATTENDING THIRD WORKING GROUP ON TARIFFS
FOR RAIL, PORTS AND SHIPPING**

PERMANENT SECRETARIAT IGC TRACECA
April 15-16, 2003

COUNTRY	AREAS	NAME OF DELEGATE	POSITION	SIGNATURE
Azerbaijan	rail	Mr. Melikov Kh. M. Mr. Guseynov I. N.	Chief Tariffs and Marketing Chief Tariffs and Transport Service	
	port	Mr. Ragimov A. M.	Deputy Chief, Fleet Operations, Azerbaijan State Caspian Shipping Company	
	port	Mrs. Kasimova R. A.	Deputy Chief, Economic Department, Baku International Sea Port	
Armenia		Awaiting nominations		
Bulgaria	port	Mr. Zagorov S.	Chief Expert in the Executive Agency of Port Administration under the MTC	
	rail	Mr. Popov P.	Head expert indirection Freight Transports (BDZ)	
Georgia	rail	Mr. Tsikhelashvili T.	Head of Economic Service Georgian Railways	
	port	Mr. Nakashidze R.	Financial and Commercial Director, Batumi Port	
	Port	Mr. Archaia G.	Head of Economic Service, Poti port	
Kazakhstan	port	Mr. Kutbanbayev D. B.	Head of Marketing Department Sea Trade port of Aktau	
	rail	Mr. Zhunusov T.	Kazakhstan Railways	
	rail	Mrs. Iminova G.	Head of External Relations Coordination Division of the Foreign Policy Dept. Kazakhstan Railways	
Kyrgyzstan	rail	Mrs. Romanenko T.	Head External Economic Relations and Marketing	
Moldova		Mr. Adam I.	Main expert of Main Department Railway Transport, Ministry of Transport and Communications	
	port	Mr. Nikiforov N.	Chief Expert General Water Transport Department MTC	
Romania	rail	Mr. Medesan I. F.	Head of Tariffs, Analyses, Costs CFR-Marfa- National Company of Freight Railway Transport	
		Mr. Boicuic A.	Local representative CFR-Marfa	
	port	Mrs. Marinescu M.	Chief of the Railways Dept. Constanza Port	

**DELEGATES ATTENDING THIRD WORKING GROUP ON TARIFFS
FOR RAIL, PORTS AND SHIPPING**

PERMANENT SECRETARIAT IGC TRACECA
April 15-16, 2003

COUNTRY	AREAS	NAME OF DELEGATE	POSITION	SIGNATURE
Turkey	Rail	Mrs. Kaygisiz N.	Expert in Freight Department	
	rail	Mr. Ersoz M.	Expert, Head of Ports Department	
	port	Mr. Yazan K.	Maritime Engineer, Foreign Relations Department	
Turkmenistan	port	Mr. Atayev N.	Operational Manager of TML	
Ukraine	rail	Mrs. Taratayko T. П.	Head of Marketing and Technology, Department of Commercial management, Ukrzaliznytzya	
	port	Mr. Cherniyevski V.V.	Sales Director of SC "Ukrferri"	
	port	Mr. Krizhanovski D.N.	Dep.Head Prices and Tariffs Department Ilyichevsk port	
	port	Mrs. Bartoschik N. V.	Economist, Ilyichevsk port	
Uzbekistan	Rail	Mr. Mirkhamidov M. S.	Deputy Director of the Dept. Railways JSC	

Копия верна
(11 стр.)

Намеева

Ильина



TRACECA

A proposal for piloting the TTT structure

Statements of Endorsement of Support of Pilot Project

TRACECA
TRANSPORT COOPERATION EUROPE COUNCIL, 1994



Project: Unified Policy on Transit Fees and Tariffs

In accordance with the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming at testing, evaluation and further development of this new railway tariff.

For and on behalf of:

Recipient Institution: Bulgarian State Railways – BDZ EAD

Name: Georgi Neshev

Date: 16.12.2003

Country: Bulgaria

Signature:



Project: Unified Policy on Transit Fees and Tariffs

According to the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming the testing, evaluation and further development of this new railway tariff.

For and on behalf of:

Recipient Institution: ASRW

Name: M. Penaher

Date: 29.08.2003

Place: Baku

Signature: P. Orusev



Project: Unified Policy on Transit Fees and Tariffs

In accordance with the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming at testing, evaluation and further development of this new railway tariff.

For and on behalf of:

Recipient Institution: INTFM CTR MARFA SA

Name: CHINAE IORIN

Date: 05 DEC 2003



ROMANIA

[Handwritten Signature]

TRACECA

Project: Unified Policy on Transit Fees and Tariffs

According to the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming the testing, evaluation and further development of this new railway tariff being financed by the EC

For and on behalf of:

Recipient Institution: *S.E. „Railways Moldova“*

Name: *Otilia Bafaur*

Date: *12.09.2005.*

Place: *Chisinau*

Signature: *[Handwritten Signature]*



Project: Unified Policy on Transit Fees and Tariffs

In accordance with the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming at testing, evaluation and further development of this new railway tariff.

For and on behalf of:

Recipient Institution: Ministry of Transport - Turkish State Railways Administration

Name: Barış TOZAR

Date: 18.11.2003

Country: Turkey

Signature

A handwritten signature in black ink, appearing to read 'Barış Tozar', is written over a horizontal line. A small vertical mark is present below the line.



Project: Unified Policy on Transit Fees and Tariffs

According to the proposal on the TRACECA Transit Tariff (TTT) developed in the framework of the project "Unified Policy on Transit Fees and Tariffs", we agree on the development of a pilot project aiming the testing, evaluation and further development of this new railway tariff.

For and on behalf of:

Recipient Institution: *Ministry of Transport and Communication*

Name: *G Nizharadze of Georgia*

Date: *01.09.2003*

Place: *Tbilisi*

Signature *[Handwritten Signature]*

First deputy





TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 1

**Traceca Transit Tariff
Price Setting Handbook**

Edition 1



Technical Note No. 1 - Price Setting Handbook

Disclaimer

The Material captured herein represents the deliberations of the consultant and should not in whole or in part be taken to imply acceptance of the said material by the European Union its partners and beneficiaries. For further information regarding the contents of the report contact The European Union, TRACECA Permanent Secretariat or consultants Scott Wilson of the United Kingdom



Technical Note No. 1 - Price Setting Handbook

TTTA TECHNICAL NOTES.

Technical Notes Issued by the TTTA.¹

Prepared UPTFT project

- | | |
|-------------------|--|
| Technical Note 1. | Price Setting Handbook. Edition 1. |
| Technical Note 2. | Best Practice for Trader Access to Railways. Edition 1. |
| Technical Note 3. | Strengthening Railway Marketing. Edition 1. |
| Technical Note 4. | Estimation & Use of Price Elasticities of Demand. Edition 1. |
| Technical Note 5. | Freight Forwarder Attitude Survey. |
| Technical Note 6. | TTT Draft Regulatory Document |

¹ The TTTA is the designated name of the Traceca Transit Tariff Agency. One of the key roles of the TTTA is to carry out research and to issue advice to TTTA partners. To best utilise the work of the UPTFT project, its outputs have been configured as Technical Notes that could be issued by the TTTA.



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Technical Note No. 1 - Price Setting Handbook

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PART 1. CONTEXT AND PURPOSE OF THE TTT.

1.2 Introduction

The basis for charging for freight transit services on the TRACECA Railways is the TRACECA Transit Tariff (TTT). The TTT is the first entirely new railway tariff structure to be introduced in the TRACECA region² for over 50 years. It was signed in Baku, Azerbaijan on *To be inserted* by the heads of the following railways:

To be inserted

Additionally, the following ports and shipping companies will cooperate within the TTT to reflect the multi-modal nature of TRACECA. These companies are as follows:

To be inserted

The purpose of the TTT is to provide a single through-rate, easily comprehensible to current and potential customers and other interested parties, for the rail conveyance of international freight transit traffic through and within the TRACECA region. The TTT has a clear formal structure presenting its components in a transparent and unambiguous format. It has been formulated to reflect the changed geo-political conditions and the emergence of a competitive transport market in the TRACECA region and replaces earlier tariffs which were opaque in structure, required negotiation with separate railway, port and shipping administrations and were liable to unpredictable changes. The new tariff will facilitate the transport planning and increase the business efficiency of customers by permitting a rational comparison with alternative transport services and

² The TRACECA region comprises those countries that are parties to the TRACECA programme, namely Azerbaijan, Armenia, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Romania, Tajikistan, Turkey, Turkmenistan, Uzbekistan, Ukraine. These countries are described collectively in the text as the TRACECA countries

highlighting the substantial benefits and cost economies offered to international freight transit traffic by the TRACECA Railways

The TTT is not, however, applied in a rigid manner through a strict interpretation of the tariff rulebook. In the competitive transport environment in which TRACECA Railways now operate, a new flexible approach to pricing has been adopted by the TRACECA Transit Tariff Agency (TTTA) to enable the railways to compete effectively against other Euro-Asian rail corridors and other transport modes. The TTT is applied in a flexible manner, based on a thorough understanding and constant observation of the rail operating costs on which the TTT is based and the market conditions in which it operates. This permits the granting of cost related tariff discounts in appropriate circumstances. The flexible pricing policy can offer substantial transport cost savings to customers.

1.3 Main Features of the TTT

The TTT Policy Document was distributed by the TRACECA Secretariat in *To be inserted*. A full description of the TTT is contained in the Policy Document. It is expected that users of this technical note will have obtained a copy of the TTT. The principal features of the tariff are as follows:

1. The TTT applies to international freight traffic transported by rail and maritime ferries through the territories of the TRACECA countries but with an origin or destination beyond the boundary of one or all of these countries.
2. The basic rates of the TTT are expressed in wagon units for application to internationally approved wagon operating on TRACECA.
3. The TTT varies according to each wagon type
4. The TTT is structured into four parts for rate calculation purposes: 1) line haul movement operations, 2) terminal operations, 3) infrastructure usage and 4) commission and administration.
5. The currency unit of the TTT is the Euro.
6. Many of the specific conditions of the TTT have been taken from the former Tariff Policy of Railways Administrations of the Commonwealth of Independent States and will be familiar to the customer. They have been retained because they are sensible and their application is widely understood.
7. The Secretariat is the TRACECA Transit Tariff Agency (TTTA) to whom any queries should be directed.

The principles and structure of the TTT are expounded in greater detail in Part 2 below.

1.4 General Application of the TTT

1. TTT applies to all railway routes designated by TRACECA partners.
2. The TTT shall be applied to provide a single through tariff that includes ports and shipping.
3. The TTT maybe used for all goods traffic though primarily intended to be applied to new international transit traffic.
4. The TTT shall be calculated by the originating railway, or port or shipping line.

2 PART 2. PRINCIPLES AND STRUCTURE OF THE TTT.

2.2 The Standard TTT

The following description of the principles and structure of the TTT is presented as an easily comprehensible guide for customers of TRACECA Railways. The definitive statement of the constitution and provisions of the tariff remains the TTT Regulatory

Document and Explanatory Notes of March 2003.

The TRACECA rail and ferry network is shown in Map 1. The principal transit routes through the TRACECA countries and their respective lengths are detailed in Appendix T1.1. The TTT does not normally apply outside the TRACECA region but may be extended beyond its boundaries by unanimous consent of all parties concerned.

In order to maximise the inherent advantage of rail freight transport in conveying larger consignments over longer distances and to offer cost sensitive rates to customers, the single wagon has been taken as the basic unit for charging under the TTT. This is more administratively convenient and cost-effective than charging by weight/volume or by train-load, as under some earlier tariffs, and permits a more flexible response to changing competitive or cost conditions. The respective rates for the different types of wagons in use on the TRACECA Railways take into account not only the unit running costs of the type in question but also the average proportion of empty back-running concerned. Current wagon types and their average empty returns are shown in Appendix T1.2.

The TTT is structured four parts to reflect the four principal types of activity involved in rail freight transport, namely:

- 1) line haul movement
- 2) terminal and transshipment operations
- 3) use of infrastructure
- 4) administration and commission.

Since these activities have their own distinct cost structures, charging separately for each under the TTT permits rates to be closely tailored to the actual aggregate costs of each customer's consignment, avoiding cross-subsidisation of traffics and the conveyance of uneconomic loads.

2.3 Part 1. Line Haul Movement Charges.

Definition

The movement component of the total charge is expressed as a basic rate per km for each wagon type. This rate reflects the cost of the line haul of the wagon type in question on routes agreed by TRACECA cooperating partners. The rate takes into account the costs of empty backhaul. As the average line haul cost per km differs amongst the TRACECA countries owing to terrain and other factors, the basic rate is adjusted for each country by an appropriate national coefficient.

Application

The total movement charge for a particular consignment is calculated by applying the resulting wagon movement rate for each country to the kilometers traversed within that country, summing for all countries traversed and multiplying by the number of wagons in the consignment.

Traceca Reference	Wagon Type	lowest rate	third party rate	full rate	Armenia	Azerbaijan	Bulgaria	Georgia	Kazakhstan	Kyrgistan	Moldova	Romania	Turkey	Tajikistan	Ukraine	Uzbekistan
					<i>TTT Coefficient</i>				1.55	1.10	1.64	1.43	1.13	1.14	1.10	1.29
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Covered	0.18	0.25	0.38	0.60	0.42	0.63	0.55	0.43	0.54	0.42	0.50	0.62	0.38	0.45	0.44
2	Platform General P	0.21	0.22	0.39	0.61	0.43	0.64	0.56	0.44	0.55	0.43	0.50	0.63	0.39	0.45	0.45
3	Semi Wagon	0.27	0.24	0.49	0.76	0.54	0.81	0.70	0.56	0.69	0.54	0.64	0.79	0.49	0.57	0.57
4	Tanker Wagon	0.44	0.28	0.73	1.13	0.81	1.20	1.05	0.83	1.02	0.80	0.95	1.18	0.73	0.85	0.84
5	Isothermal Wagon	0.30	0.23	0.64	0.99	0.70	1.05	0.92	0.72	0.90	0.70	0.83	1.03	0.64	0.74	0.74
6	Platform Containers	0.19	0.22	0.36	0.56	0.40	0.59	0.52	0.41	0.51	0.40	0.47	0.58	0.36	0.42	0.42

The table above and in Appendix T1.3 shows the basic movement rates for the use of TRACECA wagons and the corresponding rates for each country after adjustment by the national coefficient. Lower third party rates, applicable when the wagons are provided by the customer or another third party, are also shown. The table also shows a “concessional” (or “lowest”) rate, the application of which is explained in the next section. The movement component normally accounts for by far the greater proportion of a consignment’s total tariff rate and it is in the line haul operation that the greatest variations in operating conditions are encountered. Consequently, it is against the movement rate that discounts are most likely to be granted under the TTT flexible pricing policy.

2.4 Part 2. Terminal and Transhipment Charges

Definition

Terminal operations at origins and destinations, including collection and delivery at the customer’s premises, transhipment operations at the rail/ferry interfaces and international border crossing formalities vary widely in type and cost.

Application

Unlike movement charges, terminal charges cannot be expressed easily in tabular form. In view of their diverse nature, therefore, terminal charges under the TTT shall be the subject of direct negotiation between the customer and the railways. For purposes of transparency and uniformity, however, the TTT incorporates some indicative cost-related charges for key terminal operations which should be regarded as maxima for charging purposes. Some examples are shown in Appendix T1.4. More detailed guidelines for terminal charges are given in Appendix B3 to the TTT Regulatory Document and Explanatory Notes.

Other

Associated with terminal charges is demurrage, chargeable when wagons are delayed in transit or left standing while awaiting loading or unloading for reasons attributable to the customer. Hourly demurrage rates for the different wagon types are shown in Appendix T1.2.

2.5 Part 3. Infrastructure Usage Charges

Definition

A separate charge is made for the use of the infrastructure. This distinction is necessary as restructured railways invariably have separate authorities for infrastructure and for operating. The unit is logical in that the demand for infrastructure services is more likely to be related to train rather than wagon units.

The above rates reflect costs incurred by all traffics. In some cases, however, customers require additional services such as special storage or security arrangement or wagon tracking. These are paid for by supplementary charges under Part 4 of the TTT. The additional services and their rates are detailed in Appendix B4 of to the TTT Regulatory Document and Explanatory Notes.

2.7 TTT Flexible Pricing Policy.

The provisions of the TTT described above are employed for the calculation and charging of the standard TTT applicable under normal operating and traffic conditions. However, as noted in Part 1 above, the TTT is applied in a flexible manner permitting discounts on the standard tariff where justified by cost considerations. The rationale of a discounted tariff and traffic circumstances where its application would be appropriate are described below

The objective of the standard TTT (or third party TTT where the customer provides his own wagons) is to generate sufficient revenues to enable TRACECA Railways to recover their total transit traffic costs through wagon-load charges reflecting the wagons' long-run variable costs.³ This is a prudent financial approach, permitting the operation, maintenance and replacements of the railways' assets to an adequate standard and a specified return on their invested capital..

Yet the rigorous implementation of the standard tariff would not necessarily be in the best interests of either TRACECA Railways or its customers. It would impose on the railways a pricing rigidity that may be to their disadvantage in a constantly changing competitive transport market where frequent strategic price changes are necessary to safeguard the respective market shares of the competing routes and modes and to achieve a rational allocation of traffics amongst them. Likewise, the indiscriminating application of the standard TTT would deny to customers potential cost savings where the consignment in question has characteristics which permit its conveyance at less than average cost. In such circumstances, the concessional rate shown in the table of Appendix T1.3 may be charged rather than the full (or third party rate), passing on at least a part of the cost saving to the customer. The concessional rate covers the shorter-term variable cost of operating the wagons, basically those costs related to the distance covered such as fuel consumption and routine track and rolling stock maintenance, but excludes the time related costs such as the depreciation of the value of existing wagons necessary for their eventual replacement.

A further element of flexibility is embodied in the TTT in that, in certain low-cost cases, such as the utilisation of a wagon normally returning empty to its original point of despatch (the costs of which will already have been recovered through the outward journey tariff), discounts even greater than those of the concessional rate may be offered.

Again, in certain circumstances, where a consignment has a modest cost-saving potential not qualifying for the concessional rate, a smaller discount may be offered.

³ The railways' invariable overhead costs are recovered through the tariffs on non-transit traffic.

Examples of operating or marketing circumstances in which in which the concessional rate or even larger discounts would be appropriate are given in Part 3 below.

3 PART 3. TTT PRICE SETTING IN PRACTICE.

3.2 Tariff Calculation

The tariff for a particular consignment may be calculated by any of the railway, port or shipping administrations party to the TRACECA Agreement (hereafter referred to as the Agreement) on the basis of information provided by the customer, subject to approval by all other parties.

A draft TTT calculation proforma is contained in Appendix T1.6

3.3 Tariff Approval Procedure

Once calculated the tariff is notified to all participating transport operators. Such approval is assumed if no objection is lodged within a specified period following notification the tariff to all parties. If an objection is lodged then ...*To be Inserted*

3.4 Examples of TTT

Examples of the calculation of wagon rates for some typical consignments at the different tariff rates are given in Appendix T1.5 demonstrating the application of the pricing principles and provisions described above. Corresponding rates for the consignment are calculated by multiplying the wagon rate by the number of wagons utilised.

The first example illustrates the application of the standard TTT tariff. The second assumes that the consignment, a container in this case, would be eligible for the concessional rate owing to favourable operating or handling circumstances. The third allows for use of the customers' own wagons, sparing the railways the wagon provision and maintenance cost element of the standard tariff.

3.5 Concessions

Instances of traffic or operating conditions under which consignments could qualify for the concessional rate or even greater discounts are as follows:

Back Loads. The standard tariff for a particular commodity, reflecting the average long-term variable cost for the type of wagon utilised, takes into account the average proportion of empty running for that wagon type. Industrial materials conveyed in covered wagons, for example, are normally priced to allow for 40% empty returns. An extreme case is that of oil tankers with 100% empty running. In these cases, the average variable costs of the empty return trip have will already been recovered through the standard tariff on the outward loaded trip. So, if a potential customer offers a less than train load back-load, any resulting revenue over and above the direct running cost of the trip, e.g, fuel, wagon provision , would make a contribution to long-run variable cost

increment. Discounts greater than that offered through the concessional rate can sometimes be offered in such cases.

Freight with Good Handling Qualities. Consignments of commodities or materials with especially good handling characteristics, reducing the cost of terminal operations, may be conveyed. Apart from the obvious case of containers, shipments may be offered in exclusively unitised, palletised or pre-packed form which can be economically and expeditiously loaded and off-loaded, possibly direct to the customer's own road vehicles. Such cost savings could justify application of the concessional rate.

Longer-term Bulk Contracts. In some circumstances, such as the implementation of a major capital construction project or supply of raw materials to an industrial plant, the customer may be able to guarantee the shipment of large quantities of a commodity, e.g. cement, car parts, at regular intervals over a long period. This would permit economies in administration and operations as well as securing future business, justifying the offer of a discount on the standard tariff.

Commodities in Seasonal Demand. A fleet of a particular wagon type may be maintained by one or more of the TRACECA railways sufficiently large to provide for the peak demand of a seasonal commodity such as grains or other agricultural produce. Normally, the cost of supporting idle stock during the off-season will have been recovered from the standard tariff rate for that commodity. Consequently, the short-run variable cost of the under-utilised wagons will be low at that period so that the concessional rate or greater discounts may be offered .

Other situations may arise in which tariff discounts would attract traffic able to contribute to the recovery of total costs.

The wagon rates and, where appropriate, supplementary discounts are calculated on the basis of information provided by the customer. The customer information is codified on a standardised TTT Tariff Calculation Form to facilitate the calculation by the tariff authority. A copy of the form is shown in Appendix T1.6: in this case it has been completed for a hypothetical specimen consignment to illustrate how the tariff rate is calculated in practice.

In this particular example, it is assumed that the consignment travels under normal standard tariff conditions,, except that certain additional services are requested by the customer and that particularly good loading/unloading characteristics qualify the consignment for a discount (but not the full concessional rate).

Appendix T1.1. TRACECA NETWORK AND DISTANCES.

<u>Country</u> <u>(km)</u>	<u>Border Crossing</u>	<u>Distance</u>
Ukraine	Yagodin – Ilyichevsk	940
Ukraine	Kuchurgan – Ilyichevsk	127
Moldova	Ungheny – Klimentovo	270
Moldova	Ungheny – Kuchurgan	213
Georgia	Poti – Gardabani	362
Georgia	Poti – Ayrum	387
Georgia	Batumi – Gardabani	387
Georgia	Batimi – Ayrum	423
Azerbaijan	Beyuk-Kasik – Baku	503
Turkmenistan	Turkmenbashi – Serkhetabad	1,225
Turkmenistan	Turkmenbashi – Farap	1,362
Turkmenistan	Turkmenbashi – Serakhs	995
Kazakhstan	Aktau – Beyneu	422
Uzbekistan	Beyneu – Chengeldy	1,847
Uzbekistan	Farap – Chengeldy	787
Uzbekistan + Turkmenistan	Farap – Termez	406 + 194 = 600
Uzbekistan + Turkmenistan + Tajikstan	Farap – Dushanbe	548 + 194 + 71 = 813
Uzbekistan + Tajikstan + Kyrgyzstan	Farap – Osh	817 + 231 + 23 = 949
Kazakhstan	Chengeldy – Druzhba	1,771
Kazakhstan	Druzhba – Aktau	4,141
Kazakhstan	Aktau – Chengeldy	2,524
Kazakhstan + Krygyzstan	Aktau – Balygchy	2,846 + 324 = 3,170

Appendix T1.2. TRACECA WAGON TYPES.

<u>Wagon Type</u>	<u>Reference No.</u>	<u>Empty Return</u> (%)	<u>Demurrage</u> (€ per hour)
Covered	1	40	3.07
Platform	2	50	1.92
Open-top	3	80	2.07
Tank Axle	4	100	2.18
Isothermal Axle	5	80	4.60
Flat-bed	6	40	1.94

Appendix T1.3. TTT WAGON MOVEMENT RATES

(Euro)

Wagon Type		1	2	3	4	5	6
Full Rate		0.38	0.39	0.49	0.73	0.64	0.36
Third Party		0.25	0.22	0.24	0.28	0.23	0.22
Concessional		0.18	0.21	0.27	0.44	0.30	0.19
Country	Coefficient						
Armenia	1.55	0.60	0.61	0.76	1.13	0.99	0.56
Azerbaijan	1.10	0.42	0.43	0.54	0.81	0.70	0.40
Bulgaria	1.64	0.63	0.64	0.81	1.20	1.05	0.59
Georgia	1.43	0.55	0.56	0.70	1.05	0.92	0.52
Kazakhstan	1.13	0.43	0.44	0.56	0.83	0.72	0.41
Kyrgyzstan	1.14(?)	0.54	0.55	0.69	1.02	0.90	0.51
Moldova	1.10	0.42	0.43	0.54	0.80	0.70	0.40
Romania	1.29	0.50	0.50	0.64	0.95	0.83	0.47
Tajikstan	1.00	0.38	0.39	0.49	0.73	0.64	0.36
Turkey	1.61	0.62	0.63	0.79	1.18	1.03	0.58
Turkmenistan	1.00	0.38	0.39	0.49	0.73	0.64	0.36
Ukraine	1.16	0.45	0.45	0.57	0.85	0.74	0.42
Uzbekistan	1.15	0.44	0.45	0.57	0.84	0.74	0.42

Appendix T1.4. TERMINAL SERVICE CHARGES.
1) Loading/unloading, Collection/delivery & Border Crossing Operations

Type of Terminal Charging	Type of Goods Service	Output Norm	Wagon Type	Rate (€)	Unit
Loading/unloading wagons in goods sheds & depots	General goods/packaged items/pallets/building materials/timber/out of gauge loads	3,000 tonnes per year	1, 2	6.34	Tonne
Loading/unloading/storage of reefers	Perishable goods - 48 hours cold storage	3,000 tonnes per year		11.79	Tonne
Collection/delivery of made-up trains at industrial sidings	Dry and liquid bulk	1 train per day	3, 4	6.20	Wagon
Collection/delivery of wagon groups at freight yards	All	20,000 wagons per year	1,2, 6	6.80	Wagon
Collection/delivery of wagons at ports	All cargo	100 wagons per day	All	5.60	Wagon
Loading/unloading containers to/from rail wagons	All containerised cargo	30,000 TEUs per year	5, 6	16.73	TEU
Isothermal storage	Frozen food	Not applicable	5	9.00 15.00	Wagon Day
Border crossing operations		10 trains per day	All	3.00	Wagon

2) Locomotive Hire

<u>Km(€)</u>	<u>Cost per Hour(€)</u>	<u>Cost per</u>
Electric locomotive	84.1	0.57
Diesel locomotive	70.7	0.60

3) Demurrage

See Appendix T1.2 for wagon type hourly demurrage rates.

Appendix T1.5. CALCULATION OF STANDARD TRACECA TRANSIT TARIFFS.

(Euro)

EXAMPLE 1.

Route: Poti – Dushanbe. Wagon Type: 4. Tanker Axle. Tariff: Full Rate.

Part 1. Movement.

Route	Country	Distance (km)	Wagon Rate	National Coefficient	Total Charge
Poti – Gardabani.	Georgia	362	0.73	1.43	377.89
Beyuk Kasik – Baku	Azerbaijan	503	0.73	1.10	403.91
Baku – Turkmenbashi	(Ferry)	300			911.00
Turkmenbashi – Farap	Turkmenistan	1,362	0.73	1.00	994.26
Farap – Dushanbe	Uzbekistan	548	0.73	1.15	460.05
	Turkmenistan	194	0.73	1.00	141.62
	<u>Tajikstan</u>	<u>71</u>	0.73	1.00	<u>51.83</u>
Total		3,340			3,340.56

Средняя перевозка

Part 2. Terminal.

Location	Type of Operation	Total Charge
Poti	Border Crossing	3.00
	Port Wagon Collection	5.60
	Baku	Port Wagon Collection	5.60
Turkmenbashi	Port Wagon Collection	5.60
<u>Dushanbe</u>	Sidings Wagon Delivery	<u>6.20</u>
Total		26.00

Part 3. Infrastructure User Charge

Distance (rail km)	Wagon Rate	Total Charge
3,040	0.1533	466.03

Part 4. Handling & Commission

Wagon Rate	Total Charge
20.00	20.00

TOTAL WAGON TARIFF**€ 3,852.59****WAGON TARIFF PER Km****€ 1.15**

EXAMPLE 2.

Route: Ungheny – Druzhba. **Wagon Type:** 6. Flat Bed (Container).

Tariff: Concessional.

1. Movement.

Route	Country	Distance (km)	Wagon Rate	National Coefficient	Total Charge
Uzgheny – Kuchurgan	Moldova	213	0.19	1.10	44.52
Kuchurgan – Ilyichevsk	Ukraine	127	0.19	1.16	27.99
Ilyichevsk – Poti	(Ferry)	1,000			744.00
Poti – Gardabani	Georgia	362	0.19	1.43	98.36
Beyuk Kasik – Baku	Azerbaijan	503	0.19	1.10	105.13
Baku – Aktau	(Ferry)	400			1,116.00
Aktau – Beyneu	Kazakhstan	422	0.19	1.13	90.60
Beyneu – Chengeldy	Uzbekistan	1,847	0.19	1.15	403.57
Chengeldy – Druzhba	<u>Kazakhstan</u>	<u>1,771</u>	0.19	1.13	<u>380.23</u>
	Total	6,845			3,010.40

2. Terminal.

Location	Type of Operation	Total Charge
Uzgheny	Border Crossing	3.00
	Freight Yard Wagon Collection	6.80
Ilyichevsk	Port Wagon Collection	5.60
Poti	Port Wagon Collection	5.60
Baku	Port Wagon Collection	5.60
Aktau	Port Wagon Collection	5.60
<u>Druzhba</u>	Freight Yard Wagon Delivery	<u>6.80</u>
Total		39.00

3. Infrastructure User Charge

Distance (rail km)	Wagon Rate	Total Charge
5,245	0.1533	804.06

4. Handling & Commission

Wagon Rate	Total Charge
20.00	20.00

TOTAL WAGON TARIFF 3,873.46

WAGON TARIFF PER Km 0.57

EXAMPLE 3.

Route: Termez – Baku. **Wagon Type:** 3. Open-top. **Tariff:** Third Party.

1. Movement.

<u>Route</u>	<u>Country</u>	<u>Distance (km)</u>	<u>Wagon Rate</u>	<u>National Coefficient</u>	<u>Total Charge</u>
Termez – Farap	Uzbekistan	406	0.24	1.15	112.06
	Turkmenistan	194	0.24	1.00	46.56
Farap – Turkmenbashi	Turkmenistan	1,362	0.24	1.00	326.88
Turkmenbashi – Baku	<u>(Ferry)</u>	<u>300</u>			<u>911.00</u>
	Total	2,262			1,396.50

2. Terminal.

<u>Location</u>	<u>Type of Operation</u>	<u>Total Charge</u>
Termez	Border Crossing	3.00
	Freight Yard Wagon Collection	6.80
	Turkmenbashi Port Wagon Collection	5.60
Baku	Port Wagon Collection	5.60
	Goods Shed Unloading (20 tonnes)	<u>126.80</u>
	Total	147.80

3. Infrastructure

Distance <u>(rail km)</u>	Wagon <u>Rate</u>	Total <u>Charge</u>
1,962	0.1533	300.77

4. Handling & Commission

Wagon <u>Rate</u>	Total <u>Charge</u>
20.00	20.00

TOTAL WAGON TARIFF **1,865.07**

WAGON TARIFF PER Km **0.82**

Appendix T1.6. SPECIMEN TRANSIT TARIFF CALCULATION FORM.

1. CUSTOMER

Name of shipper ... *Western Enterprises*

Address of shipper ... *Thames Valley Park*

... *Reading, Berkshire, UK.*

Name of forwarder/agent placing order ... *Black Sea Forwarders*

Address of forwarder/agent placing order ... *Rustavelis Gamziri*

... *Tbilisi, Georgia*

2. CONSIGNMENT

Commodity (See Code 1) *Metal Parts*.....

Unit of dispatch (See Code 2) *Cases*.....

Dimensions and/or weight of unit *1,000 x 650 x 500cm.*

Tonnage (Bulk only)

Number of units or bulk tonnage *3,240*

Type of wagon allocated (or requested) (See Code 3) *Covered wagon*

TRACECA or customer owned wagon *TRACECA*

Units/tonnes per wagon *360*.....

Number of wagons *9*

3. ROUTE

Station or port of entry to TRACECA, or (See Code 4)	... <i>Poti</i>
Station or siding of origin in TRACECA	.....
Station or port of exit from TRACECA, or (See Code 4)	.....
Station or siding of arrival in TRACECA	... <i>Dusanbe (Station)</i> ...
Distance in Armenia (km)	.....
Distance in Azerbaijan (km)	... <i>503</i>
Distance in Bulgaria (km)	.....
Distance in Georgia (km)	... <i>362</i>
Distance in Kazakhstan (km)	.....
Distance in Moldova (km)	.....
Distance in Romania (km)	.....
Distance in Tajikstan (km)	... <i>71</i>
Distance in Turkey (km)	.....
Distance in Turkmenistan (km)	.. <i>1,362 + 194 = 1,556</i> .
Distance in Ukraine (km)	.....
Distance in Uzbekistan (km)	... <i>548</i>
Total TRACECA rail distance	... <i>3,040</i>
Black Sea ferry (State origin & destination)	.....
Caspian Sea ferry (State origin & destination)	. <i>Baku –Turkmenbashi</i>

4. TRANSPORT CONDITIONS

Estimated/requested departure date & time	... <i>11. 02. 04</i>
Estimated/requested arrival date & time	... <i>18. 02. 04</i>
Special consignment features (See Code 5)	... <i>Fragile</i>
Additional services required (See Code 6)	... <i>Van buffer</i>
	<i>appliances</i>
Other customer requests or instructions	.....

5. STANDARD TARIFF CALCULATION

Armenia movement	(Wagon rate x coefficient x distance)	.....
Azerbaijan movement	(Wagon rate x coefficient x distance)	... 210
Bulgaria movement	(Wagon rate x coefficient x distance)	.....
Georgia movement	(Wagon rate x coefficient x distance)	... 197
Kazakhstan movement	(Wagon rate x coefficient x distance)	.....
Kyrgistan movement	(Wagon rate x coefficient x distance)	.....
Moldova movement	(Wagon rate x coefficient x distance)	.....
Romania movement	(Wagon rate x coefficient x distance)	.....
Tajikstan movement	(Wagon rate x coefficient x distance)	.....27
Turkey movement	(Wagon rate x coefficient x distance)	.....
Turkmenistan movement	(Wagon rate x coefficient x distance)	... 591
Ukraine movement	(Wagon rate x coefficient x distance)	.....
Uzbekistan movement	(Wagon rate x coefficient x distance)	....239
Black Sea ferry	(Wagon rate for itinerary)	.....
Caspian Sea ferry	(Wagon rate for itinerary)	... 911
Total movement cost		... 2,175
Terminal cost		... 44
Infrastructure cost		... 466
Administration cost		... 20
Total wagon price		... 2,705
Total standard price	(Wagon price x no. of wagons)	... 24,345
Price of additional services	(See Code 7)	45
Total consignment price		... 24,390

6. TARIFF VARIATION ASSESSMENT

Estimated price elasticity of commodity	(See Code 8)	... 1.9
Long-run variable cost of wagon type	(See Code 9)	...0.38
Short-run variable cost of wagon type	(See Code 9)	...0.18
Critical/non-critical traffic direction		... <i>Critical</i>
Surplus wagons available		... <i>None</i>
Exceptional loading/handling characteristics		<i>Direct to customer's .</i> <i>road vehicles</i>
Other abnormal operational circumstances		.....
External competitive situation		<i>Northern Corridor</i> ..
Estimated number of future similar consignments		<i>4 per annum</i>
		<i>indefinitely</i>
Maximum feasible discount or supplement		30%
Recommended tariff variation		20 %.....
Revised wagon price (Net of ferry charges)		1,435
Revised short-run variable cost of wagon type		0.16
Total journey short-run variable cost of wagon type		486
Estimated net contribution to long-run variable cost		949
Application range of discount/supplement	(See Code 10)	<i>Customer only</i>
Duration of discount/supplement	(See Code 11)	<i>Until further notice</i> .



TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 2

**Traceca Transit Tariff
Best Practice for Trader Access to Railways**

Edition 1



Disclaimer

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1 Foreword

TRACECA was founded in 1996 by the EU and heads of state of many CEEC and CIS countries. The countries involved are: Republic of Armenia, Azerbaijan Republic, Georgia, Republic of Kazakhstan, Kyrgyz Republic, Republic of Moldova, Republic of Tajikistan, Turkmenistan, Republic of Uzbekistan, Mongolia, Ukraine, Republic of Bulgaria, Romania and Turkish Republic. Objectives of the project “TRACECA: Unified Policy of Transit Fees and Tariffs” are to simplify and unify rail tariff policy, improve the quality of services TRACECA railways provide to their customers; improve tariff-setting procedures; establish a Code of Best Practice for railways dealing with customers;

The Code of Practice (the Code) contains guiding principles to which all TRACECA participating railways will aspire when conducting their business. It aims to achieve a common and shared customer-friendly business environment in railway industry throughout Traceca route.

This code is the start of a continuing process to improve performance and to be a dynamic document with updates and changes to reflect Traceca operation at each point of time.

2 Customer Philosophy

When dealing with customers the main objectives of Traceca railways are:

- To provide a safe, efficient and reliable, “value for money” service to the customers;
- To build long-term relationships with existing and potential customers;
- To show professionalism in dealing with customers on all levels of corporate structures.
- To provide consistent standards of customer care throughout Traceca

3 Our services

TRACECA provides safe and reliable railway transport services, loading and unloading of freight, customer information support and other additional services, which are to be specified by the customers.



4 Comments from our customers and Enquiries

We are striving to engage in a regular dialogue with our customers regarding our services we are currently provide, and welcome any comments from you and your future plans with us.

Enquiries regarding tariffs, conditions of carriage and etc. are handled either by Traceca Transit Tariff Authority (TTTA) or by the Marketing Department/Customer Service Department of the participating Traceca Railway. Enquiries shall have a standard time of processing, which shouldn't exceed 3 working days.

Comments or enquiries shall be sent to TTTA at the following address: , e-mail address:..... or you can reach us on our hotline telephone number: (to be inserted later).

5 Safety and security

Traceca railways are fundamentally committed to the provision safe and secure transportation of goods and this is a key priority in respect to customer relations.

Upon request railways will provide information what they are doing in order to provide secure services, for instance, specific modernisation of infrastructure projects, rolling stock updates and etc.

Requirements for carriage of freight are widely available, also through electronic sources (web page address will be inserted at a later stage). Freight is supposed to have all the necessary fittings, packing in order to be ready for shipment. Railway representative will check freight in the presence of consignor's representative for ensure safety.

In case additional handling or security is needed for the goods railways can organise them at extra charge.

6 Traceca Transit Tariff

Customers will receive fair and non-discriminating treatment in carrying goods via Traceca. The purpose of the Traceca Transit Tariff (TTT) is to provide a single through-rate, easily comprehensible to current and potential customers and other interested parties, for the rail conveyance of international freight transit traffic through and within the TRACECA region.



The main principles of TTT are the following:

1. The TTT applies to international freight traffic transported by rail and maritime ferries through the territories of the TRACECA countries but with an origin or destination beyond the boundary of one or all of these countries.
2. The basic rates of the TTT are expressed in wagon units for application to internationally approved wagon operating on TRACECA.
3. The TTT varies according to each wagon type
4. The TTT is structured into four parts for rate calculation purposes.
5. The currency unit of the TTT is the Euro.
6. Many of the specific conditions of the TTT have been taken from the former Tariff Policy of Railways Administrations of the Commonwealth of Independent States and will be familiar to the customer. They have been retained because they are sensible and their application is widely understood.
7. The Secretariat is the TRACECA Transit Tariff Agency (TTTA) to whom any queries should be directed.

The TTT is structured into four parts, namely:

1. Line haul movement
2. Terminal and transshipment operations
3. Use of infrastructure
4. Administration and commission.

Charging separately for each part of the tariff makes the total cost transparent and closely tailored to the actual aggregate costs of each customer's consignment. To learn more about each part of the tariff, please, refer to the Price Setting Handbook.

7 Tariff Calculation

TTT applies to all railway routes designated by TRACECA partners. It is applied to provide a single through tariff that includes ports and shipping.



TTT is calculated for customers by the originating railway, or port or shipping line on the basis of information provided by the customer, subject to approval by all other parties. Since the enquiry is made the tariff will be calculated on the next day. If not all parties participating in Traceca agreement agree to the tariff quoted then reply time will be increased to 3 days and the customer notified of the delay.

Tariff will be calculated using the standardized TTT Tariff Calculation Form to facilitate the calculation by the tariff authority.

8 Concessions

TTT is applied in a flexible manner permitting discounts on the standard tariff. The flexible pricing policy can offer substantial transport cost savings to customers.

In some cases under traffic or operating conditions under which consignments could qualify for the concessional rate or even greater discounts are as follows:

- Back Loads
- Freight with Good Handling Qualities
- Longer-term Bulk Contracts
- Commodities in Seasonal Demand.

Other situations may arise in which tariff discounts may be applied. It is advisable that the customers make an enquiry in regards to that with the contact railway organisation and provide all the relevant information.

9 Procedure times

Railways are liable to follow set procedure times for handling requests for freight transportation, promised delivery times, processing enquiries, complaints and etc.

A shipper shall send a query stating 10 days in advance of the shipment (if it is not a contract-base delivery) stating volume of shipment in wagons and tonnes, type of freight, stations of departure and destinations and route chosen to the local railway administration.

Railway administration should consider if it accepts or rejects the order within 10 days. Rejection of order shall have thorough explanation on the reason for rejection. If the



railway accepts the order or doesn't reply within the specified number of days, it has to fulfill its obligation for the freight consignor.

Railways should allocate necessary number of wagons at least 3 days before the departure date.

In case of delays in procedure times a written notification will be issued, stating reason for the delay and a new date.

10 Freight Delivery times

Railways customers are liable to deliver freight on agreed time, same refers to customers.

Delivery times throughout Traceca railways are the following:

For delivery – 1 day;
Transportation – 200 km per day.

Time starts from 00:00 on the following day when freight was accepted for transportation.

The delivery times are to be prolonged by 1 day for reloading, extra handling of freight, border-crossing and customs. Delivery times will also be prolonged for the time for custom formalities.

In case of failing delivery times a notification shall be sent to the shipper and recipient and agreed penalties for idle time are applied.

When order for delivery is accepted railways give an approximate date and time for freight arrival. Upon arrival of freight the local railway station shall inform the recipient.

11 Conditions of carriage

Conditions of carriage are to be unified on Traceca. They will be available, with the fullest use of electronic means (possible using the Traceca web site and online User Guide).



12 Documentation

Within TRACECA a unified Bill of Lading will operate the later stage, which is accepted in all participating railways, shipping administrations and ports within TRACECA.

13 Complaints procedures

One of the key objectives for Traceca railways is to maintain constructive relations with customers and avoid any complaints.

Any customer who believes that he received an unfair treatment within the Traceca region or that the terms of this Code have been breached, shall contact firstly the initiating railway and try to solve the problem. If not, TTTA is dealing with settling them. Their contact details are as follows:

TTTA will acknowledge the fact of receiving a complaint and will take it forward in a timely and efficient manner. Complaints shall be carefully and open-mindedly analyzed and investigation initiated where necessary.

Complaints will be dealt in a timely manner and customers will be made clear when they will receive a feedback.

TTTA shall monitor and evaluate results of investigations, designating a co-ordinator responsible for it, who will insure that lessons are learnt and disseminated.

Once the investigation has been carried out, the co-ordinator shall write a summary of the results of the exercise and make them available to the concerned parties.

14 Liability

Railway is liable for:

- Loss
- Damage
- Exceeding the transit period
- Between acceptance for carriage and delivery.

Grounds for relieving the carrier of liability:

- Fault or order on the part of the person entitled
- Inherent vice of the goods



- Circumstances, which the railway could not avoid and the consequences of which it was unable to prevent.

In case of railway liability the customer is liable for compensation. Basis for compensation calculation shall be defined in the Conditions of Carriage.

Traceca seeks to unify compensation procedures; minimum levels and speed of payments will be documented and added later.

15 Confidentiality

Railways shall not disclose any confidential information to third parties in relation to customers save where:

- The information is already in the public domain
- It is a legal duty
- It is a request from the competent authority, as Ministry of Transport, TRACECA Secretariat or etc.
- It is a customer's request

Railways will expect the same treatment in regards to confidentiality issues from their customers.



TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 3

Traceca Transit Tariff Marketing

Edition 1



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1 Introduction.

As explained in Technical Note 1 Pricing Handbook for TRACECA Transit Tariff (TTT), the new tariff has been formulated to reflect the changed geo-political conditions and the emergence of a competitive transport market in and around the TRACECA region. The in-built flexibility of the TTT permits a prompt and effective response by the TRACECA Railways to changes in the pattern of demand for international freight services in the Euro-Asian transport corridor and to economic and technical developments in the new market-oriented transport sector.

A prerequisite for an effective flexible pricing strategy under the TTT is a thorough understanding and detailed knowledge of the market for freight transit services in the Euro-Asian region in general and the TRACECA corridor in particular. The guidelines in this technical note describe the areas in which TTTA marketing staff should develop an expertise and indicate currently available sources of data and information.

2 Structure and Scope of the TTTA Marketing Services.

It is proposed that, over the longer-term, the TTTA progressively builds up its own database, expanding and improving on the limited material currently available. Appendix T3.1 indicates the scope and content of the different categories of data that should be collected, monitored and analysed for both marketing and price setting purposes. An early priority for marketing staff, therefore, will be to locate the statistics and data required for this purpose and to establish a regular monitoring system to maintain them up-to-date. Many of the data required will be specific to the TRACECA countries themselves and should, therefore, given the cooperation of the relevant departments and institutions, be amenable to quantification and systematic collection. Collection of other data, however, such as estimates of traffics in competing transit corridors, where there are no statistics in the public domain, will require a more informal approach in which the required information will be drawn from miscellaneous, changing sources identified through the general experience of the Marketing Department. It is expected that the list will be modified or expanded by the TTTA in the light of its accumulating experience.

In the meantime, immediate data requirements and currently available data sources are described in Sections 3.3 to 3.6. In Section 3.7 guidelines are offered for the preparation of transit traffic forecasts based on analysis of the preceding data.

3 Familiarity with the Euro-Asian Freight Transit Market.

Information Requirements. TTTA staff should develop a thorough familiarity with the structure and operation of the market for rail freight services between western Europe and the Far East. This should involve a knowledge of the volumes and composition of transit traffic and of tariff structures and operating costs in the competing transit corridors. Appendix T3.2 contains a table of competing Euro-Asian rail transit routes with distances and average transit times and a general description of the competitive relationships with the TRACECA corridor. Details of the principal European and other international shippers using the corridors should be kept by the TTTA. The purpose of this would be to provide a basis for identifying traffics potentially capturable by the TRACECA Railways.

Current Information Sources. Some of the information required can be obtained from public sources, such as the published tariffs of the competing railway companies. Other data, though not necessarily in the public domain, such as the railways' annual financial statements and traffic figures, can usually be obtained without too much difficulty. Some data such as rail cost estimates may remain confidential or not be available at all. In these latter cases a flexible approach will be required from the marketing personnel by maintaining a continuing review of external sources such as professional journals e.g., *Railway Gazette International*, consultancy studies or appraisals carried out by the international financing agencies. Consultations should also be held with international forwarding agents represented in the TRACECA countries. In the longer-run, the expanded data indicated in Appendix T3.1 will permit a more thorough analysis of the Euro-Asian market.

4 Analysis of TRACECA Transit Traffic.

Information Requirements. Current data on TRACECA transit traffic is limited and does not lend itself to detailed analysis. In particular, it rarely distinguishes transit from other traffic. The TTTA will need to produce and maintain up-to-date a database of transit traffic in terms of commodities, volumes, origins and destinations, seasonality, wagon types utilised, etc. A brief review of transit traffics, based on present limited data is provided, by way of illustration, in Appendix T3.3. The purpose of the database would be to permit TTTA marketing staff to analyse the circumstances of individual consignments, e.g, movement in non-critical traffic direction, to determine the scope for variations from the current traffic levels both to maximise net revenues from current transit traffic and to encourage new traffic. Specific business opportunities identified by

marketing staff would be reviewed in the light of this database to determine the appropriate tariff charges.

Current Information Sources. In this case, the data sources would be internal to TRACECA and should, therefore, be easily obtainable from official sources, given the full cooperation of the national TRACECA railway administrations and local freight forwarders. The longer-term TRACECA traffic data requirements are, again, indicated in Appendix T3.1.

5 Familiarity with Industrial & Commercial Sectors of TRACECA Countries.

Information Requirements. Demand for TRACECA's freight services will depend largely on economic and commercial activity in the region. Account therefore needs to be taken of longer-term economic planning and development as well as the more immediate transport needs of producers, importers and exporters. Substantial oil industry investments are firmly planned or in prospect for the next decade with important implications for the demand for transport of constructional and industrial materials and equipment. The structure of regional transit trade is, moreover, constantly changing, as past statistics indicate, with new commodities emerging and current commodities varying in relative importance. It is important that the TTTA should remain alert to this constantly changing demand pattern and to the longer-term development prospects.

Current Information Sources. Again, most of the data required will be internal. Information on the longer-term development prospects would be available from the economic planning ministries of the TRACECA countries and from the principal oil companies in the region. It will, however, be necessary for marketing personnel to keep abreast of broader international developments, e.g. the current decline in the demand for cotton in southern Europe, bearing on the TRACECA transit market by a continuing review of the international press and trade literature. In this regard, a press cuttings service should be maintained by the marketing staff. For more immediate business prospects, a continuing liaison should be maintained with local freight forwarders, export/import agencies and principal manufacturers. The economic and commercial data to be collected over the longer term is detailed in Appendix F3.1.

6 Study of Competing Transport Modes.

Information Required. Given the long distances covered by transit traffic, rail should have a clear cost advantage with little effective competition from road hauliers. The attention of the TTTA is, therefore, likely to be engaged primarily with competition from other Euro-Asian rail corridors. Nonetheless, there is evidence of growing road competition in transit trade in the TRACECA corridor. Some of this may be due to non-price factors such as more flexibility in avoiding delays at border-crossings or door-to-door delivery which could best be countered by improved rail services rather than tariff strategy. But there are some road movements, notably the carriage of containers through Turkey, for which rail's potential cost advantage should be more than sufficient to off-set road transport's advantage in flexibility. TTTA staff should, therefore, study the structure of the road transport industry and the extent of its operations in the region in order to identify areas of potential competition and apply appropriate pricing measures to secure the traffic to rail. Data should be collected, as indicated in Appendix F3.1, on the structure of the road vehicle fleet, volume and composition of traffic carried by road, origins and destinations, rates and charges and road vehicle operating costs. Observation should also be kept on traffic movements on the Volga-Don Canal which, despite significant operating disadvantages, notably its closure during the winter months, is also carrying transit traffic such as pipes, oil industry materials and some cotton, that could possibly be re-captured by rail through appropriate pricing strategy.

Current Information Sources. Data on road transport is notoriously difficult to collect, given the structure of the industry with its numerous small, usually privately owned, units. In most cases records are not kept by operators and few are aware of their own operating costs. Even where data are kept operators may not wish to disclose them for competitive reasons. Rates may, however, be obtained through quotation. Customs records are kept at border posts but these, in their present form, are not particularly helpful: the number of containers crossing the border but not their contents is recorded. (The new data proposed in Appendix F3.1 envisages improved traffic recording at border posts.). A more informative source of information is likely to be regional freight forwarders who often use road transport for non-transit traffics. Details on comparative vehicle operating costs may be obtained from special studies or the appraisal reports of the international development agencies.

7 Rail Transit Freight Traffic Forecasts.

On the basis of continuing analysis of the data and information detailed above, TTTA marketing staff would produce forecasts of rail transit freight traffic through the TRACECA corridor. Detailed forecasts on a commodity and tonnage basis should be



prepared for three years ahead with broader indicative forecasts for five years ahead. The forecast should also show the direction of movement for each commodity as this will be an important consideration in flexible pricing. The forecasts would provide an important tool for the formulation and implementation of the flexible pricing strategy by indicating its broader financial implications and prospects for total cost recovery. A specimen forecast is set down in Appendix F3.4. (This table is available on CD in spreadsheet form with all formulae incorporated for ease of working).

Another important factor to be taken into account in forecasting transit traffic is the estimated price elasticity of demand for international rail transit services. This complex concept is the subject of a separate Technical Note.²

² Technical Note 4. Estimation & Use of Price Elasticities of Demand. Edition 1. (01.09.03)

Appendix T3.1. DATA COLLECTION AND MONITORING PROCEDURES.

Data Collection.

The effectiveness of the TRACECA Railways' flexible pricing strategy will depend largely on the extent and quality of the data and information available to the TTTA's Marketing Department. The data currently available are limited in scope, not always compatible between the different railway administrations and were, in any case, originally devised for objectives different to those now confronted by TRACECA in the new competitive transport environment.

The purpose of this appendix is to recommend new data and methods of collection and monitoring to be maintained and processed by the Marketing Department to support the flexible pricing strategy. The data and information, described below, fall into three main types. Internal data would be drawn from existing sources within the TRACECA countries and should, therefore, present little difficulty in collection, given cooperation between the organisations and institutions concerned. External data would be drawn from quantified sources in other countries but as these may not be easy to locate or not be willingly made available to TRACECA, possibly for good competitive reasons, it may not be practicable to build up a detailed, accurate database: in this case, approximations and estimates may have to be resorted to by marketing personnel. Finally, there is data, which would be more realistically described as market intelligence for which no quantified data sources exist and which would, consequently, have to be compiled from whatever indirect sources are available at the initiative of the marketing specialists. TRACECA rail transit freight statistics would be an example of the first type, corresponding rail traffic statistics in competing Euro-Asian corridors, an example of the second and identification of business opportunities in TRACECA and other European and Asian countries, of the third. All three types are represented in the detailed data requirements detailed below. Existing data sources which should be the starting point for collection of the extended and refined data described below are indicated in Section 3.3 to 3.6 of the main text above. Guidelines for the preparation of forecasts of rail transit traffic in the TRACECA corridor, on the basis of analysis of the data, are given in Appendix T3.4.

The following data and information requirements can be subdivided into five categories:



1. Euro-Asian Marketing Information.

Transit traffic in competing Euro-Asian rail corridors by commodities, tonnages, directions and average transit times.

Official tariffs and discounted rates charged on competing rail systems for key transit commodities.

Infrastructure and rolling stock investments and service improvements on competing rail systems.

General pattern of transit trade in the Euro-Asian market with the locations of principal shippers and importers.

2. TRACECA Transit Traffic Data.

Rail transit traffic in the TRACECA corridor by commodities, tonnages, directions, seasonality and average transit times and empty running coefficients.

Inventory of the wagon fleet indicating wagon types utilised by key transit commodities and locations of wagons in the TRACECA corridor and neighbouring countries at specified dates.

Transit traffic by road and waterway by commodities, tonnages, origins & destinations and seasonality.

Estimates of price elasticity of demand for key transit commodities.

TRACECA Economic and Trade Data.

Planned and prospective economic, industrial and commercial development in the TRACECA corridor.

Locations of principal shippers, importers and forwarders and potential customers in the corridor.

Details of short-term business opportunities.

4. Tariff and Transport Cost Data.

Official TTT rates for key transit commodities.

Long-run and short-run variable costs for different wagon types under normal and "back-load" running conditions.



Details of non-standard (discounted or premium) rates actually charged on specific consignments.

Rates and tariffs of road and canal transport

Estimates of road vehicle and waterway operating costs

Continuing review of relationship between normative and actual measured rail cost data.

Monitoring Procedures.

The data and information should be collected, stored and maintained up-to-date by the TTTA's Marketing Department. Much of the material, particularly market intelligence, would be collected on the initiative of the department itself: other data, particularly technical data such as short and long-run variable rail costs, would be supplied to the Marketing Department by the responsible departments within the national railways.

Separate files for each of the five data categories detailed above should be maintained. Not all the data lend themselves to precise tabulation so that the files would contain, in addition to standard proforma, short annual reports and, possibly, collections of press cuttings and notices.

All material should be updated or verified annually. The Marketing Department will be responsible for checking annually with the railway departments on the validity of technical or financial data provided by them, although it is expected that these departments would advise the Marketing Department of significant changes occurring between annual checks. An exception would be the statistics on wagon location which

should be notified to the department on a more frequent, possibly monthly, basis, together with a short term prognostication of the disposition of the wagon fleets up to the next reporting date.

Marketing staff should liaise regularly between annual updates with forwarders, potential customers, government departments and other parties on which it is dependent for commercial and economic intelligence.

Appendix T3.4 discusses the traffic forecasting for which the analysis of the above data would provide the foundation

Appendix T3.2 EURO-ASIAN RAIL FREIGHT TRANSIT SERVICES.

The TRACECA corridor is one of several transit routes competing for international freight between western European and the Pacific coast. The principal routes are as follows:

EURO-ASIAN TRANSIT CORRIDORS

Corridor	Route	Distance (km)	Average Time (hours)
Northern*	Tashkent - Riga	4,008	
Northwest*	Tashkent - Brest	4,249	
Central (TRACECA)**	Tashkent - Farab - Poti	2,733	152
Southern	Tashkent - Bandar Abbas	3,617	
Southeast	Tashkent - Lianyungang	4,550	
Eastern***	Tashkent - Nahodka	8,701	

*TRACECA from Tashkent to Kandagach(Russian border). **Alternative route through Aktau = 2,309km.

***TRACECA from Tashkent to Druzhba (Chinese border).

The principal competitors with TRACECA are the Northern and Northwest corridors serving northern Europe and giving access to the Baltic and North Sea ports. The distances to western Europe are, in fact shorter by the TRACECA – Black Sea route. But historically the Russian lines have been the principal transit routes between western Europe and the Far East accounting largely for their pre-eminence today. To this extent, they are vulnerable to competition from TRACECA. They do, however, have certain inherent advantages such as the small number of border crossings and the avoidance of rail/sea transshipments. There are other, perhaps temporary, advantages such as the good cotton handling facilities at Riga which continue to attract Uzbekistan cotton. Moreover, the fact that the sections of these lines within Russia constitute only a small part of the Russian railway system provides scope for retaliatory rate cutting in response to TRACECA tariff changes. TRACECA benefits from trade on these corridors to the extent that they pass through Kazakhstan.

A growing competitor to TRACECA and, indeed to the northern corridors themselves, is the Southern corridor to Bandar Abbas on the Persian Gulf. This gives easy access to the sea and the benefits of low maritime freight, particularly container, rates. A large, possibly the greater, part of Uzbekistan cotton exports are now being shipped by this route. The Eastern and Southeast corridors are not major competitors to TRACECA as they serve the Pacific ports with shipping services to south-east Asia, the western United States and Australia rather than western Europe and the eastern United States. Substantial improvements have been carried out recently in the Southeast rail corridor in support of the "China Gateway" concept, designed to compete with the Trans-Siberia railway for the Pacific transit trade: this could have a limited effect in drawing traffic, e.g. foodstuff imports, from South America, away from TRACECA.

Appendix T3.3.EURO-ASIAN RAIL FREIGHT TRANSIT TRAFFIC.

The traffic statistics currently maintained by the TRACECA Railways are based on those in use under the earlier centralised railway administration. These were formulated to serve different operational and financial circumstances from those obtaining under the new commercial framework and, consequently, do not lend themselves readily to an analysis of current transit traffics. Moreover, the statistics of the individual railways have since been modified so that they are no longer on a comparable basis and, in most cases, do not distinguish transit from other rail traffic.

Estimates of the composition and volumes of TRACECA transit traffic have, however, been derived from a number of sources, notably the statistics of the Port of Baku. These are shown in the following table:

TRACECA Rail Freight Transit Traffic. ('000 tonnes)*

	2000	2001	2002**
Oil	3,571	3,246	
Dry Cargo			
Soybean	107	86	
Cotton	122	36	
Alumina	34	128	
Other	222	545	
Total Transit	4,056	4,041	

* Passing through the Port of Baku. **Estimate.

[The "Others" category is too large: it needs to be broken down further. Apparently, pipes, other oil industry materials and foodstuffs are important but tonnages unknown.]

It can be seen from the table that rail transit traffic through the TRACECA corridor is of the order of 4 million tonnes per annum. No estimates of total transit tonnages through the competing Euro-Asian corridors are available, by rail or other modes, but it may safely be conjectured that the current TRACECA share is a very small proportion of the whole. The scope for capturing additional transit traffics should, consequently, be considerable.

In 2001 total traffic through Baku amounted to 4,560,000 tonnes. This compares with about 16,000,000 tonnes in the late 1980s. But traffic is recovering having risen from less than 1,300,000 tonnes in 1995. Of the 2001 total, 4,040,000 tonnes or 89% was accounted for by transit traffic. However, of this, 3,240,000 tonnes or 80% consisted of oil traffic. The remaining 800,000 tonnes of dry cargo consisted of 130,000 tonnes of alumina, 90,000 tonnes of soybean, 40,000 tonnes of cotton and 550,000 tonnes of other products, mainly pipes, other oil industry materials and foodstuffs. (Cotton shipments were particularly low in 2002, so that the 2000 figure of 120,000 tonnes is probably a better indicator of its relative importance).

The westbound traffic predominates, consisting mostly of oil from Kazakhstan to Batumi and cotton from Uzbekistan to Poti. About two-thirds of tonnage passing through Baku is westbound. Of the eastbound traffic, the alumina is shipped from southern Europe to Tajikistan and the soybean from South America to Uzbekistan: most of the oil industry equipment and other construction materials also move eastward from western European origins and ports. Excluding oil with its inherent 50% empty running, however, the critical traffic direction for dry cargo is eastwards. Given the relatively low volumes of transit and export/import traffic, there is abundant spare capacity throughout the TRACECA corridor but, with the preponderance of eastbound dry cargo, empty running of freight wagons westwards is substantial, a feature that should receive full attention from TRACECA marketing staff in implementing its flexible pricing strategy. Container traffic, in both directions, is extremely low given the continuing expansion of containerisation in international transit trade: only about 1,000 TEU have passed through the container facilities at Baku port since they came into service in 2000. The reasons for TRACECA's failure to attract more of the growing container traffic should be examined by the Marketing Department.

Regarding future traffic trends in the TRACECA corridor, an increasing oil traffic seems assured even with continuing pipeline development in the region. There will be several major oil projects coming on stream over the next five years and rail can be expected to benefit in particular from increased output of oil products. For the same reason, construction materials and oil industry equipment can be expected to maintain a steadily rising trend over the next few years. As this eastbound traffic will be characterised by a constantly changing composition and numerous one-off or short-term shipments, TRACECA should be alert for tariff discounting or negotiating opportunities. Traffic in alumina and other chemicals will remain linked to the output of the importing plants and the emergence of new industries and may, therefore, show some increase with the growth of the industrial sectors under the stimulus of oil production. The outlook for the staple transit trade in cotton, on the other hand, is less certain. The serious competition of



Bandar Abbas, providing a close outlet to the sea, has already been mentioned. Also, demand for cotton in southern Europe is, at present, in decline. Improved storage and handling at the Black Sea and Caspian ports could attract some cotton from the Northern corridor, but this, too, is vulnerable to competition from Bandar Abbas. Transit of foodstuffs, raw materials and equipment used in the processing and consumer goods industries will probably rise in line with general economic recovery and industrial diversification.

Appendix T3.4. TACECA RAIL TRANSIT FREIGHT FORECASTS.

In the light of the analysis of the data described in Appendix T3.1, an annual rolling forecast of rail transit freight in the TRACECA corridor should be maintained by the Marketing Department. The forecast should indicate the key transit commodities by tonnage and direction for three years ahead. A broader indicative forecasts for five years ahead should also be prepared. A specimen forecast for 2004 is given below: .

TRACECA TRANSIT TRAFFIC FORECASTS ('000 Tonnes)							
	2004			2005			
	Direction			Direction			
	E-W	W-E	Total	E-W	W-E	Total	
Crude oil	3485		3485	3590		3590	
Oil products	622	198	820	638	198	836	
Cotton	210		210	210		210	
Alumina		183	183		200	200	
Soybean		149	149		156	156	
Grains	25	133	158	15	118	133	
Other foodstuffs	44	128	172	49	135	184	
Pipes		101	101		116	116	
Machinery		98	98		104	104	
Construction materials	15	84	99	18	95	113	
Timber		76	76		70	70	
Paper products		50	50		52	52	
Others	9	32	41	10	45	55	



Technical Note No. 3 Marketing

Total oil	4107	198	4305	4228	198	4426
Total dry cargo	303	1034	1337	302	1091	1393
Grand Total	4410	1232	5642	4530	1289	5819

	2006			2008 (Indicative)		
	Direction			Direction		
	E-W	W-E	Total	E-W	W-E	Total
Crude oil	3755		3755	4000		4000
Oil products	666	205	871	750	220	970
Cotton	215		215	220		220
Alumina		200	200		200	200
Soybean		168	168		180	180
Grains	15	120	135	20	130	150
Other foodstuffs	52	144	196	50	170	220
Pipes		123	123		150	150
Machinery	10	115	125	20	140	160
Construction materials	25	127	152	30	160	190
Timber		72	72		80	80
Paper products		55	55		60	60
Others	12	60	72	20	90	110
Total oil	4421	205	4626	4750	220	4970



Technical Note No. 3 Marketing

Total dry cargo		329	1184	1513		360	1360	1720
Grand Total		4750	1389	6139		5110	1580	6690



TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 4

**Traceca Transit Tariff
Estimation and Use of Price Elasticities of
Demand**

Edition 1



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TTTA TECHNICAL NOTES.

Technical Notes Issued by the TTTA.¹

Prepared UPTFT project

Technical Note 1.	Price Setting Handbook. Edition 1.
Technical Note 2.	Best Practice for Trader Access to Railways. Edition 1.
Technical Note 3.	Strengthening Railway Marketing. Edition 1.
Technical Note 4.	Estimation & Use of Price Elasticities of Demand. Edition 1.
Technical Note 5.	Freight Forwarder Attitude Survey.
Technical Note 6.	TTT Draft Regulatory Document

¹ The TTTA is the designated name of the Traceca Transit Tariff Agency. One of the key roles of the TTTA is to carry out research and to issue advice to TTTA partners. To best utilise the work of the UPTFT project, its outputs have been configured as Technical Notes that could be issued by the TTTA.



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1 Introduction to Price Elasticity

An important factor that should be taken into account in setting rates under the TTT flexible pricing policy is the price elasticity of demand for international rail freight transit services.

A successful flexible pricing strategy requires the capability to predict the response of demand for rail freight transit to proposed changes in tariff rates for particular commodities. For this purpose, understanding of the concept of the price elasticity of demand and some knowledge of the level of elasticity for different commodities is needed.

The Concept of Price Elasticity of Demand.

In general terms, the elasticity of demand measures the change in the level of demand for a particular product or service in response to a change in its price. For example, if the price of an item is reduced by 10% and sales increase by 25% in consequence, its price elasticity is said to be $25/10 = 2.5$. The concept of price elasticity and its application to pricing for rail services is explained more fully in section 2.

Price elasticity will differ for different commodities partly reflecting the relative importance of transport costs in the commodities' total production costs and the availability of suitable transport substitutes. Heavy bulk commodities, for example, cannot switch between rail and road as readily as, say, machine parts so that their responsiveness to tariff changes and, hence, their demand elasticity may be low.

The estimation of the price elasticity of demand for TRACECA freight services will, therefore, be a prime responsibility of the TTTA as this theoretical concept can be put to practical use for determining the appropriate levels of discounted and negotiated tariffs to be offered on different commodities or wagon types. Separate elasticities for each of the key transit commodities should be estimated. The estimation of elasticities, however, is not without difficulties for reasons explained in section 2. Section 3 includes a proposed methodology for the measurement of price elasticity in the context of the TRACECA corridor.

The limitations of the elasticity of demand concept as a pricing tool should, however, be recognised. TTTA marketing staff should, therefore, avoid taking pricing decisions on the basis of elasticity estimates alone. There are frequently specific local circumstances that might over-ride the results indicated by the elasticity exercise. For instance, there may be traffic, even with a low price elasticity, transported by a competing route or road that could be captured in whole or large part if the rail were tariff were reduced below the competing rate. There may also be the prospect of retaliatory tariff reductions on competing routes that would not be disclosed by the elasticity estimates. In price-setting, therefore, elasticity estimates should be used only as a first step to identifying



possibilities for discounted, negotiated or increased tariffs. Further detailed examination of the particular local circumstances of the consignment or commodity in question and an estimate of its potential contribution to net revenues would be required before the special rate were offered.

The Estimation of Price Elasticities of Demand.

In formulating the TTT, some indicative price elasticities for rail freight commodities have been formulated. These were based primarily on analyses of elasticity studies¹ on other rail systems and should, therefore, be applied with caution to the TRACECA corridor where local demand patterns and operating conditions may apply. It is expected that these will be refined in the light of the TTTA's own enquiries and data resources.

Price Elasticity of Demand in Practice.

An understanding of the concept of price elasticity of demand and access to estimates of the price elasticities of differing commodities would permit the TTTA to offer beneficial discounts to specific shippers. For example, it would often be worth offering a discount of up to 30% to an individual shipper of machinery with an estimated price elasticity of 1.5 since the increased demand for transit services would, as shown in the example of section 3, produce revenues well in excess of the additional short-term variable costs of the extra wagons required

But even in cases where the TTTA does not deliberately estimate the elasticity of demand for a particular commodity and adjust its tariffs accordingly, the effects of elasticity will still make themselves felt following any tariff change of a general nature. If, for instance, a general discount is offered on a particular wagon type, the effect on the total demand for those wagons and, hence, revenues will depend on the respective elasticities of all commodities conveyed in that wagon type. It is important, therefore, that TTTA marketing staff should have sufficient familiarity with the price elasticities of the different commodities to be able to estimate the overall impact of a proposed tariff change on total revenues.

2 Price Elasticity Of Demand For Rail Transit Services.

The Theory of Price Elasticity of Demand.

In general terms, the elasticity of demand measures the change in the level of demand for a particular product or service in response to a change in its price. In theoretical terms, elasticity (e) = (percentage change in quantity)/(percentage change in price). Thus, if demand for a product is 100,000 given a unit price of €100 and a reduction in price of

¹ See Appendix T3.4 for details of studies referred to.

10% to €90 results in an increase in the level of demand by 25% to 125,000, then $e = +25/-10 = 2.5^2$. In the context of rail freight services and the TTT tariff, elasticity would measure the response in demand for a particular wagon type to a change in the tariff rate. Thus, if the tariff rate for a covered wagon over a specified route were €160 and a discount of 30% were offered on that route for a particular commodity conveyed in that wagon type, raising its demand by 44% from, say, 650 to 936 wagons, then $e = +44/-30 = 1.47$: the discount would be worth offering since it would result in an increase in net revenues, even after allowing for the variable costs of the extra wagons required. If, on the other hand, demand increased to only 806 wagons in response to the discount then $e = +24/-30 = 0.80$: in this case, where e is less than unity, demand is said to be inelastic and the discount would result in a decline in net revenues.

It should be noted that, as transport is a derived demand depending on the levels of demand for the products transported, the price elasticity for transport taken as a whole may be relatively low, particularly if the transport cost constitutes only a small part of total production and distribution costs. Price elasticity for a specific transport mode or route, on the other hand, could be quite high since a tariff reduction could have the effect of attracting traffic from competing modes or routes. This is particularly the case where rail and road transport are in competition in the same corridor, as could be the case to some degree with container traffic through the Caucasus by rail and through Turkey by road and where two railway lines serve the same origins and destinations as with TRACECA and the northern corridors.

Measurement of the Price Elasticity of Demand.

The difficulty of estimating price elasticities are considerable. Tariff changes are rarely made in isolation from other changes in rail operations or other changes are introduced shortly after, obscuring the effects of the tariff change alone. For instance, tariff changes may be introduced at the same time as or shortly before other operational changes such as the entry into service of new rolling stock, line upgrading or improved terminal handling facilities which would attract custom through service improvements. In this case it would not be practicable to attribute any increase in demand to the different factors in any quantitative manner and the effects of the price change alone cannot be isolated. In the TRACECA countries in particular data for estimating elasticities with any degree of accuracy is quite inadequate. The development of a capability for estimating price elasticities is, therefore, likely to take time and will require new data and monitoring procedures. A description of the methods that should be followed in estimating the price elasticities of transit commodities is given below. The corresponding data requirements are detailed in Technical Note 3.

² In theory, elasticities are normally negative but conventionally the minus sign is dropped in citing elasticity values.

Methodology for Estimating Price Elasticity of Demand.

Given the difficulties of measuring the price elasticity of demand for rail transit services described above, a number of complementary approaches, none of them perfect, should be followed in estimating the elasticities of different commodities.

As an initial step, the views of shippers and forwarders on their reaction to marginal changes in the tariff rates for specified commodities should be sought. This could be done through a simple questionnaire requesting the respondent's estimate of the percentage increase in the volume of the commodity that would be offered for transit through the TRACECA corridor in response to, say, a 20% reduction in the tariff rate and, conversely, the percentage decrease in demand in response to a corresponding 20% tariff increase. Such surveys, where the prospects of a definite inducement or deterrent are placed before the respondent are known from experience to evoke exaggerated replies, so that not too much reliance should be placed on the strict accuracy of the resulting data. Rather, they should be regarded as a preliminary screening of commodities into high, medium and low price elasticity categories to be subjected to further analysis.

An important determinant of the degree of elasticity is the presence or absence of close substitutes, in the present case competing transport corridors. An assessment should, therefore, be made of the ease with which the individual commodities could transfer to competing rail, road or waterway services. General elasticity estimates derived from the survey described above could be checked against the assessment and, where necessary, modified to reflect the degree of potential competition.

The most informative exercise, however would be the monitoring of specific test cases, if such can be organised. These would involve effecting a change from the existing standard tariff rate in isolation from other rail operational or service changes that could influence the level of demand for transit service for the commodities in question.. Changes in the level of demand for the service in volume terms could then be measured directly at, say, quarterly intervals following the price change until such time as other factors impact on the demand pattern. But even where the effects of the price change can be observed in a virtual railway vacuum, it should be remembered that external factors such as trends in national incomes or changing terms of trade could have effects on the level of demand quite separately from those of the price change itself. These external influences should be abstracted where possible, e.g; by the application of an average national income deflator, in estimating the price elasticities of the different commodities.

At the same time as these internal TRACECA studies are being carried out, a continuing review of studies and experience on other rail systems should be maintained. A helpful internet website for keeping up to date with such studies is that of the Transport Elasticities Database of the Australian Bureau of Transport Economics (<http://dynamic.dotrs.gov.au/bte/tedb>). The experiences of other railway systems using price elasticities as a pricing tool, such as Canadian National, could also be canvassed. These international comparisons should be compares with the internal TRACECA elasticity estimates as a general second check on their validity.

It can be appreciated from the diverse approaches suggested above that any methodology for estimating elasticities can only be an eclectic exercise, making the best use of whatever sources are available and involving some subjective judgements on the part of TRACECA marketing personnel. As emphasised in the main text above, the limitations of price elasticity estimates as a tool for price setting should be recognised. It should be used as only one of several approaches to assessing the case for tariff variations and conclusions drawn from its application should always be checked against specific local circumstances.

The General Effects of Price Elasticity on Tariff Discounting.

Tariff changes of a general nature, such as a rate reduction for a particular wagon type, will bring into play the effects of the price elasticity of demand, even if this was not expressly taken into account in fixing the new rate. Although the charging unit of the proposed TTT would be the wagon load irrespective of the actual commodities carried, the response of demand for specific wagon types to the rate change will depend on the price elasticities of the commodities conveyed in that wagon type. In some cases, dedicated wagons are used exclusively for the transport of a single commodity, such as oil tank wagons or, to some degree, isothermal wagons used predominantly for perishable foodstuffs. In such cases the price elasticity of demand for the wagon type in question reflects that of the commodity or commodity group carried. In other instances, such as open-topped or covered wagons, a more diverse range of commodities is carried: but, even in these cases, given the composition of TRACECA's traffic, there is a fairly strong association between wagon types and the commodity groups that they convey. Covered wagons, for example, are used predominantly by cotton, soybean and chemicals. So, even in these cases, an approximation to the price elasticity of demand for the wagon can be derived from an analysis of the corresponding elasticities of the commodities carried and their respective shares in the usage of the wagon type in question.

3 Effects on demand and revenue of changes in price - examples

A simple example is given in Table 1. It assumes that a fleet of 1,000 covered wagons, given a standard tariff of €100 per wagon between origin A and destination B, carries three commodities in the proportions shown in column 2 of the table. The corresponding revenues are shown in column 3.

Table 1. Response in Demand to a 20% Tariff Discount (€). CASE 1.

<u>Commodity</u>	<u>Elasticity</u>	<u>€100 Standard Tariff</u>		<u>€80 Discounted Tariff</u>		<u>Changes in</u>
		<u>Wagons</u>	<u>Revenues</u>	<u>Wagons</u>	<u>Revenues</u>	<u>Revenues</u>
	(1)	(2)	(3)	(4)	(5)	(6)
Textiles	1.8	550	55,000	748	59,840	+ 4,840
Foodstuffs	2.4	350	35,000	518	41,440	+ 6,440
<u>Car Parts</u>	0.3	<u>100</u>	<u>10,000</u>	<u>106</u>	<u>8,480</u>	<u>- 1,520</u>
Total		1,000	100,000	1,372	109,760	+ 9,760

Assume that a tariff discount of 20% is under consideration. At that level, the respective price elasticities of demand for the three commodities are assumed to be, for purposes of illustration, 1.8, 2.4 and 0.3 as shown in column 1 of the table. That is, a 20% decrease in the tariff would result in a $20\% \times 1.8 = 36\%$ increase in the demand for covered wagons to carry textiles but only a $20\% \times 0.3 = 6\%$ increase in the demand from the car part shippers. Textiles have a low value in relation to their distribution costs and could, consequently be highly responsive to tariff changes: in this example, it is assumed that the foodstuff in question could conceivably be attracted from (or lost to) other routes or modes by a relatively small change in the standard rail tariff and, so, has a high demand elasticity: car parts, on the other hand, have a relatively high value and a derived demand linked to the output of cars and, so, are likely to have a relatively low elasticity with little sensitivity to tariff changes.

The estimated number of wagons that would be demanded for shipment of each of the commodities in response to the 20% discount and the resulting revenues are shown in columns 4 and 5 of the table. It can be seen from column 6 that the interaction of the additional revenues that would be earned from the new traffic with the decline in revenues from the traffic already being carried at the standard rate would result in a total increase of revenues of nearly 10%. The demand for wagons to carry all three commodities would rise but the extra revenue from the additional car part wagons would be insufficient to offset the revenues forfeited by existing car part wagons that would still have been conveyed at the standard tariff. But this deficit would still be exceeded by the additional revenues on textiles and foodstuffs giving a positive increase in total revenues.

So, providing that the surplus exceeds the short-run variable costs of the additional wagons required, it would be in TRACECA's interest to offer the 20% discount to secure the additional surplus.

The estimated increases in revenues resulting from tariff changes, as demonstrated in Table 1, can be calculated by means of the following formula:

$$((1+((t^1-t^2)/t^1)e)wt^2) - wt^1$$

where t^1 and t^2 are the tariff rates before and after the change, e is the price elasticity of demand, and w is the number of wagons demanded before the tariff change. Thus, the increase in revenues for textile traffic in Table 1 would be:

$$((1+((100-80)/100) \times 1.8) \times 550 \times 80) - (550 \times 100) = \text{€}4,840$$

But the sensitivity of the above conclusion to the relative shares of the different commodities in the total traffic conveyed by the wagon type in question is demonstrated in Table 2. In this case it is assumed that the proportions would be reversed with car parts constituting the major share and textiles the smallest share.

Table 2. Response in Demand to a 20% Tariff Discount (€). CASE 2.

Commodity	Elasticity	€100 Standard Tariff		€80 Discounted Tariff		Changes in Revenues
		Wagons	Revenues	Wagons	Revenues	
	(1)	(2)	(3)	(4)	(5)	(6)
Car Parts	0.3	550	55,000	583	46,640	- 8,360
Foodstuffs	2.4	350	35,000	518	41,440	+ 6,440
Textiles	1.8	<u>100</u>	<u>10,000</u>	<u>136</u>	<u>10,880</u>	<u>+ 880</u>
Total		1,000	100,000	1,237	98,960	- 1,040

It can be seen from column 6 that the total revenue would actually fall following a 20% tariff discount with the amount lost on the numerous car part wagons that would still have been demanded under the standard tariff exceeding all the additional revenues that would have resulted from the increased demand for wagons for foodstuffs and textiles. In this case the 20% discount should not be offered.

It should be noted that the above conclusions would only apply in the case of a 20% tariff reduction since the price elasticity of demand for each commodity may vary with the magnitude of the contemplated price change from its original level, the variations differing according to commodity and local circumstances.. For instance, a 10% reduction may be just as effective as a 20% reduction in capturing the textile traffic from other routes or modes, in which case the increase in the number of wagons demanded will be the same as in the 20% case. The price elasticity for foodstuffs might decline slightly while that for car parts might remain unchanged. Thus, Table 3 illustrates how, even with the same traffic distribution as Case 2 above, a 10% discount could result in a small but positive increase in revenues, contrasting with a potential loss under a 20% discount

Case 3 also emphasises the importance of using the elasticity estimates as no more than a general guide to be used in conjunction with an analysis of local circumstances. Dependence on elasticity estimates alone in the last example would have concealed the benefit to be secured from a more modest discount than originally envisaged.

Table 3. Response in Demand to a 10% Tariff Discount (€). CASE 3.

<u>Commodity</u>	<u>Elasticity</u>	<u>€100 Standard Tariff</u>		<u>€90 Discounted Tariff</u>		<u>Changes in Revenues</u>
		<u>Wagons</u>	<u>Revenues</u>	<u>Wagons</u>	<u>Revenues</u>	
	(1)	(2)	(3)	(4)	(5)	(6)
Car Parts	0.3	550	55,000	567	51,030	- 3,970
Foodstuffs	2.0	350	35,000	420	37,800	+ 2,800
<u>Textiles</u>	1.8	<u>100</u>	<u>10,000</u>	<u>136</u>	<u>12,240</u>	<u>+ 2,240</u>

Total	1,000	100,000	1,123	101,070	+ 1,070
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The above examples show that the relationship between the size of tariff discounts, the price elasticities of different commodities and the level of changes in revenues is far from direct. They indicate the importance, for an effective implementation of TRACECA rail pricing strategy, of a continuous analysis and review of the factors, e.g. rates offered by competing modes or rail routes, that determine the price elasticity of demand of the principal commodities carried by or in prospect for TRACECA.

Service and Time Elasticity of Demand.

The most commonly used measure of the elasticity of demand in the transport sector is price elasticity as defined above. Other concepts are, however, of use in maximising the financial surpluses of transport modes, notably service and time elasticities of demand. These measure the response in demand not to a change in price but to a reduction in journey times or similar improvement in service, e.g. reduced pilferage of or damage to goods in transit. More formally, they measure the change in the level of demand for a particular commodity or service in response to the investment per unit of the commodity in financial terms in the improvement to the service. In this case $e = (\text{percentage change in quantity}) / -(\text{investment per unit as percentage of price})$ and can differ substantially from the price elasticity according to the relative values the customer places on lower costs and better service.

At present there is insufficient data to estimate time and service elasticities in the TRACECA corridor and very few studies have been carried out on other rail systems.

Such elasticities are infrequently used and are difficult to measure. They do, in any case, fall outside the province of price setting but are of interest from the broader investment perspective in indicating whether a given amount would be more profitably used in reducing tariffs or improving services.

4 Estimates Of Price Elasticity Of Demand For Transit Of Selected Commodities.

Table 4 Selected price elasticities

<u>Commodities</u>	<u>Approximate Elasticity</u>
Aggregate commodities	1.5
Textiles	2.7
Electrical machinery	2.1
Primary metals	2.0
Foodstuffs	2.0
Metal products	1.9
Non-electrical machinery	1.6
Refined petroleum products	1.5
Cotton	1.5*
Wood products	1.5
Stone, clay, glass products	1.5
Paper, plastic, rubber products	1.3
Assembled automobiles	1.3
Grains	1.2
Crude oil	1.2
Lumber	0.9
Chemicals	0.8
Fertiliser	0.8
Minerals	0.8
Coal	0.4

* No estimate available: assumed to be equal to aggregate estimate

It can be seen that, in addition to the extreme case of textiles, relatively high price elasticities are shown by metals, metal products, machinery and foodstuffs, a situation found in practically all the studies analysed. Refined petroleum products, cotton and building materials (comprising wood, stone, clay, glass and plastic products), highly relevant to TRACECA transit traffic, also have moderately high elasticities. The commodities with very low or negative elasticities tend to be the heavier bulk commodities such as crude oil, lumber, mineral ores and coal. The estimated aggregate elasticity for all commodities is 1.5.

Given the limited data available for analysis, the above estimates should be regarded as first approximations to be refined by TRACECA marketing specialists in the light of detailed observations and study in the region.

Appendix A

STUDIES CONSULTED IN THE RAIL FREIGHT PRICE ELASTICITY ANALYSIS.

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TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 5

**Traceca Transit Tariff
Freight Forwarder Attitude Survey**

Edition 1



TTTA TECHNICAL NOTES.

Technical Notes Issued by the TTTA.¹

Prepared UPTFT project

Technical Note 1.	Price Setting Handbook. Edition 1.
Technical Note 2.	Best Practice for Trader Access to Railways. Edition 1.
Technical Note 3.	Strengthening Railway Marketing. Edition 1.
Technical Note 4.	Estimation & Use of Price Elasticities of Demand. Edition 1.
Technical Note 5.	Freight Forwarder Attitude Survey.
Technical Note 6.	TTT Draft Regulatory Document

¹ The TTTA is the designated name of the Traceca Transit Tariff Agency. One of the key roles of the TTTA is to carry out research and to issue advice to TTTA partners. To best utilise the work of the UPTFT project, its outputs have been configured as Technical Notes that could be issued by the TTTA.



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1 Rationale and Purpose of Freight Forwarders Survey

In 2002 the Freight Forwarders survey was carried out. Purpose of the survey was to establish the following:

- Views of users of TRACECA route on tariff policy
- Issues TRACECA users would like to change in tariff setting procedures
- Hidden charges freight forwarders face while sending a shipment through TRACECA
- Issues that should be addressed apart from pricing to improve access by traders or shippers to TRACECA services
- Factors, which users consider most important when choosing a route to ship goods
- Commodities transported by freight forwarders, choice of transport modes for them and reasons for preferring them
- View of freight forwarders on national railway organizations
- Main obstacles on TRACECA corridor
- Availability of information on TRACECA
- Collect Freight forwarders information for the TRACECA User Guide.

2 Organisation, Methodology and Sampling

In April – May 2002 several designs of the questionnaire were produced and the final one was forwarded to TPWG. In June the final design was approved by TPWG in Protocol.

In May the process of choosing freight forwarders started. The main requirements included for the freight forwarders were the following: the freight forwarder should be an independent company with no shares owned by the national railway organization; they should be carrying goods using railways; have wide experience using Traceca and have a national accreditation.

In July, after the final version of the questionnaire was approved by TPWG, it was distributed among chosen freight forwarders. The method of survey was interview-led. Local representatives were used to interview freight forwarders in person. This method was proved successful as most of the questions could be clarified on site. Ian Smith and John Crawford piloted the questionnaire during their site visit in May.

We were planning to interview 51 forwarding companies. Unfortunately, only 40 of them were fit to be analyzed for various reasons. Below is a breakdown of responses by countries:

Country	Planned	Received	% (Received/Planned)
Azerbaijan	3	2	67%
Bulgaria	5	6	120%
Georgia	8	8	100%
Kazakhstan	5	3	60%
Moldova	4	4	100%
Romania	5	6	120%
Tajikistan	5	1	20%
Turkmenistan	5	2	40%
Ukraine	7	8	114%
Uzbekistan	5	0	0%
Total:	51	40	78%

All participants were official accredited freight forwarders in their countries. 35% were accredited in foreign countries. Participated freight forwarders expressed their wish to be included into the TRACECA User Guide at a later stage.

In August and September questionnaires received started being analyzed to formulate appropriate recommendations. Results of the survey were presented to representatives of Traceca railway organizations in Baku in October 2002.

3 Conclusions arising from the survey and suggested actions

Results from the survey show that customers are dissatisfied with the following issues when dealing with national railways:

- Lack of unified tariff policy in TRACECA corridor
- Absence of a through flat rate along TRACECA corridor.
- Complicated Tariff currency and exchange rates
- Propensity of hidden charges
- Excessive bureaucratic procedures and formalities
- Lack of unified requirements for conditions of carriage in TRACECA corridor
- Delays as a result of customs and border-crossing procedures
- Lack of information of TRACECA
- Lack of customer satisfaction concept

The study revealed a consistent failure of railway companies to understand and fulfil the needs of freight customers. In general, railways proved too slow to respond to requirements of the market, in which they operate.

In order to change the situation it is necessary to switch the focus towards the market, study its needs and give commercial departments more say in the decision-making process. This will require a significant change of culture of railway organisations. The activities of railway management will need to switch to identifying, understanding and responding to the needs of railway customers; developing tools to measure customers' needs and requirements and procedures, which ensure that they're met; identifying costs and income from different types of traffic and customers; developing a marketing organisational structure within the railways and on TRACECA level, which will ensure that railways satisfy new commercial goals.

Just setting up procedures and systems won't automatically guarantee success. The right attitudes of customer awareness need to be developed on all levels of TRACECA machine, starting from Traceca Secretariat and Heads of Railways to the lowest operating staff level. This is a big challenge due to a large number of railway organisations and diversion of corporate cultures.

One of the ways out for Traceca railways is to adopt an unified Inter-modal Commercial Strategy. The draft of which can be found in CHR draft protocol.

The survey also pointed out how important is tariff issue to railway customers. Tariff policy issues, such as introduction of unified tariff policy, tariff rates and charges, hidden charges, currency and exchange rates have already been addressed in a framework of this project. It resulted in production of a Price Setting Handbook, which has binding effect on all railways in regards to transit traffic through TRACECA.

Delays as a result of customs and border-crossing procedures and unified conditions of carriage are part of an ongoing project targeted on improving border-crossing procedures and Traceca legal base.

In order to improve customers' access to TRACECA railways in terms of **information availability and commercialisation of railways' practices** some necessary steps should be undertaken. Recommendations are given below in order to improve the following:

- Lack of information of TRACECA
- Lack of customer satisfaction concept
- Excessive bureaucratic procedures and formalities
- Delivery timing on the route
- Complex negotiation procedures,
- Lack of consignment tracking and monitoring
- Lack of common standards of trader access

Please, note that we recommend the following solutions, but whether they will be taken or not is your decision and it will require additional funds and your thorough consideration.

Conclusion - Lack of information on TRACECA

Recommendation:

As the survey indicated most of information freight forwarders gather from personal contacts, agents and partners. There is no single database for TRACECA users.

User Guide

In the framework of this project a User Guide for transport operators, consignors and consignees wishing to use the TRACECA transport network will be prepared. It will be in the booklet form and in the form of the web site.

As planned the User Guide it will contain the following:

- List of TRACECA member states
- Summary of the main tariffs and transit fees
- Road, rail, port and shipping route maps
- Main operators with contact details
- Traceca authorities contact details
- Relevant projects
- Routes in the region
- Notice of changes of regulations
- Summarised trading conditions
- Advertising of operators and Traders

It will have forms of unified Bill of Lading and enquiry forms for consignors at a later stage after they are developed. On the web site users will be able to download them.

Traceca users will have an opportunity to register on User Guide site, which will provide useful information for the Traceca customer base.

User Guide site and brochure can provide space for advertising of services, which can provide additional cash inflow to TTTA.

Development and site maintenance can be done either by IT person / IT group working in the TTTA or by contract with an outside party.

Technical requirements will include procuring a powerful server, separate broadband internet line and etc. Technical requirements will need to be developed in full detail.

Traceca Newsletter

Newsletter is an excellent tool for informing Traceca users on monthly events, progress of various projects and policy changes. It can be produced monthly in an electronic format and e-mailed to site users or can be viewed online.

Putting Newsletters together will be a responsibility of a Marketing Intelligence Department and its publication – IT group.

Creation of a Help Line service

Telephone Help Line or Information service can be a useful tool for providing information on Traceca services, answering questions regarding Traceca work, and directing people to relevant contacts in case of problems.

This service will require reliable telephone lines and an operator who will be handling the calls. A separate telephone number should be dedicated to the help line service. This service will need to be established within the TTTA or Market Intelligence Department.

Key Conclusion - Excessive bureaucratic procedures and formalities

The problem of having unified transit documentation and simplification of customs and border crossing procedures is being address by Harmonisation of Border Crossing Procedures project and Common Legal Basis for Transit Transportation project. Also, the Code of Best Practice (Technical Note 2) gives specific guidelines on improving traffic handling procedures.

Recommendation:

Faster handling of transport documentation can be achieved by establishing customer care/customer relations centres in the railways, which are to deal with all procedures of handling enquiries, requests approval and dealing with additional information needs. In future they can evolve into the sales force of railways. Their main responsibilities may include:

- Maintaining close contact with main customers and communicating with potential clients who are thinking of using the route;
- Representing the needs of customers;
- Reporting sales/traffic carried figures for Traceca;
- Collection of intelligence information on competitors;
- Processing requests for freight transportation

Deadlines for handling requests should be set up and railways must take care and meet them.

It will be useful if Customer Care departments for handling Traceca transit freight become a standard in railways and it will be railways responsibility to set them up. They can provide useful information for the TTTA.

Customer Care departments can handle other types of freight but this is will be on railways discretion.

Key Conclusion - Lack of customer satisfaction concept

Recommendation:

As mentioned in the above section it is necessary to introduce Customer Care departments within railways.

Customer Help Line will be another tool of information exchange with customers. Traceca customers may also ask questions and receive information through the e-mailing service.

Customer satisfaction concept should become part of corporate culture not just in TTTA but also on all structural levels of participating railways. The right attitudes of customer awareness need to be developed on all levels of TRACECA, starting from Traceca Secretariat and Heads of Railways to the lowest operating staff level.

Key Conclusion - Delivery timing on the route**Recommendation:**

A number of things are already being done to improve delivery time in Traceca:

- Harmonisation of border-crossing procedures project, which should improve customs and border-crossing procedures;
- Many railways are working on improving condition of railways infrastructure, which will result in reduction of speed restrictions.

Standard delivery times for different destinations should be calculated and officially approved. The Code of Best Practice should contain delivery time guidelines, which are to be met by railways on Traceca routes. Railways need to make sure they meet promised deadlines. Customer need to be informed if delivery is late, explaining the reasons and expected time.

Issue - Lack of consignment tracking and monitoring**Recommendation:**

Not all railways can boast a system of consignment tracking and monitoring. Very often railways don't have reliable lines and systems to track consignments.

In future, when the network is in place it is strongly recommended that such system is installed. Customers need to be informed, if requested, on their consignment position. It makes sense to allow customers to track their freight system online when technology is right.



Issue - Lack of common standards on trader access

Recommendation:

Lack of common standards on trader access is dealt in a Code of Best Practice (Technical Note 2). This document should be thoroughly revised and made obligatory for railways, which are part of the Agreement.

Appendix A shows our view on the Marketing Function in Traceca and is a food for thought. If future our suggestions can be elaborated and implemented. But we leave this in your discretion.

Appendix B contains the presentation of survey results, which took place in October 2002.

APPENDIX A - SETTING UP TRACECA MARKET INTELLIGENCE FUNCTION WITHIN TTTA

Need for a Market Intelligence Function

Most TRACECA Railways have just started to establish marketing structures within their organisations and they haven't started functioning properly yet. Therefore making business for shippers and traders with Railways a very complex task. They have to go through complex procedures as transportation should be planned in advance and it involves many different departments within Railways. Therefore, traders commonly use services of freight forwarders to overcome difficulties of dealing with Railways directly as was mentioned previously.

Besides having Marketing departments in each railway, it will be useful to establish a Market Intelligence Function within TTTA responsible for creating a joint Marketing strategy for all participating railway companies. It can also be responsible to maintaining the main databases of traders and tariff rates of neighbouring countries and operating the computerised model.

Proposed Marketing Organisational Structure

Marketing function in Traceca is currently greatly undervalued. We believe that not just the technicalities are important but Traceca **should adopt common marketing strategy for the corridor** and market its transit services on a global level centrally. It is time for individual railway organisations to step down from their individualistic positions and think about running a profitable and successful transport corridor together.

Currently there is no structure on TRACECA level overlooking strategic marketing issues and this issue is not being addressed.

The position of marketing department within any organisation reflects the significance of the function and determines significance in achieving goals. New structure should allow the following:

- Active communications between Secretariat of TRACECA, Head of TRACECA Marketing Department and Heads of Marketing Departments in Railways when they understand the significance of customer-oriented culture;
- Successful co-ordination of commercial and operational activities in railways;



- Deciding marketing strategies for Traceca under single Traceca Market Intelligence Function with consultation and input from participating railways. Individual domestic railway marketing policies to be dealt with by railways themselves;
- It will be advantageous if railway organisations will have all elements of the marketing mix under their management, that is sales, advertising and promotion, pricing, market research and planning, and, ideally, a group providing advice on technical condition of carriage and logistics. Marketing departments' structure in railways maybe functionally based or service based or they can be established as separate business unit – it doesn't matter and we are not dealing with it here, but what is important – they should exist and have their say in railways activities.

Appointment of Head of Market Intelligence Function.

Ideally, the person who will become Head of TRACECA Market Intelligence Function should be the person, who is dealing with railways but not part of it. He/she can have a freight forwarding background with experience in managing marketing activities for the company. It will ensure that this person knows thoroughly situation within the railway sector but also aware of market needs and thinks “outside the box”.

Head of the Market Intelligence Function should be the person outside of the Railway community, possible a person, who used to work for some major international freight forwarding company and who's got the outside knowledge about dealing with Railways and other organisations as a third person.

Marketing Management Process and Areas of Responsibilities

Marketing or commercial department takes the main responsibility for translating customer needs into service requirements and communicating them to the service providers and insuring that they satisfy customer needs.

An active communication between Traceca marketing body and individual marketing departments should be established. If the first one decides that the block trains should operate across the route, the joint decision should be made about pros and cons between the latter.

Forecasting, pricing policies, providing advice to customers on logistics and conditions of carriage, Traceca promotion, maintaining User Guide (which is part of advertising and promotion) will be the main activities of Market Intelligence Function. It is important to mention that activities of TRACECA Market Intelligence Function and marketing department of individual railways should function in harmony with one another and supplement each other in order to maximise effect on the market.



Forecasting Function

- Receipt, analysis and maintenance of information on potential Traceca traffic.
- Advisory services to TTT signatories of potential market opportunities
- Research and advise on appropriate tariffs and other service attributes required for new market opportunities or for enhancing, or retaining existing traffic.

Logistics and conditions of carriage function

This function will advise customers in conditions of carriage, traffic handling issues and materials handling requirements.

This group can also provide telephone line help service, which was mentioned in previous sections.

Advertising and Promotion Function

This function will be responsible for all types of advertising, participating in exhibitions and fairs, and also maintaining User Guide site, distribution of printed materials, and preparation of newsletters.

Marketing Activities

Traceca Marketing Plan

One of the first and ongoing objectives of a centralised Traceca Marketing Department will be to produce strategic marketing plan.

It should be done with close co-operation from individual railways. Traffic forecasting... It will be a good tool for expressing commercial objectives of the corridor; strategies of realisation of these objectives and the actions to be taken in order to realise strategies set.

What should be included into the marketing plan:

- Mission statement for TRACECA.
- TRACECA Objectives
- SWOT Analysis
- TRACECA Strategies
- Actions
- Forecast of traffic, financial figures – revenue and profit projections
- Resources
- Analysis/audit of results



Marketing plan should contain strategies by individual market segments.

Carrying out Surveys

Few have marketing departments and none carry out regular market research. It is necessary to carry out regular market researches.

Gathering information on market segments

Marketing strategies also should be applied in different traffic/market segments. It is important to know what factor is the driver when customers make decision about which mode of transport to choose. As the cheapest service might not be selected if other requirements like transit reliability or consignment security or delivery time are not present.

Different market segments will typically have different priorities in terms of price and service factors. If customers needs are identified, railways will be in a better position to apply specific price and service marketing strategies to seize those traffics.

Customer Database

To understand how to improve customer access to railways first it is necessary to know railway existing and potential clients. The first step is to create a database for each participating country in TRACECA with current and potential railway customers. It should contain all contact information, specialisation, details of production volumes, transport volumes, dates and volumes of each shipment, their clients, etc.

Marketing departments in Railways should lead the actual production of the database and be fully involved in the project.

This database should be updated on a regular basis and include information of all Traceca customers including:

- Name of the company and location;
- Personal contacts;
- Nature of business;
- Main outline of corporate structure;
- Market share;
- Commodities transported and routes used;
- Traffic volumes transported and transportation requirements (frequency of service, special loading/unloading facilities);
- Current tariffs and discounts applied;
- Any other relevant information.



Collecting information on competitors

One of the main functions of marketing function is to gather, analyse and act on activities and strategies of competitors. If competitors strategy becomes known to Traceca marketing function, railways can react accordingly in time or even lobby their governments in order to achieve a more competitive basis.

Gathering information not only on market segments but also on competitors will help railways to apply successful customer-oriented strategies and secure more traffic.

Tariffs of neighbouring countries

In order to constantly monitor competitiveness of TRACECA route in comparison with other routes including those of competing railways outside TRACECA it will be useful to create a database of tariff rates of other countries. A person should be appointed to be responsible for monitoring tariff rates and updating the database. This database should be maintained and updated.

Based on the above-mentioned database a computerised model can be developed in future, which will calculate:

- Cost of shipping particular commodities through the TRACECA route
- Approximate total cost of a commodity shipped from A to B (Turkmenistan to Italy) to the customer taking into account transportation costs. For example, price for a tonne of cotton from Turkmenistan to Italy. This will involve collection of data on tariffs of neighbouring countries (both rail and ports).



APPENDIX B - TRADER ACCESS SURVEY OF FREIGHT FORWARDERS USING TRACECA ROUTE

Agenda

1. Objectives of the Survey
2. Organisation of the Survey
3. Methodology and Sampling
4. Interim Survey Results
 - 4.1 Rail Tariffs and Rates
 - 4.2 Factors Affecting Mode and Route Choices
 - 4.3 Rail Performance
 - 4.4 Sources of Information
5. Conclusions
6. Next Steps

1. Objectives of the Trader Access Survey

Purpose of this presentation is to show interim results of the Trader Access Survey. More specifically, establish the following:

- Views of users of TRACECA route on tariff policy
- Issues TRACECA users would like to change in tariff setting procedures
- Hidden charges freight forwarders face while sending a shipment through TRACECA
- Issues that should be addressed apart from pricing to improve access by traders or shippers to TRACECA services
- Factors, which users consider most important when choosing a route to ship goods
- Commodities transported by freight forwarders, choice of transport modes for them and reasons for preferring them
- View of freight forwarders on national railway organisations
- Main obstacles on TRACECA corridor
- Availability of information on TRACECA.

And to collect Freight forwarders information for the TRACECA User Guide.



2. Organisation of the Trader Access Survey

April – May - Several designs of the questionnaire were produced

May - the process of choosing freight forwarders started

June - the final design was approved by TPWG in Protocol

July - the questionnaire was distributed among freight forwarders

August – September – questionnaires received were being analysed to formulate appropriate recommendations

3. Methodology and Sampling

- o ♦ Planned number of freight forwarders to interview – 51
- o Questionnaires analysed so far – 40
- o Breakdown of responses by countries:
- o The method of survey was interview-led. Local representatives were used to interview freight forwarders in person.
- o This method was proved successful as most of the questions could be clarified on site.
- o ♦ The Questionnaire was piloted in May 2002.

Country	Planned	Received	% (Received/Planned)
Azerbaijan	3	2	67%
Bulgaria	5	6	120%
Georgia	8	8	100%
Kazakhstan	5	3	60%
Moldova	4	4	100%
Romania	5	6	120%
Tajikistan	5	1	20%
Turkmenistan	5	2	40%
Ukraine	7	8	114%
Uzbekistan	5	0	0%
Total:	51	40	78%

The survey studied 40 freight forwarders from the following countries-participants in TRACECA: Azerbaijan, Bulgaria, Georgia, Kazakhstan, Moldova, Romania, Tajikistan, Turkmenistan and Ukraine.

All participants are official accredited freight forwarders in their countries. 35% are accredited in foreign countries.

Participated freight forwarders expressed their wish to be included into the TRACECA User Guide.



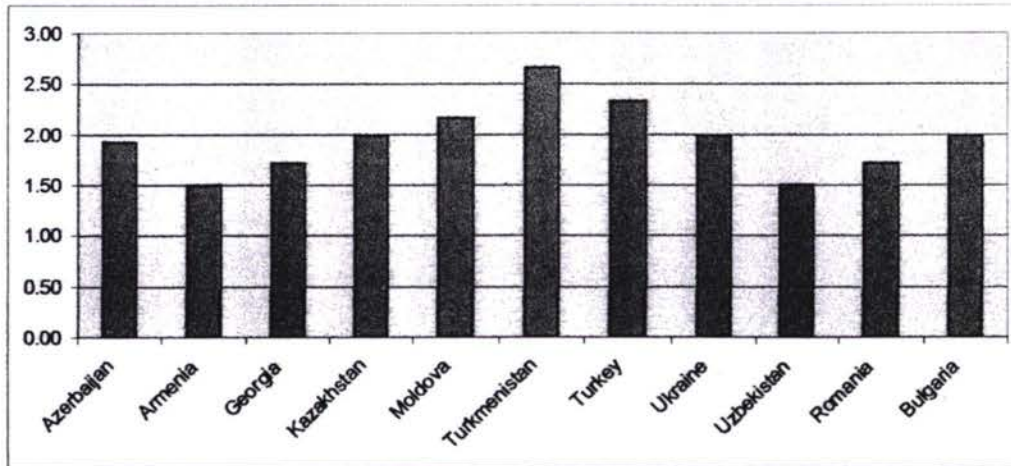
4. Interim Survey Results

4.1 Interim Survey Results: Rail Tariffs and Rates

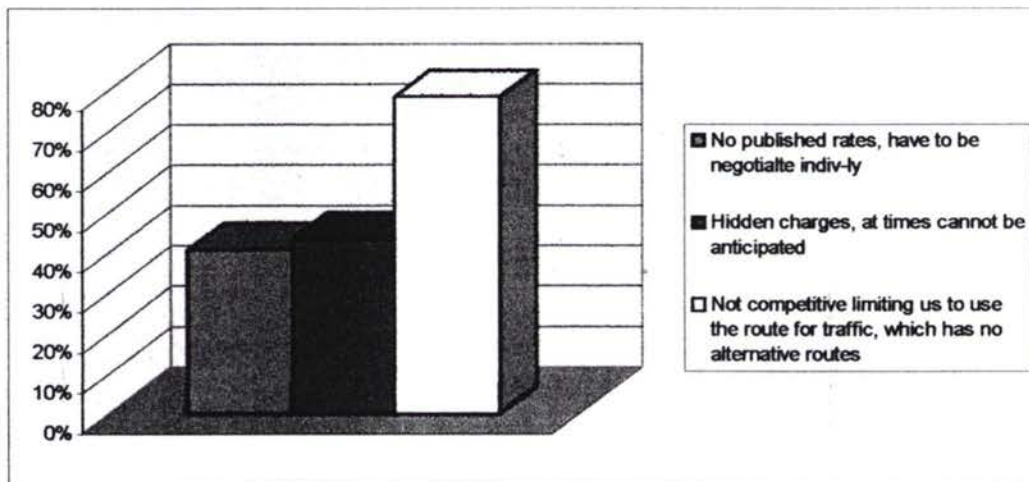
Respondents were asked to name the three most expensive national railway organisations in prioritised order. The most expensive named was given the score of 3, second – 2, the 3d most expensive – 1.

The most expensive railway organisation was named Turkmenistan railways (average score – 2.67), second – Turkey (2.33) and third place was divided between Kazakhstan, Ukraine and Bulgaria (2.00).

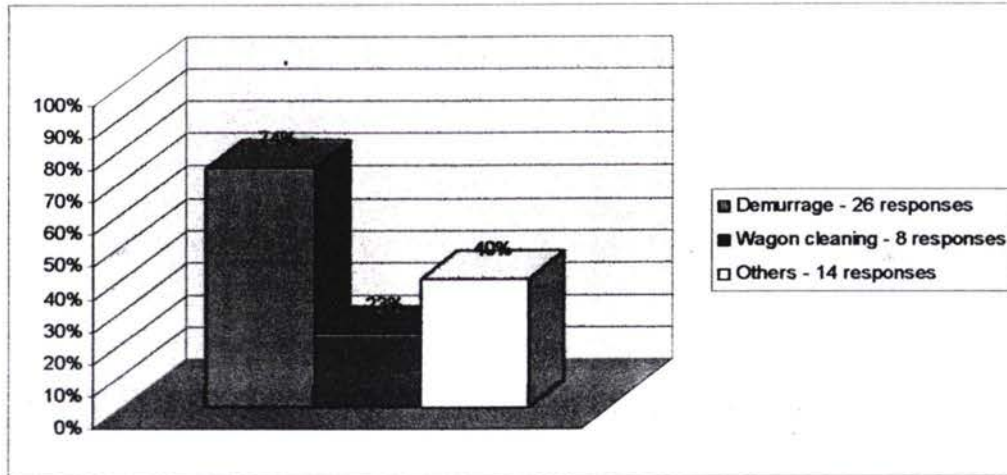
Answered by 29 respondents.



78% of respondents answered that railway tariff rates in TRACECA region were “Not competitive limiting us to use the route for traffic, which has no alternative routes”. Answered by 37 respondents.



Among hidden charges that are the most common and cannot be anticipated beforehand but influence the total transportation cost most freight forwarders named demurrage. Answered by 35 respondents.



Other hidden costs indicated by respondents included:

- Corrupted customs and other controls
- Changes of exchange rate between currency of payment and currency of tariff imposed by the railway
- Poor legal basis and absence of unified policies in the corridor
- Delivery time and handling in ports
- Technical conditions of carriage

Freight forwarders were asked if they would use railway services more if tariffs are decreased by 10, 25 and 50%. Below on the tables are the answers for different types of commodities. 35 freight forwarders answered this question.

Tariffs are reduced by 10%

5% increase for oil products, food and others	1
Glass bottles	1
General cargo	1
Total:	3



Technical Note No 5 Freight Forwarder Attitude Survey

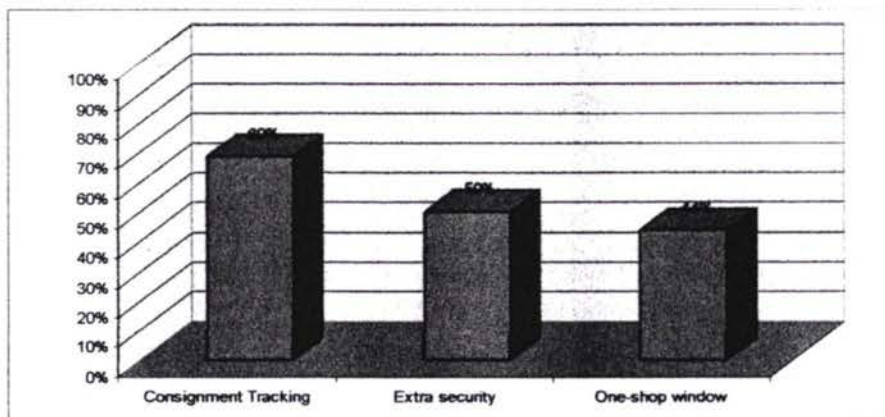
Tariffs are reduced by 25%

10% increase for oil products, food and others	1
Containers	2
Cotton	1
Glass bottles	1
Canned food	1
Oil products	1
Wine	1
Metal	3
Agricultural products	2
Machinery, equipment	2
Bulk and liquid cargo	3
All types	3
Total:	21

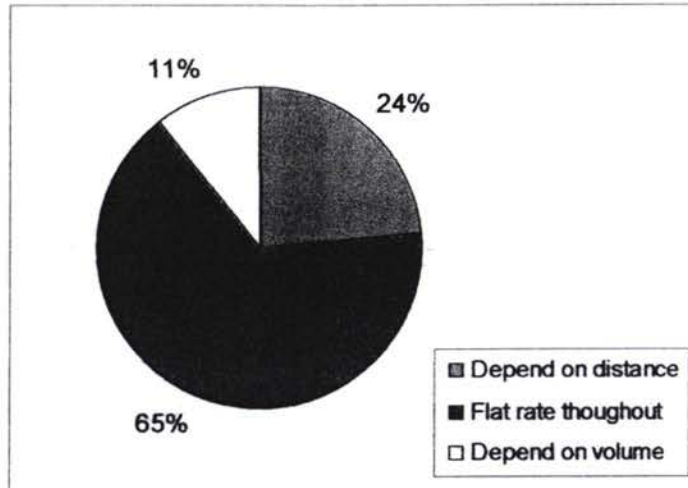
Tariffs are reduced by 50%

20% increase for oil products, food and others	1
Cigarettes and tobacco	1
Liquid cargo	1
General cargo	1
Food products (inc.canned)	2
Metal	1
Timber	1
Wine	1
Humanitarian goods	1
Construction materials	1
All types	8
Total:	19

Respondents were asked if they would pay extra for Consignment Tracking, Extra security, One-shop window. Out of 40 freight forwarders 8 said that they wouldn't pay extra as it should be part of the service. The breakdown of opinion of the others is as follows:



Freight forwarders were asked what they would you like to change in tariff-setting procedures.



Most forwarders would like to have a flat rate through TRACECA – 66% (25 responses). 24% (9 responses) were for tariff rates depending on distance, on which the goods are carried. And other 11% (4 responses) were suggesting that tariff-setting procedures were depending on volume of shipment.

Comments included: to have discounts based on the period of prepayment and regularity of delivery. 38 respondents answered this question.

Respondents were asked if they are satisfied with current payment conditions. One third of freight forwarders answered “yes” (14 responses) and two thirds – “no” (24 responses). 38 respondents provided their opinion on this matter.

Reasons for lack of satisfaction:

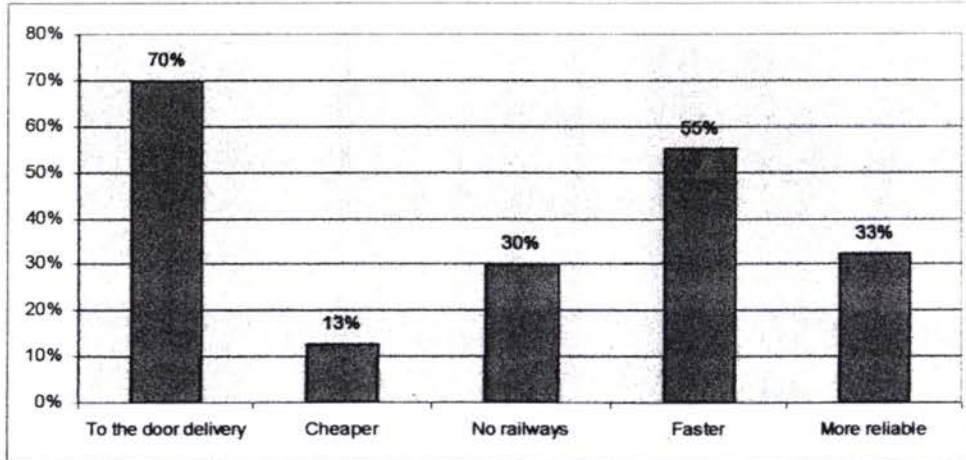
- Prepayment conditions
- Provide credit conditions for big freight forwarding companies with big freight turnover
- Different payment methods (letter of credit)
- More stable tariff rates not depending on changes in currency rates



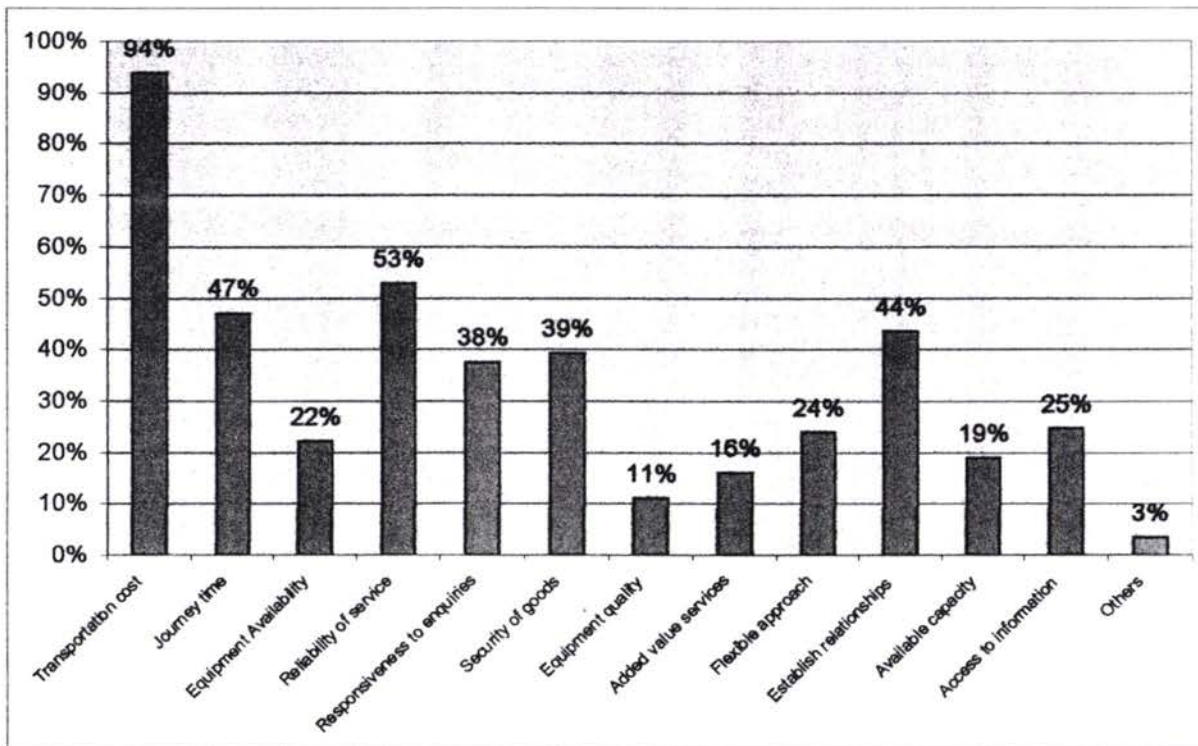
4.2 Interim Survey Results: Factors Affecting Mode and Route Choices

68% of respondents use both railway and road transport and gave the following reasons for preferring road transport for some commodities:

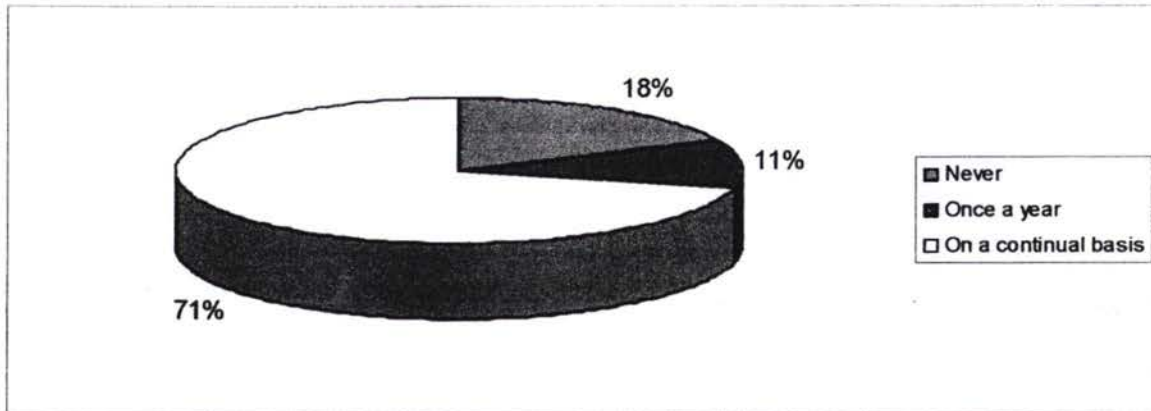
Answered by all 40 respondents.



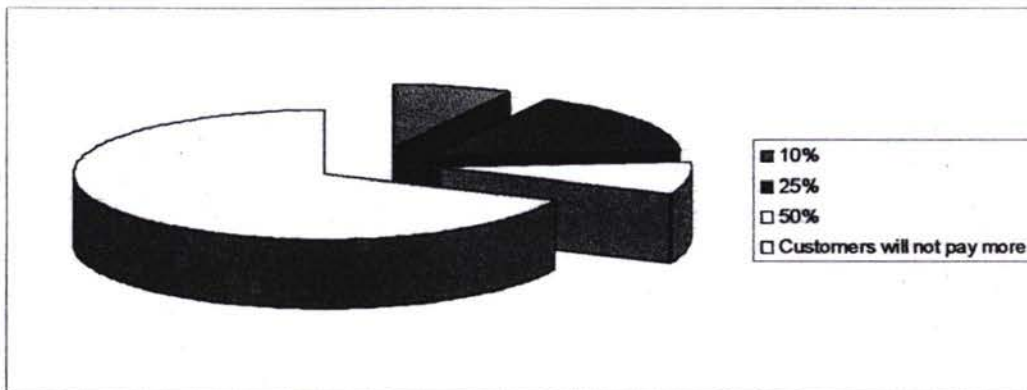
37 respondents named the following factors, which most influence decision regarding the route choice.



Most of 40 respondents-freight forwarders review their transport strategy on a continual basis. Out of 7 respondents, who never reviewed their strategy, 4 are not using road transport at all.



68% of respondents indicated that they wouldn't pay more for railway services in case of transit time improvement. Answered by 37 respondents.



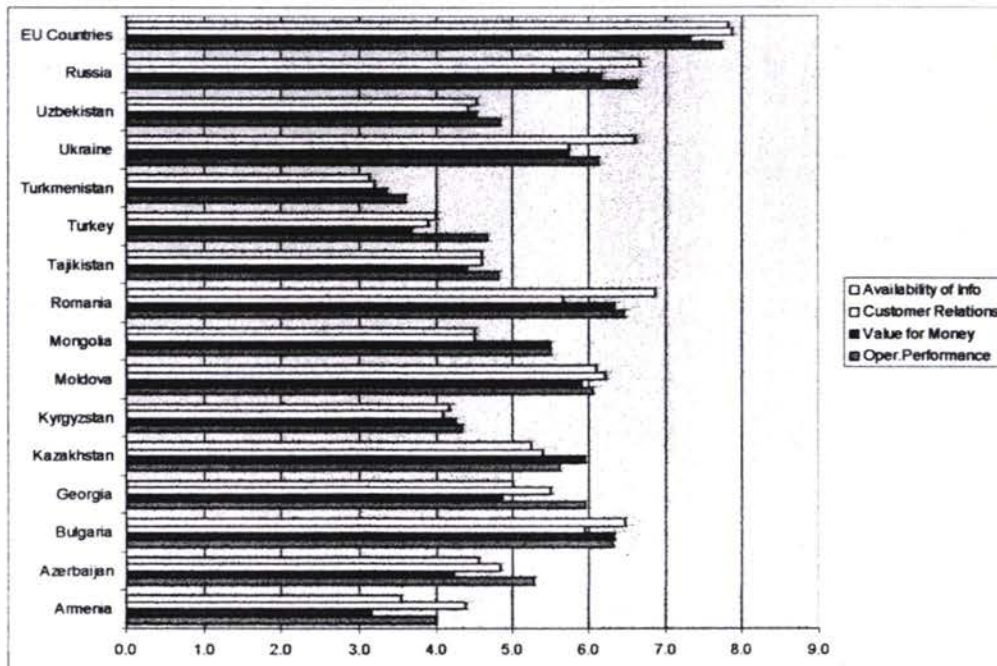
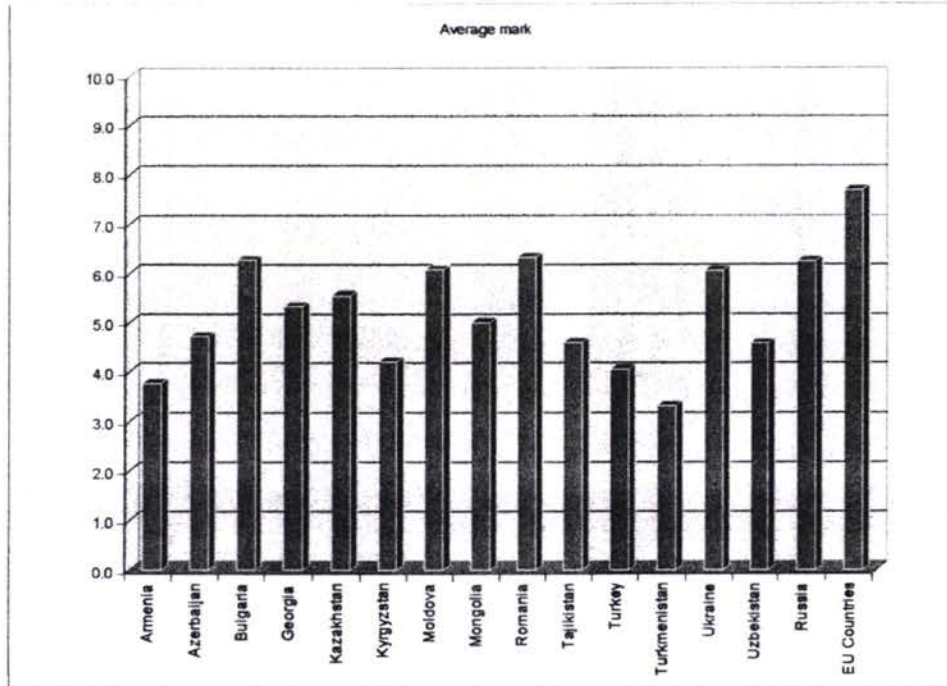
4.3 Interim Survey Results: Rail Performance

Freight forwarders were asked to evaluate the performance of national railways they work with on 1 to 10 scale (1 – the lowest mark, 10 – the highest). Below are results for national railways by countries:

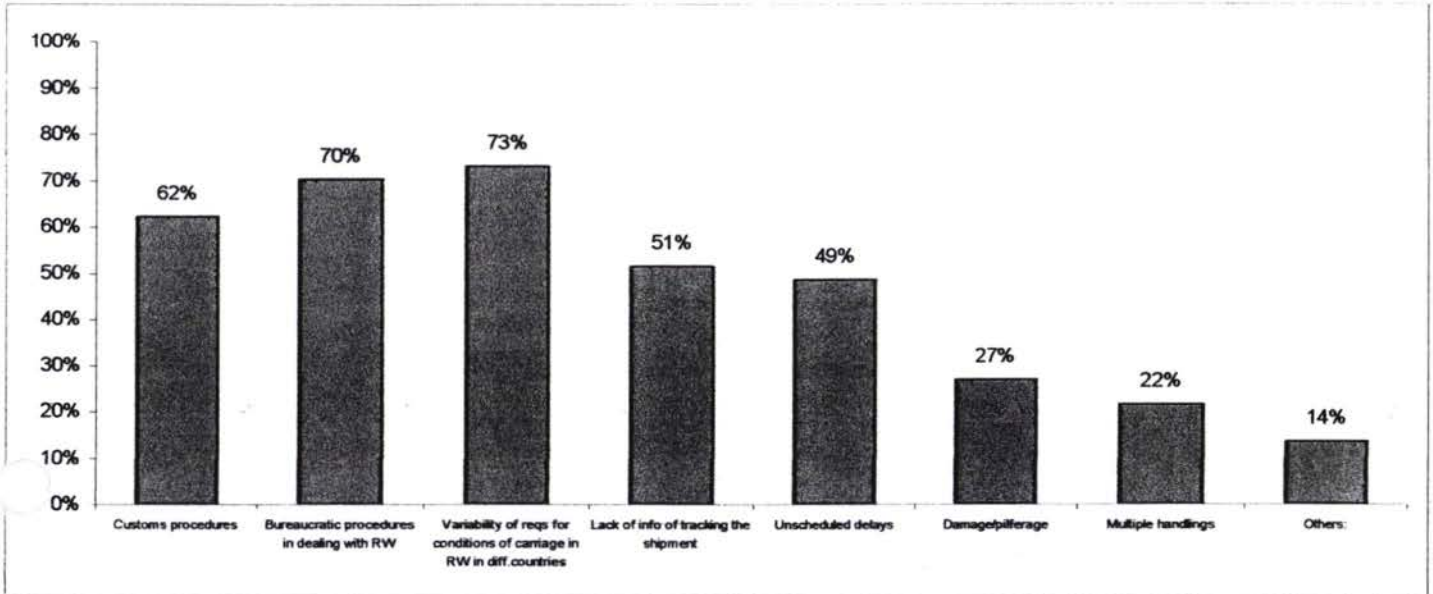
Armenia	4.0	3.2	4.4	3.5	3.8
Azerbaijan	5.3	4.2	4.8	4.6	4.7
Bulgaria	6.3	6.3	5.9	6.5	6.3
Georgia	6.0	4.9	5.5	5.0	5.3
Kazakhstan	5.6	6.0	5.4	5.2	5.6
Kyrgyzstan	4.3	4.3	4.1	4.2	4.2
Moldova	6.1	5.9	6.2	6.1	6.1
Mongolia	5.5	5.5	4.5	4.5	5.0
Romania	6.5	6.3	5.7	6.9	6.3
Tajikistan	4.8	4.4	4.6	4.6	4.6
Turkey	4.7	3.7	3.9	4.0	4.1
Turkmenistan	3.6	3.4	3.2	3.1	3.3
Ukraine	6.1	5.7	5.7	6.6	6.1
Uzbekistan	4.8	4.5	4.4	4.5	4.6
Russia	6.6	6.2	5.5	6.7	6.3
EU Countries	7.7	7.3	7.9	7.8	7.7



Technical Note No 5 Freight Forwarder Attitude Survey



Freight forwarders (37 responded) indicated the most difficult obstacles they endure when sending a shipment through TRACECA route:



Other obstacles, which were indicated, included:

- ◆ Uncompetitive tariffs
- ◆ Constant fastening or supporting of transit cargo (costs add. Money) + 20USD per wagon to track the shipment
- ◆ Corruption and bribery
- ◆ Readdressing of cargo and making relevant changes in a Way Bill;
- ◆ Inexpedient changes of tariffs;
- ◆ Lack of info: Georgia, Azerbaijan, Armenia, and Turkmenistan
- ◆ Corruption of control services (radiological, ecological and etc.)
- ◆ Border crossings
- ◆ Customs procedures in particular crossing the territories of Uzbekistan and Kazakhstan

Freight forwarders were asked to prioritise factors, which need improving in the way railways conduct business on 1 to 10 scale (1 – the lowest mark, 10 – the highest).

Tariffs level	8.1
Standard Conditions of Carriage	7.1
Simplified Documentation	6.6
Rate Negotiations	6.4
Customer Relations	5.9

Other factors for improvement included:

Unified Tariff policy, currency exchange rates	10
Transparency and work on opened basis	10
Reduction of transit time	8
Bureaucratic procedures	5
Ageing of wagons	5



4.4 Interim Survey Results: Sources of Information

Freight forwarders named the main sources of the following information:

	Number of ff answered	Official sources	Personal contacts	Software/ Internet
Price Information	34	50%	44%	12%
Tariffs and rates of competing transport modes	26	31%	77%	8%
Import rules and regulations of foreign countries	26	38%	62%	31%
Methods of shipping	24	54%	46%	17%
Government Export Regulations	26	65%	35%	12%
Port Charges	27	63%	48%	7%
Documents connected with Foreign Trade	22	55%	32%	32%
Changes in Tariffs	28	61%	46%	21%

Most of information freight forwarders gather from personal contacts, agents and partners. There is no single database for TRACECA users.

5. Conclusions

Freight forwarders indicated the following issues, which require immediate attention for improving access to railways for TRACECA users:

- o Adopt a unified policy in TRACECA corridor
- o Competitive transit tariff rates – opportunity to attract more cargo
- o Introduction of flat rate along TRACECA corridor
- o Tariff currency and exchange rates
- o Eliminate to the minimum hidden charges
- o Eliminate to the minimum excessive bureaucratic procedures and formalities
- o Unified requirements for conditions of transportation along TRACECA corridor
- o User Guide, which provides sufficient amount of information for users of TRACECA route

TRACECA TRANSIT TARIFF AGENCY



TECHNICAL NOTE 6

**Traceca Transit Tariff
Draft Regulatory Document and
Explanatory Notes**

Edition 1

TTTA TECHNICAL NOTES.**Technical Notes Issued by the TTTA.¹****Prepared UPTFT project**

Technical Note 1.	Price Setting Handbook. Edition 1.
Technical Note 2.	Best Practice for Trader Access to Railways. Edition 1.
Technical Note 3.	Strengthening Railway Marketing. Edition 1.
Technical Note 4.	Estimation & Use of Price Elasticities of Demand. Edition 1.
Technical Note 5.	Freight Forwarder Attitude Survey.
Technical Note 6.	TTT Draft Regulatory Document

¹ The TTTA is the designated name of the Traceca Transit Tariff Agency. One of the key roles of the TTTA is to carry out research and to issue advice to TTTA partners. To best utilise the work of the UPTFT project, its outputs have been configured as Technical Notes that could be issued by the TTTA.

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Draft

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Draft

TRACECA TRANSIT TARIFF POLICY FOR INTERNATIONAL FREIGHT TRANSPORTATION BY RAIL PORTS AND SHIPPING

1 PREAMBLE

1.2 Parties to the agreement

The said Traceca Transit Tariff Policy (TTT) is a product of the Basic Multilateral Agreement (MLA) on International Transport for the Development of the Europe-Caucasus Asia Corridor signed on 8th September 1998 in Baku for and on behalf of:

The Republic of Armenia - ARM
The Republic of Azerbaijan - AR
The Republic of Bulgaria – BR
The Republic of Georgia - GR
The Republic of Kazakhstan - KR
The Kyrgyz Republic - KRG
The Republic of Moldova - RM
Romania - R
The Republic of Tajikistan - TR
The Republic of Turkey - TUR
The Republic of Turkmenistan - TKR
Ukraine - U
The Republic of Uzbekistan - UZR

and by their hand are hereinafter known as the Parties to this agreement.

1.3 The subject of this agreement

The subject of this agreement concerns a common tariff policy and *inter alia* a common basis for its derivation and application by the Parties to this agreement.

1.4 Railways Ports and Shipping Lines

The railway, ports and shipping lines implementing this agreement are the national railways of the Parties to the agreement, the Ports of Varna, Borgas, Samsun, Illechevsk, Odessa, Batumi, Poti, Baku, Turkmenbashi, Aktau, the Caspian Shipping Company and UKRAFERRY.

1.5 Policy of the TTT

The TTT particularly responds to Articles 3,5 and 6 in the main part and articles 4 and 6 in the technical annex of the Basic Multilateral Agreement. In particular it aims to ensure that

Traceca provides alternative transport routes to secure international trade for the parties to this agreement and that services provided on Traceca are economically sustainable.

1.6 Objectives of the TTT

In accordance with the agreed policy goals the objectives of the TTT are *to simplify and unify rail tariff policy and integrate it with ports and shipping to reflect the intermodal nature of international transportation in Traceca.*

1.6.1 Outcomes from the TTT

In pursuance of the stated objective, the parties to this agreement through their harmonious actions and through the unification of tariff policy expect to consolidate the position of TRACECA as an alternative trade route and enhance the interest in the services provided.

1.7 Relationship with other Tariff Policies

In its formulation the TTT takes many of its general and specific conditions from the Tariff Policy of Railways Administrations of the Commonwealth of Independent States dated 17th February 1993 and as subsequently amended and will continue to utilise new or revised conditions in the CIS Railway Tariff Policy as is considered appropriate for Traceca.

1.8 Coordination

The coordinating authority for this agreement shall be the Traceca Secretariat.

1.9 Changes to this Agreement

1.9.1 Notification of Changes

Changes to this agreement shall be made in writing by any Party to this agreement to the coordinating authority who shall in writing notify all other Parties to the agreement of the said changes.

1.9.2 Conferences

Changes shall be made at meetings of the parties convened by the Coordinating Authority not less than annually.

2 GENERAL PROVISIONS

2.2 Definitions

2.2.1 International Freight transportation

The provisions of the TTT shall apply to 'international freight transportation' by rail, by rail ferry or other maritime vessels regardless of document types passing through the territories of the Parties whose origin or destination are beyond the boundaries of one or all of the Parties and which traverses over those parts of the transport system defined in Annex A 1 known as 'Traceca'.

2.2.2 Railways ports and shipping

The term 'Railways' encompasses all or part of those railways defined in Annex A.1 to this agreement.

The term 'Ports' encompasses those ports listed in Article 1.4

The term 'Shipping' encompasses those shipping lines listed in Article 1.4

The term Intermodal transport refers to transport units that can be conveyed without change on different modes (rail wagon on rail ferries; trucks on railway wagons and in ferries)

2.3 Application and jurisdiction

2.3.1 Minimum Units of Load

The TTT shall apply to loads in units of not less than one railway wagon of types and containers of dimensions listed in Annex A 3

2.3.2 Limits of application

The TTT rates apply to the main transport activities between points defined in Traceca.

2.3.3 Other charges

The Tariff Policy rates that are defined in Appendix B3 for Railways and C3 for Ports and shipping are exclusive of any additional charges incurred that fall outside the remit of the TTT policy.

2.3.4 Outside Traceca

The rates do not necessarily apply to transport activities beyond the boundaries of the parties to this agreement.

2.3.5 Extension of limits

The TTT can be extended to beyond the boundaries of the parties to this agreement by unanimous consent of the parties to this agreement and that of the additional participating party.

2.4 Tariffs

2.4.1 Rates

The TTT rates are those quoted for the current year stated in Appendices B for rail and - for Ports and Shipping (*to be added later*)

2.4.2 Validity

The said rates are valid from the period stated as follows

2.4.3 Unit

The basic unit for railway tariffs is the wagon.

2.4.4 Currency

The currency of the TTT shall be the Euro.

For the recalculation of TTT Policy rates into other currencies the exchange rate established by the European Central Bank published monthly shall apply.

2.4.5 Taxation

Freight and additional charges do not include VAT

2.5 Notice of Change of Tariff

2.5.1 Increases

Railways Ports and Shipping Administrations Implementing the Tariff Agreement have the right to increase the freight and additional charges of this Tariff Policy not more often than annually by informing the Tariff Authority not later than three months before the convening of the annual tariff conference and requiring the approval of the 60% of the parties to the agreement.

2.5.2 Notifications of changes in Tariffs

The Tariff Authority shall notify changes in tariffs and other changes related to this agreement not later than one month following the decision to make the said changes.

2.5.3 Implementation of changes

Parties to the agreement shall implement the changes in tariffs or other changes related to this agreement with 2 months following the notification of the change.

2.5.4 Decreases

Parties to the Tariff Agreement have the right to reduce the freight tariffs and additional charges of this Tariff Policy for transportation on respective Railways, Ports and Shipping during the freight year.

2.5.5 Calculation of Freight charges

Freight charges are established by Railways Ports and Shipping on the basis of this Tariff Policy separately for each Railway Port and Shipping Organisation involved in international freight transportation in accordance with the transportation distance wagon type and other services provided.

2.5.6 Through tariffs

The Parties to this agreement desirous of encouraging intermodal transport Agreements will apply special through rates with the participation of Railways Ports and Shipping wherever possible.

Parties to this agreement are entitled to enter into a contract with any shipper that entails transport on the territory of any other party to this agreement through application of 'special through rates' that are quoted in Appendix -

2.5.7 Transit Distance

For freight charge calculation, the distance is determined by the Parties to the Tariff Agreement in accordance with the distances in Appendix A or the Tariff Guidance No 4 officially announced by the Railways if a lesser distance.

Railways not party to the aforesaid agreements to declare their Tables of Tariff Distances at the TTT Annual Conference or to submit to the Tariff Authority.

2.5.8 Freight Charges Calculation (Ports and Shipping)

Ports and shipping: Rates will be charged on the basis of ---

2.5.9 Multimodal rates

Special rates for the conveyance of international maritime containers as part of multimodal or combined transport operations are listed in Appendix D 3.

2.5.10 Discounted Rates

Railways Ports and Shipping Administrations - Parties to the Tariff Agreement, entering into contracts with organisations, independently establish the size of discounts and the mechanism of financial responsibility for non-fulfilment of accepted liabilities on the basis of their economic interests.

2.5.11 Pricing Policy

Railways Ports and Shipping Administrations in determining the discounts shall apply any general policy on pricing agreed by parties to this agreement.

2.6 Payments

2.6.1 Policy

The stated policy of the TTT is for one payment to be made by the shipper to the initiating party to the conveyance through Traceca and for that party to transfer payment other parties to the agreement in accordance with guidance for tariff calculation.

2.6.2 Period of Inter-railway settlements

Confirmation of payments by the initiating party to the other parties must be made within 7 days of the date of the waybill or other appropriate document of conveyance.

2.6.3 Interest on Non-payment

In the event that payment has not been received then the underpayment shall be bear interest at a rate to be agreed by the parties to the agreement.

2.6.4 Currency of Payment

Where one party to the agreement has received a tariff on behalf of another party to the agreement then payments can be made between parties to this agreement in Euro or other currency declared by the Tariff Policy or regulating documents of each Railway, Port or Shipping Administration.

2.6.5 Payments to freight forwarders

Payments for international freight transportation through forwarding organisations are made if there is an agreement with a Railway, Ports or Shipping -Party to the Tariff Agreement and the full official name and legal address of the forwarding organisation has been announced to the Parties to the Tariff Agreement and on the market of international transportation.

2.7 Calculation of tariffs

2.7.1 Railway Tariff Structure

In keeping with the common policy shared by the parties to this agreement to promote harmonisation and transparency railway tariffs are to be calculated as directed in Appendix B in four separate parts the main features of which are that tariffs are cost-based and the minimum unit of conveyance is the wagon.

2.7.2 Part 1 Movement

The movement rate for transit comprises a basic rate for each wagon type by parties to the agreement as defined in Appendix B3 adjusted by the National TTT Coefficient the derivation of which is contained in Appendix C multiplied by the distance between pairs of border stations.

Where the movement rate is to be applied for import or export should parties to this agreement determine so to do the TTT will be calculated using the adjusted rate as previously defined multiplied by the distance from the originating or receiving station to the border station on the Traceca Network.

Parties to the agreement in their combined effort to secure more traffic may determine to charge a tariff based on a lower than full rate using the lowest rates indicated in Appendix B3 and should be aware that whilst useful in the short term the rate will not enable assets to be replaced.

TTT part 1 movement rate for wagons include for the costs of their empty return thus parties to the agreement anxious to utilise available capacity may apply the special rates listed in Appendix B3 for the use of wagons that might otherwise be unloaded in the return direction.

2.7.3 Part 2 Terminal

Rates for the provision of terminal services including collection and delivery to the premises of the shipper may be included by those parties wishing to apply the TTT to import and export traffic.

Rates applied for terminal services shall be subject of direct negotiation between the shipper and the railways but should not be higher than those indicated in Appendix B4.

Rates for the provision of services at border crossings shall be applied to all traffic and subject to rates no greater than those stated in Appendix B4

Rates for transferring wagons from the Railways Network to that of the Port shall apply rates no greater than those stated in Appendix B 4

Rates used for the hire of locomotives to shippers shall be at rates no higher than those stated in Appendix B4.

2.7.4 Part 3 Infrastructure User Charge IUC

Parties to the agreement either paying internally for the use of the national railways infrastructure or externally to another agency shall recover the costs through a charge for the use of the infrastructure that shall be separated from all other charges.

To encourage maximum utilisation the prime unit for charging for the infrastructure is the train km thus the tariff per wagon shall be derived by dividing the IUC per train km by the number of wagons that make up the train for each separately for each national segment.

In accordance with the general objective of harmonisation the IUC shall be the same for all parties to the agreement.

In support of higher operating standards and in recognition of the increased costs thereof the IUC may be varied according to speed using the factors and conditions in Appendix B5

2.7.5 Part 4 Handling and Commission Charge

Desirous of promoting increasing standards and range of services a separate charge for handling and commission will be included in the tariff structure at a level which shall be no greater than that included in Appendix B5.

The charge shall be applied as a rate per wagon irrespective of the size of the wagon, the commodity or the distance.

Additional charges for services specifically listed in Appendix B5 shall be applied if such a service or services are requested.

The list of services and corresponding charges shall be built up over time and the TTT agreement accordingly amended by the Tariff Authority periodically at Tariff Conferences

2.7.6 Itemisation and notification of TTT charges and conditions

Parties to the agreement shall include an itemisation of each of the four above - mentioned parts of the TTT in quotations invoicing and other documentation prepared for the consignee or the agent representing the consignee ensuring that copies of the said documentation are transferred to partner railways the same day of their issue.

2.8 Basis of tariffs and for changing tariffs

2.8.1 Normative Cost Base

The costs upon which the TTT is based are derived from norms contained in Appendix C, which represent optimal standards of performance required by all railways of Traceca to supply services in the long term.

Adjustment to Normative Values

Where norms proposed are not be achievable in the nearest term adjustment factors that which can be periodically revised are used to modify the standard to that which is acceptable to the parties to the agreement.

2.8.2 Changes to norms

Any changes to the normative base whether refinement of values presented in Appendix C or the addition of new norms may be made at the discretion of each party to the agreement or by the TTT Authority who will, in every case analyse the effect of the proposed changes on the tariffs and notified all parties to the agreement annually at each Tariff Conference.

2.8.3 Costs

Most of the costs that are used in the derivation of Tariffs are included in Appendix D, additional cost information maybe supplied by the Tariff Authority upon written request by any party to the agreement.

The Tariff Authority may utilise a traffic costing model to advise parties to the agreement of the effects of any proposal made to alter norms, adjustment factors and costs on tariffs the development and maintenance of shall be funded from the parties to this agreement. Refer to article 6 of the rail technical appendix to the Traceca Basic Multilateral Agreement.

2.9 Demurrage

To reduce the propensity for demurrage of railway wagons on Traceca Railways and the potential impact that unpaid demurrage may have on the TTT rates proposed based on same principles of normative costs in Appendix B6 shall be applied.

2.10 Tariff Authority

2.10.1 Preamble

The TTT Authority shall have powers and responsibilities vested in it by the parties to the agreement and as may be altered from time to time in accordance with regulations prescribed in this agreement described in Appendix F.

The TTT Authority may be any organisation designated and qualifying for such a designation. Railway or other organisation proposing to take on the role of the TTT Authority the should initially make a request to the Traceca Secretariat where upon further information will be requested.

2.10.2 Functions, Organisations, Personnel

The functions of the TTT Authority will include administration economics, information and promotion and optionally include market research and legal functions. The Organisation will be headed by a General Secretary and staffed by between 4 to 6 specialists who shall be recruited from any party to the agreement.

2.10.3 Language

Appropriate international language of the TTT authority shall be Russian and English.

2.10.4 Finance

The financing currency of the TTT Authority shall be Euro. Resources provided by the Traceca Secretariat or other agency appointed to be the TTT Authority shall be remunerated for the resources provided at rates agreed by signatories to the TTT regulation annually in advance.

A2 Protocols

First Meeting of the TFTWG Baku, June 20, 2002 superceded by 2nd Meeting

Second Meeting of the TFTWG Baku 17 October 2002

- 1) The new rail tariff structure for Traceca transit traffic will be based on normative costs i.e. costs reflecting acceptable technical and financial indicators, acceptable to all TRACECA countries.
- 2) The tariff structure will be based on long run variable costs.
- 3) An allowance will be built in to provide a return on assets of not less then 12% on productive assets to be valued at current replacement costs.
- 4) By December, 30, 2002 the Consultants will make allowances for variations of coefficients from the agreed indicators, i.e. higher tariffs will be applicable to sections of the Traceca network where ruling gradients, train lengths, service standards and other technical and financial indicators exceed those specified.
- 5) The tariff structure will be based on the costs of moving a full wagon (not weight based), i.e. it will vary by type and weight capacity of wagon. The tariff structure will take into accounts the costs of return of empty wagons. The new tariff structure will not apply to less than wagonloads.
- 6) The new tariff structure will consist of four components:
 - (a) Movement tariff (flat rate per kilometre for each wagon type);
 - (b) Terminal tariff (in two sub-parts – per wagon and per wagon-kilometre; and for collection/delivery)
 - (c) Infrastructure user charge per train-kilometre (for access to main track, signalling, communications, power supply)
 - (d) Handling fees and commission per assignment
- 7) In the short run, to build up Traceca transit traffic, discounts should be offered from the new tariff scales down to the levels reflecting normative short run variable costs. These costs will be defined in the working paper. These discounted tariffs will be defined after calculating of tariff rates.
- 8) The tariff currency will be Euro.

Appendix A 3 Traceca Network and Distances

<i>Nº</i>	<i>Country</i>	<i>Border Stations</i>	<i>Distances (km)</i>
	Ukraine	Yagodin – Ilyichevsk	940 km
2	Ukraine	Kuchurgan – Ilyichevsk	127 km
3	Moldova	Ungheny – Klimentovo	270 km
4	Moldova	Ungheny – Kuchurgan	213 km
5	Georgia	Poti – Gardabani	362 km
6	Georgia	Poti – Ayrum	387 km
7	Georgia	Batumi – Gardabani	387 km
8	Georgia	Batumi – Ayrum	423 km
9	Azerbaijan	Beyuk-Kasik – Baku	503 km
	Turkmenistan	Turkmenbashi – Serkhetabad	1225 km
	Turkmenistan	Turkmenbashi – Farap	1362 km
	Turkmenistan	Turkmenbashi – Serakhs	995 km
	Kazakhstan	Aktau – Beyney	422 km
	Uzbekistan	Beyneu – Chengeldy	1847 km
	Uzbekistan	Farap – Chengeldy	787 km
	Uzbekistan + Turkmenistan	Farap – Termez	406+194=600 km
	Uzbekistan + Turkmenistan + Tajikistan	Farap – Dushanbe	548+194+71=813 km
	Uzbekistan + Tajikistan + Kyrgyzstan	Farap – Osh	817+231+23=949 km
	Kazakhstan	Chengeldy – Druzhba	1771 km
2	Kazakhstan	Druzhba – Aktau	4141 km
2	Kazakhstan	Aktau – Chengeldy	2524 km
2	Kazakhstan + Kyrgyzstan	Aktau – Balygchy	2846+324=3170 km

Note Modifications to the network may be made by the TTT Authority to correspond to the information provided in applications for a TTT National Coefficient made by Parties to the agreement in Appendix

APPENDIX B TTT Rail Tariff Structure and Rates

B1 Preamble

The TTT is to be calculated in four parts

Part 1 Movement of wagons

Part 2 Terminal services

Part 3 Infrastructure user charge

Part 4 Handling and commission fee

B2 Part 1 Movement**B2.1 Definition**

Comprises a basic single rate for each wagon type whether fully, partly loaded or empty returning applied between stations and in the time specified.

B2.2 Standard Wagon Types

The number of different wagon types for which rates are provided in the TTT is indicated with the proportion of empty running that is built into the rate.

Traceca Type Reference	Wagon Name	Empty Return %
1	Covered Wagon	40
2	Platform Wagon	50
3	Open-wagon	80
4	Tanker Wagon	100
5	Isothermal Wagon	80
6	Platform Container Wagon	40

Additional wagon types may be added to the TTT schedule of wagons at determined by the tariff authority. Rates required for wagons not included in the current list of wagons shall be at the rate of the nearest wagon type.

B2.3 Empty Returning Wagons

The costs of empty returning wagons are built into the basic rates and shall be reviewed annually by the TTT Authority²

B2. 4 Types of Rates

Rates for wagons are provided for

- Wagons owned by Traceca Railways
- Wagons owned by third parties³.
-

B2.5 Costs included in the TTT (General Statement)

Note that TTT wagon rates include all long run variable costs as detailed in and will provide a 12% return on assets valued at current replacement costs and that Non-KTZ (i.e. customer or third party owned wagons) rates do not include wagon ownership costs⁴.

B2.6 Note on application

TTT wagon rates are flat⁵ and when applied to provide the movement part of the tariff for the respective type of wagon, the rate is multiplied by distance.

² The TTT part 1 is sensitive to empty return % and periodic review is essential.

³ Industrial enterprises and neighbouring railways

⁴ Maintenance, credit, amortisation, return on assets

B2. 7 Part 1 TTT – Wagon Rates

Traceca Reference	Wagon Type	lowest rate	third party rate	full rate	Armenia	Azerbaijan	Bulgaria	Georgia	Kazakhstan	Kyrgistan	Moldova	Romania	Turkey	Tajikistan	Ukraine	Uzbekistan
		<i>TTT Coefficient</i>														
		1	1.11	1.64	1.43	1.13	1.00	1.10	1.29	1.61	1.00	1.16	1.15			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Covered	0.18	0.25	0.38	0.38	0.43	0.63	0.55	0.43	0.38	0.42	0.50	0.62	0.38	0.45	0.44
2	Platform	0.21	0.22	0.39	0.39	0.43	0.64	0.56	0.44	0.39	0.43	0.50	0.63	0.39	0.45	0.45
3	Open	0.27	0.24	0.49	0.49	0.55	0.81	0.70	0.56	0.49	0.54	0.64	0.79	0.49	0.57	0.57
4	Tanker	0.44	0.28	0.73	0.73	0.81	1.20	1.05	0.83	0.73	0.80	0.95	1.18	0.73	0.85	0.84
5	Isothermal	0.30	0.23	0.64	0.64	0.71	1.05	0.92	0.72	0.64	0.70	0.83	1.03	0.64	0.74	0.74
6	Platform - Container	0.19	0.22	0.36	0.36	0.40	0.59	0.52	0.41	0.36	0.40	0.47	0.58	0.36	0.42	0.42

Notes to columns:

1 Traceca wagon type code

2 Wagon name

3 Basic rate – lowest (distance costs)

4 Basic rate – third party wagons

5 Basic rate – full rate (time and distance)

6 – 17 – Head of column – TTT national coefficient,

Full adjusted wagon rates to be applied

B2.8 Note on rates

The wagon rate for each country is the basic full rate adjusted by the TTT coefficient.

B2.8 Note on rates for return loads

Rates provided for return loads may be discounted up to 75% of the basic rate as the cost of the returning empty wagon is a part of the basic rate.

B 3 Terminal rates and charges

B3.1 Customer defined services

TTT general requirements are that terminal services are a matter for direct negotiation between shipper and railway depending on particular requirements. TTT policy is to promote uniformity and transparency and provide indicative rates only.

B3.2 Private sidings and loading facilities

If the customer privately owns sidings and loading facilities, the terminal costs will be in two parts.

Part A - Collection and Delivery

For collection and delivery along branch lines that are exclusively used by the customer, additional payment for collection and delivery is warranted; the price to be based on collection or delivery distance from the trunk route and the rate using part 1 tariffs.

Part B - Loading and Unloading

Where TTT signatories own freight terminals and provide loading and unloading operations the tabulated rates may be applied at the discretion of the railway.

⁵ Flat rate does not vary with distance

Tariffs for Terminal Services

Type of Terminal Services	Type of goods	Output Norm	Wagon Type	Rate €	Unit
1	2	3	4	5	6
Loading unloading wagons in good sheds and depots	General goods Packaged items; pallets, bagged goods, building materials, timber out of gauge loads	3000 Tons per year	1,2	6.34	Ton
Loading unloading storage of refers	Perishable Goods - 48 hours cold storage	30,000 Tons per year		11.79	Ton
Collection Delivery of made-up trains Industrial Sidings	Dry and liquid bulk	1 Train per day	3,4,	6.2	Wagon
Collection Delivery of wagon groups from freight yards	All	20,000 Wagons per year	1,2,6	6.8	Wagon
Collection delivery of wagons in Ports	All cargo	100 Wagons per day	All	5.6	Wagon
Loading and unloading containers from rail wagons	All Containerised Cargo	30,000 TEUs per year	5,6	16.73	TEU
Gauge Change	All cargo	100 per day	All	5.00	Wagon
Isothermal Storage	Frozen Food, Perishable Goods	Not Applicable	5	€9, €15	Wagon Day
Border Crossing Operations		10 Trains per day	All	3.0	Wagon

Source: RAILCOST

Notes to table - refer to column numbering:

- 1 Brief description of terminal services needed in a future KTZ Tariff Handbook.
- 2 General indication of the type of goods
- 3 The output norm in tons or wagons handled, based on general indications of performance for each terminal service
- 4 The wagon types most likely to be involved in the terminal operation
- 5 Unified Terminal Tariff
- 6 Unit of Tariff

B3.4 Terminal charges for domestic import, export and transit

When applied to other traffic then the following rule is advised:

- Domestic traffic will have 2 sets of terminal charges.
- Import and export will have 1 set of terminal charges.
- Services transit through a third country have only border crossing charges.

B3.5 International border crossings

Unified charges for waiting at TRACECA border crossings and necessary shunting is included in the table.

B3.6 Locomotive Hire

Where locomotives run light to or from the customer's premises or are hired by the customer to perform certain duties then the customer may be charged for the service according to the following schedule

	Electric	Diesel
	Locomotive	Locomotive
	€	€
Cost per hour	84.1	70.7
Cost per km	0.57	0.60

B4 Infrastructure User Charges (IUC) Preamble**B4.1 Preamble**

The TTT provides for the separation of charges for the use of the Traceca railway network in accordance with contemporary policy. TTT signatories will endeavour to harmonise as far as possible national IUC policy.

B4.2 User Contract

The use of harmonised regulations, particularly the User Contract, is recommended.

B4.3 Schedule of Services

Minimal services to be provided by the designated Infrastructure Operator or equivalent alternative in each country are listed below.

1	SERVICES INCLUDED IN THE INFRASTRUCTURE USER CHARGE
1.1	Handling of requests for infrastructure capacity
1.2	The right to utilise capacity which is granted
1.3	Use of running track points and junctions
1.4	Train control including signalling, regulation, dispatching and the communication and provision of train movement
1.5	All other information required to implement or operate the service for which capacity has been granted
1.6	Tailor-made contracts for control of transport of dangerous goods
1.7	Provision of supplementary information
1.8	Parking of traction while the waiting time which is contracted in the timetable
1.9	Use of electric power supply infrastructure (overhead wires for traction energy)
1.10	Technical inspection of rolling stock for safety reasons in train operations
2	SERVICES FOR WHICH USER HAS A RIGHT OF ACCESS FOR WHICH AN ADDITIONAL CHARGE MAY BE RENDERED
2.1	Access to telecommunication network
2.2	Access to refuelling facilities
2.3	Access to freight terminals (by rail and road)
2.4	Access to marshalling yards
2.5	Access to train formation facilities

2.6	Access to maintenance and other technical facilities in case of danger
2.7	Access to railway owned sidings
2.8	Access to water filling facilities
2.9	Access to shunting facilities

B4.4 Note on charges

Charges covering the first part of the above schedule are specified in TTT part 3. Charges included in the second part of the schedule are at the discretion of individual railways. Harmonisation of the latter charges is desirable.

B4.5 Unit of Charge

The IUC will be applied to each train whether irrespective of length and whether loaded or empty.

B4.6 Traceca Basic Infrastructure User Charges

The possibility of TTT signatories applying a two-tiered IUC representing a full recovery charge and one that recovers only maintenance and traffic control costs shall be supported by the TTT Authority. The two levels of IUC are stated below.

Minimum IUC	Full IUC
€2.79 Per Train Km	€9.22 Per Train Km
4.65 cents Per Wagon Km	15.33 cents Per Wagon Km

Note that the wagon rate assumes a normative 60 wagon train length, for European Gauge Railways a 40 wagon train length can be assumed.

B4.6 Nationally Adjusted Infrastructure User Charges

The Basic TTT IUC can be adjusted nationally to reflect better or worse standards of infrastructure using operating speed as a proxy, provided that the revised standard had been sustained for 2 years consecutively. Adjustment factors are to be applied to the basic intervals of 10 Km per hour.

Average Operating Speed Km Per hour	30	40	50	60	70	80
IUC Adjustment Factor	0.6	1	1.37	1.55	1.90	2.25

B5 Handling Charges and Commission Preamble

B5.1 Preamble

The basic charge is intended to cover documentation and administration associated with the consignment by the originating railway only recognising that such charges are in respect of corresponding costs that are unique to the originating railway and also in providing incentives for any railways to generate railways freight traffic. The basic charge will apply to each wagon forwarded. The charge relates to the number of wagons independent of distance.

B5.2 Basic Charges

A general amount of €20.0 per would be appropriate to recover the costs of administration and handling charges ⁶.

B5.3 Variations in basic charge

A differential charges for export, import, domestic and transit to reflect their trade facilitation and transport documentation requirements is required. Transit transport, not requiring any documentation from the transit country, will have the lowest handling charges. Fees for each of the types of transport service are

- Export €25 per wagon
- Domestic and Import €15 per wagon
- Transit 10 € wagon.

B5.4 Additional Charges

Additional charges should be included in TTT Part 4 covering

- Special handling requirements, packaging etc.
- Additional security
- Insurance of consignment
- Wagon tracking⁷
- On-line information
- A full schedule services shall be available from the TTT Authority

B 5.5 Wagon Demurrage

Wagons of one party that are retained on the territory of another party beyond 7 days from the time of entry of the wagon to the territory of the other party shall pay demurrage to the owner of the wagon according to rates set out in the table below:

Traceca Type Reference	Wagon Name	Demurrage €/hour
1	Covered Wagon	3.07
2	Platform Wagon	1.92
3	Open-top Wagon	2.07
4	Tanker Wagon	2.18
5	Isothermal Wagon	4.60
6	Flat-bed axle	1.94

Appendix ?? TTT Ports and Shipping Tariffs

This appendix is to be added later when the ports and shipping companies join the TTT regime.

APPENDIX C - NORMATIVE BASE

- C1 - LOCOMOTIVE PROCUREMENT AND MAINTENANCE**
- C2 - WAGON PROCUREMENT AND MAINTENANCE**
- C4 - INFRASTRUCTURE, CONSTRUCTION AND MAINTENANCE**
- C5 - ENERGY, FUEL CONSUMPTION AND COST NORMS**
- C6 - OPERATING NORMS**
- C7 - LABOUR COSTS NORMS**
- C8 - FINANCIAL NORMS**

C1 LOCOMOTIVE PROCUREMENT AND MAINTENANCE

DIESEL

Items	Norm	Unit	Factor	Accepted Norm
Diesel Type 2TE10				
Replacement Cost €	1,600,000		1	1,600,000
Economic life	20	Years	0.75	15
Amortisation	15	Years	1	15
Availability	88	%	0.85	77
Annual productive output	220,000	Km	0.68	150,000
Annual productive time	4500	Hrs	0.73	3300
Average daily output	700	Km	0.77	540
Average daily Productive time	14	Hrs	0.86	12
Average Daily Speed	50	kph	0.90	45
Scheduled Maintenance		Km		A-F
Unscheduled		Km		U1,U2
Cost per km	0.39	€/km		0.60
Cost per hour	57.6	€/hr		70.7

ELECTRIC

Item	Norm	Unit	Factor	Accepted Norm
Electric Type VL80 6300Kw				
Replacement Cost €	2,500,000		1	2,500,000
Economic life	30	Years	0.85	25
Amortisation	25	Years	1	25
Availability	95	%	0.9	83
Annual productive output	250,000	Km	0.8	180,000
Annual productive time	5000	Hrs	0.8	4000
Average daily output	750	Km	0.78	585
Average daily Productive time	15.0	hrs/day	0.87	13.0
Average Daily Speed	50	Km/hr	0.90	45
Scheduled Maintenance		Km		A- F
Unscheduled		Km		U1,U2
Cost per km	€0.45	€/km		€0.57
Cost per hour	€67.2	€/hr		€84.1

C2 WAGON PROCUREMENT AND MAINTENANCE

2003 Prices and Performance

Traceca Type Reference	Wagon Name	Replacement Cost €	Economic Life years	Availability		Utilisation		Output		Provision Cost €/hour	Maintenance Cost €/km
				Norm %	Adjusted %	Norm Hours/year	Adjusted Hours/year	Norm Km/year	Adjusted Km/year		
1	2	3	4	5	6	7	8	9	10	11	12
1	Covered	50,000	20	90%	79%	4,674	2,721	160,000	115,200	3.07	0.03
2	Platforms	35,000	20	91%	86%	4,924	3,055	160,000	122,400	1.92	0.02
3	Open-top	40,000	20	91%	83%	4,875	3,225	170,000	137,275	2.07	0.03
4	Tanker	45,000	20	91%	86%	4,757	3,445	160,000	129,200	2.18	0.03
5	Isothermal	60,000	20	84%	68%	3,915	2,182	120,000	81,600	4.60	0.04
6	Platform Container	35,000	20	93%	88%	4,834	3,016	160,000	122,400	1.94	0.02

Notes to Wagon Norms:

Column

1. Traceca reference for the wagon type is arbitrary and can be re-referenced by the TTT Authority
2. Wagon name to be unambiguous as the tariff will depend on precise denomination
3. Current replacement cost of wagon using international benchmark prices subject to international specifications, procurement regulations and whole-life costing scrutiny
4. Economic Life of wagons taken to be 20 years for each as norm for Traceca as international technical standards are usually higher and may change more often than for domestic traffic.
5. The standard % of days per year that an internationally utilized wagon is available to be operated in accordance with technical standards
6. The adjusted norm for Traceca of days the wagons are available for productive.
7. The standard norm for the hours per year that a wagon actively deployed in productive revenue earning use
8. The adjusted norm for Traceca of the hours per year that a wagon actively deployed in productive revenue earning use
9. The standard norm for the output in km per year that a wagon traverses in productive revenue earning use
10. The adjusted norm for Traceca of the output in km per year that a wagon traverses in productive revenue earning use
11. The normalised unit cost per hour (or rental) of wagon provision based on these wagon and other norms
12. The normalised unit cost per km of wagon maintenance based on these wagon and other norms

C3 INFRASTRUCTURE CONSTRUCTION AND MAINTENANCE

2003 Prices and Performance

Item	Accepted	Economic	Deprecation	Notes
	Norm/km	Life years	Years	
Track	Cost €			
1.Replacement Total	251,880	30	25	Based on Type P65 this standard accounts for 85% of all trunk line of which:
Rail - plain line	65,000	30/40		Type P65 cwr ⁸ , Life 30 years depending on traffic density 130 tons @ €500/ton
Rail – points	9,750	20/30		Including all accessories and equipment @15% pf plain line
Fastenings etc	18,326	30		Plates, clips, 2940 sets @ €5 /set + track circuit, detectors, retarders etc
Sleepers	54,978	30/40		Concrete 1470 per km @ €30 each
Ballast	20,700	10/20		Granite stone - 2,000 cubic metres/km
Track Bed	25,000	40		Profiled for drainage with geo-textile membrane – 5000 sq. m per km
Labour	33,907			Norm for E Europe and S. Asia @ 17.5% of materials costs
Equipment	24,219			@ 12.5 % of materials costs
2. Maintenance	12,594	Per year		Norm for mechanised maintenance taken as 5% of the costs of replacement of which:
Materials	3,148			Norm @ 25% mostly granite and minor items
Equipment	5,038			Norm @ 40% for mechanised track maintenance
Labour	4,408			Norm @ 35%
CTC& Communications				
Replacement	73,000	30	25	Replacement of line-side equipment, controls, inter-blocking, relays, cabling
Maintenance	3,650			5% of construction costs
Power supply				
Replacement	25,500	30	25	Catenary, insulators, refitting sub-stations, transmission gear etc (not structures or pylons)
Maintenance	1,257			5% of construction costs

⁸ cwr continuous welded rail, price including 'flash-butt' welding, expansion jointing.

C4 ENERGY, FUEL CONSUMPTION AND COST NORMS

Item	Norm	Unit	Factor	Accepted	Notes
				Norm	
FUEL / ENERGY					
Fuel					Specific Gravity 0.92
Trunk Line Loco' Consumption	35	kg/10,000 gross tkm	1.1	38.5	Consumption norm should be lower in the future as locomotives are replaced with new and if track improvements are implemented.
Cost	400	€ / ton	1	400	World price (5year average) net of taxes and delivery
Electric energy					
VL80 Consumption	110	KW/10,000 gross tkm	1.1	120	Consumption norm should be lower in the future as locomotives are replaced with new and if track improvements are implemented
Cost	2.50	€ Cents / KW*hour	1.0	2.5	Norm should be 30% above the average cost of production of electricity

C5 OPERATING NORMS

Operating Norms	Norm	Unit	Factor	Accepted	Notes
				Norm	
IUC Network km	18,000	Km	1	12,000	Traceca Railway Network to be ratified
Trains per day both directions	30	Trains per day	0.78	23.5	Freight traffic
Average Train gross mass	3,300	Tons	1	3,300	5500 loaded; 1800 empty.
Traffic Density over trunk network	100	Gtk/per day/km 10x6	0.6	77,550	per day
Locomotive Power	1.5 average system wide	per train	1	1.5	Driver and assistant of driver
Wagons per train	60 wagons 15 coaches	Units	1	60wagons 15coaches	July 2002 data €200, does it include allowances employer costs and costs of employment???
Train Length	850	M	1	850	
Average section speed	50	km / hour	0.8	40.0	Overall operating speed
Average technical speed	70	km / hour	0.85	60.0	Allows for speed restrictions
Average waiting time at terminals, stations and borders (idle time at intermediate stations)	2	hours	1	2	Number of intermediate stops will be reduced
Average waiting time at terminals, stations and borders (idle time at freight terminals)	8	hours	1.25	10	Needs further consideration
Reliability (time table)	95	%	1	95%	

C6 LABOUR COSTS (€/month)

Item	Norm ⁹	Factor ¹⁰	Accepted	Notes
Normal working day				8 hour day
Average Hours per month	169	1	169	Paid hours
Productive hours	120	0.9	108	Allowances for waiting time etc
Productive days	211	1	211	Productive Days = 211, 365 – weekends (104) – holidays (20) – national holidays (10) – sickness (10) – training (3)
Social Retirement	25%	0.8	20%	

⁹ Adjusted for actual productive time; real wage increases and social costs $365/211 \times 169/120 \times 1.2 \times 1.1 = 3.6$

¹⁰ Downward adjustment of 10% due to real increases in wages not transpiring at this time.

C 6.1 Wage Norms

	WAGE \$			TRAIN	EMPLOY	COSTS
JOB	MONTH	SOCIAL	GROSS	CREW	COSTS	PER
TITLE		COSTS	SALARY	INCENT	/MONTH	HOURLY
		20.00%				
ADMINISTRATIVE STAFF	210	42	252	0.000	255	2.70
DRIVER	216	43	259	0.020	259	2.74
DRIVER'S ASSISTANT	210	42	252	0.020	252	2.66
EN ROUTE CLEANING STAFF	163	33	195	0.000	195	2.07
WAGON MANUAL BRAKE OPERATOR	158	32	190	0.020	190	2.01
SENIOR TICKET CONTROLLER	216	43	259	0.000	259	2.74
TICKET CONTROLLER	210	42	252	0.000	252	2.66
TRAIN GUARD	210	42	252	0.010	252	2.66
SUPERINTENDENT	229	46	275	0.000	278	2.94
DEPOT MECHANIC/ELECTRICIAN	210	42	252	0.000	255	2.70
MATERIAL STORAGE MAN	168	34	201	0.000	201	2.13
LARGE STATION MASTER	238	48	285	0.000	288	3.05
LARGE STATION MASTER ASSISTANT	231	46	277	0.000	280	2.96
1ST CLASS STATION MASTER	231	46	277	0.000	280	2.96
2ND CLASS STATION MASTER	229	46	275	0.000	278	2.94
3RD CLASS STATION MASTER	222	44	267	0.000	270	2.86
4TH CLASS STATION MASTER	222	44	267	0.000	270	2.86
5TH CLASS STATION MASTER	216	43	259	0.000	263	2.78
TRAIN DISPATCHER	222	44	267	0.000	270	2.86
PASSENGER TICKET SALESMAN	168	34	201	0.000	201	2.13
TREASURER	229	46	275	0.000	278	2.94
CASHIER	216	43	259	0.000	263	2.78
STATION CLEANING STAFF	158	32	190	0.000	190	2.01
FREIGHT BILLING CLERK	168	34	201	0.000	201	2.13
SHUNTER	163	33	195	0.000	195	2.07
MAINTENANCE CREW	168	34	201	0.000	201	2.13
MACHINE / EQUIPMENT OPERATOR	168	34	201	0.000	201	2.13
CONSTRUCTION WORKER	163	33	195	0.000	195	2.07
BRIDGE WORKER	168	34	201	0.000	201	2.13

STORAGE GUARD	158	32	190	0.000	190	2.01
TRACK INSPECTOR	163	33	195	0.000	195	2.07
MATERIAL STORAGE CLERK	168	34	201	0.000	201	2.13
METAL WORKER	168	34	201	0.000	201	2.13
CLEANING STAFF	158	32	190	0.000	190	2.01
MOVEMENT CONTROLLER	231	46	277	0.000	280	2.96
FREIGHT TERMINAL MANAGER	231	46	277	0.000	280	2.96
WAGON LOADERS/UNLOADERS	158	32	190	0.000	190	2.01
PORTERS	158	32	190	0.000	190	2.01
RESTAURANT STAFF	210	42	252	0.000	252	2.66

Notes:

Range and type of staff for functionaries only;

Hourly costs are for productive time only; including standard allowances for leave, sickness, weekends, training etc.

C7 FINANCIAL NORMS

Item	Norm	Unit	Factor	Adjusted Norm	Notes
Currency	€				
Return on Assets	12	%	1	12	Based on opportunity cost of capital i.e. 6% foreign, 18% local, assuming 50/50 mix of foreign and local financing.
Average interest rate foreign currency	6	% per annum	1	6	Fixed at 3% over LIBOR
Average repayment period	20	years	1	20	Norm to be fixed on currently negotiated loans with EBRD and others
Depreciation					Sown for each asset - to be standardise for each type of asset.

APPENDIX D COST BASE

D1 Cost Definitions

Normative approach- Using cost and performance values that would occur under stable and optimum conditions

Short run variable costs- Distance based costs that would be incurred by an additional unit of output in the short term includes maintenance, fuel, part labour, accidents

Long run variable cost- Time and distance based costs that will be incurred by an additional unit of output in the long term the cost of purchasing the asset,

Current replacement value – The present day cost of the asset

Economic life – The period over which the asset has a positive net value

Return on assets – The proportion of net asset value to cost

D2 Main Cost Headings

Typical cost breakdown €

COST HEADINGS	SHORT TERM	%	THIRD PARTY WAGONS	%	LONG TERM	%
LOCO PROVISION	0	0	11,618	25	11,618	21
LOCO MAINTENANCE	2,172	11	2,172	5	2,172	4
WAGON PROVISION	0	0	0	0	6,403	12
WAGON MAINTENANCE	2,621	13	0	0	2,621	5
FREIGHT TERMINAL	296	1	2,280	5	2,280	4
TRACK MAINTENANCE	538	3	538	1	538	1
INFRASTRUCTURE USER CHARGE	2,559	12	16,311	36	16,311	30
TRAIN CREW	120	1	504	1	504	1
FUEL COSTS	8,623	42	8,623	19	8,623	16
ACCIDENT COSTS	3,157	15	3,157	7	3,157	6
SHUNTING COSTS	455	2	631	1	631	1
TOTAL SERVICE COSTS	20,541		45,835		54,859	

Note:

The example in the table above is presented to indicate the main variable cost headings used in the normative costing base for Traceca. The example is based on a 60 x 40 T Container Flat Wagons

D3 Locomotive Costs

DEPRECIATION AND RETURN ON ASSETS €

TYPE	REPLACE	ECON'	DEPREC	RETURN	DEPREC	FINANCIAL CHARGES		
	-MENT		-IATION	ON	-IATION		NORMATIVE	ADJUSTED
	COST	LIFE	PERIOD	ASSETS			LOCO HR	LOCO HR
		YEARS	YEARS			ANNUAL		
1 VL80	2,500,000	25	25	318,750	100,000	418,749	106	84.142
2 TE10	1,600,000	15	20	234,919	80,000	314,918	95	70.723

LOCOMOTIVE SCHEDULED MAINTENANCE

ELECTRIC

SERVICE		ADJUSTED COSTS				SCHEDULED SERVICE		
REF	INTERVAL	LABOUR	MATERIALS	EQUIPMENT	OVERHEAD	TOTAL	TOTAL	TRAIN
	KM	€	€	€	€	€	YEAR	LOCO.Km
A	25000	48	60	0	3	111	961	0.01
B	50000	439	600	8	31	1078	4658	0.03
C	100000	741	1200	15	59	2014	4714	0.03
D	250000	837	2400	27	98	3362	3389	0.02
E	500000	2392	12000	2444	505	17341	9364	0.05
F	1000000	3638	36000	8091	1432	49160	13273	0.07
G	2500000	12731	360000	17025	11693	401449	43357	0.24
U1	100000	520	4800	719	181	6220	11196	0.06
U2	2500000	6069	180000	912	5609	192590	13867	0.08
							TOTAL	0.58

FUEL AND MAINTANCE COST PER KM LIGHT RUNNING LOCOMOTIVE

ELECTRIC

	KWH/ 10,000 GTK	KWH/ GTK	ENERGY COST	LOCO MASS	FUEL COST
STANDARD	110	0.011			
ADJUSTMENT FACTOR	1.1				
ADJUSTED	121	0.0121	0.035	120	0.051
MAINTENANCE COST					0.582
RENTAL COST PER KM					0.633

D4 Wagon Costs**NORMATIVE MAINTENANCE COSTS € - SUMMARY**

Notes to columns in table

1 Service code representing a b c scheduled services according to distance and U1 and U2 unscheduled services U1 for mechanical repairs mainly and U2 following an accident

2 Cost of labour per service

3 Cost of materials per service

4 Cost of equipment per service

5 Cost of overheads per service

6 Total costs per service

7 Total cost of service per year obtained from the output in km divided by the service interval of each type of service multiplied by the cost per service and totalised for all services

8 Total cost of each service per wagon km and totalised for all services to provide the maintenance cost per wagon km for the type of wagon.

The costs of return on assets and depreciation are calculated as with locomotives

For a summary of normative wagon performance and unit costs refer to C2

TYPE 1: COVERED

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
1	2	3	4	5	6	7	8
A	9	15	2	1	27	209	0.0018
B	38	90	9	4	140	269	0.0023
C	678	3600	160	133	4570	810	0.0070
U1	508	1500	115	64	2186	1259	0.0109
U2	881	9000	232	303	10417	1000	0.0087
						3547	0.0308

TYPE 2: PLATFORM

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
A	9	11	2	1	23	184	0.002
B	38	63	8	3	112	229	0.002
C	458	2520	107	93	3178	598	0.005
U1	322	1050	74	43	1490	912	0.007
U2	662	6300	176	214	7352	750	0.006
						2673	0.022

TYPE 3: OPEN-WAGON

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
A	9	12	2	1	24	220	0.002
B	38	72	8	4	122	278	0.002
C	373	2880	92	100	3446	728	0.005
U1	373	1200	86	50	1710	1173	0.009
U2	881	7200	223	249	8554	1174	0.009
						3574	0.026

TYPE 4: TANKER WAGON

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
A	9	14	2	1	26	221	0.002
B	38	81	8	4	131	282	0.002
C	448	3240	109	114	3910	777	0.006
U1	441	1350	106	57	1953	1262	0.010
U2	1033	8100	259	282	9674	1250	0.010
						3792	0.029

TYPE 5: ISOTHERMAL WAGON

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
A	9	18	2	1	30	165	0.002
B	38	108	9	5	159	217	0.003
C	593	4320	143	152	5207	654	0.008
U1	757	1800	166	82	2805	1144	0.014
U2	1417	10800	349	377	12944	704	0.009
						2884	0.035

TYPE 6: PLATFORM WAGON

	LABOUR	MATER	EQUIP	OVER	TOTAL/	TOTAL	/TRAIN
		IALS	MENT	HEAD	SERVICE	YEAR	WAGON Km
A	9	11	2	1	23	184	0.0015
B	38	63	8	3	112	229	0.0019
C	458	2520	107	93	3178	599	0.0049
U1	322	1050	75	43	1491	913	0.0075
U2	662	6300	175	214	7351	750	0.0061
						2674	0.0218

D5 Infrastructure Costs

NOMATIVE INFRASTRUCTURE REPLACEMENT COSTS €

Track Type	Track Cost	Signaling Type CTC	Power Supply	Communications	Total
T65C	251,880	54,500	25,500	18,500	350,380

Refer: Appendix C3

NORMATIVE DEPRECIATION INTEREST LOAN REPAYMENT COSTS €

Economic Life	Depreciation	Interest & Repayment	Total Financial Costs per km	Train Density per km per year	Cost per train km
30	11,679.34	43,497.48	55,176.82	8,577	6.43

Infrastructure User Charges

Notes on Unit Of Charge

Preamble: Open access to a national railway system requires a common basis for charging for the use of the infrastructure and related services. Open access to railways is expected to encourage competition in a natural monopoly that will reduce prices and increase demand.

IUC Objective To create an equitable basis for charging for the common use of railway infrastructure.

Background: Monopolistic railways have used gross ton km for the past 100 years with concomitant inefficiency and poor utilisation of resources. Modernising railways are recognising that the capacity and economics of train networks relate more closely to train density, as exemplified by the timetable, than tons. Thus restructuring railways are moving to wagon km as a basis for pricing and Train Km as a basis for the IUC.

IUC - Pricing Basis World Wide

Train km in operation: Switzerland, Austria, Germany, Sweden, France, Italy, Netherlands, Argentina, Brazil, Mexico, Japan,

Train km planned: Moldova, Turkey, Romania, Bulgaria, Georgia, Azerbaijan, and Uzbekistan.

Gross Ton Km in operation: United Kingdom, Australia

Hybrid (dual) system in operation: Austria, Sweden.

Only 2 out of 25 countries with IUC have chosen GtK Great Britain and Australia neither of whom has adjoining foreign railways.

No country has chosen Wagon Km and the decision for Kazakhstan to be the first should be reviewed.

Reasons for train km.

- Improves utilisation, longer trains, lower empty running, resulting in savings of 10% to 15% in variable cost. For KTZ that will be 1,200 million Tenga (€8 million)¹¹.
- Train Km is simple and inexpensive to administer for KTZ and its customers.

¹¹ KTZ 2005 traffic forecast is 95 billion net ton km; short term variable cost = 1 Tenga/ntk; savings stimulated by IUC pricing in train km is 12.5% or 1,200 m Tenga. Savings exclude passenger services and lower administration costs.

- Train km has proven to be effective in increasing competition and reducing prices.

Reasons against gross ton km

- Encourages lower utilisation, shorter trains more empty running and will increase unit costs.
- IUCs in GtK is complex and expensive to administer, (every wagon must be separately itemised on an invoice)
- Not sustainable requiring legal and accounting expertise to sort out the many anomalies.
- Difficult to integrate into a wagon based tariff structure.

Composition of IUC

€

Financing Costs	Direct Track Maintenance	General Maintenance	Traffic Control	Maintenance & Traffic Control	Total Cost (Full IUC)
6.43	0.27	1.80	0.72	2.79	9.22

D6 Shunting and Terminals Costs

D6.1 Shunting Costs

Shunting for transit traffic is minimal, confined to border and some major cities. Normalised costs are built up similarly to locomotives. The output for shunting locomotives is hours, the norm for which is built up in the table below.

Utilisation

TYPE	STANDARD	ADJUST	ACCEPTED	STANDARD	ADJUST	ACCEPTED	STANDARD	ACCEPTED	ACCEPTED
	WAIT TIME	FACTOR	WAIT TIME	LIGHT	FACTOR	LIGHT	SHUNTING	SHUNTING	UTILISE
	HRS/DAY		HRS/DAY	HRS/DAY		HRS/DAY	HRS DAY	HRS DAY	HRS/YEAR
1	8	1.2	9.6	1	1	1	15	13.4	3940

Normalised Maintenance Costs €

SERVICE INTERVAL	LABOUR	MATERIALS	EQUIPMENT	OVERHEAD	TOTAL/ SERVICE	TOTAL/ YEAR	PER HOUR
HRS							
A 50	43	84	219	10	357	17126	4.76
B 500	1113	3150	1920	185	6368	35268	9.80
C 3000	1475	3780	4237	285	9776	9776	2.72
D 6000	2264	6300	4127	381	13072	7130	1.98
E 20000	3731	10710	13409	835	28685	4694	1.30
F 30000	6759	11957	18224	1108	38049	4151	1.15
G 60000	7536	11957	74421	2817	96731	5276	1.47
U1 3000	1113	42	3865	151	5171	6205	1.72
U2 3000	291	6000	88	191	6570	788	0.22
						TOTAL	25.12

Financial Costs

TYPE	REPLACEMENT	ECONOMIC	DEPRECIATION	COSTS
	COST	LIFE	RETURN ON	PER HOUR
			ASSETS	
1	800000	30	144077	37

APPENDIX E National Coefficients

E1 Derivation of TTT National Coefficients

1. To compile TTT Coefficients that adjust the TTT Basic Flat wagon rate for each country according to agreed parameters.
2. TTT applying as it does to Traceca defined routes only requires a specific set of national coefficients that will apply only to TTT.

Coefficients are intended to reflect the actual operating conditions of Traceca railway routes.

3. Railways participating in the TTT are required to provide information that will be used to estimate TTT coefficients.

4. The TTT Coefficient (C) will be derived from the following formula

$$C = \Sigma (f_n \times d / D)$$

where f_n is an adjustment factor

d is the section distance over which it applies

D is the total length of Traceca in the country

5. The TTT national coefficient will be derived from 4 factors f: Train Length, Route Speed; Gradient; Alignment.

TTT Normative Adjustment Factors

train length		operating speed			gradient	alignment		
m	wagons	factor	kph	factor	%	factor	m radius	factor
1450	100	0.64	70	1.21	10/1000	1	1000	1
1170	80	0.85	60	1.16	20/1000	1.015	900	1.006
890	60	1	50	1.1	30/1000	1.03	800	1.012
750	50	1.15	40	1	40/1000	1.045	700	1.018
610	40	1.36	30	0.86	50/1000	1.06	600	1.024
470	30	1.73	20	0.67			500	1.03

6. Analysis carried out by Traceca in the project Unification of Transit Fees and Tariffs calibrated each factor shown in the table.

Notes to the adjustment factors¹²:

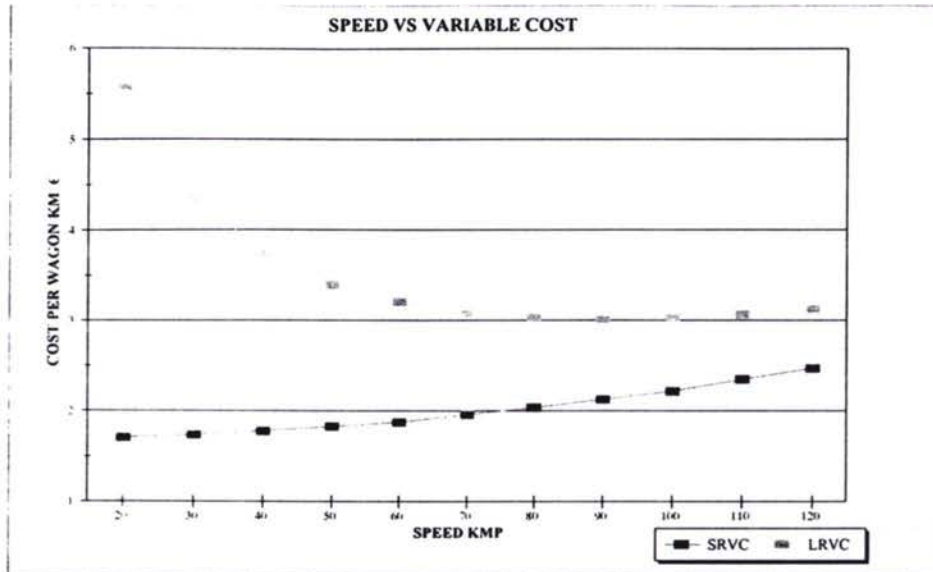
Train length –the normal train length comprises 60 14 m wagons and 2 locomotives totalling 890 m and has an adjustment factor of 1.0. Variations to train length, alignment and gradient are considered directly proportional to changes in operating cost.

Speed - average operating norm of 40 kph reflects average timetable performance on Traceca Routes. Variations in speed are exponentially related to changes in cost.

E2 Note on Speed Cost Relationship

The relationship between speed and cost is indicated for information purposes in the figure below. The example uses 2 electric locomotives hauling 60 X 40 T Flat Wagons.

¹² Normative wagon size has been changed from 20 to 14 m; the speed has been modified from technical norm of 70 kph to an operating speed norm of 40 kph;



Source Railcost

Short run variable costs are seen to rise increasingly with speed. Within this range of speed the variation for electric locomotives is not as significant as diesel significant. For speeds of 160 kph the rate of increase in SRVC is much greater.

Long run variable costs are seen to decline steeply with speed due to the potentially higher utilisation that faster speeds produce and the corresponding lower unit costs of depreciation and return on assets. As speeds increase further, additional fuel costs increases faster than the reduction in asset provision costs.

An optimum speed for freight trains would appear to be between 70 kph and 120 kph.

However, the cost of infrastructure provision also increases with speed – refer to IUC speed adjustment factors F3.3. Note also that to achieve an average operating speed of 80 requires a technical speed of 120 kph

E3 Application for New or Revised TTT National Coefficients

Presentation of Information

National railways intending to apply for a new or revised TTT National coefficient should provide the information in the table below. The application also provides important data on the extent and length of the Traceca Network to be included in the TTT.

Traceca Section			Train Length	Technical Speed	Gradient	Alignment
Km start	Km end	Length	M	Kph	0/00	M radius
1	2	3	4	5	6	7

Notes

- 1 Start km of section (use national route distance classification).
- 2 End km of section.
- 3 Length of section - the TTT adjustment factor will apply only to sections that are greater than 20 km in length.
- 4 Limiting train length
- 5 Technical speed through section
- 6 Ruling gradient through section
- 7 Minimum radius through section

Alterations to national coefficients to be used in the TTT are expected to occur annually.

The information should be registered with the Traceca Secretariat no later than 30th November 2002 for application in the TTT policy.

Return this document to the TTT Authority

Name of railway

Signed Date (Seal)

Contact person

E4 National Submissions

Submissions for TTT National Coefficients to the Traceca Secretariat have been received from Countries shown in the table below.

Country	Date Received	Comment on Application
Azerbaijan	12-12-02	All sections complete
Armenia	3-03	All sections complete
Bulgaria	12-12-02	Average provided for network
Georgia	12-03	All sections complete
Kazakhstan	28-11-02	All sections complete
Kyrgistan	5-03	All sections complete
Moldova	14-01-03	All sections complete
Romania	14- 12- 02	All sections complete
Tajikistan	To be received	
Turkey	15-03-03	Average provided for routes
Turkmenistan	To be received	
Ukraine	27 -11-02	All sections complete
Uzbekistan	6-01-03	Average provided for network

E5 Calculations of the TTT Coefficient

Calculation presented on the following pages is for information and record only for the TTT participating railways that have submitted information. For railways that have not submitted information a TTT Coefficient of unity will be applied until such information is received.

Where changes have been made to the submitted data as described E1, a note has been attached to the calculation.

The entry is for the record; changes to which may be submitted to the Tariff Authority and may be subject to independent verification.

E5.1 Armenia

Armenia Railways

TTT National Coefficient Calculations

from	To	Start	end	distance	train length		speed		gradient		alignment		All	X
		Km	km	km	m	factor	kph	factor	%	factor	m radius	factor	Factors	distance
Ayrum	Gyrumri			141.00	476	1.73	24	0.76	28.0	1.028	300	1.0420	1.5600	219.96
Gyrumri	Yerevan			154.00	476	1.73	24	0.76	20.0	1.015	300	1.0420	1.5470	238.238

sum A 295

sum B 458.198

TTT National Coefficient sum B / A 1.553214

Note: No changes to data submitted

E5.4 Georgia

Georgian Railways TTT National Coefficient Calculations

from	to	start	end	distance	train length		speed		gradient		alignment		All	X
		km	km	km	m	factor	kph	factor	%	factor	m radius	factor	Factors	distance
Batumi	Samtredia	2	109	107	490	1.7	40	1	8	1.000	300	1.0420	1.7420	186.394
Poti	Samtredia	41	109	68	550	1.54	30	0.85	7	1.000	260	1.0444	1.4344	97.5392
Samtredia	Zestaponi	109	170	61	660	1.28	40	1	7.5	1.000	400	1.0360	1.3160	80.276
Zestaponi	Khashuri	170	233	63	660	1.28	25	0.77	28	1.042	170	1.0498	1.1418	71.9334
Khashuri	Tbilisi	233	359	126	660	1.28	50	1.15	7.6	1.000	285	1.0429	1.4729	185.5854
Tbilisi	Gardobani	359	401	42	800	1.1	40	1	10.1	1.000	540	1.0276	1.1276	47.3592
				sum A	467								sum B	669.0872

TTT National Coefficient sum B / A 1.432735

Notes: Speeds submitted converted to assumed operating speed

from	to	start	end	distance	train length		speed		gradient		alignment		All	X
		km	km	km	m	factor	kph	factor	%	factor	m radius	factor	Factors	distance
Constansa (Ferry-boat)	Palas			13.6	750	1.15	35	0.93	10.0	1.000	240	1.0456	1.1256	15.30816
Constansa Port (Zones A, B)	Palas			9	600	1.34	35	0.93	1.0	1.000	250	1.0450	1.3100	11.79
Palas	Cernavoda			54.6	750	1.15	50	1.10	5.0	1.000	430	1.0342	1.2842	70.11732
Cernavoda	Fetesti			20	600	1.34	45	1.05	10.0	1.000	300	1.0420	1.4320	28.64
Fetesti	Pantelimon			125.2	750	1.15	40	1.00	6.0	1.000	1300	0.9820	1.1320	141.7264
Pantelimon	Videle			50.4	750	1.15	40	1.00	8.0	1.000	450	1.0330	1.1830	59.6232
Videle	Rosiori Nord			49.2	600	1.34	40	1.00	6.0	1.000	575	1.0255	1.3655	67.1826
Rosiori Nord	Filiasi			144.7	720	1.1	50	1.10	8.0	1.000	500	1.0300	1.2300	177.981
Filiasi	Balota			58.9	720	1.1	40	1.00	3.0	1.000	330	1.0402	1.1402	67.15778
Balota	Orsova			54.8	720	1.1	40	1.00	27.0	1.025	200	1.0480	1.1730	64.2804
Orsova	Caransebes			88.3	720	1.1	40	1.00	14.0	1.008	250	1.0450	1.1510	101.6333
Caransebes	Iugoj			39.9	600	1.34	35	0.93	6.0	1.000	900	1.0060	1.2760	50.9124
Iugoj	Timisoara Nord			58.9	600	1.34	40	1.00	4.0	1.000	300	1.0420	1.3820	81.3998
Timisoara Nord	Arad			57.2	750	1.15	40	1.00	5.0	1.000	296	1.0422	1.1922	68.196128
Fetesti	Tandarei			30.6	700	1.07	45	1.05	4.0	1.000	350	1.0390	1.1590	35.4654
Tandarei	Faurei			58.1	640	1.31	40	1.00	3.0	1.000	500	1.0300	1.3400	77.854
Faurei	Buzau			40.4	700	1.07	40	1.00	2.0	1.000	450	1.0330	1.1030	44.5612
Buzau	Ploiesti West			71.6	700	1.07	45	1.05	8.0	1.000	510	1.0294	1.1494	82.29704
Ploiesti West	Predeal			81.1	600	1.34	40	1.00	10.0	1.000	265	1.0441	1.3841	112.25051
Predeal	Brasov			27	600	1.34	40	1.00	1.0	1.000	260	1.0444	1.3844	37.3788
Brasov	Coslariu			181	600	1.34	40	1.00	18.0	1.014	260	1.0444	1.3984	253.1104
Coslariu	Simeria			66.4	600	1.34	40	1.00	4.0	1.000	200	1.0480	1.3880	92.1632
Simeria	Arad			157.4	750	1.15	40	1.00	3.0	1.000	336	1.0398	1.1898	187.280816
Arad	Curtici Fr			25	750	1.15	40	1.00	2.0	1.000	900	1.0060	1.1560	28.9
Filiasi	Carbunesti			46.5	550	1.47	45	1.05	8.0	1.000	300	1.0420	1.5620	72.633
Carbunesti	Targu Jiu			29.1	550	1.47	40	1.00	10.0	1.000	270	1.0438	1.5138	44.05158
Targu Jiu	Livezeni			46.1	550	1.47	35	0.93	1.0	1.000	275	1.0435	1.4435	66.54535
Livezeni	Subcetate			49.6	600	1.34	40	1.00	18.0	1.014	180	1.0492	1.4032	69.59872
Subcetate	Simeria			30.2	600	1.34	40	1.00	7.0	1.000	325	1.0405	1.3805	41.6911
Bucuresti triaj	Ploiesti West			57.7	700	1.07	45	1.05	5.0	1.000	450	1.0330	1.1530	66.5281
Coslariu	Teius			3.4	600	1.34	45	1.05	3.0	1.000	900	1.0060	1.3960	4.7464
Teius	Razboieni			33.5	600	1.34	60	1.16	2.0	1.000	400	1.0360	1.5360	51.456
Razboieni	Apahida			25	600	1.34	45	1.05	11.0	1.001	230	1.0462	1.4372	35.93
Apahida	Episcopia Bihor Fr			177.4	600	1.34	45	1.05	9.0	1.000	250	1.0450	1.4350	254.569
				sum A	2061.8								sum B	2664.9591
TTT National Coefficient				sum B / A		1.29254006								

Notes: speeds submitted converted to assumed operating speed

E5.9 Ukraine

Ukraine Railways

TTT National Coefficient Calculations

from	to	start	end	distance	train length		speed		gradient		alignment		All	X
		km	km	km	m	factor	kph	factor	%	factor	m radius	factor	Factors	distance
		0	66	66	850	1.03	50	1.10	9.2	1.000	500	1.0300	1.1600	76.56
		66	137	71	850	1.03	50	1.10	8.4	1.000	500	1.0300	1.1600	82.36
		137	202	65	850	1.03	50	1.10	9.0	1.000	500	1.0300	1.1600	75.4
		202	214	12	850	1.03	50	1.10	9.2	1.000	500	1.0300	1.1600	13.92
		214	287	73	850	1.03	50	1.10	10.4	1.000	500	1.0300	1.1600	84.68
		287	408	121	850	1.03	50	1.10	8.4	1.000	500	1.0300	1.1600	140.36
		408	434	26	850	1.03	50	1.10	9.8	1.000	500	1.0300	1.1600	30.16
		434	543	109	850	1.03	50	1.10	8.2	1.000	500	1.0300	1.1600	126.44
		543	624	81	850	1.03	50	1.10	8.3	1.000	500	1.0300	1.1600	93.96
		624	716	92	850	1.03	50	1.10	8.4	1.000	500	1.0300	1.1600	106.72
		716	735	19	850	1.03	45	1.05	8.4	1.000	500	1.0300	1.1100	21.09
		735	861	126	850	1.03	50	1.10	7.9	1.000	500	1.0300	1.1600	146.16
		861	924	63	850	1.03	50	1.10	3.5	1.000	500	1.0300	1.1600	73.08
		924	945	21	850	1.03	50	1.10	4.6	1.000	400	1.0360	1.1660	24.486
		945	950	5	850	1.03	25	0.76	12.9	1.004	170	1.0498	0.8438	4.219

sum A 950

sum B 1099.595

TTT National Coefficient

sum B / A 1.157468

E5.11TTT National Coefficients Summary

TTT National Coefficients

Version 02/27/04

Traceca partner	Network Included km	TTT Coefficient	Notes
Azerbaijan	500	1.11	No changes to data submitted
Armenia	295	1.55	No changes to data submitted
Bulgaria	500	1.64	Speed converted from technical to actual operating
Georgia	467	1.43	Speed converted from technical to actual operating
Kazakhstan	4217	1.13	No changes to data submitted
Kyrgistan	324	1.40	Speed converted from technical to actual operating
Moldova	208	1.10	No changes to data submitted
Romania	2062	1.29	Speed converted from technical to actual operating
Tajikistan	-	1	Information awaited, TTT Coefficient of 1 assumed
Turkey	6987	1.61	Speed converted from technical to actual operating
Ukraine	950	1.16	Speed converted from technical to actual operating
Uzbekistan	2634	1.15	Speed converted from technical to actual operating
Turkmenistan	-	1	To be requested for information, TTT Coefficient of 1 assumed

APPENDIX F Tariff Authority

F1. List of Functions

Administration

- Organisation and coordination of TTT conferences and meetings
- Changing TTT regulations as instructed by TTT conferences
- Receipt and processing of requests from TTT signatories for changes to TTT National Coefficients or other National requests for changes and advising all other TTT signatories of the said changes
- Processing complaints or suggestions for improvement regarding the execution of the TTT Authority
- Maintenance of the TTT Authority's Accounts and periodic reporting
- General Administration of the TTT Authority

Economics and research

- Receipt and processing data on the numbers and types of wagons using Traceca that have been priced using the TTT
- Maintenance of the TTT normative cost base
- Maintenance and application of the TTT normative costing methodology
- Research into norms and other elements of the cost base
- Analysis of requests to change TTT coefficients or other elements of the TTT
- Calculation and proposal of annual or periodic revision of tariffs to TTT signatories based on changes to the normative costs
- Preparation of economic briefing reports to TTT signatories

Information and Promotion

- TTT information and advisory services to the agencies that apply or intend to apply the TTT
- Advising Users of TTT rates and tariffs
- Liaison with related tariff authorities
- Promotion of TTT changes when agreed by TTT signatories
- Updating and issuing TTT regulation and other information
- Organisation and provision of guidance or if necessary training in various aspects and application of the TTT

Market research (optional)

- Receipt, analysis and maintenance of information on potential Traceca traffic
- Advisory services to TTT signatories of potential market opportunities
- Research and advise on appropriate tariffs and other service attributes required for new market opportunities or for enhancing, or retaining existing traffic
- Carrying out market research on existing or potential users
- Preparation of briefing reports to TTT signatories

Tariff and Revenue Legal Services (optional)

- Advising Traceca Users of Conditions of Carriage
- Resolution of revenue allocation issues between TTT signatories

F2. Organisation

- The TTT Authority organisation shall be headed by the TTT General Secretary that shall be responsible for the administrative functions and have overall responsibility for the performance of the TTT Authority
- The following additional positions shall be included in the TTT authority:
 - Railway Economist to carry out the Economics and Research functions:
 - Information Officer to carry out the functions of Information and Promotion:
 - an administrative secretary.
- Additional position of Market Researcher and Legal Officer shall be included in the organisation of the personnel of the TTT Authority at the discretion of the signatories to the TTT regulation.
- The functions of the TTT Authority shall be carried out by the Traceca Secretariat or by one or more of the organisations that are signatories of the TTT regulation.

- The Agency appointed TTT Authority shall make available all necessary resources for the proper functioning of the TTT Authority.
- When establishing or changing the agency appointed TTT Authority organisations intending to become the designated agency shall advise TTT signatories in advance of the resources, costs and conditions of their provision
- The official working languages of the TTT Authority shall be Russian and English.
- Translation and interpretation into the languages of the signatories shall be carried out at the discretion of and resourced by the TTT signatories

F3. Personnel

- Any qualified citizen of any TTT signatory shall be eligible for any of the positions in the TTT Authority.
- The positions shall be occupied under 3 yearly contracts that can be renewed twice upon satisfactory performance thus making it possible for the positions to be filled for a maximum of 9 years by the same individual.
- Personnel shall be appropriately qualified technically and linguistically and shall not have any criminal record
- All personnel appointments have to be approved by a majority of the signatories to the TTT regulation
- In the event that any position fall vacant unexpectedly the General Secretary has the discretion to fill the position temporarily without approval from TTT signatories for a maximum period of 12 months until a permanent appointee is approved.

F4. Financing

- The financing currency of the TTT Authority shall be Euro
- Resources provided by the Traceca Secretariat or other agency appointed to be the TTT Authority shall be remunerated for the resources provided at rates agreed by signatories to the TTT regulation annually in advance.
- The Personnel Contracts shall be remunerated at the rates agreed in the contracts and altered annually to rates agreed by signatories to the TTT regulation.
- Other expenses shall be advised to signatories to the TTT Regulation annually in advanced.
- The annual budget including the aforementioned items shall be prepared by the General Secretary to the TTT Authority for approved by signatories in advance.
- The budget shall be financed by signatories to the TTT agreement in proportion to the annual throughput of wagons priced using the TTT regulation.
- The General Secretary shall advise each signatory to the TTT of the contribution expected 3 months in advance of the approval of the annual budget.
- The TTT Authority shall obtain income from other sources including international development and financing institutions and from revenue from sales of information and services provided.