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**EURO-ASIA TRANSPORT LINKAGES  
Phase II**

Expert Group Report



**UNITED NATIONS**

**New York and Geneva, 2011**

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## PART II

### REVIEW OF INTERNATIONAL TRANSPORT NETWORKS AND INITIATIVES LINKING ASIA AND EUROPE

#### 1. United Nations transport networks in the EATL region

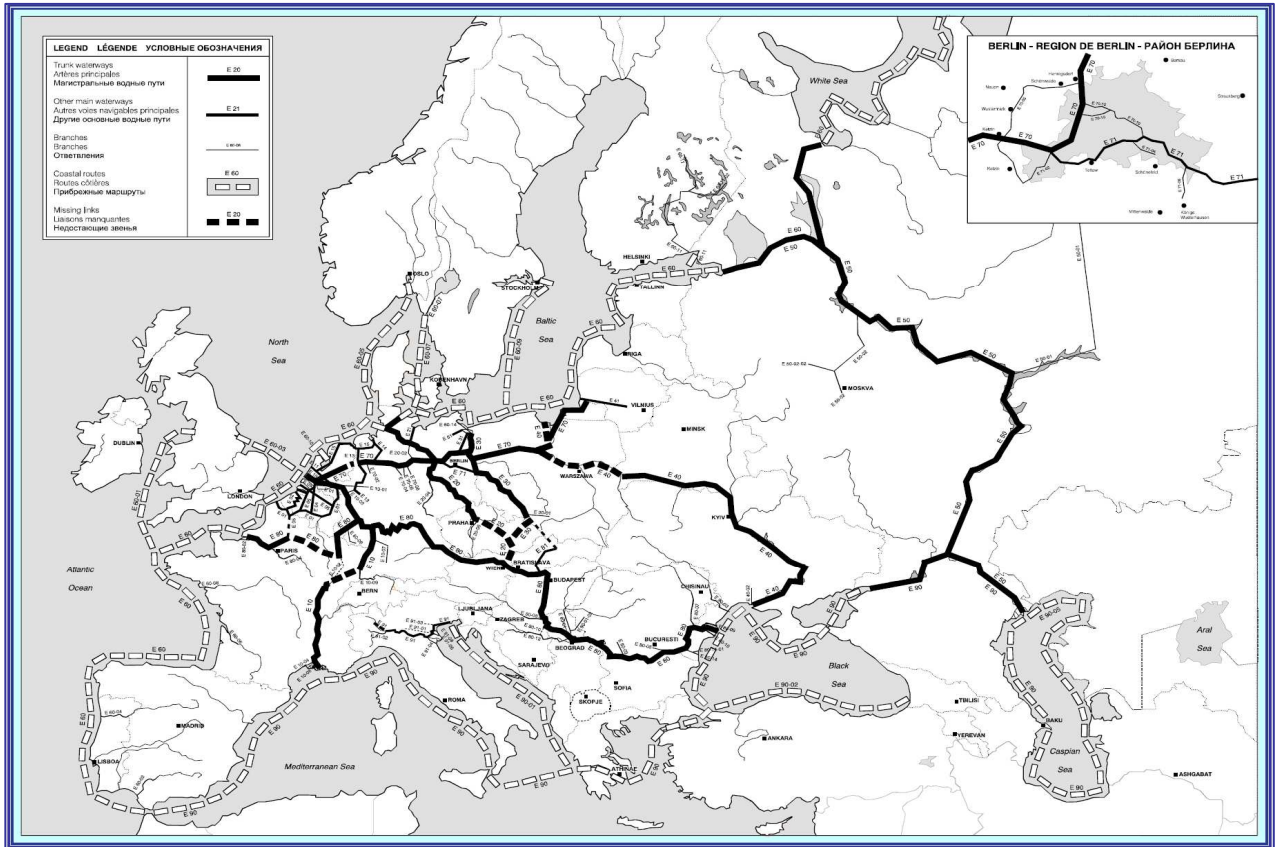
Transport is vital to the well-functioning of economic activities and a key to ensuring social well-being and cohesion of populations. Transport ensures everyday mobility of people and is crucial to the production and distribution of goods. Adequate infrastructure is a fundamental precondition for transport systems. In their endeavour to facilitate transport, however, decision-makers in governments and international organizations face difficult challenges. These include the existence of physical barriers or hindrances, such as insufficient or inadequate transport infrastructures, bottlenecks and missing links, as well as lack of funds to remove them. Solving these problems is not an easy task. It requires action on the part of the governments concerned, actions that are coordinated with other governments at international level.

The UNECE Governments have long-standing experience and expertise in the development of coherent international transport networks in Europe. They have created four main transport network agreements aimed at the development of coherent networks for road, rail, inland water and combined transport respectively. The UNECE transport network agreements include:

- The European Agreement on Main International Traffic Arteries (AGR), done in 1975;
- The European Agreement on Main International Railway Lines (AGC), done in 1985;
- The European Agreement on Important International Combined Transport Lines and Related Installations (AGTC), done in 1991; and
- The European Agreement on Main Inland Waterways of International Importance (AGN), done in 1996.

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These four international Agreements define respectively the E road, rail, combined and inland water transport networks. They also determine the minimum technical norms and requirements according to which the relevant infrastructures should be built. The AGTC also includes operational parameters for combined transport services. Finally, they establish a well-known numbering system, in general following a north-south and east-west grid system.

Although legally binding for countries that become parties to them, the UNECE infrastructure agreements give governments ample latitude for implementation. In particular, they establish neither deadlines nor priorities. Nevertheless, constantly kept up to date, these UNECE infrastructure agreements are the only Pan-European governmental basis for the long-term development of coherent international networks for the various modes of inland transport. As such, they were taken as a basis for the determination of the Pan-European transport corridors at the Pan-European Transport Conferences in Crete and Helsinki.

The E road and E rail networks represent the most useful basis for the identification of priority Euro-Asian transport corridors as they already incorporate the main roads and rail lines planned for the eastern parts of the Russian Federation and for the Caucasus and Central Asian countries.

**The European Agreement on Main International Traffic Arteries (AGR)** provides UNECE Governments with the international legal framework for the construction and development of a coherent international road network with a view to the development of international road transport and traffic throughout the UNECE region. The AGR defines the E road network, consisting of the arteries channelling major international road traffic flows in Europe, and the infrastructure parameters to which those arteries should conform. The AGR is constantly kept under review and updated whenever necessary to adapt it to new political and transport developments, such as the need for new roads in new States or those created by new traffic flows. It underwent a major revision in the early 90's following the fall of the Iron Curtain in order to take into account the new East-West traffic flows. It has undergone another major revision in recent years in order to also include the international roads of the countries in the Caucasus and Central Asia. States that become Contracting Parties to the AGR commit themselves to its implementation, including the construction or upgrading of the E-roads in their territories, within the framework of their national investment programmes, although they are given complete latitude as to the timing for the completion of construction works. To date, 33 UNECE Member States have become Contracting Parties to the AGR.

**The European Agreement on Main International Railway Lines (AGC)** similarly provides the legal and technical framework for the development of a coherent international rail network in the region. The AGC identifies the rail lines of major international importance, the E rail network, and defines the infrastructure parameters to which they should conform. It defines infrastructure parameters for two categories of lines: those already existing and those to be newly constructed. The latter are again divided into lines for goods and passenger traffic and others for passenger traffic only. The AGC is also revised whenever necessary to take account of political and transport changes in Europe. It has undergone a major revision in recent years in order to also include the international rail networks of the Caucasus and Central Asian countries. In becoming Contracting Parties to the AGC, European States commit themselves to its implementation, including the construction or the upgrading of the E-rail lines in their territories, within the framework of their national programmes but without any time constraints. 24 UNECE Member States are Parties to the AGC.

**The European Agreement on Important International Combined Transport Lines and Related Installations (AGTC)** provides the technical and legal framework for the development of efficient international combined road/rail transport infrastructure and services. Combined road/rail transport comprises the transport of containers, swap bodies and entire trucks on railway wagons to and from especially equipped terminals. The AGTC determines all important European railway lines used for international combined transport, identifies all terminals, border crossing points, ferry links and other installations important for international combined transport services. It also establishes internationally acceptable infrastructure standards for those lines and related combined transport installations, and prescribes internationally acceptable performance parameters of trains and combined transport installations and equipment. European States who become Contracting Parties to the AGTC, commit themselves to its implementation, including the construction or the upgrading of the railway lines and related combined transport installations in their territories, within the framework of their national programmes but without any time constraints. The AGTC entered into force on 20 October 1993. To date, 26 UNECE Member States have become Parties to the AGCT.



**The European Agreement on Main Inland Waterways of International Importance (AGN)** establishes the internationally agreed European network of inland waterways and ports as well as the uniform infrastructure and operational parameters to which they should conform. The geographical scope of the E waterways network, consisting of navigable rivers, canals and coastal routes extends from the Atlantic to the Ural, connecting 37 countries and reaching beyond the European region. By acceding to the AGN, Governments commit themselves to the development and construction of their inland waterways and ports of international importance in accordance with the uniform conditions agreed upon and within their investment programmes. The AGN entered into force on 26 July 1999. To date, 13 UNECE Member States have become Parties to the AGN.

## **Trans-European North-South Motorway & Trans-European Railway**

The Trans-European North-South Motorway (TEM) and the Trans-European Railway (TER) Projects are sub-regional cooperative frameworks established by the Governments of the Central, Eastern and South Eastern European countries under the aegis of UNECE for the purpose of developing coherent road, rail and combined transport infrastructure networks in the region and facilitating international traffic in Europe.

The TEM and the TER are managed by the Project's Steering Committee as the highest administrative and political body, formed by national delegates from each participating country; by the Project Central Offices (TEM- in Warsaw, Poland, TER- in Bratislava, Slovakia) which coordinate activities to achieve objectives; and finally by the National Project Offices in each participating country, providing liaison between national activities and activities under the project.

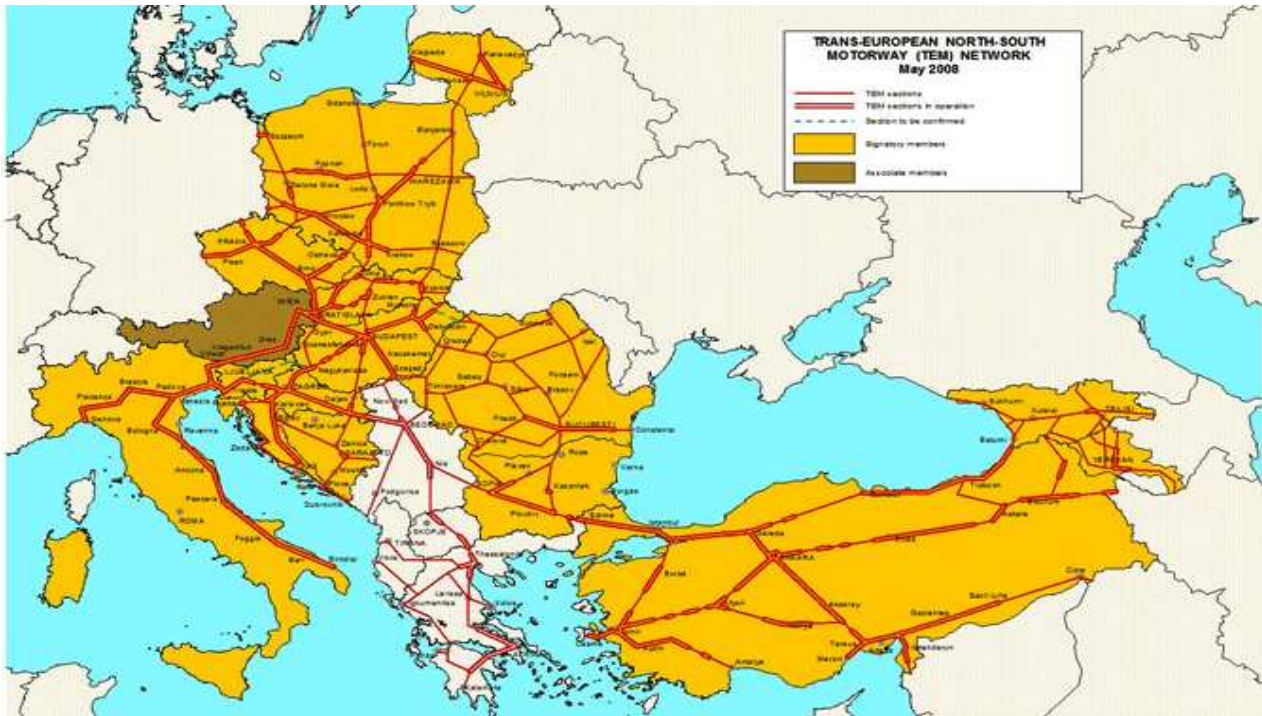
### **TEM**

The TEM Project, established in 1977, has extended its network to 24,047km (figure 6.1), out of which 10,113km in operation, representing 42.1% of TEM and 1,046km under construction. The project aims to: facilitate road traffic in Europe among and through the participating countries<sup>1</sup>; improve the quality and efficiency of transport operations; reduce imbalances existing in the network between Western, Eastern, Central and South-Eastern Europe; as well as assist the integration process of European Transport Infrastructure systems in order to promote the overall development of the region.

Figure 6.1. TEM Network

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<sup>1</sup> 14 TEM member countries are Armenia, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Italy, Lithuania, Poland, Romania, Slovakia, Slovenia and Turkey.

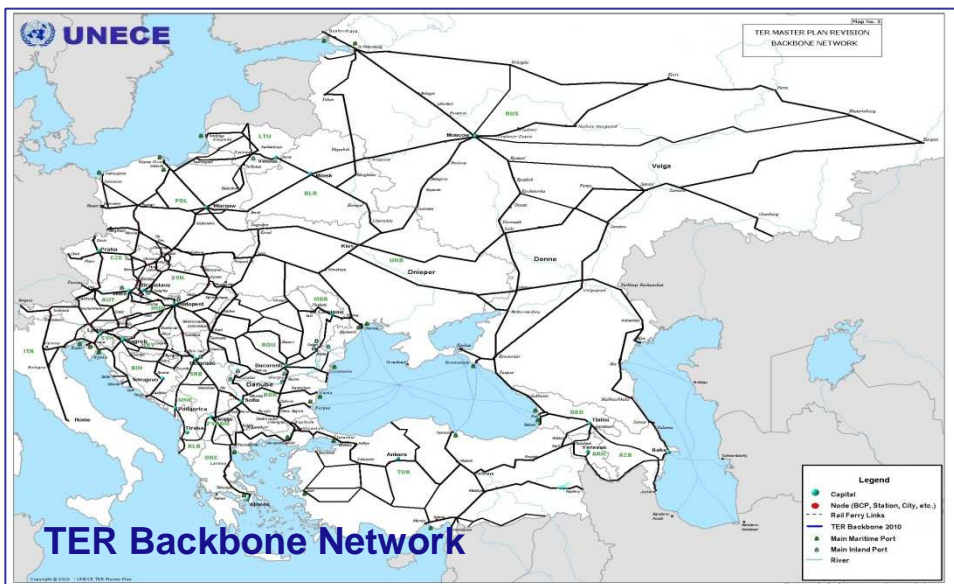
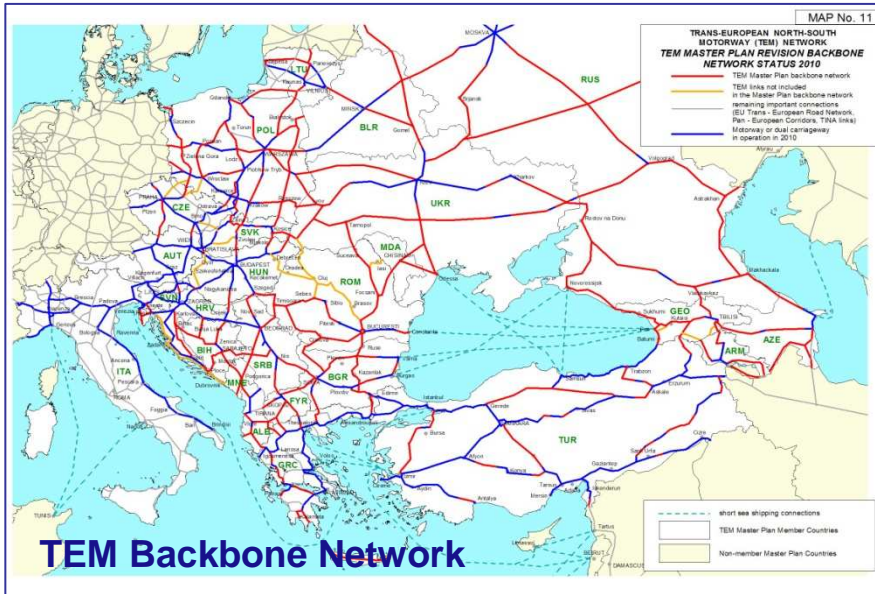


## TER

The TER Project was launched in 1990. The objective of TER is the facilitation and development of coherent and efficient international railway and combined transport system among the Central and Eastern European countries and through the territories of the participating countries<sup>2</sup> as well as between them and other European countries by, for example, upgrading network infrastructure extending over 24,000km (figure 6.2), and eliminating obstacles such as proliferation of taxes and duties at border crossing. The project aims at developing rail infrastructure, improving co-operation in all matters concerning the rail transport between TER countries, and supporting the European integration process by assisting in implementation of EU directives.

Figure 6.2. TER Network

<sup>2</sup> 17 TER member countries are Armenia, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Greece, Hungary, Italy, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia and Turkey, and observer countries are Belarus, FYROM, Moldova Montenegro, Ukraine and Serbia.



## Master Plan

In 2005, TEM and TER Projects completed the elaboration of the Master Plan. The Master Plan includes identification of main bottlenecks, missing links and other priority infrastructure needs in road, rail and combined transport networks in 21 participating countries, and the design of a realistic investment strategy to support those needs.

The Terms of References for the TEM and TER Master Plan Revision have been endorsed by the Projects' Steering Committees and the Joint Meeting of the TEM and TER Expert Groups on Revision of the Master Plan was held twice in September 2008 and in April 2009.<sup>3</sup> The revision of

<sup>3</sup> ToR is available at <http://www.unece.org/trans/main/temtermp/docs/RevisionTOR.pdf>.

Reports on the meetings are available at [http://www.unece.org/trans/main/temtermp/docs/1stJoint\\_Report.pdf](http://www.unece.org/trans/main/temtermp/docs/1stJoint_Report.pdf) (UNECE Report on the First

the TEM and TER Master Plan in 2008-2009 will extend the geographical coverage of the Master Plan to 25 UNECE countries including four new member states (Albania, Armenia, Azerbaijan and Montenegro). In addition, the revision will embrace new challenges, for instance, intermodality, funding, operational performance, motorways of the sea, connections to Freight Villages and Logistics Centres.

## References:

This section is based on publicly available information:

the website of TEM, especially retrieved from <http://www.unece.org/trans/main/tem/tem.html>;  
<http://www.unece.org/trans/main/tem/temobj.html>;  
<http://www.unece.org/trans/main/tem/temachi.html>;

the website of TER, retrieved from especially,  
<http://www.unece.org/trans/main/ter/ter.html>;  
<http://www.unece.org/trans/main/ter/terobj.html>;  
<http://www.unece.org/trans/main/ter/terachi.html>; and

UNECE, (2006), *TEM and TER Master Plan Final Report*, UNECE Transport Division, Geneva, retrieved from <http://www.unece.org/trans/main/temterm/news.html>.

## United Nations Economic and Social Commission for Asia and the Pacific

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) is a regional development arm of the United Nations for the Asia-Pacific region, composed of 62 Governments, 58 of which are in the region, with its headquarters in Bangkok, Thailand.<sup>4</sup> UNESCAP was founded in 1947 in order to overcome regional challenges in areas of poverty and development.

The Transport Division at UNESCAP consists of three sections:

- the Transport Infrastructure Section aiming to develop a network of highways, railways and ports across the UNESCAP region;
- the Transport Facilitation and Logistics Section aiming to assist member countries to integrate all modes of transport, adopt effective multimodal and logistics solution, overcome non-physical bottlenecks, harmonise legal regimes, and strengthen human resources and institutional capacities; and
- the Transport Policy and Development Section aiming to improve the information context of transport planning and policy formulation at the regional, national and local levels.

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Joint Meeting of the TEM and TER Expert Groups on Revision of the Master Plan) and [http://www.unece.org/trans/main/temterm/docs/2ndJoint\\_Report.pdf](http://www.unece.org/trans/main/temterm/docs/2ndJoint_Report.pdf) (UNECE Report on the Second Joint Meeting of the TEM and TER Expert Groups on Revision of the Master Plan).

<sup>4</sup> For more detail of membership, see <http://www.unescap.org/about/member.asp>.

## Recent initiatives/ projects

The Transport Division has carried out a project ‘Operationalization of international intermodal transport corridors in North-East and Central Asia’. The main objectives of the project are to support countries to identify priority intermodal transport corridors linking countries in North-East and Central Asia, and to establish and implement cooperative mechanisms for the development and operationalisation of the selected corridors. Under the project, six intermodal corridors (figure 7.1) have been identified based on existing routes of the Asian Highway (AH) and the Trans-Asian Railway (TAR).

Both the AH project and the TAR project have been implemented under the framework of Asian Land Transport Infrastructure Development Project (ALTID) which was launched in 1992 to promote the coordinated development of a regional transport network.

In order to meet the increasing demand for reliable and efficient land transport linkages and services in the region, the AH project was established in 1959 to foster international road transport. The member countries have adopted the network of 141,000km in 32 Asian countries with linkages to Europe (figure 7.2). This network provides access to: capitals; main industrial and agricultural centres; major air, sea and river ports; major container terminals and depots; and major tourist attractions. The AH network was formalised through the Intergovernmental Agreement on the Asian Highway Network which entered into force in 2005.<sup>5</sup> The Agreement has been signed by 28 countries, of which 23 are Parties.

Figure 7.1. Six Intermodal Transport Corridors

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<sup>5</sup> For detail of the AH Intergovernmental Agreement, see <http://www.unescap.org/ttdw/common/tis/AH/AH-Agreement-E.pdf>.





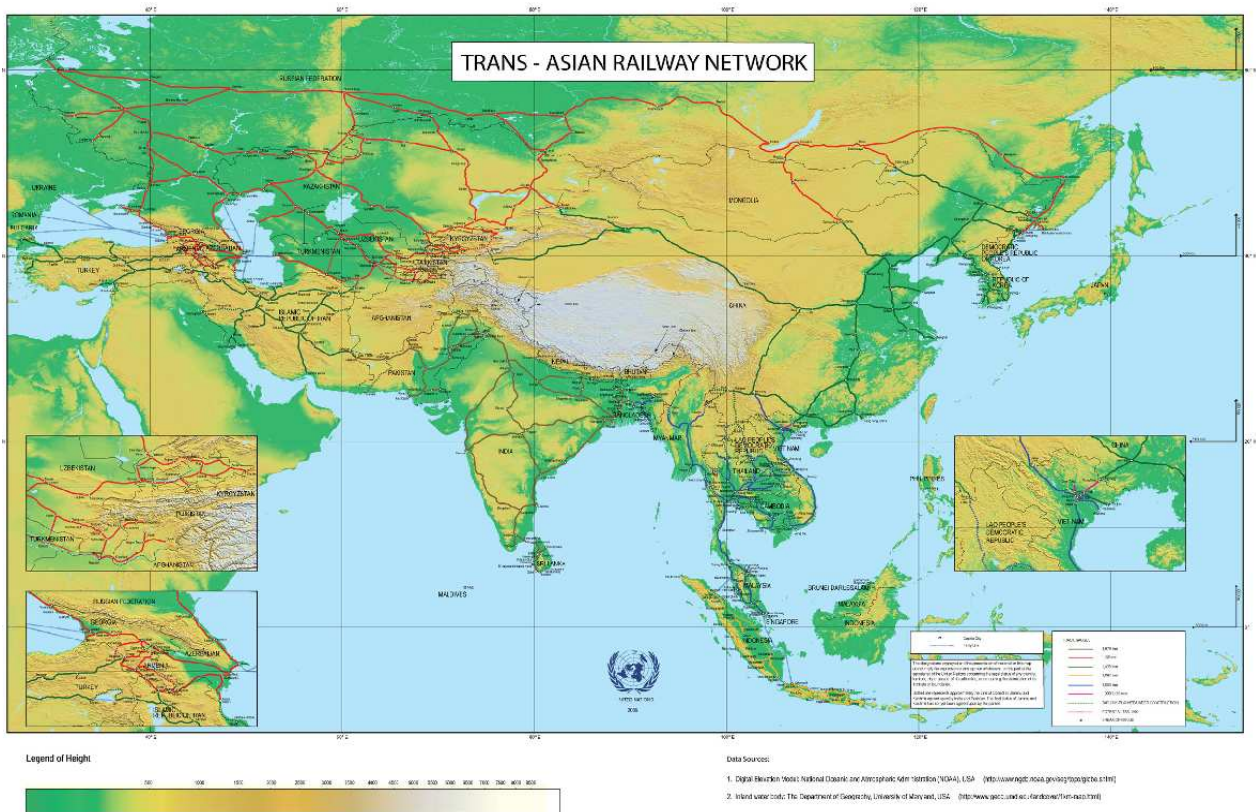
Figure 7.2. AH Route



The TAR project was initiated in the early 1960s to offer efficient rail transport services within the region and between Asia and Europe. The network has extended to 114,000km of railways across 28 countries (figure 7.3) through three phases of the project: the Network Identification by four

corridor studies <sup>6</sup> (1994-2001); the Network Operationalization by demonstration runs of container block trains <sup>7</sup> (1997-2005); and the Network Formalization by negotiation and finalization of the Intergovernmental Agreement on the Trans-Asian Railway Network <sup>8</sup> (2001-2006).

Figure 7.3. TAR Network



This Agreement entered into force in June 2009. Under the terms of the Agreement, a working group will be established to regularly discuss policies and issues relating to the development of the rail network.

## References:

This section is based on publicly available information accessed at the website of UNESCAP and retrieved from <http://www.unescap.org/>, especially:

<sup>6</sup> Four corridors are : the Northern Corridor connecting China, Kazakhstan, Mongolia, Russia and the Korean Peninsula (1995, refined in 1999); the ASEAN and Indo-China subregional network covering Cambodia, China, Indonesia, Lao PDK, Malaysia, Myanmar, Singapore, Thailand and Viet Nam (1996); the Southern Corridor connecting Thailand and the southern Chinese with Turkey through Bangladesh, India, Iran, Myanmar, Pakistan, Sri Lanka (1999); and the North-south Corridor linking Northern Europe to the Persian Gulf through Russia, Central Asia and the Caucasus region (2001).

<sup>7</sup> Demonstration runs were operated along the TAR Northern Corridor.

<sup>8</sup> For detail of TAR Intergovernmental Agreement, see [http://www.unescap.org/ttdw/common/TIS/TAR/tar\\_agreement\\_final\\_e.pdf](http://www.unescap.org/ttdw/common/TIS/TAR/tar_agreement_final_e.pdf).



<http://www.unescap.org/about/index.asp>;  
<http://www.unescap.org/ttdw/>;  
[http://www.unescap.org/about/committee\\_t.asp](http://www.unescap.org/about/committee_t.asp);  
<http://www.unescap.org/ttdw/index.asp?MenuName=Infrastructure>;  
<http://www.unescap.org/ttdw/index.asp?MenuName=Facilitation>;  
<http://www.unescap.org/ttdw/index.asp?MenuName=Tourism>;  
<http://www.unescap.org/ttdw/index.asp?MenuName=AsianHighway>;  
[http://www.unescap.org/ttdw/common/tis/ah/IGA\\_intro.asp](http://www.unescap.org/ttdw/common/tis/ah/IGA_intro.asp);  
[http://www.unescap.org/ttdw/common/TIS/TAR/tar\\_home.asp](http://www.unescap.org/ttdw/common/TIS/TAR/tar_home.asp); and  
<http://www.unescap.org/unis/press/2009/jun/g41.asp>.

## **United Nations Special Programme for the Economies of Central Asia**

The United Nations Special Programme for the Economies of Central Asia, a joint UNECE-UNESCAP initiative, began in 1998. At present, the participating countries include Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Various Project Working Groups have been established to promote greater regional cooperation.<sup>9</sup> Under this framework, the Project Working Group on Transport and Border Crossing (PWG-TBC) was launched with Kazakhstan as the lead country. The main aim of PWG-TBC is further development of Euro-Asian transport corridors as the SPECA region is a potential transport hub connecting Europe and Asia.

### **Recent initiatives/ projects**

The PWG-TBC held its first session in 1998 and has met 14 times to date to implement activities along its programmes of work.<sup>10</sup> In 2005 in Issyk-Kul, Kyrgyzstan, the formulation and adoption of SPECA road and rail networks was identified as one of the key objectives of SPECA countries. The goal is to develop comprehensive network that would include transport routes defined in relevant international agreements.

In this regard, draft SPECA road and rail networks have been developed on the basis of regional agreements such as the Intergovernmental Agreement on the Asian Highway Network, the Intergovernmental Agreement on the Trans-Asian Railway Network, the European Agreement on Main International Traffic Arteries (AGR), the European Agreement on Main International Railway Lines (AGC), the European Agreement on Important International Combined Transport Lines and Related Installations (AGTC) as well as on the basis of routes and networks defined under the framework of ECO (Economic Cooperation Organization), CIS (Commonwealth of Independent States), TRACECA (Transport Corridor Europe Caucasus Asia), and OSJD (Organization for

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<sup>9</sup> SPECA Project Working Groups are on Gender and Economy, Knowledge-based Development, Statistics, Trade, Transport and Border Crossing, and Water and Energy Resources.

<sup>10</sup> For detail of 2008-2009 Work Plan, see [http://www.unece.org/speca/pdf/gc/session2/2008-2009\\_workplan\\_e.pdf](http://www.unece.org/speca/pdf/gc/session2/2008-2009_workplan_e.pdf).



Cooperation of Railways). The SPECA road and rail networks and their respective maps (figure 8.1 and 8.2) have been adopted at the 11<sup>th</sup> session of the PWG-TBC in 2006 in Almaty, Kazakhstan.

The PWG-TBC developed four priority transport databases (rail routes, road routes, border crossing points and intermodal transport) at its 12<sup>th</sup> session in 2007 in Dushanbe, Tajikistan. These databases assume a key role in monitoring situation in the transport sector in SPECA countries.

At the 13<sup>th</sup> session held in Almaty in 2008, the PWG-TBC reviewed initiatives of SPECA countries in relation to the implementation of the Almaty Programme of Action at national level, and noted the importance of the Busan Declaration on Transport Development in Asia and the Pacific.<sup>11</sup> It also noted problems hampering international transport in the SPECA region, including significant border-crossing delays, high transit costs, numerous and unnecessary national check points, non-official charges, low standard infrastructure, and bottlenecks and missing links. The Programme of Work 2010-2011<sup>12</sup>, in line with the Almaty Programme of Action and the Busan Declaration on Transport Development in Asia and the Pacific, was represented at the 14<sup>th</sup> PWG-TBC session in Almaty in March 2009.

### References:

This section is based on publicly available information about SPECA on the website of UNECE and retrieved from <http://www.unece.org/speca/>, especially:

<http://www.unece.org/speca/tbc.html>;  
[http://www.unece.org/trans/main/speca/speca\\_12.html](http://www.unece.org/trans/main/speca/speca_12.html);  
[http://www.unece.org/trans/main/speca/speca\\_13.html](http://www.unece.org/trans/main/speca/speca_13.html); and  
[http://www.unece.org/trans/main/speca/speca\\_14.html](http://www.unece.org/trans/main/speca/speca_14.html).

Figure 8.1. Road Network in the SPECA Region

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<sup>11</sup> Busan Declaration on Transport Development in Asia and the Pacific was adopted at the Ministerial Conference on Transport in Busan, Republic of Korea in 2006. For detail see [http://www.unescap.org/ttdw/common/TIS/TAR/text/busan\\_declaration\\_11nov06.pdf](http://www.unescap.org/ttdw/common/TIS/TAR/text/busan_declaration_11nov06.pdf), and also Resolution 63/9 Implementation of the Busan Declaration on Transport Development in Asia and the Pacific and the Regional Action Programme for Transport Development in Asia and the Pacific , phase I (2007-2011), being available at [http://www.unescap.org/EDC/English/Committee/CMG/CMG4-I/Resolution63\\_9.pdf](http://www.unescap.org/EDC/English/Committee/CMG/CMG4-I/Resolution63_9.pdf).

<sup>12</sup> The draft of Programme of Work 2010-2011 is available at [http://www.unece.org/trans/main/speca/docs/14th\\_document07.pdf](http://www.unece.org/trans/main/speca/docs/14th_document07.pdf).

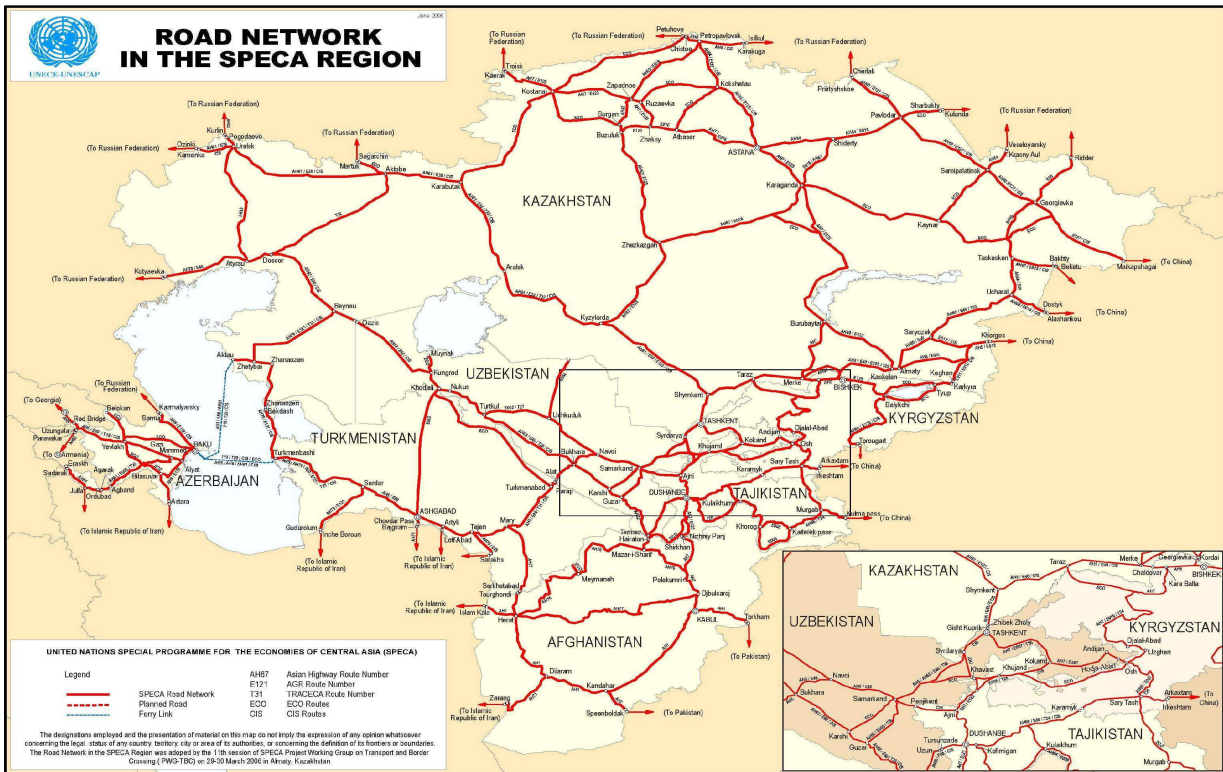
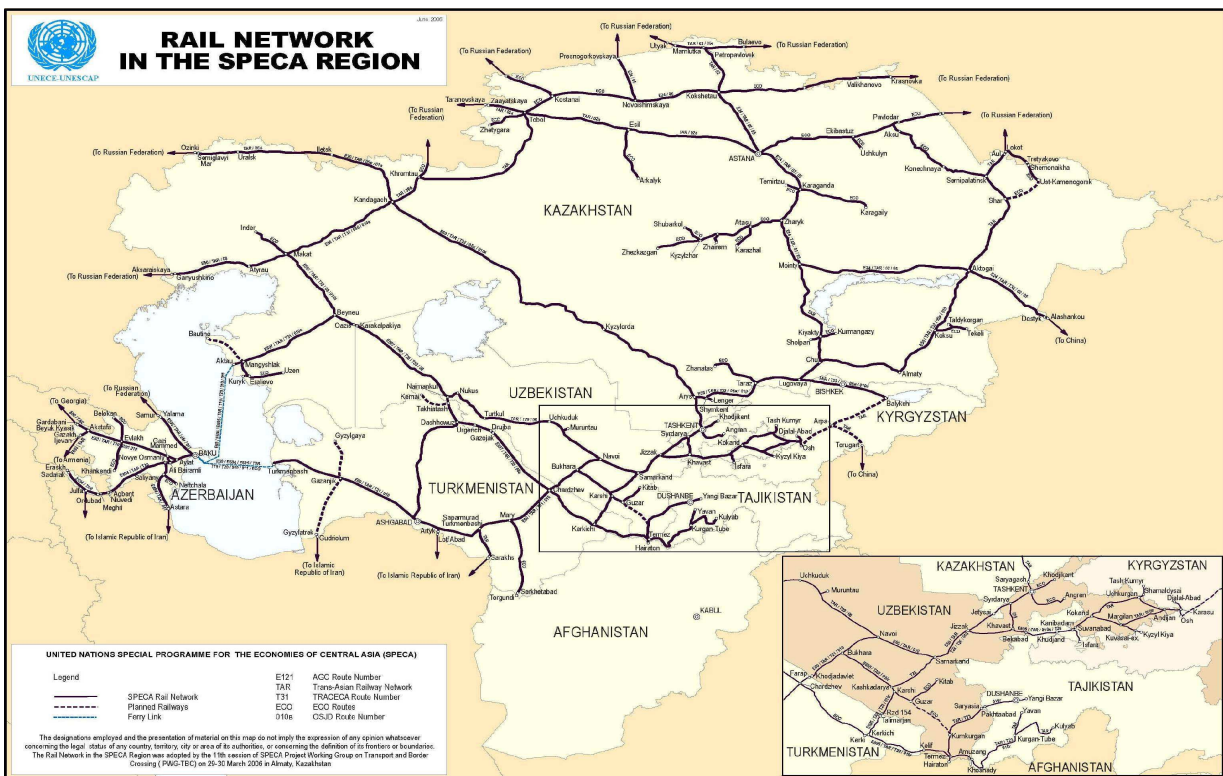


Figure 8.2. Rail Network in the SPECA Region



<sup>13</sup> [http://europa.eu/abc/european\\_countries/eu\\_members/index\\_en.htm](http://europa.eu/abc/european_countries/eu_members/index_en.htm).

however, almost 20,000km of road, over 20,000km of railway and 600km of inland waterway remain to be built or substantially upgraded at estimated cost of €500 billion.<sup>14</sup>

### Recent initiatives/ projects

The recommendation on Transport Infrastructure Needs Assessment (TINA) was developed at the first structural dialogue between the Transport Council of the EU and the Transport Ministers of the EU-associated countries. On the basis of this recommendation, the Commission launched the TINA process (figure 2.1 and 2.2) with the objective to define the future Trans-European Transport Infrastructure Network.

Figure 2.1. TINA Road Network



Figure 2.2. TINA Rail Network



The Trans-European Transport Network (TEN-T) projects have taken a notable role in providing a single market with free movement of people and goods as well as in reinforcing the economic and social cohesion and in promoting economic competitiveness and sustainable development, with financial support by the European Investment Bank.<sup>15</sup> 30 Priority Projects have been identified

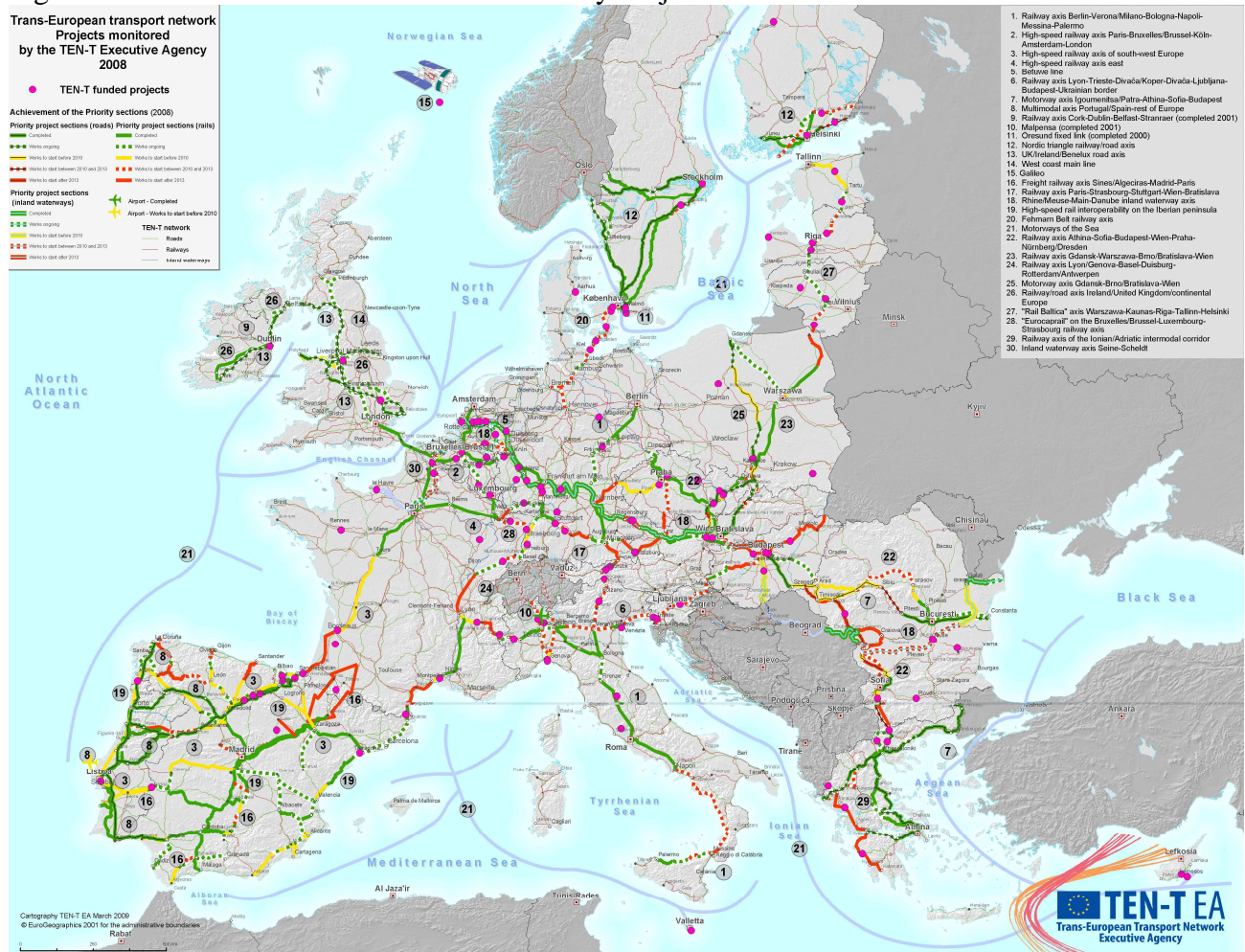
<sup>14</sup> Commission of the European Communities, (2009), Green Paper TEN-T: A policy review Towards a Better Integrated Trans-European Transport Network at the Service of the Common Transport Policy, Brussels, electrically available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0044:FIN:EN:PDF>.

<sup>15</sup> For the period 2007-2013, the investment needs in TEN infrastructures are expected at some €300 billion in total.



based on proposals from the Member States (figure 2.3). Of 30 projects, 18 are railway projects, 3 are mixed rail-road projects.<sup>16</sup>

Figure 2.3. TEN-T Network and TEN-T Priority Projects



The TEN-T has developed through key processes:

- the first action plan adopted in 1990;
- the list of 14 priority projects adopted in 1994;
- the related financial regulation adopted in 1995;
- the first guidelines established in 1996;<sup>17</sup> and

<sup>16</sup> For more detail of TEN-T Projects, see [http://tentea.ec.europa.eu/en/ten-t\\_projects/30\\_priority\\_projects/](http://tentea.ec.europa.eu/en/ten-t_projects/30_priority_projects/) and European Commission, DG Energy and Transport, (May 2008), *TEN-T: Implementation of the Priority Projects, Progress Report*, electrically available at [http://ec.europa.eu/transport/publications/doc/2008\\_brochure\\_tent\\_t\\_implementation\\_priority\\_projects\\_progress\\_report.pdf](http://ec.europa.eu/transport/publications/doc/2008_brochure_tent_t_implementation_priority_projects_progress_report.pdf).

<sup>17</sup> 'Decision no. 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network' is available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996D1692:EN:HTML>.

- revised guidelines and financial regulations adopted in 2004 to integrate infrastructures of new Member States<sup>18</sup> into the TEN-T.

With the EU enlargement in 2004, TINA networks were incorporated into the TEN-T.

A 2004 study, entitled “Scenario, traffic forecasts and analysis of corridors on the Trans-European Network” (TEN-STAC), analysed traffic, bottlenecks and environmental issues on 25 corridors.

In 2006, the Brussels-based TEN-T Executive Agency (TEN-T EA) was launched to provide an efficient and effective service in realising the technical and financial implementation of the TEN-T programme with close co-operation with the Commission. The Commission makes decisions regarding the TEN-T programme, defines strategies, objectives and priority areas of action, takes the final financing decisions, and monitors and supervises the TEN-T EA, whilst TEN-T EA implements the TEN-T programme on behalf of the Commission and under its responsibility, efficiently manages entire project lifecycle, prepares financing decisions, and provides key feedback to the Commission.

In order to strengthen the relationship between Europe and Asia, the Asia-Europe Meeting (ASEM) is a fundamental informal dialogue and cooperation bringing together 27 EU Member States, the European Commission, 16 Asian countries and the ASEAN (Association of Southeast Asian Nations) Secretariat to address political, economic and cultural issues. The first ASEM Transport Minister’s Meeting will be held in October 2009 in Vilnius, Lithuania, to discuss the development of the international transport and trade, in parallel with the Asia-Europe Transport Development Forum aiming at providing a business approach towards transportation issues between Asia and Europe.

## References:

This section is based on publicly available information accessed at:

the website of EU retrieved from <http://europa.eu/>, especially,  
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[http://europa.eu/abc/panorama/howorganised/index\\_en.htm](http://europa.eu/abc/panorama/howorganised/index_en.htm);

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[http://www.asemtransport.org/en/news\\_55/welcome.html](http://www.asemtransport.org/en/news_55/welcome.html).

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<sup>18</sup> On 1<sup>st</sup> May 2004, ten new countries (Cyprus, the Czech Republic, Estonia, Hungary, Malta, Latvia, Lithuania, Poland, Slovakia and Slovenia) joined the EU.

## Transport Corridor Europe-Caucasus-Asia

The Transport Corridor Europe-Caucasus-Asia (TRACECA) Programme is an EU-funded project aiming at improvements in trade and transport. The current 13 participating states<sup>19</sup> work together on reaching the following objectives:

- stimulating the co-operation among the participating states for trade development in the region;
- promoting optimal integration of the international transport corridor TRACECA into Trans-European Networks (TENs);
- identifying factors hindering the development of trade and transport systems; and
- promoting TRACECA projects as means to attract loans from IFIs and private investors.

This Programme was launched at a conference in Brussels in 1993, brought together Trade and Transport Ministers from eight Caucasus and Central Asia countries, for the purpose of development of a transport corridor on a West-East axis from Europe across the Black Sea, through the Caucasus and the Caspian Sea, to Central Asia (map is presented in Figure 5.1). The Brussels Conference identified a number of problems and deficiencies in the trade and transport systems in the region. The programme was developed through four sectoral working groups, namely, Trade Facilitation, Road, Rail and Maritime Transport, with representatives from all participating countries taking an active part. These working groups were responsible for project identification and for the endorsement of projects proposed for EU financing.

Figure 5.1. TRACECA Network



<sup>19</sup> Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan are original founding countries. Moldova and Ukraine joined in the period 1996 to 1998, and Bulgaria, Romania and Turkey officially applied for membership in 2000.



Between 1996 and 2006, 61 technical assistance projects<sup>20</sup> and 15 investment projects<sup>21</sup> were supported by the TRACECA programme having disbursed a total amount of about €160 million. These projects were identified and developed in the framework of the Action Programme<sup>22</sup> and in accordance to the TACISs<sup>23</sup> regulations and programming cycle. The technical assistance provided through TRACECA has helped to attract investments from development partners, including the European Bank for Reconstruction and Development, the World Bank, the Asian Development Bank and also the Islamic Development Bank.

At the 5<sup>th</sup> Annual Meeting of the Intergovernmental Commission TRACECA in Sofia in 2006, a new strategy for the development of the TRACECA up to 2015 was presented. This strategy proposes the development of a number of actions and principles, which could be summarised as follows:

- strengthening and modernising the institutional dimensions of transport through organisational restructuring and reinforcement of human resources;
- integration and cohesion of infrastructure networks through setting up the principles for development of such networks, planning methodology, traffic forecasts, establishment of key transport projects, and continuous refinement of the network;
- development of sound multimodal chains through port modernisation, motorways of the sea, modernized road transport industry, putting the railway system in perspective, border-crossing, and integrated multimodal plans, advanced logistics and sophisticated IT solution;
- exploring air transport and boosting air passenger traffic;
- safe, secure and sustainable transport;
- secure funding through developing national funding plans, mobilising regional and international resources, promoting public private partnership; and
- enhancement of TRACECA as an international organisation.

## References:

This section is based on publicly available information accessed at the website of TRACECA and retrieved from <http://www.traceca-org.org/default.php?l=en>.

## Organization of the Black Sea Economic Cooperation (BSEC)

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<sup>20</sup> For detail, see the website, TRACECA Programme/ Projects→Projects→Technical Assistance.

<sup>21</sup> For detail, see the website, TRACECA Programme/Projects→Projects→Investment Projects.

<sup>22</sup> Action Programme comprises projects proposed by the Member States and agreed upon by the EC under the EC regulations and goals.

<sup>23</sup> EU's Tacis Programme aimed to promote the transition to a market economy and to reinforce democracy and the rule of law in the partner states in Eastern Europe and Central Asia. For more information, see Website of European Union, Tacis Programme (2000-2006), [http://europa.eu/legislation\\_summaries/external\\_relations/relations\\_with\\_third\\_countries/eastern\\_europe\\_and\\_central\\_asia/r17003\\_en.htm](http://europa.eu/legislation_summaries/external_relations/relations_with_third_countries/eastern_europe_and_central_asia/r17003_en.htm).

The Organization of the Black Sea Economic Cooperation (BSEC) was transformed in 1999 from the Black Sea Economic Cooperation which had been established in 1992 to foster interaction and to ensure peace, stability and prosperity among its Member States.<sup>24</sup>

In the same year, the Working Group on Transport and Communications was developed, and in 1994 the Group was divided into two working groups: on transport; and communications. The Working Group on Transport has elaborated most of transport-related initiatives through analysing the transport developments in the region and bringing its conclusion to meetings such as the Meeting of the Ministers of Transport of the BSEC Member States.

At the Meeting of the Ministers of Transport of the BSEC Member States in Thessaloniki in 2005, it was concluded that the development of transport axes connecting Trans-European Transport Network with the Black Sea transport network should be based on the Euro-Asian transport corridors and on the major routes under the UNECE-UNESCAP EATL framework as well as other international agreements and initiatives.

### **Recent initiatives/ projects**

BSEC has worked collaboratively with UNECE on issues related to transport facilitation. The Cooperation Agreement between BSEC and UNECE, signed in 2001, aims at accelerating development of international transport infrastructure networks, transport and border crossing facilitation, and also harmonisation of safety and environment standards in the area of transport. These objectives have been main considerations of BSEC under the strategy of transport development.

Transport Action Plan of the Black Sea Economic Cooperation, established as a particular result of the Third Pan-European Transport Conference in Helsinki in 1997, proposes promotion of a highly efficient and sustainable regional transport system. Priority activities of the Action Plan includes: rehabilitation, modernisation and construction of transport infrastructure; simplification and harmonisation of border crossing procedures; and harmonisation of transport legislation.

The plan of transport infrastructure development was incorporated into the Memorandum of Understanding for the Coordinated Development of the Black Sea Ring Highway.<sup>25</sup> The Black Sea Ring Highway will promote co-operation in development of multimodal transport infrastructure for interconnections with the Trans-European, the Pan-European and the Euro-Asian Transport Networks with the approximately 7,000km route.

### **References:**

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<sup>24</sup> The eleven founding states are Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Turkey and Ukraine and Serbia is also current member since the accession in 2004.

<sup>25</sup> The MoU was signed in 2007 and entered into force in 2008. It is available at <http://www.bsec-organization.org/documents/LegalDocuments/agreementmous/m3/Documents/MoU%20BSRH%200711227.pdf>.



This section is based on BSEC's report, 'BSEC Contribution into the Development of the Euro-Asian Links' and publicly available information accessed at the website of BSEC and retrieved from.

### **Map of the BSEC Ring Highway to be inserted**

<http://www.bsec-organization.org/Pages/homepage.aspx>, especially:

<http://www.bsec-organization.org/Information/Pages/testt.aspx>;

<http://www.bsec-organization.org/aoc/Transport/Pages/Information.aspx>; and

<http://www.bsec-organization.org/aoc/Transport/Pages/ActionP.aspx>

## **Asian Development Bank**

Asian Development Bank (ADB) is a Manila-based international development finance institution founded in 1966 in order to support its members in reducing poverty and in improving life quality. ADB's main partners are governments, nongovernmental organizations, development agencies and also the private sector in 67 members<sup>26</sup> from the region as well as from other parts.

ADB's operations in the transport sector promote economic growth and sustainable increases in welfare in its developing member states. ADB's main focuses for the transport sector are interventions in roads and highways, urban transport systems, railways, ports and waterways, and civil aviation areas with other donors such as Islamic Development Bank (IDB).

### **Recent initiatives/ projects**

ADB has performed the secretariat function for the Central Asian Regional Economic Cooperation (CAREC) Program. CAREC Program is an ADB-supported initiative established in 1997 to encourage economic cooperation among countries in the Central Asia region by cooperation of Central Asian republics<sup>27</sup> and six multilateral institutions, namely; ADB, World Bank, International Monetary Fund (IMF), European Bank for Reconstruction and Development (EBRD), IDB and the United Nations Development Programme (UNDP). Main concerns about inland transport in the CAREC region are:

- inefficient cross-border and transit movement due to excessive bureaucratic procedures;
- lack of unified transport regulations among CAREC countries;
- inadequate regional transport networks;
- lack of competition in railways due to the monolithic and monopolistic nature of organisations;
- limited institutional and human resource capacities; and
- lack of regional approach in civil aviation.

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<sup>26</sup> The list of member countries is available at <<http://www.adb.org/About/membership.asp>>.

<sup>27</sup> Afghanistan, Azerbaijan, People's Republic of China, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan

In order to deal with these issues, the CAREC Transport Sector Coordinating Committee (TSCC), launched in 2004, developed 'Regional Transport Sector Road Map (2005-2010)' in 2005 (updated in 2006) for co-operative activities in the transport sector among CAREC countries. The Regional Transport Sector Road Map sets six strategic priorities for an integrated and efficient transport system in the CAREC region:

- Harmonisation and simplification of cross-border transport procedures;
- Harmonisation of transport regulations among CAREC countries;
- Development and improvement of regional and international transport corridors;
- Restructuring and modernisation of railways;
- Improvement of sector funding and management; and
- Incremental approach to liberalisation of civil aviation.

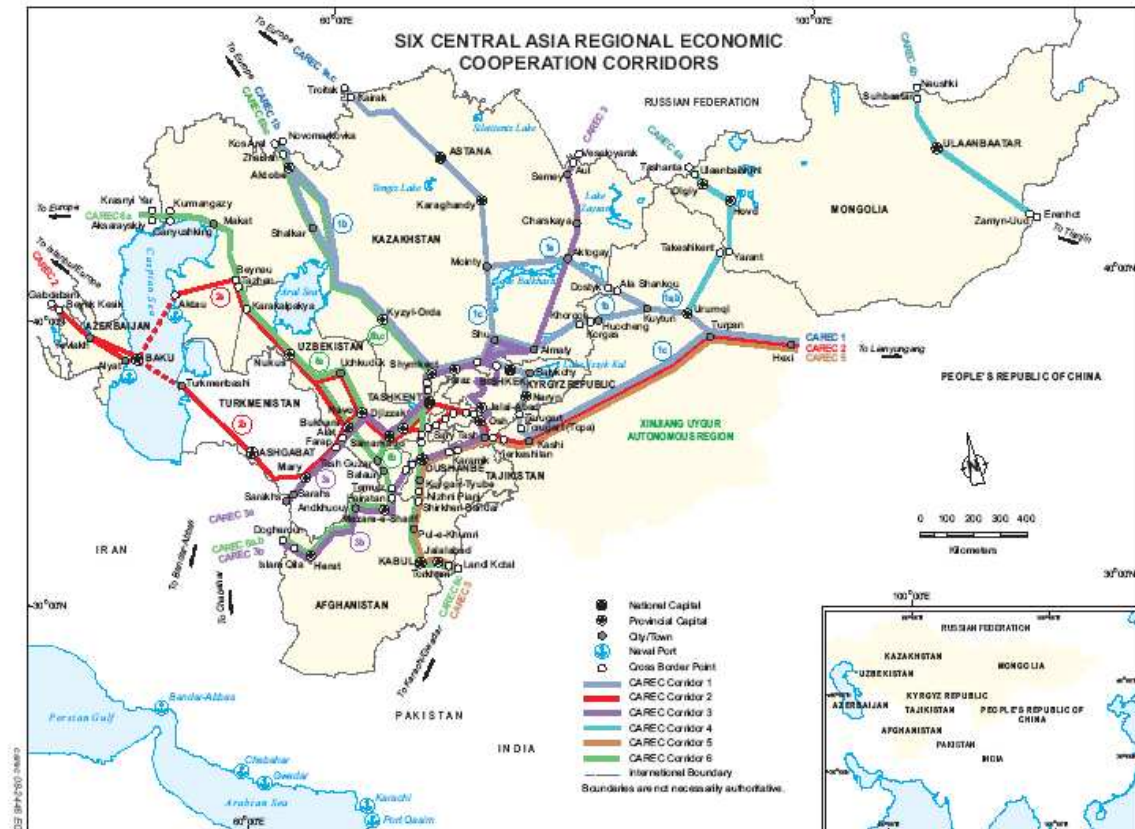
TSCC also worked on establishment of the CAREC Transport and Trade Facilitation Strategy<sup>28</sup> jointly with other participants such as Customs Cooperation Committee. This Strategy aims at three overarching goals: to establish competitive transport corridors across the CAREC region; to facilitate efficient movement through corridors and across borders; and to develop sustainable, safe, and user-friendly transport and trade networks.

The total CAREC road network is 271,000km and the rail network is 25,700km. The six CAREC Corridors have undertaken a significant role in facilitating transport (figure 1.1). The new CAREC Transport Corridor I will run 2,715 km from the city of Khorgos which is on Kazakhstan's border with the People's Republic of China to the western border with the Russian Federation through Almaty and Shymkent.

Figure 1.1. Six CAREC Corridors

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<sup>28</sup> The Strategy was endorsed by the Six Ministerial Conference in 2007 and its assessments are reported in *Transport and Trade Facilitation Strategy Report: Final Report December 2008*.



**References:**

This section is based on publicly available information accessed at the website of ADB and retrieved from <http://www.adb.org/>, especially:

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- <http://www.adb.org/Carec/programs.asp>;
- <http://www.adb.org/Carec/transportation.asp>;
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**Economic Cooperation Organization**

The Economic Cooperation Organization (ECO) is an intergovernmental organisation founded in 1985 in order to promote economic, technical and cultural cooperation for its Member States.<sup>29</sup> Main goals of the ECO include sustainable economic development, economic liberalisation and privatisation, mutually beneficial cooperation with regional and international organisations, removal of trade barriers, and also the development of transport and communications infrastructure. ECO’s

<sup>29</sup> Iran, Pakistan and Turkey are a founding member, and ECO enlarged its member states: Afghanistan, Azerbaijan, Kazakhstan, Kyrgyz, Tajikistan, Turkmenistan and Uzbekistan in 1002.

activities are conducted by six Directorates under the supervision of Secretary General and his Deputies.

### **Recent initiatives/ projects**

The Directorate of Transport and Communications has played a significant role in facilitating ECO Agreements and Declarations in the transport and communications field to foster economic cooperation, integration and cohesiveness in the ECO region. The ECO transport sector has achieved considerable developments in, for example, interconnection of road and railway networks of Central Asian Republics with Iran, Pakistan and Turkey, and international road transport among all ECO countries on the basis of bilateral agreements and construction of the missing links in the ECO region, under the framework of the Almaty Outline Plan for the Development of Transport Sector in the ECO region adopted at the first meeting of the ECO Ministers of Transport in 1993.

In 2006, the First Meeting of the Transit Transport Coordination Council (TTCC) was held to discuss important issues and also to develop cooperative activities since the Transit Transport Framework Agreement (TTFA) came into force. TTFA aims at adequate transit traffic arrangements for regional and international trade as well as for economic progress through its objectives, which are:

- to facilitate the movement of goods, luggage and passengers and to provide all necessary facilities for transit transport;
- to ensure the safety of goods, luggage and passengers and avoidance of unnecessary delays during the transit traffic; and
- to cooperate and coordinate the efforts to avoid the incidence of customs frauds and tax evasion and harmonising necessary administrative affairs dealing with transit traffic.

The meeting reached a conclusion to establish four committees as auxiliary bodies of TTCC, namely, Road Committee, Railway Committee, Legal Committee and Insurance Committee. The Second Meeting of the TTCC, being held in 2007, finalised modalities for establishment of ECO Fund for implementation of TTFA.

The transport sector of the ECO has developed transport infrastructure linking among the Member States and also between the ECO and other regions. The First Regional Workshop of Euro-Asian Transport Links Phase II: Facilitation of Euro-Asian Transport in the ECO Region, co-organised by the ECO and UNECE, was held in Tehran, Iran, in April 2009 to review progress on implementations and achievements of the EATL project and to discuss border crossing facilitation and development of new routes in the ECO region.

### **References:**

This section is based on publicly available information accessed at the website of ECO and retrieved from <http://www.ecosecretariat.org/>.

## 4. Eurasian Economic Community

The Eurasian Economic Community (EurAsEC) is an intergovernmental organisation, established in 2000, consisting of five Member States.<sup>30</sup> The two main objectives of the EurAsEC are the establishment of a customs union, and the creation of a single economic space and its activities encompass various domains, pursued by four principle bodies: the Inter-State Council comprising heads of States and Governments; the Integration Committee formed by Deputy Prime Ministers; Inter-Parliamentary Assembly; and the Secretary-General.

In the EurAsEC region, there are motorway and railway corridors running east-west and north-south, and a number of new corridors are under construction. Development of transport in the EurAsEC region is encumbered by both physical and non-physical obstacles such as extremely inefficient road transport, unsophisticated logistic systems, and protracted customs procedures at border crossing. The EurAsEC Integration Committee launched the Council on Transport Policy (CTP) to address these issues.

### Recent initiatives/ projects

The CTP brings together the ministers of transport of all EurAsEC countries to develop coordinated activities, for instance, on creating the international transport corridors between Europe and Asia, on developing transport infrastructure as well as standardisation of technical and technological parameters, and on refining the legal framework at the border crossing.

The EurAsEC is focusing on developing a Unified Transport System (UTS) and a Transport Union of its member countries. For this purpose, the Inter-State Council adopted the UTS Development Concept in January 2008, and approved the Measures for Developing the Unified Transport Space in EurAsEC 2008-2010 in order to ensure that UTS-related proposals could be implemented, at the 15<sup>th</sup> session of the Council in December 2008. The Measures includes harmonisation of regulations within the EurAsEC pertaining to transportation and also agreements between EurAsEC and third countries, and development of transport infrastructure, shared information system and a system of logistic centres.

### References:

This section is based on the report of the Eurasian Development Bank<sup>31</sup>, *The EurAsEC Transport Corridors* published in March 2009, and publicly available information:

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<sup>30</sup> Member States are Belarus, Kazakhstan, Kyrgyzstan, Russian Federation and Tajikistan. In addition, observer countries are Armenia, Moldova and Ukraine.

<sup>31</sup> The Eurasian Development Bank is an international financial institution established by the intergovernmental agreement signed in 2006 by the Russian Federation and the Republic of Kazakhstan in order to support economic growth and integration processes in Eurasia.

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## **European Bank for Reconstruction and Development**

The European Bank for Reconstruction and Development (EBRD) is an international financial institution established in 1991 to assist creation of democratic environment in the formerly communist countries. The EBRD is owned by 61 countries and two intergovernmental institutions.<sup>32</sup> It supports projects in 30 countries from central Europe to central Asia<sup>33</sup> for the purpose of promoting entrepreneurship and transition towards open and democratic market economies.

The transport sector is EBRD's major concern in the context of the economic development. The Transport Operations Policy<sup>34</sup> establishes the framework for EBRD's activities in the transport sector. The principle objective of the policy is to review and update the means whereby the EBRD achieves its mission on the subject of: airports and aviation; ports, shipping and inland waterway; railway; and road infrastructure.

### **Recent initiatives/ projects**

The EBRD fosters the development of efficient, reliable and secure transport system. In 2008, the EBRD invested approximately €660 million in transport infrastructure, with additional €350 million coming from co-financing with other international financial institutions and commercial banks.

EBRD's investment is both in the public and private sector. The South-West Corridor Road Project<sup>35</sup> is aiming at rehabilitation and upgrading of the 102km road section between Russian border and the city of Aktobe in Kazakhstan as part of Western Europe-Western China Corridor linking Europe and China through Kazakhstan and Russia by financial assistance to the Kazakh Government.

### **References:**

The section is based on publicly available information accessed at the website of the EBRD and retrieved from <http://www.ebrd.com/>, especially:

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<sup>32</sup> The list is available at <http://www.ebrd.com/about/structure/govern.htm>.

<sup>33</sup> For project details, see <http://www.ebrd.com/country/index.htm>.

<sup>34</sup> The Policy (2005-2008) was approved by the Board of Directors in 2005 and is the third policy replacing the Transport Operations Policy of 1997. The full text of the Policy is available at <http://www.ebrd.com/about/policies/sector/transpor.pdf>.

<sup>35</sup> The Project Summary Document is available at <http://www.ebrd.com/projects/psd/psd2008/39258.htm>.

<http://www.ebrd.com/about/index.htm>;

<http://www.ebrd.com/about/policies/sector/transpor.htm>; and also

*Annual Report 2008*, available at <http://www.ebrd.com/pubs/general/ar08e.pdf>.

## **International Road Transport Union**

The International Road Transport Union (IRU) was founded in 1948 to represent interests of the international road transport industry. The goals of IRU are to ensure the mobility of people and goods while improving safety and environmental performance of road transport. The IRU holds Euro-Asian Road Transport Conferences biennially in order to promote and revive the ‘Silk Road’ linking Europe and Asia.

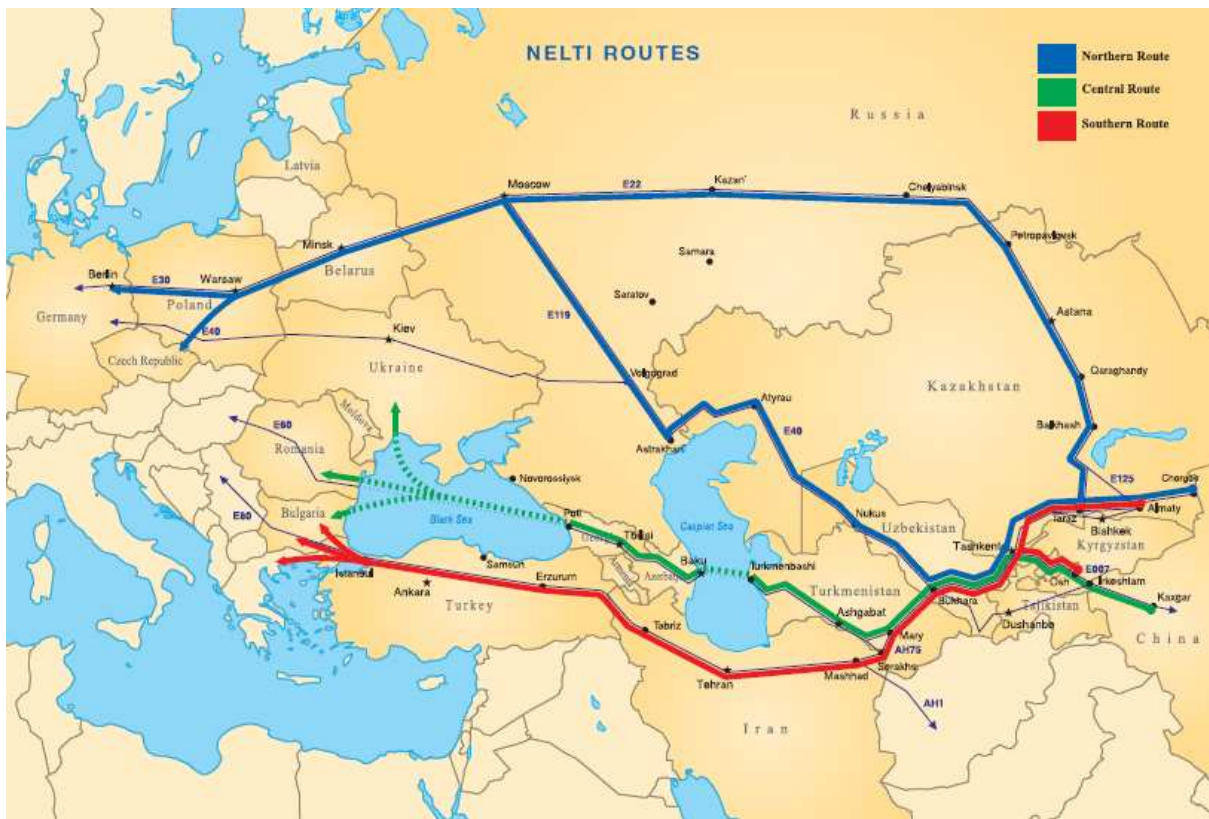
### **Recent initiatives/ projects**

The 5<sup>th</sup> IRU Euro-Asian Road Transport Conference, held in June 2009 in Almaty, discussed the implementation of the New Eurasian Land Transport Initiatives (NELTI) Project. This project, developed by the IRU, was inaugurated in September 2008. The project has played a significant role in providing data on corridors connecting Europe and China through Central Asia with support from international organisations and governments. The project aims to encourage regular road freight shipments between Europe and China and to assist in achieving the transit potential of, particularly, nations in Central Asia and the Caucasus. The objectives of the project are:

- to contribute to the implementation of the UN Millennium Development Goals and of the Almaty Programme of Action for landlocked developing countries in order to develop Eurasian land transport links;
- to assist in the development of trade in landlocked countries and regions and to broaden access for their goods to international markets;
- to increase the contribution of road transport to international trade and socio-economic development; and
- to offer alternative delivery routes to maritime shipments in order to assist businesses in landlocked countries.



NELTI networks have exceeded 1,100,000km through three corridors (figure 3.1):  
 Figure 3.1. NELTI Routes



sing

Issues of the NELTI Project include delays at border crossing, disharmonised regulations among NELTI countries and lack of infrastructure on NELTI routes. The second phase of NELTI (NELTI 2) shall be implemented from 2009 to 2011 by monitoring the situation in the bottlenecks as well as by lobbying the Governments of the transit countries and regional economic organisations to implement recommendations based on the conclusions of the first NELTI phase.

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## **International Transport Forum**

The International Transport Forum (ITF) is a global platform and meeting place at the highest level for transport, logistics and mobility under structure of Organisation for Economic Co-operation and Development (OECD). Its member states include OECD member countries as well as Central and Eastern European countries.<sup>36</sup> The ITF was transformed from the European Conference of Ministers of Transport (ECMT)<sup>37</sup> in order to enlarge accession not only of European countries but also of non-European countries as well as in order to cover topics of world-wide strategic importance.

### **Recent initiatives/ projects**

An ECMT/UNECE seminar on intermodal transport between Europe and Asia took place in 2004 in Kiev, Ukraine. This seminar emphasised work on the following issues to create an effective intermodal land transport links between Europe and Asia:

- development of technical and technological capacities of transport infrastructures;
- simplification of border crossing procedures;
- removal of physical and non-physical obstacles;
- enlargement of the network of intermodal transport;
- development and implementation of joint investment projects and ensuring their financing;
- creation of a network of logistic centres and information support;
- implementation of a harmonised tariff and price policy;
- improved usage of the inland waterways for intermodal transportation; and
- harmonisation of the regulatory and legal frameworks.

The ITF aims to foster a deeper understanding of the essential role of transport in the economy by organising annual forums in Leipzig and meetings organised by the Joint Transport Research Centre.<sup>38</sup> The 2009 Forum's main theme "Transport for a Global Economy: Challenges and Opportunities in the Downturn" focussed on discussing the economic downturn and stimulus packages, the risks of protectionism and the challenges of sustainability, the financing of transport, the reliability and security of transport chains, as well as the need for international cooperation. The Forum also discussed importance of efficient transport between Europe and Asia in the globalised economy, which would effect on international trade.

### **References:**

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<sup>36</sup> The list of member countries is at <http://www.internationaltransportforum.org/about/members.html>. For OECD member states, see [http://www.oecd.org/pages/0,3417,en\\_36734052\\_36761800\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/pages/0,3417,en_36734052_36761800_1_1_1_1_1,00.html).

<sup>37</sup> ECMT was established by a Protocol signed in Brussels in 1953. At the meeting in Dublin in 2006, the Council of Ministers agreed on the creation of the ITF.

<sup>38</sup> The Joint Transport Research Centre was established in 2004 jointly by the ECMT and the OECD. The Centre conducts co-operative research programmes addressing all modes of inland transport and their intermodal linkages, in support of policy-making processes in member countries.

This section is based on publicly available information accessed at the website of ITF and retrieved from <http://www.internationaltransportforum.org/>, especially,

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## **Islamic Development Bank**

The Islamic Development Bank (IDB) is an international financial institution consisting of its Headquarters in Jeddah, Saudi Arabia and its regional offices in Almaty (Kazakhstan), Kuala Lumpur (Malaysia), Rabat (Morocco) and Dakar (Senegal). IDB was established in 1973 to support the economic development and social progress of its member countries.<sup>39</sup>

### **Recent initiatives/ projects**

#### **IDB Group Infrastructure Strategic Plan (1431H-1433H / 2009- 2011G):**

Over the next three years (2009-2011), IDB Group will focus on the core infrastructure sectors including the Transport sector which covers the following sub-sectors: roads, railways, airports, ports, and multi-modal facilities.

Taking into account the existing infrastructure capacity in IDB member states, as well as considering the developmental impact of its financing and the absorption capacity of the regions, IDB Group would significantly alter the existing allocation of its resources. Since inception, the average MENA region share of the total IDB Group infrastructure financing portfolio has been about 55%. It has been proposed that this share be reduced to 30% by 2011 to free-up resources for Sub-Saharan Africa, CIS and Asia regions, where the developmental impact of IDB Group intervention may be higher.

As the IDB is undergoing a major reform exercise, it is envisaged that the current Infrastructure Strategic Plan (2009-2011) will be of a transitional nature for the IDB to fully adopt the proposed new approach to infrastructure. This transition period is needed to allow for the gradual build up of the IDB Group internal capacity and the absorptive capacity of the member countries in the various categories.

### **The Objective**

The objective of several on-going and planned transport sector projects is to provide year-round, reliable and direct land transport service between the eastern part of Europe and the western part of

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<sup>39</sup> The membership of IDB includes 56 countries listed at <http://www.isdb.org/irj/portal/anonymous?NavigationTarget=navurl://750e51a0219adf78e6329e889512714e>.

Asia Region to enhance trade and flow of passengers and freight traffic between Europe and Asia countries in line with CAREC program.

## **IDB Investments**

1. Major investment projects approved or planned under IDB funding are highlighted as follows:
  - **Kazakhstan** IDB, together with its co-financiers, ADB and Japan International Cooperation Agency (JICA), has already approved the 480km road section in the Zhambyl Oblast<sup>40</sup> of the Western Europe–Western China International Transport corridor.<sup>41</sup> IDB approved \$186 million in February 2009 to cover the financing of the 58 km section in the Jambul Oblast. The financing agreement is currently being negotiated between the IDB and the Government of Kazakhstan. The mark-up to be used was agreed at 5.1%. Meanwhile, the Executing Agency has already published the invitation for pre-qualification of firms through local mass-media and located the same on the IDB website.
  - **Kyrgyz Republic.** ADB approved a \$20 million grant to rehabilitate the Bishkek-Torugart road in November 2008. Additional \$50 million for the km 439-479 and km 365-400 road segments is planned for approval in 2009. To complete the abovementioned road corridor, a Co-financiers' meeting, was held in Bishkek and attended by the members of Coordination Group,(IDB, Kuwait Fund for Arab Economic Development (KFAED), Abu Dhabi Fund for Development (ADFD), OPEC Fund for International Development (OFID) and Saudi Fund for Development (SFD), in October 2008 and an MOU was signed to consider the financing of the road stretch from Dolon Pass to Atbashi of the Bishkek-Torugart Road Corridor. All concerned Funds have in principle agreed to finance the project. IDB is already co-financing with ADB the reconstruction of the Osh-Sary Tash–Irkeshtam road. Furthermore, IDB funded phases of the project “Reconstruction of Taraz-Talas-Suusamy” are progressing satisfactorily; the Phase I of the road project will be completed by mid-2009. In 2009 the Government of Kyrgyz Republic is planning to invite the concerned Funds of the Coordination Group to conduct its meeting in Bishkek and to consider the priority projects submitted by the Kyrgyz Government. The bilateral meetings were held between the Kyrgyz delegation and the representatives of the Coordination Group during the IDB Annual Meeting in Ashgabat, Turkmenistan, 2-3 June 2009. The documentation pertaining to the projects for the above meeting are now being prepared by the concerned ministries.
  - **Tajikistan.** A Co-financiers' meeting, was held in Dushanbe and was attended by the members of Coordination Group, (IDB, Kuwait Fund for Arab Economic Development (KFAED), Abdu Dhabi Fund for Development (ADFD), OPEC Fund for International Development (OFID) and Saudi Fund for Development (SFD),in October 2008 and an MOU was signed to consider the

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<sup>40</sup> The cost of improving the Zhambyl Oblast section is estimated at about \$1.5 billion and is being financed by ADB (\$700 million), IDB (\$414 million), JICA (\$150 million), and the Government (\$216 million).

<sup>41</sup> The total length of the corridor is about 2,715 km, of which 2,237 km will be constructed and/or reconstructed. The total investment plan for the corridor is estimated at about \$6.7 billion: ADB (\$700 million), EBRD (\$181 million), IDB (\$414 million), JICA (\$150 million), World Bank (\$2,125 million), the private sector (\$2,221 million),and the Government (\$909 million).

financing of the Kulyab-Khalaikum Road Corridor. The IDB and the other funds mounted a joint appraisal mission to Tajikistan in the end of April 2009. In addition to the above the IDB is planning to mount another appraisal mission to Tajikistan in the second half of 2009, to provide financing for the third phase of the Shagon-Zhigar road project subject to successful completion of the second phase.

### C. Non-lending Activities

2. IDB has committed to support the Feasibility study of Kafarnigan-Yavan Railway in Tajikistan
3. A list of investment and TA projects in the CAREC transport sector having IDB involvement for the period 2007–2011 along with IDB interventions in the transport sector since 1993 is attached.

**External Assistance for Transport Sector in CAREC Countries**  
**Table 1: Approved and Planned Investments 2008–2011**

Project Title	CAREC Corridor	Other Intervention	Country Involved	Funding Agency	Total for all Interventions (US\$ million)	Total for CAREC Interventions (US\$ million)
<b>IDB interventions in the transport sector since 1997</b>						
Karaganda- Astana Road Project (Approved 2000)	-	-	KAZ	IDB	20.0	
Construction of Bishkek- Osh Road (Approved 1998)	-	-	KGZ	IDB	10.0	
Reconstruction of Taraz–Talas–Suusamyр Road (Approved 2000)			KGZ	IDB	9.15	
Reconstruction of Osh- Irkeshtam Road (Approved 2007)			KGZ	IDB	17.3	
Reconstruction of Taraz–Talas–Suusamyр Road (Supplementary)(Approved 2007)			KGZ	IDB	3.6	
Construction of Murgab- Kulma Pass Highway (Approved 1999)			TAJ	IDB	9.5	
Shagoon- Zigar Road (Approved 2001)			TAJ	IDB	9.1	
Shagoon- Zigar Road Phase-II (Approved 2004)			TAJ	IDB	13.77	
Alyat- Ggazi Mohamed Road ( Approved 1997)			AZE	IDB	13.14	
Reconstruction of Ujar- Yevlakh Road ( Approved 2003)			AZE	IDB	22.0	
Reconstruction of Yevlakh- Ganja Road ( Approved 2005)			AZE	IDB	10.4	
Approved and Planned Investments 2008–2011						
Reconstruction of Taraz–Talas–Suusamyр Road Phase-II ( Approved 2008)	3b	-	KGZ	IDB	11.2	
<b>2009 APPROVED IN 1 QUARTER</b>						
Western Europe–Western China Corridor (Korday-Taraz-Zhambyl Oblast) Section I(Tranche-1)	1b	-	KAZ	IDB	186.0	186.0
<b>2009 PLANNED</b>						
Dolon-Pass to Atbashi of the Bishkek-Torugart Road Corridor	1c	-	KGZ	IDB	10.0	15.0
Kulyab-Khalaikum Road project	-		TAJ	IDB	20.0	20.0
Shagon–Zigar Road Reconstruction, Phase III	-	Feeder for 5	TAJ	IDB	20.0	20.0
Bereket- Etree- Gorgan Railway Project (Tranche-1) Turkmenistan			TURK	IDB	120.0	

Project Title		CAREC Corridor	Other Intervention	Country Involved	Funding Agency	Total for all Interventions (US\$ million)	Total for CAREC Interventions (US\$ million)
<b>Subtotal planned for 2009</b>						<b>356.0</b>	<b>25.0</b>
<b>2010 INDICATIVE<sup>b</sup></b>							
1	Western Europe–Western China (Korday-Taraz-Zhambyl Oblast) Section2, Tranche 2	1b	-	KAZ	IDB	228.0	228.0
2	CAREC Corridor I (Bishkek-Torugart Road), Phase -III	1c	-	KGZ	ADB	40.0	40.0
3	Reconstruction of the Osh-Sary Tash-Irkeshtam Road (Phase II) <sup>c</sup>	2,3b,5		KGZ	IDB	15.0	15.0
4	Reconstruction of Taraz-Talas-Suusamyр Road Phase-III	3b	-	KGZ	IDB	10.0	10.0
5	Bereket- Etree- Gorgan Railway Project (Tranche-2) Turkmenistan			TURK	IDB	120.0	
<b>Subtotal Planned for 2010</b>						<b>413.0</b>	
<b>2011 INDICATIVE</b>							
1	Ujar–Zardab–Aghdjabedi Highway Construction	-	Other	AZE	IDB	50.0	-
2	Bereket- Etree- Gorgan Railway Project (Tranche-3) Turkmenistan			TURK	IDB	120.0	
<b>Subtotal Planned for 2011</b>						<b>170.0</b>	

ADB = Asian Development Bank; AFG = Islamic Republic of Afghanistan; AZE = Azerbaijan; EBRD = European Bank for Reconstruction and Development; IsDB = Islamic Development Bank; JICA = Japan International Cooperation Agency; KAZ = Kazakhstan; KGZ = Kyrgyz Republic; TAJ = Tajikistan;

<sup>a</sup> The amount of CAREC intervention is estimated.

<sup>b</sup> Processing of projects in 2009 and 2011 will depend on further discussion with concerned governments and availability of financing.

<sup>c</sup> In case the Government fails to reach agreement with other financiers, IsDB might finance this project.

**Table 2: Approved and Planned Technical Assistance (T.A)**

No.	Project Title	Country Involved	Funding Agency	Total (US\$'000)
<b>IDB interventions for T.A. in the transport sector since 1993</b>				
1.	T.A for Economic F.S. of Almaty- Bystrovka Road (Approved 1995)	KAZ	IDB	<b>257.0</b>
2.	T.A. for F. S. for Karaganda- Akmola Road (Approved 1996)	KAZ	IDB	<b>298.0</b>
3.	T.A. for Baravoe- Kokshetau- Petropvlovsk Road (Approved 2001)	KAZ	IDB	<b>232.0</b>
4.	T.A. for Detailed Eng. Design & Tender Doc. For Alyat- Ggazi Mohamed Road ( Approved 1993)	AZE	IDB	<b>240.0</b>
5.	T.A. for F.S. for constructing 15 km Road from Kulma pass to Karako ( Approved 1997)	TAJ	IDB	<b>280.0</b>
6.	T.A. for F.S. for construction of 30.7 km Road from Shagon to Zigar ( Approved 1998)	TAJ	IDB	<b>270.0</b>
<b>2009 PLANNED</b>				
1	Feasibility Study for Kafarnigan–Yavan Railway	TAJ	IDB	<b>300.0</b>

ADB=Asian Development Bank; AZE=Azerbaijan; EBRD=European Bank for Reconstruction and Development; IDB=Islamic Development Bank; JICA = Japan International Cooperation Agency; KAZ=Kazakhstan; KGZ=Kyrgyz Republic; TAJ=Tajikistan;

## References:

This section is based on the IDB submission as well as on publicly available information accessed at the website of IDB and retrieved from [http://www.isdb.org/irj/portal/anonymous?guest\\_user=idb\\_eng](http://www.isdb.org/irj/portal/anonymous?guest_user=idb_eng), especially:

<http://www.isdb.org/irj/portal/anonymous?NavigationTarget=navurl://fd0cb8101ac50bfe83d6477ba087e1b8>; and

[http://www.isdb.org/irj/go/km/docs/documents/IDBDevelopments/Internet/English/IDB/CM/Publications/Annual\\_Reports/31st/Contents-1426H.pdf](http://www.isdb.org/irj/go/km/docs/documents/IDBDevelopments/Internet/English/IDB/CM/Publications/Annual_Reports/31st/Contents-1426H.pdf).

# SIX CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDORS



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## Organization for Railway Cooperation

The Organization for Railway Cooperation (OSJD) is an international organisation focusing on developing international railway traffic and exchanging information between member countries.<sup>42</sup> It has established five commissions: Transport Policy, Transport Law, Freight Traffic, Passenger Traffic, and Infrastructure and Rolling Stock.

The railway links among the member countries of the OSJD are notable for lengthy routes (8,000 to 10,000km) with two changes of gauge size during transport in a single direction (1,435mm-1,520mm-1,435mm) and a large number of border crossings en route. In addition, transport operations on OSJD routes between Europe and Asia are governed by regulations, which differ somewhat from those prevailing in Western Europe.

### Recent initiatives/ projects

In 1996, 13 main railway routes between Europe and Asia were identified by the OSJD on the basis of flows of goods between countries on the two continents. Between 1996 and 2001, the OSJD performed the analysis of technical and operational indicators and technical equipment of these 13 routes, collected data on infrastructure and border crossing and studied ways of improving the freight transport technology. This work resulted in comprehensive measures being drafted for improving the organisation of international rail transport operations along the transport corridors between Europe and Asia. The interested countries signed Memoranda of Understanding for the development of these corridors, which served as a basis for coordinated actions by States to reorganise and modernise pertinent railway lines.

Taking into account that the geography of transport flows is continuously changing due to numerous factors, the OSJD is constantly adapting and refining its strategies for the development of intercontinental links along the main railway routes. For example, its programme of work for 2005-2015 calls for the development within the Organization of comprehensive plans for the improvement of transport and the development of transport corridors. The Comprehensive Plans for OSJD Corridors No. 1, 9 and 11 were completed in 2006 and endorsed by the 34<sup>th</sup> session of the OSJD Ministerial Meeting held in Sofia in 2006, and Comprehensive Plans for corridors No. 2, 3, 4, 6, 10 and 12 were adapted at the 35<sup>th</sup> OSJD Ministers Conference in Warsaw in 2007. The map of OSJD's 13 rail corridors is reproduced in Figure 4.1.

### References:

This section is based on publicly available information accessed at the website of OSJD and retrieved from <http://osjd.jdvm.cz/>, especially, [http://osjd.jdvm.cz/u-index\\_uvod\\_dokumenty.htm](http://osjd.jdvm.cz/u-index_uvod_dokumenty.htm), and

*Report on OSJD activities in 2007*, downloaded from [www.osjd.info/wps/PA\\_1\\_M71IFOI21GLP502LBRBVSP0021/download?vp=51&load=y&col\\_id=121&id=111](http://www.osjd.info/wps/PA_1_M71IFOI21GLP502LBRBVSP0021/download?vp=51&load=y&col_id=121&id=111).

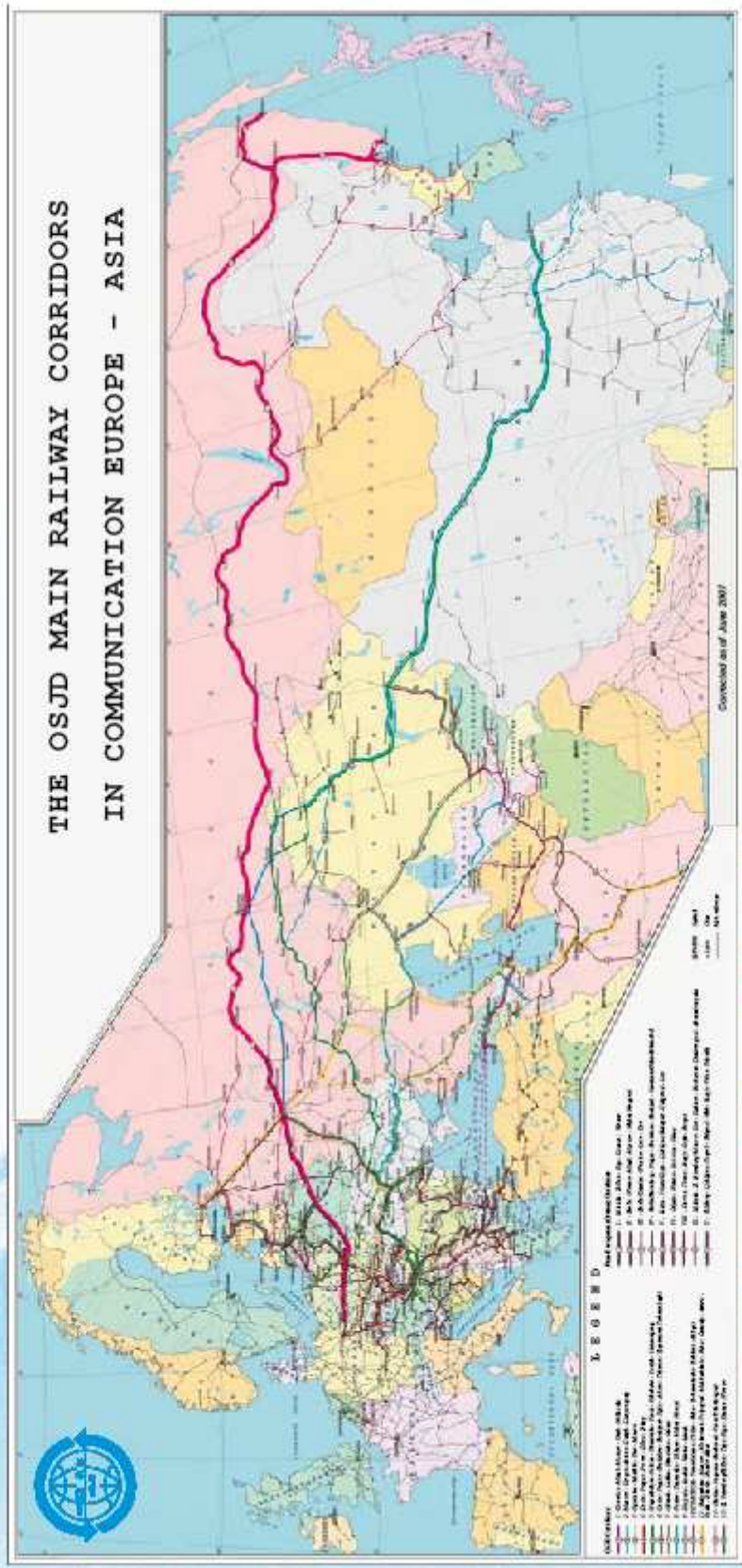
Figure 4.1. OSJD

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<sup>42</sup> Members are listed at [http://osjd.jdvm.cz/u-index\\_uvod\\_dokumenty.htm](http://osjd.jdvm.cz/u-index_uvod_dokumenty.htm).



# THE OSJD MAIN RAILWAY CORRIDORS IN COMMUNICATION EUROPE - ASIA



## **Organization for Security and Co-operation in Europe**

The Organization for Security and Co-operation in Europe (OSCE) is the world's largest regional security organisation. It addresses three dimensions of security: the politico-military, the economic and environmental, and the human dimension, with 56 participating states in Western, Eastern and South-Eastern Europe, South Caucasus, Central Asia and also North America.<sup>43</sup> The OSCE has engaged in transport matters since the adoption of the Helsinki Final Act<sup>44</sup> in 1975.

### **Recent initiatives/projects**

Under the 2006 Belgian Chairmanship, the OSCE's economic and environmental dimension focused its work on *Transportation in the OSCE area: Secure transportation, networks and transport development to enhance regional economic co-operation and stability*. At the annual OSCE Ministerial Council in Brussels (2006), the 56 OSCE participating States adopted Decision No. 11/06 on the *Future Transport Dialogue in the OSCE*. Based on this document, the OCEEA has implemented, in the course of 2008 and 2009, various activities aimed at facilitating transit transport and legitimate cross-border trade across the OSCE region.

### **Activities in support of the the implementation of the UN Almaty Programme of Action**

The OSCE's active support for the implementation of the UN Almaty Programme of Action (APA): Addressing the Special Needs of Landlocked Developing Countries within a New Global Framework for Transit Transport Cooperation for Landlocked and Transit Developing Countries in the region goes back to the adoption of the aforementioned MC Decision No. 11/06. In addition to developing and implementing a number of very practical projects such as capacity-building and training activities, the OCEEA has also been lending its political support to the APA provisions.

On 17-18 September in Piraeus (Greece) the UNECE in conjunction with the Hellenic Republic Ministry of Mercantile Marine and the Aegean and Island Policy held a conference on the important role seaports serve as a link between maritime and inland transport. The OCEEA presented the OSCE approach on transport development and co-operation and emphasized the need to link sea ports more effectively with their remote hinterland, including landlocked developing countries.

On 1-3 October 2008, in New York, the Senior Economic Adviser represented the OCEEA at the high-level plenary meeting on the midterm review of the Almaty Programme of Action which was held in the framework of the UN General Assembly. The OSCE's intervention focused on the role the OSCE can play in intensifying regional dialogue and co-operation to help its landlocked countries to overcome transit transportation challenges.

On 2 March 2009, in Geneva, the Co-ordinator attended the Fifth Inter-Agency Consultative Meeting on Accelerating the Implementation of the Almaty Programme of Action: follow-up to the mid-term review jointly organised by the United Nations Office of the High Representative for Least Developed Countries, Landlocked Developing Countries and Small Island Developing States

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<sup>43</sup> For details of countries, see <http://www.osce.org/regions/>.

<sup>44</sup> "Conference on Security and Co-operation in Europe: Final Act" is available at [http://www.osce.org/documents/mcs/1975/08/4044\\_en.pdf](http://www.osce.org/documents/mcs/1975/08/4044_en.pdf).

(UN-OHRLLS) and the UNECE. The Co-ordinator gave a detailed presentation on the OCEEA's planned contributions towards accelerating the implementation of the Almaty Programme of Action in the OSCE region in 2009 and beyond.

Further to providing political support, the OCEEA has also been involved in capacity-building and training activities: On 16-17 March 2009, the OCEEA together with the OSCE Centre in Astana, the UNECE Transport Division and the Customs Committee of Kazakhstan held in Astana a National Seminar on Improving the Implementation of International Legal Instruments to Facilitate Cross-border Trade and Transport Operations. The seminar brought together some 50 representatives of customs departments from Kazakhstan's regions, international experts, including from the UN, the World Customs Organization (WCO) and private sector representatives. Seminar participants discussed, among others: Kazakhstan's recent completion of preparatory work to accede to the WCO's Revised Kyoto Convention, measures to facilitate railway border crossings along the Euro-Asian transport corridors, and benchmarking and performance measurements at border crossings, as well as risk management systems and the potential of advanced public-private partnerships.

On 5-6 May 2009, in Astana, the OCEEA together with the OSCE Centre, the WCO and the Customs Committee of Kazakhstan organised a Seminar on Strategic Anti-corruption Methods in the Customs Field: Sharing International Best Practices. The meeting gathered around 95 national participants, including the heads of relevant departments of the territorial divisions of the customs service and several representatives of law enforcement agencies, the private sector and international organizations. The ultimate aim of the event was to enhance the capacity of the national authorities to further improve and implement their existing national Anti-corruption Strategy.

### **OSCE/UNECE Handbook of Best Practices at Border Crossings**

In May 2008, the OCEEA, jointly with the UNECE and in co-ordination with the CPC OS Borders and the Action Against Terrorism units, started the development a Handbook of Best Practices at Borders. Through the promotion of existing border-crossing best practices in the field, the Handbook's main purpose is to assist OSCE participating States, particularly landlocked countries with limited access to world markets, in developing more efficient border, transit transport and customs policies.

The Handbook is expected to become a reference document for:

- national policy-makers
- senior customs, transport and border guard/police officials
- heads of regional customs chambers/border crossing points.

In addition, the OSCE-UNECE Handbook will also be made accessible to representatives of transport agencies, the business community, civil society and academia. It will focus on border-crossing points along roads and railways and at sea and airports.

As the Handbook is expected to address the real concerns experienced on a day-to-day basis by the relevant authorities in our participating States and to reflect existing best practice experiences, the OCEEA held, in October 2008, two regional preparatory stakeholders' meetings bringing together relevant Customs, Border Guard/Police and Transport officials: one in Minsk (for Eastern and

Central Europe) and one in Bishkek (for Central Asia and South Caucasus). The valuable input received during these meetings will definitely find its way into the final publication.

The Handbook is expected to be published in the second half of 2009. Upon its publication (both in Russian and English) it will be distributed to the Permanent Delegations to the OSCE in Vienna as well as through OSCE Field Presences across the region.

### **Building partnerships**

The OCEEA relies on partnerships with international expert organizations to enhance its capacity to effectively address a wider range of issues. In this regard, in the course of the past year, the OCEEA continued deepening some of its already existing partnerships with technical players in the field of transport and border-crossing facilitation.

On 8 September 2008, upon invitation by the UNECE, the OCEEA participated in Geneva, in a meeting of the **Expert Group on Euro-Asian Transport Links (EATL)**. The Expert Group discussed the programme of work, objectives, tasks and possible deliverables regarding the continuation of Phase II of the EATL and fulfilling the recommendations of the ECE/ESCAP Joint Study on Developing Euro-Asian Transport Linkages. The OCEEA presented the OSCE approach on transport development and co-operation, as well as some recent and planned activities on transport, trade and border crossing facilitation.

On 1-4 September 2008, in Hallstatt (Austria), the OCEEA participated, in the **First UNECE TEM/TER Expert Group Meeting** which was attended by Ministry of Transport officials as well as experts from railway companies and road administrations from across the OSCE region. On this occasion, the OCEEA collected useful information related to the transport and border-crossing infrastructure situation (particularly in the South Caucasus and Eastern Europe) and presented on the OSCE approach towards transport. Possibilities for intensified cooperation as well as possible joint projects were explored as well.

On 2 December 2008, the OCEEA participated in a conference organised in Brussels by the British Chamber of Commerce in Belgium on **Integrated Border Management: Delivering Integrated Border Management: Challenges and Solutions**. The conference offered policymakers, technology solution providers, EU member state officials, transport operators and border agencies, the opportunity to share views and ideas as well as practical solutions for the challenges experienced in the border management field. The OCEEA presented the OSCE approach on transport and trade facilitation and announced the forthcoming OSCE/UNECE Handbook on Best Practices at Borders.

On 4 December 2008, the Deputy Co-ordinator represented the OSCE Secretary General at the **Anniversary Ministerial of the TRACECA Transport Programme** in Baku. He used this opportunity to discuss the OSCE transport-related activities with a number of delegations from Central Asia and the President of the CIS branch of the International Road Transport Union.

On 4-5 December 2008, the OCEEA participated in the **World Customs Forum 2008 on Managing Secure Trade Lanes & the Future of Facilitation – Navigating the Seas of Change** which took place in Brussels. The Forum which was organised in conjunction with the Trusted

Trade Alliance provided a platform for representatives of Customs administrations and the trade to undertake a critical dialogue on the global implementation of national and multilateral initiatives under the auspices of the WCO SAFE Framework of Standards to secure and facilitate global trade. In the margins of the Forum, the OCEEA had consultations with representatives of the US International Chamber of Commerce to discuss progress made regarding the Eurasia Business Platform (EBP), the WCO's Compliance and Facilitation/ Capacity Building Departments to discuss future joint activities and with the UNODC.

On 24-26 February 2009, the Deputy Co-ordinator participated in Geneva in the Seventy-first session of the UNECE Inland Transport Committee. On the first day, the Deputy Co-ordinator made a statement on the positive cooperation between the OSCE and the UNECE in the transport field and on the second day the another OCEEA representative gave a presentation on the forthcoming OSCE-UNECE Handbook of Best Practices at Borders. On the margins of the event, several side-meetings took place with senior representatives of the UNECE Transport Division to discuss future avenues for cooperation.

On 5-6 March 2009, in Paris, the OCEEA, contributed, upon invitation, to a Joint International Transport Forum (ITF), UNECE, World Bank Seminar on Overcoming Border Crossing Obstacles. The Seminar was held as a preparatory thematic meeting for the high-level International Transport Forum taking place in Leipzig (Germany) in May 2009. The OCEEA representative gave a presentation on OSCE efforts aimed at facilitating legitimate cross-border trade and transport operations across its region. On the margins of the seminar various side-meetings with representatives of the OECD, the ILO, the WCO, the World Bank and other relevant organizations took place.

On 21-24 April 2009, in Bad Gastein (Austria), the OCEEA participated, upon invitation, in the Second Joint Meeting of the UNECE TEM/TER Master Plan Expert Group Meeting. Participants discussed the revision of the Master Plan which was initiated in 2008 as well as newly emerging challenges and opportunities such as inter-modality, funding and operational performance. The OCEEA representative provided an overview of OSCE activities in the transport field, paying particular attention to activities in the railway sector. With the aim of exploring possible joint project activities, the OCEEA jointly with the TER Project Co-ordinator, conducted various side-meetings with BSEC and European Investment Bank (EIB) representatives as well as with Ministry of Transport officials and experts of railway companies from across the OSCE/UNECE region.

On 27-29 April 2009, in Tehran (Iran), the OCEEA, upon invitation by the UNECE and the Economic Cooperation Organization (ECO), participated in the First Regional Workshop of Euro-Asian Transport Links Phase II: Facilitation of Euro-Asian Transport in the ECO region. Participants from across the ECO region discussed the current status of implementation of the Eurasian Transport Links (EATL) in their region as well as challenges and opportunities, new initiatives and constraints related to its further development. The OCEEA representative gave a presentation on the role of the OSCE in promoting best practice solutions related to the facilitation of legitimate cross-border trade and transport operations across the region. The final day of the workshop was dedicated to the UNECE TIR Convention (1975). The OCEEA used its presence at the workshop to discuss OSCE transport-related activities with a number of delegations from Central Asia and from OSCE Asian Partners for Cooperation Afghanistan and Mongolia.

## **Turkmenistan - Railway Infrastructure Planning, Safety and Management**

The OSCE Centre in Ashgabad in co-operation with the OCEEA and with the substantial support of the Austrian Federal Railways set up two workshops, which aimed at sharing international best practices and technical expertise in the areas of railway safety, infrastructure planning, operations and maintenance. Fifteen employees from the Ministry of Railway Transport - engineers, technical operators and maintenance workers - participated in both workshops. Participants were also informed on risk management, safety procedures and technical maintenance by experts from the Austrian Federal Railways.

## **Tajikistan – Trans-border Trade Promotion Centres**

The OSCE Office in Tajikistan has continued to promote trade growth between Tajikistan and Afghanistan and supported the operations of four permanent trans-border trade promotion centres, three in the Gorno Badakhshan Region and one in the Khatlon Region, serving the major border crossings to Afghanistan.

The Centres provide information on customs and markets to entrepreneurs from both sides of the border and offer business training focused on small enterprises involved in trans-border trade. The centres in the Badakhshan region continue to assist many businesses in the area. Latter praise the Centres for the information, advice and assistance that they provide on a permanent basis. In 2008, through consultations with the local authorities on the Afghan side of the border, the Centres succeeded in lifting a ban for Afghan businesswomen to participate in trade activities. In addition, the Centres facilitated changes in Tajikistan's regulations on cross-border trade, which resulted in simpler and more effective administrative procedures. The amended regulations were adopted on 1 October 2008.

## **Uzbekistan - Development of a Regional Transport Programme**

Based on the 2007 recommendations on the transport sector in Uzbekistan in phase I, the project commissioned by the OSCE Project Co-ordinator in Uzbekistan entered in its second phase, during which a transport sector policy team was set up. This team focused on analyzing existing legislation and guidelines. It also prepared Terms of Reference for the establishment of a 'Dispatching Co-ordination Centre', which will facilitate national, regional and international trade. Within the framework of the project a legal database was created, regular newsletters issued and a website containing information on freights, road planning and conditions as well as on the overall transportation infrastructure set up. The project will continue in 2009 with OSCE's increased co-operation with the Ministry of Foreign Economic Relations, Investments and Trade and the Agency for Rivers and Automobile Transport.

### **References:**

This section is based on the OSCE submission as well as on publicly available information accessed at the website of OSCE and retrieved from <http://www.osce.org/>, in particular, <http://www.osce.org/about/19298.html>;  
<http://www.osce.org/eea/29035.html>;  
<http://www.osce.org/eea/29039.html>;



[http://www.osce.org/conferences/eea\\_trans\\_2007.html](http://www.osce.org/conferences/eea_trans_2007.html); and <http://www.osce.org/eea/34787.html>, as well as Office of the Co-ordinator of OSCE Economic and Environmental Activities, (May 2009), *Activity Report June 2008-May 2009*, retrieved from [http://www.osce.org/publications/eea/2009/05/37854\\_1294\\_en.pdf](http://www.osce.org/publications/eea/2009/05/37854_1294_en.pdf).

## **United Nations Conference on Trade and Development**

The United Nations Conference on Trade and Development (UNCTAD), established in 1964, promotes the development-friendly integration of developing countries into the world economy by carrying out three key functions: operating as a forum for intergovernmental deliberations supported by discussions with experts and exchanges of experience for consensus building; undertaking research, policy analysis and data collection; and providing technical assistance to developing countries.

The programmes of Transport and Trade Logistics have been implemented by the Trade Logistics Branch at the Division on Technology and Logistics (DTL). The objective of the DTL is to enhance the economic development and competitiveness of developing countries through efficient trade logistics services, transit transport systems, increased access to and sustainable utilisation of information and communication technology, and training and capacity-building programmes for local institutions.

### **Recent initiatives/ projects**

UNCTAD has contributed by providing tangible solutions to the problems faced by landlocked developing countries and transit countries. The concerns of landlocked and transit developing countries were addressed at the Ministerial Conference on Transit Transport Cooperation, which adopted the Almaty Programme of Action, in Almaty, Kazakhstan, in 2003. As part of the preparatory process of the Mid-term Review of the Almaty Programme of Action, the 'UNCTAD Expert Meeting on Regional Cooperation in Transit Transport- Solution for Landlocked Developing Countries' was held in 2007. The meeting provided a forum to explore models and best practices to improve international transit transport operations based on practical solutions with a view to enhancing transit transport for the benefit of landlocked and transit developing countries.

In July 2008, UNCTAD organised a global preparatory meeting on the mid-term review of the Almaty Programme of Action in order to affirm progress on implementation of trade facilitation for the benefits of landlocked and transit developing countries. The meeting recommended relevant international organisations to continue and intensify their efforts on improving transit facilitation along transit corridors during the period from 2008 till 2013.

### **References:**

This section is based on publicly available information accessed at the website of UNCTAD and retrieved from <http://www.unctad.org/Templates/StartPage.asp?intItemID=2068>, especially:

<http://unctad.org/Templates/Page.asp?intItemID=1530&lang=1>;

<http://www.unctad.org/Templates/Page.asp?intItemID=1536&lang=1>; as well as the website of UNCTAD Trade Logistics Branch, Transport and Trade Logistics, retrieved from <http://r0.unctad.org/ttl/>; and UNCTAD Transport Newsletter No. 35- No. 39, downloaded from <http://www.unctad.org/Templates/Page.asp?intItemID=2651&lang=1>.

## **United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States**

The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN-OHRLLS) was established by the United Nations General Assembly in 2001 through its resolution 56/227 with functions recommended by the Secretary-General in his report A/56/645<sup>45</sup> to provide appropriate support to Least Developed Countries, Landlocked Developing Countries and Small Island Developing States.

### **Recent initiatives/ projects**

To deal with constraints facing landlocked countries, the 'International Ministerial Conference of Landlocked and Transit Developing Countries and Donor Countries and International Financial and Development Institutions on Transit Transport Cooperation' was held in Almaty, Kazakhstan, in 2003. 'Almaty Programme of Action: Addressing the Special Needs of Landlocked Developing Countries within a New Global Framework for Transit Transport Cooperation for Landlocked and Transit Developing Countries' was adopted at the Ministerial Conference for the purpose of development of efficient transit transport systems in landlocked and transit developing countries.

The goal of the Programme of Action is to forge partnerships to overcome the specific problems of the landlocked developing countries, resulted from their remoteness and isolation from the world market. The Programme focuses on five priorities: policy improvements by reducing customs bureaucracy and fees; infrastructure development and maintenance of rail, road, ports, inland waterway, pipeline and air transport sectors; international trade facilitation; technical and financial international assistance; and monitoring and follow up on agreements, in order to archive aims to:

- secure access to and from the sea by all means of transport;
- reduce costs and improve services so as to increase the competitiveness of their exports;
- reduce the delivered costs of imports;
- address problems of delays and uncertainties in trade routes;
- develop adequate national networks;
- reduce loss, damage and deterioration en route;
- open the way for export expansion; and
- improve safety of road transport and security of people along the corridor.

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<sup>45</sup> Report of the Secretary-General, *Follow-up mechanism for coordinating, monitoring and reviewing the implementation of the Programme of Action for the Least Developed Countries for the Decade 2001-2010*. It is electronically available at [http://www.unohrrls.org/UserFiles/File/LDC%20Documents/Reports/N0165665\\_A%2056%20645.pdf](http://www.unohrrls.org/UserFiles/File/LDC%20Documents/Reports/N0165665_A%2056%20645.pdf).

The Midterm Review of the Almaty Programme of Action was implemented from 2007 to 2008 including two days of high-level plenary meetings held in October 2008. UN-OHRLLS coordinated the preparatory process, in addition, UN system organisations such as the United Nations Conference on Trade and Development and the regional commissions as well as relevant regional and international organisations provided necessary support to the review process.

Under the framework of the Midterm Review, the ‘Euro-Asian Regional Review Meeting for the Midterm Review of the Almaty Programme of Action’ was jointly organised by the UN-OHRLLS, UNECE and UNESCAP in Bangkok in April 2008. The outcome document of the meeting identifies progress and obstacles in the implementation of the Almaty Programme of Action along its five priority areas, and provides action-oriented recommendations and deliverables aimed at harmonising legal regime, adopting integrated approach to trade and transport facilitation, eliminating physical and non-physical bottlenecks to transport, promoting integrated training programmes in both public and private sectors, establishing national transit and trade facilitation committees, completing missing links, promoting intermodal transport, developing integrated transport corridors and logistics services, and also mobilising domestic and external resources.

### References:

This section is based on publicly available information accessed at the website of UN-OHRLLS and retrieved from <http://www.unohrlls.org/>, especially,

<http://www.unohrlls.org/en/about/>;  
<http://www.unohrlls.org/en/ldc/40/>;  
<http://www.unohrlls.org/en/ldc/673/>; and  
<http://www.unohrlls.org/en/orphan/644/>.

### The World Bank

The World Bank is an international institution, owned by 185 member countries<sup>46</sup>, aiming at providing financial and technical assistance to developing countries. The World Bank Group consists of two development institutions, namely: International Bank for Reconstruction and Development (IBRD) focusing on middle income and creditworthy poor countries; and the International Development Association (IDA) focusing on the poorest countries, and three affiliates.

<sup>47</sup>

### Recent initiatives/ projects

The Transport Sector constitutes a significant part of World Bank’s portfolio. This Sector supervises 174 projects with total net commitments of US\$23 billion, sharing 23 percent of the

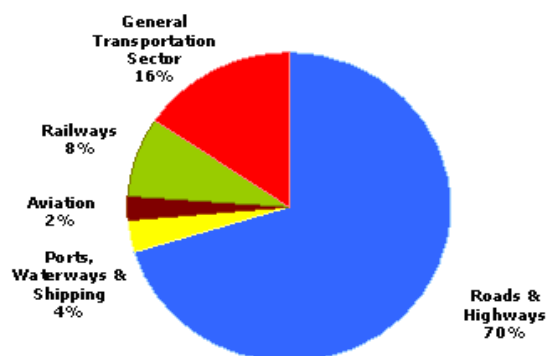
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<sup>46</sup> The list is available at <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,contentMDK:20103870~menuPK:1697011~pagePK:51123644~piPK:329829~theSitePK:29708,00.html>.

<sup>47</sup> The affiliates of the World Bank Group are International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and International Centre for Settlement of Investment Disputes (ICSID).

Bank's portfolio.<sup>48</sup> Lending in the road and highways sector accounts for 70 percent of the transport projects portfolio in the Financial Year 2008.

#### Transport Portfolio of Active Projects at End of FY08



Source: The World Bank

The Transport Business Strategy for 2008-2012, being an update of the 1996 Strategy, seeks the objective: “to help partner countries to establish the governance, strategies, policies and services that will deliver transport for development in a way that is economically, financially, environmentally and socially sustainable”.<sup>49</sup> In order to achieve the goal, the Strategy sets five strategic directions:

1. to create the conditions for increased support for transport investment;
2. to deepen engagement in the roads and highways subsector;
3. to increase engagement in the urban transport subsector;
4. to diversify engagement in transport for trade; and
5. to control emissions and to mitigate impact on climate change.

The World Bank participates with the European Union, the Asian Development Bank and other institutions to build better transport networks between Europe and Asia via Central Asia and Caucasus. The Bank will focus increasingly on promoting trade growth and regional integration by projects creating better international transport links, such as highway improvements, railway modernisation, and multimodal transport corridor development.

#### References:

This section is based on publicly available information accessed at the website of the World Bank and retrieved from <http://www.worldbank.org/>, especially:

<sup>48</sup> Information updated in April 2009.

<sup>49</sup> IBRD and the World Bank, *Safe, Clean, and Affordable... Transport for Development: The World Bank Group's Transport Business Strategy for 2008-2012*, p. 80.

<http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,pagePK:50004410~piPK:36602~theSitePK:29708,00.html>;

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/0,,contentMDK:21517582~menuPK:337124~pagePK:148956~piPK:216618~theSitePK:337116,00.html>; and

IBRD and the World Bank, (2008), *Safe, Clean, and Affordable... Transport for Development: The World Bank Group's Transport Business Strategy for 2008-2012*, downloaded from [http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1211381200616/Transport\\_Business\\_Strategy\\_web.pdf](http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1211381200616/Transport_Business_Strategy_web.pdf).



## PART III

### TRANSPORT INFRASTRUCTURE ALONG EURO-ASIAN LINKAGES

#### A. Reviewing, extending and updating priority routes identified in Phase I

##### 1. Methodology

#### **BACKGROUND INFORMATION ON THE IDENTIFICATION OF MAIN EURO-ASIAN INLAND TRANSPORT ROUTES UNDER THE UNECE-UNESCA EATL PROJECT (PHASE I)**

In 2001, the General Assembly approved the project “Capacity-building in developing interregional land and land-cum-sea transport linkages” (2002-2006). The project included a component focusing specifically on Euro-Asian transport links. The overall objectives of the project were: i) to assist Member States of ECA, ECE, ESCAP, ESCWA and ECLAC in strengthening their national capacities for developing interregional land and land cum-sea transport link, and ii) to promote interregional cooperation to facilitate interregional trade and tourism.

Within this overall framework, since 2003, ECE and ESCAP started to jointly implement the project component on developing Euro-Asian transport links. The following countries were invited to participate and designate Focal Points: Afghanistan, Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Russian Federation, Tajikistan, Turkmenistan, Turkey, Ukraine and Uzbekistan. In 2004, Greece, during its chairmanship-in-office of the Organization of the Black Sea Cooperation (BSEC), expressed the wish to be associated to the activities of the project..

A major first step of the project was to identify, through consensus, the main Euro-Asian transport linkages of international importance which may form the basis for the extension of Pan-European Transport Corridors (PETCs) towards eastern Asia, and the extension of Asian transport networks towards Europe. National Focal points agreed that the four Euro-Asian transport corridors presented in the “ECE-ESCAP Strategic Vision” be used as the starting point for discussions. (<http://www.unece.org/trans/main/eatl/background.html>). Within each of these broad corridors, however, there was a need to identify the Euro-Asian transport linkages/routes.

Given that all of the countries participating in the project are Contracting Parties and/or members of the UNECE European Agreement on Main International Traffic Arteries (AGR) and/or the UNESCAP Asian Highway Agreement and the UNECE European Agreement on Main International Railway Lines (AGC) and/or the UNESCAP Trans-Asian Railway Agreement, it was agreed that these networks be used as the basis for the route alignments. Moreover, a number of qualifications were deemed necessary. Therefore the identification of the routes was based on the following criteria:

- They are within recognized UNECE/UNESCAP networks;
- Not all links in these networks should be included, but only those most relevant;

- Proposed routes should be of Euro-Asian importance;
- Inland water routes and major sea ports should be also considered<sup>50</sup>;
- Transport interchange and cargo storage points, including inland container depots and border crossing facilities, should be considered as integral parts of the routes;
- They should have borders with EATL participating countries;
- There should be consensus by neighboring countries, indicating their readiness to contribute to their development;
- Ideally, selected routes should either be already operational, or be in an advanced state of “readiness” for operations. This “readiness” may be considered from both a technical perspective and from the perspective of political willingness;

In four Expert Group Meetings (EGMs) under the project government representatives from these countries have identified the main Euro-Asian rail, road and inland waterway routes to be considered for priority development and the main transshipment points along these routes.

Once countries agreed on the routes which would form the “Euro-Asian transport linkages”, country experts provided a huge amount of data<sup>51</sup> on technical characteristics and performances of main rail, road and inland water transport infrastructure, borders crossing points, ferryboat links, intermodal terminals and ports along the identified Euro-Asian routes. (<http://www.unece.org/trans/main/eatl/intro.html>). These inputs were facilitated through a uniform questionnaire prepared by UNECE and UNESCAP secretariats.

The Meeting of Ministers of Transport of countries in the Euro-Asian region, held on 19 February 2008, in Geneva, inter alia, confirmed its support for the development of Euro-Asian transport links and endorsed the priority routes and projects identified by the EATL Project Phase I.

## **METHODOLOGICAL FRAMEWORK FOR THE EXTENSION OF EATL ROUTES TO NEWLY INVOLVED COUNTRIES**

It is therefore understood that the extension of EATL routes under EATL Phase II, addresses only the newly involved countries. In order to ensure consistency of the newly proposed routes, their selection should be based on the same criteria used under EATL Phase I. Furthermore, in order to ensure smooth integration of the new routes into the well established structure under EATL Phase I, the following additional conditions should be met:

- Proposed routes should connect to existing EATL routes<sup>52</sup>;
- Spelling of towns/stations/ports etc, should be consistent with the nomenclature used in international agreements;
- Proposals should be accompanied with the provision of related data.

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<sup>50</sup> Air transport was not addressed in the framework of the EATL Project

<sup>51</sup> Used also for the creation of a GIS database and related maps developed by the project.

<sup>52</sup> Please refer to the routes and maps shown in the “Joint Study on Developing Euro-Asian Transport Linkages”, pp. 59-113.

The end of December 2009 was set as the deadline for the submission of proposals and related data (technical characteristics and performances of main rail, road and inland water transport infrastructure, borders crossing points, ferryboat links, intermodal terminals and ports) along the identified Euro-Asian.

In view of the limited time available National Focal Points of newly involved countries are invited to be ready with their proposals on the Road, Rail and Inland Water Routes during the 3<sup>rd</sup> Expert Group Meeting, to be held in Istanbul, 11-13 November 2009. Submission of data on technical characteristics and performances can follow after the identifications of the routes.

## THE QUESTIONNAIRES

Consequently, the questionnaires to be circulated to the National Focal Points by the secretariat are divided into two main categories. First, those addressed to newly involved countries. And second, those addressed to all other countries aimed at updating the data already submitted under the EATL Phase I.

Annex I provides an overview of the type of templates which will be included in the questionnaire of the first category. **It is for information only.** An Excel file containing the same tables will be sent to the National Focal Points of newly involved countries to facilitate the data collection exercise.

National Focal Points of other countries, will receive separately an Excel file containing the tables with the existing data of their country, which are to be completed and/or updated as appropriate.

National Focal Points of all countries involved are invited to ask questions or make comments on the questionnaires, at the 3<sup>rd</sup> EGM.

**Annex I. Data Tables**

**1. ROAD TRANSPORT INFRASTRUCTURE ON EURO-ASIAN TRANSPORT LINKAGES**

From	To	AGR Reference No. (if applicable)	Is AGR	Highway (AH) Reference No. (if applicable)	Road	Length (km)	Number of lanes (total)	Road Condition (Good, Fair or Poor)	Annual Average Daily Traffic	Road toll (if any)	Movement of ISO containers possible? Y/N	Current Bottlenecks or Missing Links

2. RAIL TRANSPORT INFRASTRUCTURE ON EURO-ASIAN TRANSPORT LINKAGES

From	To	AGC Reference No. (if applicable)	AGTC Reference No. (if applicable)	Trans-Asian Railway (TAR) Y/N	Length (km)	Track gauge (mm)	Number of tracks (DT=double, ST=single)	Traction (E=electrified, NE=non-electrified)	Loading gauge (UIC)	Max.	Siding length	Missing links or bottlenecks











## 2. Description of Euro-Asian Transport Linkages

### Table to be updated

#### Phase I Selected Euro-Asian rail, road and inland water transport routes and inland river ports for further development and cooperation

Table x.1 Rail Routes

		Comment	AGC	TAR*
1.	Brest - Minsk - Moscow – Nizhniy Novgorod – Perm - Yekaterinburg - Omsk - Novosibirsk - Ulan Ude - Karimskaya – Vladivostok (Port)/Vostochny (Port)	PETC 2; OSJD 1	E20	Y
1.a.	Buslovskaya – St. Petersburg (Port) – Moscow - Yekaterinburg	PETC 9; OSJD 16	E10, E20	Y1
1.b.	Mostiska/ Chop - Lvov – Moscow	PETC 5, 9; OSJD3	E30, E95	N
1.c.	Tavshet – Irkutsk – Ulan Ude – Naushki – <i>Border with Mongolia</i>		N	Y
1.d.	Karimskaya – Zabaykalsk – <i>Border with China</i>		N	Y
1.e.	Kaliningrad – ( <i>Lithuania</i> ) – Minsk		N	NA
1.f.	Novosibirsk – Lokot – Aktogai		N	Y
2.	Brest - Minsk - Moscow - Yekaterinburg – Kurgan - Astana - Drujba - <i>Urumqi - Lianyungang (Port)/Shanghai (Port)</i>	PETC 2; OSJD 1	E20, E24	Y
2.a.	Buslovskaya – St. Petersburg (Port) – Moscow - Yekaterinburg	PETC 9; OSJD 16	E10, E20	Y
2.b.	Kaliningrad – ( <i>Lithuania</i> ) – Minsk		N	NA
2.c.	Ekaterinburg – Chelyabinsk – Taranovskaya – Zaayatskaya – Tobol – Astana		N	Y
3.	Curtici – Arad – Bucharest – Constanta (Port) – Poti/Batumi (Port) – Tbilisi – Baku (Port) – Aktau (Port) – Beineu – Nukus – Uchkuduk – Navoi – Tashkent – Shymkent – Almaty – Dostyk – <i>Alataw Shankou - Lianyungang</i>	PETC 4, TRACECA; OSJD 6a, 8, 10, 2, 5	E54, E562, E60, E50	Y

		<b>Comment</b>	<b>AGC</b>	<b>TAR*</b>
	<i>(Port)/Shanghai (Port)</i>			
3.a.	Baku (Port) – Turkmenbashi (Port) – Ashgabat – Chardzhou – Bukhara – Navoi	TRACECA; OSJD 10	E60	Y
3.b.	Tbilisi – Sadakhlo – Gyumri - Yerevan - Gavar – Meghri – Nourdouz – Jolfa (Yerevan - Gavar – Meghri – Nourdouz – Jolfa under study)	TRACECA	E692	Y
3.c.	Balychi - Bishkek – Lugovaya	TRACECA	NA	Y
3.d.	Tashkent – Kanibadam – Andizhan - Jalalabad – Turugart – <i>Kashi</i> – <i>Urumqi</i> (Jalalabad – Turugart – Kashi section under construction)	TRACECA	E696	Y
3.f.	Dushanbe – Termez – [ <i>Turkmenistan</i> ] - Bukhara	TRACECA	E695	Y
3.g.	Mersin (Port) / Iskenderun (Port) – Malatya – Dogukapi – Gyumri – Sadakhlo – Tbilisi	TRACECA	E70, E692, E97	Y
3.h.	Ungheni - Chisinau – Bendery - Kuchurgan – Rozdil’na – Odessa (Port) / Ilyichevsk (Port) – Poti/Batumi (Port)	TRACECA; OSJD 5a, 7	E95	NA
3.i.	Border with FYROM - Sofia – Plevan – Varna (Port) – Poti/Batumi (Port)	PETC 8	E680	NA
3.j.	Curtici – Arad – Timisoara – Craiova – Bucharest – Giurgiu – Russe – Kaspichan – Varna (Port) – Poti/Batumi (Port)	PETC 10, 8	E66, E56, E95, E660, E680	NA
3.k.	Dragoman – Sofia – Gorna – Burgas (Port) – Poti/Batumi (Port)		E70, E720	NA
3.l.	Ungheni – Iasi – Bucharest – Giurgiu		E95	NA
3.m.	Bukhara – Karshi – [ <i>Turkmenistan</i> ] - Termez – Kurgan- T’ube – Kul’ab	TRACECA	E695	Y
3.n.	Kars – Akhalkalaki - Tbilisi (Kars – Akhalkalaki section under construction)		E692	Y
3.o.	Tashkent – Angren – Pap – Andijan (Angren – Pap section under construction)		E696	Y
3.p.	Chisinau – Revaca – Cainari – Giurgiulesti (river port) – Galati (port)		E95, E560	NA
4.	Dragoman - Sofia – Svilengrad – Kapikule – Istanbul – Haydarpara (Port) – Izmit – (Derince Port) - Ankara – Malatya - Kapikoye – Razi – Qazvin - Tehran – Sarakhs – Sarahs - Mary –	PETC 4, 8,10; OSJD 6, 10, 2, 5; TRACECA	E70, E60, E50	Y



		Comment	AGC	TAR*
	Chardzou – Navoi – Tashkent – Shymkent – Almaty - Dostyk – <i>Alataw Shankou – Lianyungang (Port)/Shanghai (Port)</i>			
4.a.	Mersin (Port) / Iskenderun (Port) – Malatya		E97	Y
4.b.	Ilyichevsk (Port) - Samsun (Port) – Kalin – Sivas – Bostankaya ( <i>rail ferry planned</i> )	TRACECA	E97, E70	Y
4.c.	Tehran – Qom – Meybod – Yazd – Bafgh – Kerman – Zahedan – Mirjaveh – <i>Koh-i-Taftan (Border with Pakistan)</i> (Kerman – Zahedan under construction).		NA	Y
4.d.	Izmir (Port) – Balikesir – Eskisehir		E74	Y
4.e.	Izmir (Port) – Usak – Afyon – Yenice – Mersin (Port)/ Iskenderun (Port)		E97	N
4.f.	Pehlivankoy – Uzun-kopru – <i>Border with Greece</i>		NA	NA
4.g.	Ilychevsk (Port) – Derince (Port) - Izmit			NA
4.h.	Constanta (Port) – Derince (Port) – Izmit			NA
4.i.	Constanta (Port) – Samsun (Port) ( <i>rail ferry planned</i> )			NA
5.	Buslovskaya - St. Petersburg (Port) – Volgograd – Astrakhan (Port) – Alya (Port) - Anzali (Port) – Rasht – Qazvin - Tehran – Qom – Meybod – Bafgh – Bandar Abbas (Port) (Anzali - Rasht – Qazvin section under construction)	PETC 9; OSJD 11	E10, E99, E50	Y
5.a.	Astrakhan (Port) – Alya (Port) – Amirabad (Port) – Garmsar – Tehran		NA	Y
5.b.	Astrakhan (Port) – Samur – Yalama - Baku – Astara (Azerbaijan) – Astara (Iran) – Rasht (Astara – Astara – Rasht section under study)	OSJD 11	E60, E694	Y
5.c.	Astrakhan (Port) – Askarayskaya – Ganyuchikino – Makat – Beineu – Nukus – Uchkuduk – Bukhara – Chardzhou – Sarahs - Sarakhs – Mashhad – Bafgh	TRACECA	E50, E597	Y
5.d.	Alya (Port) – Aktau (Port) – Beineu		E597	Y
5.e.	Tehran – Qom – Arak – Ahvaz - Bandar Emam (Port)		NA	Y

		Comment	AGC	TAR*
5.f.	Tehran – Kashan – Badrud - Esfahan – Shiraz – Bushehr (Port) (Esfahan – Shiraz – Bushehr planned)		NA	Y
5.g.	Bafgh – Kerman – Fahraj – Chabahar (Port) (Fahraj – Chabahar planned)		NA	Y
5.h.	Murmansk (Port) – St. Petersburg		NA	N
6.	Mostiska/ Chop/Yagudin - Lvov – Kiev – Kharkov – Liski – Samara – Ufa – Kurgan – Omsk - Novosibirsk - Ulan Ude - Karimskaya – Vladivostok (Port)/Vostochny (Port)	PETC 3, 5	E30, E24	Y
6.a.	Chisinau – Bender – Rozdil’na – Zhmerynka	PETC 9	E95,	NA
6.b.	Tavshet – Irkutsk – Ulan Ude – Naushki – <i>Border with Mongolia</i>		E20	Y
6.c.	Karimskaya – Zabaykalsk – <i>Border with China</i>		NA	Y
6.d.	Aktau (port) – Beyneu - Makat - Kandagach – Nikeltay – Chelyabinsk	TRACECA	E30, E50, E597	T
7.	Mostiska/ Chop - Lvov – Zhmerynka – Fastov – Donetsk – Likhaya – Volgograd – Aksarayskaya – Makat – Beineu – Nukus – Uchkuduk – Navoi – Tashkent – Shymkent – Almaty – Dostyk – <i>Alataw Shankou – Lianyungang (Port)/Shanghai (Port)</i>	PETC 3, 5 ; TRACECA	E30, E50, E593, E597	Y
8.	Mostiska/ Chop - Lvov – Fastov – Krasnoarmeysk – Kvashino – Uspenskaya – Rostov-na-Donu – Veseloe – Gandtiadi – Senaki – Tbilisi – Alyat – Astara (Azerbaijan) – Astara (Iran) (Astara – Astara section under construction)	PETC 3, 5; TRACECA	E30, E50, E593, E99, E60	Y
8.a.	Tbilisi – Gyumri – Yerevan	TRACECA	E694	Y
8.b.	Kaliningrad (Port) – ( <i>Lithuania</i> ) – Minsk – Gornosaivka – Nizhyn – Kiev		E95	NA
8.c.	Kavkaz (Port) – Novorossiysk (Port) – Krasnodar		E99	Y
8.d.	Varna (Port) - Novorossiysk (Port) – Poti/Batumi (Port)		NA	N
9.	Buslovskaya – Moscow – Ryazan –	TRACECA	E10, E24,	Y

		<b>Comment</b>	<b>AGC</b>	<b>TAR*</b>
	Orenburg – Aktyubinsk – Kandagach – Aris – Tashkent – Bukhara – Karshi – Tashguzar – Baysun – Kumchurgan – Termez – Galaba – Hairatan (border of Afghanistan )		E30, E50, E695	
9.a.	Ryazan - Aksarayskaya – Makat – Karakalpakiya – Uchkuduck – Navoi – Bukhara	TRACECA	E50, E597	Y
9.b.	Rostov-na-Donu – Volgograd – Baskunchak - Aksarayskaya		E99, E50	Y
9.c.	Bukhara – Karshi – Tashguzar – Baysun - Kumchurgan – Sariacia – Dushanbe – Vaghdad		E695	Y

Notes:

- \* The Intergovernmental Agreement on the Trans-Asian Railway was adopted in 2005 and signed by 18 countries in 2006. It is now open for signature and accession by ESCAP member countries. Those sections which are in the Agreement will be indicated.
- 1. Italicized sections are located in countries which are not participating in the project or have not confirmed their inclusion.
- 2. Numbering is indicative only.
- 3. Turkey's border with Armenia is currently closed.

**Table x.2 Road Routes**

		<b>AGR</b>	<b>AH</b>
1.	Torfyanovka - St. Petersburg (Port)– Moscow – Nizhniy Novgorod – Ekaterinburg – Omsk – Novosibirsk – Krasnoyarsk – Irkutsk – Ulan Ude – Chita – Belogorsk – Khabarovsk – Ussuriysk - Vladivostok (Port)/Vostochny (Port)/Nakhodka (Port)	E105, E22	AH8 AH6 AH30
1.a.	Brest – Minsk – Moscow	E85,E30	AH6
1.b.	Mostiska/Chop – Lvov – Kiev – Moscow	E40, E101	NA
1.c.	Moscow – Yaroslavl – Vologda – Archangelsk (Port)	E115	NA
1.d.	Semipalatinsk – Novossibirsk	N	N
2.	Brest – Minsk - Moscow – Nizhniy Novgorod – Ufa - Chelyabinsk – Kurgan – Petropavlovsk – Astana – Almaty – Khorgos – Jinghe – Urumqi – Xi’an – Lianyungang (Port) / Shanghai (Port)	E85, E30, E125	AH6, AH64, AH7 AH60
2.a.	Torfyanovka – St. Petersburg – Moscow	E18, E105	AH8
2.b.	Petropavlovsk – Omsk – Pavlodar – Semipalatinsk – Georgievka – Taskesken – Ucharal – Dostyk – Alatawshankou – Kuitun – Urumqi	E127	AH60, AH68, AH5
2.c.	Moscow - Samara – Uralsk – Aktobe – Dossor – Makat – Beyneu – Nukus – Navoi – Tashkent – Almaty	E121, E38	AH 60, AH63, AH61
2.d.	Chelyabinsk – Kaerak – Kostani – Astana	E123, E016	AH7
2.e.	Archangelsk – Perm – Yekaterinburg – Kurgan – Petropavlovsk	N	N
3.	Mostiska - Lvov – Kiev – Guktov – Kursk – Saratov – Ozinki - Uralsk – Aktyubinsk – Karabutak – Aralsk – Kyzylorda – Shymkent – Almaty – Khorgos – Jinghe – Urumqi – Xi’an – Lianyungang (Port) / Shanghai (Port)	E40, E95, E101, E38	AH61
3.a.	Chop – Uzhgorod – Mukacevo – Stryei – Lvov – Kiev – Kharkov – Kamensk – Shahtinskiy – Volgograd – Astrakhan – Atyrau – Beyneu – Nukus – Bukhara – Navoi - Samarkand – Tashkent – Shymkent	E40	AH70, AH8, AH63, AH5
3.b.	Yagodyn – Kovel – Sarny – Kiev	E373	NA
3.c.	Kaliningrad (Port) - Tolpaki – Nesterov – (Lithuania) - Minsk – Gomel – Kiev	E28, E271, E95	NA
3.d.	Mostiska/Chop – Uzhgorod – Mukacevo – Stryei – Ternopol – Khmel'nitski – Vinnitza – Uman – Kirovograd – Dnepropetrovsk – Donetsk – Rostov-na-Donu – Armavir – Mineralijnie Vodi – Vladikavkaz – (Tbilisi) - Makhachkala (Port) – Aktau (Port) – Beyneu	E50 E121	AH70

		AGR	AH
3.e.	Rostov-na-Donu – Krasnodar – Novorossijsk (Port) – Kavkaz (Port) – Samsun (Port) / Poti/Batumi (Port) / Burgas (Port)	E115, E97	NA
3.f.	Sofia – Popvica – Stara Zagora – Burgas (Port) – Kavkaz (Port) – Novorossiysk (Port) – Poti/Batumi (Port)	E773	NA
4.	Nadlag - Arad – Bucharest – Constanta (Port) – Poti/Batumi (Port) – Tbilisi - Alat – Baku (Port) – Aktau (Port) – Beyneu – Nukus – Bukhara – Tashkent – Shymkent – Bishkek – Almaty – Sary-Ozek – Khorgos – Urumqi – Xi'an – Lianyungang (Port) / Shanghai (Port)	E68, E60, E121, E40, E60	AH5, AH70, AH63, AH62
4.a.	Tbilisi – Sadakho – Yerevan – Eraskh – Goris – Kapan – Megri – (Agarak) – Nourdouz – Jolfa (Iran)– Eyvoghli	E117	AH82
4.b.	Ruse – Giurgiu – Bucharest – Urziceni – Marasesti – Albita – Leucheni – Chisinau – Odessa (Port) – Poti/Batumi (Port)	E85, E581, E58	NA
4.c.	Kiev – Odessa (Port) / Ilyichevsk (Port) – Poti/Batumi (Port)	E95	NA
4.d.	Sofia – Pleven – Ruse – Varna (Port) – Poti/Batumi (Port)	E79, E83, E85, E70	NA
4.e.	Merzifon – Samsun (Port) – Trabzon (Port) - Sarp (Turkey) – Sarpi (Georgia) – Batumi (Port) – Poti (Port)	E95, E70	AH5
4.f.	Baku (Port) - Turkmenbashi (Port) – Ashgabat – Mary – Bukhara	E60	AH5
4.g.	Bishkek – Naryn – Torugart – Kashi	E125	AH61
4.h.	Shymkent – Merket – Almaty	NA	AH5
4.i.	Brest – territory of Belarus - border with Ukraine – territory of Ukraine – border with Moldova – Chisinau – Odessa (Port) / Ilyichevsk (Port) – Poti (Port) / Batumi (Port)	E30, E85	NA
4.j.	Batumi (Port) – Hopa – Kars – Gyumri – Yerevan	E70	AH5*
4.k.	Chisinau - Giurgiulesti (river port)	E584	NA
4.l.	Gyumri – Erzurum	E691, E80	NA
4.m.	Odessa (Port) / Ilyichevsk (Port) - Samsun (port) / Trabzon (port)	NA	NA
4.n.	Samsun (Port) / Trabzon (Port) — Poti/Batumi (Port)	NA	NA
4.o.	Djulf (Azerbaijan) – Nakhichevan – Sadarak – Border with Turkey - Igdir (Turkey)	E99	N
5.	Border with Serbia /FYRM - Sofia – Kapikule – Istanbul – (Haydarpassa Port) - Izmit (Derince Port) – Merzifon – Refahiye - Gurbulak – Bazargan – Eyvoghli - Tabriz - Qazvin – Tehran – Semnan – Damghan – Sabzevar – Mashhad – Dogharoun – Islam Qala – Herat – Mazar-i-Sharif – Termez – Guzar – Samarkand – Tashkent – Andizhan – Osh – Sary-Tash – Irkeshtam – Kashi – Urumqi – Xi'an – Lianyungang (Port)/ Shanghai (Port)	E80	AH1, AH5, AH85, AH 77
5.a.	Tehran - ( Saveh – Salafchegan ) - Qom – Yazd – Anar –	NA	AH 2

		AGR	AH
	Kerman – Zahedan – Mirjaveh - <i>Border of Pakistan</i>		
5.b.	Nadlag – Arad – Timisoara – Lugoj - Carasebes – Dr.-Turnu – Severin – Craiova – Calafat – Vidin – Botevgrad – Sofia	E70, E79	NA
5.c.	Istanbul (Kinalı Junction) – Silivri – Kesan – <i>Kipi – Alexandroupolis (port) – Kommotini – Xanthi – Kavala (port) – Thessaloniki (port) – Veria – Metsovo – Igoumenitsa (port)</i>	E90, E84	NA
5.d.	Kiev – Uman - Odessa (Port) / Ilyichevsk (Port) – Samsun (Port) - Merzifon	E95	AH5
5.e.	Mashhad – Sarakhs – Tejen	NA	AH75
5.f.	Mazar-i-Sharif – Polekhumri – Kabul – border with Pakistan	NA	AH76, AH7, AH1
5.g.	Mazar-i-Sharif – Polekhumri – Nizhniy Panj – Dushanbe – Sary-Tash	E123, E60	AH76, AH7, AH65
5.h.	Termez – Dushanbe – Vakhdat – Kulob – Khorugh – Murgab – Kashi	E60, E009, E008	AH65, AH66, AH4
5.i.	Constanta (Port) – Haydarpasa (Port)	NA	NA
5.j.	Ilyichevsk (Port) – Derince (Port)	NA	NA
5.k.	Tashkent – Aybek – Kodjent – Andarkhan – Kokand	E006	N
6.	Torfyankovka - St. Petersburg – Moscow – Volgograd – Astrakhan/Alya (Port) – Anzali (Port) – Qazvin - Tehran – Bandar Abbas (Port)	E105, E119, E40	AH8, AH1, AH2, AH70
6.a.	Astrakhan (Port) – Alya (Port) – Samur – Yalama - Baku (Port) – Astara (Azerbaijan) – Astara (Iran) – Qazvin – Tehran	E119	AH8
6.b.	Astrakhan (Port) – Amirabad (Port) – Sari	NA	AH70
6.c.	Astrakhan (Port) – Alya (Port) – Aktau (Port) – Beineu	E121	AH70
6.d.	Qazvin – Saveh – Ahvaz – Bandar Emam (Port)	NA	AH8
6.e.	Tehran – Qom – Esfahan – Shiraz – Bushehr (Port)	NA	AH72
6.f.	Eserdar – Guduroolum – Inche Boroun – Gorgan – Sari – Semnan – Damghan – Yazd – Anar – Bandar Abbas (Port)	E 121	AH70
6.g.	Astrakhan – Atyrau (Port) – Makat – Beyneu – Aktau (Port) - Turkmenbashi (Port) – Ashgabat – Tegen – Saras – Sarakhs – Mashhad – Birjand – Nehbandan – Dastak – Zahedan – Chabahar (Port)	E40, E121, E60	AH70, AH5, AH75
7.	Murmansk (Port) - Petrozavodsk – St. Petersburg (Port)– Pskov – Ostrov – Gomel – Kiev – Odessa (Port) / Ilyichevsk (Port)	E105, E95	NA

Notes:

1. Italicized sections are located in countries which are not participating in the project or have not confirmed their inclusion.
2. Numbering is indicative only.
3. Turkey's border with Armenia is currently closed.



\* Part of proposed Euro-Asian Roads in Turkey.

**Table x.3 Inland Water Transport Linkages**

	<b>Country</b>	<b>From – To</b>	<b>E- No. or other international ref. No.</b>
1	Bulgaria	Danube Km 610 - Km 374	Corridor VII, E-80
2	Kazakhstan	Sr.Trekinskiy Yar – Peshnoi island – entering buoy of Uralo-Caspian channel (the Ural river)	
3	Moldova	Prut river from the mouth to Ungheni (0 - 559 km)	E 80-07
4	Moldova	Dniester river from the port Belgorod-Dnestrovsky (Ukraine) to Bender (0 - 667 km)	E 90-03
5	Romania	Danube km. 1.075 – km. 863	Corridor VII E-80
6	Romania	Danube km. 863 - km. 175	Corridor VII E-80
7	Romania	Danube km. 175 - Mm. 0	Corridor VII E-80
8	Romania	Danube – Black Sea Canal	E-80-14
9	Romania	Poarta Alba – Midia – Navodari Canal	E-80-14-01
10	Russian Federation	St Petersburg - Svir - Cherepovets - Rybinsk - Nizhniy Novgorod - Kazan - Samara - Saratov - Volgograd - Krasnoarmeysk - Astrakhan (port) - Caspian Sea (includes Volgo-Baltiyskiy Vodniyput)	North-South Waterway (NSW), E-50
11	Russian Federation	(Rybinsk) - Moskva - Riazan – Nizkhniy Novgorod (includes Kanal im. Moskvi)	NSW, E-50-02
12	Russian Federation	Azov - Rostov-na-Donu - Oust-Donetsk - Krasnoarmeysk – Astrakhan (port) – Caspian Sea	NSW4, NSW, E-90
13	Turkey	Lake Van (Tatvan – Van)	
14	Ukraine	Route No.9 Dniپر river ( on regulate condition)	E-40
15	Ukraine	River Danube, border between Ukraine/Moldova - cape Izmailskii Chatal	E – 80
16	Ukraine	Danube-Kilia Arm, cape Izmailskii Chatal -sea approach canal (Bistroe Arm Outlet)	E – 80 – 09

**Table x.4 Inland River Ports Along Selected IWT Linkages**

No	Country	Name and Location
1	Bulgaria	Port Complex Rousse (P 80-56) Danube, km 489.300, km 496.050
2	Bulgaria	Rousse East
3	Bulgaria	Rousse West
4	Bulgaria	Port Complex Lom (P 80-53) Danube, km 742.300
5	Bulgaria	Port Vidin, Danube, from km 785 400 to 793 500
6	Kazakhstan	Atyrau River Port (Ural, km ...)
7	Kazakhstan	Pavlodar River Port (Ural, km ...)
8	Moldova	Bender (P 90-03-02) , Dniester, km 228.0
9	Moldova	Rîbnița, Prut, km ...
10	Moldova	Ungheni, Prut, km ...
11	Moldova	Giurgiulești (P 80-62) Danube, km 133.0
12	Romania	Sulina, Danube, km 0
13	Romania	Tulcea (P 80-64), Danube, km.71
14	Romania	Galati (P 80-61), Danube, km.150
15	Romania	Braila (P 80-60), Danube, km.170
16	Romania	Giurgiu (P 80-57),Danube, km.493
17	Romania	Calafat, Danube, km.795
18	Romania	Drobeta Turnu Severin (P 80-51),Danube, km 931
19	Romania	Orsova (P 80-50),Danube, km.954
20	Romania	Moldova Veche, Danube, km.1048
21	Russian Federation	St. Peterburg River Port (P 50-02) Neva, km 1 385
22	Russian Federation	Yaroslavl River Port (P 50-05) Volga, km 520
23	Russian Federation	Nizhni Novgorod River Port (P 50-06) Volga, km 907
24	Russian Federation	Kazan River Port (P 50-07) Volga, km 1313
25	Russian Federation	Samara River Port (P 50-09) Volga, km 1746
26	Russian Federation	Volgograd River Port (P 50-11) Volga, km 2560
27	Russian Federation	Ust-Donetsk River Port (P 90-05) Don, km 2997

No	Country	Name and Location
28	Russian Federation	Rostov-na-Donu River Port (P 90-05) Don, km 3134
29	Russian Federation	Azov River Port (P 90-03) Don, km 3168
30	Russian Federation	Yeysk River Port (P 90-02) Don, Taganrog Bay of the Azov Sea
31	Turkey	Tatvan Port (rail ferry port on Lake Van)
32	Turkey	Van Port (rail ferry port on Lake Van)
33	Ukraine	Reni (P 80-63) Danube, 128 km Danube
34	Ukraine	Izmail (P 80-09-01), Danube-Kilia Arm, km 93
35	Ukraine	Kiliia (P 80-09-02), Danube-Kilia Arm, km, 48
36	Ukraine	Ust'-Dunaisk (P 80-09-03), Danube-Kilia Arm, km 1.0
37	Ukraine	Belhorod-Dnestrovskii (P 90-03-01), Dnestrovskii Liman, Black sea
39	Ukraine	Kherson (P 40-12), Dniper, km 28
40	Ukraine	Kiev River Port
41	Ukraine	Odessa River Port, Black Sea
42	Ukraine	Cherkassy river port (P 40-06), Dniper, km 653
43	Ukraine	Kremechuk river port (P 40-07), Dniper, km 541
44	Ukraine	Dneprodzerzhinsk river port (P 40-08), Dniper, km 429
45	Ukraine	Dnepropetrovsk river port (P 40-09), Dniper, km 393
46	Ukraine	Zaporizhya river port Stock insurer company «Ukrrechflot» (P 40-10), Dniper, km 308
47	Ukraine	Nova Kakhovka river port (P 40-11), Dniper, km 96
48	Ukraine	Khersonskii river port, Stock insurer company «Ukrrechflot» Dniper, km ...

Notes:

Numbering is for reference only. Where relevant, references to the International Agreement on Inland Waterways of International Importance (AGN) are indicated.

This part reflects the latest updates of the proposed Euro-Asian Transport Links in the territories of the new EATL countries (those that joined in Phase II), as well as some updates proposed by Russian Federation and Turkey. The Expert Group requested the secretariat to make final updates, in consultation with the countries concerned, and to finalise it for the next meeting.

The secretariat was in continuous contact with the National Focal Points (NFPs) and relevant authorities of concerned countries for their comments/inputs on questions contained in the document presented at the Tashkent meeting.

With a view to cover all project region, and ensure continuity with the EATL routes of Phase I, when no information received by a country, the secretariat had made proposals based on existing international road and rail transport agreements and current EATL routes.

The proposed new routes are reflected mostly in the respective extracts of the AGC/AGTC and Trans Asian Railway maps and the AGR and Asian Highway maps, for easy reference. Routes that are not currently part of these networks are shown in *italics*.

This document (Informal Document No. 1-Cor. 2) is the revision of the one presented at the Fifth EATL Expert Group Meeting in Tashkent, reflecting the decision of the Expert Group on the final shape of the extended EATL routes of Phase II and comments made. This document is, therefore, presented to the Sixth session of the Group of Experts on Euro-Asian Transport Links.

**Modes:**

- I. Rail routes
- II. Road routes
- III. Inland Water Transport routes and ports
- IV. Sea ports

**Countries/areas covered (some countries are considered together due to the routing of the linkages):**

- A. Afghanistan
- B. Finland
- C. Greece
- D. Latvia
- E. Lithuania
- F. Luxembourg, Germany and Poland<sup>55</sup>
- G. Mongolia
- H. Pakistan
- I. Russian Federation
- J. The former Yugoslav Republic of Macedonia
- K. Turkey

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<sup>55</sup> Poland is not a member to EATL Project.. However, the consideration of some links passing through its territory was considered indispensable in order to ensure the continuity of the EATL routes.

# I. RAIL ROUTES

## A. Finland



	Route	Comment	AGC/ AGTC	TAR
1	Hanko (port)/Turku (port) – Helsinki – Riihimäki – Kouvola – Vainikkala (border FIN) – Luzhaika (border RUS)	Connect to Rail Routes 1.a., 2.a., 5, 9	E10 / CE10, C10/2	N



## Greece



	Route	Comment	AGC/ AGTC	TAR
1	Frontier with TR and BG borders – Alexandroupolis – Komotini – Drama [Kavala port terminal Nea Karvali] - Serres –Thessaloniki – Athens – Piraeus – Neo Ikonion Container Terminal (Piraeus Port)	Connect to Rail Route 4	C70/2 CE85	N
2	Thessaloniki – Idomeni (border GR) – Gevgelia (border fYRoM) - Skopje	Connect to Rail Route 4	CE85	N
3	Thessaloniki – Promachon (Border GR) – Kulata (Border BG) - Sofia	Connect to Rail Route 4 and 3. h	CE855	N

## B. Latvia



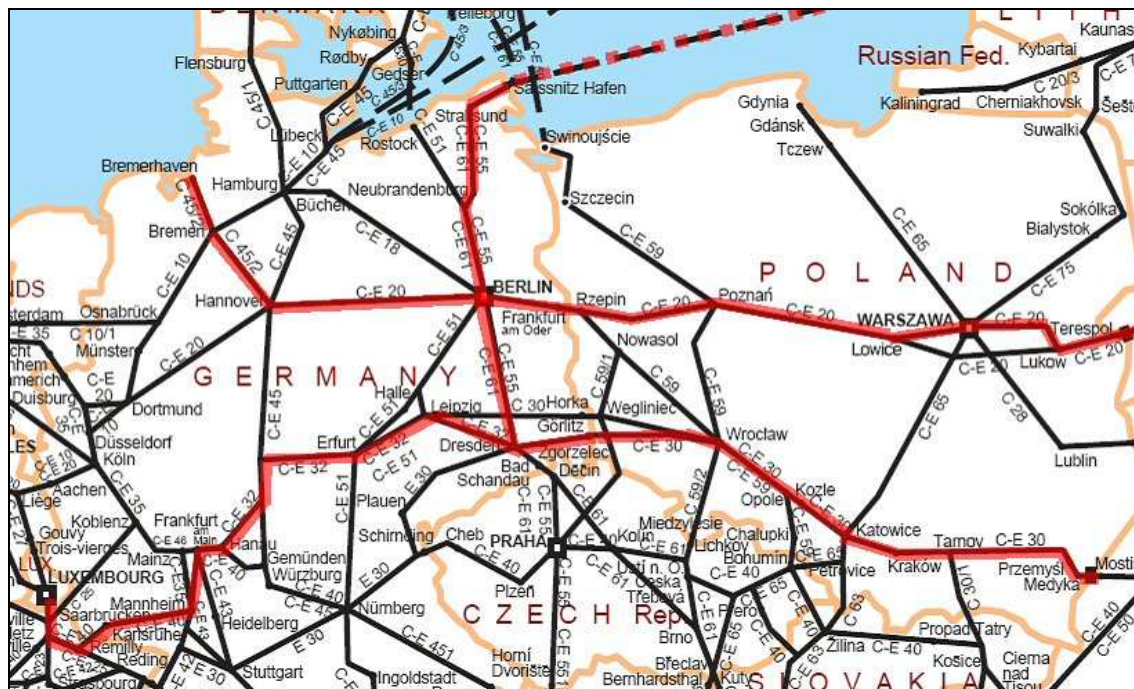
	Route	Comment	AGC/ AGTC	TA
1	Ventspils (port) – Takums II – Jelgava – Krustpils – Rezekne – Zilupe (border LVA) – Raz. Psinj (border RUS) – Novosokol’niki – Ržev – Moscow	Connect Rail Route 1 (till Moscow)	C12/ CE12	N
2	Liepaja (port) – Jelgava	Connect to Rail Route 1	C12/ CE12	N
3	Riga – Krustpils – Daugavpils – Indra (border LVA) – Bigosovo (border BLR) – Polak – Vicebsk – Orsha – Zlobin	Connect to Rail Route 8.b. (see comment below)	C14 / CE14, C95/2	

## D. Lithuania



	Route	Comment	AGC/ AGTC	TAR
1	(Kaliningrad Port) - Nesterov (border RUS) – Kybartai (border LTU) – Kazlu Ruda – Kaunas – Kaisiadorys – Vilnius – Kena (border LTU) – Gudagai (border BLR) – Maladzecna – Minsk	Missing link in Rail Route 1.e. and 2.b.	C20/3	N
2	Sassnitz port (Germany) – Draugyste (Klaipeda port, LTU) – Siauliai – Radviliskis – Kaunas (Mukran – Draugyste is a ferry crossing)	Connect to Rail Route Groups 1 and 2 as another subroute.	C20/3	N

## E. Luxembourg, Germany and Poland



	Route	Comment	AGC/ AGTC	TAR
1	Berlin/Seddin – Frankfurt (Oder) (border GER) – Border POL – Kunowice – Poznan – Warszawa – Terespol (border POL) – Brest (border BLR)	Could be the starting points for Rail Route groups 1 and 2.	E20 / CE20	N
2	Luxembourg – border LUX – border FRA – Thionville – Metz – Remilly – Forback (border FRA) – Saarbrücken (border GER) Ludwigshafen – Mannheim – Frankfurt (M) – Hanau – Erfurt – Leipzig – Dresden – Gorlitz (border GER) – Zgorzelec (border POL) – Wrocław – Katowice – Krakow – Przemysl – Medyka – Mostiska (border UKR)	Could be starting point for Rail Route group 6.	CE23, CE40, CE32, CE30	N
3	Warsaw – Berlin to Hamburg – Bremen – Bremerhaven, with a link Berlin – Dresden	Linking Rail Route groups 1 and 2 to West.	C45/2 CE20 CE55	N
4	Sassnitz port – Berlin	Linking Rail Route group 1	CE55	N



## F. Mongolia



	Route	Comment	AGC/ AGTC	TAR
1	Naushki (border RUS) – Hoit (Border MON) – Ulaan Bataar – Zamyn Uud (Border MON) – Erenhot (Border CHN) – Beijing – Tianjin (port) and to Jinan - Nanjing	Connect to Rail Routes 1.c. and 6.b.	N	Y

## G. Pakistan



	<b>Route</b>	<b>Comment</b>	<b>AGC/ AGTC</b>	<b>TAR</b>
1	Mirjaveh (border IRN) – Koh-i-Taftan (border PAK) – Dalbandin – Spezand - Rohri – Hyderabad – Karachi (port)	Extension of Rail Route 4.c.	N	Y
2	Karachi - Rohri – Lahore – Rawalpindi – Islamabad – Peshawar	Extension of Rail Route 4.c.	N	Y



## H. The former Yugoslav Republic of Macedonia



	Route	Comment	AGC/ AGTC	TAR
1	Bujanovac (Serbia) – Tabanovce (FYRoM) – Kumanovo and Other border to FYRoM– Skopje	Connect to Rail Route 3.h.	CE85	N
2	<i>Bulgaria Border Crossing – Deve Bair (FYROM) – Kriva Palanka – Beljakovce – Kumanovo – Skopje – Kicevo (fYRoM) – Struga – Lin (ALB)</i>	Connect to Rail Route 4 and 3.h		
3	Skopje – Gevgelia (border fYRoM) - Idomeni (Border GRC) – Thessaloniki (port)	Connect to Rail Route 4	CE85	N

## II. ROAD ROUTES

### A. Afghanistan



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Border with Pakistan – Kandahar – Herat	Connect to road route 5	N	AH7,

## B. Finland



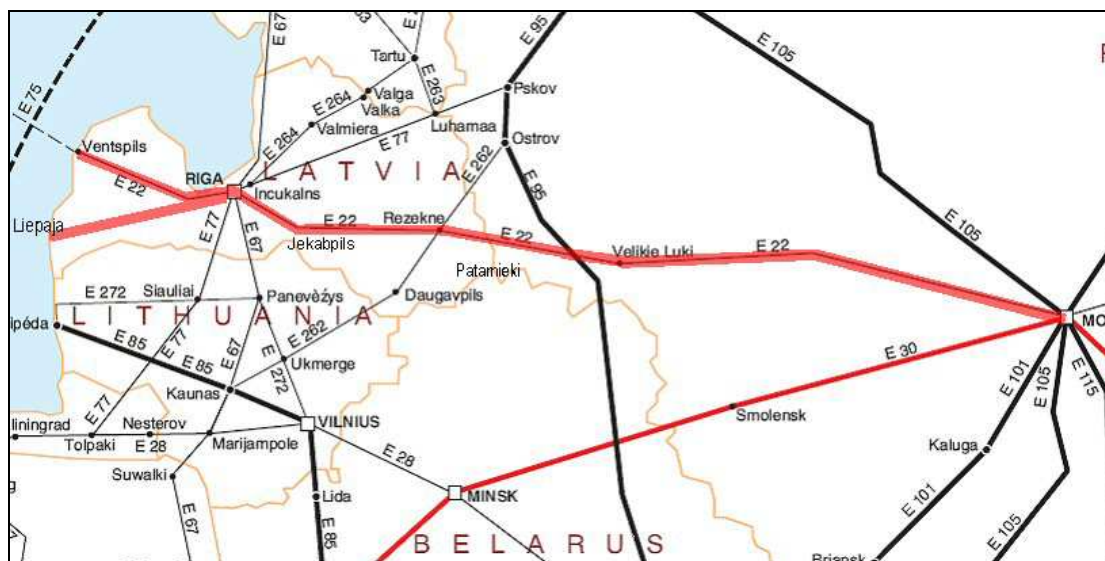
	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	<i>Turku (port) – Helsinki –Vaalima – (border RUS) – Buslovskaya</i>	Connect to EATL Road Routes 1, 2, 6	E18	N

### C. Greece



	Route	Comment	AGR	AH
1	Frontier with fYRoM and Sofia - South Western frontier of Bulgaria/Greece, Thessaloniki – Larissa – Athens – Pireaus (Port) - Neo Ikonio (Piraeus Container Terminal)	Extension of Road Route 5	E75 E79 E90	N
2	Frontier with Bulgaria/frontier with Turkey – Alexandroupolis – Kavala – Thessaloniki – Kozani – Ioannina – Igoumenitsa	Extension of Road Route 5 and new subroute 5c	E85 E84 E87 E90	N
3	Ioannina – Albanian frontier	Extension of Road Route 5	E853	N

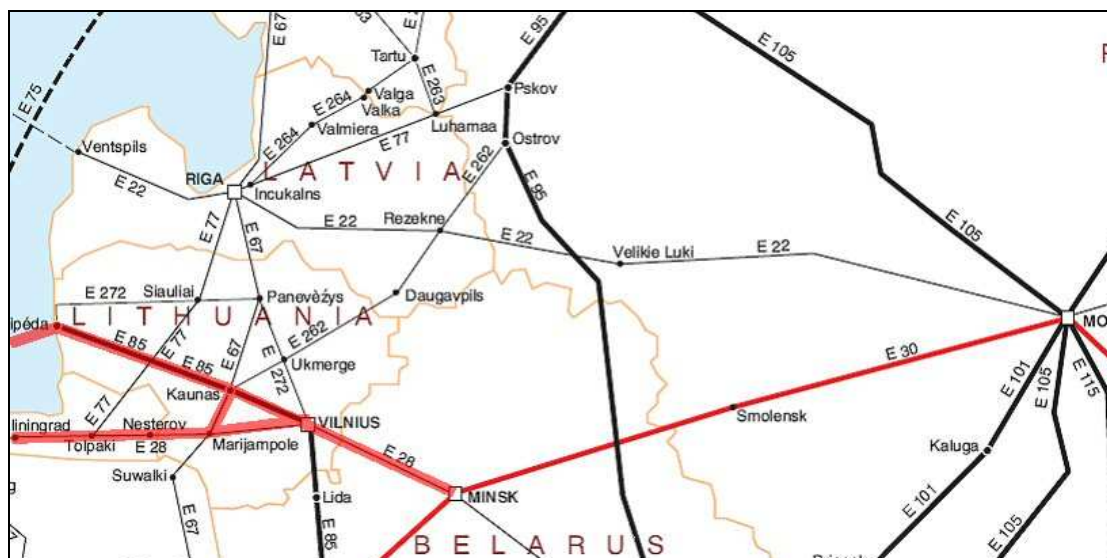
## D. Latvia



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Ventspils (port) – Tukuma – Jurmala – Riga – Ogre – Zilupe (border LVA) – Raz. Psinj (border RUS) – Novosokol’niki – Ržev – Moscow	Connect Road Route 1	E22	N
2	<i>Liepaja (port) – Jelgava - Riga</i>	Connect to Road Route 1	N	N



## E. Lithuania



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Sassnitz port (Germany sea link) – Draugyste (Klaipeda port, LTU) - Klaipeda (port) – Kaunas – Vilnius – Medininkai (border LTU) – Border BLR – Minsk	Subroute under Road Route groups 1 and 2.	E85, E28	N
2	Nesterov (border RUS) – Kybertai (border LTU) –Marijampole – Kaunas – Vilnius in addition Marijampole-Vilnius	Missing part of Road subroute 3.c.	E28, E67	N



## F. Luxembourg, Germany and Poland

The secretariat identified the following EATL links based on the project information submitted by the Government of Germany and the AGR network:



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Berlin/Seddin – Frankfurt (Oder) (border GER) – Border POL – Kunowice – Poznan – Warszawa – Terespol (border POL) – Brest (border BLR)	Connect to Road Route 1 and extend it further west	E30	N
2	Luxembourg – border LUX – border FRA – Thionville – Metz – Remilly – Forback (border FRA) – Saarbrücken (border GER) Ludwigshafen – Mannheim – Frankfurt (M) – Giessen – Eisenach - Gera – Dresden – Gorlitz (border GER) – Legnica – Wrocław – Katowice – Krakow – Przemysl – Medyka – Mostiska (border UKR)	Connect to Road Route 1 and 2	E40	N
3	Warsaw – Berlin to Hamburg – Bremen – Bremenhaven with a link also Berlin - Dresden	Link with Bremenhaven	E26, E234	N
4	Sassnitz (port) – Stralsund – Neubrandenburg - Berlin	Link with sea route Kalipeda (LTU)		

## G. Mongolia



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Naushki (border RUS) – Hoit (Border MON) – Ulaan Bataar – Zamyn Udd (Border MON) – Erenhot (Border CHN) – Beijing – to Tianjin (port) and to Xuzhou - Nanjing	Connect to Road Routes 1.c. and 6.b. And Routes 2, 3, 4 and 5	N	Y (AH3)

## H. Pakistan



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Kunjerab (border Pakistan – China) – Gilgit – Besham – Mansehra – Hasanabdal - Rawalpindi – Kharian – Lahore – Okara – Multan – Bahawalpur – Sukkur – Hyderabad	Connect to Road Route 5a, 5f	N	Y
2	Islamabad – Peshawar –Torkham	Connect to Road Route 5a, 5f	N	Y
3	Peshawar – D.I. Khan – Zhob - Quetta	Connect to Road Route 5a	N	Y
4	Lakpass – Nushki – Dalbandin – Taftan	Connect to Road Route 5a, 5f	N	Y
5	Karachi – Bela – Wad – Kalat – Quetta - Chamman	Connect to Road Route 5a, 5f	N	Y

## I. Russian Federation



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Khazan – Orenburg – Sol'lyetsk – Aktyubinsk (Kaz)	Link to Road Route 3	E22 E38	Y

**J. The former Yugoslav Republic of Macedonia**



	<b>Route</b>	<b>Comment</b>	<b>AGR</b>	<b>AH</b>
1	Bujanovac (Serbia) – Tabanovce (FYRoM) – Kumanovo – Skopje – Dracevo – Titov Veles – Negotino Gevgelija – to Thessaloniki (Greece)	Connect to Road Route 5c	E75	N
2	Bulgarian border crossing – Deve Bair (FYROM) – Kriva Palanka – Beljakovce – Kumanovo – Skopje – Tetovo – Gostivar – Kicevo (FYROM) – Struga/Ohrid – Lin (ALB)	Connect to Road Route 5c	E871, E65	



## K. Turkey



	Route	Comment	AGR	AH
1	Izmit Bati 2 Junction – Yalova – Bursa Motorway Link Road Junction – Karacabey K131 – Bigadiç Junction – Gölcük Junction – Izmir - Çeşme	New Road subroute 5.l.	E881	
2	Gerede – Ankara – Aksaray – Konya Ereğli Junction – Pozanti – Mersin (port)	New Road subroute 5.m.	E89, E90	
3	Greek/Turkish border– Kesan – Lapseki – Bursa – Eskisehir – Sivrihisar – Ankara – Aksaray – Pozanti (link to Mersin) – Adana –Gaziantep – Sanliurfa – Mardin – Habur (frontier with Iraq) - Zakho - Tebriz - Quazvin - Tehran	New Road subroute 5.c.	E90	

## III. NEW PROPOSED INLAND WATER TRANSPORT ROUTES AND PORTS

### *Inland water transport routes*

Country	River	Route	Shared with	AGN
Lithuania	Nemunas	Klaipeda - Jurbarkas - Kaunas	Russia	E41

### *Inland Water Transport Ports*

Country	Name	x	y	Intl_Ref_AGN
Lithuania	Jurbarkas	6105097 (LKS ) B-55° 04` ,5138	420239(LKS)L-22° 45` , 0599	P41-03
	Kaunas	6083751 (LKS) B-54o 53` , 3887	420239 (LKS) 23°5` , 3345	P41-04
	Klaipėda <sup>2</sup>	55° 43'	21° 07'	P41-01

### **IV. NEW PROPOSED SEA PORTS**

Country	Port	Comment
China	Tanggu	
Latvia	Freeport of Riga	
	Freeport of Ventspils	
	Liepaja Port	
Lithuania	Klaipeda Seaport	
Germany	Sasnitz Port	Linked with Draugyste (Klaipeda port, LTU)
Greece	Alexandroupolis Port	Identified in EATL Phase I
	Kavala Port	EATL Phase I
	Thessaloniki Port	EATL Phase I
	Igoumenitsa Port	EATL Phase I
	Piraeus Port	Neon Ikonion Container Terminal
Kazakhstan	Aktau Port	
	Atyrau Port	
Pakistan	Karachi Port	
	Gwadar Port	
Russian Federation	Kaliningrad Port	
	Ust - Luga Port	
Turkey	Filyos Port	
	Mersin Container Port	
	Candarli Port	
Turkmenistan	Bekdash Port	
	Turkmenbashy Port	



### 3. Maps (interregional and national)

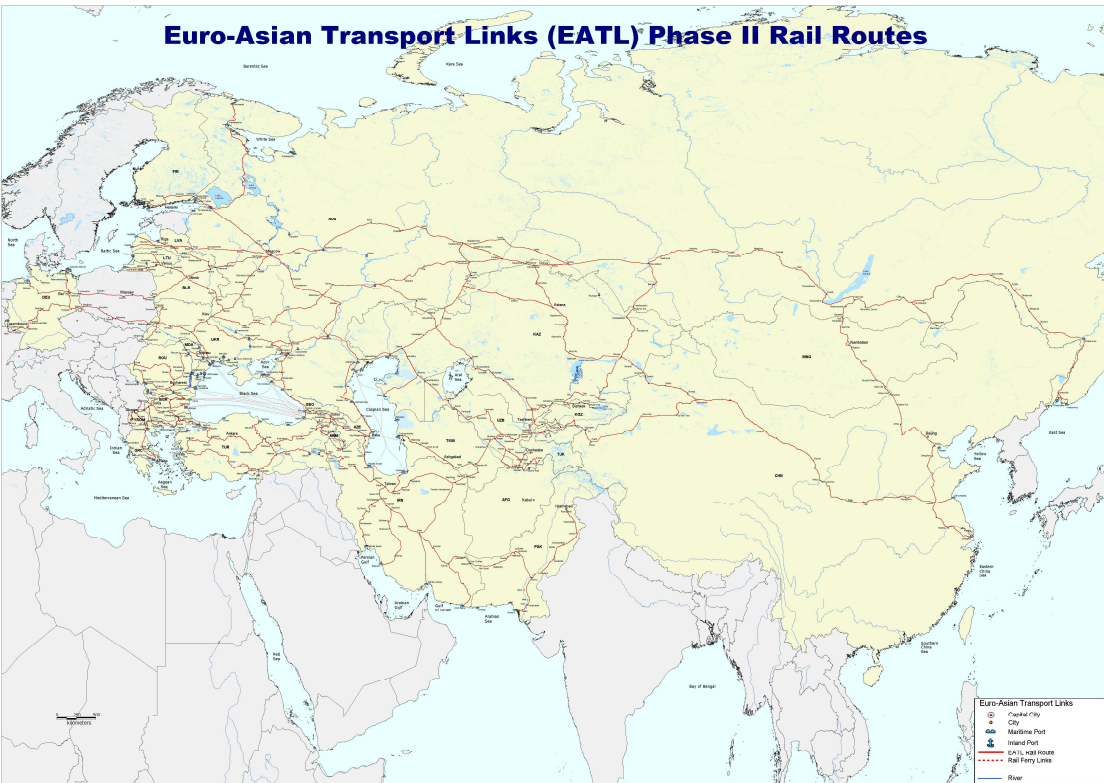
#### (a) Presentation of Interregional maps



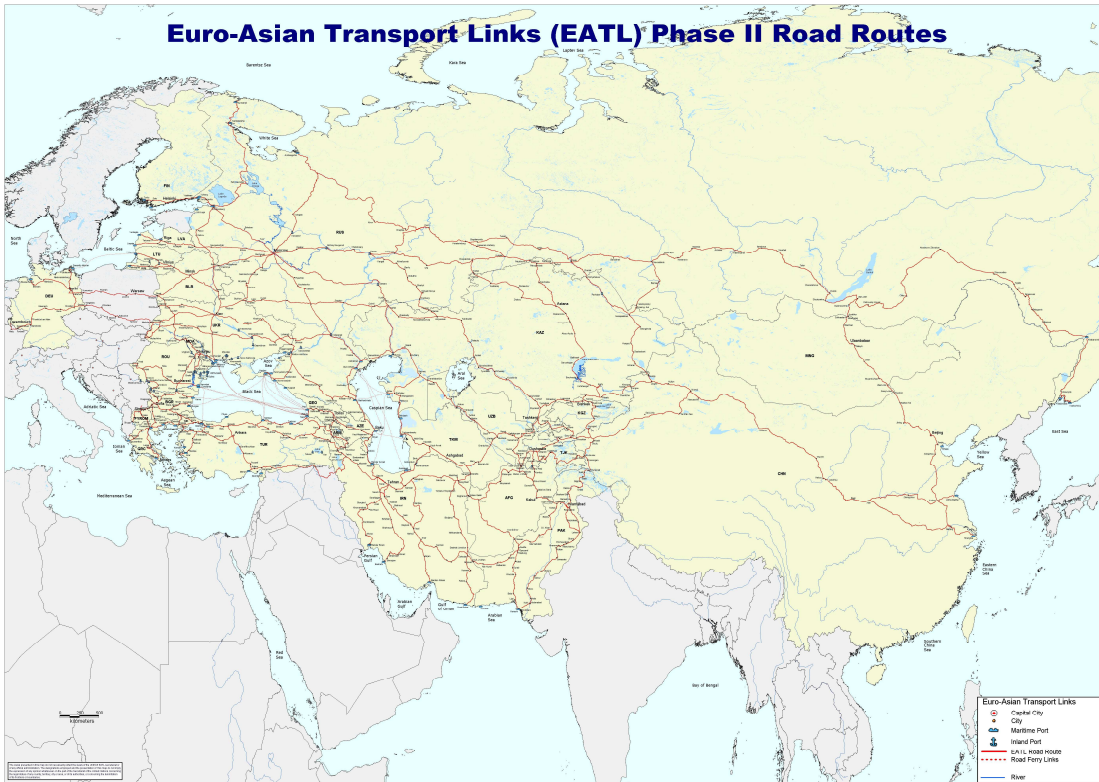
## UNECE Euro-Asian Links Project Phase II Extensions of Road Routes



## Euro-Asian Transport Links (EATL) Phase II Rail Routes

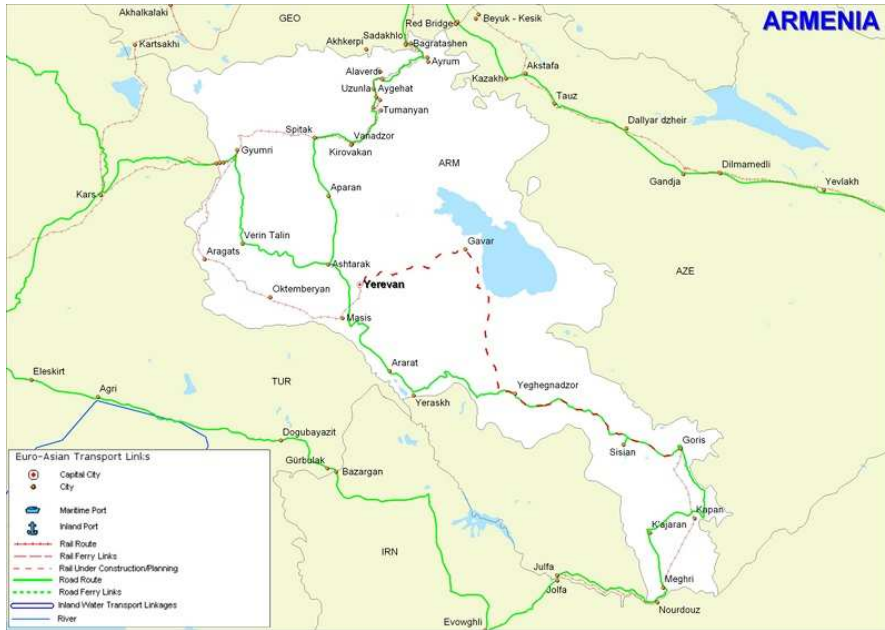






(b) Presentation of country maps

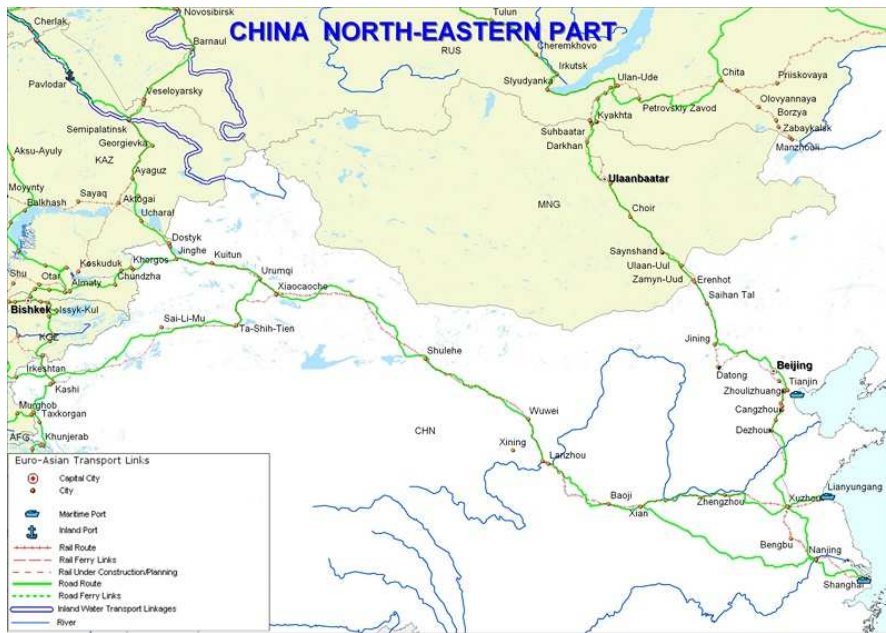




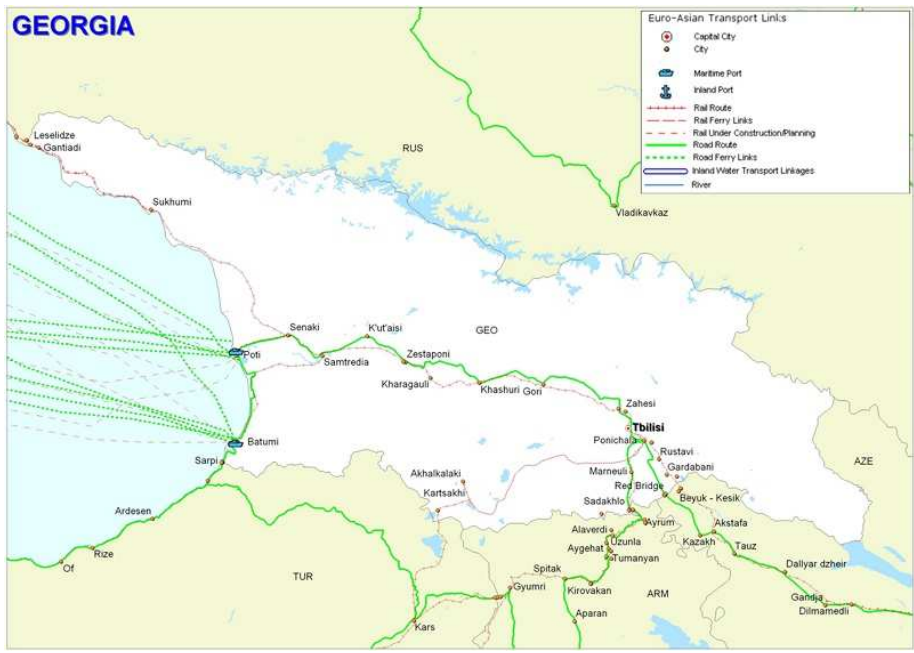




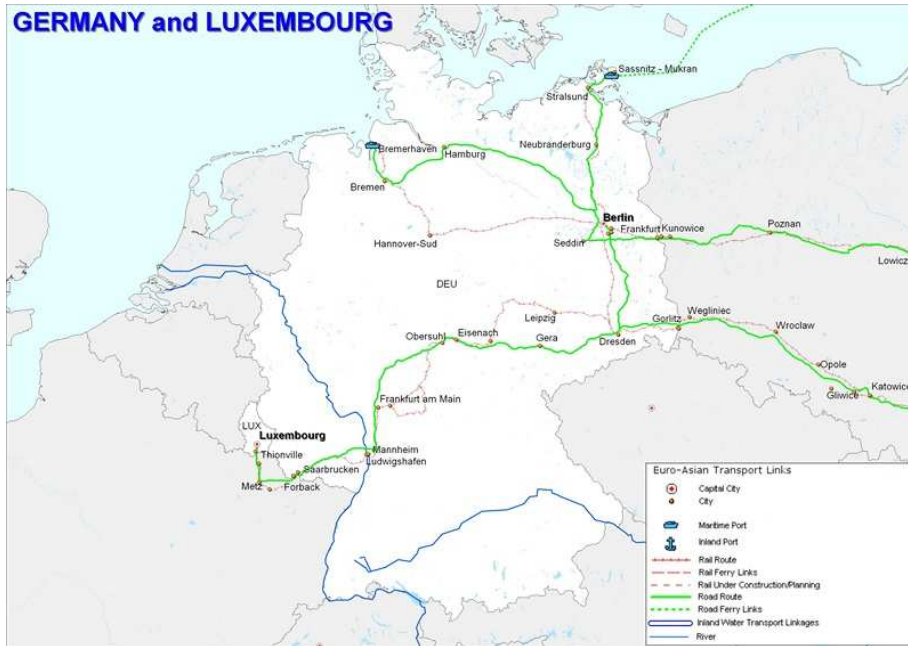








## GERMANY and LUXEMBOURG



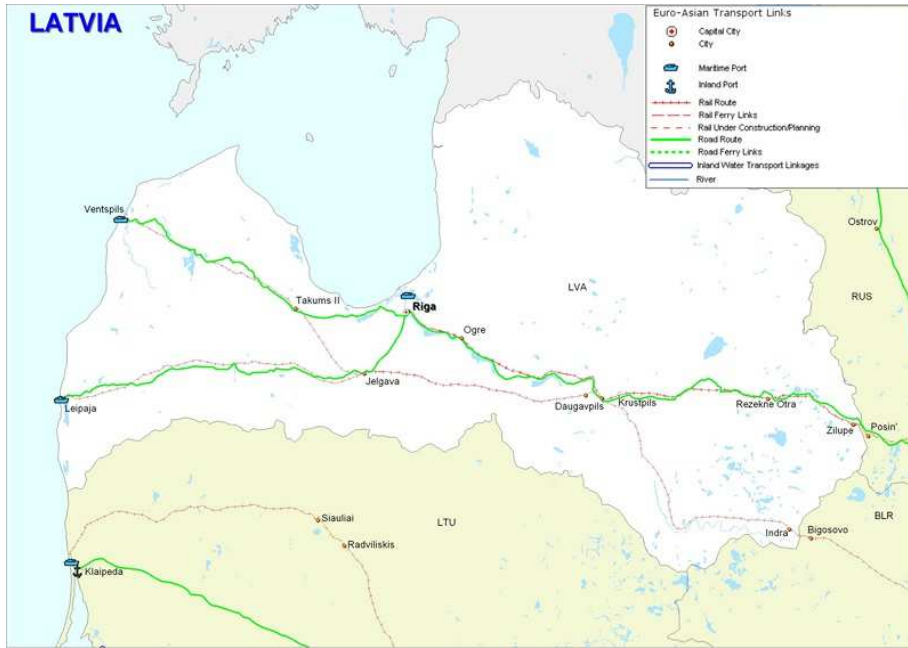
## GREECE







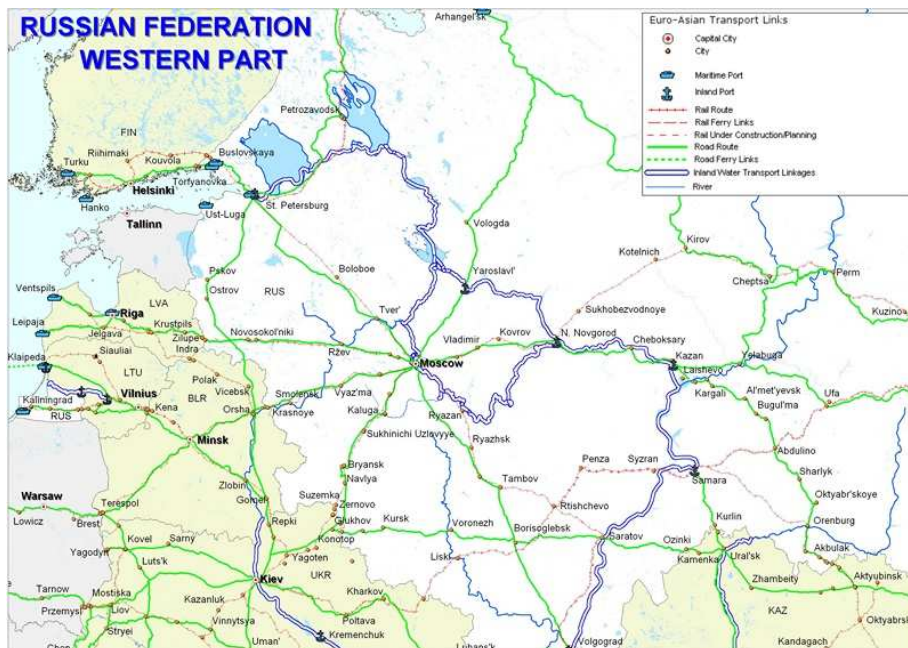






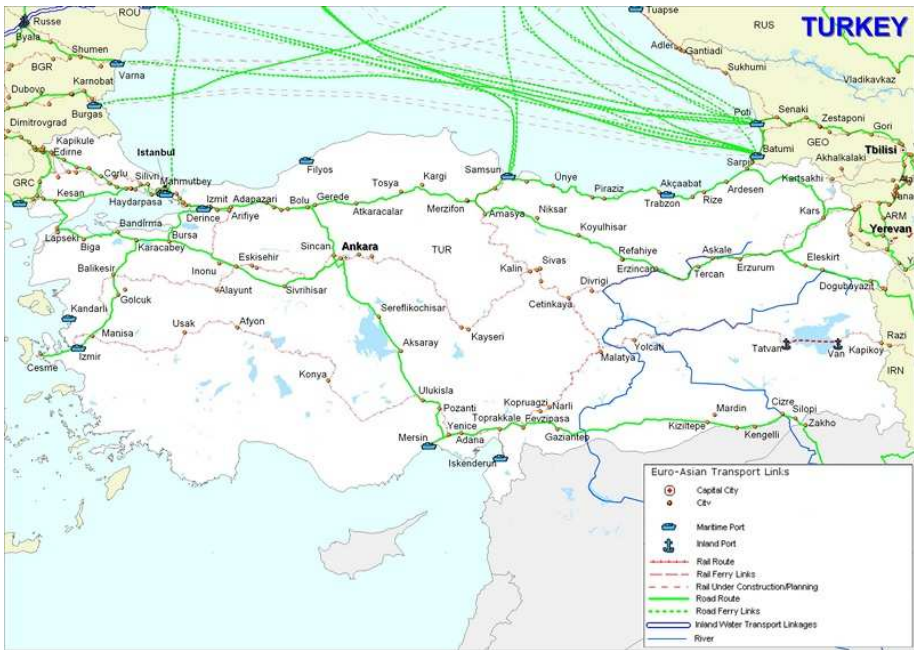














## B. Reviewing, extending and updating priority projects identified in Phase I

### 1. Methodology

## INTRODUCTION

### Background

The Euro-Asian Transport Links (EATL) Project Phase I was a joint undertaking between the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). In close cooperation with designated National Focal Points (NFP) from 18 countries in the Euro-Asian region, the EATL project identified main Euro-Asian road and rail routes for priority development and cooperation. Fifteen countries participated in the projects' prioritization exercise of EATL Phase I and made proposals, namely: Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan.

Phase I of the project was carried out from 2002 to 2007. UNECE and UNESCAP have elaborated a joint proposal for a Phase II to be implemented during a four-year period, ranging from 2008 to 2012. One of the activities foreseen for Phase II is the revision (updating) of the EATL priority transport infrastructure projects and the development of an international investment plan under EATL Project Phase II.

To this end, a review and update of the list of EATL Phase I priority projects will be carried out, and a new interregional investment plan of priority projects of EATL Phase II will be developed, based on country inputs received through uniform

questionnaires and templates. More specifically, the current study includes the following tasks:

- Assess the status of implementation of projects identified under EATL Phase I, including analysis of their implementation rate, reasons of progress or lack of progress, based on country inputs.
- Review and update of projects identified under EATL Phase I, to be included in a new investment plan of EATL Phase II.
- Establish a methodology for the prioritization of new proposed projects to be included in the new investment plan of EATL Phase II.
- Collect and analyse information on new projects based on country inputs, prioritize these through the application of the proposed methodology and include them in the new investment plan of EATL Phase II.

## **Scope of report**

Based on the above, the scope of the present document is to provide an overview of the methodology developed for the prioritization of the proposed projects to be included in the new investment plan of EATL Phase II. The report will also identify the type of data required for the elaboration of the proposed methodology and describe the data collection process.

## **METHODOLOGY FOR PROJECT PRIORITIZATION**

### **Introduction**

The framework for the prioritization of new proposed projects to be included in the investment plan of EATL Phase II entails the development of a methodology for the identification of proposed projects and their grouping into one of the specified implementation time periods, identical to the one developed for the purpose of EATL Phase I project prioritization, in order to ensure consistency of the projects identified under the two EATL phases. This methodology was developed by the external consultant Professor Dimitrios Tsamboulas and is well documented in the related Report<sup>56</sup>. Nevertheless, a brief description of the methodology in hand is included in the present document for reasons of completeness.

The method proposed is straightforward, and it is based on the well established Multi-Criteria Analysis (MCA). The application of the method will identify these projects that are likely to be implemented in selected time periods (short term, medium term, long term) and at the same time address the specific objectives of the countries and the international character of the projects.

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<sup>56</sup> Economic Commission for Europe and Economic and Social Commission for Asia and the Pacific. "Joint Study on Developing Euro-Asian Transport Linkages", United Nations, New York and Geneva, 2008.



This method establishes preferences between options by reference to an explicit set of objectives that the decision making body (e.g. Ministry of Transport/Infrastructure) has identified, and for which it has established measurable criteria to assess the extent to which the objectives have been achieved. These criteria are defined through observations, discussions, experimentations and trial-and-error processes. Although there is an inherent subjectivity associated with this method, it is believed that it can bring a degree of structure, analysis and openness to classes of decision. The preferences are merely related to the time frame/periods of the projects implementation. Four time frames/periods are selected, as will be described in the following.

Consequently, no evaluation is carried out for the projects, since this would require a vigorous feasibility study for each project with the same measurement values and then cross-evaluation of the projects between the participating countries. Nevertheless, in the case that the countries have carried out an evaluation/feasibility study, the results of such study (e.g. IRR) will be taken into consideration.

## Overview of the Methodology

The proposed methodological framework for project prioritization is structured in three phases, i.e. *identification*, *analysis* and *time period classification*, in order to secure the inclusion of the sum of all proposed EATL projects in the revision of the EATL investment strategy.

The definition of “project”, as specified in the original EATL methodology, is the following:

**Definition of Project:** A project is considered a new construction or the upgrade/rehabilitation of a transport infrastructure section. Also a project can be the construction or the upgrade/rehabilitation of a transport terminal/port (maritime or inland waterways) etc. The infrastructure section can vary in length however it should constitute an expenditure of almost 10 million \$. An exception of the latter mentioned rule applies if the project involves a missing link or a bottleneck.

Based on the above, the following types of projects will be considered in the present prioritization exercise:

- i) Completed projects, as submitted in the EATL Phase I, during the period that elapsed, and projects of EATL Phase I for which no change is reported.
- ii) Projects of EATL Phase I, as submitted in the EATL Phase I, updated or revised, including those for which additional data is provided.
- iii) Any new projects submitted, from both the group of countries that participated in EATL Phase I and new countries involved in the EATL Phase II

The phases of the proposed methodology are briefly described in the next sections below:

### ***Phase A-Identification***

The identification phase entails the recording of prospective projects, based on their readiness and funding possibilities, as well as the common-shared objectives of responsible authorities, national or international, and the collection of readily available information/ data regarding these projects.

### ***Phase B – Analysis***

The analysis is carried out with the application of the well-established multi-criteria approaches, such as the direct analysis of criteria performance, Pair Comparison Matrix and MAUT (Multi Attribute Utility Theory). Both approaches were used in the original EATL Master Plan.

It should also be noted that the set of criteria used will be the same with those used in EATL Phase I.

### ***Phase C – Time Period Classification***

In the final phase, the selection of projects is carried out according to their “performance” score. Based on the latter, projects are classified into four Time Period Categories (I, II, III and IV), each related to a specified time horizon, as follows:

- **Category I:** projects, which have funding secured and are on-going and expected to be completed in the near future (**up to 2013**).
- **Category II:** projects, which may be funded or their plans are approved and are expected to be implemented rapidly (**up to 2016**).
- **Category III:** projects requiring some additional investigation for final definition before likely financing and implemented (**up to 2020**).
- **Category IV:** projects requiring further investigation for final definition and scheduling before possible financing, including projects, for which insufficient data existed. (**most likely to be implemented after 2020**)

## **Compliance with EATL Phase I**

Although the same methodology of EATL Phase I is also applied for the case of EATL Phase II, a number of issues that should be taken into account, as follows:

- Updating EATL projects entails the identification and grouping of projects into one of four implementation time periods that will not be the same with those specified in EATL Phase I, since the time period considered in Phase II

differs to the one of Phase I. Proposed implementation periods and categories for EATL Phase II were described in the previous Section 2.2.3 in the above.

- A number of projects under EATL Phase I were placed in category IV due to lack of essential data. This data might become available during the data collection of EATL Phase II, and hence, if provided, a number of these projects may score higher rates and be placed in one the other three categories (I, II or III) in the new investment plan.
- Projects placed into a specific category in Phase I for which no change is reported in Phase II, will remain in the same category in the new investment plan.

### **Important conditions for proposed methodology**

Although the rest of the methodology remains identical to that employed in EATL Phase I, it is deemed necessary to list a number of key conditions:

- Projects should be along the identified main EATL routes.
- Projects should refer to an expenditure of at least 10 million \$ per project.
- Projects with secured funding and being at the final implementation phase (almost completed) can be directly considered for Category I.
- For projects without committed funding or partly committed funding or under the planning phase, further analysis (Phase B of the methodology) is carried out in order to set implementation priorities, against common shared objectives.
- As the analysis is based on data collected from the countries, projects without any data will be automatically classified as last priority in terms of implementation (Category IV).

## **DATA COLLECTION**

### **Introduction**

The data collection process for the purpose of the revision of the original EATL Phase I and the development of the new investment plan for Phase II will require the input from countries divided in the following three main categories:

- I. Projects identified under EATL Phase I, involving only the 15 countries that submitted data (i.e. Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan). This is related to CASE A of Data collection in the following section.
- II. New project proposals from the 15 countries that have participated in EATL Phase I, as well as project proposals of those that did not submit any data

during EATL Phase I (i.e. Afghanistan, Russian Federation, Turkmenistan). This is related to CASE B of Data collection in the following section.

- III. New project proposals from newly involved countries (Finland, Germany, Greece, Latvia, Lithuania, Luxemburg, Mongolia and the former Yugoslav Republic of Macedonia,). This is related to CASE B for Data collection in the following section.

## **Data collection procedure**

Based on the above, two distinct cases are identified with regards to data collection; the first, Case A, refers to projects identified under EATL Phase I, involving only the 15 countries mentioned in the above, while the second, Case B, includes the new project proposals by all countries involved in EATL Phase II.

### **Case A**

For projects already submitted under EATL Phase I, each participating country will be required to review and update the related information for each of these projects. The National Focal Points will receive separately Templates B (B1, B2, B3, B4) containing the data of their respective country, as originally submitted. These are in excel format, as presented in Annex I, and have been completed by the external consultant, as follows: the already submitted projects under EATL Phase I are listed in the white cells of these forms with associated data already submitted in the yellow cells. Thus, each of the 15 countries will be requested to verify existing data and update and/ or complete the data in the yellow cells for each of the projects.

The Templates **B (B1, B2, B3, B4)** for each country that submitted data under EATL Phase I include the following:

- **Template B1:** EATL ROAD PROJECTS existing in EATL Phase I
- **Template B2:** EATL RAILWAY PROJECTS existing in EATL Phase I
- **Template B3:** EATL INLAND WATERWAY PROJECTS existing in EATL Phase I
- **Template B4:** EATL PORTS (SEA AND INLAND WATERWAY), INLAND CONTAINER DEPOT/INTERMODAL FREIGHT TERMINAL/FREIGHT VILLAGE/LOGISTIC CENTRE existing in EATL Phase I

Templates B (B1, B2, B3, B4) are crucial in order to fulfil the requirements for the revision of the EATL Phase I, that is, assess the implementation status, review and update projects identified and allocate the projects in the appropriate time period classification.

It should be noted that for the purpose of the present study, minimum additional data are requested for the EATL projects, as per Template B.

Therefore, each country will be asked to provide information on the:

- a) Expenses made so far (2009), as a percentage of the total project's cost.
- b) Percentage of budget of public works allocated.

- c) The country's GDP for 2007.
- d) Recommendations for the cases of non-secured funding with regards to potential funding sources to cover the amounts for which funds have not been secured.

## **Case B**

With regards to new project proposals to be submitted, the new countries that joined EATL Phase II, as well as the countries that participated in the EATL Phase I prioritisation exercise will receive a uniform Questionnaire for each transport mode-Templates 2 (2A, 2B, 2C, 2D).

The samples for Templates 2 (2A, 2B, 2C, 2D) are presented in Annex II and include the following:

- Template 2A: ROAD and related infrastructure Project Fiche
- Template 2B: RAIL and related infrastructure Project Fiche
- Template 2C: INLAND WATERWAYS and related infrastructure Project Fiche
- Template 2D: PORTS (sea and inland waterway), INLAND CONTAINER/INTERMODAL FREIGHT TERMINAL/FREIGHT VILLAGE/LOGISTIC CENTRE and related infrastructure Project Fiche

## **Additional information upon original submission**

It is envisaged that additional information on the EATL projects will be requested from counties that will submit their respective input by the consultant through direct correspondence with each respective NFP. Therefore, the following information will be requested following original submissions:

For Case A-Templates B(1-4):

- Information on the reasons for which the implementation of projects had been delayed, if applicable.
- The rate of prices adjustment from year 2007 to 2008, since project cost will be given in 2007 prices.

For Case B-Templates 2 (A-D):

- Expenses made so far (2009), as a percentage of the projects total cost
- Percentage of budget of public works allocated.
- GDP (year 2008 in million).
- Recommendations with regards to potential sources of funding for the cases of non-secure funding, if applicable.
- Reasons for which project implementation has been delayed, if applicable.

In addition to the above, the countries will be asked through their NFPs—if they so wish- to provide for the purpose of the analysis-Part B of the methodology, described



in Section 2.2.2 of this report, their own weights, with the appropriate justification, by completing the following Table 3.1.

**Table 3.1-Criteria Weights Template**

<b>Criterion Weight</b>	<b>Description of Criterion</b>	<b>Default Weight (as used in EATL Phase I)</b>	<b>Weight provided by Country</b>
<b>CLUSTER A</b>			
<b>W<sub>CA1</sub></b>	Serving international connectivity (reaching a border crossing point or provide connection to a link that is border crossing).	3.13	
<b>W<sub>CA2</sub></b>	Promoting solutions to the particular transit transport needs of the landlocked developing countries.	9.38	
<b>W<sub>CA3</sub></b>	Connecting low income and/or least developed countries to major European and Asian markets.	19.79	
<b>W<sub>CA4</sub></b>	Crossing natural barriers, removing bottlenecks, raising substandard sections to meet international standards, or filling missing links in the TEM network.	17.71	
<b>Total A</b>		<b>50</b>	<b>50</b>
<b>CLUSTER B</b>			
<b>W<sub>CB1</sub></b>	Having high degree of urgency due to importance attributed by the national authorities and/or social interest.	12.67	
<b>W<sub>CB2</sub></b>	Passing economic viability test.	12.67	
<b>W<sub>CB3</sub></b>	Having a high degree of maturity, in order to be carried out quickly (i.e. project stage)	3.33	
<b>W<sub>CB4</sub></b>	Financing feasibility	7.33	
<b>W<sub>CB5</sub></b>	Environmental and social impacts.	14.00	
<b>Total B</b>		<b>50</b>	<b>50</b>
<b>Total</b>		<b>100</b>	<b>100</b>

**ANNEX I**

**TEMPLATES B for EATL Phase I Countries**

# ARMENIA

## TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road</i> <small>(please select one)</small>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction</i> <small>(please select one)</small>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Road	ARM-ROD-01	Highways and bridges rehabilitation							Construction	2001	2004	31\$				√					45%
Road	ARM-ROD-02	Road maintenance and rehabilitation (every year)							Construction	2004	2004	22\$		√							100%
Road	ARM-ROD-03	Investigation of 62 road bridges and design of documents							Study/Design	2004	2004	0,128\$		√							
Road	ARM-ROD-04	Rehabilitation of 62 road bridges							Study/Design	2005	2007	3,3\$		√							

## TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS <i>Programming, Planning, Design, Construction</i> <small>(please select one)</small>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Railway	ARM-RLW-01	Railway tracks rehabilitation (70 km)								Construction	2001	2004	15\$				√					45%
Railway	ARM-RLW-02	Investigation of railway bridges and design of documents								Study/Design	2006	2006	0,3\$		√							100%
Railway	ARM-RLW-03	Rehabilitation of railway bridges								Study/Design	2007	2010										
Railway	ARM-RLW-04	Development of Armenian Railway: rehabilitation (110 km)									2006	2011	50\$				√					
Railway	ARM-RLW-05	Constructin of new railway (Gavar - Martuni - Jermuk - Sisian - Kapan - Meghri - Merand (IIR)																				

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

## AZERBAIJAN

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE Motorway, Expressway, National Road <i>(please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)						
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds							
Road	AZT-ROD-01	Rehabilitation of: Gazimamad – Kurdamir, E60							Construction			41\$													
Road	AZT-ROD-02	Rehabilitation of: Kurdamir - Ujar							Study/Design	2005	2007														
Road	AZT-ROD-03	Rehabilitation of: Ujar- Yevlakh							Construction	2005	2007														
Road	AZT-ROD-04	Rehabilitation of: Yevlakh – Gandja							Construction	2005	2008														
Road	AZT-ROD-05	Rehabilitation of: Ganja – Gazakh							Construction	2003	2005	48\$			14%	3%	83%								
Road	AZT-ROD-06	Rehabilitation of: Gazakh – Georgian Border							Construction	2005	2006				15%										
Road	AZT-ROD-07	Reconstruction of: Russian border – Baku – Iranian Border, E119							Study/Design	2005															

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)					
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds						
Railway	AZT-RLW-01	Construction of: "North-South" transport corridor Europe - Asia								Study/Design	2004	2008	600\$												

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)							
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds								
Sea Port	AZT-MAR-01	Reconstruction of: Sea station of International Trade Port of Baku								2003	2005	2,4\$													
Intermodal Freight Terminal	AZT-MAR-02	Reconstruction of: Ferry Terminal of International Trade Port of Baku								2003	2006	7,7\$													

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# BELARUS

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources <sup>*)</sup>					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Road Construction	BL-ROD-01	Upgrading of the M1/E30 road, section from km 1.7 to km 9.8							Construction	2003	2004	2,2\$		√							
Road Construction	BL-ROD-02	Upgrading of the M1/E30 road, section from Telmy to Kozlovichi 21 km length							Construction	2000	2004	15,7		√							
Road Construction	BL-ROD-03	Upgrading of the M1/E30 road, section from 573 km to 603 km							Construction	2005	2005	9,5\$		√							

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Average Daily Train Traffic (ADTT, passenger trains)		Average Daily Train Traffic (ADTT, freight trains)		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources <sup>*)</sup>					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Railway	BL-RLW-01	Organisation of speed traffic of passenger trains (section Krasnoje-Minsk-Brest)								Study/Design	2003	2005	0,7\$									

GDP (in year 2007 & in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:



# BULGARIA

## TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
Road construction	BG-ROD-01	Construction of: Motorway "Trakia" Lot 1							Construction	2003	2005	65 €		√		√				
Road construction	BG-ROD-02	Construction of: Motorway "Trakia" Lot 5							Construction	2003	2005	55 €		√		√				
Road construction	BG-ROD-03	Rehabilitation of: Corridor 9 Stara Zagora - Kazanlak							Construction	2004	2005	14,50 €		√	√					
Road construction	BG-ROD-04	Rehabilitation of: Corridor 4 Sofia - Botevgrad							Construction	2004	2005	4,50 €		√	√					
Road construction	BG-ROD-05	Rehabilitation of: Corridor 8 Sliven - Burgas							Construction	2004	2005	7,50 €		√	√					
Road construction	BG-ROD-06	Rehabilitation of: Corridor 4 Vidin - Montana							Construction	2004	2005	12 €		√	√					
Road construction	BG-ROD-07	Rehabilitation of: Corridor 4 Vladaia – Daskalovo (Express road)								2005	2006	10\$		√	√	√				
Road construction	BG-ROD-08	Rehabilitation of: Corridor 4 Vladaia – Daskalovo (Ordinary road)								2005	2006	11\$		√	√	√				
Road construction	BG-ROD-09	Rehabilitation of: Corridor 10 Kalotina - Sofia								2005	2006	13,5\$		√	√	√				
Road construction	BG-ROD-10	Rehabilitation of: Corridor 8 Varna - Burgas								2005	2006	3,5\$		√	√	√				
Road construction	BG-ROD-11	Rehabilitation of: Corridor 8 Kjustendil - Sofia								2005	2006	6,5\$		√	√	√				
Road construction	BG-ROD-12	Construction of: Corridor 4 Motorway "Ljulin								2005	2007	174\$		√	√					
Road construction	BG-ROD-13	Construction of: Motorway "Trakia" Lot 2, 3, 4										288\$								
Road construction	BG-ROD-14	Construction of: Motorway "Marica"										300\$								
Road construction	BG-ROD-15	Construction of: Motorway "Cherno more"										600\$								

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Average Daily Train Traffic (ADTT, passenger trains)		Average Daily Train Traffic (ADTT, freight trains)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
Railway	BG-RLW-01	Plovdiv-Svilengrad railway line electrification and upgrading (E070)			151	26		14		Construction	2005	2010	340 €		11%	44%	45%			3%
Railway	BG-RLW-02	Electrification of Dragoman-Kalotina BS railway line (E070)			15	17		28		Construction	2004	2007	7 €	√						3%
Railway	BG-RLW-03	Modernization and electrification of Radomir-Gueshevo railway line (T855)			88	17		5		Identification	2010	2013	150 €		25%	75%				3%
Railway	BG-RLW-04	Modernization of Vidin-Sofia-Kulata railway line (T056+E855)			420	132		47		Design/Study	2010	2017	2.400 €		25%	75%				4,50%
Railway	BG-RLW-05	Modernization of Sofia-Dragoman railway line			42	33		39		Planning	2010	2012	55 €		25%	75%				4,50%
Railway	BG-RLW-06	Modernization of Sofia-Plovdiv-Burgas/Varna railway line (E070+E720+E951)			600	127		87		Planning	2009	2015	937 €		25%	75%				4,50%
Railway	BG-RLW-07	Restoration of design parameters of Sofia-Karlovo-Zimnitsa railway line			320	39		56		Planning	2007	2010	900 €		25%	75%				4,50%

TEMPLATE B3-MARITIME-INLAND WATERWAY

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Yearly Vessel Traffic		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
Maritime	BG-INW-01	Rehabilitation, reconstruction and Modernisation of the port of Lom							2004	2007	29,70	√			57,24%	15,15%			
Maritime	BG-MAR-01	Port of Bourgas expansion project						Construction			145\$		10,36%		89,66%				

# CHINA

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN*		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
		Kashi-Honqilaf Road			419	Construction	2000			2002	2006	135\$		54%				46%	14.87%
		Sailimu Lake-Horgos			106	Construction	4600			2005	2007	413\$		22%				78%	
		Road upgrade: Kuerle-Akesu (AH4)			550	Study/Design	5500			2007	2010	864\$							
		Road upgrade: Akesu-Atushi(AH4)			237	Study/Design				2008	2010	80\$							
		Road upgrade: Kashi-Irkestan Road ( AH65 )			215	Study/Design	2200			2008	2010	68,8\$							
		Wuqia-Turgart ( AH61 )			110	Study/Design	800			2007	2008	21\$							

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and TEUs)		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN*		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
		The container berths in Phase Three of Miaoling ,Lian Yungang						Construction	2005	2009	3543\$						66%		34%
		The alumina berth of Lian Yungang						Study/Design			647\$						65%		35%

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# GEORGIA

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (Please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (Please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
	GE-ROD-01	Reconstruction-Construction of Tbilisi by passing road			79	Class II	3646		Planning			175							
	GE-ROD-02	Construction of Gori-Khashuri-Rikoti section of Georgian roads			190	Class I	10145		Planning			190							
	GE-ROD-03	Construction of Zestafoni-Samtredia section of Georgian roads			68	Class I	11167		Planning			125							
	GE-ROD-04	Modernization of Tbilisi-Red Bridge section of Georgian roads			38	Class II	1490		Planning			60							
	GE-ROD-05	Construction of by pass roads of Kobuleti and Batumi			44	Class II	150		Planning			150							
	GE-ROD-06	Reconstruction-Construction of Mleta-Larsi section of Georgian roads			58	Class II	351		Planning			220							
	GE-ROD-07	Modernization of Khashuri-Borjomi section of Georgian roads			30	Class II	4035		Planning			60							
	GE-ROD-08	Construction of Bakurtsikhe-Tsnori section of Georgian roads			17	Class II	3715		Planning			35							

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and TEUs)		CURRENT STATUS <i>Programming, Planning, Design, Construction (Please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	GE-MAR-01	Poti Port: First stage of new breakwater construction				tones:1049752 TEU:105931		Planning			approximately 17								
	GE-MAR-02	Poti Port: Construction of new container terminal				tones:1049752 TEU:105931		Planning			155								
	GE-MAR-03	Poti Port: Second phase Southern breakwater rehabilitation				tones:1049752 TEU:105931		Design/Study			28,1								
	GE-MAR-04	Poti Port: Construction of oil pier				tones:1049752 TEU:105931		Planning			12								
	GE-MAR-05	Poti Port: Installation of wind electric generators				tones:1049752 TEU:105931		Planning			6								
	GE-MAR-06	Poti Port: Construction of new rail-ferry and RO-RO bridges with Eastern and Western European gauge				tones:1049752 TEU:105932		Planning			27								
	GE-MAR-07	Poti Port: Construction of bulked chemical cargo processing terminal				tones:1049752 TEU:105933		Planning			30								

GDP (in year 2007 & in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Average Daily Train Traffic (ADTT, passenger trains)		Average Daily Train Traffic (ADTT, freight trains)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)		
			Start point/node/ city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
	GE-RLW-01	Creating completely integrated computerized system								Planning			4 to 5									
	GE-RLW-02	Port station Development (Poti and Batumi)				8.0		12.9		Planning	2007	2007	5,8									
	GE-RLW-03	Border station development (Gardabani-Sadakhlo)				8.0		12.9		Planning	2007	2007	8									
	GE-RLW-04	Samtredia and Tbilisi marshalling station reconstruction				8.0		12.9		Planning	2010	2010	15									
	GE-RLW-05	Initiate general dispatching centre								Planning	2007	2007	25									
	GE-RLW-06	New dislocation for Samtredia emergency repair train and fire train				8.0		12.9		Planning	2007	2007	0,172									
	GE-RLW-07	Rehabilitation of Khashuri emergency repair train facilities								Planning	2007	2007	0,05									
	GE-RLW-08	Arrangement of new dislocation for fire train in Poti station								Planning	2007	2007	0,15									
	GE-RLW-09	Emergency repair and fire train rolling stock (wagon) fleet renewal								Planning	2006	2008	0,6									
	GE-RLW-10	Initiation of logistical centre in railway port (Poti) crossing point								Planning	2007	2007	technical equipment of business centre will need approx 0.8-1million US\$									
	GE-RLW-11	Organizing container railway shipment to Poti-Tbilisi-Poti			300,00	8.0		12.9		Planning	2007	2007	fitting container terminal technical equipment will need approx 3-4 million US\$									
	GE-RLW-12	Truck improvement in Batumi district			104,00	8.0		12.9		Planning	2006	2009	16.229									
	GE-RLW-13	Truck improvement in Kvalo-Poti district			28,00	8.0		12.9		Planning	2006	2007	6,86									
	GE-RLW-14	Second track construction in Senaki-Abasha district			13,00	8.0		12.9		Planning	2007	2010	4,6									
	GE-RLW-15	New line construction in Supsa-Poti			94,00	8.0		12.9		Planning	2007	2012	18,3									
	GE-RLW-16	Reconstruction of Poti station				8.0		12.9		Planning	2007	2010	10,9									
	GE-RLW-17	Realization of works in order to raise the speed of passenger trains up to 120 km/h and freight trains – 90 km/h on Gardabani-Tbilisi-Khashuri district			152,00	8.0		12.9		Planning	2006	2010	25									
	GE-RLW-18	Construction of Kars-Akhalkalaki-Tbilisi-Baku New railway connecting line			260 (Georgian section)					Design/Study	2007	2010	Approximate cost of the project is 500 million US\$									
	GE-RLW-19	Reconstruction of Shorapani-Likhi railway section			56,00	8.0		12.9		Planning	2006	2010	96									
	GE-RLW-20	Construction of second track in Kharagauli crossing point on Tbilisi-Samtredia railway section			243 (Tbilisi-Samtredia)	8.0		12.9		Planning			37									
	GE-RLW-21	Reconstruction of Zestafoni-Khashuri section			182,00	8.0		12.9		Planning			132									
	GE-RLW-22	Construction of Poti-Supsa new single-track			94,00	8.0		12.9		Planning			23 to 28									

# IRAN

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (Please select code)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programmig, Planning, Design, Construction (Please select code)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENS (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)	
			Start point/node/ city	End point/node/ city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	IR-ROD-01	Upgrading of: Astara - Rasht			180,00		13240		Construction	2001	2009	100\$		100%						
	IR-ROD-02	Upgrading of: Anzali - Rasht			37,00		14084		Construction	1982	2006	36\$		100%						
	IR-ROD-03	Construction of: Rasht - Qazvin			165,00		17616		Construction	2003	2008	307\$		75%	25%					
	IR-ROD-04	Construction of: Qazvin - Saveh			144,00		11500		Planning			160\$		50%						0.5
	IR-ROD-05	Construction of: Ahvaz - Bandar Emam			90,00		9396		Construction			80\$		50%						0.5
	IR-ROD-06	Rehabilitation of: Naeen-Ardekan			110,00		4300		Construction	1998	2006	40\$		100%						
	IR-ROD-07	Rehabilitation of: Ardekan - Yazd			60,00		9932		Construction	2001	2006	20\$		100%						
	IR-ROD-08	Rehabilitation of: Mehriz - Anar			112,00		6308		Construction	2001	2006	15\$		100%						
	IR-ROD-09	Rehabilitation of: Anar - Sirjan			200,00		4473		Construction	2002	2009	89\$		100%						
	IR-ROD-10	Construction of: Sirjan - Bandar Abbas			300,00		13827		Study/Design			320\$		50%						0.5
	IR-ROD-11	Rehabilitation of: Sirjan - Bandar Abbas (Accomplished)			311,00		13827		Construction	1993	2004	4\$		100%						
	IR-ROD-12	Upgrading of: Semnan - Damghan			114,00		9163		Construction	1996	2006	55\$		100%						
	IR-ROD-13	Construction of: Jandagh - Ardekan			251,00		819		Construction	1989	2008	100\$		100%						
	IR-ROD-14	Upgrading of: Sarakhs - Sangbast			164,00		6955		Construction	1995	2006	35.3\$		100%						
	IR-ROD-15	Upgrading of: Baghcheh - Torbat Heydarieh			110,00		15252		Construction	2001	2008	50\$		100%						
	IR-ROD-16	Construction of: Torbat Heydarieh - Gonabad			124,00		4665		Study/Design	2006	2010	58\$		100%						
	IR-ROD-17	Upgrading of: Gonabad - Birjand			210,00		4539		Study/Design	2006	2010	100\$		100%						
	IR-ROD-18	Rehabilitation of: Zahedan - Khash			170,00		3159		Construction	1989	2006	25\$		100%						
	IR-ROD-19	Rehabilitation of: Khash - Iranshahr			150,00		1110		Construction	2003	2010	40\$		100%						
	IR-ROD-20	Construction of: Iranshahr - Chabahar			270,00		1332		Construction	1991	2009	130\$		100%						
	IR-ROD-21	Upgrading of: Shahreza - Shiraz			393,00		12466		Construction	1983	2009	231\$		100%						
	IR-ROD-22	Rehabilitation of: Jolfa - Eyvoghlil			45,00		3941		Construction	2000	2006	11\$		100%						
	IR-ROD-23	Rehabilitation of: Eyvoghlil - Marand			62,00		2589		Construction	2004	2008	13\$		100%						
	IR-ROD-24	Rehabilitation of: Marand - Tabriz			60,00		9648		Construction	1999	2006	11.5\$		100%						
	IR-ROD-25	Rehabilitation of: Tabriz - Bostanabad			40,00		23543		Construction	2004	2009	9.3\$		100%						
	IR-ROD-26	Construction of: Tabriz - Zanjan			285,00		14152		Construction	1996	2007	360\$		40%						60%
	IR-ROD-27	Upgrading of: Damghan - Sabzevar			294,00		9545		Construction	2002	2007	140\$		100%						
	IR-ROD-28	Upgrading of: Sabzevar - Baghcheh			188,00		11618		Construction	2000	2006	90\$		100%						
	IR-ROD-29	Upgrading of: Anar - Baghein			189,00		5072		Construction	2000	2007	44\$		100%						
	IR-ROD-30	Rehabilitation of: Sangbast - Dogharun			210,00		4273		Construction	2002	2007	100\$		100%						
	IR-ROD-31	Upgrading of: Qazvin - Saveh			173,00		11500		Construction	2003	2008	91\$		100%						
	IR-ROD-32	Construction of: Khorramabad - Andimeshk			170,00		8110		Construction	2006	2010	420\$		50%						50%
	IR-ROD-33	Upgrading of: Sirjan - Bandar Abbas			300,00		13827		Construction	2002	2009	145\$		100%						
	IR-ROD-34	Construction of: Bazargan - Tabriz			260,00		4208		Study/Design	2007	2011	320\$		50%						50%



GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS <i>Programing, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	IR-RLW-01	Construction of: Anzali - Rasht			41					Construction	2006	2010	60\$		100%						11%
	IR-RLW-02	Construction of: Rasht - Qazvin			165					Construction	2004	2009	320\$		100%						
	IR-RLW-03	Construction of: Estahan - Shiraz			506					Construction	2002	2009	650\$		100%						9.40%
	IR-RLW-04	Construction of: Tabriz - Mianeh			200					Construction	2001	2009	450\$		100%						
	IR-RLW-05	Construction of: Bam - Zahedan			281					Construction	2001	2007	200\$		100%						
	IR-RLW-06	Construction of: Astara - Rasht			170					Study/Design	2006	2011	370\$		100%						
	IR-RLW-07	Construction of: Bam - Chabahar			600					Study/Design	2009	2014	778\$		50%						50%
	IR-RLW-08	Construction of: Zahedan - Mirjaveh			100					Identification	2008	2010	100\$								
	IR-RLW-09	Construction of: Shiraz - Bushehr			425					Planning	2009	2014	450\$		100%						
	IR-RLW-10	Construction and upgrade of: Tehran - Esfahan			420					Planning	2009	2014	1350\$		50%						50%

# KAZAKHSTAN

## TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road</i> <small>(please select one)</small>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction</i> <small>(please select one)</small>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
Road	KZ-ROD-01	Rehabilitation of the motorway Almaty – Gulshad on the sections Almaty – Gulshad, Akchatau – Karagandy				Construction				2000	2005	135.7\$								
Road	KZ-ROD-02	Reconstruction of the passage through Karagandy				Construction				2002	2004	12.5\$								
Road	KZ-ROD-03	Rehabilitation of the motorway Karagandy-Astana				Construction						64.08\$								
Road	KZ-ROD-04	Reconstruction of the highway network in Western Kazakhstan				Construction				2002	2006	280.7\$								
Road	KZ-ROD-05	Project on developing of the highway system (Almaty-Bishkek)				Construction				2002	2006	105.8\$								
Road	KZ-ROD-06	Reconstruction of the motorway Aktau - Atyrau				Construction				2004	2008	42.4\$								
Road	KZ-ROD-07	Reconstruction of the motorway Astana-Kostanai-Chelyabinsk				Construction				2000	2008	239.7\$								
Road	KZ-ROD-08	Reconstruction of the motorway Omsk-Pavlodar-Maikapchagai				Construction				2000	2008	349.2\$								
Road	KZ-ROD-09	Reconstruction of the motorway Borovoye-Kokshetau-Petropavlovsk- border of RF				Construction				2001	2008	123.9\$								
Road	KZ-ROD-10	Reconstruction of the motorway border of the RF – Ural'sk – Aktobe				Construction				2000	2007	142\$								
Road	KZ-ROD-11	Reconstruction of the motorway Karabutak – Irghiz – border of Kyzylordinskaya oblast				Construction				2000	2007	68.6\$								
Road	KZ-ROD-12	Reconstruction of the motorway Kyzylorda – Zhezkazgan – Pavlodar – Uspenka –border of the RF				Construction				2000	2008	103.1\$								
Road	KZ-ROD-13	Reconstruction of the motorway Usharal - Dostyk				Construction				2001	2006	30.9\$								
Road	KZ-ROD-14	Reconstruction of the motorway border of Uzbekistan – (towards Tashkent) – Shymkent – Taraz – Almaty - Khorgos				Construction				2003	2008	162.5\$								
Road	KZ-ROD-15	Reconstruction of the motorway samara – Shymkent – on the section of the border of Aktyubinskaya oblast – Kyzylorda – Shymkent				Construction				2003	2008	193.8\$								
Road	KZ-ROD-16	Reconstruction of the motorway Beineu – Akzhigit – border of Uzbekistan				Construction				2001	2007	26.9\$								
Road	KZ-ROD-17	Reconstruction of the motorway Almaty – Ust-Kamenogorsk				Construction				2003	2008	363.2\$								
Road	KZ-ROD-18	Construction and reconstruction of Astana – Borovoye highway				Construction				2005	2009	222.5\$								
Road	KZ-ROD-19	Project research works				Construction				2005	2009	12.8\$								

## TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS <i>Programming, Planning, Design, Construction</i> <small>(please select one)</small>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
Rail	KZ-RLW-01	Construction of: Khromtau-Altynsarin								Construction	2001	2005	244.7\$								
Rail	KZ-RLW-02	Construction of: Yeralevo - Kuryk								Planning	2004	2005									10.00%
Rail	KZ-RLW-03	Construction of TransKazakhstan railway									2006	2011	3500\$								13.07%

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

## KYRGYZSTAN

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE	TRAFFIC VOLUMES		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Motorway, Expressway, National Road <i>(please select one)</i>	Existing Average Annual Daily Traffic (AADT)	Forecasted	Programming, Planning, Design, Construction <i>(please select one)</i>	Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
Road	KG-ROD-01	Project 'Rehabilitation uа motor way Bishkek-Osh'																		
Road	KG-ROD-02	Section uа motor way (61-161 km), incl. Tunnel on the crossing Too-Ashoo								1999	2004	55,367\$								
Road	KG-ROD-03	Section uа motor way (247-324 km; 360-414 km)								2000	2004	48,139\$								
Road	KG-ROD-04	Section motor way (426 –498 km, 614 –664km)								2003	2006	50\$								
Road	KG-ROD-05	Project 'Rehabilitation of motor way Jalal–Abad – Uzgen and detour station Madaniyat'								2000	2004	11,286\$								
Road	KG-ROD-06	Project 'Rehabilitation of motor way Bishkek-Georgevka'								2003	2005	53,923\$								

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources *)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted	Programming, Planning, Design, Construction <i>(please select one)</i>	Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
KG-RLW-01	Railway	New Rolling Stock									2003	2005	53,923\$								45%

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# REPUBLIC OF MOLDOVA

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	MD-ROD-01	Improvement of Road and Roadside Services along the Moldavian component of Corridor IX by modernising a 18-km Chişinău bypass							Study/Design	2006	2007	18,3\$		50%						16-30%
	MD-ROD-02	Improvement of Road and Roadside Services along a 153-km road the border with Romania – Leuşeni – Chişinău – Dubăsari – the border with								2009	2012	65,1\$		25%						12-21%
	MD-ROD-03	Improvement of a 217-km Road Chişinău – Cimislia – Comrat – Vulcăneşti – Giurgiuleşti – the border with Romania								2008	2012	83,6\$		25%						6-17%
	MD-ROD-04	Rehabilitation of a 68-km road Sarateni Vechi – Bălţi								2012	2013	18,5\$		25%						39%
	MD-ROD-05	Rehabilitation of a 136-km road Bălţi – Criva								2015	2017	40\$		25%						

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	MD-RLW-01	Cainari (a missing link between the Moldavian components of Corridor IX, CE-95 and E-560								Construction	2005	2006	22\$		√						5,30%
	MD-RLW-02	with Ukraine – Bender – Chişinău – Ungheni – the border with Romania									2010	2015	316,9\$								4,40%
	MD-RLW-03	Construction of a 54-km railway line Cahul – Giurgiuleşti									2015	2018	74,5\$								5,30%

TEMPLATE B3-MARITIME-INLAND WATERWAY

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Yearly Vessel Traffic		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)			
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds				
Inland Water	MD-INW-01	Construction of the Giurgiuleşti port complex on the territory of the Republic of Moldova in the								2005	2012	250\$									8%

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# ROMANIA

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, g. Planning, Design, Construction</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
	RO-ROD-01	Rehabilitation of: Lugoj-Timisoara km 500+400 - km 552+600																			
	RO-ROD-02	Rehabilitation of: Timisoara By-pass DN 6-km 546+076 - DN 69-km 6+430																			
	RO-ROD-03	Rehabilitation of: Drobeta Turnu Severin - Lugoj (km 332+150 - km 496+800)																			
	RO-ROD-04	Rehabilitation of: Clochiuta-Tr. Severin (km 298+000-km 332+150)																			
	RO-ROD-05	Rehabilitation of: Filiasi-Clochiuta (km268+390-km 298+000)																			
	RO-ROD-06	Rehabilitation of: Craiova-Filiasi (km 233+200-km 268+390)																			
	RO-ROD-07	Rehabilitation of: Craiova By-pass DN 65-km 6+000 - DN 6-km 234+400																			
	RO-ROD-08	Widening to 6 lanes of the existing overpass Otopeni including ramps, NR1 km 12+304																			
	RO-ROD-09	Widening to 6 lanes, NR 1km 12+845-km 16+087																			
	RO-ROD-10	New overpass at Otopeni Airport NR1-km 16+087 la km 17+165																			
	RO-ROD-11	Traffic improvement on NR 24 ,By-pass Tecuci																			
	RO-ROD-12	Widening to 4 lanes NR5 Adunatii Copaceni-Giurgiu (km 23+200-km 59+100)																			
	RO-ROD-13	By-pass Adunatii Copaceni and rehabilitation of the existing road in Adunatii Copaceni																			
	RO-ROD-14	Construction of : Bucharest – Fundulea motorway																			
	RO-ROD-15	Construction of : Fundulea – Lehliu motorway																			
	RO-ROD-16	Construction of : Lehliu – Drajna motorway																			
	RO-ROD-17	Construction of : Drajna – Fetesti motorway																			
	RO-ROD-18	Construction of : Fetesti - Cernavoda motorway																			
	RO-ROD-19	Construction of : By-pass Pitesti																			
	RO-ROD-20	Construction of : By-pass Sibiu																			
	RO-ROD-21	Rehabilitation of: Craiova-Catalfat (km 0+000 - km 84+020)																			
	RO-ROD-22	Rehabilitation of: Alexandria-Craiova (km 89+750 - 227+810)																			
	RO-ROD-23	Rehabilitation of: Lugoj-Ilia-DN68A																			
	RO-ROD-24	Construction of : Nadlac-Arad motorway																			
	RO-ROD-25	Construction of : Arad-Timisoara motorway																			
	RO-ROD-26	Construction of : Timisoara -Lugoj motorway																			
	RO-ROD-27	Construction of : Lugoj-Deva motorway																			
	RO-ROD-28	Construction of : Deva-Sibiu motorway																			
	RO-ROD-29	Construction of : By-pass Deva																			
	RO-ROD-30	Construction of : By-pass Orastie																			
	RO-ROD-31	Construction of : By-pass Sebes																			
	RO-ROD-32	Construction of : Cernavoda-Constanta motorway																			
	RO-ROD-33	Construction of : By-pass Constanta																			
	RO-ROD-34	Construction of : Bucharest-Plajesti Motorway																			
	RO-ROD-35	Construction of : Comarnic-Predeal Motorway																			
	RO-ROD-36	Construction of : Pitești-Brasov Motorway																			
	RO-ROD-37	Construction of : Sibiu-Deva Motorway																			
	RO-ROD-38	Construction of : Ploiesti-Sculeni Motorway																			

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources <sup>*</sup> )					IRR / (ROE if PPP)
			Start point/node/ city	End point/node /city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
Railway	RO-RLW-01	Upgrading of: Bucharest - Brasov																		
Railway	RO-RLW-02	Upgrading of: Bucharest – Constanta																		
Railway	RO-RLW-03	Upgrading of : Brasov – Simeria																		
Railway	RO-RLW-04	Upgrading of: Simeria - Curtisi																		

TEMPLATE B3-MARITIME-INLAND WATERWAY

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Yearly Vessel Traffic		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSE S so far (in % of total cost)	% FUNDING SECURED (or possible funding sources <sup>*</sup> )					IRR / (ROE if PPP)		
			Start point/node/ city	End point/node /city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
RO-INW-01	Inland Waterway	Bank Protection on Sulina Channel. Signaling and topographic measurement system on Danube.																		
RO-INW-02	Inland Waterway	Improvement of the Condition for Navigation on the Danube, km 375-175, Calarasi-Braila sector																		
RO-INW-03	Inland Waterway	Implementation of the VTMS (Vessel Traffic Management Information System) on Danube, Romanian sector																		

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and		CURRENT STATUS Programming, Planning, Design, Construction <i>(please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSE S so far (in % of total cost)	% FUNDING SECURED (or possible funding sources <sup>*</sup> )					IRR / (ROE if PPP)		
			Start point/node/ city	End point/node /city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:



## TAJIKISTAN

### TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE	TRAFFIC VOLUMES		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENS (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)
			Start point/node/ city	End point/node/ city	Total Length (km)	Motorway, Expressway, National Road (please select one)	Existing Average Annual Daily Traffic (AADT)	Forecasted	Programmig, Planning, Design, Construction (please select one)	Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
TJK-ROD-01	Road	Rehabilitation and reconstruction of highway Qurghonteppa-Dusti-Nizhniy Panj							Tendering	2004	2006	9,415\$							
TJK-ROD-02	Road	Investment project Dushanbe - Termez							Tendering	2004	2008	6,69\$							
TJK-ROD-03	Road	Post Fotekhobod, Buston, Sogd region								2005	2007	1.560 €		50%					
TJK-ROD-04	Road	Post Bratstvo Tursun-zoda								2006	2009	1.560 €		50%					

### TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)
			Start point/node/ city	End point/node/ city	Total Length (km)	Existing	Forecasted	Existing	Forecasted	Programmig, Planning, Design, Construction (please select one)	Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
TJK-RLW-01	Railway	Improvement of regional railway Bekobod - Konibodom (Republic of Tajikistan)								Tendering	2004	2009								

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# TURKEY

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	TU-ROD-01	Upgrading: from Sarp Border Gate to Piraziz			356				Construction	1977	2009	2.191\$								
	TU-ROD-02	Upgrading: from Piraziz to Ünye			82				Construction	1992	2006	456\$								
	TU-ROD-03	Upgrading: from Ünye to Çarşamba			83				Construction	1992	2007	114\$								
	TU-ROD-04	Upgrading: from Samsun to Kavak			48				Construction	1997	2006	110\$								
	TU-ROD-05	Upgrading: from Kavak to Merzifon			58				Construction	2001	2007	192\$								
	TU-ROD-06	Upgrading: from Koyulhisar to Niksar Junction			84				Construction	1992	2006	34 €								
	TU-ROD-07	Upgrading: from Niksar Junction to Amasya			90				Construction	1992	2006	27 €								
	TU-ROD-08	Upgrading : from Gerede-15.Division Border			75		5476	7266	Planning	2006	2010									
	TU-RO-09	Upgrading : from 15. Division Border to Osmançık			49		4325	5647	Planning	2006	2010									
	TU-ROD-10	Upgrading :from Osmançık-Saraycık to Merzifon			63		4515	5927	Planning	2006	2010									
	TU-ROD-11	Upgrading: from 4.Division Border-Kurşunlu-Ilgaz to (Kastamonu –Körgun) Junction			57		4568	6022	Planning	2006	2010									
	TU-ROD-12	Upgrading: from (Kastamonu –Körgun) Junction –Tosya to 7.Division Border			65		4243	5585	Planning	2006	2010									

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Average Daily Train Traffic (ADTT, passenger trains)		Average Daily Train Traffic (ADTT, freight trains)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)	
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds		
	TU-RLW-01	Ankara-Istanbul High-Speed Railway Construction (PHASE1)			237.0	31				Construction	2003	2007	732 €								13.8
	TU-RLW-01	Ankara-Istanbul High-Speed Railway Construction (PHASE2)			157.0	31				Tendering	2004	2007	701 €				√				13.8
	TU-RLW-02	Bosphorus Rail Tunnel Crossing & Rehabilitation of Gebze-Halkali Railway Line			76.3					Construction	2004	2009	2.913 €				√		√		
	TU-RLW-03	Boğazköprü-Ulukışla-Yenice-Mersin-Adana-Toprakale signalling and telecommunication project			380.0	25		15		Tendering	2006	2008	135 €				√				14.4
	TU-RLW-04	Ankara- Sivas New Railway Construction			475.0					Design/Study	2007	2010	1.2billion\$								
	TU-RLW-05	Kars-Tbilisi New Railway Construction			70.0					Design/Study	2005	2006 for design study	250\$								
	TU-RLW-06	Construction of: Lake Van Northern Crossing			237.0					Design/Study			795\$								
	TU-RLW-07	Construction of : Ankara-Polatli-Afyon-Izmir			606.0					Design/Study			1.6billion\$								
	TU-RLW-08	Construction and Rehabilitation of : Samsun-Iskenderun																			

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and TEUs)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)			
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds				
Sea Port	TU-MAR-01	Rehabilitation of the Port of Derince						Construction			34 €						√				
Sea Port	TU-MAR-02	Modernization of facilities at Izmir port and dredging in Izmir Bay						Construction	2005		200\$										
Inland Container Depot	TU-MAR-03	Construction of second container terminal at Mersin Port							2005												
Inland Container Depot	TU-MAR-04	Construction of container terminal at Iskenderun Port						Study/Design			250\$										

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# UKRAINE

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Average Daily Train Traffic (ADTT, passenger trains)		Average Daily Train Traffic (ADTT, freight trains)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds	
Railway	UKR-RLW-01	"Development of Ukrainian rails" Purchase of modern track technique for modernization and maintenance of track at section Lvov - Schmerinka-Kiev								Tendering	2001	2004	92.57\$		40%		60%			
Railway	UKR-RLW-02	"High-speed passenger traffic at Ukrainian rails". Building of Beskidskiy tunnel (Pan-European transport corridor №5); passenger's coaches purchase; track technique purchase.								Construction	2004	2008	200\$		40%		60%			

TEMPLATE B3-MARITIME-INLAND WATERWAY

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Yearly Vessel Traffic		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Inland Water Transport	UKR-INW-01	Pan-European transport corridor № 3 "Dnipro-Visla -Oder" ( including Dnipro deep-way (Dnipro mouth -Prival mouth) -1000 km						Study/Design												
Inland Water Transport	UKR-INW-02	Pan-European transport corridor № 9, "North - South" "Western Dvina (Dyagava) -Dnipro"						Study/Design			751\$		Attraction investments of EBDR, European countries and domestic investors							
Inland Water Transport	UKR-INW-03	Pan-European transport corridor № 7 Rein-Main-Dnial "Dnial - Black Sea"						Study/Design			156.25\$									
Inland Water Transport	UKR-INW-04	Deep-water navigable Dnial and Black sea connection (Dnial mouth reach at the territory of Ukraine, Odesskiy region).						Study/Design			24.9\$		72%			28%				

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and TEUs)		CURRENT STATUS	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources)					IRR / (ROE if PPP)		
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds			
Maritime Transport/ Sea Port	UKR-MAR-01	Trade port Illichevsk, multimodal terminal							2006		1.5\$									

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

# UZBEKISTAN

TEMPLATE B1-ROAD

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ROAD TYPE <i>Motorway, Expressway, National Road (please select one)</i>	TRAFFIC VOLUMES		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)						
			Start point/node/city	End point/node/city	Total Length (km)		Existing Average Annual Daily Traffic (AADT)	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds							
Road	UZB-ROD-01	Rehabilitation and reconstruction of 152 km of Samarkand-Termez road (section of Transafghan international transport corridor)							Construction	2002	2005	58,8\$						74%	26%						
Road	UZB-ROD-02	Construction and reconstruction works of the road sections "Ukraine border-Volgograd-Astrahan-Atrau-Beineu-Tashkent" highway (main section of international transport corridor E-40)							Construction	2004	2007														
Road	UZB-ROD-03	Feasibility study and reconstruction and rehabilitation works of 500 kms of "Kungrad-Jaslik Beineu" road							Construction	2004	2007														
Road	UZB-ROD-04	Construction and rehabilitation of Tashkent-Andijan-Osh-Saritash-Irkeshnam-Kashgar road 940 km							Construction	2004															
Road	UZB-ROD-05	Rehabilitation of 125 km of Angren-Pap mountain road							Construction	2004															
Road	UZB-ROD-06	Construction of Uchkuduk (Uzbekistan) - Kizil Orda (Kazakhstan) road								2005															

TEMPLATE B2-RAIL

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			ADTT (passenger)		ADTT (freight)		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)					
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds						
Railway	UZB-RLW-01	Reconstruction of 341 km of railroad, and laying of fiber line (Samarkand-Hodotavle)								Construction	2001	2005	155\$								48%				
Railway	UZB-RLW-02	Railroad Reconstruction Tasguzar-Boysun-Kumkurgan								Construction	1995	2010	447\$								35%				
Railway	UZB-RLW-03	Electrification of 114 km of railroad line Tukimachi-Angren								Construction	2003	2007	80,626\$								65%				
Railway	UZB-RLW-04	Reconstruction of 139 km of railroad line Marokand-Karshi								Study/Design	2007	2010	30\$								67%				
Railway	UZB-RLW-05	Reconstruction of railroadstation Termez-Galaba, including bridge through the river Amudarya laying								Study/Design	2004	2008	17,8\$								34%				
Railway	UZB-RLW-06	Construction and electrification of 118 km new railroad Angren-Pap line with mountain tunnel																							
Railway	UZB-RLW-07	Reconstruction of 79 km of Djalalabad-Karasu-Andijan railroad section																							
Railway	UZB-RLW-08	Reconstruction of 700 km of Aktau-Beineu-Kungrad railroad section																							

TEMPLATE B4-PORTS

NETWORK	PROJECT ID	DESCRIPTION (Project and Section Names)	PROJECT LOCATION			Annual Throughput (tones and		CURRENT STATUS <i>Programming, Planning, Design, Construction (please select one)</i>	TIME PLAN		TOTAL COST (in mio euro)	EXPENSES so far (in % of total cost)	% FUNDING SECURED (or possible funding sources )					IRR / (ROE if PPP)								
			Start point/node/city	End point/node/city	Total Length (km)	Existing	Forecasted		Start year	End year			National Funds	EU Funds	Bank Loans	Grants	Private Funds									
Intermodal Freight Terminal	UZB-INM-01	Construction of customs control complex "Karakalpalya", which will control rail and road transportation									2004	2006														
Intermodal Freight Terminal	UZB-INM-02	Modernization and supply with a modern equipment of the country customs control complexes and main customs points																								

GDP (in year 2007& in million\$)	% Budget of Public Works allocated	* Please indicate reasons of project implementation delay, if applicable:

**ANNEX II**

**TEMPLATES 2 (2A, 2B, 2C, 2D)**



## TEMPLATE 2A – Road and related infrastructure Project Fiche

<b>Project Name:</b> Project ID: Network (EATL Route): Project Description:
<b>Projects Group:</b> <i>Funded/ Unfunded</i>
<i>Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.</i>
<b>Section 1. Project Technical Characteristics:</b> 1. Location (latitude/longitude or alternatively a map): 2. Start point/node/city 3. End point/node/city 4. Road Class <sup>1</sup> : 5. Length (in km): 6. Number of carriageways: 7. No of lanes: 8. Design Speed (km/h): 9. Annual Average Daily Traffic <sup>2</sup> : 10. Estimated % of freight vehicles <sup>3</sup> : 11. Annual Average Daily Traffic (passengers): 12. <i>Annual Average Daily Traffic (tones):</i> 13. Expected (total) traffic increase (in % - <i>both existing and generated</i> ): 14. Road toll implementation: <input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Section 2. Project Information Concerning Criteria of CLUSTER A</b> 15. Is the project serving international connectivity? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is it expected to: A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity. 16. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing solution: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not 17. Will the project connect low income and/or least developed countries to major European and Asian markets? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing connection: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not 18. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? <input type="checkbox"/> YES <input type="checkbox"/> NO

If **yes** is the project crosses..:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

19. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest?  YES  NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2013), B: In the national plan and very urgent (for implementation up to 2016), C: In the national plan and urgent (for implementation up to 2020), D: In the national plan but may be postponed until after 2020, E: Not in the national plan.

20. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)?  YES  NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

**Project Information Concerning Criteria of CLUSTER B**

21. Project cost (in million):

22. Expected Starting Date:

23. Expected Completion Date:

24. IRR:

25. Project's stage:  Construction  Tendering  Study/Design  
 Planning  Identification

26. Expected Funding Sources (and the % of funding for each one):

a. ....

b. ....

c. ....

d. ....

<sup>1</sup> If AGR (M=Motorway, E=Express road, O=Ordinary road); if AH (P=Primary, I= Class I, II= Class II, III=Class III), or both if applicable.

<sup>2</sup> For the year 2008 and latest year, if available.

<sup>3</sup> Freight vehicles include any vehicles used to transport freight, such as trucks and trailers.

## TEMPLATE 2B – Rail and related infrastructure Project Fiche

<b>Project Name:</b> Project ID: Network (EATL Route): Project Description:
<b>Projects Group:</b> <i>Funded/ Unfunded</i>
<i>Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.</i>
<b>Section 1. Project Technical Characteristics:</b> 1. Location (latitude/longitude or alternatively a map): 2. Start point/node/city: 3. End point/node/city: 4. Length (in km): 5. Track gauge (mm): 6. No of tracks: 7. Traction: <input type="checkbox"/> Electrified <input type="checkbox"/> Non-Electrified 8. Signaling type: <input type="checkbox"/> Automatic <input type="checkbox"/> Manual 9. Maximum allowed speed - passenger trains: 10. Maximum allowed speed - freight trains: 11. Average Daily Train Traffic - Passenger trains <sup>1</sup> : 12. Average Daily Train Traffic - Freight trains <sup>1</sup> : 13. Expected (passenger) traffic increase (in % - <i>both existing and generated</i> ): 14. Expected (freight) traffic increase (in % - <i>both existing and generated</i> ): 15. Volume of cargo moved (tones and TEUs) <sup>1</sup> :
<b>Section 2. Project Information Concerning Criteria of CLUSTER A</b> 16. Is the project serving international connectivity? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is it expected to: A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity. 17. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing solution: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not 18. Will the project connect low income and/or least developed countries to major European and Asian markets? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing connection: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

19. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL?  YES  NO

If **yes** is the project crosses..:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

20. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest?  YES  NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2013), B: In the national plan and very urgent (for implementation up to 2016), C: In the national plan and urgent (for implementation up to 2020), D: In the national plan but may be postponed until after 2020, E: Not in the national plan.

21. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)?  YES  NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E: Great impact.

**Project Information Concerning Criteria of CLUSTER B**

22. Project cost (in million):

23. Expected Starting Date:

24. Expected Completion Date:

25. IRR:

26. Project's stage:  Construction  Tendering  Study/Design  
 Planning  Identification

27. Expected Funding Sources (and the % of funding for each one):

a. ....

b. ....

c. ....

d. ....

<sup>1</sup>For the year 2008 and latest year, if available.

## TEMPLATE 2C – Inland waterways and related infrastructure Project Fiche

<b>Project Name:</b> Project ID: Network (EATL Route): Project Description:
<b>Projects Group:</b> <i>Funded/ Unfunded</i>
<i>Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.</i>
<b>Section 1. Project Technical Characteristics:</b> 1. Location (latitude/longitude or alternatively a map): 2. Start point/node/city: 3. End point/node/city: 4. Length (in km): 5. Max. admissible LNWL <sup>1</sup> : 6. Mi. bridge clearance at HNWL <sup>2</sup> : 7. Lock dimensions: 8. Permitted operational speed (km/h): 9. Yearly vessel traffic <sup>3</sup> : 10. Expected (total) traffic increase (in % - <i>both existing and generated</i> ):
<b>Section 2. Project Information Concerning Criteria of CLUSTER A</b> 11. Is the project serving international connectivity? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is it expected to: A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.  12. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing solution: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not  13. Will the project connect low income and/or least developed countries to major European and Asian markets? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing connection: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not  14. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project crosses...: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not  15. Will the project have a high degree of urgency due to importance attributed by the national

authorities and/or social interest?      YES      NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2013), B: In the national plan and very urgent (for implementation up to 2016), C: In the national plan and urgent (for implementation up to 2020), D: In the national plan but may be postponed until after 2020, E: Not in the national plan.

16. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)?     YES     NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E: Great impact.

**Project Information Concerning Criteria of CLUSTER B**

17. Project cost (in million):

18. Expected Starting Date:

19. Expected Completion Date:

20. IRR:

21. Project's stage:     Construction     Tendering     Study/Design  
                                  Planning             Identification

22. Expected Funding Sources (and the % of funding for each one):

a. ....

b. ....

c. ....

d. ....

<sup>1</sup> *Low Navigable Water Level*

<sup>2</sup> *Highest Navigable Water Level*

<sup>3</sup> *For the year 2008 and latest year, if available.*



**TEMPLATE 2D – Ports (sea and inland waterway), Inland container depot/Intermodal freight terminal/Freight village/Logistic centre and related infrastructure Project Fiche**

<b>Project Name:</b> Project ID: Network (EATL Route): Project Description:
<b>Projects Group:</b> <i>Funded/ Unfunded</i>
<i>Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.</i>
<b>Project Type:</b> <input type="checkbox"/> Sea Port <input type="checkbox"/> Inland Waterway Port <input type="checkbox"/> Inland Container Depot <input type="checkbox"/> Intermodal Freight Terminal <input type="checkbox"/> Freight Village/Logistic Center
<b>Section 1. Project Technical Characteristics:</b> 1. Location (latitude/longitude or alternatively a map): 2. Start point/node/city: 3. End point/node/city: 4. Maximum draft of vessels served (in m) – PORTS ONLY: 5. Ships berths available (in m) – PORTS ONLY: 6. Handling facilities (specific equipments) <sup>1</sup> : 7. <b>Open/ covered storage space (in m<sup>2</sup>):</b> 8. <b>Customs and services available:</b> 9. Types of ships handled (refer to specific types i.e. Dry cargo-bulk-container-Ro/Ro Passenger): 10. Bulk cargo handling capacity (tonnes/day) <sup>2</sup> : 11. <b>Container handling capacity (TEU/day):</b> 12. <b>Annual throughput (tones and TEUs)<sup>3</sup>:</b> 13. <b>Expected (total) traffic increase (in % - both existing and generated):</b>
<b>Section 2. Project Information Concerning Criteria of CLUSTER A</b> 14. Is the project serving international connectivity? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is it expected to: A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.  15. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing solution: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not  16. Will the project connect low income and/or least developed countries to major European and Asian markets? <input type="checkbox"/> YES <input type="checkbox"/> NO If <b>yes</b> is the project providing connection: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not  17. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? <input type="checkbox"/> YES <input type="checkbox"/> NO

If **yes** is the project crosses...:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

18. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest?  YES  NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2013), B: In the national plan and very urgent (for implementation up to 2016), C: In the national plan and urgent (for implementation up to 2020), D: In the national plan but may be postponed until after 2020, E: Not in the national plan.

19. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)?  YES  NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

**Project Information Concerning Criteria of CLUSTER B**

20. Project cost (in million):

21. Expected Starting Date:

22. Expected Completion Date:

23. IRR:

24. Project's stage:  Construction  Tendering  Study/Design  
 Planning  Identification

25. Expected Funding Sources (Name the sources and the % of funding for each one):

a. ....

b. ....

c. ....

d. ....

<sup>1</sup> *Cranes-gantries-mobile-forklifts-20'/40' containers. Also indicate availability of rail/road transshipment facilities.*

<sup>2</sup> *Where applicable.*

<sup>3</sup> *For the year 2008 and latest year, if available.*

2. Implementation of priority projects identified in Phase I

## INTRODUCTION

### Background

The Euro-Asian Transport Links (EATL) Project Phase I was a joint undertaking between the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). In close cooperation with designated National Focal Points (NFP) from 18 countries in the Euro-Asian region, the EATL project identified main Euro-Asian road and rail routes for priority development and cooperation. Fifteen countries participated in the projects' prioritization exercise of EATL Phase I, carried out from 2002 to 2007, and made proposals, namely: Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan.

UNECE and UNESCAP have elaborated a joint proposal for a Phase II to be implemented during a four-year period, ranging from 2008 to 2012. One of the activities foreseen for Phase II is the revision (updating) of the EATL priority transport infrastructure projects and the development of an international investment plan under EATL Project Phase II. To this end, a review and update of the list of EATL Phase I priority projects will be carried out in order to develop a new interregional investment plan of priority projects of EATL Phase II.

### Scope of report

Based on the above, the scope of the present document is to assess the status of implementation of projects identified under EATL Phase I. The status report is based on the inputs received from the 15 countries that had originally submitted data under EATL Phase I, which were asked to review and update the related information for each of these projects for the purpose of the current study. **It should be noted that the information sent to each respective country was based on their original input submitted under Phase I, as well as additional/ complimentary information received by the external consultant following the formal completion of the EATL Phase I Project.**

## EATL PHASE I PROJECT STATUS

### Introduction

The EATL Phase I Project Status is presented on a country basis in the following.

The respective projects are classified under the following four key categories:

- Completed
- Updated and now part of the EATL Phase II study
- Not realised
- No information on the status of the project

## Afghanistan

*Afghanistan did not submit information for the purpose of the EATL Phase I study.*

## Armenia

Armenia proposed 9 projects in total under EATL Phase I:

- 4 road projects (all classified as Priority I)
- 5 rail projects (2 classified as Priority I and 3 classified as Priority IV)

Armenia did not submit revised information. According to original information:

**Table 2.1-Armenia Project Status**

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	ARM-ROD-01	Highways and bridges rehabilitation	√			
Road	ARM-ROD-02	Road maintenance and rehabilitation (every year)	√			
Road	ARM-ROD-03	Investigation of 62 road bridges and design of documents	√			
Road	ARM-ROD-04	Rehabilitation of 62 road bridges	√			
Rail	ARM-RLW-01	Railway tracks rehabilitation (70 km)	√			
Rail	ARM-RLW-02	Investigation of railway bridges and design of documents	√			
Rail	ARM-RLW-03	Rehabilitation of railway bridges				?
Rail	ARM-RLW-04	Development of Armenian Railway: rehabilitation (110 km)				?
Rail	ARM-RLW-05	Construction of new railway (Gavar - Martuni - Jermuk - Sisian - Kapan - Meghri - Merand (IIR))				?

## Azerbaijan

Azerbaijan proposed 10 projects in total under EATL Phase I:

- 7 road projects (all classified as Priority I)
- 1 rail project (classified as Priority I)
- 2 port projects (1 classified as Priority I and 1 classified as Priority IV)

According to new information submitted by Azerbaijan:

**Table 2.2- Azerbaijan Project Status**

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	AZT-ROD-01	Rehabilitation of: Gazimamad – Kurdamir, E60	√			
Road	AZT-ROD-02	Rehabilitation of: Kurdamir - Ujar		√		
Road	AZT-ROD-03	Rehabilitation of: Ujar- Yevlakh	√			
Road	AZT-ROD-04	Rehabilitation of: Yevlakh – Gandja		√		
Road	AZT-ROD-05	Rehabilitation of: Ganja – Gazakh	√			
Road	AZT-ROD-06	Rehabilitation of: Gazakh – Georgian Border		√		
Road	AZT-ROD-07	Reconstruction of: Russian border – Baku – Iranian Border, E119		√		
Rail	AZT-RLW-01	Construction of: “North-South” transport corridor Europe - Asia				?
Port	AZT-MAR-01	Reconstruction of: Sea station of International Trade Port of Baku		√		
Port	AZT-MAR-02	Reconstruction of: Ferry Terminal of International Trade Port of Baku				?

## Belarus

Belarus proposed 4 projects in total under EATL Phase I:

- 3 road projects (all classified as Priority I)
- 1 rail project (classified as Priority I)

Belarus did not submit revised information. According to original information:

**Table 2.3- Belarus Project Status**

Network	ID	Description	Completed	Part of EA TL Phase II	Not realized	No info
Road	BL-ROD-01	Upgrading of the M1/E30 road, section from km 1.7 to km 9.8	√			
Road	BL-ROD-02	Upgrading of the M1/E30 road, section from Telmy to Kozlovichi 21 km length	√			
Road	BL-ROD-03	Upgrading of the M1/E30 road, section from 573 km to 603 km	√			
Rail	BL-RLW-01	Organisation of speed traffic of passenger trains (section Krasnoje-Minsk-Brest)	√			

## Bulgaria

Bulgaria proposed 24 projects in total under EATL Phase I:

- 15 road projects (12 classified as Priority I and 3 as Priority IV)
- 7 rail projects (all classified as Priority I)
- 1 port project (classified as Priority I)
- 1 inland waterway project (classified as Priority I)

According to new information submitted by Bulgaria:

**Table 2.4- Bulgaria Project Status**

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	BG-ROD-01	Construction of: Motorway "Trakia" Lot 1	√			
Road	BG-ROD-02	Construction of: Motorway "Trakia" Lot 5	√			
Road	BG-ROD-03	Rehabilitation of : Corridor 9 Stara Zagora - Kazanlak	√			
Road	BG-ROD-04	Rehabilitation of: Corridor 4 Sofia - Botevgrad	√			
Road	BG-ROD-05	Rehabilitation of: Corridor 8 Sliven - Burgas	√			
Road	BG-ROD-06	Rehabilitation of: Corridor 4 Vidin - Montana	√			
Road	BG-ROD-07	Rehabilitation of: Corridor 4 Vladaia – Daskalovo (Express road)	√			
Road	BG-ROD-08	Rehabilitation of: Corridor 4 Vladaia – Daskalovo (Ordinary road)	√			
Road	BG-ROD-09	Rehabilitation of: Corridor 10 Kalotina - Sofia	√			
Road	BG-ROD-10	Rehabilitation of: Corridor 8 Varna - Burgas	√			
Road	BG-ROD-11	Rehabilitation of: Corridor 8 Kjustendil - Sofia	√			
Road	BG-ROD-12	Construction of: Corridor 4 Motorway "Ljuliu	√			
Road	BG-ROD-13	Construction of: Motorway "Trakia" Lot 2, 3, 4		√		
Road	BG-ROD-14	Construction of: Motorway "Marica"		√		
Road	BG-ROD-15	Construction of: Motorway "Cherno more"				?
Rail	BG-RLW-01	Plovidiv-Svilengrad railway line electrification and upgrading (E070)		√		
Rail	BG-RLW-02	Electrification of Dragoman-Kalotina BS railway line (E070)		√		
Rail	BG –RLW-03	Modernization and electrification of Radomir-Gueshevo railway line (T855)		√		
Rail	BG –RLW-04	Modernization of Vidin-Sofia-Kulata railway line (T056+E855)		√		
Rail	BG –RLW-05	Modernization of Sofia-Dragoman railway line		√		
Rail	BG –RLW-06	Modernization of Sofia-Plovidiv-Burgas/Varna railway line (E070+E720+E951)		√		
Rail	BG –RLW-07	Restoration of design parameters of Sofia-Karlovo-Zimnitsa railway line		√		
Inland Waterway	BG-INW-01	Rehabilitation, reconstruction and Modernisation of the port of Lom		√		
Port	BG-MAR-01	Port of Bourgas expansion project	√			

## China

China proposed 8 projects in total under EATL Phase I:

- 6 road projects (classified as Priority I)
- 2 maritime projects (both classified as Priority II)

According to new information submitted by China:

**Table 2.5-** China Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road		Kashi-Honqilaf Road	√			
Road		Sailimu Lake-Horgos	√			
Road		Road upgrade: Kuerle-Akesu (AH4)				?
Road		Road upgrade: Akesu-Atushi(AH4)				?
Road		Road upgrade: Kashi-Irkestan Road AH65		√		
Road		Wuqia-Turgart AH61	√			
Port		The container berths in Phase Three of Miaoling ,Lian Yungang	√			
Port		The alumina berth of Lian Yungang				?

## Georgia

Georgia proposed 49 projects in total under EATL Phase I:

- 4 road projects (all classified as Priority I) which have been completed.
- 21 rail projects (all classified as Priority IV).
- 24 port projects (all classified as Priority IV).

According to new information submitted by Georgia:

- All road projects have been completed.
- The majority of rail projects is either completed or not realized (2 projects are submitted under EATL Phase II).
- No information was given on port projects.

## Iran

Iran proposed 44 projects in total under EATL Phase I:

- 34 road projects (31 classified as Priority I, 2 as Priority II and 3 as Priority III)
- 10 rail projects (5 classified as Priority I, 3 as Priority II and 2 as Priority III)

Iran did not submit revised information. According to original information:

**Table 2.6-** Iran Project Status

Networ	ID	Description	Completed	Part of EATL Phase II	Not realised	No info
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Road	IR-ROD-01	Upgrading of: Astara - Rasht	√			
Road	IR-ROD-02	Upgrading of: Anzali - Rasht	√			
Road	IR-ROD-03	Construction of: Rasht - Qazvin	√			
Road	IR-ROD-04	Construction of: Qazvin - Saveh				?
Road	IR-ROD-05	Construction of: Ahvaz - Bandar Emam				?
Road	IR-ROD-06	Rehabilitation of: Naeen-Ardekan	√			
Road	IR-ROD-07	Rehabilitation of: Ardekan - Yazd	√			
Road	IR-ROD-08	Rehabilitation of: Mehriz - Anar	√			
Road	IR-ROD-09	Rehabilitation of: Anar - Sirjan	√			
Road	IR-ROD-10	Construction of: Sirjan - Bandar Abbas				?
Road	IR-ROD-11	Rehabilitation of: Sirjan - Bandar Abbas (Accomplished)	√			
Road	IR-ROD-12	Upgrading of: Semnan - Damghan	√			
Road	IR-ROD-13	Construction of: Jandagh - Ardekan	√			
Road	IR-ROD-14	Upgrading of: Sarakhs - Sangbast	√			
Road	IR-ROD-15	Upgrading of: Baghcheh - Torbat Heydarieh	√	√		
Road	IR-ROD-16	Construction of: Torbat Heydarieh - Gonabad		√		
Road	IR-ROD-17	Upgrading of: Gonabad - Birjand		√		
Road	IR-ROD-18	Rehabilitation of: Zahedan - Khash	√			
Road	IR-ROD-19	Rehabilitation of: Khash - Iranshahr		√		
Road	IR-ROD-20	Construction of: Iranshahr - Chabahar	√			
Road	IR-ROD-21	Upgrading of: Shahreza - Shiraz	√			
Road	IR-ROD-22	Rehabilitation of: Jolfa - Eyvoghli	√			
Road	IR-ROD-23	Rehabilitation of: Eyvoghli - Marand	√			
Road	IR-ROD-24	Rehabilitation of: Marand - Tabriz	√			
Road	IR-ROD-25	Rehabilitation of: Tabriz - Bostanabad	√			
Road	IR-ROD-26	Construction of: Tabriz - Zanjan	√			
Road	IR-ROD-27	Upgrading of: Damghan - Sabzevar	√			
Road	IR-ROD-28	Upgrading of: Sabzevar - Baghcheh	√			
Road	IR-ROD-29	Upgrading of: Anar - Baghein	√			
Road	IR-ROD-30	Rehabilitation of: Sangbast - Dogharun	√			
Road	IR-ROD-31	Upgrading of: Qazvin - Saveh	√			
Road	IR-ROD-32	Construction of: Khorramabad - Andimeshk		√		
Road	IR-ROD-33	Upgrading of: Sirjan - Bandar Abbas	√			
Road	IR-ROD-34	Construction of: Bazargan - Tabriz		√		
Rail	IR-RLW-01	Construction of: Anzali - Rasht		√		
Rail	IR-RLW-02	Construction of: Rasht - Qazvin	√			
Rail	IR-RLW-03	Construction of: Esfahan - Shiraz	√			
Rail	IR-RLW-04	Construction of: Tabriz - Mianeh	√			
Rail	IR-RLW-05	Construction of: Bam - Zahedan	√			
Rail	IR-RLW-06	Construction of: Astara - Rasht		√		
Rail	IR-RLW-07	Construction of: Bam - Chabahar		√		

Rail	IR-RLW-08	Construction of: Zahedan - Mirjaveh		√		
Rail	IR-RLW-09	Construction of: Shiraz - Bushehr		√		
Rail	IR-RLW-10	Construction and upgrade of: Tehran - Esfahan		√		

## Kazakhstan

Kazakhstan proposed 14 projects in total under EATL Phase I:

- 14 road projects (all classified as Priority I)

According to new information submitted by Kazakhstan all projects have been completed.

**Table 2.7-** Kazakhstan Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	KZ-ROD-01	Rehabilitation of the motorway Almaty – Gulshad on the sections Almaty – Gulshad, Akchatau – Karagandy	√			
Road	KZ-ROD-02	Reconstruction of the passage through Karagandy	√			
Road	KZ-ROD-03	Rehabilitation of the motorway Karagandy-Astana	√			
Road	KZ-ROD-04	Reconstruction of the highway network in Western Kazakhstan	√			
Road	KZ-ROD-05	Project on developing of the highway system (Almaty-Bishkek)	√			
Road	KZ-ROD-06	Reconstruction of the motorway Aktau - Atyrau	√			
Road	KZ-ROD-07	Reconstruction of the motorway Astana-Kostanai-Chelyabinsk	√			
Road	KZ-ROD-08	Reconstruction of the motorway Omsk-Pavlodar-Maikapchagai	√			
Road	KZ-ROD-09	Reconstruction of the motorway Borovoye-Kokshetau-Petropavlovsk- border of RF	√			
Road	KZ-ROD-10	Reconstruction of the motorway border of the RF – Uralsk – Aktobe	√			
Road	KZ-ROD-11	Reconstruction of the motorway Karabutak – Irghiz – border of Kyzylordinskaya oblast	√			
Road	KZ-ROD-12	Reconstruction of the motorway Kyzylorda – Zhezkazgan – Pavlodar – Uспенka –border of the RF	√			
Road	KZ-ROD-13	Reconstruction of the motorway Usharal - Dostyk	√			
Road	KZ-ROD-14	Reconstruction of the motorway border of Uzbekistan – (towards Tashkent) – Shymkent – Taraz –	√			

		Almaty - Khorgos			
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## Kyrgyzstan

Kyrgyzstan proposed 7 projects in total under EATL Phase I:

- 6 road projects (all classified as Priority I)
- 1 rail project (classified as Priority IV)

According to new information submitted by Kyrgyzstan all projects have been completed.

**Table 2.8-** Kyrgyzstan Project Status

Network	ID	Description	Completed	Part of EA TL Phase II	Not realized	No info
Road	KG-ROD-01	Project 'Rehabilitation of motor way Bishkek-Osh'	√			
Road	KG-ROD-02	Section of motor way (61-161 km), incl. Tunnel on the crossing Too-Ashoo	√			
Road	KG-ROD-03	Section of motor way (247-324 km; 360-414 km)	√			
Road	KG-ROD-04	Section of motor way (426 –498 km, 614 –664km)	√			
Road	KG-ROD-05	Project 'Rehabilitation of motor way Jalal-Abad – Uzgen and detour station Madaniyat'	√			
Road	KG-ROD-06	Project 'Rehabilitation of motor way Bishkek-Georgevka'	√			
Rail	KG-RLW-01	New Rolling Stock	√			

## Republic of Moldova

The Republic of Moldova proposed 9 projects in total under EATL Phase I:

- 5 road projects (all classified as Priority IV)
- 3 rail projects (1 classified as Priority I, 2 as Priority IV)
- 1 inland waterway project (classified as Priority I)

Moldova did not submit revised information. According to original information:

**Table 2.9-** Moldova Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	MD-ROD-01	Improvement of Road and Roadside Services along the Moldavian component of Corridor IX by modernising a 18-km Chişinău bypass	√			
Road	MD-ROD-02	Improvement of Road and Roadside Services along a 153-km road the border with Romania – Leuşeni – Chişinău – Dubăsari –		√		

		the border with Ukraine				
Road	MD-ROD-03	Improvement of a 217-km Road Chişinău – Cimişlia – Comrat – Vulcăneşti – Giurgiuleşti – the border with Romania		√		
Road	MD-ROD-04	Rehabilitation of a 68-km road Sarateni Vechi – Bălţi		√		
Road	MD-ROD-05	Rehabilitation of a 136-km road Bălţi – Criva		√		
Rail	MD-RLW-01	Construction of a 44-km railway line Revaca - Cainari (a missing link between the Moldavian components of Corridor IX, CE-95 and E-560 main lines)	√			
Rail	MD-RLW-02	Electrification of a 211-km railway line the border with Ukraine – Bender – Chişinău – Ungheni – the border with Romania		√		
Rail	MD-RLW-03	Construction of a 54-km railway line Cahul – Giurgiuleşti		√		
Inland	MD-INW-01	Construction of the Giurgiuleşti port complex on the territory of the Republic of Moldova in the mouth of the Danube river, including the terminal of oil product processing and a new oil refinery		√		

## Romania

Romania proposed 12 projects in total under EATL Phase I:

- 7 port projects (3 classified as Priority I and 4 classified as Priority IV)
- 5 inland waterway projects (3 classified as Priority I, 1 as Priority II and 1 as Priority IV)

According to new information submitted by Romania:

**Table 2.10-** Romania Project Status

Networ	ID	Description	Completed	Part of EATL Phase II	Not realised	No info
Port	RO-MAR-01	Construction of Container Terminal on Pier II S	√			
Port	RO-MAR-02	Construction of: Passenger Terminal	√			
Port	RO-MAR-03	Constanta Port Environment and Infrastructure project	√			
Port	RO-MAR-04	Extension of the North Breakwater in Constanta Port		√		
Port	RO-MAR-05	Construction of Cereal Terminal	√			
Port	RO-MAR-06	Construction of Liquid Gas Terminal				?
Port	RO-MAR-07	Construction of: Mineral Oil Terminal				?

Inland	RO-INW-01	Bank protection on Sulina Channel. Signaling and Topohydrographical Measurements system on the Danube		√		
Inland	RO-INW-02	Improvement of the Condition for Navigation on the Danube, km 375-175, Calarasi – Braila sector		√		
Inland	RO-INW-03	Implementation of the VTMISS (Vessel Traffic Management Information System on Danube, Romanian sector		√		
Inland	RO-INW-04	Activation and Development of the river maritime – sector in Constanta Port		√		
Inland	RO-INW-05	Improvement of the Navigation on the Danube, km 875 – 375, Romanian – Bulgarian sector		√		

## Russian Federation

*The Russian Federation did not submit information for the purpose of the EATL Phase I study.*

## Tajikistan

Tajikistan proposed 5 projects in total under EATL Phase I:

- 4 road projects (all classified as Priority IV)
- 1 rail project (classified as Priority IV)

Tajikistan did not submit revised information. According to original information all projects should have been completed.

**Table 2.11-** Tajikistan Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	TJK-ROD-01	Rehabilitation and reconstruction of highway Qurghonteppa -Dusti- Nizhniy Panj	√			
Road	TJK-ROD-02	Investment project Dushanbe - Termez	√			
Road	TJK-ROD-03	Post Fotekhobod, Buston, Sogd region	√			
Road	TJK-ROD-04	Post Bratstvo Tursun-zoda	√			
Rail	TJK-RLW-01	Improvement of regional railway Bekobod - Konibodom (Republic of Tajikistan)	√			

## Turkey

Turkey proposed 23 projects in total under EATL Phase I:

- 12 road projects (7 classified as Priority I and 5 classified as Priority III)
- 7 rail projects (2 classified as Priority I and 5 as Priority II)
- 4 port projects (all classified as Priority IV)

According to new information submitted by Turkey:

**Table 2.12-** Turkey Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
Road	TU-ROD-01	Upgrading: from Sarp Border Gate to Piraziz	√			
Road	TU-ROD-02	Upgrading: from Piraziz to Ünye	√			
Road	TU-ROD-03	Upgrading: from Ünye to Çarşamba	√			
Road	TU-ROD-04	Upgrading: from Samsun to Kavak	√			
Road	TU-ROD-05	Upgrading: from Kavak to Merzifon	√			
Road	TU-ROD-06	Upgrading: from Koyulhisar to Niksar Junction		√		
Road	TU-ROD-07	Upgrading: from Niksar Junction to Amasya		√		
Road	TU-ROD-08	Upgrading : from Gerede-15.Division Border		√		
Road	TU-RO-09	Upgrading : from 15. Division Border to Osmancık		√		
Road	TU-ROD-10	Upgrading :from Osmancık-Saraycık to Merzifon		√		

Road	TU-ROD-11	Upgrading: from 4.Division Border-Kurşunlu-Ilgaz to (Kastamonu –Korgun) Junction		√		
Road	TU-ROD-12	Upgrading: from (Kastamonu – Korgun) Junction – Tosya to 7.Division Border		√		
Rail	TU-RLW-01	Ankara-Istanbul High-Speed Railway Construction (PHASE1)		√		
	TU-RLW-01	Ankara-Istanbul High-Speed Railway Construction (PHASE2)		√		
Rail	TU-RLW-02	Bosphorus Rail Tunnel Crossing & Rehabilitation of Gebze-Halkalı Railway Line		√		
Rail	TU-RLW-03	Boğazköprü-Ulukışla-Yenice-Mersin-Adana-Toprakkale signalling and telecommunication project		√		
Rail	TU-RLW-04	Ankara- Sivas New Railway Construction		√		
Rail	TU-RLW-05	Kars-Tblisi New Railway Construction		√		
Rail	TU-RLW-06	Construction of: Lake Van Northern Crossing		√		
Port	TU-MAR-01	Rehabilitation of the Port of Derince				?
Port	TU-MAR-02	Modernization of facilities at İzmir port and dredging in İzmir Bay				?
Port	TU-MAR-03	Construction of second container terminal at Mersin Port		√		
Port	TU-MAR-04	Construction of container terminal at İskenderun Port				?

## Turkmenistan

*Turkmenistan did not submit information for the purpose of the EATL Phase I study.*

## Ukraine

Ukraine proposed 7 projects in total under EATL Phase I:

- 2 rail projects (classified as Priority I)
- 1 port project (classified as Priority I)
- 4 inland waterway projects (2 classified as Priority I and 2 as Priority IV)

Ukraine did not submit revised information. According to original information:

**Table 2.13-** Ukraine Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
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Rail	UKR-RLW-01	"Development of Ukrainian rails" Purchase of modern track technique for modernization and maintenance of track at section Lvov - Schmerinka-Kiev	√			
Rail	UKR-RLW-02	"High-speed passenger traffic at Ukrainian rails". Building of Beskidskiy tunnel (Pan-European transport corridor №5); passenger's coaches purchase; track technique purchase.	√			
Port	UKR-MAR-01	Trade port Illichevsk, multimodal terminal				?
Inland Waterway	UKR-INW-01	Pan-European transport corridor № 3 "Dnipro-Visla - Oder" ( including Dnipro deep-way (Dnipro mouth - Pripiyat mouth) - 1000 km, Pripiyat-Dnipro-Bygskiy channel - Western Byg untill the Western Byg flows into the Visla - 1026 km; Visla waterway - Budgoschuskiy channel -Odra – 554 km.				?
Inland Waterway	UKR-INW-02	Pan-European transport corridor № 9, "North - South" "Western Dvina (Dyagava) - Dnipro"				?
Inland Waterway	UKR-INW-03	Pan-European transport corridor № 7 Rein-Main-Dynai "Dynai - Black Sea"				?
Inland Waterway	UKR-INW-04	Deep-water navigable Dynai and Black sea connection (Dynai mouth reach at the territory of Ukraine, Odesskiy region).				?

## Uzbekistan

Uzbekistan proposed 15 projects in total under EATL Phase I:

- 5 road projects (classified as Priority I)
- 8 rail projects (5 classified as Priority I and 3 classified as Priority III)
- 2 port projects (1 classified as Priority I and 1 classified as Priority IV)

Uzbekistan did not submit revised information. According to original information:

**Table 2.14-** Uzbekistan Project Status

Network	ID	Description	Completed	Part of EATL Phase II	Not realized	No info
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Road	UZB-ROD-01	Rehabilitation and reconstruction of 152 km of Samarkand-Termez road (section of Transafghan international transport corridor)	√			
Road	UZB-ROD-02	Construction and reconstruction works of the road sections "Ukraine border-Volgograd-Astrahan-Atirau-Beineu-Tashkent" highway (main section of international transport corridor E-40)	√			
Road	UZB-ROD-03	Feasibility study and reconstruction and rehabilitation works of 500 kms of "Kungrad-Jaslik-Beineu" road	√			
Road	UZB-ROD-04	Construction and rehabilitation of Tashkent-Andijan-Osh-Saritash-Irkeshtam-Kashgar road 940 km				?
Road	UZB-ROD-05	Rehabilitation of 125 km of Angren-Pap mountain road				?
Rail	UZB-RLW-01	Reconstruction of 341 km of railroad, and laying of fiber line (Samarkand-Hodjadavlet)	√			
Rail	UZB-RLW-02	Construction of 232 km of railroad, and 68 km of railroad Reconstruction Tasgguzar-Boysun-Kumkurgan	√			
Rail	UZB-RLW-03	Electrification of 114 km of railroad line Tukimachi-Angren	√			
Rail	UZB-RLW-04	Reconstruction of 139 km of railroad line Marokand-Karshi		√		
Rail	UZB-RLW-05	Reconstruction of railroad station Termez-Galaba, including bridge through the river Amudarya laying telecommunicational links	√			
Rail	UZB-RLW-06	Construction and electrification of 118 km new railroad Angren-Pap line with mountain tunnel				?
Rail	UZB-RLW-07	Reconstruction of 79 km of Djalalabad-Karasu-Andijan railroad section				?
Rail	UZB-RLW-08	Reconstruction of 700 km of Aktau-Beineu-Kungrad railroad section				?
Freight Terminal	UZB-INM-01	Construction of customs control complex "Karakalpaliya", which will control rail and road transportation				?
Freight	UZB-INM-02	Modernization and supply with a	√			

Terminal		modern equipment of the country customs control complexes and main customs points				
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## Summary Results

Table 2.15 presents a summary of the current status of projects that were submitted under EATL Phase I from the 15 countries that submitted data.

To this end, according to the summary results:

- 54% of the projects have been completed
- 24% of the projects are now part of EATL Phase II
- 2% of the projects have not been realised
- For 22% of the projects no information of current status was made available

**TABLE 2.15-Summary of EATL Phase I Project Current Status**

<b>Country</b>	<b>STATUS</b>				<b>Total</b>
	<b>Completed</b>	<b>Part of EAT L Phase II</b>	<b>Not realised</b>	<b>No info</b>	
Afghanistan					
Armenia	6			3	9
Azerbaijan	3	5		2	10
Belarus	4				4
Bulgaria	13	10		1	24
China	4	1		3	8
Georgia	18	2	5	24	49
Iran	29	12		3	44
Kazakhstan	14				14
Kyrgyzstan	7				7
Republic of Moldova	2	7			9
Romania	4	6		2	12
Russian Federation					0
Tajikistan	5				5
Turkey	5	15		3	23
Turkmenistan					0
Ukraine	2			5	7
Uzbekistan	8	1		6	15
<b>Total</b>	<b>124</b>	<b>59</b>	<b>5</b>	<b>52</b>	<b>240</b>

3. Updating EATL priority infrastructure projects and developing an EATL investment plan

## **INTRODUCTION**

### **Background**

The Euro-Asian Transport Links (EATL) Project Phase I, carried out from 2002 to 2007, was a joint undertaking between the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Within the framework of EATL Phase I, fifteen countries proposed transport infrastructure priority projects, namely: Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan. All projects considered were subjected to a structured evaluation based on a prioritization methodology developed by the External Consultant – approved by the National Focal Points of the countries involved - with the scope to develop an international investment plan for EATL Project Phase I.

UNECE and UNESCAP have elaborated a joint proposal for a Phase II to be implemented during a four-year period, ranging from 2008 to 2012. In addition to the countries that participated in the previous exercise, Phase II involves the following new participating countries: Finland, Germany, Greece, Latvia, Lithuania, Luxemburg, Mongolia and the former Yugoslav Republic of Macedonia. At a later stage, Pakistan requested to join the work. One of the activities foreseen for Phase II is the revision (updating) of the EATL priority transport infrastructure projects and the development of an international investment plan under EATL Project Phase II.

To this end, a review and update of the list of EATL Phase I priority projects was carried out, and a new interregional investment plan of priority projects of EATL Phase II was developed, based on country inputs received through uniform questionnaires and templates. More specifically, the current study included the following tasks:

- Assess the status of implementation of projects identified under EATL Phase I, including analysis of their implementation rate, reasons of progress or lack of progress, based on country inputs.
- Review and update of projects identified under EATL Phase I, to be included in a new investment plan of EATL Phase II.
- Establish a methodology for the prioritization of new proposed projects to be included in the new investment plan of EATL Phase II.
- Collect and analyse information on new projects based on country inputs, prioritize these through the application of the proposed methodology and include them in the new investment plan of EATL Phase II.

To this end, a review and update of the list of EATL Phase I priority projects was carried out, and a new investment plan of priority projects of EATL Phase II was developed, based on country inputs received through the new priority projects submitted under the second phase of the project.

## **Scope of report**

The scope of the present report is to provide an overview of the methodology developed for the prioritization of the proposed projects and to analyse the information on new projects based on country inputs, prioritize these through the application of the proposed methodology and include them in the new investment plan of EATL Phase II. The goal is to present a consistent and realistic short, medium and long term investment strategy for the identified EATL routes. This includes an extensive inventory of specific road rail, inland waterway, maritime port, inland terminals and other infrastructure projects for the twenty seven participating countries, together with their estimated budget and pragmatic investment time plan for their implementation.

The analysis was based on the:

- review and update of projects identified under EATL Phase I
- methodology and related assumptions for the prioritization of new proposed projects to be included in the new investment plan of EATL Phase I

# METHODOLOGY FOR PROJECT PRIORITIZATION

## Introduction

The framework for the prioritization of new proposed projects to be included in the investment plan of EATL Phase II entails the development of a methodology for the identification of proposed projects and their grouping into one of the specified implementation time periods, identical to the one developed for the purpose of EATL Phase I project prioritization, in order to ensure consistency of the projects identified under the two EATL phases. This methodology was developed by the external consultant Professor Dimitrios Tsamboulas and is well documented in the related Report<sup>57</sup>. Nevertheless, a brief description of the methodology in hand is included in the present document for reasons of completeness.

The method proposed is straightforward, and it is based on the well established Multi-Criteria Analysis (MCA). The application of the method will identify these projects that are likely to be implemented in selected time periods (short term, medium term, long term) and at the same time address the specific objectives of the countries and the international character of the projects.

This method establishes preferences between options by reference to an explicit set of objectives that the decision making body (e.g. Ministry of Transport/Infrastructure) has identified, and for which it has established measurable criteria to assess the extent to which the objectives have been achieved. These criteria are defined through observations, discussions, experimentations and trial-and-error processes. Although there is an inherent subjectivity associated with this method, it is believed that it can bring a degree of structure, analysis and openness to classes of decision. The preferences are merely related to the time frame/periods of the projects implementation. Four time frames/periods are selected, as will be described in the following.

Consequently, no evaluation is carried out for the projects, since this would require a vigorous feasibility study for each project with the same measurement values and then cross-evaluation of the projects between the participating countries. Nevertheless, in the case that the countries have carried out an evaluation/feasibility study, the results of such study (e.g. IRR) will be taken into consideration.

## Overview of the Methodology

The proposed methodological framework for project prioritization is structured in three phases, i.e. *identification*, *analysis* and *time period classification*, in order to secure the inclusion of the sum of all proposed EATL projects in the revision of the EATL investment strategy.

The definition of “project”, as specified in the original EATL methodology, is the following:

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<sup>57</sup> Economic Commission for Europe and Economic and Social Commission for Asia and the Pacific. “Joint Study on Developing Euro-Asian Transport Linkages”, United Nations, New York and Geneva, 2008.



**Definition of Project:** A project is considered a new construction or the upgrade/rehabilitation of a transport infrastructure section. Also a project can be the construction or the upgrade/rehabilitation of a transport terminal/port (maritime or inland waterways) etc. The infrastructure section can vary in length however it should constitute an expenditure of almost 10 million \$. An exception of the latter mentioned rule applies if the project involves a missing link or a bottleneck.

Based on the above, the following types of projects will be considered in the present prioritization exercise:

- iv) Projects of EATL Phase I, as submitted in the EATL Phase I, updated or revised, including those for which additional data is provided.
- v) Any new projects submitted, from both the group of countries that participated in EATL Phase I and new countries involved in the EATL Phase II

The phases of the proposed methodology are briefly described in the next sections below:

### ***Phase A-Identification***

The identification phase entails the recording of prospective projects, based on their readiness and funding possibilities, as well as the common-shared objectives of responsible authorities, national or international, and the collection of readily available information/ data regarding these projects.

### ***Phase B – Analysis***

The analysis is carried out with the application of the well-established multi-criteria approaches, such as the direct analysis of criteria performance, Pair Comparison Matrix and MAUT (Multi Attribute Utility Theory). Both approaches were used in the original EATL Master Plan.

It should also be noted that the set of criteria used will be the same with those used in EATL Phase I.

### ***Phase C – Time Period Classification***

In the final phase, the selection of projects is carried out according to their “performance” score. Based on the latter, projects are classified into four Time Period Categories (I, II, III and IV), each related to a specified time horizon, as follows:

- **Category I:** projects, which have funding secured and are on-going and expected to be completed in the near future (**up to 2013**).
- **Category II:** projects, which may be funded or their plans are approved and are expected to be implemented rapidly (**up to 2016**).

- **Category III:** projects requiring some additional investigation for final definition before likely financing and implemented (**up to 2020**).
- **Category IV:** projects requiring further investigation for final definition and scheduling before possible financing, including projects, for which insufficient data existed. (**most likely to be implemented after 2020**)

## **Compliance with EATL Phase I**

Although the same methodology of EATL Phase I was also applied for the case of EATL Phase II, a number of issues were taken into account, as follows:

- Updating EATL projects entails the identification and grouping of projects into one of four implementation time periods that will not be the same with those specified in EATL Phase I, since the time period considered in Phase II differs to the one of Phase I. Proposed implementation periods and categories for EATL Phase II were described in the previous Section 2.2.3 in the above.
- A number of projects under EATL Phase I were placed in category IV due to lack of essential data. This data might become available during the data collection of EATL Phase II, and hence, if provided, a number of these projects may score higher rates and be placed in one the other three categories (I, II or III) in the new investment plan.

## **Important conditions for proposed methodology**

Although the rest of the methodology remained identical to that employed in EATL Phase I, it is deemed necessary to list a number of key conditions:

- Projects should be along the identified main EATL routes.
- Projects that were not along identified EATL routes were considered of national importance and were assigned to a Reserve Category.
- Projects should refer to an expenditure of at least 10 million \$ per project.
- Projects with secured funding and being at the final implementation phase (almost completed) were directly considered for Category I.
- For projects without committed funding or partly committed funding or under the planning phase, further analysis (Phase B of the methodology) was carried out in order to set implementation priorities, against common shared objectives.
- As the analysis was based on data collected from the countries, projects without any data were automatically classified as last priority in terms of implementation (Category IV).

# DATA COLLECTION

## Introduction

The data collection process for the purpose of the revision of the original EATL Phase I and the development of the new investment plan for Phase II required the input from countries divided in the following three main categories:

- IV. Projects identified under EATL Phase I, involving only the 15 countries that submitted data (i.e. Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan). This is related to CASE A of Data collection in the following section.
- V. New project proposals from the 15 countries that have participated in EATL Phase I, as well as project proposals of those that did not submit any data during EATL Phase I (i.e. Afghanistan, Russian Federation, Turkmenistan). This is related to CASE B of Data collection in the following section.
- VI. New project proposals from newly involved countries (Finland, Germany, Greece, Latvia, Lithuania, Luxemburg, Mongolia and the former Yugoslav Republic of Macedonia,.). This is related to CASE B for Data collection in the following section.

## Data Collection Procedure

Based on the above, two distinct cases were identified with regards to data collection; the first, Case A, refers to projects identified under EATL Phase I, involving only the 15 countries mentioned in the above, while the second, Case B, included the new project proposals by all countries involved in EATL Phase II.

### Case A

For projects already submitted under EATL Phase I, each participating country were asked to review and update the related information for each of these projects. The National Focal Points received separately Templates B (B1, B2, B3, B4) containing the data of their respective country, as originally submitted. These were in excel format, as presented in Annex I, and were completed by the external consultant, as follows: the already submitted projects under EATL Phase I were listed in the white cells of these forms with associated data already submitted in the yellow cells. Thus, each of the 15 countries was asked to verify existing data and update and/ or complete the data in the yellow cells for each of the projects.

The Templates **B (B1, B2, B3, B4)** for each country that submitted data under EATL Phase I include the following:

- **Template B1:** EATL ROAD PROJECTS existing in EATL Phase I
- **Template B2:** EATL RAILWAY PROJECTS existing in EATL Phase I

- **Template B3:** EATL INLAND WATERWAY PROJECTS existing in EATL Phase I
- **Template B4:** EATL PORTS (SEA AND INLAND WATERWAY), INLAND CONTAINER DEPOT/INTERMODAL FREIGHT TERMINAL/FREIGHT VILLAGE/LOGISTIC CENTRE existing in EATL Phase I

Templates B (B1, B2, B3, B4) are crucial in order to fulfil the requirements for the revision of the EATL Phase I, that is, assess the implementation status, review and update projects identified and allocate the projects in the appropriate time period classification.

It should be noted that for the purpose of the present study, minimum additional data were requested for the EATL projects, as per Template B.

Therefore, each country was asked to provide information on the:

- e) Expenses made so far (2009), as a percentage of the total project's cost.
- f) Percentage of budget of public works allocated.
- g) The country's GDP for 2007.
- h) Recommendations for the cases of non-secured funding with regards to potential funding sources to cover the amounts for which funds have not been secured.

## **Case B**

With regards to new project proposals to be submitted, the new countries that joined EATL Phase II, as well as the countries that participated in the EATL Phase I prioritisation exercise received a uniform Questionnaire for each transport mode- Templates 2 (2A, 2B, 2C, 2D).

The samples for Templates 2 (2A, 2B, 2C, 2D) are presented in Annex II and include the following:

- Template 2A: ROAD and related infrastructure Project Fiche
- Template 2B: RAIL and related infrastructure Project Fiche
- Template 2C: INLAND WATERWAYS and related infrastructure Project Fiche
- Template 2D: PORTS (sea and inland waterway), INLAND CONTAINER/INTERMODAL FREIGHT TERMINAL/FREIGHT VILLAGE/LOGISTIC CENTRE and related infrastructure Project Fiche

## **Additional Information upon Original Submission**

Additional information on the EATL projects was requested from counties that submitted their respective input by the consultant through direct correspondence with each respective NFP. Therefore, the following information was requested following original submissions:

For Case A-Templates B(1-4):

- Information on the reasons for which the implementation of projects had been delayed, if applicable.
- The rate of prices adjustment from year 2007 to 2008, since project cost will be given in 2007 prices.

For Case B-Templates 2 (A-D):

- Expenses made so far (2009), as a percentage of the projects total cost
- Percentage of budget of public works allocated.
- GDP (year 2008 in million).
- Recommendations with regards to potential sources of funding for the cases of non-secure funding, if applicable.
- Reasons for which project implementation has been delayed, if applicable.

In addition to the above, the countries were asked through their NFPs—if they so wished- to provide for the purpose of the analysis-Part B of the methodology, described in Section 2.2.2 of this report, their own weights, with the appropriate justification, by completing the following Table 3.1.

**Table 3.1-Criteria Weights Template**

<b>Criterion Weight</b>	<b>Description of Criterion</b>	<b>Default Weight (as used in EATL Phase I)</b>	<b>Weight provided by Country</b>
<b>CLUSTER A</b>			
<b>W<sub>CA1</sub></b>	Serving international connectivity (reaching a border crossing point or provide connection to a link that is border crossing).	3.13	
<b>W<sub>CA2</sub></b>	Promoting solutions to the particular transit transport needs of the landlocked developing countries.	9.38	
<b>W<sub>CA3</sub></b>	Connecting low income and/or least developed countries to major European and Asian markets.	19.79	
<b>W<sub>CA4</sub></b>	Crossing natural barriers, removing bottlenecks, raising substandard sections to meet international standards, or filling missing links in the TEM network.	17.71	
<b>Total A</b>		<b>50</b>	<b>50</b>
<b>CLUSTER B</b>			
<b>W<sub>CB1</sub></b>	Having a high degree of maturity, in order to be carried out quickly (i.e. project stage)	40.00	
<b>W<sub>CB2</sub></b>	Environmental and social impacts.	10.00	
<b>Total B</b>		<b>50</b>	<b>50</b>
<b>Total</b>		<b>100</b>	<b>100</b>

### **Input received**

Out of the 27 countries participating in this project, 19 countries submitted data through their NFPs on the projects under evaluation.

**Countries that submitted updated data:**

**(It should be noted that in certain cases insufficient data was provided.)**

**Armenia, Azerbaijan, Bulgaria, China, Georgia, Germany, Greece, Latvia, Lithuania, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Republic of Moldova, Romania, Russian Federation, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey**

**Countries that did not submit updated or new data:**

**Belarus, Iran, Finland, Luxemburg, Turkmenistan, Ukraine, Uzbekistan**

**Other sources**

For the purpose of obtaining data for those countries that did not submit any information, as well as for the purpose of completeness of information, external sources were employed. These are explicitly identified in each case.

**Data presentation**

Each project is identified with a unique Project ID specifying the country, the transport mode and a specific number. The following abbreviations were introduced for country identification in Project ID: Afghanistan (AFG), Armenia (ARM), Azerbaijan (AZE), Belarus (BLR), Bulgaria (BGR), China (CHN), Finland (FIN), Georgia (GEO), Germany (GM), Greece (GR), Iran (IRN), Kazakhstan (KAZ), Kyrgyzstan (KGZ), Latvia (LVA), Lithuania (LTU), Luxembourg (LUX), Moldova (MDA), Mongolia (MNG), Pakistan (PAK), Romania (ROU), Russian Federation (RUS), Tajikistan (TJK), the Former Yugoslav Republic of Macedonia (FYROM), Turkey (TUR), Turkmenistan (TKM), Ukraine (UKR), Uzbekistan (UZB).

The following abbreviations were introduced for type of infrastructure identification in Project ID: Road projects (ROD), Railway project (RLW), Maritime projects (MAR), Inland waterway projects (INL), Inland/border crossing and other projects (INM).

Table 3.2 presents the number of projects submitted by each country per type of infrastructure under the two distinct categories, that is, those that are along proposed EATL routes, and those that are of national importance, thus belonging to the Reserve category.

*Annex III* presents the completed templates of project information, for all projects considered for EATL Phase II, for each of the participating countries.



**TABLE 3.2-DATA SUBMITTED BY COUNTRIES FOR ALL PROJECTS AND PER TYPE OF INFRASTRUCTURE**

Country	Total	EATL	Per type of infrastructure-EATL					Reserve	Per type of infrastructure-Rerverve			
			ROAD	RAILWAY	MARITIME	INW	INM		ROAD	RAILWAY	MARITIME	INW
			No. of projects	No. of projects	No. of projects	No. of projects	No. of projects		No. of projects	No. of projects	No. of projects	No. of projects
Afghanistan	35	6	6					29	17	12		
Armenia	13	10	5	3			2	3		3		
Azerbaijan	6	6	4	1	1							
Belarus												
Bulgaria	23	11	3	6	1	1		12	11	1		
China	18	18	16		2							
Finland												
Georgia	18	14	12	2				4	4			
Germany	5	4	2	2				1		1		
Greece	5	3	2		1			2	2			
Iran	7	6		6				1		1		
Kazakhstan	13	10	8	2				3	1	2		
Kyrgystan	16	11	8	3				5	5			
Latvia	16	16	6	10								
Lithuania	55	48	9	30	5	4		7	3	3	1	
Luxemburg												
Mongolia	1							1		1		
Pakistan	26	24	21	1	2			2	1	1		
Republic of Moldova	7	5	3	1			1	2	1	1		
Romania	7	6			1	5		1	1			
Russian Federation	70	50	17	23	5		5	20	4	16		
Tajikistan	32	12	9	2				20	13	6		
The former Yugoslav Republic of Macedonia	6	6	2	4								
Turkey	18	15	8	7				3				3
Turkmenistan												
Ukraine												
Uzbekistan	7	6		6				1		1		
<b>Total</b>	<b>404</b>	<b>287</b>	<b>141</b>	<b>109</b>	<b>18</b>	<b>11</b>	<b>8</b>	<b>117</b>	<b>63</b>	<b>49</b>	<b>4</b>	<b>0</b>

# PROJECT PRIORITIZATION

## Introduction

This chapter presents the results of the application of the prioritisation methodology on the projects considered under EATL Phase II at the country level. To this end, projects together with their associated costs are presented:

- a) By type of infrastructure:
  - Road projects (ROD)
  - Railway project (RLW)
  - Maritime projects (MAR)
  - Inland waterway projects (INL)
  - Inland/border crossing and other projects (INM)
  
- b) By priority category:
  - **Category I:** projects, which have funding secured and are on-going and expected to be completed in the near future (up to 2013).
  - **Category II:** projects, which may be funded or their plans are approved and are expected to be implemented rapidly (up to 2016).
  - **Category III:** projects requiring some additional investigation for final definition before likely financing and implemented (up to 2020).
  - **Category IV:** projects requiring further investigation for final definition and scheduling before possible financing, including projects, for which insufficient data existed. (most likely to be implemented after 2020)
  - **Completed projects**
  - **Reserve category:** projects along other important routes and of national importance that may be included in the EATL routes in the future.

It should be noted that the application of the methodology was based on the updated data received by each country involved. Nevertheless, the application of the methodology was not feasible in most cases due to limited availability of data. To this end, in the case of limited data availability, the consultant attempted to either collect the missing information from other sources, or categorise the project based on the available data. The cases, for which the application of the methodology was carried out, are presented in detail in *ANNEX IV*.

In addition, projects belonging to the *Reserve Category*, were not evaluated and hence not included in the prioritisation exercise.

Project costs are depicted in Billion United States Dollars. Where necessary, an average conversion rate for year 2010 was used<sup>58</sup>.

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<sup>58</sup> <http://www.x-rates.com/d/USD/EUR/hist2010.html>

## Afghanistan

Afghanistan proposed in total 35 projects, out of which 6 are along proposed EATL routes. More specifically:

- 23 Road Projects
  - 6 are along proposed EATL Routes
    - 1 has committed funding and thus belongs to Category I
    - 5 were classified as category IV due to lack of information on funding
  - 17 are of national importance
- 12 Rail Projects, all of national importance

According to available information 1% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.1 below, while Figure 5.1 and Figure 5.2 in *ANNEX V* depict the location of the road and rail projects, respectively.

**Table 4.1-Afghanistan Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>35</b>	<b>1</b>			<b>5</b>		<b>29</b>	
<b>Cost* of projects</b>		<b>&gt;3,020</b>	<b>0,003</b>			<b>&gt;0,225</b>		<b>&gt;2,792</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>23</b>	1			5	17	
		Cost* of projects	<b>&gt;2,149</b>	0,003			>0,225	1,921	
	<b>RLW</b>	No. of projects	<b>12</b>					12	
		Cost* of projects	<b>&gt;0,871</b>					>0,871	
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\* in Billion USD

## Armenia

Armenia proposed in total 13 projects, out of which 10 are along proposed EATL routes. More specifically:

- 5 Road Projects:
  - All along proposed EATL routes

- Committed funding, thus belong to Category I
- 6 Rail Projects<sup>59</sup>:
  - 3 are along EATL routes
  - Category IV (at launch of tender but financing not secured yet)
  - 3 are of national importance
- 2 Other Projects<sup>60</sup> (Logistic Centres):
  - All along proposed EATL routes
  - Category II (Transport Strategy 2009-2019 to be completed in 2015).

According to available information 21% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.2 below, while Figure 5.3 and Figure 5.4 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.2-Armenia Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>13</b>	<b>5</b>	<b>2</b>		<b>3</b>		<b>3</b>	
<b>Cost* of projects</b>		<b>&gt;2,788</b>	<b>0,517</b>	<b>-**</b>		<b>&gt;1,895</b>		<b>&gt;0,377</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>5</b>	5					
		Cost* of projects	<b>0,517</b>	0,517					
	<b>RLW</b>	No. of projects	<b>6</b>			<b>3</b>		<b>3</b>	
		Cost* of projects	<b>&gt;2,271</b>			<b>&gt;1,895</b>		<b>&gt;0,377</b>	
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects	<b>2</b>		2					
	Cost* of projects	<b>-**</b>		<b>-**</b>					

\* in Billion USD

\*\*no cost estimate provided

<sup>59</sup> "Priority Projects-Fact Sheets", First TRACECA Investment Forum, Brussels 12<sup>th</sup> October 2010

<sup>60</sup> "Transport Sector in Armenia", 19TH OSCE Economic and Environmental Forum, Druskininkai, Lithuania, 4-5 April 2011

## Azerbaijan

Azerbaijan proposed in total 6 projects, which are all along proposed EATL routes. All have committed funding and, thus, belong to Category I. With regard to infrastructure type, the breakdown is as follows:

- 4 Road Projects
- 1 Rail Project
- 1 Port Project

According to available information 100% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.3 below, while Figure 5.5 and Figure 5.6 in *ANNEX V* depict the location of the road and rail projects, respectively.

**Table 4.3-Azerbaijan Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>6</b>	<b>6</b>						
<b>Cost* of projects</b>		<b>&gt;1,788</b>	<b>&gt;1,788</b>						
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>4</b>	4					
		Cost* of projects	<b>0,938</b>	0,938					
	<b>RLW</b>	No. of projects	<b>1</b>	1					
		Cost* of projects	<b>&gt;0,45</b>	>0,45					
	<b>MAR</b>	No. of projects	<b>1</b>	1					
		Cost* of projects	<b>0,4</b>	0,4 <sup>61</sup>					
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\* in Billion USD

## Belarus

Belarus did not submit any data for the purpose of the EATL Phase II Study. According to original information, all projects submitted under EATL Phase I, should have been completed.

<sup>61</sup> <http://www.abc.az/eng/news/23628.html>

## Bulgaria

Bulgaria proposed 23 projects, as per the following:

- 14 Road Projects
  - 3 are along proposed EATL routes, which based on available information:
    - 2 were classified as Category I
    - 1 was classified as Category II
  - 11 are of national importance
- 7 Rail Projects
  - 6 are along proposed EATL routes and have committed funding, thus belong to Category I
  - 1 is of national importance
- 1 Maritime port project that has been completed
- 1 Inland waterway project for which no information is given and is classified as Category IV

According to available information 93% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.4 below, while Figure 5.7 and Figure 5.8 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.4-Bulgaria Prioritisation Results Summary**

			All	Per Priority Category					Com-	Reserve
				I	II	III	IV			
<b>No. of projects</b>			<b>23</b>	<b>9</b>	<b>1</b>		<b>1</b>		<b>12</b>	
<b>Cost* of projects</b>			<b>&gt;8,097</b>	<b>&gt;7,365</b>	<b>0,332</b>		<b>-.*</b>		<b>0,4</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>14</b>	2	1				11	
		Cost* of projects	<b>0,929</b>	>0,323	0,332				0,274	
	<b>RLW</b>	No. of projects	<b>7</b>	6					1	
		Cost* of projects	<b>6,975</b>	6,849					0,126	
	<b>MAR</b>	No. of projects	<b>1</b>					1		
		Cost* of projects	<b>0,193</b>					0,193		
	<b>INW</b>	No. of projects	<b>1</b>				1			
		Cost* of projects	<b>-.**</b>				-.**			
<b>INM</b>	No. of projects									
	Cost* of projects									

\*in Billion USD

\*\* no cost estimate provided

## China

China proposed 18 projects in total, which are all along proposed EATL routes, as per the following:

- 16 Road Projects:
  - 6 have committed funding, thus belong to Category I
  - For the remaining 7, according to the application of the prioritization methodology:
    - 6 were classified as Category II
    - 1 was classified as Category III
- 2 Port Projects that have committed funding, thus belong to Category I

According to available information 57% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.5 below, while Figure 5.9 in *ANNEX V* depicts the location of the road projects. The results of the application of the methodology are presented in *Annex IV*.

**Table 4.5-China Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>18</b>	<b>8</b>	<b>9</b>	<b>1</b>				
<b>Cost* of projects</b>		<b>&gt;7,193</b>	<b>&gt;4,072</b>	<b>3,003</b>	<b>0,118</b>				
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>16</b>	6	9	1			
		Cost* of projects	<b>&gt;6,289</b>	>3,168	3,003	0,118			
	<b>RLW</b>	No. of projects							
		Cost* of projects							
	<b>MAR</b>	No. of projects	<b>2</b>	2					
		Cost*of projects	<b>0,904</b>	0,904					
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Finland

Finland did not submit any data for the purpose of the EATL Phase II Study.



## Georgia

Georgia proposed 18 projects, as per the following:

- 16 Road projects
  - 12 along proposed EATL routes
    - 6 have committed funding and thus belong to Category I
    - For the remaining 6, there was limited information given and, thus, were classified as Category IV
  - 4 of national importance
- 2 Rail Projects along proposed EATL routes:
  - 1 has committed funding, and thus belongs to Category I
  - According to available information the remaining project was classified as Category II.

According to available information 66% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.6 below, while Figure 5.10 and Figure 5.11 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.6-Georgia Prioritisation Results Summary**

		All	Per Priority Category				Com-	Reserve
			I	II	III	IV		
<b>No. of projects</b>		<b>18</b>	<b>7</b>	<b>1</b>		<b>6</b>	<b>4</b>	
<b>Cost* of projects</b>		<b>1,227</b>	<b>0,772</b>	<b>0,399</b>		<b>-.**</b>	<b>&gt;0,056</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>16</b>	6			6	4
		Cost* of projects	<b>&gt;0,495</b>	0,439			-.**	>0,056
	<b>RLW</b>	No. of projects	<b>2</b>	1	1			
		Cost* of projects	<b>0,732</b>	0,333	0,399			
	<b>MAR</b>	No. of projects						
		Cost* of projects						
	<b>INW</b>	No. of projects						
		Cost* of projects						
<b>INM</b>	No. of projects							
	Cost* of projects							

\*in Billion USD

\*\* no cost estimate provided

## Germany

Germany proposed 5 projects, as per the following:

- 2 Road Projects along proposed EATL routes
  - According to evaluation methodology, these were classified as Category IV.
- 3 Rail Projects
  - 2 along EATL routes
  - According to evaluation methodology:
    - 1 is classified as Category III
    - 1 is classified as Category IV
  - 1 of national importance

According to available information no funding has been secured.

The above information complete with project costs is summarized in Table 4.7 below, while Figure 5.12 and Figure 5.13 in ANNEX V depict the location of the road and rail projects, respectively. The results of the application of the methodology are presented in Annex IV.

**Table 4.7-Germany Prioritisation Results Summary**

			All	Per Priority Category					
				I	II	III	IV	Com-	Reserve
<b>No. of projects</b>			<b>5</b>			<b>1</b>	<b>3</b>		<b>1</b>
<b>Cost* of projects</b>			<b>&gt;1,734</b>			<b>0,717</b>	<b>&gt;0,352</b>		<b>0,665</b>
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>2</b>				2		
		Cost* of projects	<b>0,352</b>				0,352		
	<b>RLW</b>	No. of projects	<b>3</b>			1	1		1
		Cost* of projects	<b>&gt;1,382</b>			0,717	-**		0,665
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

\*\* no cost estimate provided

## Greece

Greece proposed 5 projects, as per the following:

- 4 Road Projects
  - 2 are along EATL routes, have committed funding, thus belong to Category I

- 2 are of national importance
- 1 Port Project
  - Along EATL route with committed funding, thus belongs to Category I

According to available information 100 % of funding has been secured.

The above information complete with project costs is summarized in Table 4.8 below, while Figure 5.14 ANNEX V depicts the location of the road projects.

**Table 4.8-Greece Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>5</b>	<b>3</b>					<b>2</b>	
<b>Cost* of projects</b>		<b>&gt;0,865</b>	<b>0,763</b>					<b>&gt;0,102</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>4</b>	2				2	
		Cost* of projects	<b>&gt;0,807</b>	0,705				>0,102	
	<b>RLW</b>	No. of projects							
		Cost* of projects							
	<b>MAR</b>	No. of projects	<b>1</b>	1					
		Cost* of projects	<b>0,058</b>	0,058					
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

*\*in Billion USD*

## Iran

Iran did not submit information for the purpose of the EATL Phase II Study.

According to other information available<sup>62</sup>, Iran proposed 7 rail projects, out of which 6 are along proposed EATL routes and one is of national importance. Based on the available information:

- 5 were classified as Category I
- 1 was classified as Category II

According to available information 61% of the funding has been secured.

<sup>62</sup> H. JAMALI, Deputy General Director of Intl. Affairs. Presentation “The first regional workshop of Euro-Asian transport links Phase II Facilitation of Euro-Asia transport in the ECO region”

The above information complete with project costs is summarized in Table 4.9 below, while Figure 5.15 ANNEX V depicts the location of the rail projects.

**Table 4.9-Iran Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>7</b>	<b>5</b>	<b>1</b>				<b>1</b>	
<b>Cost* of projects</b>		<b>&gt;3,478</b>	<b>2,128</b>	<b>1,35</b>				<b>._**</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects							
		Cost* of projects							
	<b>RLW</b>	No. of projects	<b>7</b>	<b>5</b>	<b>1</b>			<b>1</b>	
		Cost* of projects	<b>&gt;3,478</b>	<b>2,128</b>	<b>1,35</b>			<b>._**</b>	
	<b>MAR</b>	No. of projects							
		Cost*of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

\*\* no cost estimate provided

## Kazakhstan

Kazakhstan proposed 13 projects in total, as per the following:

- 9 Road Projects
  - 8 are along EATL routes
  - 1 project is of national importance
- 4 Rail Projects
  - 2 are along EATL routes
  - 2 are of national importance

Based on relevant information collected<sup>63</sup>, all projects proposed along EATL routes are planned to go ahead, and thus belong to Category I.

According to available information 100% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.10 below, while Figure 5.16 and Figure 5.17 in ANNEX V depict the location of the road and rail projects, respectively.

<sup>63</sup> CAREC Report, "Kazakhstan: Country Progress Report on the Implementation Action Plan for the Transport and Trade Facilitation Strategy", 22 April 2009 and  
г. Вена, ноябрь 2010 год, Presentation: DEVELOPMENT OF ROAD AND RAIL TRANSPORT INFRASTRUCTURE, Vienna November 2010

**Table 4.10-Kazakhstan Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>13</b>	<b>10</b>					<b>3</b>	
<b>Cost* of projects</b>		<b>10,489</b>	<b>8,918</b>					<b>1,571</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>9</b>	8				1	
		Cost* of projects	<b>7,841</b>	7,411				0,43	
	<b>RLW</b>	No. of projects	<b>4</b>	2				2	
		Cost* of projects	<b>2,648</b>	1,507				1,141	
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Kyrgyzstan

Kyrgyzstan proposed 16 projects in total, as per the following:

- 13 Road Projects
  - 8 are along EATL routes
    - 7 have committed funding, thus belong to Category I
    - 1 has been completed
  - 5 are of national importance
- 3 Rail Projects along EATL routes
  - Based on available information:
    - 2 is classified as Category II
    - 1 is classified as Category IV

According to available information 21% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.11 below, while Figure 5.18 and Figure 5.19 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.11-Kyrgyzstan Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>16</b>	<b>7</b>	<b>2</b>		<b>1</b>	<b>1</b>	<b>5</b>	
<b>Cost* of projects</b>		<b>2,06</b>	<b>0,404</b>	<b>1,416</b>		<b>0,1</b>	<b>0,033</b>	<b>0,107</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>13</b>	7			1	5	
		Cost* of projects	<b>0,543</b>	0,404			0,033	0,107	
	<b>RLW</b>	No. of projects	<b>3</b>		2		1		
		Cost* of projects	<b>1,517</b>		1,416		0,1		
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Latvia

Latvia proposed 16 projects, all along proposed EATL routes, as per the following:

- 6 road projects
  - 3 have committed funding and thus belong to Category I
  - For 3, no information on sources of funding is available and hence, were classified as Category IV.
- 10 rail projects
  - 8 have committed funding and thus belong to Category I
  - For 2, no information on sources of funding was available and hence, were classified as Category IV.

Based on available information, 25% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.12 below, while Figure 5.20 and Figure 5.21 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.12-Latvia Prioritisation Results Summary**

		All	Per Priority Category				Com-	Reserve
			I	II	III	IV		
<b>No. of projects</b>		<b>16</b>	11			5		
<b>Cost* of projects</b>		<b>3,683</b>	0,925			2,758		
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>6</b>	3		3		
		Cost* of projects	<b>0,967</b>	0,365		0,602		
	<b>RLW</b>	No. of projects	<b>10</b>	8		2		
		Cost* of projects	<b>2,716</b>	0,560		2,156		
	<b>MAR</b>	No. of projects						
		Cost* of projects						
	<b>INW</b>	No. of projects						
		Cost* of projects						
<b>INM</b>	No. of projects							
	Cost* of projects							

*\*in Billion USD*

## Lithuania

Lithuania proposed 55 projects, as per the following:

- 12 Road Projects
  - 9 are along EATL routes, have committed funding and thus belong to Category I
  - 3 are of national importance
- 33 Rail Projects
  - 30 are along EATL routes, have committed funding and thus belong to Category I
  - 3 are of national importance
- 6 Maritime Projects
  - 5 are along EATL routes, have committed funding and thus belong to Category I
  - 1 is of national importance
- 4 Inland Waterway Projects



- All are along EATL routes, have committed funding and thus belong to Category I

Based on available information, 100% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.13 below, while Figure 5.22 and Figure 5.23 in *ANNEX V* depict the location of the road and rail projects, respectively.

**Table 4.13-Lithuania Prioritisation Results Summary**

		All	Per Priority Category				Com-	Reserve
			I	II	III	IV		
<b>No. of projects</b>		<b>55</b>	<b>48</b>				<b>7</b>	
<b>Cost* of projects</b>		<b>1,72</b>	<b>1,46</b>				<b>0,26</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>12</b>	9				3
		Cost* of projects	<b>0,559</b>	0,447				0,112
	<b>RLW</b>	No. of projects	<b>33</b>	30				3
		Cost* of projects	<b>0,987</b>	0,844				0,143
	<b>MAR</b>	No. of projects	<b>6</b>	5				1
		Cost*of projects	<b>0,165</b>	0,16				0,005
	<b>INW</b>	No. of projects	<b>4</b>	4				
		Cost* of projects	<b>0,009</b>	0,009				
<b>INM</b>	No. of projects							
	Cost* of projects							

*\*in Billion USD*

## Luxembourg

Luxembourg did not submit any data for the purpose of the EATL Phase II Study.

## Mongolia

Mongolia proposed one rail project of national importance, the cost of which is presented in Table 4.14 below, while Figure 5.24 in *ANNEX V* depicts the location of the project.

**Table 4.14-Mongolia Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>1</b>						<b>1</b>	
<b>Cost* of projects</b>		<b>1,76</b>						<b>1,76</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects							
		Cost* of projects							
	<b>RLW</b>	No. of projects	<b>1</b>					1	
		Cost* of projects	<b>1,76</b>					1,76	
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Republic of Moldova

Moldova proposed 7 projects, as per the following:

- 4 road projects
  - 3 are along proposed EATL routes, according to information provided:
    - 2 have committed funding and thus belong to Category I
    - 1 was classified as Category III
  - 1 of national importance
- 2 rail projects
  - 1 along proposed EATL routes, for which no information on the sources of funding was given and was, thus, classified as Category IV.
  - 1 of national importance
- 1 inland waterway project along EATL routes with committed funding, thus belonging to Category I

Based on available information, 53% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.15 below, while Figure 5.25 and Figure 5.26 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.15-Moldova Prioritisation Results Summary**

		All	Per Priority Category				Com-	Reserve	
			I	II	III	IV			
<b>No. of projects</b>		<b>7</b>	<b>3</b>		<b>1</b>	<b>1</b>		<b>2</b>	
<b>Cost* of projects</b>		<b>0,849</b>	<b>0,399</b>		<b>0,04</b>	<b>0,317</b>		<b>0,093</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>4</b>	2		1			1
		Cost* of projects	<b>0,208</b>	0,149		0,04			0,019
	<b>RLW</b>	No. of projects	<b>2</b>				1		1
		Cost* of projects	<b>0,391</b>				0,317		0,074
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects	<b>1</b>	1					
		Cost* of projects	<b>0,25</b>	0,25					
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Pakistan

Pakistan proposed 26 projects, as per the following:

- 22 road projects
  - 21 are along proposed EATL routes, out of which according to the application of the prioritisation methodology
    - 10 have committed funding and belong to Category I
    - 10 were classified as Category II
    - 1 was classified as category III
  - 1 of national importance
- 2 rail projects
  - 1 along proposed EATL routes, for which limited information was given and was classified as Category IV
  - 1 of national importance
- 2 maritime projects along proposed EATL routes
  - 1 has been completed
  - 1 for which limited information was given and was classified as Category IV

Based on available information, 56% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.16 below, while Figure 5.27 and Figure 5.28 in ANNEX V depict the location of the road and rail projects, respectively. The results of the evaluation methodology are presented in Annex I V.

**Table 4.16-Pakistan Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>26</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	
<b>Cost* of projects</b>		<b>4,449</b>	<b>2,376</b>	<b>1,334</b>	<b>0,133</b>	<b>-**</b>	<b>0,399</b>	<b>0,207</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>22</b>	10	10	1			1
		Cost* of projects	<b>4,050</b>	2,376	1,334	0,133			0,207
	<b>RLW</b>	No. of projects	<b>2</b>				1		1
		Cost* of projects	<b>-*</b>				<b>-**</b>		<b>-**</b>
	<b>MAR</b>	No. of projects	<b>2</b>				1	1	
		Cost*of projects	<b>&gt;0,399</b>				<b>-**</b>	0,399	
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

\*\* no cost estimate provided

## Romania

Romania proposed 7 projects, as per the following:

- 1 road project of national importance
- 1 maritime project along proposed EATL routes with committed funding, thus belonging to Category I
- 5 inland waterway projects along proposed EATL routes
  - 4 have committed funding and thus belong to Category I
  - 1 for which limited information was provided and was, thus classified as Category IV.

Based on available information, 100% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.17 below, while Figure 5.29 in ANNEX V depicts the location of the road and project.

**Table 4.17-Romania Prioritisation Results Summary**

			Per Priority Category							
			All	I	II	III	IV	Com-	Reserve	
<b>No. of projects</b>			<b>7</b>	<b>5</b>			<b>1</b>		<b>1</b>	
<b>Cost* of projects</b>			<b>9,694</b>	<b>0,494</b>			<b>-**</b>		<b>9,2</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>1</b>							1
		Cost* of projects	<b>9,200</b>							9,2
	<b>RLW</b>	No. of projects								
		Cost* of projects								
	<b>MAR</b>	No. of projects	<b>1</b>	1						
		Cost*of projects	<b>0,196</b>	0,196						
	<b>INW</b>	No. of projects	<b>5</b>	4			1			
		Cost* of projects	<b>&gt;0,298</b>	0,298			<b>-**</b>			
<b>INM</b>	No. of projects									
	Cost* of projects									

\*in Billion USD

\*\* no cost estimate provided

## Russian Federation

The Russian Federation proposed 70 projects, as per the following:

- 21 road projects
  - 17 are along proposed EATL routes, which according to the information provided were classified as Category II
  - 4 of national importance
- 39 rail projects
  - 23 along proposed EATL routes, which according to the information provided :
    - 6 were classified as Category I
    - 10 were classified as Category II
    - 7 were classified as Category IV
  - 16 of national importance
- 5 maritime projects along proposed EATL routes, for which limited information was given and were classified as Category IV

- 5 intermodal terminals projects along proposed EATL routes, which have committed funding and thus belong to Category I.

Based on available information, 16% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.19 below, while Figures 5.30-5.32 and Figures 5.33-5.36 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.18-Russian Federation Prioritisation Results Summary**

			Per Priority Category					Com-	Reserve
			All	I	II	III	IV		
No. of projects		70	11	27		12		20	
Cost* of projects		>148,498	18,025	76,058		>18,773		>35,642	
Per type of infrastructure	ROD	No. of projects	21		17			4	
		Cost* of projects	89,913		72,565			17,348	
	RLW	No. of projects	39	6	10		7	16	
		Cost* of projects	41,345	0,785	3,493		>18,773	>18,294	
	MAR	No. of projects	5				5		
		Cost*of projects	-**				-**		
	INW	No. of projects							
		Cost* of projects							
INM	No. of projects	5	5						
	Cost* of projects	17,24	17,24						

\*in Billion USD

\*\* no cost estimate provided

## Tajikistan

Tajikistan proposed 32 projects, as per the following:

- 22 road projects
  - 9 are along proposed EATL routes, out of which
    - 6 have committed funding and belong to Category I
    - 3 for which limited information was given and were classified as Category IV
  - 13 of national importance
- 8 rail projects
  - 2 along proposed EATL routes, for which limited information was given and were classified as Category IV

- 6 of national importance
- 2 intermodal terminals
  - 1 along proposed EATL routes, for which limited information was given and was classified as Category IV
  - 1 of national importance

Based on available information, 55% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.19 below, while Figure 5.37 and Figure 5.38 in ANNEX V depict the location of the road and rail projects, respectively.

**Table 4.19-Tajikistan Prioritisation Results Summary**

			Per Priority Category					Com-	Reserve
			All	I	II	III	IV		
		<b>No. of projects</b>	<b>32</b>	<b>6</b>			<b>6</b>	<b>20</b>	
		<b>Cost* of projects</b>	<b>4,876</b>	<b>0,345</b>			<b>0,282</b>	<b>4,249</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>22</b>	6			3	13	
		Cost* of projects	<b>1,191</b>	0,345			0,192	0,654	
	<b>RLW</b>	No. of projects	<b>8</b>				2	6	
		Cost* of projects	<b>3,661</b>				0,07	3,591	
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects	<b>2</b>				1	1		
	Cost* of projects	<b>0,024</b>				0,02	0,004		

*\*in Billion USD*

## The former Yugoslav Republic of Macedonia

The former Yugoslav Republic of Macedonia proposed 6 projects, all along EATL routes, as per the following:

- 2 Road Projects
  - All have committed funding, thus belong to Category I.
- 4 Rail Projects
  - Based on the application of the methodology, all were classified as Category II.

Based on available information, 25% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.20 below, while Figure 5.39 and Figure 5.40 in *ANNEX V* depict the location of the road and rail projects, respectively. The results of the application of the methodology are presented in *Annex IV*.

**Table 4.20-**The former Yugoslav Republic of Macedonia Prioritisation Results Summary

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>6</b>	<b>2</b>	<b>4</b>					
<b>Cost* of projects</b>		<b>1,355</b>	<b>0,341</b>	<b>1,014</b>					
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>2</b>	2					
		Cost* of projects	<b>0,341</b>	0,341					
	<b>RLW</b>	No. of projects	<b>4</b>		4				
		Cost* of projects	<b>1,014</b>		1,014				
	<b>MAR</b>	No. of projects							
		Cost* of projects							
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

\*in Billion USD

## Turkey

Turkey proposed 18 projects in total, 8 road and 7 rail, all along proposed EATL routes and 3 maritime port projects of national importance. According to the evaluation methodology applied in the road and rail projects:

- **8 Road Projects**
  - 5 have committed funding, thus belong to Category I
  - 3 were classified as Category II.
- **7 Rail Projects**
  - 5 have committed funding, thus belong to Category I
  - 2 were classified as Category IV

Based on available information, 42% of the funding has been secured.

The above information complete with project costs is summarized in Table 4.21 below, while Figure 5.41 and Figure 5.42 in *ANNEX V* depict the location of the road and rail projects, respectively. The results of the application of the methodology are presented in *Annex IV*.



**Table 4.21-Turkey Prioritisation Results Summary**

		All	Per Priority Category					Com-	Reserve
			I	II	III	IV			
<b>No. of projects</b>		<b>18</b>	<b>10</b>	<b>3</b>		<b>2</b>		<b>3</b>	
<b>Cost* of projects</b>		<b>&gt;25,556</b>	<b>10,627</b>	<b>11,771</b>		<b>3,159</b>		<b>.**</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>8</b>	5	3				
		Cost* of projects	<b>12,459</b>	0,689	11,771				
	<b>RLW</b>	No. of projects	<b>7</b>	5			2		
		Cost* of projects	<b>13,097</b>	9,938			3,159		
	<b>MAR</b>	No. of projects	<b>3</b>					3	
		Cost* of projects	<b>.**</b>					<b>.**</b>	
	<b>INW</b>	No. of projects							
		Cost* of projects							
<b>INM</b>	No. of projects								
	Cost* of projects								

*\*in Billion USD*

*\*\* no cost estimate provided*

## Turkmenistan

Turkmenistan did not submit any data for the purpose of the EATL Phase II Study.

## Ukraine

Ukraine did not submit any data for the purpose of the EATL Phase II Study.

## Uzbekistan

Uzbekistan did not submit information for the purpose of the EATL Phase II Study. According to other information available<sup>64</sup>, 7 rail projects are proposed, out of which 6 are along proposed EATL routes and 1 is of national importance. Based on available information:

- 4 were classified as Category I
- 2 were classified as Category II

Based on available information, 64% of the funding has been secured.

<sup>64</sup> Presentation from Uzbekistan Railways: Railways network of Uzbekistan and CAREC Report, "Uzbekistan: Country Progress Report on the Implementation Action Plan for the Transport and Trade Facilitation Strategy", 30 April 2009

The above information complete with project costs is summarized in Table 4.22 below, while Figure 5.43 in ANNEX V depicts the location of the rail projects.

**Table 4.22-Uzbekistan Prioritisation Results Summary**

		All	Per Priority Category				Com-	Reserve
			I	II	III	IV		
<b>No. of projects</b>		<b>7</b>	<b>4</b>	<b>2</b>			<b>1</b>	
<b>Cost* of projects</b>		<b>1,105</b>	<b>0,648</b>	<b>0,357</b>			<b>0,1</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects						
		Cost* of projects						
	<b>RLW</b>	No. of projects	<b>7</b>	<b>4</b>	<b>2</b>			<b>1</b>
		Cost* of projects	<b>1,105</b>	<b>0,648</b>	<b>0,357</b>			<b>0,1</b>
	<b>MAR</b>	No. of projects						
		Cost* of projects						
	<b>INW</b>	No. of projects						
		Cost* of projects						
	<b>INM</b>	No. of projects						
		Cost* of projects						

\*in Billion USD

## Summary

In total 404 projects were proposed by the participating countries, out of which **287 projects** have been identified to be along the proposed EATL Phase II Routes with an estimated total cost of 189 Billion USD.

Out of these **287 projects**:

- 3 projects have been completed
- 170 projects belong to Category I
- 62 projects belong to Category II
- 4 projects belong to Category III
- 48 projects belong to Category IV

The above results together with project costs are presented Table 3.23 per type of infrastructure.

**Table 3.23-Summary Results**

All	Per Priority Category				
	I	II	III	IV	Completed

<b>No. of projects</b>		<b>287</b>	<b>170</b>	<b>62</b>	<b>4</b>	<b>48</b>	<b>3</b>	
<b>Cost* of projects</b>		<b>189</b>	<b>62</b>	<b>97</b>	<b>1</b>	<b>28</b>	<b>1</b>	
<b>Per type of infrastructure</b>	<b>ROD</b>	No. of projects	<b>141</b>	78	40	3	19	1
		Cost* of projects	<b>109</b>	18,6	89,004	0,3	1,4	0,33
	<b>RLW</b>	No. of projects	<b>109</b>	68	20	1	20	
		Cost* of projects	<b>59</b>	24	8	0,7	26,5	
	<b>Other</b>	No. of projects	<b>37</b>	24	2		9	2
		Cost* of projects	<b>20</b>	19,5			0,2	0,6

\*in Billion USD

## SUMMARY RESULTS

### Introduction

This chapter summarizes the main findings of the prioritization exercise and provides an overview of the EATL Phase II Investment Plan.

### Summary of Prioritization results

The countries proposed a total number of **404 infrastructure projects** of total cost amounting to approximately **\$246 billion**. Out of the latter, **287 projects** are along proposed EATL Phase II routes of total cost amounting to approximately **\$189 billion**. The remaining 117 projects are of national importance with a total value of approximately **\$57 billion**.

Out of the **287 projects** are along proposed **EATL Phase II** routes:

- **141** are **road projects** (49%), with an estimated value of **\$109 billion**, representing 58% of the total investment cost.
- **109** are **railway projects** (38%), with an estimated value of **\$59 billion**, representing 31 % of the total investment cost.
- **37** are **other projects** (13%), with an estimated value of **\$20 billion**, representing 11 % of the total investment cost.

The **percentage of secured funding** for the total number of EATL Projects is **33%**.

Further to the above, the results of the prioritisation exercise presented in Chapter 4, are summarised in the following per type of project and priority category.

- (a) Results summary per **road projects'** priorities and cost
- 55% of the road projects belong to category I, with an estimated value of \$18,6 billion, representing 17% of the total investment cost for road projects.
  - 28% of the road projects belong to category II, with an estimated value of \$89 billion, representing 81% of the total investment cost for road projects.
  - 2% of the road projects belong to category III, with an estimated value of \$0,3 billion, representing 0.3% of the total investment cost for road projects.

- 14% of the road projects belong to category IV, with an estimated value of \$1,4 billion, representing 1.3% of the total investment cost for road projects.
  - 1% of the road projects have been completed, with an estimated value of \$0,03 billion, representing 0.03% of the total investment cost for road projects.
- (b) Results summary per **rail** projects' priorities and cost
- 63% of the railway projects belong to category I, with an estimated value of \$24 billion, representing 41% of the total investment cost for road projects.
  - 18% of the railway projects belong to category II, with an estimated value of \$8 billion, representing 13% of the total investment cost for road projects.
  - 1% of the railway projects belong to category III, with an estimated value of \$0,7 billion, representing 1% of the total investment cost for road projects.
  - 18% of the railway projects belong to category IV, with an estimated value of \$26,5 billion, representing 45% of the total investment cost for road projects.
- (c) Results summary per **other** projects' priorities and cost
- 65% of other projects belong to category I, with an estimated value of \$19,5 billion, representing 97% of the total investment cost for road projects.
  - 6% of other projects belong to category II, for which no cost estimate has been provided
  - 24% of other projects belong to category IV, with an estimated value of \$0,02 billion, representing 0.1% of the total investment cost for road projects.
  - 5% of other projects have been completed, with an estimated value of \$0,59 billion, representing 2.9% of the total investment cost for road projects.

## **EATL Phase II Investment Plan**

The analysis of their implementation plans demonstrated that:

- 1 % of the proposed projects for the EATL Network has been completed
- 59 % of the proposed projects for the EATL Network is expected to be completed until 2013
- 22 % of the proposed projects for the EATL Network is expected to be completed until 2015
- 1 % of the proposed projects for the EATL Network is possible to be completed until 2020 and
- For 48 % of the proposed projects for the EATL Network, it is unknown when would be completed, since further investigation is necessary before definition, scheduling and possible financing.

The EATL Phase II Transport Infrastructure Investment Plan is depicted in Table 5.1 with related project costs presented in Billion USD. The available/secured percentage of funding is also shown in Table 5.1. The implementation will follow the time plan presented in Table 5.2.

**Table 5.1-EATL Phase II Transport Infrastructure Investment Plan (in billion \$)**

ALL EATL PROJECTS							
Country	EATL Total Cost	PRIORITY CATEGORY					% Funding Secured
		I	II	III	IV	COMPLETED	
Afghanistan	0,23	0,00	0,00	0,00	0,23	0,00	1%
Armenia	2,41	0,52	0,00	0,00	1,90	0,00	21%
Azerbaijan	1,79	1,79	0,00	0,00	0,00	0,00	100%
Belarus							
Bulgaria	7,70	7,17	0,33	0,00	0,00	0,19	93%
China	7,19	4,07	3,00	0,12	0,00	0,00	57%
Finland							
Georgia	1,17	0,77	0,40	0,00	0,00	0,00	66%
Germany	1,07	0,00	0,00	0,72	0,35	0,00	0%
Greece	0,76	0,76	0,00	0,00	0,00	0,00	100%
Iran	3,48	2,13	1,35	0,00	0,00	0,00	61%
Kazakhstan	8,92	8,92	0,00	0,00	0,00	0,00	100%
Kyrgyzstan	1,95	0,40	1,42	0,00	0,10	0,03	21%
Latvia	3,68	0,93	0,00	0,00	2,76	0,00	25%
Lithuania	1,46	1,46	0,00	0,00	0,00	0,00	100%
Luxembourg							
Mongolia							
Pakistan	4,24	2,38	1,33	0,13	0,00	0,40	56%
Republic of Moldova	0,76	0,40	0,00	0,04	0,32	0,00	53%
Romania	0,49	0,49	0,00	0,00	0,00	0,00	100%
Russian Federation	112,86	18,03	76,06	0,00	18,77	0,00	16%
Tajikistan	0,63	0,35	0,00	0,00	0,28	0,00	55%
The former Yugoslav Republic of Macedonia	1,36	0,34	1,01	0,00	0,00	0,00	25%
Turkey	25,56	10,63	11,77	0,00	3,16	0,00	42%
Turkmenistan							
Ukraine							
Uzbekistan	1,01	0,65	0,36	0,00	0,00	0,00	64%
<b>Total</b>	<b>189</b>	<b>62</b>	<b>97</b>	<b>1</b>	<b>28</b>	<b>1</b>	<b>33%</b>

**Table 5.2-EATL Phase II Transport Infrastructure Investment Implementation Time Plan**

Country	Projects	EATL Projects Implementation Progress				
		Completed	Up to 2013	2013-2016	2016-2020	2020-unknown
AFT	6	0%	17%	0%	0%	83%
ARM	10	0%	50%	20%	0%	30%
AZE	6	0%	100%	0%	0%	0%
BLR						
BGR	11	9%	73%	9%	0%	9%
CHN	18	0%	44%	50%	6%	0%
FIN						
GEO	14	0%	50%	7%	0%	43%
GM	4	0%	0%	0%	25%	75%
GR	3	0%	100%	0%	0%	0%
IRN	6	0%	83%	17%	0%	0%
KAZ	10	0%	100%	0%	0%	0%
KGZ	11	9%	64%	18%	0%	9%
LVA	16	0%	69%	0%	0%	31%
LTU	48	0%	100%	0%	0%	0%
LUX						
MNG						
PAK	24	4%	42%	42%	4%	8%
MDA	5	0%	60%	0%	20%	20%
ROU	6	0%	83%	0%	0%	17%
RUS	50	0%	22%	54%	0%	24%
TJK	12	0%	50%	0%	0%	50%
FYROM	6	0%	33%	67%	0%	0%
TUR	15	0%	67%	20%	0%	13%
TKM						
UKR						
UZB	6	0%	67%	33%	0%	0%
EATL NETWORK	Projects	EATL Projects Implementation Progress				
		Completed	Up to 2013	2013-2016	2016-2020	2020-unknown
	287	1%	59%	22%	1%	17%

## CONCLUSIONS AND RECOMMENDATIONS

A total of 287 infrastructure projects are being proposed in the EATL Phase II Study and should be included in the updated EATL Investment plan. The majority of the projects were road projects. The implementation of the EATL network as a whole will require the approximate sum of \$189 billion, out of which only 33% has been secured.

According to the results of the analysis, only 1 % of the EATL Network has been completed, while over half of the proposed projects are planned to be completed by year 2013. On the other hand, the analysis yielded that for a fair share of the EATL network (48%), it is unknown when it would be completed, since further investigation is necessary before definition, scheduling and possible financing of the proposed infrastructure projects. It should, however, be noted that lack of information with regard to the status, start and end dates, sources of funding and percentage of secured funding of proposed projects contributed significantly in the latter outcome, and hence, the above figures could potentially change, should information becomes available.

Based on the above, it is acknowledged that the implementation of EATL Phase II network is a long-term process that requires first and foremost all political will and commitment from all the countries involved. To see it to fruition will also require continuous close cooperation amongst the EATL member countries, between them and their immediate neighbouring countries, the respective National Focal Points and the UNECE.

To this end, a number of actions could be recommended with regards to data collection, monitoring, GIS Mapping update/maintenance, continuous revision/update of the Investment Plan and funding securisation, as well as some Technical and Institutional actions.

Finally, in addition to those projects belonging to the EATL Phase II, most participating countries proposed infrastructure projects that did not fall within those specified routes and were considered by the consultant to be of national importance in the analysis. It is proposed that depending on the significance and priorities set for those by their respective countries, as well as their potential to impact on established connections, these be considered for inclusion in a future revision of the EATL network.

## **ANNEX IV**

### **Application of the Methodology Results**



# CHINA

## EVALUATION

### 1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
CH-ROD-04	A	A	A	B	A	A
CH-ROD-05	A	A	A	B	A	A
CH-ROD-06	A	A	A	B	A	A
CH-ROD-07	A	A	A	B	A	A
CH-ROD-10	A	A	A	B	A	A
CH-ROD-11	A	A	A	B	A	A
CH-ROD-13	B	B	B	B	B	A
CH-ROD-14	B	B	B	B	C	A
CH-ROD-15	B	B	B	B	B	A
CH-ROD-16	B	B	B	B	A	A

### 2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
CH-ROD-04	5	5	5	4	5	5
CH-ROD-05	5	5	5	4	5	5
CH-ROD-06	5	5	5	4	5	5
CH-ROD-07	5	5	5	4	5	5
CH-ROD-10	5	5	5	4	5	5
CH-ROD-11	5	5	5	4	5	5
CH-ROD-13	4	4	4	4	4	5
CH-ROD-14	4	4	4	4	3	5
CH-ROD-15	4	4	4	4	4	5
CH-ROD-16	4	4	4	4	5	5

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

### 3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
CH-ROD-04	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-05	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-06	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-07	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-10	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-11	0,16	0,47	0,99	0,71	2,00	0,50
CH-ROD-13	0,13	0,38	0,79	0,71	1,60	0,50
CH-ROD-14	0,13	0,38	0,79	0,71	1,20	0,50
CH-ROD-15	0,13	0,38	0,79	0,71	1,60	0,50
CH-ROD-16	0,13	0,38	0,79	0,71	2,00	0,50

Project ID	Project Total Scores	Evaluation Categories
CH-ROD-04	4,82	II
CH-ROD-05	4,822916667	II
CH-ROD-06	4,822916667	II
CH-ROD-07	4,822916667	II
CH-ROD-10	4,822916667	II
CH-ROD-11	4,822916667	II
CH-ROD-13	4,1	II
CH-ROD-14	3,7	III
CH-ROD-15	4,1	II
CH-ROD-16	4,5	II

# GERMANY (Road Projects)

## EVALUATION

1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-ROD-01	B	E	B	B	D	B
GM-ROD-02	B	E	B	B	D	D

2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-ROD-01	4	1	4	4	2	4
GM-ROD-02	4	1	4	4	2	2

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-ROD-01	0,13	0,09	0,79	0,71	0,80	0,40
GM-ROD-02	0,13	0,09	0,79	0,71	0,80	0,20

Project ID	Project Total Scores	Evaluation Categories
GM-ROD-01	2,91875	IV
GM-ROD-02	2,71875	IV

# GERMANY (Rail Projects)

## EVALUATION

1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-RLW-01	B	E	B	B	B	C
GM-RLW-02	B	E	B	B	D	A

2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-RLW-01	4	1	4	4	4	3
GM-RLW-02	4	1	4	4	2	5

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
GM-RLW-01	0,13	0,09	0,79	0,71	1,60	0,30
GM-RLW-02	0,13	0,09	0,79	0,71	0,80	0,50

Project ID	Project Total Scores	Evaluation Categories
GM-RLW-01	3,61875	III
GM-RLW-02	3,01875	III

# PAKISTAN

## EVALUATION

### 1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
PAK-ROD-01	A	A	B	B	A	C
PAK-ROD-02	B	B	C	B	A	C
PAK-ROD-03	B	B	C	B	A	D
PAK-ROD-07	B	B	B	C	A	C
PAK-ROD-10	B	B	C	C	A	B
PAK-ROD-11	B	B	C	B	A	C
PAK-ROD-12	B	B	B	B	A	C
PAK-ROD-14	B	B	C	C	A	C
PAK-ROD-16	B	B	B	C	A	C
PAK-ROD-19	B	C	C	B	A	C
PAK-ROD-20	B	C	B	C	A	C

### 2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
PAK-ROD-01	5	5	4	4	5	3
PAK-ROD-02	4	4	3	4	5	3
PAK-ROD-03	4	4	3	4	5	2
PAK-ROD-07	4	4	4	3	5	3
PAK-ROD-10	4	4	3	3	5	4
PAK-ROD-11	4	4	3	4	5	3
PAK-ROD-12	4	4	4	4	5	3
PAK-ROD-14	4	4	3	3	5	3
PAK-ROD-16	4	4	4	3	5	3
PAK-ROD-19	4	3	3	4	5	3
PAK-ROD-20	4	3	4	3	5	3

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

### 3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
PAK-ROD-01	0,16	0,47	0,79	0,71	2,00	0,30
PAK-ROD-02	0,13	0,38	0,59	0,71	2,00	0,30
PAK-ROD-03	0,13	0,38	0,59	0,71	2,00	0,20
PAK-ROD-07	0,13	0,38	0,79	0,53	2,00	0,30
PAK-ROD-10	0,13	0,38	0,59	0,53	2,00	0,40
PAK-ROD-11	0,13	0,38	0,59	0,71	2,00	0,30
PAK-ROD-12	0,13	0,38	0,79	0,71	2,00	0,30
PAK-ROD-14	0,13	0,38	0,59	0,53	2,00	0,30
PAK-ROD-16	0,13	0,38	0,79	0,53	2,00	0,30
PAK-ROD-19	0,13	0,28	0,59	0,71	2,00	0,30
PAK-ROD-20	0,13	0,28	0,79	0,53	2,00	0,30

Project ID	Project Total Scores	Evaluation Categories
PAK-ROD-01	4,425	//
PAK-ROD-02	4,102083333	//
PAK-ROD-03	4,002083333	//
PAK-ROD-07	4,122916667	//
PAK-ROD-10	4,025	//
PAK-ROD-11	4,102083333	//
PAK-ROD-12	4,3	//
PAK-ROD-14	3,925	///
PAK-ROD-16	4,122916667	//
PAK-ROD-19	4,008333333	//
PAK-ROD-20	4,029166667	//

# The former Yugoslav Republic of Macedonia

## EVALUATION

### 1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
FYROM-RLW-01	A	A	A	A	A	A
FYROM-RLW-02	A	A	A	A	A	A
FYROM-RLW-03	A	A	A	A	A	A
FYROM-RLW-04	A	A	A	A	B	A

### 2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
FYROM-RLW-01	5	5	5	5	5	5
FYROM-RLW-02	5	5	5	5	5	5
FYROM-RLW-03	5	5	5	5	5	5
FYROM-RLW-04	5	5	5	5	4	5

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

### 3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
FYROM-RLW-01	0,16	0,47	0,99	0,89	2,00	0,50
FYROM-RLW-02	0,16	0,47	0,99	0,89	2,00	0,50
FYROM-RLW-03	0,16	0,47	0,99	0,89	2,00	0,50
FYROM-RLW-04	0,16	0,47	0,99	0,89	1,60	0,50

Project ID	Project Total Scores	Evaluation Categories
FYROM-RLW-01	5	<i>il</i>
FYROM-RLW-02	5	<i>II</i>
FYROM-RLW-03	5	<i>II</i>
FYROM-RLW-04	4,6	<i>II</i>

# TURKEY

## EVALUATION

### 1. Answers (based on country's input)

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
TU-ROD-01	A	A	A	A	B	A
TU-ROD-02	A	A	A	A	B	A
TU-ROD-03	A	A	A	A	B	A

### 2. Raw scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
TU-ROD-01	5	5	5	5	4	5
TU-ROD-02	5	5	5	5	4	5
TU-ROD-03	5	5	5	5	4	5

Weights	Criteria A				Criteria B	
	WCA1	WCA2	WCA3	WCA4	WCB1	WCB2
	3,13%	9,38%	19,79%	17,71%	40,00%	10,00%

### 3. Weighted scores

Project ID	Criteria A				Criteria B	
	CA1	CA2	CA3	CA4	CB1	CB2
TU-ROD-01	0,16	0,47	0,99	0,89	1,60	0,50
TU-ROD-02	0,16	0,47	0,99	0,89	1,60	0,50
TU-ROD-03	0,16	0,47	0,99	0,89	1,60	0,50

Project ID	Project Total Scores	Evaluation Categories
TR-ROD-01	4,6	II
TR-ROD-02	4,6	II
TR-ROD-03	4,6	II

**ANNEX V**

**Project Maps**

## PART IV

### STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS ANALYSIS (SWOT) ANALYSIS

#### INTRODUCTION OF SWOT ANALYSIS

A SWOT analysis stands for: Strengths, Weaknesses, Opportunities, and Threats. It is a quick and simple tool to understand the overall big picture of a project, business or initiative. It helps focusing and analyzing strengths, minimize threats, and take the greatest possible advantage of opportunities. SWOT analysis can be used for decision-making enabling proactive thinking, rather than relying on habitual or instinctive reactions. It is, therefore, the starting point of strategic planning.

SWOT analysis could be a useful tool for better understanding a project's status and potential. Carrying out this analysis may be illuminating – both in terms of pointing out what needs to be done, and in putting problems into perspective. However, SWOT analysis can be very subjective. Therefore, it is recommended to use SWOT as guide and not a prescription.

Strengths and weaknesses look internally. They help identifying what a project can do. Many projects are great at looking inward but fail to look outside their area. Threats and opportunities are external, focusing on the conditions of the real-world. This is where a SWOT analysis is most helpful. They help seeing beyond the project walls and determine what opportunities are open for it and how to capitalize on project's strengths.

**Strengths** should be seen in relation to “competitors” and from “customers' perspective”. Anything the market needs that the project can provide and the “competitor” doesn't, can be a possible strength.

**Weaknesses** may include any existing limitation, including high cost of operation or production, human resources and staff, products or service similar or of less quality to competitors'.

**Opportunities**, every project or business is influenced by the external environment, such as: legal, political, technological, and cultural factors. Considering what can make your project obsolete, and what will replace it may help act proactively. Threats can become opportunities or vice versa. These may include government regulation softening; development of new technologies; growing trend; and customer base.

**Threats** may include new substitute services or products emerging; price competition; and economic pressure.

#### ELABORATION OF SWOT ANALYSIS FOR EATL INLAND TRANSPORT CONNECTIONS

##### Strengths



The following points are considered as the EATL inland transport connections strengths:

- a. EATL inland transport routes in terms of distance are up to three times **shorter** and often **quicker** than maritime routes for the transport of goods between the two mega-regions (the EU and the Asian-Pacific) <sup>65</sup>;
- b. EATL inland transport routes are an **important transport option** for EATL LLDCs in the region for their access to the international markets and their participation in globalization<sup>66</sup>;
- c. The main EATL **priority routes and projects** along these routes have been identified<sup>67</sup>;
- d. There are **unutilized capacities** along some parts of the EATL road and railway routes running east-west and north-south;
- e. New transport **infrastructure is being constructed** in some parts of the inland EATL routes;
- f. Some EATL routes are currently the **most preferable and most economic** ways for some countries spanning along the EATL to reach their major trade partners;
- g. EATL routes are **integral part and physical extensions** of the TEN-T, pan- European Corridors, AGR, AGC, AGTC, AH,TAR, TEM, TER, TRACECA, and other related corridors and networks of high significance for Europe and Asia;
- h. There is a **high political commitment** for the development of EATL inland transport routes by concerned governments<sup>68</sup> and various international and sub-regional organizations promoting relevant initiatives<sup>69</sup>;
- i. **Partnerships are being developed** along the inland EATL routes among key players, including non-governmental organizations and bodies.
- j. Since a good part of EATL routes are in the planning and design phase **environmental risks can be better integrated** by some EATL countries.

## Weaknesses

The following points are considered as the EATL inland transport connections weaknesses:

- a. **Costs of goods transport** by inland EATL is too high compared with maritime. International shipping companies with extensive and cost-efficient fleet can keep their freight rates and port charges low<sup>70</sup>;

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<sup>65</sup> Shorter delivery time is critical factor for certain cargoes (perishable goods or urgent door-to-door shipments). In addition, faster delivery means shortened transaction times, thus quicker settlement of payment and less capital investment for trade

<sup>66</sup> The other option being the airfreight transport which is growing rapidly in the course of the last years.

<sup>67</sup> Under EATL Phase I. However, given Russia's lack of participation and rather limited participation of China in the EATL project evaluation exercise, we may assume that less than one half of such projects have been identified in EATL Phase I..

<sup>68</sup> Joint statement of ministers of transport of 19 countries- support by the Inland Transport Committee - Almaty programme of Action, etc.

<sup>69</sup> including, EU and TRACECA, BSEC, EurAsEC, TEM and TER, SPECA, IRU, UIC, OSJhD, Shanghai Cooperation, Hinterland Connection of Seaports, etc.,

<sup>70</sup> Maritime transport offer extremely competitive unit cost compared with that of inland transport. In many cases, transport cost is the main consideration for consignors as they strive to minimise transportation component of the price of their products.

- b. **Quality of services** by inland EATL transport of goods is low compared with maritime. Moreover, maritime transport offers additional quality advantages to shippers, including cargo tracking and tracing, sophisticated logistics networks and guarantees of on-time and secure delivery;
- c. Not adequately developed **multimodal transport and logistics** along inland EATL routes, seen from the end-to-end cost efficiency aspect, functioning in a complementary way among different transport modes and potential EATL itineraries, using seaports/Logistic Centres/Freight Villages and being parts of main EATL supply chains,<sup>71</sup>;
- d. **Imbalance of trade flows** (westbound-eastbound) poses more problems to inland transport modes than to maritime, since unit cost of returning empty wagons, trucks, and containers is higher;
- e. **Many physical and non-physical barriers** along the inland EATL render transport operations difficult, costly, time consuming, unpredictable and uncertain. These include:
  - Inadequate, underdeveloped and poorly maintained road and rail networks, and bottlenecks and missing links;
  - Long delays at borders, cumbersome and inefficient controls, together with mandatory transit convoys, multiple cargo checks en route, numerous agencies at borders have to approve documentation and numerous fiscal charges payable in some parts of the routes;
- f. Absence of a harmonized **customs transit regime** along all EATL road routes poses serious problems to EATL road transport<sup>72</sup>;
- g. **High transit tariffs**, fees and fiscal charges that add unnecessary transport costs in some parts of the inland EATL routes<sup>73</sup>;
- h. **Transport restrictions**, rules and procedures that are frequently changed without notice;
- i. There is a wide spread **corruption** along some EATL road routes forcing international operators to illegal payments;
- j. There are **safety** concerns in some parts of the EATL road routes and **lack of security** to international operators;
- k. Many border posts are **poorly equipped** and some are closed;
- l. International **road permit quotas** that reduce competition are adopted along EATL, while granting of visas to professional drivers is cumbersome and costly;
- m. In some parts of EATL **rail rates are not competitive**, not published, and have to be negotiated separately. Moreover there are even hidden charges and lack of common through tariffs for container transport;
- n. Although many truck hauliers along EATL countries are now private, **transport monopolies** (public or private) are still in place in some countries operating under high tariffs and inadequate level of services;
- o. Due to the high number of transit countries involved in inland EATL routes and many border crossings, **heterogeneous transport and transit** rules and regulations are real barriers to international transport and trade;

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<sup>71</sup> Focusing into the development of multimodal transport of goods options (from their production point to their final destination) seems the most suitable approach in developing inland EATL transport.

<sup>72</sup> China and some other EATL countries are not TIR members yet.

<sup>73</sup> The accuracy of all points (from g to n) needs to be verified with the help of the EATL National Focal Points.

- p. The heterogeneity of existing transport and transit rules and regulations along the inland EATL routes, makes the **collection, consolidation and update of relevant data** more difficult;
- q. Limited institutional and human resource **capacities**;
- r. **Inaction, lack of coordinated action or insufficient action** in addressing non physical obstacles persisting in many parts of the inland EATL routes resulting to unnecessary border crossing delays, undue increase of transport costs, prolonged and uncertain time-delivery that discouraging shippers to use inland EATL routes;
- s. Non devotion of the **necessary investment** in developing priority transport infrastructure by EATL countries, aggravated by lack of sufficient funds due to other competing urgent needs in a number of EATL countries (health, education, housing, etc.);
- t. A **weak part or missing link** in one country can render a whole EATL route economically unviable for international transport;

## Opportunities<sup>74</sup>

The following points are considered as the EATL inland transport connections opportunities:

- a. Globalization **increase transport** of goods between Europe and Asia -Further rapid growth of China & India generates more transport demand, thus new opportunities for inland EATL;
- b. The trade between European Union and Asian-Pacific regions is expected to resume **growth**<sup>75</sup>;
- c. A proportion of **“time sensitive”** transit can be redirected through inland EATL routes<sup>76</sup>;
- d. The startup of **China’s “Go West: The Xinjiang Uigur Autonomous Region (XUAR) development programme”**, which is designed to increase the manufacture of goods for export to Europe, potentially using inland EATL routes;
- e. **Congestion of main ports and hinterland routes** particularly in Western Europe, offer new openings for increased participation of inland EATL in absorbing higher parts of future transport needs<sup>77</sup>;
- f. Creation of the **Customs Union** between Russia, Belarus and Kazakhstan and consequently the expected removal of the internal borders among these countries would offer new opportunities for EATL inland transport along the North EATL routes<sup>78</sup>;

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<sup>74</sup> Careful consideration of the elements contained here suggests that these should be seen in the long-term perspective.

<sup>75</sup> According to Eurasian Development Bank sector report on EurAsEC Transport Corridors, of March 2009, the trade between European Union and Asian-Pacific regions reached US \$ 700 billion in 2007 and it is expected to raise to US \$ 1 trillion by 2013–2015. 17.7 million TEU were transported from Asia to Europe, and 10 million from Europe to Asia, in 2007. By 2015 containerized transportation from Asia to Europe is expected to reach 26.1 million TEU and from Europe to Asia 17.7 million, suggesting enormous transit potential along inland EATL routes.

<sup>76</sup> Some 16 million tones annually according to most conservative estimates. This include: Westbound: Chemicals, foodstuffs, instrumentation, stereo, video and audio systems, mobile communication equipments, TV sets, electrical goods, electric cables, furniture, cloths and shoes, cosmetics. Eastbound: Industrial and agricultural equipment, metals, integrated circuits, various fine chemical products and polymers, consumer goods, foodstuff (meat).

<sup>77</sup> Currently not that serious due to the reduction of freight following the global economic crisis.

<sup>78</sup> This is expected to be realized in the near future.

- g. Accession of **Russia and Kazakhstan in TWO** would also facilitate transit along EATL routes;
- h. Further **expanding the coverage of the CIM/SMGS** consignment note along EATL railway routes would facilitate rail EATL transport;
- i. Container shipment via **Suez Canal is limited** and soon will reach its maximum capacity for container vessels, while the Cape of Good Hope alternative maritime route will increase ships' operating costs and transit time;
- j. Increased **security concerns** along existing EATL maritime routes offer new opportunities for inland transport options<sup>79</sup>;
- k. Developing inland EATL is an important **tool for socio-economic development**, integration into global economy and prosperity of EATL countries, in particular LLDCs and their transit developing neighbors;
- l. **Development of trade amongst EATL countries**, in particular LLDC their transit developing neighbours offer new opportunities;
- m. Increased efforts and progress in **regional co-operation and integration** amongst countries offer new opportunities for addressing existing challenges in a coordinated way.

## Threats

The following points are considered as the EATL inland transport connections threats:

- k. Continued offer of **competitive transport costs by maritime** would keep maritime routes as the most attractive transport option to consignors for goods coming from the most important origins of Euro-Asian trade, i.e. the eastern and southern provinces of China and other Southeast Asian countries to European destinations and vice versa;
- l. The recent economic crisis and the consequent **call for more efficient transport** systems may be an additional threat to inland EATL transport<sup>80</sup>;
- m. The global warming and the expected **opening of the Arctic North-West passage** for container traffic may offer even more competitive maritime routes<sup>81</sup>
- n. Cost-reducing **innovation in the air transport** sector;
- o. Increasing trend of **economic nationalism, persisting conflicts and political instability** in some parts of the EATL routes.

## CONCLUSIONS

The SWOT analysis for EATL inland transport connections has provided useful information in identifying the strong and weak points of the EATL inland transport connection, their existing potential for further development and their potential threats.

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<sup>79</sup> Pirate attacks on ships in Somalia, Strait o Malacca, etc.

<sup>80</sup> Some believe that it may be also an opportunity to EATL, through better integration of some EATL routes into the global supply chains and more efficient and effective use of EATL intermodal options.

<sup>81</sup> Some scientists and experts argue that in spite the enthusiasm it seems unlikely that the Arctic North-West passage can be utilized for transit of international container ships for various reasons, including technical, commercial and political, while transport insurance coverage aspects remain still unclear. Further information on the subject might be necessary.

It has also verified that the recommendations contained in the UNECE-UNESCAP Study on Developing Euro-Asian Transport Links, being the outcome of the 5 years work of the concerned countries together with UNECE and UNESCAP secretariat and other bodies involved, are still valid and should be intensively pursued.

It has also confirmed the usefulness of establishment of the Group of Experts on Euro-Asian Transport Links and its work plan of activities, focusing on an enhanced cooperation in the region, a coordinated development of priority transport infrastructure, as well as on intensive efforts for transport and transit facilitation. In order to stress the need for enhanced coordination and cooperation among all countries along the EATL routes, it is enough to highlight the point (s) of the weaknesses mentioned above, *“A weak part or missing link in one country can render a whole EATL route economically unviable for international transport”*.

Finally, SWOT analysis has made it clear that the real development potential of EATL inland transport connections lies upon their capacity to become parts of the main EATL supply chains, functioning complementary among various transport modes, focusing on the end-to-end transportation cost-and-time efficiency and reliability and on urgent facilitation and cost/time-reducing transportation measures and reforms that need to be undertaken in the EATL transitions economies involved.

The aggregated table of the SWOT analysis for EATL inland transport connections is illustrated in the annex.

Annex

**TABLE of SWOT ANALYSIS FOR EATL INLAND TRANSPORT CONNECTIONS**

<b><u>Strengths</u></b>	<b><u>Weaknesses</u></b>
<ul style="list-style-type: none"> <li>a. Shorter in distance and often quicker than maritime between EU and the Asian-Pacific;</li> <li>b. Important transport option for LLDCs in the region;</li> <li>c. Main EATL priority routes and projects have been identified;</li> <li>d. Unutilized capacities in some parts of EATL road and railway routes;</li> <li>e. New transport infrastructure is being constructed in some EATL parts;</li> <li>f. Some inland routes are the most preferable and most economic;</li> <li>g. EATL routes integral part and physical extensions of important corridors and networks;</li> <li>h. High political commitment for the inland EATL development;</li> <li>i. Partnerships are being developed among key players;</li> <li>j. Environmental risks can be better integrated in some EATL parts.</li> </ul>	<ul style="list-style-type: none"> <li>a. Costs of goods transport by inland EATL is too high compared with maritime;</li> <li>b. The quality of services by EATL transport of goods is low compared with maritime;</li> <li>c. Not adequately developed multimodal transport and logistics being parts of main EATL supply chains;</li> <li>d. Imbalance of trade flows (westbound-east eastbound) poses more problems to inland transport modes, that to maritime;</li> <li>e. Many physical and non-physical barriers render transport operations difficult, costly, time consuming, unpredictable and uncertain. These include: Inadequate, underdeveloped and poorly maintained road and rail networks, and bottlenecks and missing links- Long delays at borders, cumbersome and inefficient controls, mandatory transit convoys, multiple cargo checks en route;</li> <li>f. Absence of harmonized customs transit regime creates problems to road transport;</li> <li>g. High transit tariffs, fees and fiscal charges;</li> <li>h. Transport restrictions, rules and procedures changed without notice;</li> <li>i. Wide spread of corruption;</li> <li>j. Safety concerns and lack of security to international operators;</li> <li>k. Some border posts poorly equipped and some closed;</li> <li>l. Road permit quotas reducing competition- cumbersome and costly visas;</li> <li>m. Not competitive rail rates;</li> <li>n. Transport monopolies still in place;</li> <li>o. Heterogeneous transport and transit rules and regulations;</li> <li>p. Difficulty in collection and updating existing rules along the inland EATL routes;</li> <li>q. Limited institutional and human resource capacities;</li> <li>r. Inaction, non coordination or insufficient action in addressing non physical obstacles;</li> <li>s. Non devotion necessary investment in developing priority transport infrastructure;</li> <li>t. Weak part in one country render a whole route economically unviable.</li> </ul>

<p><b><u>Opportunities</u></b></p> <ul style="list-style-type: none"> <li>a. Globalization increase transport of goods between Europe and Asia - Further rapid growth of China &amp; India offer new opportunities for EATL;</li> <li>b. European Union - Asian-Pacific regions expected resume growth;</li> <li>c. Time sensitive transit can be redirected through inland EATL routes;</li> <li>d. Go West: The Xinjang Uigur Autonomous Region (XUAR) development programme, designed to use inland EATL routes;</li> <li>e. Congestion of main ports and hinterland routes, offer new openings for inland EATL;</li> <li>f. Creation of the Customs Union between Russia, Belarus and Kazakhstan and the expected removal of the internal borders;</li> <li>g. Accession of Russia and Kazakhstan in TWO;</li> <li>h. Expanding the CIM/SMGS consignment note along EATL routes;</li> <li>i. Container shipment via Suez Canal will reach its maximum capacity - alternative maritime route increase ships costs and transit time;</li> <li>j. Increased security concerns along existing EATL maritime routes;</li> <li>k. Important tool for socio-economic development of EATL countries;</li> <li>l. Development of trade amongst EATL countries, offer new opportunities;</li> <li>m. Increased progress in regional co-operation and integration;</li> </ul>	<p><b><u>Threats</u></b></p> <ul style="list-style-type: none"> <li>a. Continued offer of competitive transport costs by maritime;</li> <li>b. Call for more efficient transport systems due to recent economic crisis;</li> <li>c. The expected opening of the Arctic North-West passage for container traffic;</li> <li>d. Cost-reducing innovation in the air transport sector;</li> <li>e. Increasing economic nationalism, conflicts and political instability.</li> </ul>
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## PART V

### REVIEW OF EURO-ASIAN TRANSPORT FLOWS, STATISTICS AND TRENDS

#### INTRODUCTION

##### Background

Globalization has led to significant increases in trade and transport between Asia and Europe. While most of the traffic has used – increasingly congested - maritime routes, further development of inland transport routes would provide credible and competitive additional transport options. Once established, these efficient and integrated inland routes could become an effective tool for economic development and integration of the Euro-Asian region, including facilitating greater participation in the globalization process by Central Asia's landlocked countries.

To address issues of inadequate transport infrastructure, internationally un-harmonized transport rules and cumbersome, costly and time-consuming border crossing procedures, the UNECE and UNESCAP worked closely in 2003-2007 with governments of Euro-Asian region as part of a global UN Development Account Capacity-building Project. The following eighteen countries participated: Afghanistan, Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Iran, Kazakhstan, Kyrgyzstan, Moldova, Romania, Russian Federation, Tajikistan, Turkmenistan, Turkey, Ukraine and Uzbekistan. Greece joined the project activities in 2005.

The project's results included the identification of main Euro-Asian inland transport routes, prioritization of infrastructure projects, development of GIS database, first analysis of non-physical obstacles, organization of six national capacity-building workshops and publication of the final study.

The first phase of the Euro-Asian Transport Linkages (EATL) project ended in 2008, with the Ministerial Meeting in Geneva, where high level representatives of 19 countries signed a joint statement on future development of Euro-Asian transport links calling for continuation of the EATL project in 2008-2011.

In 2006, the Inland Transport Committee (ITC) had asked the secretariat to present, together with ESCAP, a joint proposal that would ensure the continuation of the project in a new Phase II. In early 2008, the UNECE began establishing an institutional structure to make further EATL work possible. At its 70<sup>th</sup> session, 19-21 February 2008, ITC agreed to establish a Group of Experts on Euro-Asian Transport Links and adopted its terms of reference. Its duration was set for two years with a possibility of further extension. During ITC's 72<sup>nd</sup> session on 23-25 February 2010, the Committee approved the extension of the mandate of the EATL Group of Experts by two years until February 2012. The primary objective of the Expert Group was to ensure monitoring and co-ordination of the activities related to developing efficient, safe and secure Euro-Asian inland transport links.



The UNECE invited governments to nominate National Focal Points who would actively contribute to the work of the EATL Group of Experts and the EATL Phase II. Related international organizations and IFIs were also invited to take an active role in the work. In response, 27 governments have nominated national EATL focal points (Armenia, Afghanistan, Azerbaijan, Belarus, Bulgaria, China, Finland, Georgia, Germany, Greece, Iran, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxemburg, Moldova, Mongolia, Pakistan, Romania, Russia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan).

One major issue that has an impact on transport and consequently on the future development of Euro Asian Transport linkages is the growing merchandising trend between Europe and Asia, as well as the social and economic development of transit and landlocked developing countries involved in the EATL list. To this end, the present study explores the flows and trends of both inland and maritime transport routes between Europe and Asia, as well as among the EATL Phase II participating countries themselves, in order to ascertain the current needs for transportation.

## **Scope of report**

The scope of the report is the review, collection and consolidation of existing statistics, flows and trends on EATL routes, for both maritime and inland transport. The information is collected by desk review, as well as in consultation with the secretariat and the involved countries. The purpose of the report is to highlight the repercussions of the growth of merchandise trade between the continents of Europe and Asia, and among the respective countries participating in the EATL Phase II Study, on the transport system, addressing the key issues related to this rise in volumes transported over long distances. The growth and trade acceleration is of particular importance for the volumes transported, the means of transport used and the construction of infrastructure along the proposed EATL Phase II routes. The report focuses on the following topics:

- Europe-Asia transport flows and trends
- Container transport flows and trends
- Landlocked countries trade issues
- Trade analysis of EATL II participating countries
- Conclusions and recommendations

## EURO-ASIAN TRAFFIC FLOWS AND TRENDS

### Overview of World Trade

International merchandise trade continued to increase rapidly during the first half of 2008 until September 2008, when the impact of the global financial crisis became evident. According to the World Trade Organisation (WTO), the recent crisis brought about a 12% drop in the volume of world trade in 2009, which was the sharpest decline recorded in more than 70 years and significantly higher than most economists had predicted. Table 2.1 presents the annual percentage change in the volume of merchandise trade by selected regions for years 2008 and 2009.

**Table 2.1-Growth in the volume of world merchandise trade by selected region and economy, 2000-2009**

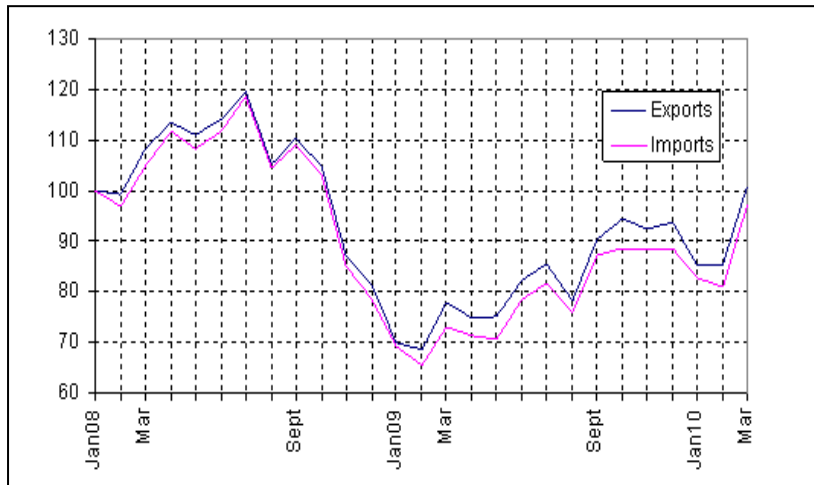
Annual Percentage Change	Exports			Imports		
	2000-09	2008	2009	2000-09	2008	2009
Merchandise						
<b>World</b>	<b>3</b>	<b>2</b>	<b>-12</b>	<b>3</b>	<b>2</b>	<b>-13</b>
North America	1	2	-15	1	-3	-17
Canada	-2	-6	-18	1	1	-17
Mexico	1	1	-15	1	4	-20
United States	2	6	-14	1	-4	-17
South and Central America	4	1	-8	6	13	-17
<b>Europe</b>	<b>2</b>	<b>0</b>	<b>-15</b>	<b>1</b>	<b>-1</b>	<b>-15</b>
European Union (27)	2	0	-15	1	-1	-15
Norway	1	0	-3	3	3	-14
Switzerland	2	2	-15	1	3	-10
Commonwealth of Independent States (CIS)	6	2	-5	11	17	-26
<b>Asia</b>	<b>8</b>	<b>6</b>	<b>-11</b>	<b>6</b>	<b>5</b>	<b>-8</b>
Australia	2	6	-5	7	10	-11
China	17	9	-11	15	4	3
Hong Kong, China	-4	-11	-1	2	-2	-6
India	12	15	-3	13	18	-3
Japan	2	3	-25	1	-1	-13
* Six East Asian traders	6	4	-8	3	4	-13

\* Hong Kong, China; Malaysia; Republic of Korea; Singapore; Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu (Taipei, Chinese) and Thailand.

Source: [http://www.wto.org/english/res\\_e/statis\\_e/its2009\\_e/](http://www.wto.org/english/res_e/statis_e/its2009_e/)

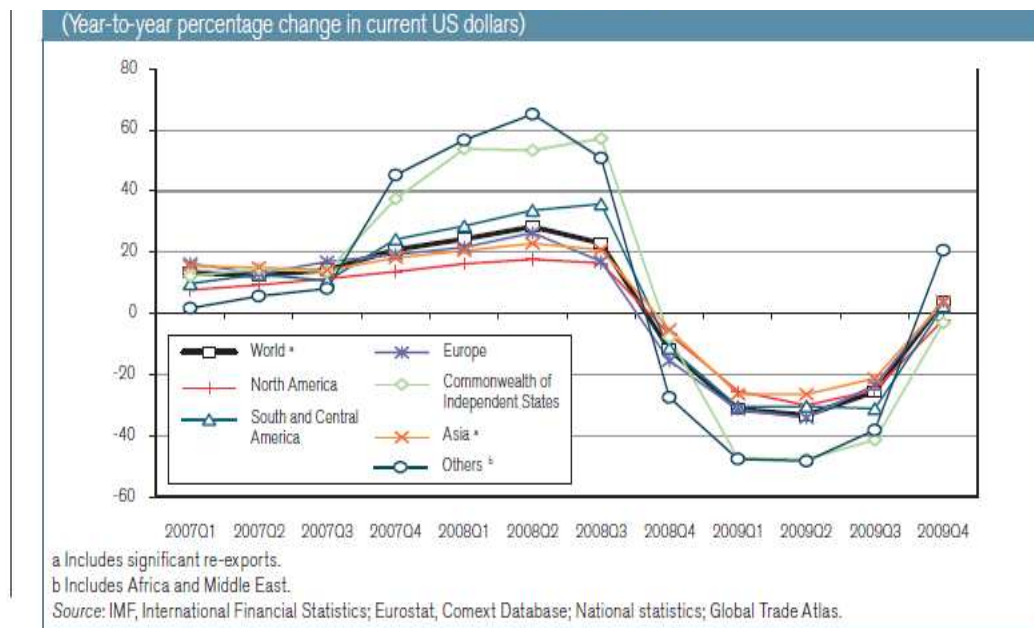
Further to the above, world trade is currently following a faster than expected recovery, with WTO economists predicting to rebound in 2010 by growing at 13.5%. According to WTO figures released on 2 June 2010 of “year-on-year” quarterly comparisons, the value of world merchandise trade was around 25% higher in the first three months of 2010 than in the same period of 2009, global exports rose by 27%, while imports rose slightly less, at 24%. Monthly statistics for 70 economies representing approximately 90% of world trade indicate that merchandise trade declined in January and February 2010, then rose sharply in March, as depicted in Figure 2.1. It should be noted that despite the steep fall in global trade due to the recent economic crisis, Asia outperformed the rest of the world in 2009, with its exports falling down 18% in 2009, the smallest nominal decline of any region. Asia’s imports also fell less than the world average (21%), as shown in Figure 2.2.

**Figure 2.1-Monthly merchandise trade, aggregate of 70 economies**



Source: WTO

**Figure 2.2- World Merchandise Exports by Region (2007-2009)**

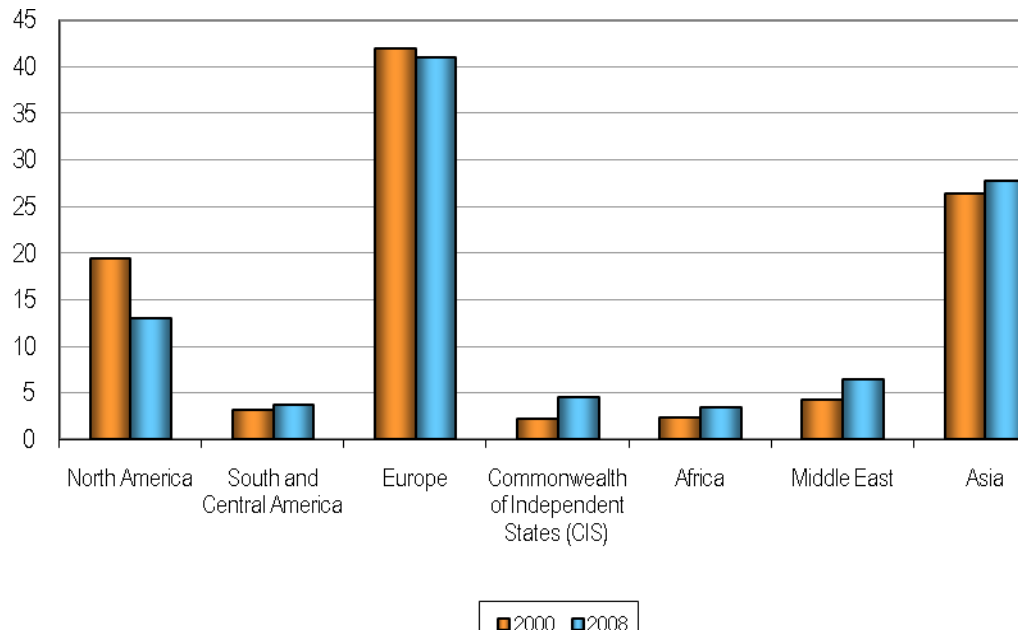


Source: WTO

## Euro-Asian Trade Flows

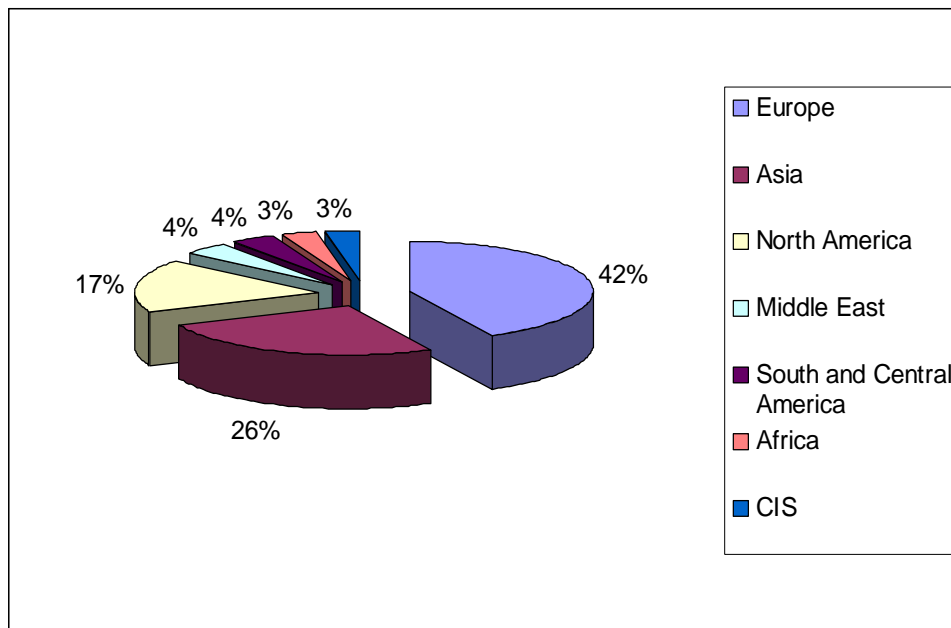
The 60 countries involved in the Euro– Asian trade represent more than the half of the world’s GDP, more than 60% of the world’s population and approximately 70% of global trade, as illustrated in Figure 2.3 for years 2000 and 2008 (WTO). More specifically, in year 2009, 42% of world merchandise trade exports originated in Europe, 26% in Asia, 17% in North America , 4 % in the Middle East and South and Central America and 3% in CIS countries and Africa (Figure 2.4).

**Figure 2.3-Regional share in world merchandise exports 2000-2008**



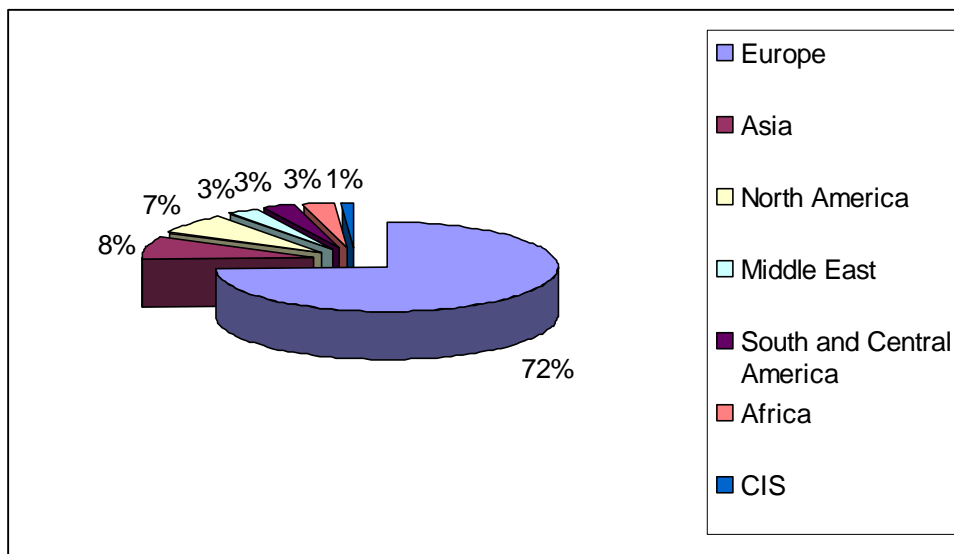
Source: [http://www.wto.org/english/res\\_e/statis\\_e/its2009\\_e/its09\\_charts\\_e.htm](http://www.wto.org/english/res_e/statis_e/its2009_e/its09_charts_e.htm)

**Figure 2.4-World Exports by Destination, 2009**

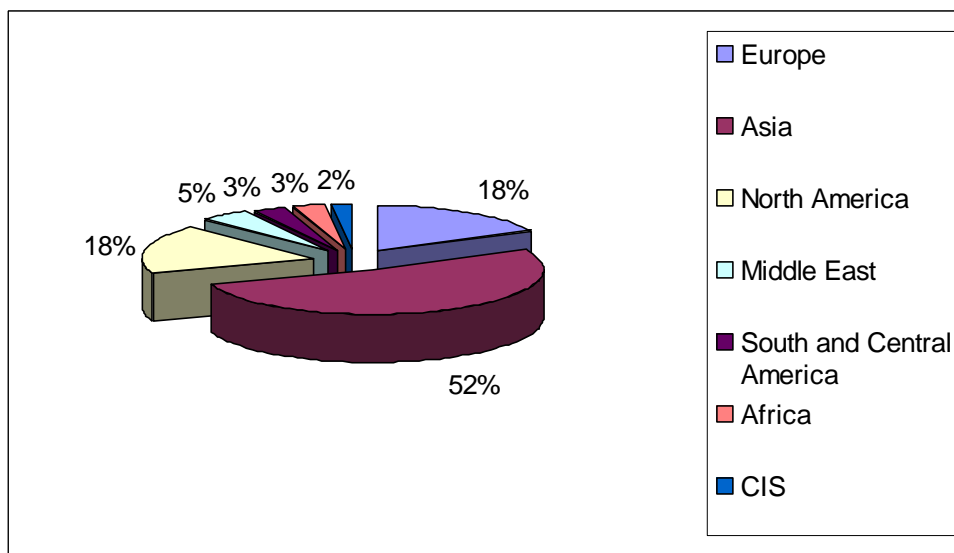


According to World Trade Organization, in year 2009, 72% of Europe's exports went to European countries, 8% to Asia, 7% to North America and only 3% to CIS countries, while 52% of Asian countries' exports went to Asia, 18% to Europe, and North America and only 2% to CIS countries, as shown in Figures 2.5 and 2.6, respectively. Similar figures were recorded for year 2008, as per Table 2.2.

**Figure 2.5-European Exports by Destination, 2009**



**Figure 2.6-Asian Exports by Destination, 2009**



Based on the above, Asia contributes one fourth of world trade in goods, after Europe, where about half of Asia's exports are conducted within the region. In parallel to growing intra-regional trade, Asia's inter-regional trade has also grown over time, with Europe and North America becoming the two largest destinations of Asia's exports.

**Table 2.2- Intra- and inter-regional merchandise trade, 2008**

Origin	Destination							
	North America	South and Central America	Europe	CIS	Africa	Middle East	Asia	World
Value								
<b>World</b>	<b>2708</b>	<b>583</b>	<b>6736</b>	<b>517</b>	<b>458</b>	<b>618</b>	<b>3903</b>	<b>15717</b>
North America	1014.5	164.9	369.1	16.0	33.6	60.2	375.5	2035.7
South and Central America	169.2	158.6	121.3	9.0	16.8	11.9	100.6	599.7
Europe	475.4	96.4	4695.0	240.0	185.5	188.6	486.5	6446.6
Commonwealth of Independent States (CIS)	36.1	10.1	405.6	134.7	10.5	25.0	76.8	702.8
Africa	121.6	18.5	218.1	1.5	53.4	14.0	113.9	557.8
Middle East	116.5	6.9	125.5	7.2	36.6	122.1	568.9	1021.2
Asia	775.0	127.3	801.0	108.4	121.3	196.4	2181.4	4353.0
Share of regional trade flows in each region's total merchandise exports								
<b>World</b>	<b>17.2</b>	<b>3.7</b>	<b>42.9</b>	<b>3.3</b>	<b>2.9</b>	<b>3.9</b>	<b>24.8</b>	<b>100.0</b>
North America	49.8	8.1	18.1	0.8	1.7	3.0	18.4	100.0
South and Central America	28.2	26.5	20.2	1.5	2.8	2.0	16.8	100.0
Europe	7.4	1.5	72.8	3.7	2.9	2.9	7.5	100.0
Commonwealth of Independent States (CIS)	5.1	1.4	57.7	19.2	1.5	3.6	10.9	100.0
Africa	21.8	3.3	39.1	0.3	9.6	2.5	20.4	100.0
Middle East	11.4	0.7	12.3	0.7	3.6	12.0	55.7	100.0
Asia	17.8	2.9	18.4	2.5	2.8	4.5	50.1	100.0
Share of regional trade flows in world merchandise exports								
<b>World</b>	<b>17.2</b>	<b>3.7</b>	<b>42.9</b>	<b>3.3</b>	<b>2.9</b>	<b>3.9</b>	<b>24.8</b>	<b>100.0</b>
North America	6.5	1.0	2.3	0.1	0.2	0.4	2.4	13.0
South and Central America	1.1	1.0	0.8	0.1	0.1	0.1	0.6	3.8
Europe	3.0	0.6	29.9	1.5	1.2	1.2	3.1	41.0
Commonwealth of Independent States (CIS)	0.2	0.1	2.6	0.9	0.1	0.2	0.5	4.5
Africa	0.8	0.1	1.4	0.0	0.3	0.1	0.7	3.5
Middle East	0.7	0.0	0.8	0.0	0.2	0.8	3.6	6.5
Asia	4.9	0.8	5.1	0.7	0.8	1.2	13.9	27.7

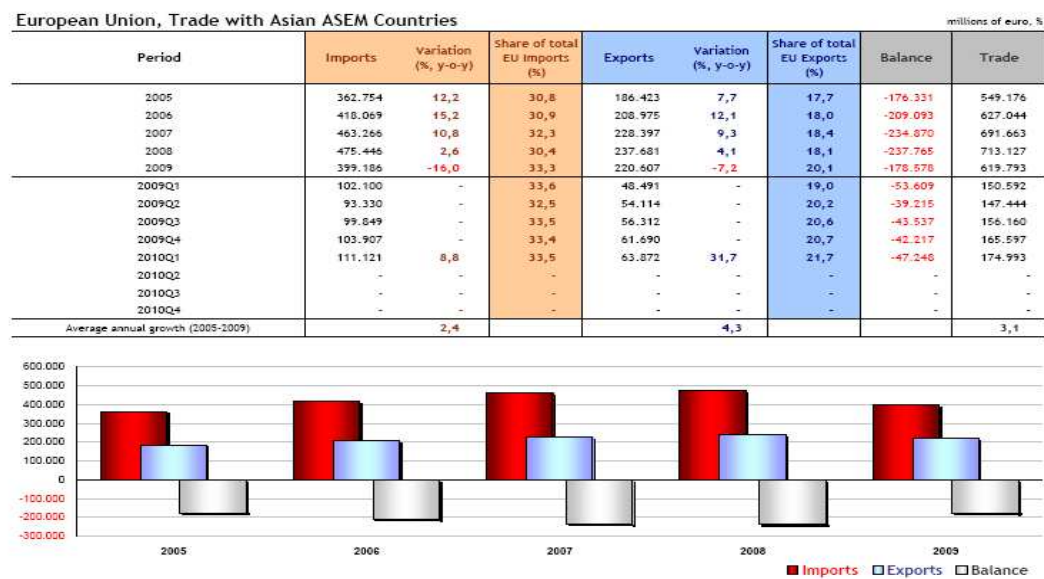
Source: [http://www.wto.org/english/res\\_e/statis\\_e/its2009\\_e/](http://www.wto.org/english/res_e/statis_e/its2009_e/)

### ***Euro-ASEM trade***

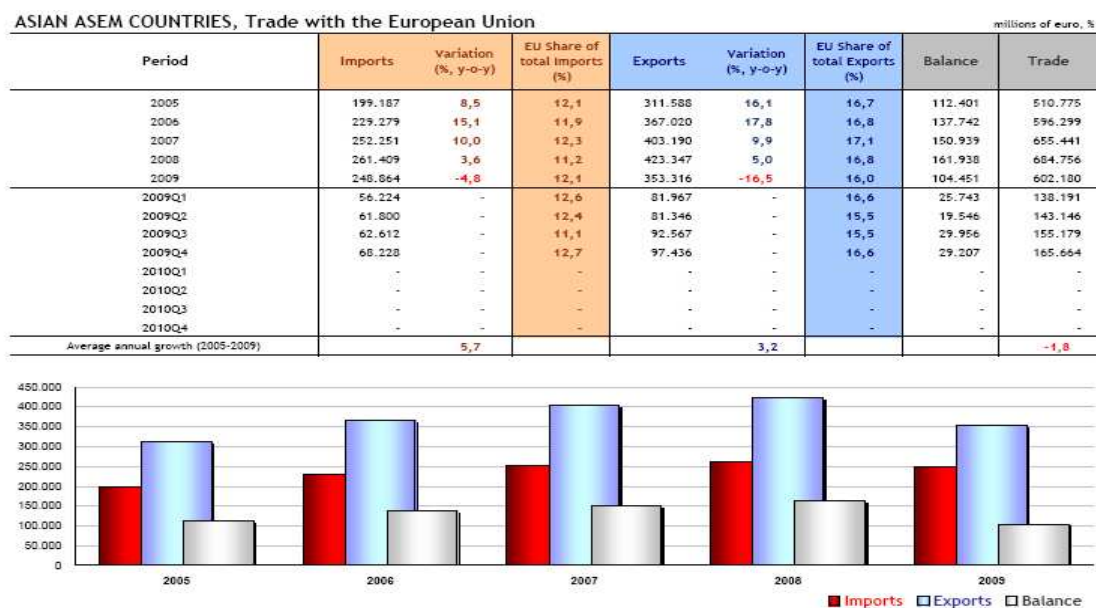
The Asia-Europe Meeting (ASEM), an informal process of dialogue and co-operation bringing together the 27 European Union Member States and the European Commission with 19 Asian countries and the ASEAN Secretariat, has released figures for the evolution of EU's Trade Balance with Asian ASEM Countries, as well as the one of Asian ASEM Countries with the EU, presented in Figures 2.7 and 2.8

respectively. An increase of trade value is observed for both imports and exports of both directions during the period 2005-2008, preceding the steep fall commencing in year 2009 and attributed to the financial crisis. Nevertheless, EU imports from Asian countries are on average twice as much as exports in the opposite direction.

**Figure 2.7-EU Trade with Asian ASEM Countries**



**Figure 2.8- Asian ASEM Countries Trade with EU**



Source: Asia-Europe Meeting (ASEM), Report, A European Commission foundation

**EU –China trade**

**Table 2.3-EU 27 Trade Value with China by Transport Mode (in mio euro)**

EU 27 with China	Oct. 2009	Nov. 2009	Dec. 2009	Jan.-Dec. 2009	Jan. 2010	Feb. 2010	Mar. 2010	Apr. 2010	May. 2010	Jun. 2010
SEA	11610	9957	10015	126925	11916	11348	12993	11268	12797	15266
RAIL	116	107	88	1239	109	79	124	128	135	147
AIR	3872	4871	3846	43638	3926	3656	4575	4109	4864	4708

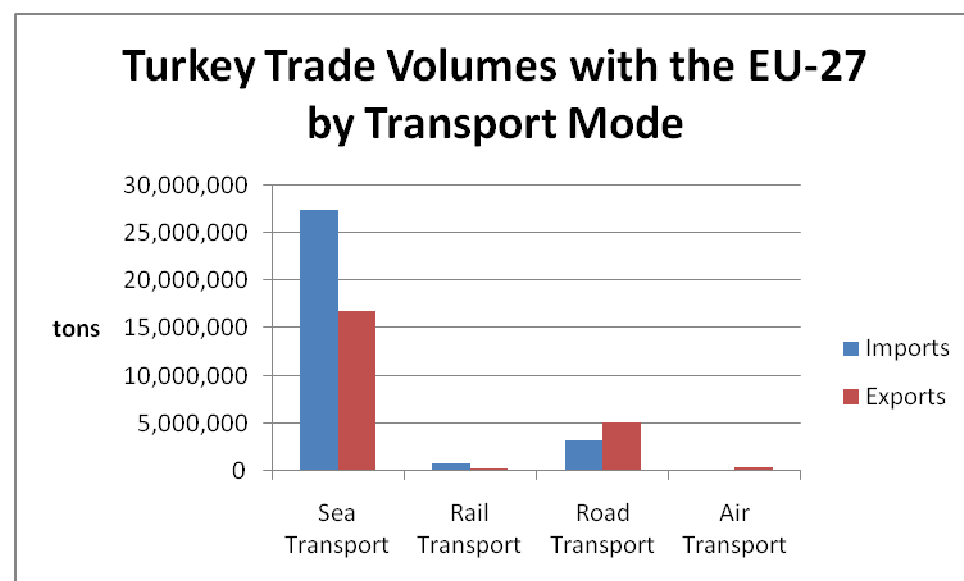
Source: *EUROSTAT*

Based on data provided by the EU Statistical Agency Eurostat (Table 2.3) for the recent period of October 2009-June 2010, the bulk of EU-27 trade (both imports and exports) with Asia, represented by China, continues to be transported by sea. The second largest share in value corresponds to air transport, while rail accounts for the lowest share.

### *EU-Turkey trade*

Similar findings are obtained from the analysis of merchandise trade between Turkey and the EU and Asia for year 2009, depicted in Figures 2.9 and 2.10 below.

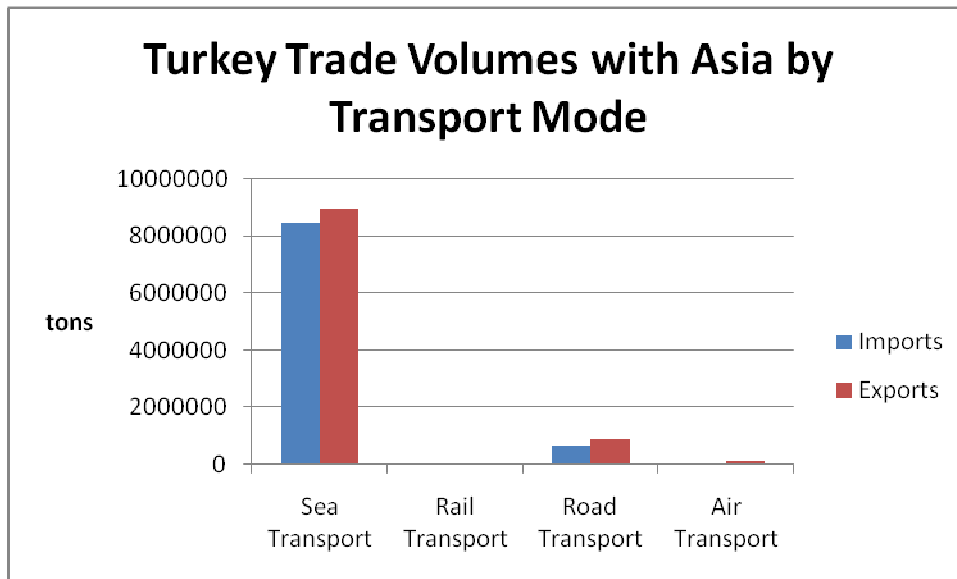
**Figure 2.9-Turkey Trade Volumes with the EU-27 by Transport Mode**



Source: *Turkey NFP*



**Figure 2.10--Turkey Trade Volumes with Asia by Transport Mode**

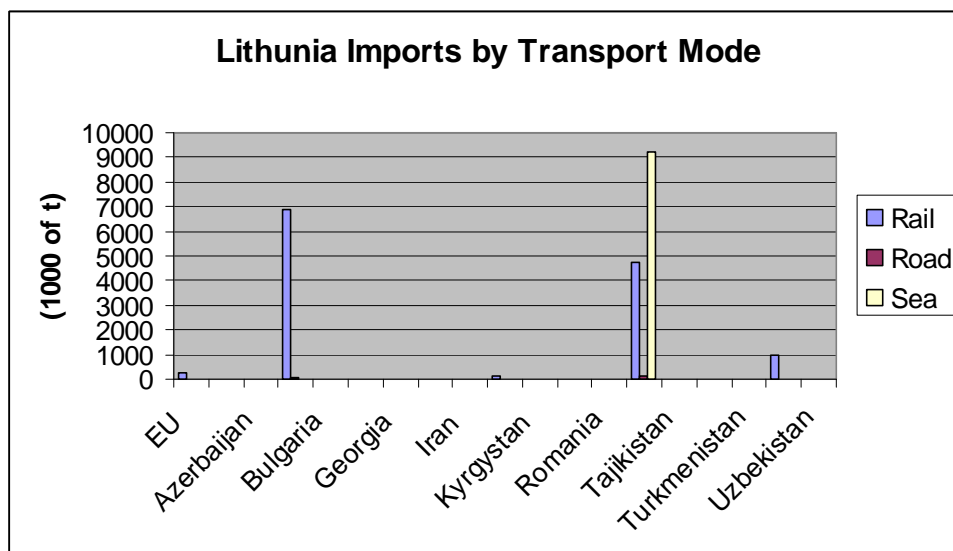


Source: Turkey NFP

**Lithuanian trade**

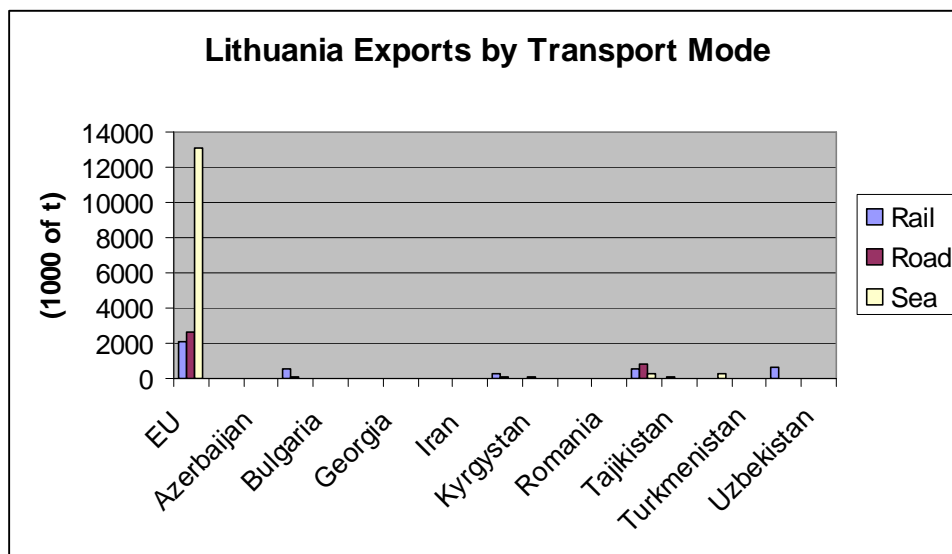
Similarly, Figures 2.11 and 2.12 illustrate the trade imports and exports of Lithuania with the other EU countries and other EATL participating countries by transport mode.

**Figure 2.11-Lithuania Trade Import Volumes by Transport Mode**



Source: Lithuania NFP

**Figure 2.12-Lithuania Trade Export Volumes by Transport Mode**



Source :Lithuania NFP

### ***Transport of containerised cargo***

The volumes of international containerised cargo shipped using rail or road transport between Asia (China) and Europe are currently very limited. Rail transport, in particular, using the Tran Siberian Railway, which with its branches represents the most important railway connection between Europe and Far East Asia, may account for up to 3-4 % of the current volume, mainly from Northern China. The share of railway freight transport in long-distance international transport is modest, but has significant potential in certain connections. Road transport (trucking) accounts for even less.

A very good comparison of “Trans-Siberian” route and all-water route in terms of transport times is presented in Table 2.4 (Oksana *et al*, 2006). It appears that in terms of the time required to get from major ports in Japan, China and the Republic of Korea to Finland, the “Trans-Siberian” route is faster.

**Table 2.4-Transport Travel Times from Asian Origins to Finland**

Routes	Busan (ROK)	Kobe (Japan)	Shanghai (China)
All-water	35 days	35 days	35 days
Trans-Siberian	18-22 days	24 days	26 days

## **The Economic Growth of Asia**

As described in the previous section, the volume of international trade between Europe and Asia has been growing sharply in recent years. This is mainly driven by the development and emergence of new economies of countries in Asia, particularly that of China. Also, the newly industrialized countries of Asia have experienced their trade flows rebound more strongly than those of developed economies, suggesting that much of their recent growth could be attributed to the trade within Asia.

According to the WTO (Table 2.5), as of 2008, China surpassed Germany to become the world's largest exporter of manufactured goods.

**Table 2.5-Merchandise Trade: Leading exporters and Importers (2009)**

Rank	Exporters	Value	Share	Annual per cent change	Rank	Importers	Value	Share	Annual per cent change
1	China	1202	9.6	-16	1	United States	1604	12.7	-26
2	Germany	1121	9.0	-22	2	China	1006	8.0	-11
3	United States	1057	8.5	-18	3	Germany	931	7.4	-21
4	Japan	581	4.7	-26	4	France	551	4.4	-22
5	Netherlands	499	4.0	-22	5	Japan	551	4.4	-28
6	France	475	3.8	-21	6	United Kingdom	480	3.8	-24
7	Italy	405	3.2	-25	7	Netherlands	446	3.5	-23
8	Belgium	370	3.0	-22	8	Italy	410	3.2	-26
9	Korea, Republic of	364	2.9	-14	9	Hong Kong, China	353	2.8	-10
						- retained imports <sup>a</sup>	91	0.7	-8
10	United Kingdom	351	2.8	-24	10	Belgium	351	2.8	-25
11	Hong Kong, China	330	2.6	-11	11	Canada	330	2.6	-21
	- domestic exports <sup>a</sup>	15	0.1	-9					
	- re-exports <sup>a</sup>	314	2.5	-11					
12	Canada	316	2.5	-31	12	Korea, Republic of	323	2.6	-26
13	Russian Federation	304	2.4	-36	13	Spain	290	2.3	-31
14	Singapore	270	2.2	-20	14	Singapore	246	1.9	-23
	- domestic exports	138	1.1	-21		- retained imports <sup>b</sup>	114	0.9	-28
	- re-exports	132	1.1	-19					
15	Mexico	230	1.8	-21	15	India	244	1.9	-24
16	Spain	218	1.7	-23	16	Mexico	242	1.9	-24
17	Taipei, Chinese	204	1.6	-20	17	Russian Federation <sup>c</sup>	192	1.5	-34
18	Saudi Arabia <sup>a</sup>	189	1.5	-40	18	Taipei, Chinese	175	1.4	-27
19	United Arab Emirates <sup>a</sup>	175	1.4	-27	19	Australia	165	1.3	-17
20	Switzerland	173	1.4	-14	20	Switzerland	156	1.2	-15
21	Malaysia	157	1.3	-21	21	Poland	147	1.2	-30
22	India	155	1.2	-20	22	Austria	144	1.1	-22
23	Australia	154	1.2	-18	23	Turkey	141	1.1	-30
24	Brazil	153	1.2	-23	24	United Arab Emirates <sup>a</sup>	140	1.1	-21
25	Thailand	152	1.2	-14	25	Thailand	134	1.1	-25
26	Austria	137	1.1	-24	26	Brazil	134	1.1	-27
27	Poland	134	1.1	-21	27	Malaysia	124	1.0	-21
28	Sweden	131	1.0	-29	28	Sweden	119	0.9	-29
29	Norway	121	1.0	-30	29	Czech Republic	105	0.8	-26
30	Indonesia	120	1.0	-14	30	Saudi Arabia <sup>a</sup>	92	0.7	-20
	Total of above <sup>d</sup>	10244	82.2	-		Total of above <sup>d</sup>	10323	81.6	-
	World <sup>d</sup>	12461	100.0	-23		World <sup>d</sup>	12647	100.0	-23

Source: WTO

Between 2000 and 2008, China's exports of manufactured goods grew at an annual average rate of 25.2 per cent, twice that of Germany (Table 2.6). While EU exports outside the European Union still remain at the top of the list, the gap with China has been constantly narrowing. On the import side, China remains second in the list of major importers.

Growth prospects for Asia in the next 2 years have improved following the unexpected growth in the second half of 2009. According to figures produced by the Asian Development Bank (Outlook 2010) and presented in Table 2.7, GDP in year 2011 is projected to grow by 5.9% for Central Asia, and by 7.7% for East Asia. The three economies that shrank during 2009 (Hong Kong, China; Mongolia; and Taipei, China) are expected to recover. In addition, growth in all of Central Asia's economies is expected for the period 2010-2011, favored by higher oil prices and recovery in the Russian Federation, the major trade and financial partner country. Kazakhstan's unstable non-oil economy will hold its overall growth down to 2.5%, while the Armenian and Georgian economies are projected to turn around with a slower growth (about 2%). In the Kyrgyz Republic and Tajikistan, expansion is expected to accelerate slightly, to about 4%–6% (Outlook 2010).

**Table 2.6-World Merchandise Trade by Region and Selected Country (2009)**

	Exports					Imports				
	Value	Annual percentage change				Value	Annual percentage change			
	2009	2005-09	2007	2008	2009	2009	2005-09	2007	2008	2009
<b>World</b>	12147	4	16	15	-23	12385	4	15	16	-24
<b>North America</b>	1602	2	11	11	-21	2177	-1	6	8	-25
United States	1057	4	12	12	-18	1604	-2	5	7	-26
Canada	316	-3	8	9	-31	330	1	9	7	-21
Mexico	230	2	9	7	-21	242	1	10	10	-24
<b>South and Central America <sup>a</sup></b>	461	6	14	21	-24	444	10	25	30	-25
Brazil	153	7	17	23	-23	134	15	32	44	-27
Other South and Central America <sup>a</sup>	308	6	13	20	-24	311	9	23	25	-25
<b>Europe</b>	4995	3	16	11	-23	5142	3	16	12	-25
European Union (27)	4567	3	16	11	-23	4714	3	16	12	-25
Germany	1121	4	19	9	-22	931	5	16	12	-21
France	475	1	11	9	-21	551	2	14	14	-22
Netherlands	499	5	19	16	-22	446	5	18	18	-23
United Kingdom <sup>b</sup>	351	-2	-2	5	-24	480	-2	4	2	-24
Italy	405	2	20	8	-25	410	2	16	8	-26
<b>Commonwealth of Independent States (CIS)</b>	452	7	21	35	-36	332	11	35	32	-33
Russian Federation <sup>c</sup>	304	6	17	33	-36	192	11	36	31	-34
<b>Africa</b>	379	5	18	28	-32	400	12	23	27	-16
South Africa	63	5	20	16	-22	72	4	12	12	-28
Africa less South Africa	317	5	17	31	-33	328	14	27	32	-13
Oil exporters <sup>d</sup>	204	3	17	34	-40	129	16	29	39	-11
Non oil exporters	113	9	16	23	-17	199	13	27	28	-14
<b>Middle East</b>	691	6	16	33	-33	493	10	25	28	-18
<b>Asia</b>	3566	6	16	15	-18	3397	6	15	21	-21
China	1202	12	26	17	-16	1006	11	21	18	-11
Japan	581	-1	10	9	-26	551	2	7	23	-28
India	155	12	23	30	-20	244	14	29	40	-24
Newly industrialized economies (4) <sup>e</sup>	853	4	11	10	-17	834	4	11	17	-24
<b>Memorandum items:</b>										
Developing economies	4697	7	17	19	-22	4432	8	19	22	-20
MERCOSUR <sup>f</sup>	217	7	18	24	-22	186	13	31	41	-28
ASEAN <sup>g</sup>	814	6	12	14	-18	724	5	13	21	-23
EU (27) extra-trade	1525	4	17	13	-21	1672	3	16	17	-27
Least Developed Countries (LDCs)	125	11	25	32	-27	144	13	24	29	-11

Source: WTO

**Table 2.7-Asia GDP growth (2007-2011)**

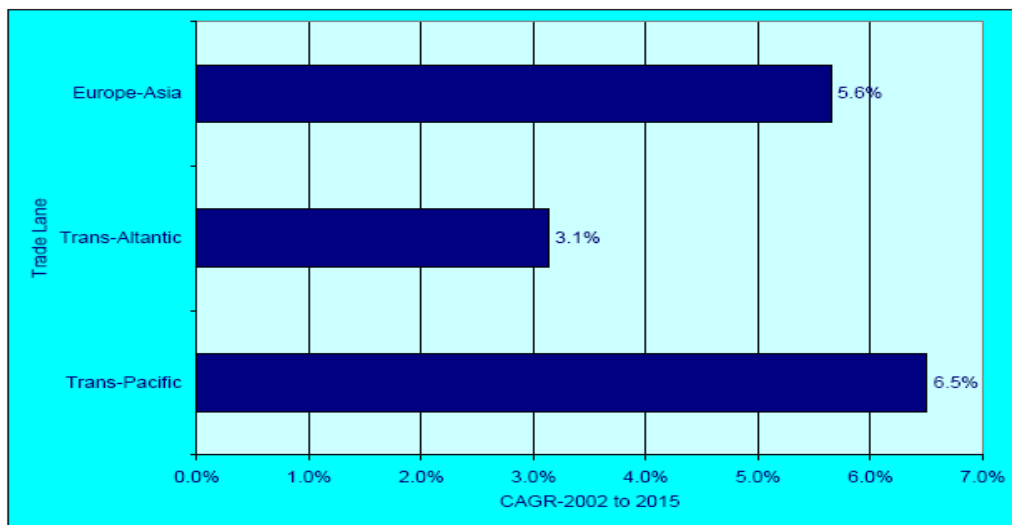
Subregion/economy	Table 1 Growth rate of GDP (% per year)					Table 2 Inflation (% per year)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
<b>Central Asia</b>	12.0	6.1	2.7	4.7	5.9	11.2	16.5	5.9	6.7	6.6
Azerbaijan	25.1	10.8	9.3	9.5	9.7	16.7	20.8	1.5	5.8	6.0
Kazakhstan	8.9	3.3	1.2	2.5	3.5	10.8	17.3	7.3	6.8	6.5
<b>East Asia</b>	10.4	7.3	5.9	8.3	7.7	3.9	5.4	0.0	3.3	3.0
China, People's Rep. of	13.0	9.6	8.7	9.6	9.1	4.8	5.9	-0.7	3.6	3.2
Hong Kong, China	6.4	2.1	-2.7	5.2	4.3	2.0	4.3	0.5	2.2	2.8
Korea, Rep. of	5.1	2.3	0.2	5.2	4.6	2.5	4.7	2.8	3.0	3.0
Taipei, China	6.0	0.7	-1.9	4.9	4.0	1.8	3.5	-0.9	1.5	1.6
<b>South Asia</b>	8.7	6.4	6.5	7.4	8.0	5.6	9.3	5.6	6.0	6.0
Bangladesh	6.4	6.2	5.9	5.5	6.3	7.2	9.9	6.7	7.5	7.8
India	9.2	6.7	7.2	8.2	8.7	4.8	8.3	3.6	5.0	5.5
Pakistan	6.8	4.1	2.0	3.0	4.0	7.8	12.0	20.8	12.0	8.0
Sri Lanka	6.8	6.0	3.5	6.0	7.0	15.8	22.6	3.5	6.5	8.0
<b>Southeast Asia</b>	6.5	4.3	1.2	5.1	5.3	4.1	8.8	2.7	4.5	4.5
Indonesia	6.3	6.0	4.5	5.5	6.0	6.4	9.8	5.0	5.6	6.2
Malaysia	6.2	4.6	-1.7	5.3	5.0	2.0	5.4	0.6	2.4	3.0
Philippines	7.1	3.8	0.9	3.8	4.6	2.8	9.3	3.2	4.7	4.5
Singapore	8.2	1.4	-2.0	6.3	5.0	2.1	6.6	0.6	2.3	2.0
Thailand	4.9	2.5	-2.3	4.0	4.5	2.2	5.4	-0.9	3.5	3.0
Viet Nam	8.5	6.2	5.3	6.5	6.8	8.3	23.0	6.9	10.0	8.0
<b>The Pacific</b>	5.0	5.4	2.3	3.7	5.0	3.6	9.5	5.2	5.1	5.4
Fiji Islands	-0.5	-0.1	-2.5	-0.5	0.5	4.8	7.7	3.7	3.4	3.1
Papua New Guinea	7.2	6.7	4.5	5.5	7.7	0.9	10.6	7.6	7.1	7.7

Source: Asian Development Bank, Outlook 2010

## Container Freight Transport between Europe-Asia

Currently, maritime transport is the dominant mode of cargo transport between Asia and Europe with an associated steep growth of containerized trade from Asia on the corridor to Europe (and vice-versa). Container ship traffic increased by 71% and average ship-size increased by 55% between 1997 and 2006 (Vallouis, 2010). Container trade volume on the Asia–Europe route reached 13.7 million TEU in 2002. The Asia-Europe maritime trade is projected to grow at an average rate of 5.6 per cent per annum until 2015, as illustrated in Figure 2.13 (UNESCAP). It should be noted, however, that this growth rate covers the whole of the Asia-Europe trade, including some already mature markets such as Northern Europe- Japan, which are expected to grow only slowly. Other trade routes, between East Asia and the Mediterranean, and between India and all parts of Europe are expected to grow more rapidly than the above rate.

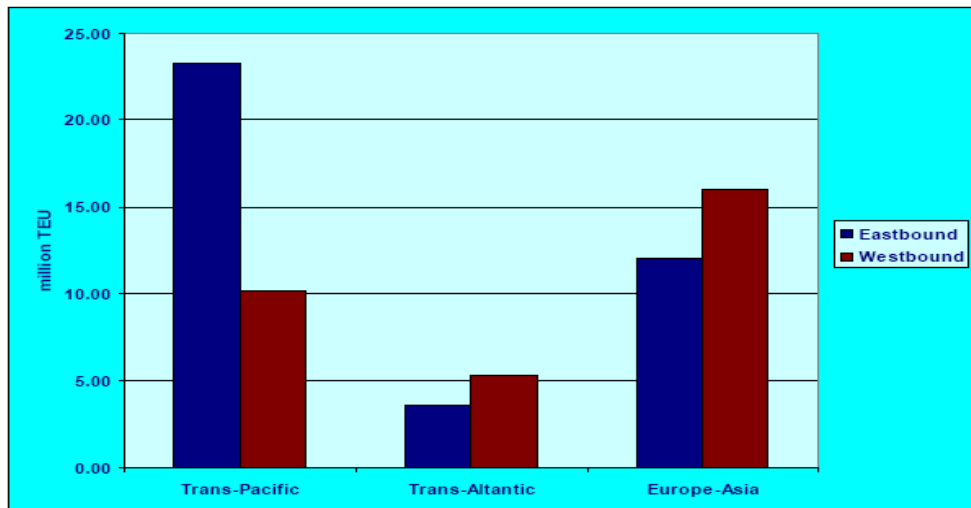
**Figure 2.13- East-West Trade Lane Growth (2002 - 2015)**



Source: [www.unescap.org/ttdw/.../TFS.../pub\\_2398\\_ch4.pdf](http://www.unescap.org/ttdw/.../TFS.../pub_2398_ch4.pdf)

One of the key features of container trade today is imbalance with more containers leaving Asia full than those coming back. This imbalance has been recorded as early as 1997, particularly with respect to Asian trade with Northern Europe. Current estimates are that westbound TEU numbers now exceed eastbound by approximately 25 %, and according to forecasts, the trade imbalance on the Asia-Europe route will be further increased to around 34% in 2015, as depicted in Figure 2.14. Westbound volumes are expected to increase from 7.6 million TEU to 16.0 million TEU at an average rate of 5.9% per annum over the forecast period, compared to the estimated rate of growth of 5.4% for westbound volumes from 6.1 million TEU to 12.0 million TEU during the same period.

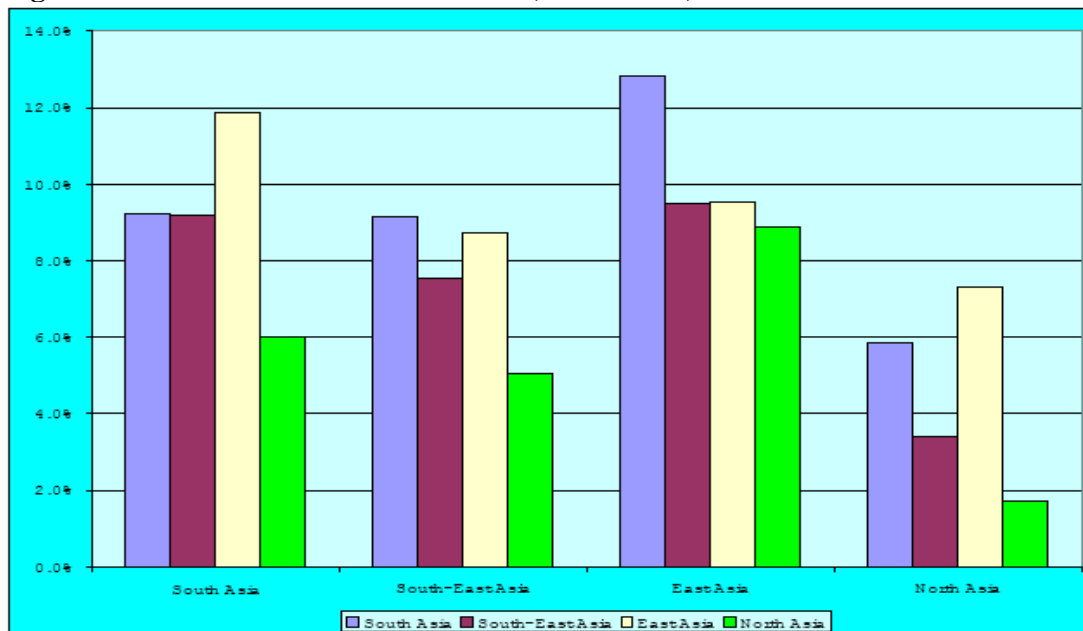
**Figure 2.14- Trade Imbalance on East-West Routes (2015)**



Source: [www.unescap.org/ttdw/.../TFS.../pub\\_2398\\_ch4.pdf](http://www.unescap.org/ttdw/.../TFS.../pub_2398_ch4.pdf)

Within the intra-Asian trade, trade to and from East Asia and South Asia is expected to grow substantially in the future. China, including Hong Kong, China and Taiwan, will continue to dominate the intra-Asian trade with an expected growth rate of 9.3 % per annum during the period 2002-2015. Estimates show that the South Asian countries trade with other Asian countries will increase at an average rate of 10.4 % over the same period. In particular, the trade between these two sub-regions is expected to increase at more than 12% annually.

**Figure 2.15- Intra-Asian Trade Growth (2002 - 2015)**



Source: [www.unescap.org/ttdw/.../TFS.../pub\\_2398\\_ch4.pdf](http://www.unescap.org/ttdw/.../TFS.../pub_2398_ch4.pdf)

The growth of container trade in the Euro-Asian route has fostered the use of larger and more efficient vessels and rates that have fallen to extremely low levels, such as 742 USD per TEU from Europe to Asia, as shown in Table 2.8. The most important repercussion was, however, the emergence of major hubs in the Mediterranean, northern Europe and Asia. To this end, there is growing concern with regard to port congestion and saturation of port land access.



Container throughput for ports of China has increased from 19.4 million TEU in 2000 to 118.3million TEU in 2008, equivalent to an average annual growth of 25.4% for this period, while in South and South-West Asia, port container throughput has almost tripled from 2000 to 2008, as growth averaged some 16 % annually (ESCAP,2009). Figure 2.16 illustrates the forecasted average port capacity utilisation by region, showing that ports in the South East Asia are rapidly approaching full capacity by year 2011.

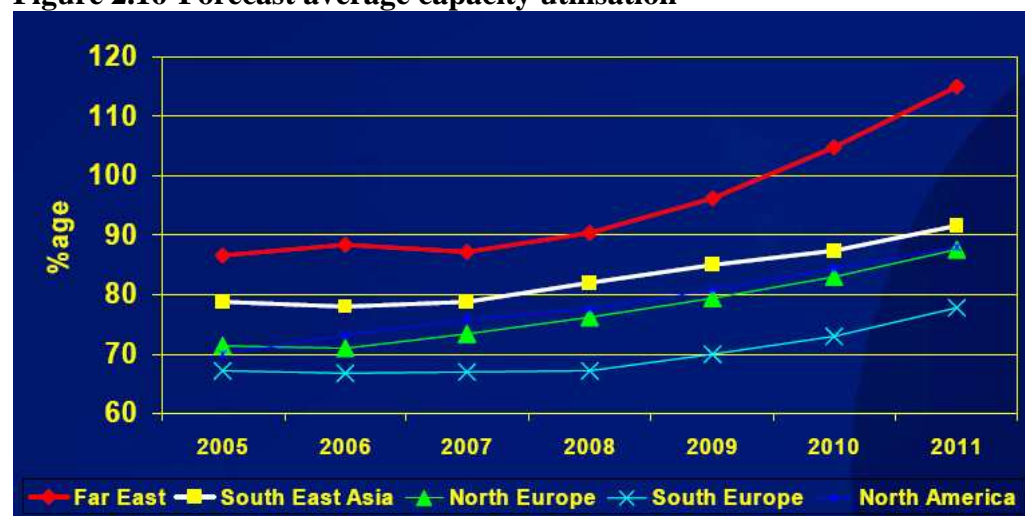
**Table 2.8-Freight rates (market averages) per TEU on the three major liner trade routes**

(\$ per TEU and percentage change)

	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia-US	US-Asia	Europe-Asia	Asia-Europe	US-Europe	Europe-US
<b>2007</b>						
First quarter	1 643	737	755	1 549	1 032	1 692
Change (%)	- 2	- 5	- 5	0	- 3	- 4
Second quarter	1 675	765	744	1 658	1 067	1 653
Change (%)	2	4	- 1	7	3	- 2
Third quarter	1 709	780	792	2 014	114	1 667
Change (%)	2	2	6	21	- 89	1
Fourth quarter	1 707	794	959	2 109	1 175	1 707
Change (%)	0	2	21	5	931	2
<b>2008</b>						
First quarter	1 757	845	1 064	2 030	1 261	1 637
Change (%)	3	6	11	- 4	7	- 4
Second quarter	1 844	987	1 104	1 937	1 381	1 610
Change (%)	5	17	4	- 5	10	- 2
Third quarter	1 934	1 170	1 141	1 837	1 644	1 600
Change (%)	5	19	3	- 5	19	- 1
Fourth quarter	1 890	1 196	1 109	1 619	1 731	1 600
Change (%)	- 2	2	- 3	- 12	5	0
<b>2009</b>						
First quarter	1 670	913	853	1 023	1 481	1 325
Change (%)	- 12	- 24	- 23	- 37	- 14	- 17
Second quarter	1 383	802	742	897	1 431	1 168
Change (%)	- 21	- 12	- 13	- 12	- 3	- 12

Source: "Review of Maritime Transport 2009"

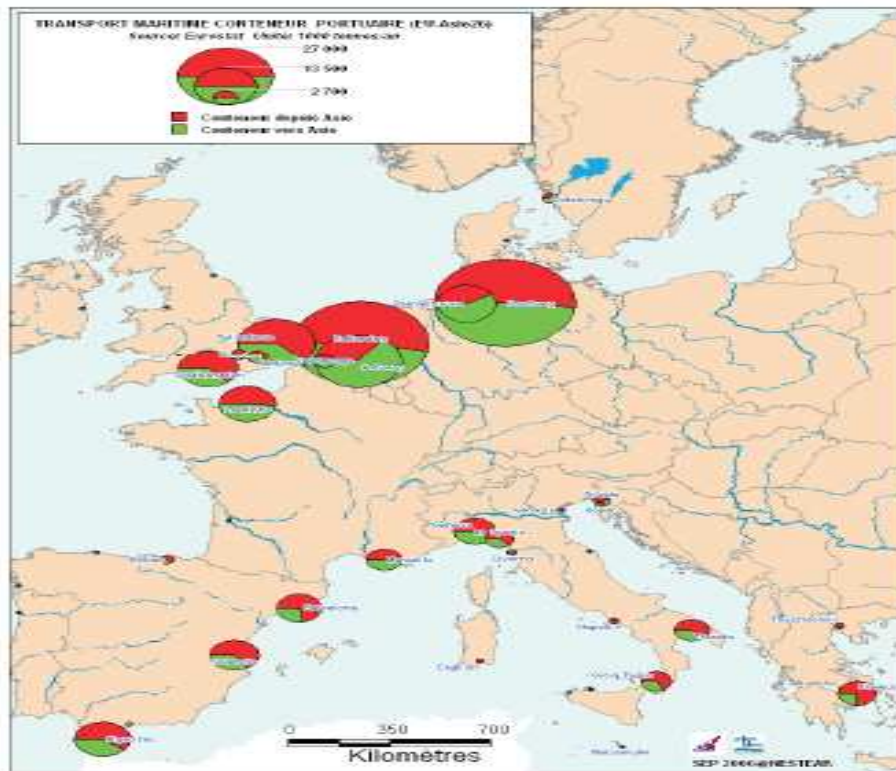
**Figure 2.16-Forecast average capacity utilisation**



Source: (Drewry Shipping Consultants Ltd [www.drewry.co.uk](http://www.drewry.co.uk))

The growth of trade in Asia triggered the emergence of large main hubs in the Mediterranean, whereas these hubs had previously been located almost exclusively on the northern edge of Europe and once dominated the transatlantic trade, as depicted in Figure 2.17 (Plan Bleu). For the Northern ports, the arrivals of containers loaded in Asia (in red) are slightly higher than the departures (in green). Mediterranean ports clearly receive more from Asia than what they send to the continent.

**Figure 2.17- Maritime container port transport (EU – Asia-26), 2005 (thousand tons/year)**



Source: Vallouis, Planbleu

Despite the above, this predominant form of distribution has led to the progressive saturation of ports in Northern Europe, and, thus, many European and Asian logistics operators are gradually beginning to move part of the distribution in Europe towards the South Mediterranean. In addition, distribution from Southern Europe reduces the maritime navigation time of large ships from Asia by three or four days. It is still a slow process, however traffic has been increased in Ports of Barcelona, Marseilles, Genoa.

## Landlocked Countries

Of the 31 landlocked developing countries in the world, 12 are located in Asia, while the following 9 take part in the EATL Phase II Study: Afghanistan, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.



There has long been evidence that the geographical restraint of lack of access to and great distance from the sea suppressed both per capita income and economic growth. In absolute per capita incomes, the landlocked countries fail to compete against coastal ones, mainly due to their low participation in world trade. Therefore, their dependence on a limited number of commodities for their export earnings, lack of territorial access to the sea and remoteness from world markets makes landlocked developing countries, as a group, among the poorest of developing countries.

For these countries, trade and transport costs relate more to operations than to infrastructure capacity, due to the fragmentation of the supply chain in a poorly regulated transit process. Time-consuming border crossing and customs procedures, complicated non-standard documentation, lack of skills in the transport sector, additional “overheads” for unnecessary services, charges, and bribes, in both the public and private sectors, are some of the factors that can add 50% or more to transport costs between a port and a landlocked country (ESCAP, 2003). As a result, the delivery costs of imports are higher, exports are far less competitive and attraction for foreign investment is significantly reduced.

The Almaty Ministerial Conference in 2003 was the first global venue to specifically address the problems of landlocked developing, launching the Almaty Programme of Action calling for joint efforts by transit and landlocked countries to revise their regulatory frameworks affecting trade movements and to improve their trade-related infrastructure. Since the Almaty Conference, international support to the landlocked countries has increased substantially.

The United Nations General Assembly decided to hold a midterm review of the Almaty Programme of Action in 2008. The midterm review for the Euro-Asian region in particular was held in Bangkok and was attended by 43 participants from landlocked developing countries, transit developing countries, organizations and bodies of the United Nations system, and relevant international and regional organizations. The meeting acknowledged that much work had been undertaken at the national, subregional and regional levels by landlocked and transit developing countries in the implementation of the Almaty Programme of Action. Specific action-oriented recommendations and deliverables aimed at strengthening harmonization of legal regimes, adoption of integrated approach to trade and transport facilitation, elimination of physical and non-physical bottlenecks to transport, and the promotion of integrated training programmes in both public and private sectors, establishing national transit and trade facilitation committees, completing missing links, promoting intermodal transport and developing integrated transport corridors and logistics services, as well as the mobilization of domestic and external resources .

An additional review prepared by the World Bank (2008) concluded that between 2003 and 2007 the export value of landlocked countries more than doubled, while that of transit countries increased rather less, as global exports rose 60%. In addition, per capita incomes increased by about 28 percent, slightly less than the equivalent increase of the transit countries but still well above the global average. Nevertheless, in absolute values, landlocked countries trade and incomes still lag far behind those of the transit countries and the global average.

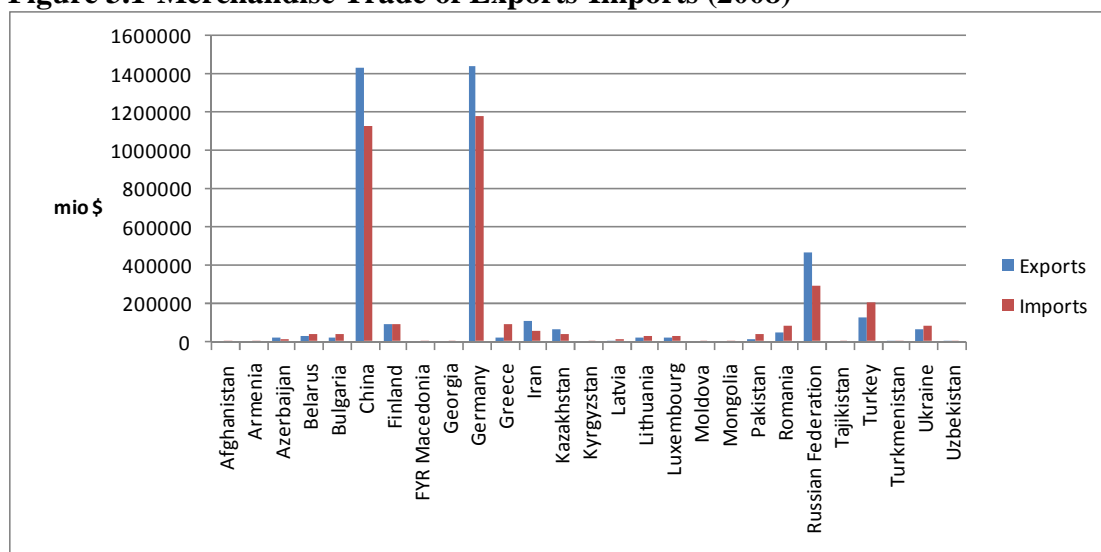
With regard to EATL landlocked countries, recent economic development within Asia, as well as growing intra-regional trade create the demand for these countries to become “land-linking” countries and provide effective transit services to their neighbours. To this end, both landlocked and neighbouring transit countries can benefit from actions taken to increase the efficiency of transit transport and enhance regional cooperation, as is the case of the Euro-Asian Transport links exercise.

## MERCHANDISE TRADE AMONG EATL COUNTRIES

### Overview

This chapter presents a brief analysis of the merchandise trade volumes amongst the countries participating in the EATL Phase II Study, based on data obtained from the WTO database for year 2008. This data is believed to be a good approximation for representing the general conditions of merchandise trade amongst the EATL countries, since these were collected one year prior to the global economic crisis. Figure 3.1 presents the total merchandise trade of exports and imports of each participating country in millions USD for year 2008. It is evident that China and Germany are the highest exporters/importers within the EATL Phase II participating countries.

**Figure 3.1-Merchandise Trade of Exports-Imports (2008)**

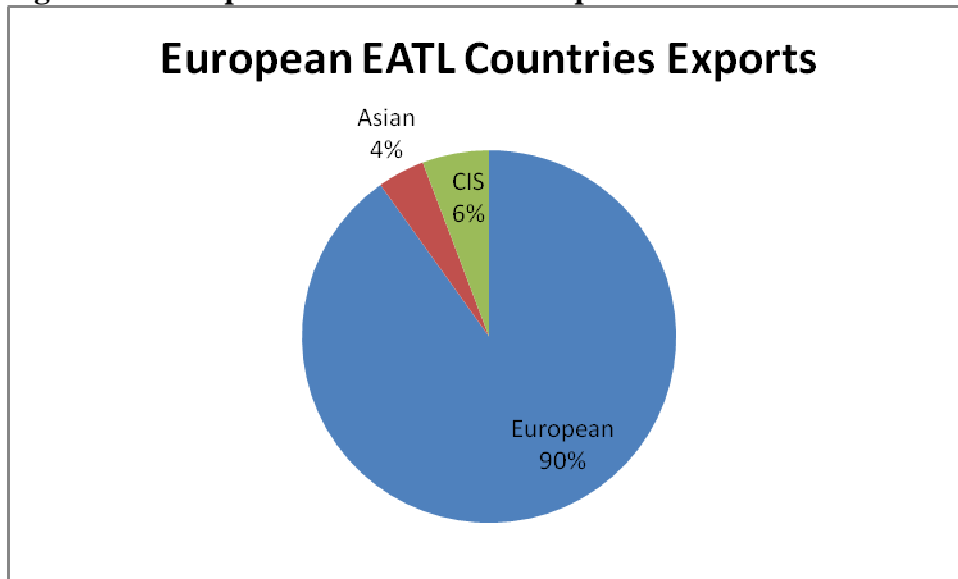


For the purpose of the analysis, the 27 countries participating in the EATL Phase II Study were grouped in the following three categories:

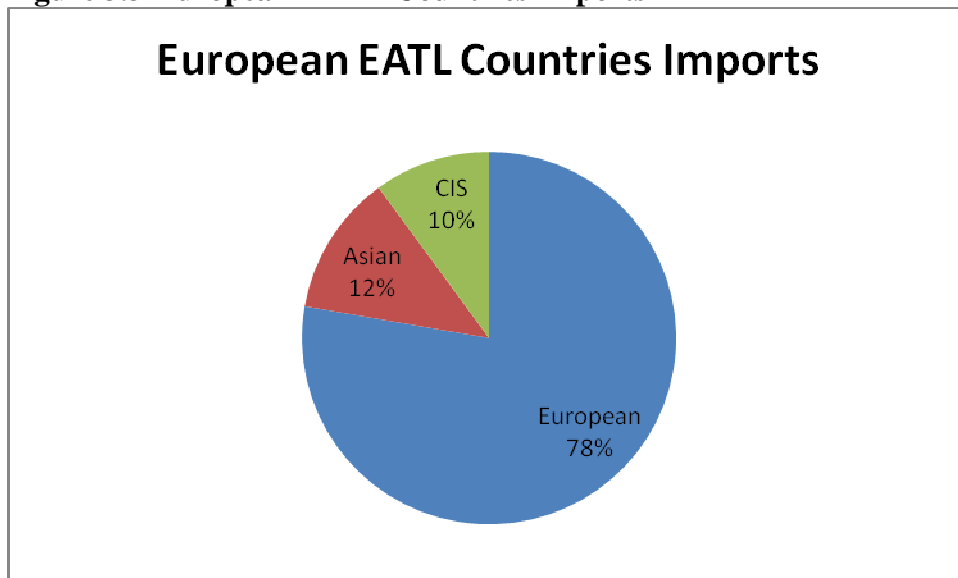
- *European countries:* Bulgaria, Romania, Finland, Germany, Greece, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Luxemburg, and Turkey.
- *Asian countries:* Afghanistan, China, Iran, Mongolia and Pakistan.
- *CIS (Commonwealth of Independent States) countries:* Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

The European countries participating in the study export among them an average of 90% of goods to other European countries, 4% to Asian countries and 6% to CIS countries. The average import of goods is 78% from other European countries, 12% from Asian countries and 10% from CIS countries. The above are depicted in Figures 3.2 and 3.3. It is evident that the vast majority of the European countries' trade is taking place within the region itself.

**Figure 3.2-European EATL Countries Exports**



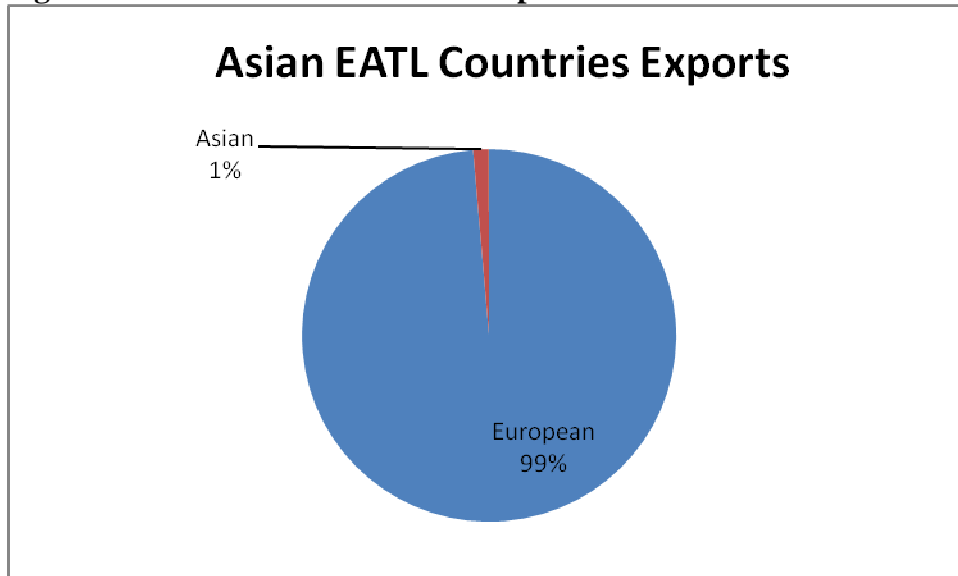
**Figure 3.3-European EATL Countries Imports**



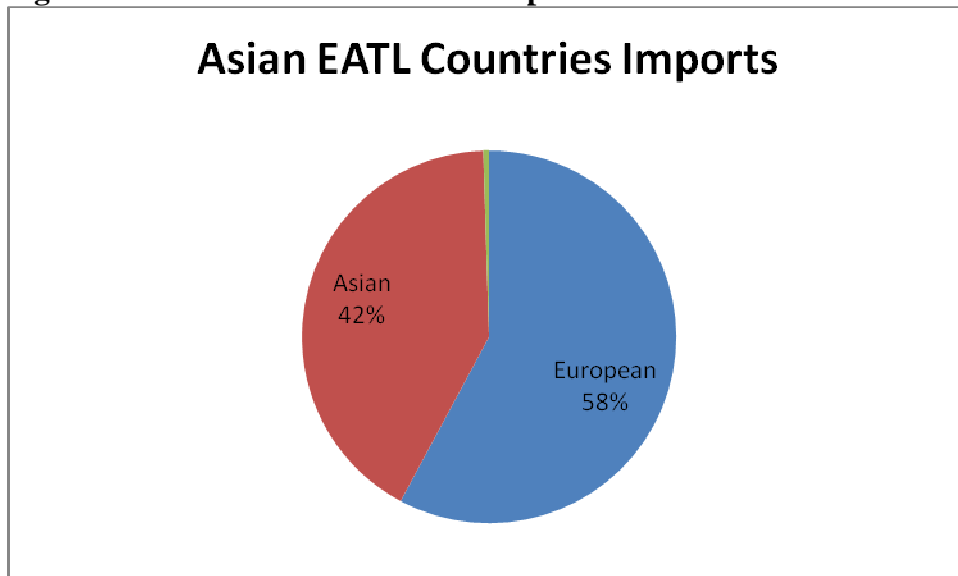
The Asian countries of the EATL study export among them an average of 99% of goods to European countries, and 1% to other Asian countries. Their average import of goods is 58% from European countries, 42% from other Asian countries and approximately 1% from CIS countries. The above figures are depicted in Figures 3.4 and 3.5. The high percentage of Asian exports to Europe represents mainly China's

domination in Asia's trade with Europe. On the other hand, imports are far more balanced between Europe and Asia, stipulating the growth of Asia's intra-regional trade.

**Figure 3.4-Asian EATL Countries Exports**

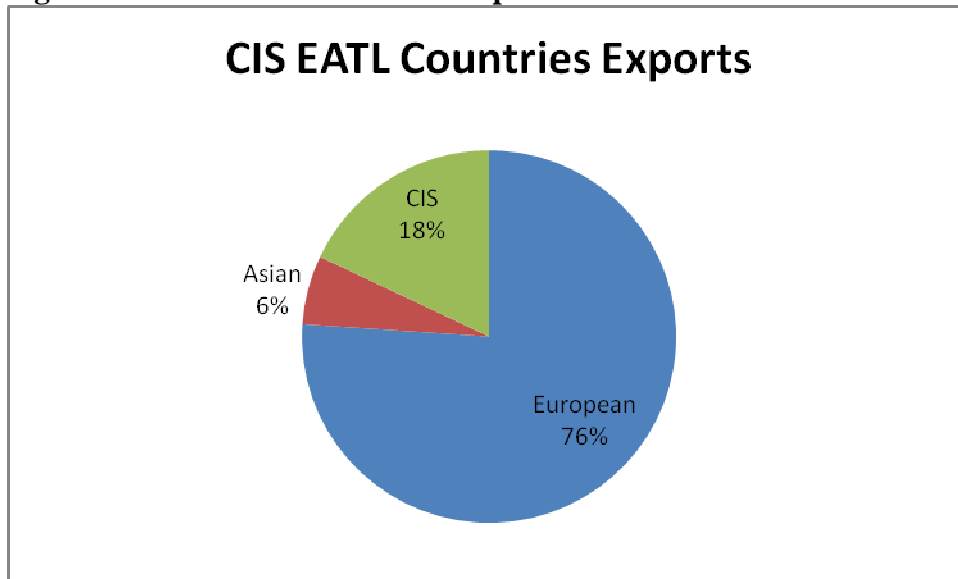


**Figure 3.5- Asian EATL Countries Imports**

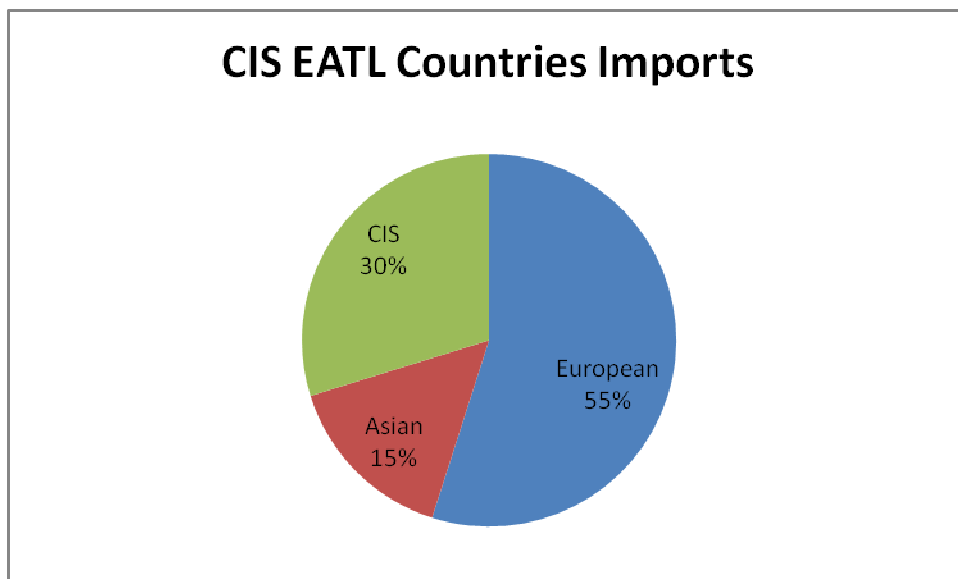


The CIS countries of the EATL study export among them an average of 76% of goods to European countries, 6% to Asian countries and 18% to other CIS countries. Their average import of goods is 55% from European countries, 15% from Asian countries and 30% from other CIS countries, as depicted in Figures 3.6 and 3.7.

**Figure 3.6-CIS EATL Countries Exports**



**Figure 3.7- CIS EATL Countries Imports**

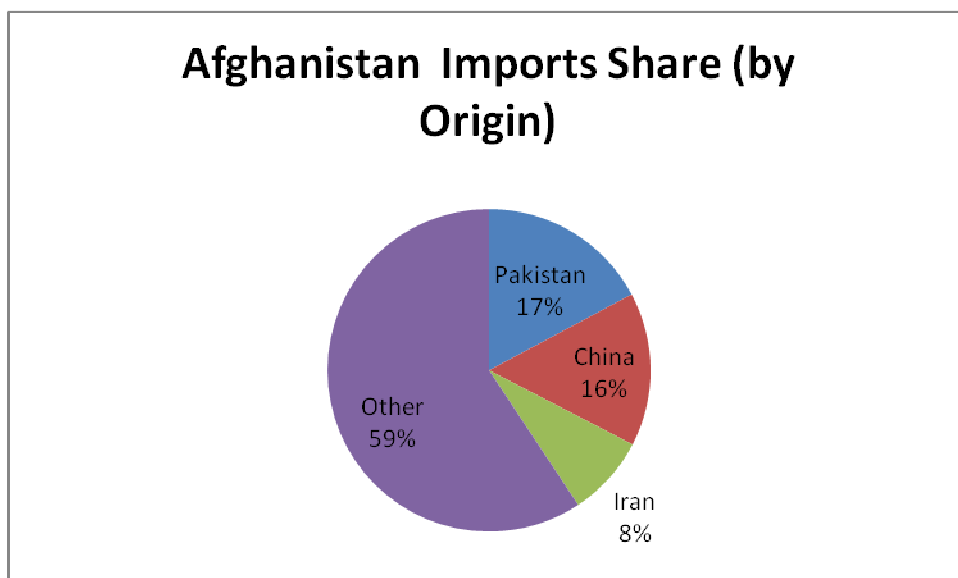
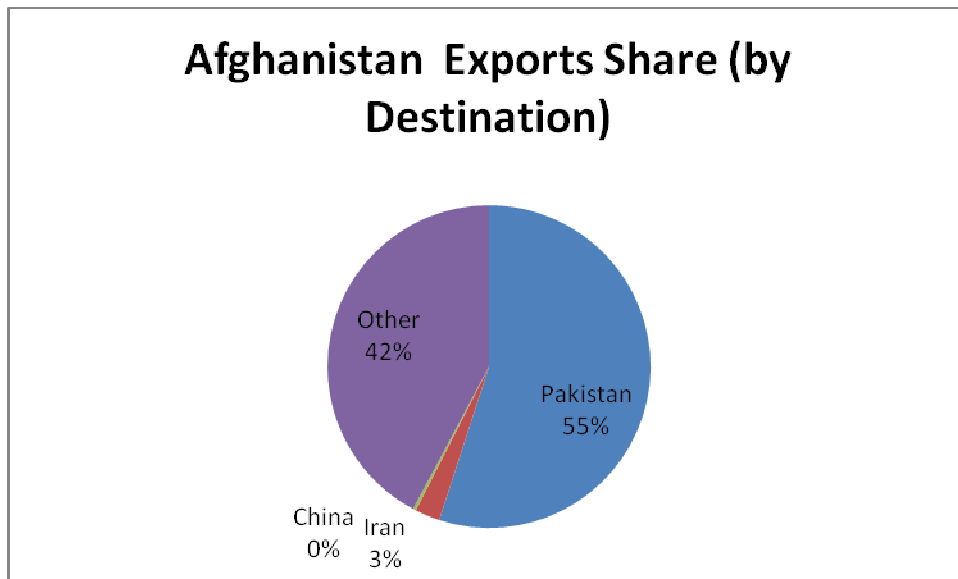


The above illustrate that the highest share of EATL CIS countries' exports and imports is to and from the European countries. Nevertheless, a fair amount of intra-

regional trade is taking place within the CIS countries, in the imports domain in particular. Trade with Asian countries has the lowest share, albeit not negligible.

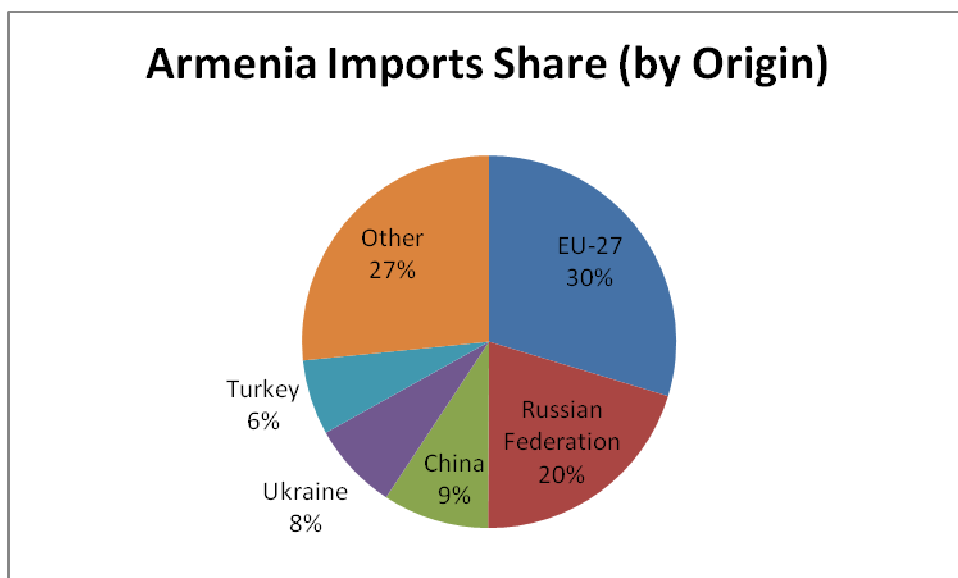
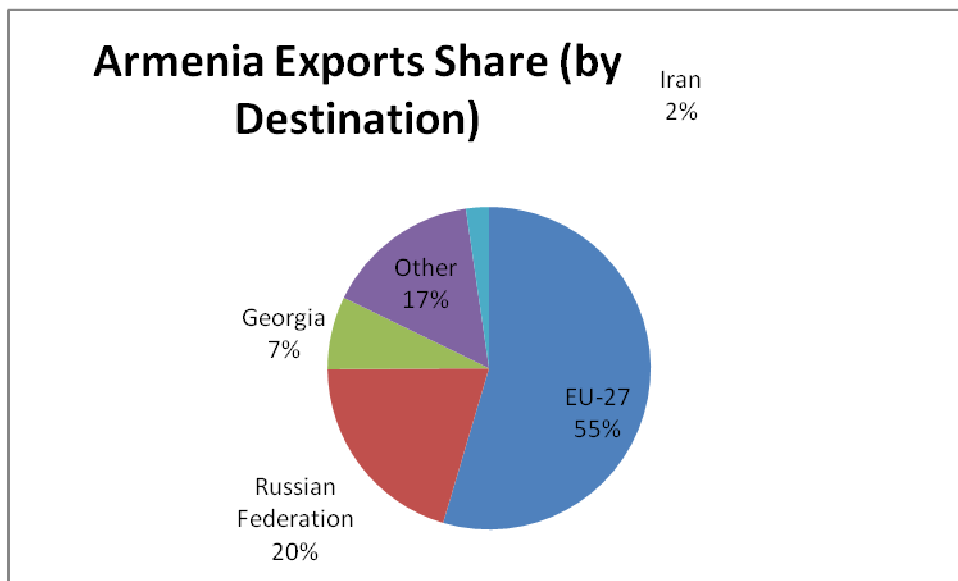
The breakdown of exports share by destination and imports share by origin is presented for each country in the following.

### Afghanistan



Afghanistan's highest share of exports of goods is to Pakistan, whilst the country's highest share of imported goods is from countries other than those participating in the EATL Phase II Study.

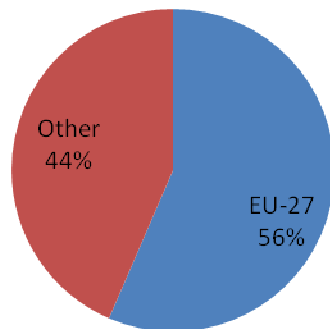
## 1.1.Armenia



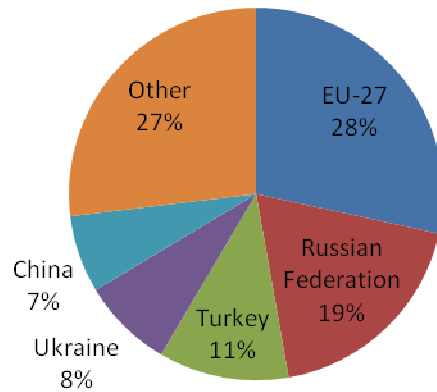
Armenia's highest share of exports, as well as imports of goods is to and from the EU.

## Azerbaijan

### Azerbaijan Exports Share (by Destination)



### Azerbaijan Imports Share (by Origin)

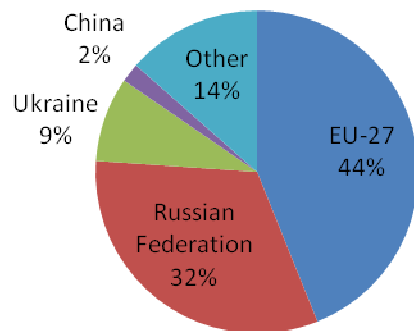


Azerbaijan's highest share of exports, as well as, imports of goods is to and from the EU.

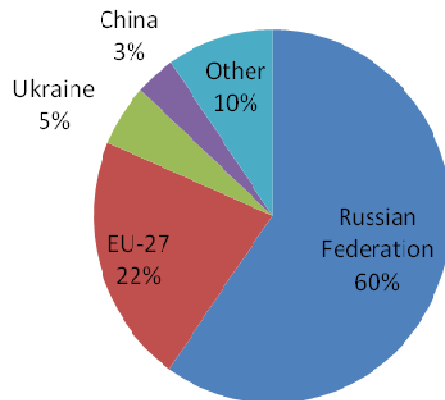


## Belarus

### Belarus Exports Share (by Destination)

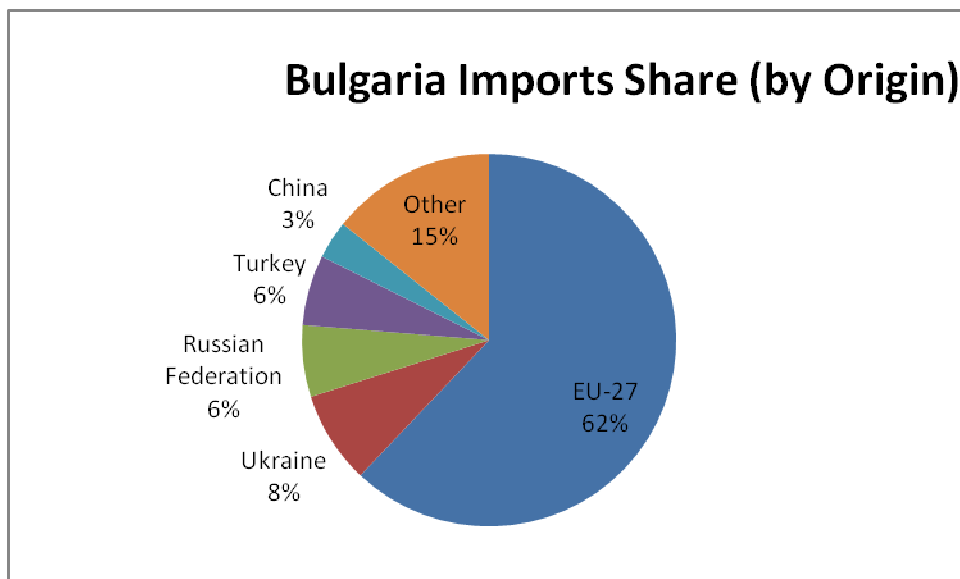
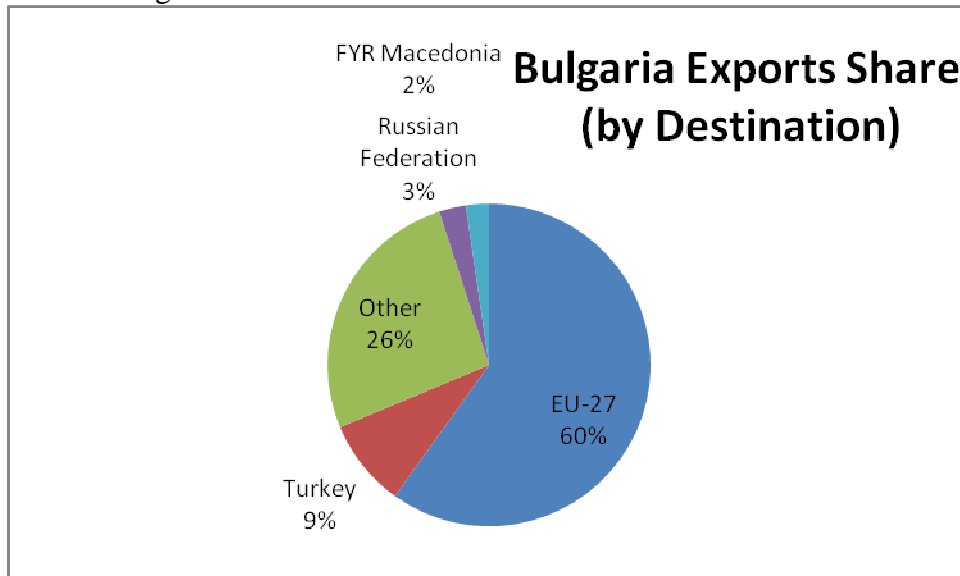


### Belarus Imports Share (by Origin)



Belarus's highest share of exports of goods is to the EU, whilst its imports' one is from the Russian Federation.

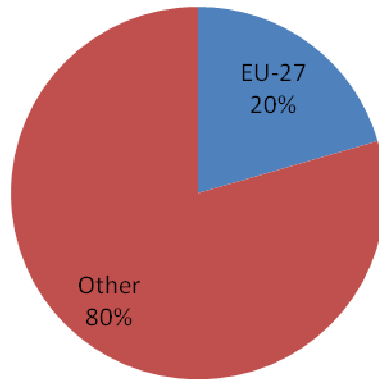
## Bulgaria



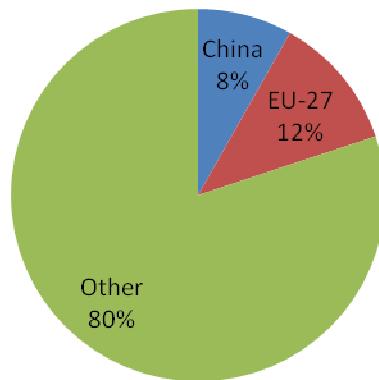
Bulgaria's highest share of exports, as well as, imports of goods is to and from the EU.

China

### China Exports Share (by Destination)

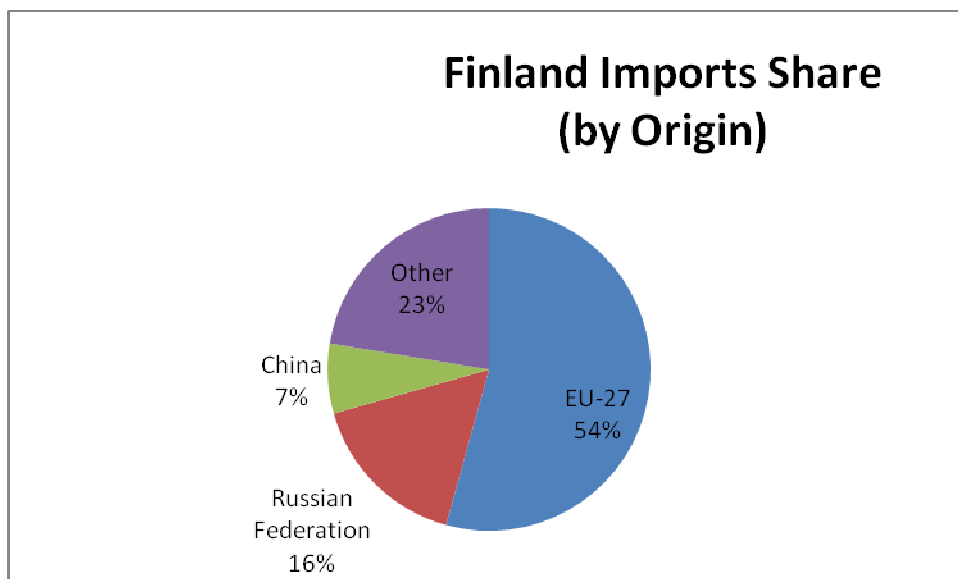
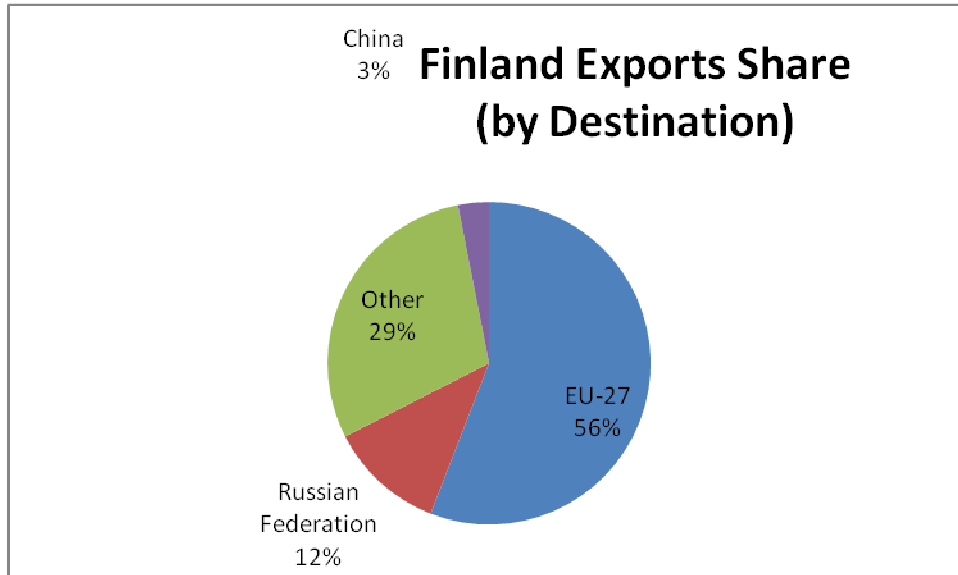


### China Imports Share (by Origin)



China's highest share of exports, as well as, imports of goods is to and from countries other than those participating in the EATL Phase II Study (such as the US, Japan, Korea). A fair share represents the country's trade with the EU.

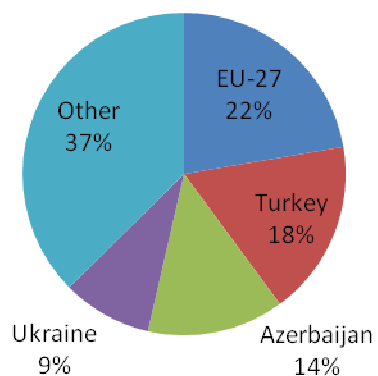
## Finland



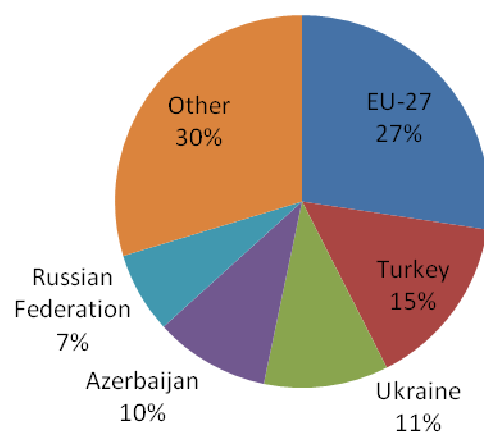
Finland's highest share of exports, as well as, imports of goods is to and from the EU. It should be also noted the trade with Russian Federation is not negligible.

## Georgia

### Georgia Exports Share (by Destination)



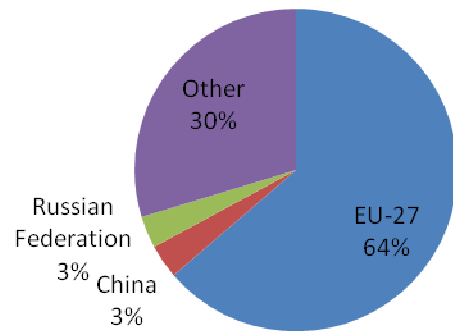
### Georgia Imports Share (by Origin)



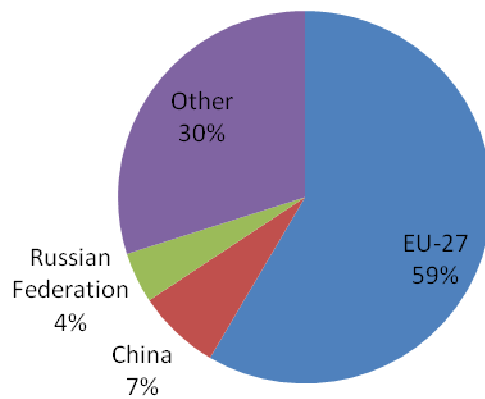
Georgia's highest share of exports, as well as, imports of goods is to and from countries other than those participating in the EATL Phase II Study. Nevertheless, a fair percentage of both exports and imports is between the EU and Turkey.

## Germany

### Germany Exports Share (by Destination)

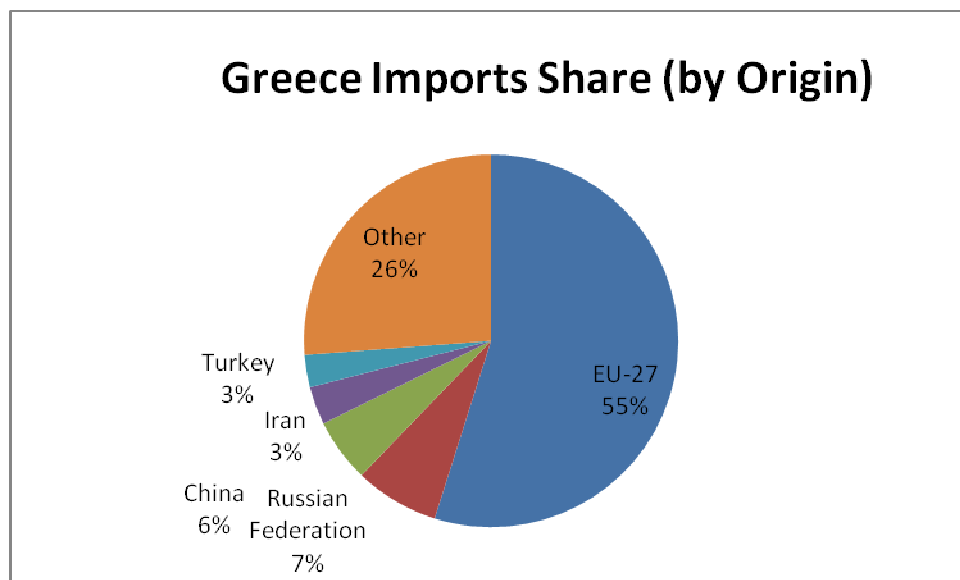
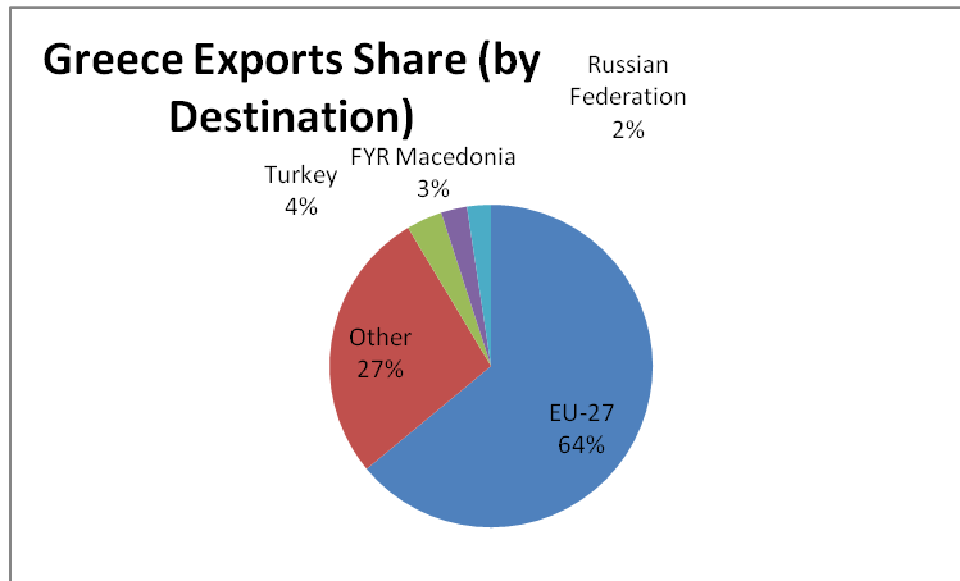


### Germany Imports Share (by Origin)



Germany's highest share of exports, as well as, imports of goods is to and from the EU.

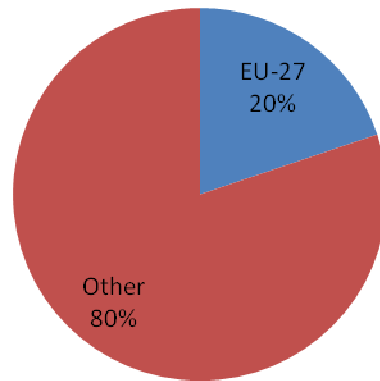
## Greece



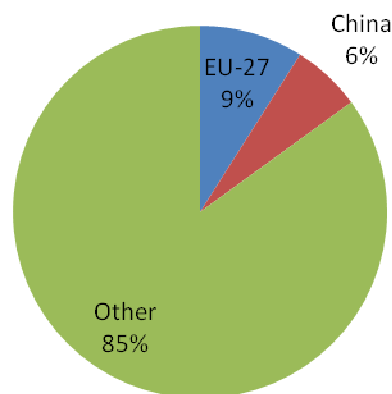
Greece's highest share of exports, as well as, imports of goods is to and from the EU.

## Iran

### Iran Exports Share (by Destination)



### Iran Imports Share (by Origin)

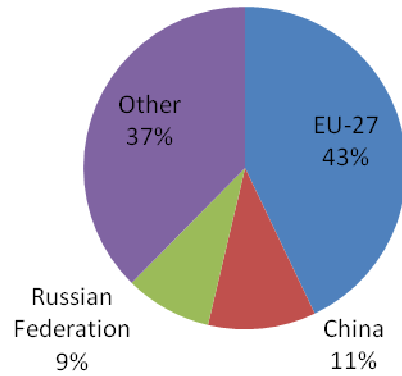


Iran's highest share of exports, as well as, imports of goods is to and from countries other than those participating in the EATL Phase II Study (such as India, Japan, United Arab Emirates). A fair share of trade is, however, conducted with the EU.

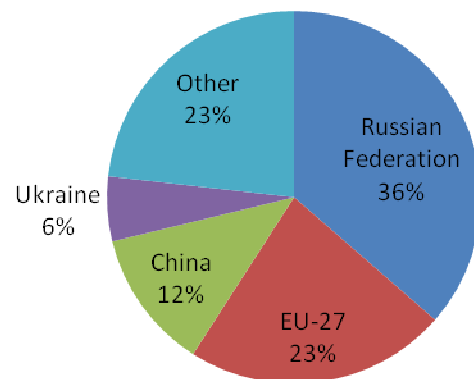


## Kazakhstan

### Kazakhstan Exports Share (by Destination)

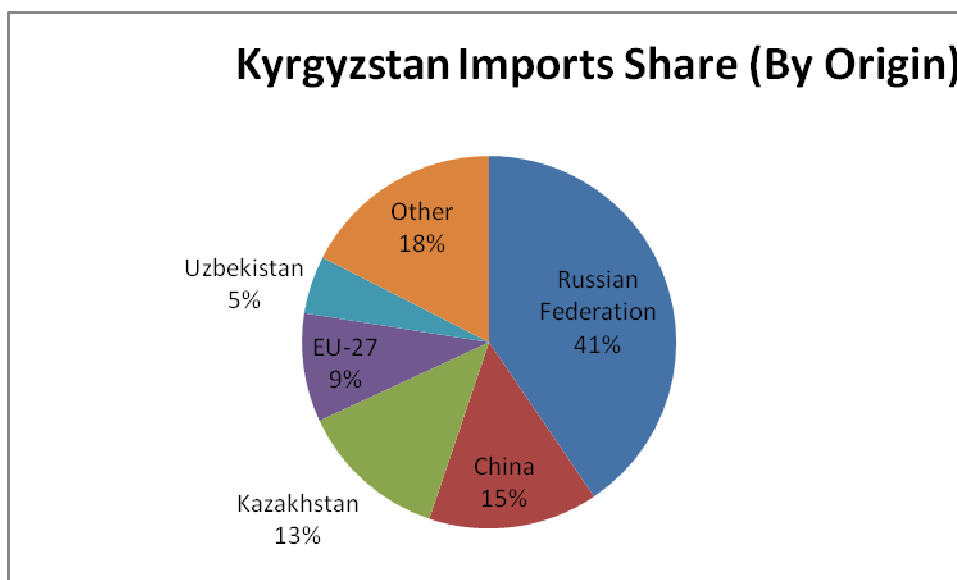
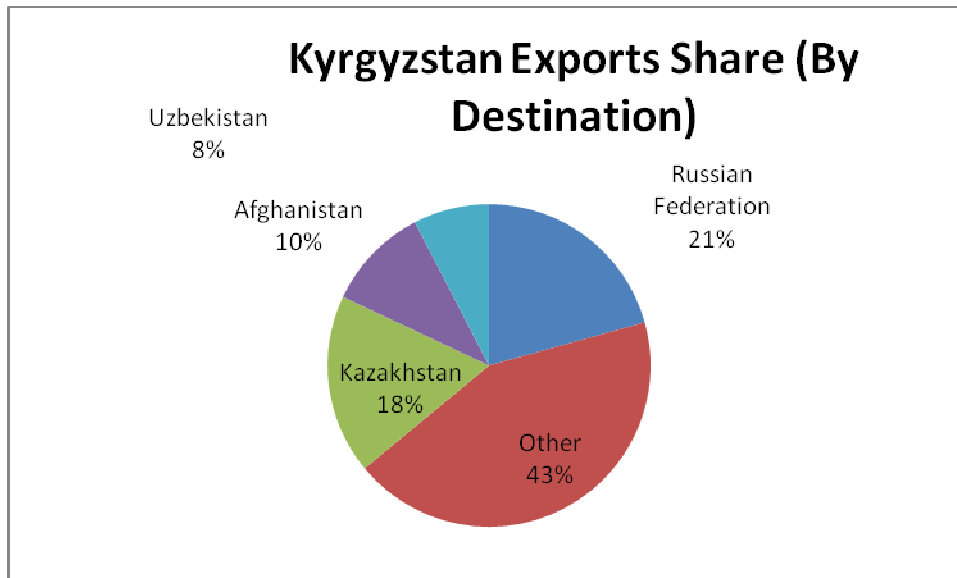


### Kazakhstan Imports Share (by Origin)



Kazakhstan's highest share of exports of goods is to the EU, whilst the country's highest share of imported goods is from Russian Federation.

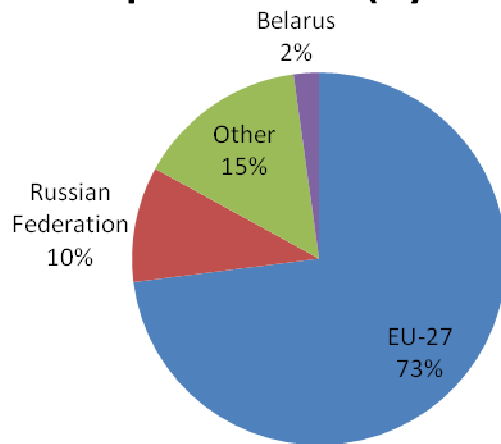
## Kyrgyzstan



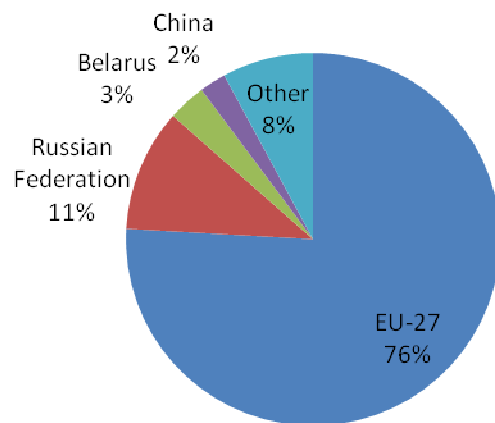
Kyrgyzstan's highest share of exports of goods is to countries other than those participating in the EATL Phase II Study, whilst the country's highest share of imported goods is from Russian Federation.

## Latvia

### Latvia Exports Share (by Destination)



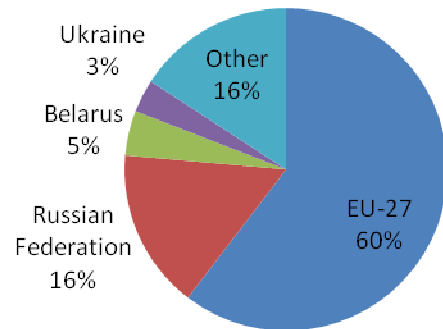
### Latvia Imports Share (by Origin)



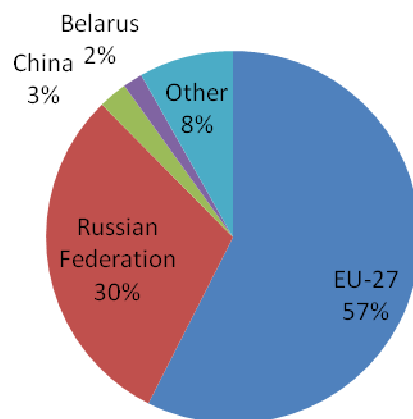
Latvia's highest share of exports, as well as, imports of goods is to and from the EU. Exports are imports to and from Russian Federation should also be noted.

## Lithuania

### Lithuania Exports Share (by Destination)

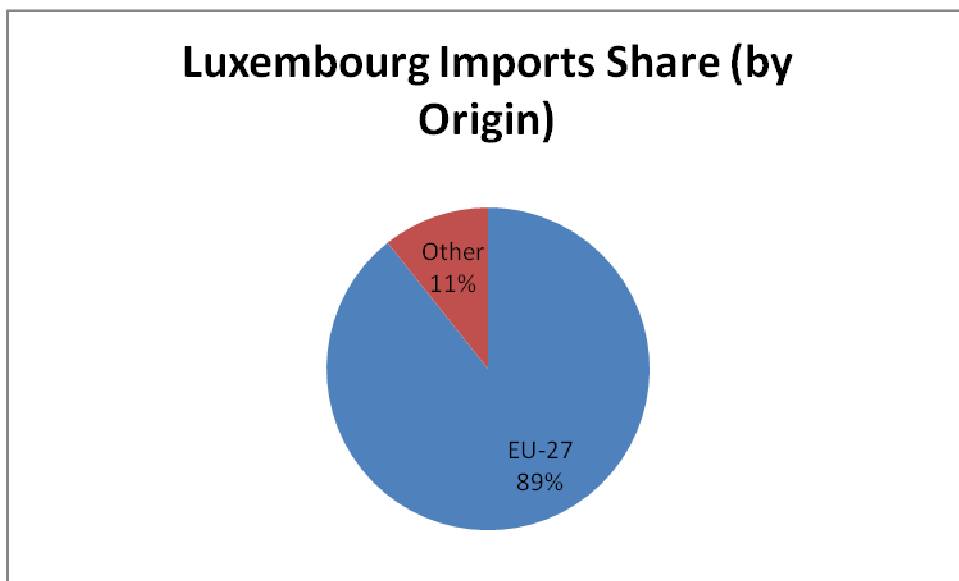
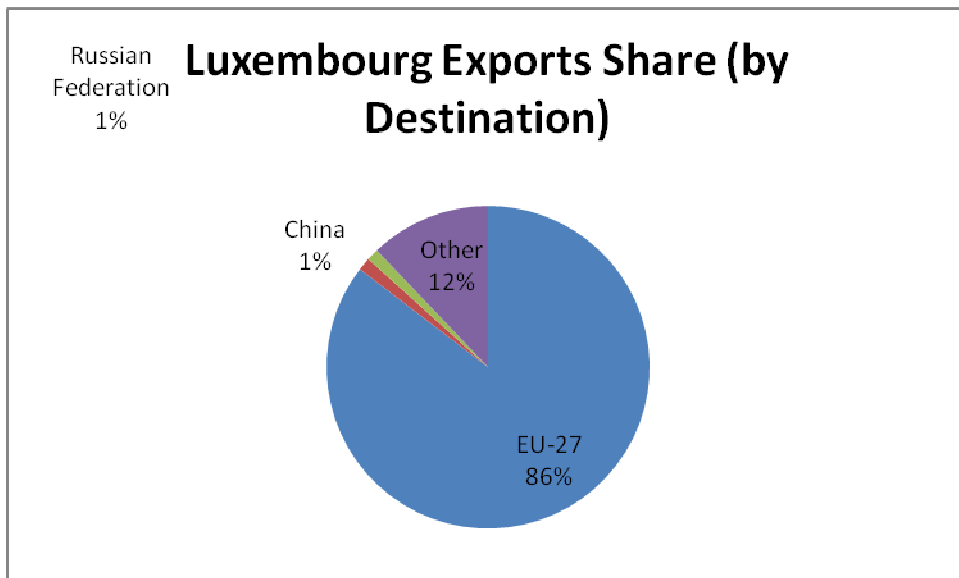


### Lithuania Imports Share (by Origin)



Lithuania's highest share of exports, as well as, imports of goods is to and from the EU.

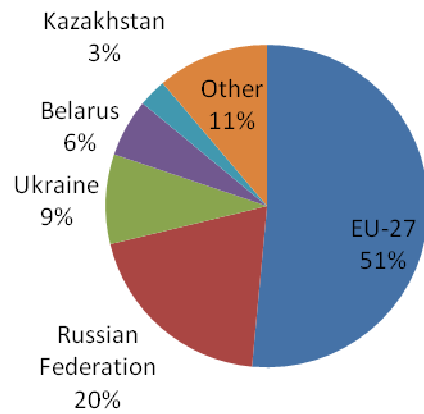
Luxembourg



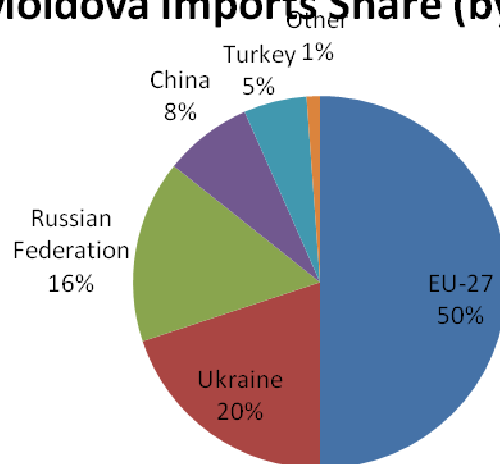
Luxembourg's highest share of exports, as well as, imports of goods is to and from the EU.

## Moldova

### Moldova Exports Share (by Destination)



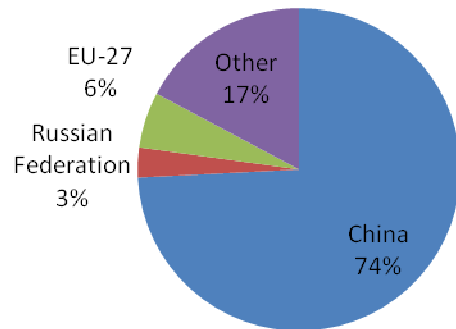
### Moldova Imports Share (by Origin)



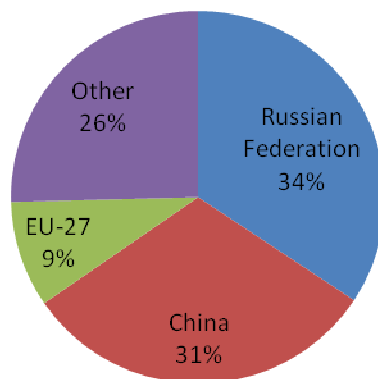
Moldova's highest share of exports, as well as, imports of goods is to and from the EU. Nevertheless, Moldova is trading with other CIS countries, such as the Russian Federation and the Ukraine.

## Mongolia

### Mongolia Exports Share (by Destination)



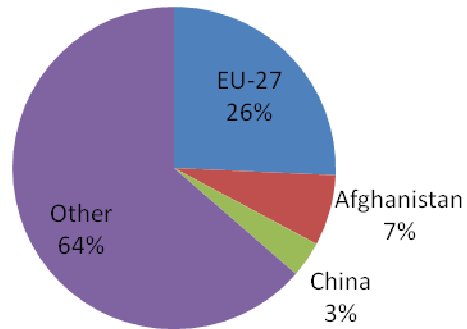
### Mongolia Imports Share (by Origin)



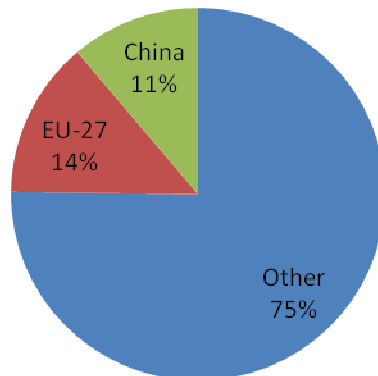
Mongolia's highest share of exports is to China, whilst its highest share of imports from the Russian Federation.

## Pakistan

### Pakistan Exports Share (by Destination)



### Pakistan Imports Share (by Origin)

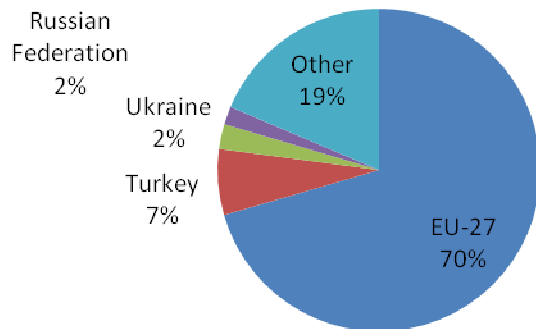


Pakistan's highest share of exports, as well as imports of goods is to and from countries other than those participating in the EATL Phase II Study (such as US and Saudi Arabia, United Arab Emirates). A fair percentage of trade is conducted with the EU too.

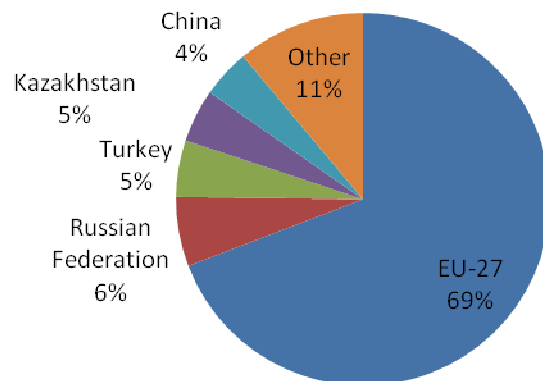


## Romania

### Romania Exports Share (by Destination)



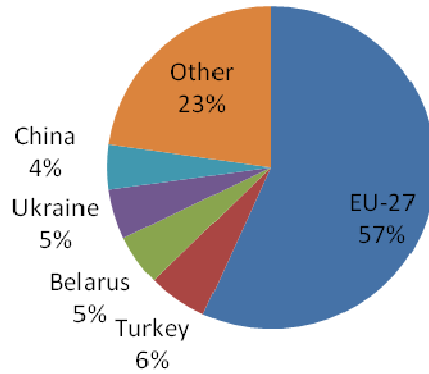
### Romania Imports Share (by Origin)



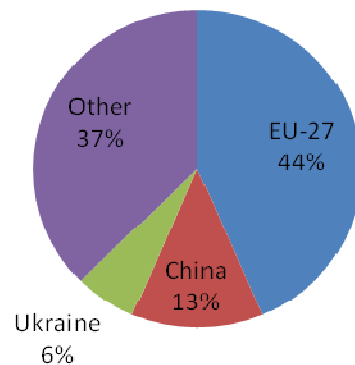
Romania's highest share of exports, as well as, imports of goods is to and from the EU.

## Russian Federation

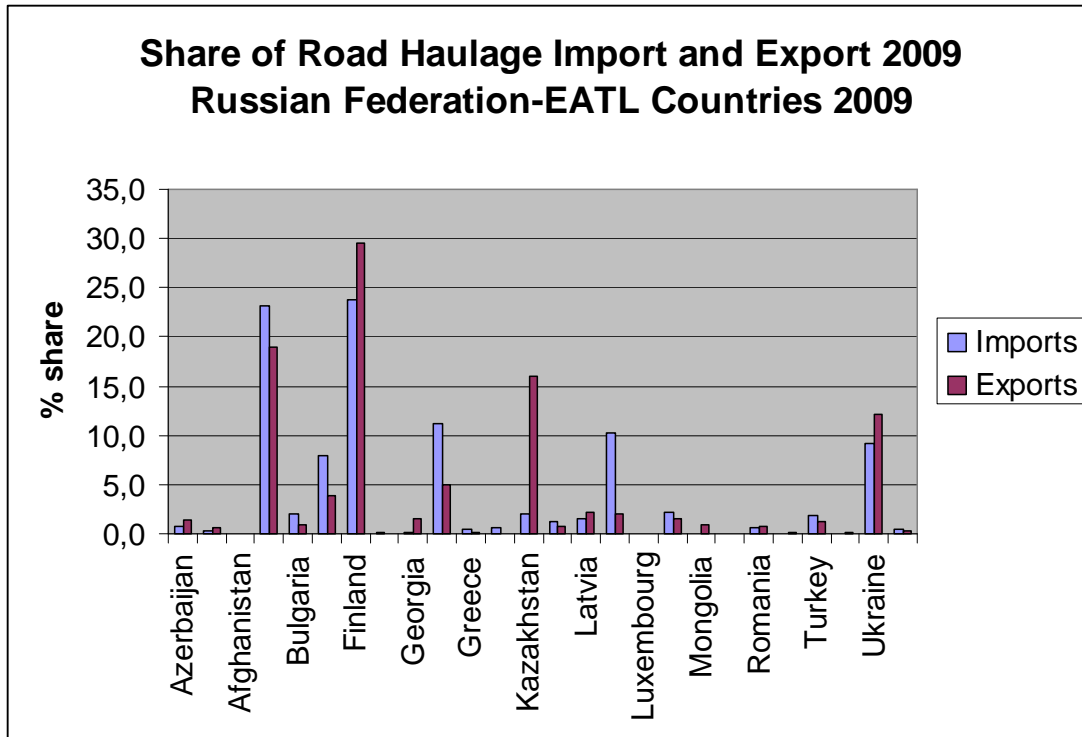
### Russian Federation Exports Share (by Destination)



### Russian Federation Imports Share (by Origin)



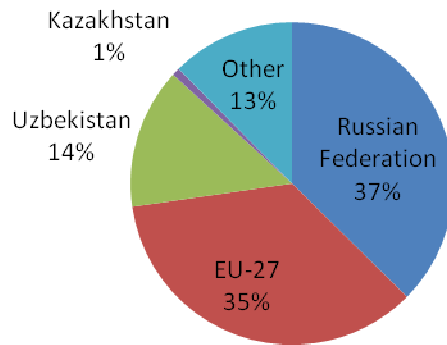
Russian Federation's highest share of exports, as well as, imports of goods is to and from the EU. In addition, the diagram below depicts the percentage share of Russian Federation's imports and exports transported by road to the rest of the EATL countries for year 2009, as these were provided by the national representative. It is evident that the highest share of trade is with Finland, Belarus, China, Germany and the Ukraine.



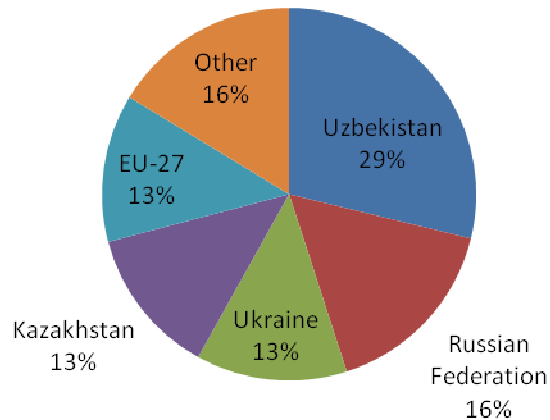
*Source: National Focal Point*

## Tajikistan

### Tajikistan Exports Share (by Destination)



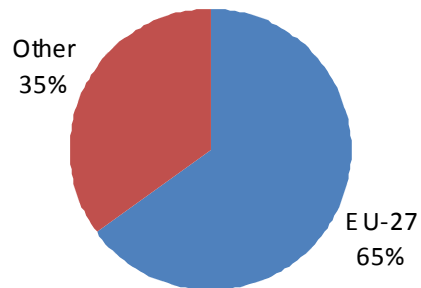
### Tajikistan Imports Share (by Origin)



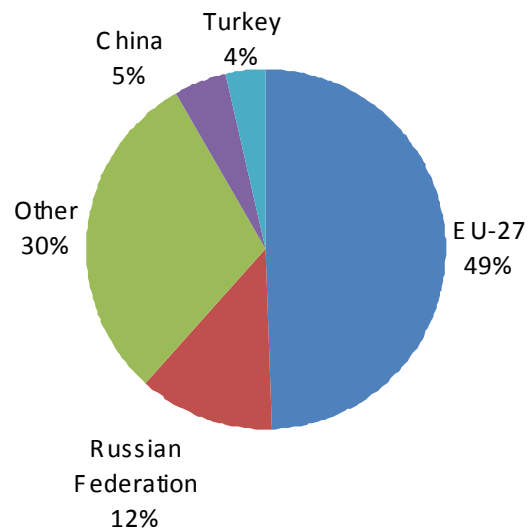
Tajikistan's highest share of exports is to the Russian Federation, whilst its highest share of imports is from Uzbekistan. Also, a fair share of exports are to the EU.

## The former Yugoslav Republic of Macedonia

### The former Yugoslav Republic of Macedonia Exports Share (by Destination)



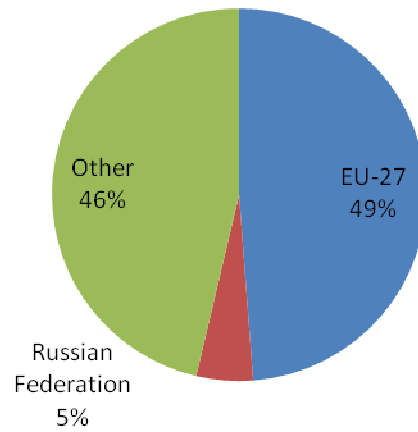
### The former Yugoslav Republic of Macedonia Imports Share (by Origin)



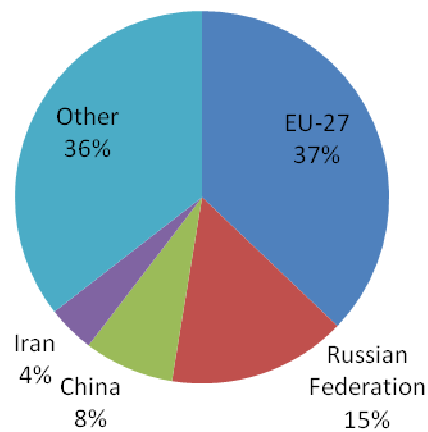
The former Yugoslav Republic of Macedonia's highest share of exports, as well as, imports of goods is to and from the EU.

## Turkey

### Turkey Exports Share (by Destination)



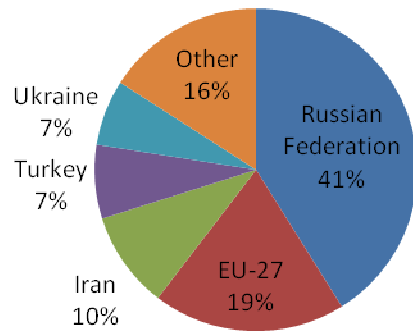
### Turkey Imports Share (by Origin)



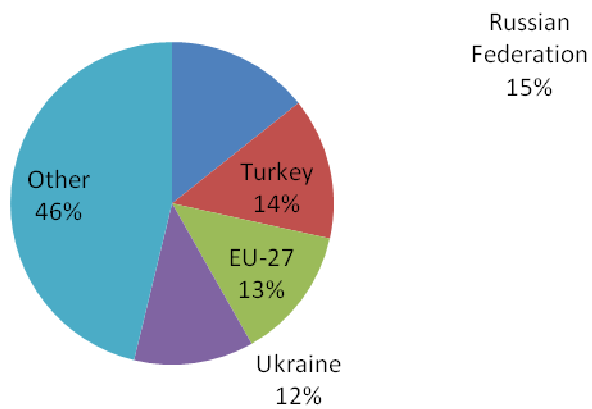
Turkey highest share of exports, as well as, imports of goods is to and from the EU.

## Turkmenistan

### Turkmenistan Exports Share (by Destination)

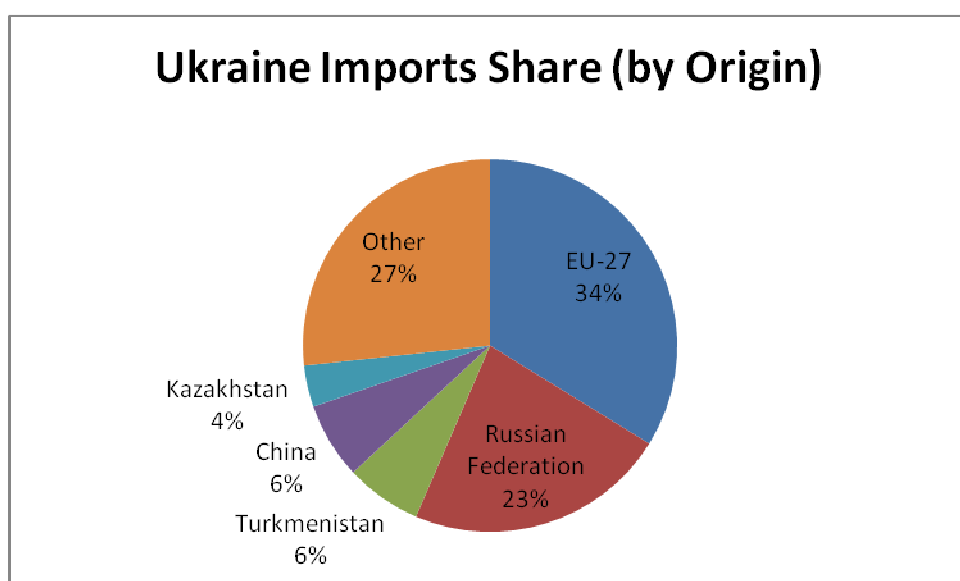


### Turkmenistan Imports Share (by Origin)



Turkmenistan's highest share of exports is to the Russian Federation, whilst its highest share of imports is from countries other than those participating in the EATL Phase II study.

## Ukraine



Ukraine's highest share of exports, as well as, imports of goods is to and from the EU. Trade with the Russian Federation is also reported.

## Uzbekistan

No data is available for the merchandise trade volumes and shares.



## EURO-ASIAN TRADE ANALYSIS

Within the general framework of globalisation and market liberalisation, trade growth between Europe and Asia has accelerated rapidly in recent years, partly as a result of the development of Eastern Asian countries, mainly China, but also due to the emergence of the economies of Russia and Central Asian countries, as well as that of other countries such as Turkey and India. This has resulted in a wider spatial dissemination of trade flows, with flows not just between the extremities of the two continents, but also amongst major centres and hubs within the interior of Euroasia. The latter is, therefore, crucial for defining the main routes for international trade between Asia and Europe. In addition, besides the trade along the Europe-Asia corridors, trade amongst Asian countries themselves is also beginning to develop rapidly.

The impact of economic growth on international transport between Europe and Asia is fundamental, not only on volume, but also on the transportation infrastructure and services offered, for all transport modes involved, maritime, land and even air. Therefore, this growth and trade acceleration is of particular importance for the volumes transported, the means of transport used and the construction of infrastructure along the proposed EATL Phase II routes.

### EATL Phase II Countries

An analysis of trade flows carried out for the 27 countries participating in the EATL Phase II study, indicated in general *a high percentage of Asian exports to Europe*, representing mainly China's domination in Asia's trade with Europe. Asia's imports are divided between Europe and Asia, stipulating the growth of Asia's intra-region trade. To this end, proposed EATL routes should serve Asian Countries' (Afghanistan, China, Iran, Mongolia, Pakistan) connection to European ones, as well as the following connections of intra-regional trade in particular:

- Afghanistan-Pakistan
- Iran-China
- Mongolia-China

Moreover, the highest share of EATL CIS countries' exports and imports is to and from the European countries. Therefore, EATL routes should concentrate on these routes and particularly on Europe's connections with Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Russian Federation, Turkmenistan and Ukraine that report the highest shares of trade with Europe.

A fair amount of intra-regional trade is conducted within the CIS countries, regarding mostly Russian Federation' trade with other CIS countries, such as Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, and Turkmenistan. Emphasis should also be given in the following connections:

- Belarus-Ukraine
- Moldova-Ukraine
- Tajikistan-Uzbekistan

Trade with Asian countries has the lowest share, albeit not negligible. More specifically, EATL routes should serve the following connections:

- Kazakhstan-China
- Kyrgyzstan-China
- Russian Federation-China
- Russian Federation-Mongolia

### **Current Issues and Recommendations**

Maritime transport is the dominant transport mode for Euro-Asian trade flows to date, and trade growth is increasingly concentrated-partly because of the increase in vessel size-on a certain number of major maritime hubs in both Europe and Asia. At the same time, push for productivity gains reduce the number of these ports. The implications for port operations and associated hinterland transport connections are, therefore, considerable. As was described in the previous, the existing capacity of ports is insufficient, with several of them rapidly approaching full capacity. There is also growing concern for congestion and saturation problems with regard to land access to ports, as well as safety and security issues from maritime traffic concentrating at certain points along the defined routes between maritime hubs. Traffic concentration, both at port and hinterland level is particularly evident in the case of China, where there are several constraints in access to the hinterland. Moreover, even if good hinterland access is assumed, ports continue to serve limited hinterland, considering the vast distances involved in the trade transported over the entire Eurasia region.

An additional challenge for international transportation operators is trade imbalance, with a large number of empty containers being transported. This phenomenon is particularly evident in Asia.

The above needs call for the diversification of existing routes and the opening up of alternative ones between Europe and Asia or, in some cases, the revival of old trade routes such as the Silk Road and further strengthening of the Trans-Siberian route. To this end, the identification and establishment of EATL routes is of outmost importance.

The most viable additional transport option to that of maritime that meets the needs of the increasing trade volumes would be that of inland haulage, which could absorb considerable parts of the expected increased transport demand in future. Today, land transport is positioned as a link in the chain of maritime transport as means of access to ports, and also as the primary mode of transport over long distances across some parts of Russia and Central Asia to Europe and China. Distances by land between Europe and Asia are generally shorter than distances by sea, especially for origin/destination points that lie deep within the inland of these two continents. In addition, road and rail routes serve several origins/destinations along their alignment, improving thus the accessibility of a large number of remote inland regions within Central Asia in particular, and giving international access to

landlocked countries permitting them to participate in the international trade and become part of the worldwide supply chains.

Efficient rail service is becoming the best option for port hinterland extensions. Trans-continental Eurasian land corridors will never be in the same league as sea transportation of trade between the Europe and China. There is, however, a niche market for this trans-continental traffic through Eurasian land corridors (Emerson and Vinokurov, 2009), with railway transportation able to offer competitive tariffs and times of delivery for the high value and low weight categories of goods. Efficient operation of East-West rail lines, such as the Trans- Siberian Railway and the Northern Trans-Asian corridor through China, would make available a significant additional capacity (of several million TEUs). In addition, these corridors will serve the expanding trade of CIS countries with Europe and China, as well as the expanding intra-regional trade within Asia.

The main barrier to the development of rail transport alternative is the price of such services, which would probably be significantly higher than current container transport by sea. Nevertheless, with the improvement of the operating conditions of existing rail infrastructure in terms of line modernisation, longer trains, better utilisation of rolling stock and personnel, together with the development of new missing links, rail costs may well reduce substantially.

Finally, the potential value of road transport should not be ruled out, including long distances, as demonstrated by Turkish freight services to Central Asia (ECTM, 2006). This might be of value for expanding intra-regional trade, since it provides denser coverage to link main inland points of trade concentration. In addition, road haulage substitutes that of rail in the cases where there are geographical barriers to rail operation, as is the case of Turkish haulage services to Central Asia.

Based on the above, the priority routes identified by the EATL Phase II study constitute a promising prospect for transportation on Europe-Asia links, primarily taking into account the vast transit potential of land routes through northern Eurasia, which at present are very much underused. The development of these inland transport routes would provide additional Euro-Asian transport solutions to the existing maritime and at the same time become a development tool for many countries along the Euro-Asian region, including the landlocked countries.

Nevertheless, the investment plan identified within the framework of the study should ensure that the road, rail and maritime modes are combined to their best advantage, and that infrastructure continuity is provided together with removing barriers to the efficient operation of related transport services, in order to achieve high-quality coverage for all the countries involved.

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## PART VI

### COMPARISON OF EURO – ASIAN INLAND TRANSPORT WITH EXISTING MARITIME

#### Summary

International trade and production processes are complex. Trade and logistics managers are constantly trying to minimize trading risk, secure delivery and maximize profits. Today, high production and logistics costs result in uncompetitive products. Products must also be placed in the timely manner. Products quality should also be high, compared to what is offered by competitors. Therefore, the decisions “where to produce”, “how to transport”, “how to distribute” and “which day to release/distribute the products”, are not only crucial for the effectiveness of international trade, but also of paramount importance for business success

In efforts to remain competitive or to open new market opportunities, manufacturers are always looking how to minimize production cost, including logistics costs, while responding to customers needs to ensure high level of customers’ satisfaction. Over the last decades, the need to reduce production cost has driven many production sites to Asia. This geographic production shift has generated two new management issues: production away from consumption and longer supply chains. It appears that, the higher costs of longer supply chains have been offset by the lower production cost.

To minimize the overall cost of products, manufactures are faced with a new challenge, i.e. how to shrink supply chains costs. Alternative transports solutions are constantly evaluated. Even a product with zero production cost but that with the requirement of three months to reach the market, may be uncompetitive. Therefore, companies are not striving to minimize costs but rather for the most favorable overall combination: *the right product for the right market at the right time and at the right price.*

Today, maritime transport dominates transport of goods from Asia to Europe. The vast distance of Euro-Asian inland transport combined with political instability, hidden costs, lack of security, delays at borders and unpredictability discourage the use of inland transport. In addition, maritime transport rates are often incorrectly compared with the rates for inland transport modes.

For instance, by comparing only the cost and time required for a container to be moved from Shanghai port to Hamburg port by maritime vs. inland transport, wrong conclusions can be drawn. In reality, products carried by containers are not at ports waiting to be shipped as production and consumption areas are often far away from ports. As a result, logistics managers compare the costs for the entire route which includes truck costs of moving containers to/from the warehouse/port, terminal handling costs and documentation and other administrative costs.

More than 90 per cent of containers arriving at the port of Rotterdam are transported to other countries - many even to South-East Europe. Therefore, to compare maritime and rail transport of a container from some location “A” 1,500 kilometers away from Shanghai to the final destination in a South-East European country “B” via Rotterdam port, cost comparison cannot be limited to only transport cost between Shanghai and Rotterdam. One must compare the route from location “A” ie., the location where the container is loaded with cargo, and the location “B”, where the container is delivered/unloaded. If this comparison appears in favor of the rail transport, both in terms of time and costs, then there is an excellent potential for developing alternative transport scenarios using inland and/or combined transport solutions. Trains could be more competitive in both time and cost when production areas are situated relatively far from China’s and India’s ports and production is destined to the South or East European countries. Needless to say, developing Euro-Asian inland transport would be of great significance to the landlocked countries of Central Asia.

The development of block trains along Euro-Asian inland transport routes could be considered for landlocked countries in Central Asia to what is the blood for the human body. Block trains can change landlocked countries into land-linked countries. This may happen if a neutral, stopover-free, regular rail service is established along the Euro-Asian links, operating under the management of a contemporary and flexible corridor management mechanism, offering similar services to those of the liner shipping companies (inland “shipping line”). The ultimate target is to develop a block train network in Central Asia and beyond, where one train feeds the other with cargo and where, they all together, constitute a modern and efficient transport system. Co-operation, and the principles of how to co-operate, is the main issue to be discussed and analyzed.

The aim of this study is to compare the existing Euro-Asian maritime routes with selected rail routes identified in the EATL project. The methodology used for the analysis strives to be simple and pragmatic. It compares Euro-Asian maritime and rail links from the perspective of a logistics manager of a company that produces in some location and needs to deliver the goods produced to some other location.

As part of this study, custom-made questionnaires for each participating country along its rail and maritime transportation systems were distributed. The response rate to these questionnaires was 14% per cent. This was considered insufficient and additional information had to be sought and used, including published research as well as the author’s experience.

It was expected to receive relatively few replies to rail questionnaires. It was so because it is difficult for state rail companies to determine block train time schedules for specific routes and to specify tariff rates. The block train time schedule can be easily obtained as a result of the actual train run. Tariff rates per container or per container kilometer are result of complex calculations, which depend on many parameters and are subject to frequent changes. This complexity was reflected in answers from state rail companies.

Border crossing delays is not the focus of this study. The model used here is “neutral” and it crucially depends on the willingness of governments to minimize stopovers at borders. However, all other possible stopover factors were analyzed and were included in the calculation of the average speed of train. In this way, it was possible to develop realistic time schedules.

The response ration to maritime questionnaires was 5 per cent. There is also extensive published research on terminal handling costs, ocean freight rates and time schedules. Some forwarding companies contributed significantly by providing actual freight rates.

In five out of the nine scenarios analyzed rail transport bests the maritime transport for both cost and time. In all nine scenarios, rail transport performs better than maritime concerning the travel time.

Successful and competitive rail services along the Euro-Asian transport links are not a myth or a future alternative to maritime transport. The study showed that Euro-Asian rail transport and its combination with that of maritime and road transport is a feasible and competitive transport option. The establishment of efficient corridor management, governments’ willingness to co-operate as well as rail companies effective responses to market needs are prerequisites that can guarantee regular and efficient rail services along the EATL routes.

The following table summarizes the findings of the study.

Scenarios	Route	Rail		Maritime		Best Transport Means	
		Cost (\$)	Time (hrs)	Cost (\$)	Time (hrs)	Cost	Time
Scenario 1: EATL Route 1	Khabarovsk (Russia) to Potsdam (Germany)]	6,967	341	6,533	589	Maritime	Rail
Scenario 2: EATL Route 2	Hangzhou (China) to Kaluga (Russia Fed.)	4,714.65	277	6,786	624	Rail	Rail
Scenario 3: EATL Route 3	Tashkent (Uzbekistan ) to Varna (Bulgaria)	5,946	165	7,550	529	Rail	Rail
Scenario 4: EATL Route 4	Almaty (Kazakhstan ) to Istanbul (Turkey)	5,881	250	4,970	672	Maritime	Rail
Scenario 5: EATL Route 5	Morvarid (Iran) to Pushkin (Russia)	6,390.5	256	3,310	374	Maritime	Rail
Scenario 6: EATL Route 6	Ussuriysk (Russia) to Kiev (Ukraine)	5,857	289	6,290	463	Rail	Rail
Scenario 7: EATL Route 7	Shanghai (China) to Warsaw (Poland)	8,937	446	6,300	569	Maritime	Rail
Scenario 8: EATL Route 8	Krasnodar (Russia) to Kalinigrad (Russia)	1,595	70	5,050	225.2	Rail	Rail
Case Study /Car Manufacturer	Vesoul (France) to Kaluga (Russia)	2,107	101	6,300	163	Rail	Rail

This study is divided into five chapters. The first two, chapters 1 and 2, illustrate and analyze the trade between Asia and Europe and the existing blocks trains in these areas. Chapter 3 presents the Euro-Asian maritime routes and offers a cost analysis with actual data for the complete maritime route, including terminals, administrative and road transport costs. Chapter 4 focuses on rail transport, analyzing the economics of rail transport and the cost structures for complete rail routes. It also presents a detailed analysis of rail routes for each participating country, including distance analysis, time schedule evaluation and tariff structure. In chapter 5 maritime and rail transport for the EATL routes are compared. Selected points of origins (locations A) and points of destination (locations B) across the EATL project routes are used to create different scenarios where maritime and rail transport are compared. The selection of the points of origin and destination was based on various criteria such as the importance of trade destinations, the importance for landlocked countries and the distance from much frequented ports. A case study for car manufacturers performing transport on Euro-Asian transport linkages is also analyzed.

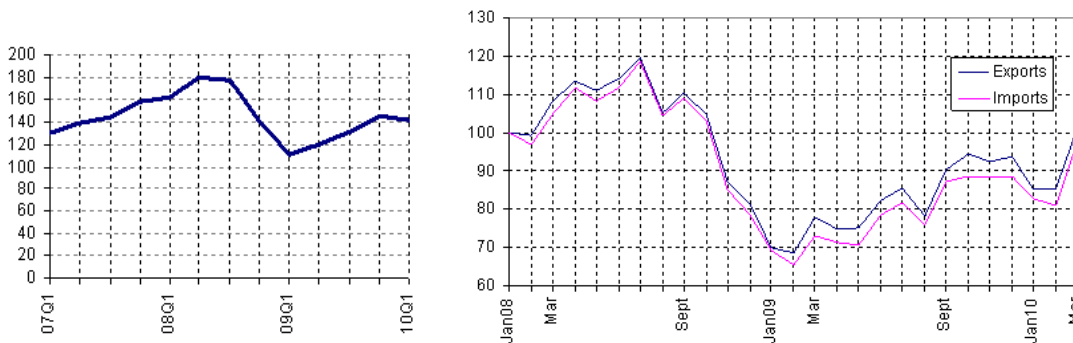
## CHAPTER 1: TRADE between Asia and Europe

After the sharpest decline in more than 70 years, world trade is set to rebound in 2010 by growing at 9.5% according to WTO economists (Figure 1). Exports from developed economies are expected to increase by 7.5% in volume terms over the course of the year, while shipments from the rest of the world (including developing economies and the Commonwealth of Independent States) should rise by around 11% as the world emerges from recession?

This strong expansion will help recover some, but by not all, of the ground lost in 2009 when the global economic crisis sparked a 12.2% contraction in the volume of global trade – the largest such decline since World War II.

The value of world merchandise trade was about 25% higher in the first three months of 2010, year-on-year (Figure 1). Global exports rose by 27% while imports slightly less.

Figure 1. World Exports - Imports the 1<sup>st</sup> Quarter of the year



Source: WTO, 2010

Forty-three per cent of world exports originate in Europe, 25% in Asia, 17% in North America and 3% in CIS countries.

According to the World Trade Organization, 74% of Europe's exports are intra-European 8% are destined for Asia, 7% for North America and 4% for CIS countries (Figure 2). One-half of Asian countries' exports stays in Asia, 18% go to Europe, 18% to North America and 2% go to CIS countries (Figure 3 and 4).

Figure 2 . Exports of Europe

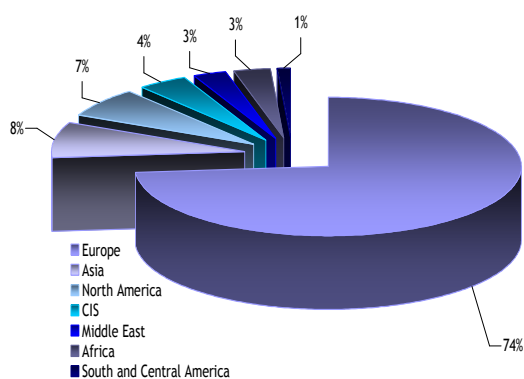
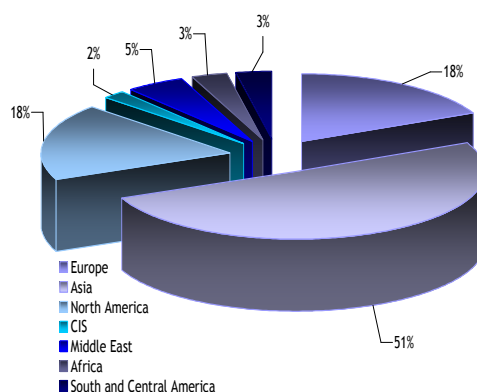


Figure 3. Exports of Asia

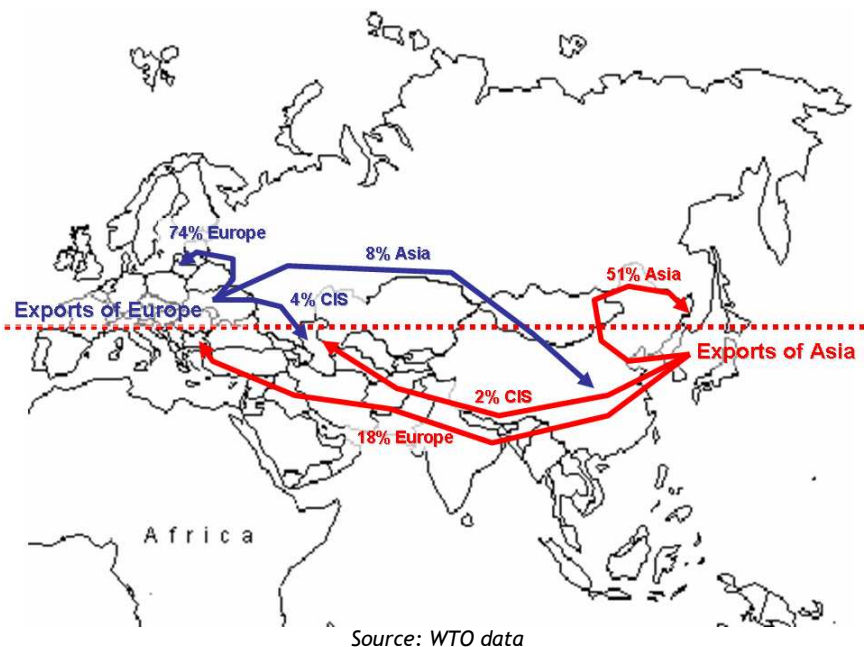




Source: WTO data

Source: WTO data

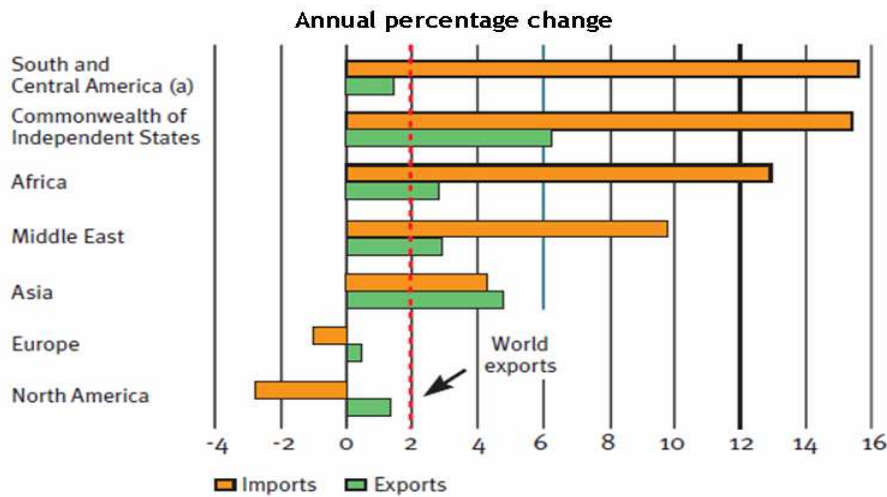
Figure 4. The Euro - Asian Trade



Sixty countries involved in Europe-Asia trade represent more than half of the world's GDP, more than 60% of the world's population and 70% of global trade<sup>82</sup>. Figure 5 illustrates the annual percentage change of imports and exports by region (2008 over 2007) - one year before the economic crisis. As indicated, Asia's exports and imports grew by more than 4%, while Europe's imports decreased by 1% and its exports increased by 0.5%.

Figure 5. Real merchandise trade growth by region, 2008 over 2007

<sup>82</sup> Asia-Europe Meeting (ASEM) Report, A European Commission foundation, [www.aseminfoboard.org](http://www.aseminfoboard.org)



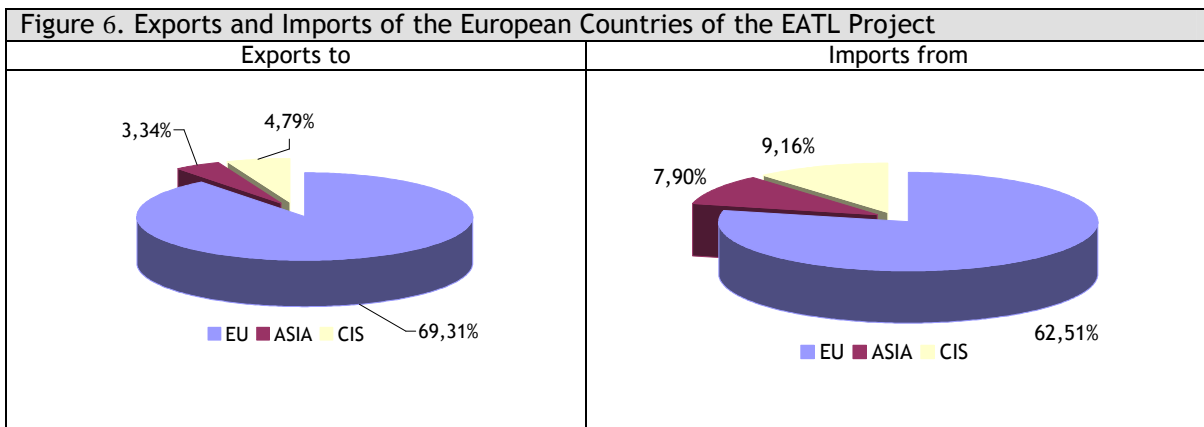
Source: WTO/ECSA

Source: European Community Ship owners Association, Annual Report, 2008-9

There are currently over 20 countries participating in the Euro-Asian Transport Links initiative. They are: Afghanistan, Armenia, Azerbaijan, Belarus, Bulgaria, China, Georgia, Germany, Greece, Iran, Kazakhstan, Kyrgyzstan, Latvia, Moldova, Romania, Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

The seven European countries involved in the EATL project export about 70% of goods to other European countries, 3% to Asian countries and 5% to CIS countries. They import 63% from other European countries, 7% from Asian countries and 9% from CIS countries (Figure 6).

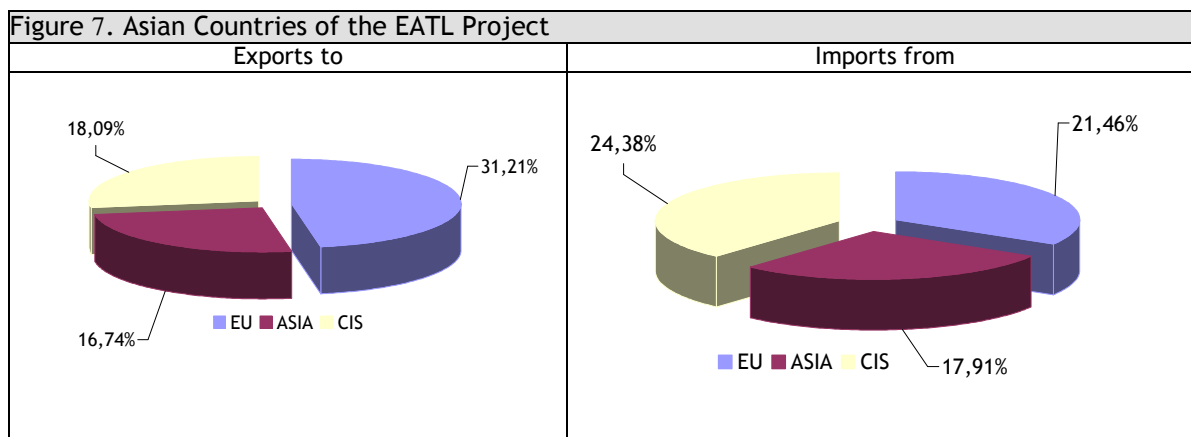
These countries' exports shares are: agricultural products 15%, fuel and mining products 16% and manufacturing products 68%. Imports shares are: agricultural products 10%, fuel and mining products 19% and manufacturing products 69%.



Source: WTO data

The 16 Asian countries of the EATL project export on average 31% of goods to European countries, 17% to other Asian countries and 18% to CIS countries. These countries import 21% from European countries, 18% from other Asian countries and 24% from CIS countries (Figure 7).

Exports of agricultural products represent 11%, fuel and mining products 40% and manufacturing products 34% while imports of agricultural products make up 10% and fuel and mining products 19%.



Source: WTO data

The European Conference of Ministers of Transport (ECMT) report on trends in trade between Europe and Asia and consequences for transport<sup>83</sup> shows that trade between the two continents has accelerated sharply in recent years. This is partly because of economic development of East Asian countries, chiefly China, but also as a result of the growth of the economies of Russia and Central Asia. This has caused a wider geographical dispersal of trade flows, a phenomenon that is crucially important for defining the main routes for international trade between Asia and Europe and not just between either extremity of the two continents.

One of the key features of world container trade is an imbalance of incoming/outgoing containers. The fact that more full containers leave Asia than come back has created a major challenge for international transport operators. The industry estimates of these imbalances vary significantly. However, for the three main intercontinental trade lanes: Asia-Pacific, Asia-Europe, and Trans-Atlantic, the imbalances have grown significantly with more than half of the containers on both the Asia-Pacific route and the Asia-Europe route going back to Asia empty. Similar imbalances also existed a decade ago but in the 20-30 per cent range.

Currently, maritime transport dominates cargo shipping between Asia and Europe. The maritime operators have significantly expanded capacity to meet the demand and this has been reflected in the sustained double-digit annual growth. For high value and time-sensitive cargo the use of air transport has seen a similar expansion.

The volumes of international containerised cargo shipped using rail or road transport between Asia (China) and Europe are currently very limited. Rail transport, in particular the Tran-Siberian Railway, accounts for 3-4 percent of the total volume. This volume originates mainly from Northern China and

<sup>83</sup> "Transport links between Europe and Asia", European Conference of Ministers of Transport and OECD, report, 2006.

Korea. The exact quantities and type of cargo is unknown. Road transport accounts for less than 1 percent of the containerised Sino- European trade in volume terms<sup>84</sup>.

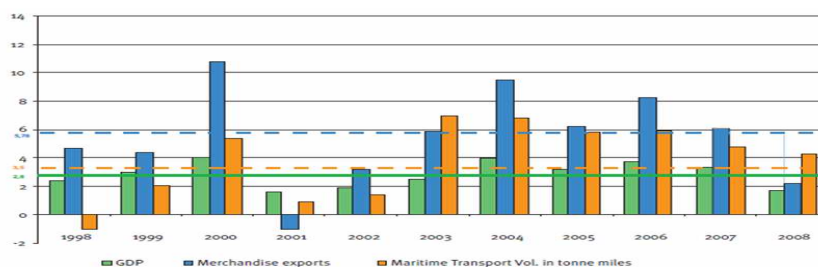
Congestion in transshipment ports is also an issue. Transport operators can address it through the routing of a container and the trimming of their networks. Congestion in ports of origin and destination are much more complex and involve a wider range of factors, including port terminals, customs facilities and operators organizing the pre and onward inter-modal transport of the cargo by truck, rail or barges. Naturally, it does not matter much to the end-customer if a container is delayed because of an issue in a transshipment port or the port terminal at the origin/destination - or if it is caused by bottlenecks pertaining to parts of the inter-modal transport executed by rail or trucking companies<sup>85</sup>.

Greater trade between Europe and Asia has resulted in the faster growth of maritime container traffic (6% per year). This phenomenon has been accompanied by the use of larger vessels and by shipping rates that have fallen to very low levels (\$700 per TEU from Europe to Asia).

Overall, Europe-Asia trade points towards two factors in favour of diversification of routes and opening up of new inland routes:

- ☑ Maritime transport's virtual monopoly on trade between Europe and Asia is causing increasing problems in land access to sea ports (in addition, the push for productivity gains tends to reduce the number of such ports). Obligatory points of passage between maritime hubs concentrate shipping traffic. This may pose a serious safety problem (risk of accidental pollution) and a serious security problem (vulnerability to attack).
- ☑ The growth in traffic between continental countries, particularly in Central Asia, along the Europe-Asia land routes. Besides trade along the Europe-Asia corridors, trade within the region itself is developing, reinforcing the necessity to improve the corridors.

Figure 8. Annual percentage, in GDP, of world merchandise exports in real value, of Maritime Transport volume, 1998 - 2008



Source: European Community Ship owners Association, Annual Report, 2008-9

Despite efforts to develop efficient inland links, maritime transport will likely remain a dominant player in the Europe-Asia transport market. While shipping companies and ports may be able to cope with the expected increase in the maritime traffic, particularly container traffic (Figure 8), inland transport modes for hauls between ports and their hinterlands will not. The risk of saturation on road networks to these ports is high, while rail and inland waterways often have insufficient capacity. It is therefore important for governments to take the necessary action, particularly in the area of infrastructure, to improve land access to seaports. Developing appropriate rail or inland waterway links and facilitating inter-modal transfer between inland and waterway modes could be considered.

In 2010, UNECE Transport Division published a study about the Hinterland Connections of Seaports. The study examines the ways in which seaports and their hinterland connections can help to improve

<sup>84</sup> "Land transport options between Europe and Asia: Commercial Feasibility study", 2006, Washington, The Chamber of Commerce of the United States.

<sup>85</sup> European Community Ship owners Association, Annual Report 2008 - 2009

supply chain performance through the removal of bottlenecks and the improvement in the efficiency and sustainability of port hinterland links in the UNECE region.<sup>86</sup>

## Block trains in Europe and Asia

### Existing Block Trains in Europe - Asia

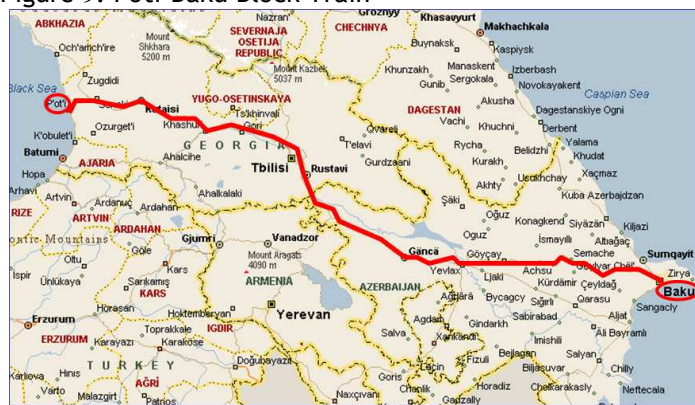
This section describes block trains operating along the Euro-Asian links as well as provides a list of demonstration trains that have been recently performed. The major block trains operating with some regularity at present are of the “isolated clients” type. There have been some trials from forwarders as well, but they have not had great success.

#### 6.1.1. Poti – Baku<sup>87</sup>

A container block train between Poti (Georgia) and Baku (Azerbaijan) is operated by POLZUG Intermodal Group.

The service carries containers from the Black Sea to the Caspian Sea. The container trains are made up of cars of the same type. With no stopping for assembly and disassembly, the block train offers high-volume customers an economic alternative to rail freight operations or road transport. From Baku onwards, shipment is by feeder across the Caspian Sea to Aktau, Kazakhstan for rail transport to Central Asia.

Figure 9. Poti-Baku Block Train



Source: POLZUG Intermodal Group

#### 6.1.2. Vostochny, Moscow, Novosibirsk, Taganrog (Hyundai), Izhevsk (KIA), Naberezhnye Chelny (Ssang Yong), Uzbekistan (GM Daewoo) and Ulyanovsk (Isuzu)<sup>88</sup>

Mitsui & Co. Ltd. has established a “Trans Siberian Route (TSR) Agent Team” which provides “Cargo Container Express Train Service” utilizing the Trans Siberian Railway to deliver cargo from Asian ports to Russia/CIS city terminals.

Features of these block trains:

- Special trains composed of minimum 31 and maximum 37 x 80-foot (24-meters) wagons (62-74 container capacity, based on 40-foot (12 meters) containers. The maximum formation length for one block train is 1,000 meters in accordance with Russian law.

<sup>86</sup> [http://www.unece.org/trans/publications/other\\_hinterland.html](http://www.unece.org/trans/publications/other_hinterland.html)

<sup>87</sup> Based on Thomas L. Gallagher | Mar 8, 2009 *The Journal of Commerce Online - News Story*

<sup>88</sup> Based on TRANS SIBERIAN RAILWAY, Block Train Service, Mitsui & Co Ltd, <http://www.mitsui-tsr.com/en/service/index2.html>

- Routes predetermined in advance. In case of a conventional train, the train stops are determined by each railway controlling sections, a process which decreases ability to trace. With block trains stops are minimized and the transit station is predetermined. This feature improves ability to trace cargo.
- Wagon formation changes not done resulting in shorter lead times and secured regularity. (Block train running lead time from Vladivostok to Moscow is 11 to 12 days. Efforts to shorten the lead time to seven days are ongoing).
- This service was started by customers in South Korea as a dedicated transport method to supply parts to an assembly factory in Russia.
- Main Block Train Operation Records (July 2007)

Destination	Point of Origin	Frequency per week	Training running days	Rail operator	Freight owner
Taganrog	Vostochny	3	11	Russkaya Troyka	Hyundai Motor Company
Izhevsk	Vostochny Nakhodka	7-8	9	Russkaya Troyka F.E. Trans	Kia Motors
Moscow	Vostochny	1	11-12	Russkaya Troyka	Various unspecified freight owners
Moscow	Vladiostok	1	11-12	Russkaya Troyka	Various unspecified freight owners
Saryagach, Uzbekistan	Vostochny	2	14	Trans Container Uno Logistics	GM Daewoo Motor Company
Chelny, Naberezhnye	Vostochny Nakhodka	3	9-10	F.E.Trans	Sangyong Motor Company

\*Point of origin for Russkaya Troyka Block Train for various unspecified customers, has shifted to the Vladivostok port from Feb.'09.



Photo: 80-feet wagon

Two security guards are placed in the locomotive. For 38 wagon formations, a convoy wagon is connected in the centre which normally has two security guards posted (this is compulsory in accordance with Russian law). In the unlikely event of disengaging the wagons, the train driver is made aware of it by a drop in brake pressure.



### 6.1.3. VW – SKODA AUTO

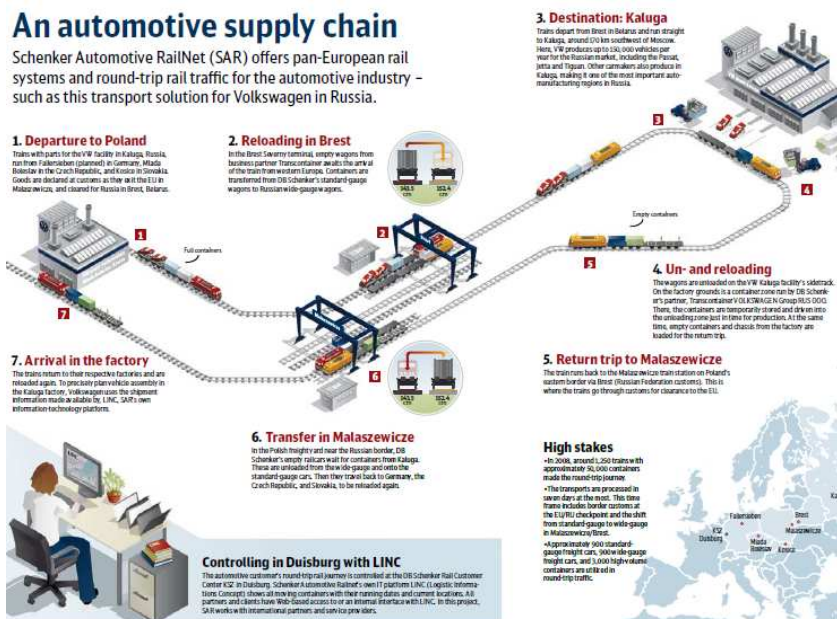
This project of integrated container trains was started in 2002. The route begins from the Czech Republic in the direction of Mladá Boleslav-Kaluga and from the Slovak Republic in the direction of Velká Ida-Kaluga through the border station Malaszewicze (Poland)-Brest (Belarus). It delivers disassembled cars of VW and ŠKODA AUTO brands to an assembly plant in Kaluze (Russia). The size and importance of the project makes it among the biggest in the European Union. There are 14 pairs of trains a week from Mladá Boleslav to Kaluga and 11 from Velká Ida to Kaluga.

### 6.1.4. Volkswagen (VW)

Volkswagen (VW) operates with Transcontainer (a Russian Railways' intermodal company), container block trains carrying on average 116 TEUs of components from Brest to Kaluga near Moscow.

Since 2008, the trains have brought auto parts made by Volkswagen from the Czech Republic via Brest to the automotive plant in Kaluga (Russia) on the route Brest-Kaluga. In the first half of 2008, 139 trains were launched on the route delivering 15,920 TEU.

Figure 10. The automotive supply chain



Source: DB Schenker

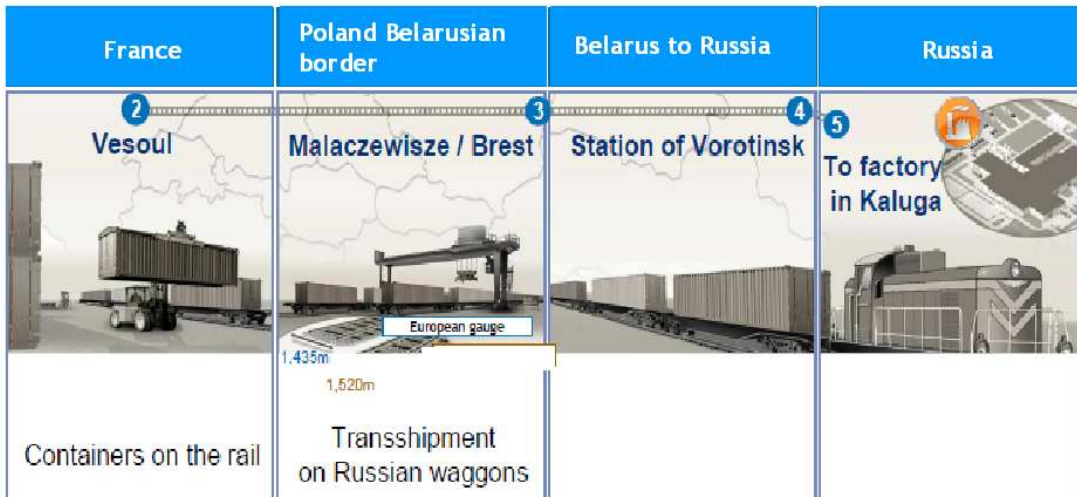
### 6.1.5. KIA Kazakhstan

Asia Auto's Kazakhstan plant was established in 2003. Currently, it produces models such as Lada Niva, Skoda Octavia and Superb, Chevrolet Captiva, Lacetti and Epica and Cadillac Escalade. An assembly of three new Kia models will begin in 2010. The company has undertaken some block trains from Bandar Abbas (Iran) to Kazakhstan.

### 6.1.6. PEUGEOT

Over 140 cars are transported per day (models 308 and C4) from Sochaux and Mulhouse and 60 from Zeebrugge (Belgium) to Vesoul for disassembling. Then the bloc train runs from France (Vesoul) to Russia (Kaluga) loaded with SKD (Semi Knocked Down) autoparts to be assembled in Kaluga (Figure 11).

Figure 11. Peugeot block train route



Source : Peugeot

This block train performs 6,000 km roundtrip, uses 400 dedicated wagons, 1,200 dedicated containers for roundtrip and 80 trucks for final deliveries.

### 6.1.7. CD Cargo Czech Republic

Figure 12. CD Cargo block train



Source: CD Cargo

In 2008, CD Cargo, a Czech Republic-based logistics and forwarding company performed 12 block trains from the Czech Republic to China (Pardubice/Melnik-Shenzen) and four of these trains returned back to Czech Republic.



### 6.1.8. Trains listed by the Organization for Railways Cooperation (OSJD) in 2008

Every year the OSJD publishes a list of all block/container trains that operate in its region. Following is the list of block trains operating across the Euro-Asia for 2008.

i.d.	Train description	Type of Train	Frequency
1208	Berlin - Kunzevo (Russia), "Ostwind"	Containers	3 times per week
1276	Brest - Ilijezk (Russia) - Arys (Kazakhstan) "Kasachischer Vektor"	Containers	2 times per week
1406	Brest - Nauschki (Russia) - Ulan Bator (Mongolia) - Huh Hoto (China)	Containers	2 times per week
1251 / 1252	Almaty (Kazakhstan) - Dostyk (Kazakhstan) / Alaschankou (China)	Containers	6 times per week
1402/ 1401	Lianyungang (China)- Alaschankou (China) - / Dostyk Kazakhstan - Assake (Uzbekistan)	Containers	1 time per week
1401 / 1402	Tianjin (China) - Alaschankou (China) / Dostyk (Kazakhstan) - Almaty (Kazakhstan)	Containers	3 times per week

### Demonstration train runs

Some international organizations and private companies have performed demonstration block train runs to evaluate their effectiveness. Some of them are presented below:

- From Tianjin (China) to Ulaanbaatar (Mongolia) in 3 days 3.5 hours over the 1,691 km distance (November 2003)
- From Lianyungang (China) to Almaty (Kazakhstan) in 7 days 6 hours over the 5,020 km distance (April 2004)
- From Brest (Belarus) to Ulaanbaatar (Mongolia) in 8 days 21 hours over the 7,180 km distance (June 2004)
- From Nakhodka (Russian Federation) to Malaszewicze (Poland) in 12 days and 8 hours over the 10,335 km distance (July 2004)<sup>89</sup>
- Beijing-Hamburg container train in January 2008. To demonstrate the potential of container service by rail, the Beijing - Hamburg train was launched from Beijing in January 2008. The train made the 9,780km route in 15 days. It passed through the territory of China, Mongolia, Russia, Belarus, Poland and Germany. On the same day a memorandum of understanding was signed and a joint working group was set up to arrange rail service on the route China - Western Europe<sup>90</sup>.
- ECO demonstration train in 2009, from Islamabad to Istanbul, 6,566 km in 11 days with many restrictions, mainly for night travel on the territory of Pakistan<sup>91</sup>.

## CHAPTER 3 Euro-Asian maritime routes

<sup>89</sup> <http://www.unescap.org/ttdw/common/TIS/TAR/Container%20Block-trains.asp>

<sup>90</sup> DB SCHENKER, <http://www.schenker-seino.co.jp/content/view/254/141/>

<sup>91</sup> ECO Secretariat, <http://www.ecieco.org/Portals/>

## Port management

The latest data available on world container port traffic, in 63 developing economies with an annual national throughput of over 100,000 TEUs, show that in 2007 there were 487.1 million TEU moves registered.

Singapore retained its lead as the world's busiest port in terms of the total number of TEU moves, growing by 7 per cent. Shanghai had the same growth rate and maintained its position in the second place. Hong Kong remained in the third place.

Congestion is one of the biggest port issues. There are certain vulnerabilities in global supply chains and when the goods move from one mode to another, as they do in the ports, the risk of encountering problems rises. Ideally, when a ship arrives in a port, there will be a berth waiting and the cargo handling facilities will swing smoothly into action. When there is no berth available, and the ship has to swing around its anchor waiting its turn, delays are caused right down the supply chain and costs are racked up.

Port congestion is caused by a number of different factors. Perhaps there has been a period of exceptionally bad weather making it difficult to work cargo with ships delayed both at sea and in port. An unexpected accident may reverberate right down the supply chain<sup>92</sup>.

An increase in trade can also cause port congestion as ports have limited ability to quickly adjust to such increases. The extraordinary growth in international trade caused by the surge in Chinese exports has caught much of the port industry napping. Port investment in many countries has lagged behind while years of planning are often required before construction of new port facilities or the dredging of deeper channels for bigger and more productive ships, can even begin. It is not merely the non-availability of berths which causes congestion. The cargo has to be cleared away from a discharging berth before other ships can start to discharge, and there may be landside congestion that is hampering the delivery and on-carriage of goods. Inadequate roads or railways may be a long-standing problem - one that is perhaps even getting worse.

## Maritime transport: cost and time

Maritime transport does not only include sea transport. By its nature, maritime transport is intermodal transport and, often, as many as three means of transport are involved: ship, truck and rail (Figure 13). The maritime transport cost structure is made up by five components: (1) the cost of moving cargo from the shipper to the port of origin (typically) by truck; (2) the terminal handling charges at the port of origin; (3) the freight rate from the port of origin to the port of destination; (4) the terminal handling charges at the port of destination and (5) the cost of transport from the port of destination to the final client (typically) by truck.

Figure 13. Maritime Transport Cost Structure



<sup>92</sup>

*In an Australian port, a bulk carrier damaged an iron ore loader. As a result, about half of the port capacity to unload was put out of action for months.*



### 6.1.9. Terminal Handling Charges (THC)

THC are charged by shipping lines to recover the payments to container terminals for loading and unloading cargo. Shippers at the port of origin are responsible for paying THC at the port of loading. This is defined as the origin THC. The consignees, or buyers, are responsible for paying the freight rate and THC on the discharge at the port of destination, known as the destination charge. This is consistent with the definition of the International Chamber of Shipping. Most shipping lines have introduced separate charges for freight rates and THC.

Figure 14. Split of THC Charges between Shipper and Ship Operator

	ACTIVITY	COVERED BY
01	Delivery MT and receiving full (+all associated clerical work and reporting)	THC
02	Inspection and reporting condition of container/ completion interchange	THC
03	Inspection and reporting of seals and wiring, removal invalid labels, re-sealing	THC
04	Movement of container on/from chassis, barge or wagon	THC
05	Internal transport of container to or from stack	THC
06	Handling container into or out of stack	THC
07	Reporting of chassis, barge and wagon activities in and or out of terminal	THC
08	Storage of full container within time limits defined by Conference	THC
09	Take laden box out of stack	THC
10	Internal transport from stack to ship's side under hook	THC
11	Move of container from ship's side to ship's rail	THC
12	Move of container from ship's rail into ship's cell	Freight rate
13	Opening and closing hatch covers	Freight rate
14	Lashing of container	Freight rate
15	Physical and clerical planning of vessel operation + reporting	Freight rate
16	Overtime	Freight rate
17	Wharfage	Freight rate

Source: PortStrategy, July 2005, Mercator Media.

Given the relative stability of THC, albeit at varying levels according to trade routes, the ratio of THC to sea freight rate varies depending on freight rates.

The following table illustrates THC by port for ten largest shipping operators.

Figure 15. THC by Port for Ten Largest Shipping Operators (April-June, 2009)

			Rotterdam					Hamburg	
			20ft	40ft				20ft	40ft
1	Maersk/SAF		€ 185	€ 185	1	Maersk/SAF	€ 190	€ 190	
2	MSC		€ 175	€ 175	2	MSC	€ 180	€ 180	
3	CMA CGM		€ 160	€ 160	3	CMA CGM	€ 185	€ 185	
4	Evergreen		€ 160	€ 160	4	Evergreen	€ 200	€ 200	
5	Hapag Lloyd		€ 200	€ 200	5	Hapag Lloyd	€ 210	€ 210	
6	COSCO		€ 140	€ 140	6	COSCO	€ 180	€ 180	
7	APL		€ 190	€ 190	7	APL	€ 210	€ 210	
8	China Shipping		€ 170	€ 170	8	China Shipping	€ 200	€ 200	
9	NYK		€ 160	€ 160	9	NYK	€ 200	€ 200	
10	MOL		€ 200	€ 200	10	MOL	€ 210	€ 210	

			ST. Petersburg					Barcelona	
			20ft	40ft				20ft	40ft
1	Maersk/SAF		\$ 290	\$ 290	1	Maersk/SAF	€ 155	€ 155	
2	MSC				2	MSC			
3	CMA CGM		\$ 370	\$ 370	3	CMA CGM	€ 170	€ 170	
4	Evergreen		\$ 250	\$ 250	4	Evergreen	€ 160		
5	Hapag Lloyd		\$ 220	\$ 220	5	Hapag Lloyd	€ 120	€ 140	
6	COSCO		\$ 200	\$ 200	6	COSCO	€ 125	€ 125	
7	APL		\$ 300	\$ 300	7	APL	€ 255	€ 255	
8	China Shipping		\$ 300	\$ 300	8	China Shipping	€ 150	€ 150	
9	NYK		\$ 250	\$ 250	9	NYK	€ 210	€ 210	
10	MOL		\$ 220	\$ 220	10	MOL	€ 160	€ 160	

			Piraeus					Istanbul	
			20ft	40ft				20ft	40ft
1	Maersk/SAF				1	Maersk/SAF			
2	MSC				2	MSC			
3	CMA CGM		Free in	Free in	3	CMA CGM	Free in	Free in	
4	Evergreen				4	Evergreen			
5	Hapag Lloyd		€ 112	€ 112	5	Hapag Lloyd	\$ 219	\$ 219	
6	COSCO				6	COSCO			
7	APL				7	APL	\$ 100		
8	China Shipping		FIO	FIO	8	China Shipping	FIO	FIO	
9	NYK				9	NYK			
10	MOL				10	MOL	Free in	Free in	

			Constanza					Shanghai	
			20ft	40ft				20ft	40ft
1	Maersk/SAF		\$ 200	\$ 245	1	Maersk/SAF	RMB 475	RMB 750	
2	MSC				2	MSC	At cost	At cost	
3	CMA CGM		\$ 75	\$ 130	3	CMA CGM	RMB 1,297	RMB 1,297	
4	Evergreen				4	Evergreen	RMB 370	RMB 560	
5	Hapag Lloyd		\$ 345	\$ 418	5	Hapag Lloyd	RMB 460	RMB 720	
6	COSCO				6	COSCO	RMB 374	RMB 564	
7	APL		\$ 90	\$ 130	7	APL	RMB 476	RMB 750	
8	China Shipping		\$ 130	\$ 130	8	China Shipping			
9	NYK				9	NYK	RMB 880	RMB 1,300	
10	MOL		\$ 40	\$ 90	10	MOL	RMB 480	RMB 720	

Shenzen				Pusan			
		20ft	40ft			20ft	40ft
1	Maersk/SAF	RMB 958	RMB 1,849	1	Maersk/SAF	100,000	135,000
2	MSC			2	MSC		
3	CMA CGM	RMB 1,297	RMB 0	3	CMA CGM	101,000	137,000
4	Evergreen	RMB 370	RMB 560	4	Evergreen	100,000	136,000
5	Hapag Lloyd	RMB 965	RMB 1,842	5	Hapag Lloyd	101,000	137,000
6	COSCO			6	COSCO		
7	APL	RMB 476	RMB 750	7	APL	101,000	137,000
8	China Shipping			8	China Shipping		
9	NYK	RMB 1,400	RMB 2,300	9	NYK	150,000	210,000
10	MOL	RMB 965	RMB 1,842	10	MOL	100,000	136,000

Hong Kong				Singapore			
		20ft	40ft			20ft	40ft
1	Maersk/SAF	HK\$2,050	HK\$2,750	1	Maersk/SAF	SGD 190	SGD 270
2	MSC			2	MSC		
3	CMA CGM	HK\$2,065	HK\$2,750	3	CMA CGM	SGD 182	SGD 270
4	Evergreen	HK\$2,065	HK\$2,750	4	Evergreen	SGD 182	SGD 270
5	Hapag Lloyd	HK\$2,065	HK\$2,750	5	Hapag Lloyd	SGD 182	SGD 270
6	COSCO			6	COSCO		
7	APL	HK\$1,800	HK\$2,650	7	APL	SGD 182	SGD 270
8	China Shipping			8	China Shipping		
9	NYK	HK\$1,400	HK\$2,000	9	NYK	SGD 170	SGD 170
10	MOL	HK\$2,065	HK\$2,750	10	MOL	SGD 182	SGD 270

Source: Terminal handling charges during and after the liner conference era, European Commission, 5 October 2009

The handling charges quoted by forwarders are slightly different as they include a profit margin (Figure 16). As indicated in Figure 16, THC costs are \$175 and all the other costs are \$530! Therefore, for this comparison study, THC costs will be increased by 250% to reflect “other costs”.

Figure 16. Costanta port THC and other costs

Ports	Unloading of Containers (\$)	Loading of Containers (\$)	Customs Formalities (\$)
Kostanta	70	75	55

Other Costs	P	(\$)
Entrance cost	<input checked="" type="checkbox"/>	35
Parking cost	<input checked="" type="checkbox"/>	20
Loading to truck cost	<input checked="" type="checkbox"/>	65
Unloading from truck	<input checked="" type="checkbox"/>	70
Other documents	<input type="checkbox"/>	45
Other cost/ Specify	<input type="checkbox"/>	
THC CONSTANTA	<input checked="" type="checkbox"/>	175
DETENTION FEE	<input checked="" type="checkbox"/>	45
DELIVERY ORDER	<input checked="" type="checkbox"/>	50

Source: Romanian Forwarders Association 2010

Containers		20' FCL	20' MTY	40' FCL	40' MTY	
1	Handling (from vessel or vice versa)	Unit	USD 55.00	USD 45.00	USD 105.00	USD 55.00
2	Lift on/of	-	USD 20.00	USD 10.00	USD 25.00	USD 15.00
3	Transportation from yard to vessel and vice versa	-	USD 15.00	USD 10.00	USD 25.00	USD 20.00
4	Shifting (hold-to-hold)	Unit	USD 35.00	USD 20.00	USD 40.00	USD 25.00
5	Shifting (hold-terminal-hold)	-	USD 65.00	USD 35.00	USD 80.00	USD 45.00
6	Lashing/unlashing of containers on vessel	-		USD 6.00		
7	Cleaning of containers	-		USD 6.00		
8	Removing labels (indicating -dangerous cargo) from containers	-		USD 20.00		
9	Bulk cargo loading-unloading into from container	Ton		USD 9.00		
10	General cargo loading-unloading into from container	-		USD 12.00		
11	Heavy cargo loading-unloading into from container (> 3 t.)	According to rates specified in the paragraph General Cargo, Item 7				
12	Loading-unloading the transport facilities into from container	According to rates specified in the paragraph General Cargo, Item 11.2.1.				
13	Inspecting containers loaded with excise cargos	-		USD 85.00		
14	Unloading/Loading of lashing gear box	Unit		USD 130.00		
15	Storage	Unit/ per day	USD 3.00	USD 1.00	USD 5.00	USD 2.00

Containers arrived by maritime transport	one day- free of charge
Containers arrived by land transport	two days- free of charge up to one month basic more than one month- basic increases by 50%

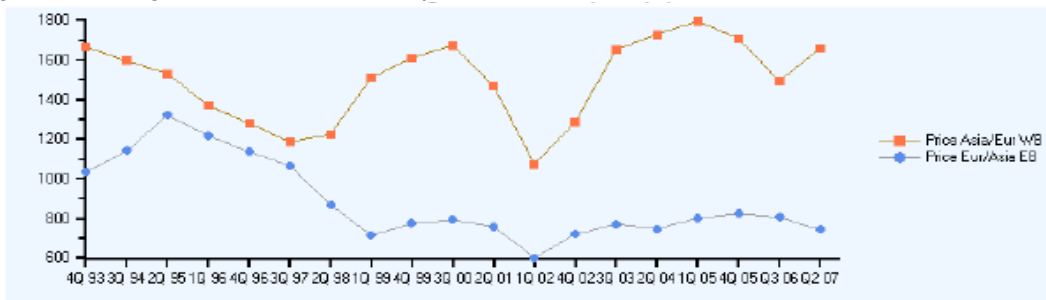
- Surcharge of 100% applied on containers loaded with oversize cargo (in case of using nonstandard spreaders);
- Surcharge of 25% applied on containers loaded with dangerous cargoes.

Source: Port of Poti

## Freight Rates

Figure 17 illustrates the freight rates along the Asia-Europe route for 1993-2007. There are significant fluctuations in these freight rates resulting in similar fluctuations in the THC/freight rate ratio. The THC/freight ratio on average has been in the 10 - 15 percent range on the Asia to North Europe route on a destination basis.

Figure 17. Freight rates for Asia/Europe/Asia

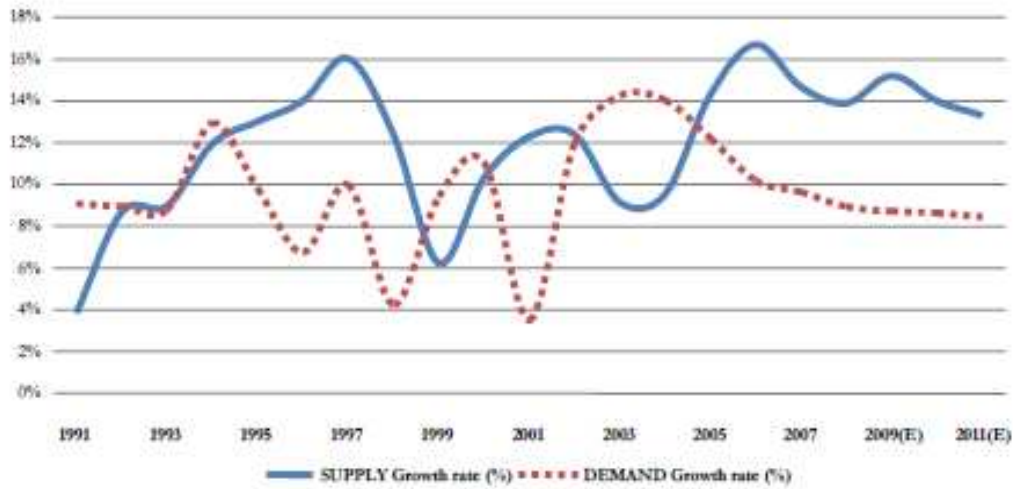


Source: Containerisation International Freight Facts

In the short term, freight rates are driven by the relationship of supply and demand for shipping. In the longer-term, the available capacity also influences freight rates. Figure 18 shows a relationship between demand and supply which translates into freight rate volatility. The 1991 and 2001 recessions with their consequent drop in cargo demand coinciding with excess shipping capacity supply resulted in declining freight rates. Equally, the end of the recession coincided with sharp increases in freight rates.



Figure 18. Supply versus Demand, 2011



Source: Drewry's Annual Container Market Review 2007-2008, supplemented by AXS Liner 2008

freight rates collapsed with spot rates from Asia to North Europe as low as \$100.

The following are maritime freight rates in US dollars for 20'' and 40'' containers from Shanghai, Costanta, Varna and Bandar Abbas ports to anywhere in the world, . T (data collected in May-June 2010).

Increasingly shippers are negotiating "all-in" rates where the three elements of sea freight, surcharges and terminal handling charges are included. In the recession of 2008-9,

**FROM**

Xingang / Qingdao / Dalian [China] (USD\$)

**TO**

Middle East	20` / 40/ 40` HC <sup>93</sup>		20` / 40/ 40` HC
DUBAI / JEBEL ALI	1,500/2,400/2,400	B.ABBAS	1,600/2,500/2,500
ABU DHABI	1,700/2,800/2,800	SHARJAH	1,700/2,800/2,800
DAMMAM	1,600/2,500/2,500	RIYADH	1,800/2,900/2,900
BAHRAIN	1,800/2,900/2,900	DOHA	1,900/3,100/3,100
KUWAIT	1,700/2,800/2,800	MUSCAT	1,800/2,900/2,900
UM QUASER	2,300/3,700/3,700		
India and Pakistan	20` / 40/ 40` HC		20` / 40/ 40` HC
KARACHI /QASIM	1,500/2,400/2400	NAHYA SHEVA	1,500/2,400/2,400
COLOMBO	1,400/2,300/2300	CHENNAI / MADRAS	1,450/2,400/2,400

<sup>93</sup> "HC" denotes high cube.

CALCUTTA	1,700/2,700/2700	HALDIA	1,700/2,700/2,700
TUTICORIN	1,600/2,600/2600	COCHIN	1,600/2,600/2,600
Red Sea	20` / 40/ 40` HC		20` / 40/ 40` HC
JEDDAH	1,900/3,000/3000	ADEN	1,550/2,600/2,600
AQABA	2,000/3,200/3200	HODEIDAH	2,100/3,400/3,400
SOKHNA	2,000/3,200/3200	PORT SUDAN	2,300/3,800/3,800
Main ports of South East Asia			20` / 40/ 40` HC
SINGAPORE/PORT GUDANG/PENANG/SAMARANG/SURABAYA/BALAWAN	KELANG/SURABAYA/ JAKARTA/PASIR		700/900/900
Main ports of West Mediterranean			20` / 40/ 40` HC
BARCELONA/FOS/VALENCIA/NAPLES/LA TAURO/LIVORNO(LEGHON)/VENICE/MARSEILLES	SPEZIA/GIOIA		2,100/3,800/3,900
Main ports of East Mediterranean			20` / 40/ 40` HC
ISTANBUL/PORT, SAID/GEMLIK/ ALEXANDRIA/ DAMIETTA/ BEIRUT/ LATTAKIA	HYDARPASA/ IZMIR/ MERSIN/		2,500/4,600/4,700
Main ports of Europe			20` / 40/ 40` HC
ANTWERP/ HAMBURG/ ROTTERDAM/ LE HARVE /FELEXSTOWE/ SOUTH AMPTON/ BREMEN/BREMEN HARVEN / DUNKIRK			2,150/3,900/4,000
Main ports of Black Sea			20` / 40/ 40` HC
CONSTANTA/ODESSA/ILICHEVSK/VARNA/ NOVOROSSIYSK/ POTI			2,400/4,300/4,300
Main ports of Japan and Korea			20` / 40/ 40` HC
Japan and Korea			100/200/200

**FROM**

Costanza Port [Romania] (USD\$)

**TO**



	20` GP / 40GP/ 40` HC		20` GP / 40GP/ 40` HC
Kaliningrad	2500 / 3700 / -	Busan	900 / 1300 / -
Lianyungang	2600 / 4500 / -	Barcelona	1350 / 2050 / -
Rotterdam	1400 / 2100 / -	Odessa	750 / 1250 / -
Hamburg	1400 / 2100 / -		

FROM			
Varna Port [Bulgaria] (USD\$)			
TO			
	20` GP / 40GP/ 40` HC		20` GP / 40GP/ 40` HC
Kaliningrad	1680 / 2769 / -	Busan	1660 / 2920 / -
Lianyungang	2170 / 3880 / -	Barcelona	995 / 1450 / -
Rotterdam	950 / 1590 / -	Odessa	1100 / 2200 / -
Hamburg	1120 / 1670 / -	Shanghai	2060 / 3650 / -
Vladivostok	3060 / 5460 / -		

FROM			
Bandar Abbas			
TO			
	20" / 40"		20" / 40"
Karachi	\$400 / \$600	Ezmir	\$1000 / \$1750
Istanbul	\$1000 / \$1650	Shanghai	\$850 / \$1550
Rotterdam	\$650 / \$980	Hamburg	\$650 / \$980

### Time Schedule






A standard container ship speed is about 25 knots while “slow steaming” has container ships move at 20-22 knots. Recently, speeds have been further reduced with the introduction of “extra slow steaming”, i.e. ships operating at speeds of 17-19 knots or less. In 2010, “extra slow steaming” absorbed 554,000 TEUs - about the magnitude of currently laid-up capacity<sup>94</sup>.

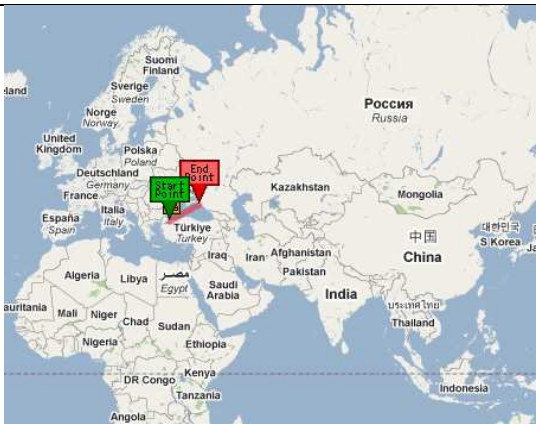



Figure 19 is the time schedule and distance analysis of the most common maritime routes<sup>95</sup>.

<sup>94</sup> *Dynamar: Dynaliners 11/2010, 4 June 2010, reporting data from AXS-AlphaLiner.*

<sup>95</sup> These routes have been calculated by using the online maritime calculator <http://www.axsmarine.com/public>

Figure 19. Distance and time analysis, common maritime routes

<p><b>Shanghai - Rotterdam</b>                      Distance: 10,490 nm                      Duration: 43.71 days</p>	
<p><b>Shanghai - Istanbul</b>                      Distance: 8,003 nm                      Duration: 33.35 days</p>	
<p><b>Bandar Abbas - Hamburg</b>                      Distance: 6,368 nm                      Duration: 26.53 days</p>	
<p><b>Vostochny - St.Petersburg</b>                      Distance: 12,520 nm                      Duration: 52.17 days</p>	
<p><b>Vostochny - Murmansk</b></p>	

<p>Distance: 12,808 nm Duration: 53.37 days</p>	
<p><b>Istanbul - Novorossiysk</b></p>	
<p>Distance: 452 nm Duration: 1.88 days</p>	
<p><b>Shanghai - Bandar Abbas</b></p>	
<p>Distance: 5,581 nm Duration 23.25 days</p>	
<p><b>Rotterdam - St. Petersburg</b></p>	
<p>Distance: 1,245 nm Duration: 5.19 days</p>	
<p><b>Shanghai - Novorossiysk</b></p>	
<p>Distance: 8,454 nm Duration: 35.23 days</p>	
<p><b>Novorossiysk - Kaliningrad</b></p>	

Distance: 4,444 nm	
Duration: 9.26 days	

Source: [www.axsmarine.com/](http://www.axsmarine.com/).

### Road Transport Costs

Road transport costs are basic components of maritime shipping. Trucks move containers from the shipper to the port of origin and from the port of destination to the final client. Most of the time, road transport to these destinations is round trip as the truck picks up the empty containers from the storage place of the shipping lines/forwarders - normally close to the port - brings it to the shippers' warehouse, waits for the container to be loaded and finally, moves the loaded container to the port of origin. The same, albeit the other way around, happens in the port of destination/unloading station where the trucks picks up the loaded container from the container freight station of the port/station, brings it to the warehouse of the final client, waits until it is unloaded and then brings back the empty container to the storage place of the shipping line.

Figure 20. Road transport involvement in maritime transport



It is important to know how much it costs, in each country, for a truck to transport containers from the port to a final client or shipper in a 20 km radius of the port. That distance is normally the average distance from a port to logistics or manufacturing areas. Figure 21 provides the flat rates



for a truck delivering a container (20'' or 40'') in a 20 km radius of the port (data collected in June 2010).

Figure 21. Road transport rates

Country	Cost of road transport (in \$)
Afghanistan	150
Armenia	140
Azerbaijan	160
Belarus	180
Bulgaria	195
China	100-200
Georgia	180
Germany	250-350
Greece	250
Iran	50-150
Kazakhstan	120-180
Kyrgyzstan	130
Latvia	230
Moldova	150
Mongolia	120
Poland	200-280
Romania	150-250
Russian Federation	80-200
Tajikistan	130
Turkey	180-300
Turkmenistan	130
Ukraine	150-250
Uzbekistan	100-150

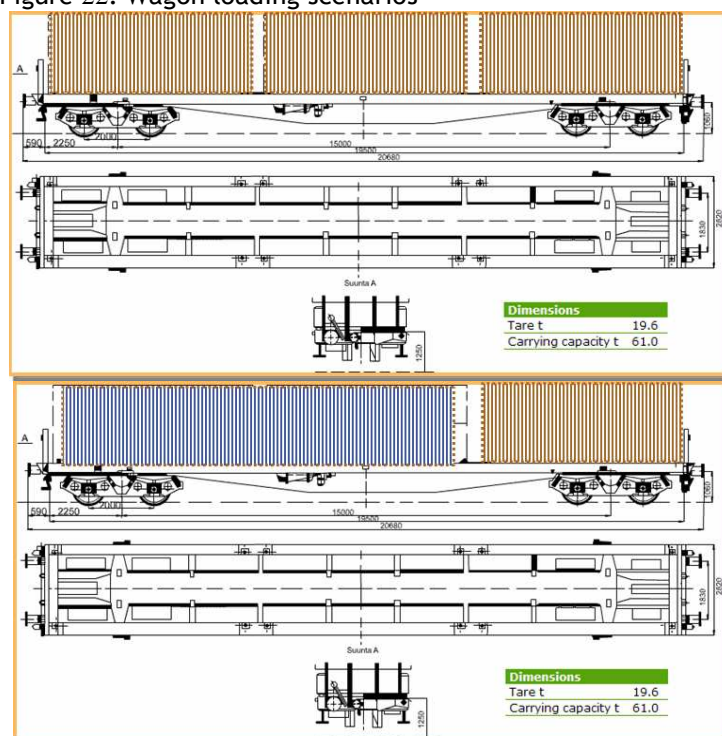
In general, international road transport costs are quite similar. From Istanbul to Western Europe the rate is €0.82-0.92 per km and from Western Europe to Istanbul is €0.9-1. From Istanbul to Almaty Kazakhstan the rate is \$1-1.4/km and the other way it is \$0.8-1 per km. The rate of \$1.4 per km for long distances appears to be the average tariff.

#### CHAPTER 4: Rail time-costs along Euro-Asian routes

Comparing maritime and rail routes requires a thorough analysis of shipping time and cost per container. The cost per container analysis is easier to perform than the time analysis because railway tariffs are typically available.

The time schedule is more difficult to assess. Determining the time schedule of a block train is a complicated task and often requires a simulation or a demonstration run to identify all the issues and make appropriate calculations. (The majority of railways did not reply to questions relating to time in the UNECE questionnaire see Annex

Figure 22. Wagon loading scenarios



Source: Author's publications

l).The maximum loading point, or optimal loading scenario, refers to the number of containers that we can load on a train (Figure 22). The train, including the locomotive’s power to pull, and each wagon have weight and loading restrictions that should be respected. Theoretically, one ISO container wagon can hold three 20’’ containers or one 40’’ container and one 20’’ container. Because of the weight restrictions, we normally load one 40’’ container or one 20’’ container. Sometimes, cargo permitting (cotton, for instance) or when we have empty containers to load, then we can also load two 20’’ containers or less frequently one 40’’ container and one 20’’. These different “types” of containers - 40’’, 20’’- typically weigh less than 15 tonnes. Also the transport of empty 20’’ or 40’’ is charged differently.

The cost structure is the most difficult part of this analysis. Normally, rail organizations do not know the cost of their operations. This is mainly because of their organizational structure where investments in infrastructure and operations form part of the same company.

For this comparison study points of origin and points of destination of interest will be identified and these points will “compose” the block train time schedule and cost according to information analysis for each country participating on this route. Figure 27 illustrates the calculation of time-cost analysis for the block trains of the study. This includes three steps: (a) road transport from the shipper to the loading station, (b) rail service, (c) road transport to the final shipper.

Figure 23. Calculation of time and cost for a block train



<b>1</b>	Transport of container by truck from original shipper to main train station to be loaded on the train, loading/documentation expenses
<b>2</b>	Block Train Service: Rail transport of container from Berlin to Vostochny. Composition of time schedule and tariff costs.
<b>3</b>	Delivery of the container by truck from the final unloading station to the final shipper. Unloading / documentation expenses.

Source: Author’s publications

### Time schedule analysis

The formulation of an integrated time schedule for a block train is a complex task. The number of countries, operating conditions in these countries, stopovers and the reasons for these stopovers all directly influence the time schedule. Regional characteristics are also important and constitute significant factors. For instance, in CIS countries there are transshipment stopovers due to gauge changes and security. In West European countries, there are stopovers because of passenger train priority. All these reasons influence the final time schedule and time schedule operators should analyze all parameters in order to finalize the total traveling time, departure and arrival time.

The timetable of a block train is equally important as its operation. The timetable and its reliability are the most important marketing tools of train operators, even more so than tariffs, and track and trace services. The development of timetable and its reliable implementation is a particularly difficult and laborious task, not only because of the usual factors that influence transportation but also because of the particularities of a specific route.

#### The gauge issue

The standard gauge of 1,435 mm has been adopted in many parts of the world, across North America and most of Western Europe. It accounts for about 60% of the world's railways. Other gauges have been adopted as well such as the broad gauge (1,520 mm) in the former Soviet Union accounting for about 17% of railways. This makes integration of rail services difficult since both freight and passengers are required to change from one railway system to the other in France and Spain, Eastern and Western Europe, and between Russia and China. The potential of the Euro-Asian land bridge is limited in part by these gauge differences.

6.1.10.

6.1.11.

#### Field Experience

The author has extensive experience in running demonstration trains, mainly in Central Asia and in the Balkans. The following are actual data for traveling time in different countries.

The speed of the train will be calculated by using the following formula:

$$\text{Average traveling time (km/hr)} = \frac{\text{Total route kilometers}}{\text{Total traveling time (traveling + stopovers)}}$$

id	Country runs	Total km traveled	Total time (hrs)	Avg speed (km/hr)
1	Iran	2,345	112.2	21
2	Turkey	1,995	84	23
3	Turkmenistan	469	32.15	14
4	Kazakhstan	969	27.56	35
5	Bulgaria	174	11	16
6	Greece	170	8	21.25
7	Uzbekistan	670	40.18	17

#### Published Case Studies

id	Route runs	Total km traveled	Total time (days)	Avg speed
8	Peking - Hamburg <sup>96</sup>	9,992	15	27.75
9	Vesoul - Kaluga <sup>97</sup>	3,000	5	25
10	Tran Siberian <sup>98</sup>	9,349	11	35
11	Tianjin (China) to Ulaanbaatar (Mongolia)	1,691	3	22.4
12	Lianyungang (China) to	5,020	7	28.8

<sup>96</sup> DB Block Train, Railway Market - GEE Review No 1, 2008

<sup>97</sup> PEUGEOT BLOCK TRAIN, CIT Newsletter, February 2010

<sup>98</sup> Tran Siberian Block Train, presentation of Russian Railways at UNECE

	Almaty (Kazakhstan)			
13	Brest (Belarus) to Ulaanbaatar (Mongolia)	7,180	9	30,7
14	Nakhodka (Russian Federation) to Malaszewicze (Poland) <sup>99</sup>	10,335	12	35
15	Islamabad to Istanbul <sup>100</sup>	6,566	11	24.9

Figure 24 summarizes the average train speed in the three regions.

Figure 24. Average train speed

EU	Asia <sup>101</sup>	CIS
26 km/hour	21 km/hour	34 km/hour

Source: Author's analysis

This is not the actual speed of the train but the speed of the total traveling time, meaning actual traveling time and stopovers.

These average train speeds will be applied to time schedules wherever actual data were unavailable<sup>102</sup>. It should be noted that waiting time at borders is not an important factor for this kind of services - block trains - mainly because these services are result of governments or state-owned railways agreements. In these cases, borders crossings are part of the common consensus concerning the operations of these trains which implies non-stop rail service.

#### Afghanistan

Afghanistan is a large, landlocked country with movements severely limited by rugged terrain. The country has less than 25 km of railroad track, which is used for shipping goods to/from Turkmenistan and Uzbekistan.

#### Armenia

##### **Bagratashen - (Georgian border) - Akhuryan (Turkish Border)**

id	Route	Distance (km)	Time (hours)
1	Bagratashen - Uzunla	48	
2	Uzunla - Tumanyan - Kirovakan	37.6	
3	Kirovakan - Spitak - Gyumri - Akhuryan	75.5	
<b>Total</b>		<b>161</b>	<b>8</b>

#### Azerbaijan

<sup>99</sup> UNESCAP Demonstration Runs

<sup>100</sup> ECO Demonstration Run

<sup>101</sup> Asian countries excluding the ones including at CIS

<sup>102</sup> When no actual data concerning distance in kilometers between stations or even for the whole length of one country's railroads were available, combined data from Google earth, Autoroute Microsoft GIS software and different maps was used.



**Astara- (Iranian border) - Beyuk Kesik (Georgian Border)**

id	Route	Distance (km)	Time (hours)
1	Astara - Lenkoran - Bal'yany - Quazimamad	235	
2	Quazimamad - Kyurdamir - Udzhary - Yevlakh	276	
3	Yevlakh - Dilmameldi - Tauz	88.2	
4	Tauz - Akstafa - Beyuk Kesik	67.8	
<b>Total</b>		<b>667</b>	<b>32.25</b>

Belarus

**Redki (Russian border) - Brest (Polish Border)**

id	Route	Distance (km)	Time (hours)
1	Redki - Orsha	45.9	
2	Orsha - Minsk	221.3	
3	Minsk - Brest	346	
<b>Total</b>		<b>613.2</b>	<b>18</b>

**Novaya Guta - (Ukrainian border) - Brest (Polish Border)**

id	Route	Distance (km)	Time (hours)
1	Novaya Guta - Gomel	22	
2	Gomel - Minsk	298.1	
3	Minsk - Brest	346	
<b>Total</b>		<b>666.1</b>	<b>20</b>

**Novaya Guta - (Ukrainian border) - Godogay (Lithuanian Border)**

id	Route	Distance (km)	Time (hours)
1	Novaya Guta - Gomel	22	
2	Gomel - Minsk	298.1	
3	Minsk - Gudogay	100	
4	Gudogay - Lithuanian borders	45	
<b>Total</b>		<b>465</b>	<b>14</b>

Bulgaria

**Kulata (Greek Border) - Ruse (Romanian Border)**

id	Route	Distance (km)	Time (hours)
1	Kulata - Sofia	174	
2	Sofia - Mezdra	83.5	
3	Mezdra - Pleven	101	
4	Pleven - Gorna Orjahoviga	119.3	
5	Gorna Orjahoviga - Ruse	13	
<b>Total</b>		<b>490.8</b>	<b>19.5</b>

China

**Shanghai port (China) - Alataw Shankou (Kazakhstan Border)**

id	Route	Distance (km)	Time (hours)
1	Shanghai - Nanjing	269.1	
2	Nanjing - Xuzhou	287.53	
3	Xuzhou - Xian	754.27	
4	Xian - Lanzhou	506.39	
5	Lanzhou - Shulehe	437.21	
6	Shulehe - Urumci	1,199.82	
7	Urumci - Alataw Shankou	430.19	
<b>Total</b>		<b>3,884.51</b>	<b>185.5</b>

Georgia

**Gardabani (Azerbaijan border) - Poti (Georgian Port)**

id	Route	Distance (km)	Time (hours)
1	Gardabani - Vell	34.81	
2	Vell - Tbilisi	13.6	
3	Tbilisi - Kashuri	104.04	
4	Kashuri - Kutaisi	78.32	
5	Kutaisi - Samtredia	32.17	
6	Samtredia - Poti	54.69	
<b>Total</b>		<b>317.63</b>	<b>9.5</b>

Germany

**Oder (Polish Border) - Hamburg (German port)**

id	Route	Distance (km)	Time (hours)
1	Oder - Berlin	114.5	
2	Berlin - Wittenberge	188.5	
3	Wittenberge - Ludwigslust	52.4	
4	Ludwigslud - Hamburg	118.4	
<b>Total</b>		<b>473.8</b>	<b>18.3</b>

Greece

**Athens - Pireaus (Greek capital) - Promachon (Bulgarian Border)**

id	Route	Distance (km)	Time (hours)
1	Athens - Lianokladion	157.07	

2	Lianokladion - Paleofarsalos	45.13	
3	Paleofarsalos - Larissa	37.62	
4	Larissa - Thessalonica	300.18	
5	Thessalonica - Strimon	120	
6	Strimon - Promachon	50	
<b>Total</b>		<b>710</b>	<b>27</b>

Iran

**Zahedan (Pakistani border) to Kapikoy (Turkey)**

id	Route	Distance (km)	Time (hours)
1	Zahedan - Bam	288	
2	Bam - Kerman	225	
3	Kerman- Bafgh	216	
4	Bafgh - Yazd	117	
5	Yazd - Kashan	363	
6	Kashan - Mohammadiéh	81	
7	Mohammadiéh - Aprin	123	
8	Aprin - Qazvin	144	
9	Qazvin - Zanzan	171	
10	Zanzan - Mianeh	124	
11	Mianeh - Maraqeh	168	
12	Maraqeh - Tabriz	129	
13	Tabriz - Samas	151	
14	Samas - Razi	40	
15	Razi - Kapikoy	5	
<b>Total</b>		<b>2,345</b>	<b>112.2</b>

**Bandar Abbas (Iranian Port) to Sarakhs (Turkmen Border)**

id	Route	Distance (km)	Time (hours)
1	Bandar Abbas - Sirjan	359	
2	Sirjan - Mobarakeh	321	
3	Mobarakeh - Tabas	275	
4	Tabas - Torbat Heydarieh	334	
5	Torbati Heydarieh - Sarakhs	330	
<b>Total</b>		<b>1,619</b>	<b>52</b>

**Kapikoy (Turkish Border) to Sarakhs (Turkmen Border)**

id	Route	Distance (km)	Time (hours)
1	Kapikoy - Razi	5	
2	Razi - Samas	40	
3	Samas - Tabriz	151	
4	Tabriz - Maraqeh	129	
5	Maraqeh - Mianeh	168	
6	Mianeh - Zanzan	124	
7	Zanzan - Qazvin	171	
8	Qazvin - Aprin	144	

9	Aprin - Semnan	223	
10	Semnan - Neyshabur	560	
11	Neyshabur - Sarakhs	257	
<b>Total</b>		<b>1,972</b>	<b>63</b>

## Kaliningrad

### *Kaliningrad (Russia) - (Lithuanian border)*

id	Route	Distance (km)	Time (hours)
1	Lithuanian Borders - Kalinigrad	145	
<b>Total</b>		<b>145</b>	<b>4.2</b>

## Kazakhstan

### *Almaty (Kazakhstan) to Sary Agash (Uzbek Border)*

id	Route	Distance (km)	Time (hours)
1	Almaty - Otar	156	
2	Otar - Shu	155	
3	Shu - Taraz	233	
4	Taraz - Tulkubas	31	
5	Tulkubas - Shymkent	187	
	Shymkent - Arys	79	
	Arys - Sary Agash	128	
<b>Total</b>		<b>969</b>	<b>28</b>

### *Ucharal (Chinese border) to Petropavi (Russian Border)*

id	Route	Distance (km)	Time (hours)
1	Ucharal - Moynly	494	
2	Moynly - Karaganda	946.23	
3	Karaganda - Astana	1,136.56	
4	Astana - Kokchetav	1,438	
5	Kokchetav - Petropavi	1,657	
<b>Total</b>		<b>1,657</b>	<b>48</b>

### *(Uzbek border) to (Russian Border)*

id	Route	Distance (km)	Time (hours)
1	U.B. - Beyneu	78.73	
2	Beyneu - Makat	293.93	
3	Makat - Atyrau	123.56	
4	Atyrau - Russian Borders	226.59	
<b>Total</b>		<b>722.81</b>	<b>21.5</b>

### *Ucharal (Chinese border) to Sary Agash (Uzbek Border)*

id	Route	Distance (km)	Time (hours)
1	Ucharal - Almaty	765.97	
2	Almaty - Otar	156	
3	Otar - Shu	155	
4	Shu - Taraz	233	
5	Taraz - Tulkubas	31	
6	Tulkubas - Shymkent	187	
7	Shymkent - Arys	79	
8	Arys - Sary Agash	128	
<b>Total</b>		<b>1,734.97</b>	<b>53</b>

## Kyrgyzstan

### *Bishkek (capital) to Batyr (Kazakh Border)*

id	Route	Distance (km)	Time (hours)
1	Bishkek - Kara Balta	62	
2	Kara Balta - Batyr	53	
<b>Total</b>		<b>115</b>	<b>7.5</b>

## Latvia

### *Zilupe (Russian border) - Riga Port*

id	Route	Distance (km)	Time (hours)
1	Zilupe - Rezekne	60,6	
2	Rezekne - Koknese	137,7	
3	Koknese - Aizkraukle	12,4	
4	Aizkraukle - Riga	87,8	
<b>Total</b>		<b>298.5</b>	<b>12</b>

## Lithuania

### *(Kaliningrad border) - Godogay (Ukrainian Border)*

id	Route	Distance (km)	Time (hours)
1	Gudogay - Vilnius	31.75	
2	Vilnius - Prienai	84.77	
3	Prienai - Vilkaviskis	59.63	
4	Vilkaviskis - Borders	27	
<b>Total</b>		<b>203.15</b>	<b>6</b>

6.1.12.

Moldova

*Ungheni (Romanian border) - Kuchurgan (Ukranian border)*

id	Route	Distance (km)	Time (hours)
1	Ungheni - Chisinau	74.1	
2	Chisinau - Revaka	25.1	
3	Revaka - Bender	34.4	
4	Bender - Kuchurgan	43.1	
<b>Total</b>		<b>176.7</b>	<b>8.67</b>

Mongolia

*(Chinese Border) - (Russian Border)*

id	Route	Distance (km)	Time (hours)
1	Chinese borders - Ulaan Bataar	636.35	
2	Ulaan Bataar - Russian borders	240.61	
<b>Total</b>		<b>876.96</b>	<b>42.25</b>

Poland

*Terespól (Belarussian border) - Rzepin (German border)*

id	Route	Distance (km)	Time (hours)
1	Terespól - Warszawa	191.9	
2	Warszawa - Kutno	123	
3	Kutno - Poznan	183.7	
4	Poznan - Rzepin	163.7	
<b>Total</b>		<b>662.3</b>	<b>25.8</b>

*(Ukranian border) - Warsaw (capital)*

id	Route	Distance (km)	Time (hours)
1	Medyka - Warsaw	373	
<b>Total</b>		<b>373</b>	<b>14.34</b>

Romania

*Constanta (Port) - Bucarest (capital)*

id	Route	Distance (km)	Time (hours)
1	Constanta - Medgidia	37.1	
2	Medgidia - Fetesti	40.1	
3	Fetesti - Bucarest	145.4	
<b>Total Kilometers</b>		<b>222.6</b>	<b>9</b>

*Giurgiu (Bulgarian border) - Vicsani (Ukranian border)*

id	Route	Distance (km)	Time (hours)
1	Giurgiu - Bucarest	62.6	
2	Bucarest - Ploiesti	58.9	
3	Ploiesti - Buzau	70.9	
4	Buzau - Focsani	70.5	
5	Focsani - Adjud	46.3	
6	Adjud - Roman	100	
7	Roman - Pascani	69.8	
8	Pascani - Suceava	69.8	
9	Suceava - Vicsani	20.7	
<b>Total</b>		<b>569.5</b>	<b>22.5</b>

*Giurgiu (Bulgarian border) - Jijia (Moldovian border)*

id	Route	Distance (km)	Time (hours)
1	Giurgiu - Bucarest	62.6	
2	Bucarest - Ploiesti	58.9	
3	Ploiesti - Buzau	70.9	
4	Buzau - Focsani	70.5	
5	Focsani - Adjud	46.3	
6	Adjud - Roman	100	
7	Roman - Pascani	69.8	
8	Pascani - Iasi	21.8	
9	Iasi - Jijia	41.8	
<b>Total</b>		<b>542.6</b>	<b>21.5</b>

Russian Federation

*Moscow (Russia) to Vostochny (Russia)*

id	Route	Distance (km)	Time (hours)
1	Moscow - Kirov	836	
2	Kirov - Yekaterinburg	238	
3	Yekaterinburg - Omsk	1,546	
4	Omsk - Novosibirsk	629	
5	Novosibirsk - Krasnoyarsk	778	
6	Krasnoyarsk - Irkutsk	1,056	
7	Irkutsk - Chita	1,018	
8	Chita - Belogorsk	1,679	

9	Belogorsk - Khabarovsk	661	
10	Khabarovsk - Vostochny	908	
<b>Total</b>		<b>9,349</b>	<b>275.6</b>

***St. Petersburg (Russian Port) to Moscow (capital)***

id	Route	Distance (km)	Time (hours)
1	St. Petersburg - Moscow	860	
<b>Total</b>		<b>860</b>	<b>25.5</b>

***St. Petersburg (Russian Port) to (Kazakh border)***

id	Route	Distance (km)	Time (hours)
1	St. Petersburg - Moscow	860	
2	Moscow - Ryazan	183.89	
3	Ryazan - Tambov	237.11	
4	Tambov - Saratov	344.23	
5	Saratov - Volgograd	330.54	
6	Volgograd - Aksarayskaya	373.78	
7	Aksarayskaya - Kazakhstan borders	85.37	
<b>Total</b>		<b>2,415</b>	<b>71</b>

***Solovey (Ukrainian Border) to Vladivostok (Russian Port)***

id	Route	Distance (km)	Time (hours)
1	Solovey - Liski	135	
2	Liski -Penza	448.26	
3	Penza - Samara	344.44	
4	Samara - Kurgan	1,015.33	
5	Kurgan - Omsk	513.06	
6	Omsk - Novosibirsk	629	
7	Novosibirsk - Krasnoyarsk	778	
8	Krasnoyarsk - Irkutsk	1,056	
9	Irkutsk - Chita	1,018	
10	Chita - Belogorsk	1,679	
11	Belogorsk - Khabarovsk	661	
12	Khabarovsk - Vladivostok	908	
<b>Total</b>		<b>9,185.09</b>	<b>270</b>

***Gukovo (Ukrainian border) to (Kazakh border)***

id	Route	Distance (km)	Time (hours)
1	Gukovo - Volgograd	390.4	
2	Volgograd - Aksarayskaya	373.78	
3	Aksarayskaya - Kazakhstan borders	85.37	
<b>Total</b>		<b>849.55</b>	<b>25</b>

***Novorossiysk (Russian Port) to Uspenskaya (Ukrainian border)***

id	Route	Distance (km)	Time (hours)
1	Novorossiysk - Krasnodar	100.86	
2	Krasnodar - Rostov	250.60	



3	Rostov - Uspenskaya	86.73	
<b>Total</b>		<b>438.20</b>	<b>13</b>

## Tajikistan

### *Dushanbe (capital) to Saryasiya (Uzbek border)*

id	Route	Distance (km)	Time (hours)
1	Dushanbe - Pahtaabad	44	
2	Pahtaabad - Saryasiya	5	
<b>Total</b>		<b>49</b>	<b>3.5</b>

## Turkey

### *Kapikoy (Iranian Border) to Haydarpassa (Istanbul)*

id	Route	Distance (km)	Time (hours)
1	Kapikoy - Van	113.961	
2	Van - Tatvan	-	
3	Tatvan - Elazig	335.09	
4	Elazig - Malatya	118.77	
5	Malatya - Bostankaya	223.21	
6	Bostankaya - Kayseri	197.39	
7	Kayseri - Ankara	379.94	
8	Ankara - Haydarpasa	576.61	
<b>Total</b>		<b>1,944.97</b>	<b>84</b>

## Turkmenistan

### *Sarakhs (Iranian Border) to Farap (Uzbek border)*

id	Route	Distance (km)	Time (hours)
1	Farap - Turkmenabat	22	
2	Turkmenabat - Mary	243	
3	Mary - Sarakhs	204	
<b>Total</b>		<b>469</b>	<b>32.25</b>

## Ukraine

### *Krasnaya (Russian border) - Mostiska (Polish border)*

id	Route	Distance (km)	Time (hours)
1	Krasnaya - Krasnoarmeysk	252.1	
2	Krasnoarmeysk - fastov	710.8	

3	Fastov - Zhmerinka	262.5	
4	Zhmerinka - Temopol	255.7	
5	Temopol - Mostiska	207	
<b>Total</b>		<b>1,688.1</b>	<b>50</b>

***Solovey (Russian border) - Kiev (capital)***

id	Route	Distance (km)	Time (hours)
1	Solovey - Kharkov	152.41	
2	Kharkov - Poltava	123.57	
3	Poltava - Kiev	302.79	
<b>Total</b>		<b>578.77</b>	<b>17,14 hrs ?? ??</b>

***Kvashino (Russian border) - Chernihiv (Belarussian Border)***

id	Route	Distance (km)	Time (hours)
1	Kvashino - Donetsk	80.14	
2	Donetsk - Dnepropetrovsk	213.83	
3	Dnepropetrovsk - Fastov	410.53	
4	Fastov - Kiev	60.25	
5	Kiev - Nizhym	116	
6	Nizhym - Chernihiv	65.48	
7	Chernihiv- Belarussian borders	67.56	
<b>Total</b>		<b>1,013.81</b>	<b>30</b>

Uzbekistan

***Sary Agash (Kazakh Border) to Khodjadavlet (Turkmen border)***

id	Route	Distance (km)	Time (hours)
1	Sary Agash - Tashkent	10	
2	Tashkent - Khavast	119	
3	Khavast - Marokand	202	
4	Marokand - Bukhara	249	
5	Bukhara - Khodjadavlet	90	
<b>Total</b>		<b>670</b>	<b>40.3</b>

***(Kazakh Border) to Khodjadavlet (Turkmen border)***

id	Route	Distance (km)	Time (hours)
1	Kazakhstan borders - Nukus	395	
2	Nukus -Miskin	175.73	
3	Miskin - Uchkuduk	226.42	
4	Uchkuduk - Navoi	276.33	
5	Navoi - Bukhara	93	
6	Bukhara - Khodjadavlet	90	
<b>Total</b>		<b>1,256.48</b>	<b>77.3</b>

**Sary Agash (Kazakh Border) to (Kazakh border)**

id	Route	Distance (km)	Time (hours)
1	Sary Agash - Tashkent	10	
2	Tashkent - Khavast	119	
3	Khavast - Marokand	202	
4	Marokand - Navoi	143	
5	Navoi - Uchkuduki	276.33	
6	Uchkuduki - Miskin	226.42	
7	Miskin - Nukus	175.73	
8	Nukus - Kazakhstan Borders	395	
<b>Total</b>		<b>1,547.48</b>	<b>95</b>

## Tariff rates and structure

There are many tariffs used in rail transport - even within the same country. Factors that typically influence tariff structure and their level are:

- Different tariffs for the same routes are quoted by forwarders and state rail organizations
- State rail organizations charge different clients differently. A forwarder, a shipper, a small trader with one container or a big manufacturer with 1000 containers per year pay different tariffs
- The actual - charged - tariffs are different than the published tariffs
- Tariffs differ depending whether:
  - o it is bulk or container cargo
  - o it is carried in wagons or by a block train
  - o the client is a forwarder or a shipper
  - o the amount cargo is large
  - o it is long term contract with a guarantee for the quantity
  - o terms of payment are favourable or not
  - o \$/€ per train kilometer or per container, or container kilometers etc

Figure 25 provides tariff rates that are currently applied in some countries. All the actual tariffs have been provided through the questionnaires or directly to the consultant by the rail organizations (and not by forwarders or shippers). These are average rates which could be reduced through further negotiations but will be used here. In general, for the purposes of the project these tariffs are adequate to illustrate the average pricing. Wherever there was not any information about the tariffs in a country, the regional average was used.

Figure 25. Rail Tariffs

	20'' full container (per container)	40'' full container (per container)	20'' full container (per km)	40'' full container (per km)	20'' empty container (per km)	40'' empty container (per km)
Afghanistan			-	-		
Armenia			0.52	0.64		
Azerbaijan			0.52	0.64		
Belarus			0.48	0.55		
Bulgaria			0.75	0.85		
China			0.40	0.50		
Georgia			0.48	0.55		
Germany			0.75	0.85		

Greece			0.75	0.85		
Iran	747	1,093	0.46	0.68	0.23	0.34
Kazakhstan	614	989	0.64	1.03	0.31	0.48
Kyrgyzstan			0.48	0.55		
Latvia			0.75	0.85		
Moldova			0.48	0.55		
Mongolia			0.40	0.50		
Poland			0.75	0.85		
Romania			0.75	0.85		
Russian Federation			0.48	0.55		
Tajikistan			0.55	0.75		
Turkey	621	822	0.31	0.41	0.23	0.29
Turkmenistan	692	1,254.8	1.4	2.6		
Ukraine			0.48	0.55		
Uzbekistan	462.58	832.24	0.64	1.4	0.38	0.67

Note: Rates in US dollars

## CHAPTER 5 Comparison of Rail and Maritime transport along EATL routes Trans Siberian Railway route<sup>103</sup>

A model has already been developed to compare two alternative transportation routes: the Trans Siberian rail route and the maritime routes. This model does not provide a comparison of the two transport options given same points of origins and destinations but determines the conditions under which the “watershed” or the final destination, should move further west or further east depending on the increase in tariffs of maritime transport or rail transport. Simulation scenarios are also studied to determine the exact location of the “watershed”.

Figure 26. The Trans Siberian Railway case study

$a$ = Maritime freight charges from Japan to Nakhodka (US\$)	$Y_R = a + bX$
$X$ = The distance from Nakhodka to the point of destination (km)	$Y_D = c + d(K - X)$
$b$ = Railway fees (US\$/km)	
$Y_R$ = Overall cost of the TSR route (US\$)	To find the point of destination, $X$ , where $Y_R = Y_D$ :
$c$ = Maritime freight charges from Japan to Saint Petersburg (US\$)	$a + bX = c + dK - dX$
$K$ = The distance from Nakhodka to Saint Petersburg (9,713km)	$X = \frac{c - a + dK}{b + d}$ which gives the watershed.
$K - X$ = The distance from Saint Petersburg to the point of destination (km)	
$d$ = The truck haulage fees from Saint Petersburg to the point of destination (US\$/km)	
$Y_D$ = Overall cost of the Deep Sea route (US\$)	

<sup>103</sup> Tsuji Hisako, The Global Financial Crisis and Trans Siberian Railway Transportation, ERINA REPORT, vol 89, September, 2009.

To find the relationships between the parameters and the watershed:

$$\frac{\partial X}{\partial c} > 0$$

The more expensive the Deep Sea fees, the further the watershed moves to the west.

$$\frac{\partial X}{\partial a} < 0$$

The more expensive the Japan-Nakhodka maritime freight charges, the further the watershed moves to the east.

$$\frac{\partial X}{\partial b} < 0$$

The more expensive the Trans-Siberian Railway fees, the further the watershed moves to the east.

$$\begin{aligned} \frac{\partial X}{\partial d} &= \frac{K(b+d) - (c-a+dK)}{(b+d)^2} \\ &= \frac{bK - c + a}{(b+d)^2} > 0 \text{ If } bK + a > c \end{aligned}$$

As long as the cost of transportation via the TSR route to Saint Petersburg ( $bK + a$ ) is higher than the cost of transportation via the Deep Sea route to Saint Petersburg ( $c$ ), then a rise in truck haulage fees will move the watershed to the west. Hypothetically, regarding transportation bound for Saint Petersburg, if the TSR route were cheaper than the Deep Sea route, there would be a situation where the watershed ceased to be inside Russia, as it is thought all freight would use the TSR route.

## Simulation Results

Case I (Basic Model): Assumes values of US\$1,000 for the maritime freight charges from Japan to Nakhodka ( $a$ ) and US\$2,500 for the Deep Sea charges to Saint Petersburg ( $c$ ). For the railway fees, the 9,314km between Nakhodka and Moscow is taken as costing \$4,000, meaning that  $b = \text{US}\$0.43/\text{km}$ . For truck haulage fees the 400km between Saint Petersburg and Moscow is taken as costing US\$1,500, meaning that  $b = \text{US}\$3.75/\text{km}$ . Under these assumptions  $X = 9,072\text{km}$  and the watershed lies 242km east of Moscow.

Case II: When the maritime freight charges from Japan to Nakhodka ( $a$ ) are raised from US\$1,000 to US\$2,000, the watershed moves to a point 481km east of Moscow. Japan-Nakhodka maritime freight charges are widely held to be approximately US\$1,000 more expensive than those between the ROK and Nakhodka, and if all other conditions are equal, it can be considered that the watershed for Japan lies further east than is the case for the ROK.

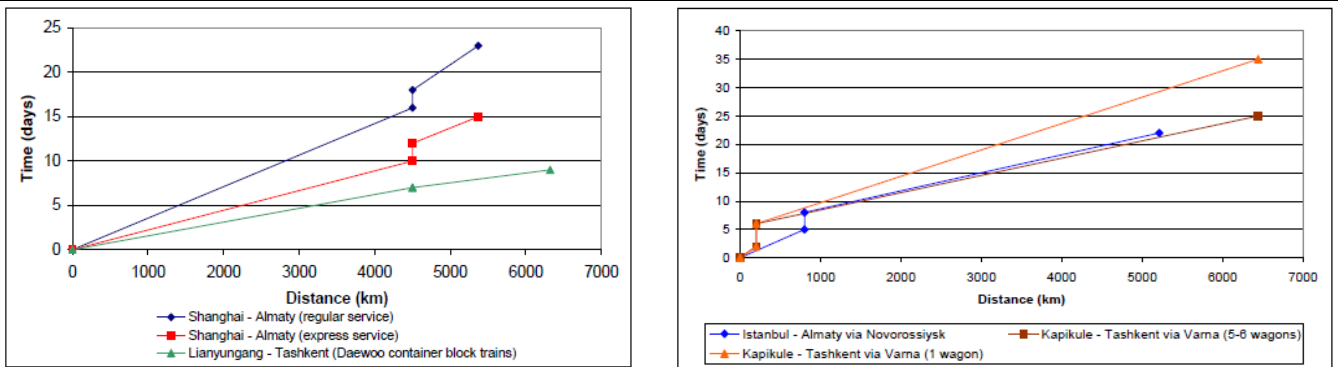
Source: Tsuji Hisako, *The Global Financial Crisis and Trans Siberian Railway Transportation ERINA REPORT*, vol. 89 2009

## The UNESCAP block trains report <sup>104</sup>

United Nations ESCAP performed an analysis concerning the development of block trains for the region of Central Asia, specifically for Kazakhstan and Uzbekistan. This analysis produced the following results.

<sup>104</sup> <http://www.unescap.org/ttdw/common/TIS/TAR/operationalization.asp>

Figure 27. Time-Cost-Distance analysis, 2006



Source UNESCAP

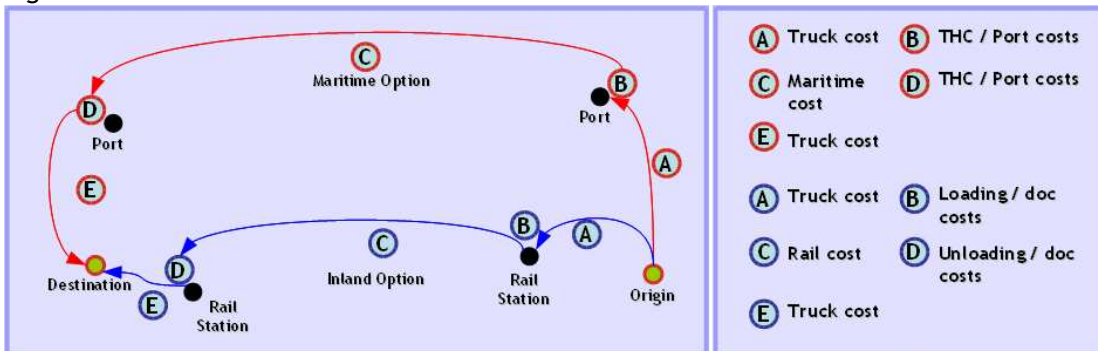
Minimum and maximum transit times for regular and express rail services from ports in China to Kazakhstan are 15 and 23 days respectively (Figure 30). The significant difference of eight days is partly caused by the transfer time at the border between China and Kazakhstan, which includes break-of-gauge, transshipping and processing of customs documentation. Meanwhile, data on the container block trains established for shipments from Daewoo Corporation in the Republic of Korea via the Chinese port of Lianyungang reveal that a transit time of nine days is possible.

The existing break-of-gauge points at Drushba/Alashankou (China/Kazakhstan), Sarakhs (Turkmenistan/Islamic Republic of Iran) and Brest (Belarus/Poland) are operational hindrances, but do not cause exceptional delays compared with the existing institutional barriers which represent the main reasons for long waiting times and delays at border crossing points. Reported transit times for railway transport routes between destinations in Central Asia and various ports vary between 9 and 35 days.

### Comparative analysis of EATL rail and maritime transport

The route and cost structure is determined in the way presented in Figure 28.

Figure 28. Route and cost structure



Source: Author's analysis -

- ☑ Identify the origin of the cargo/shipper (“Origin”)
- ☑ Identify the final destination where the cargo is to be delivered (“Destination”)
- ☑ Identify the maritime and inland route between “Origin” and “Destination”

Maritime transport option:

- ☑ Identify the closest port to “Origin” location
- ☑ Calculate the distance (km) for road transport (by truck) from the “Origin” location to the closest port; calculate the corresponding cost
- ☑ Calculate the port costs such as handling and other costs
- ☑ Identify the closest and most convenient port for the “Destination” location; calculate the traveling time and costs from one port to another
- ☑ Calculate the costs at the port of close to “Destination”
- ☑ Calculate the distance (km) for road transport (by truck) from that port to the “Destination” location B; calculate the corresponding costs

Inland transport option

- ☑ Calculate the distance (km) for road transport from the “Origin” location to the closest the train (loading) station
- ☑ calculate the costs at the loading station such as loading, documentation, customs
- ☑ Determine the time schedule for the rail service and the corresponding cost
- ☑ Calculate the costs at the unloading station
- ☑ Calculate the distance (km) and costs for road transport from the unloading station to the “Destination” location

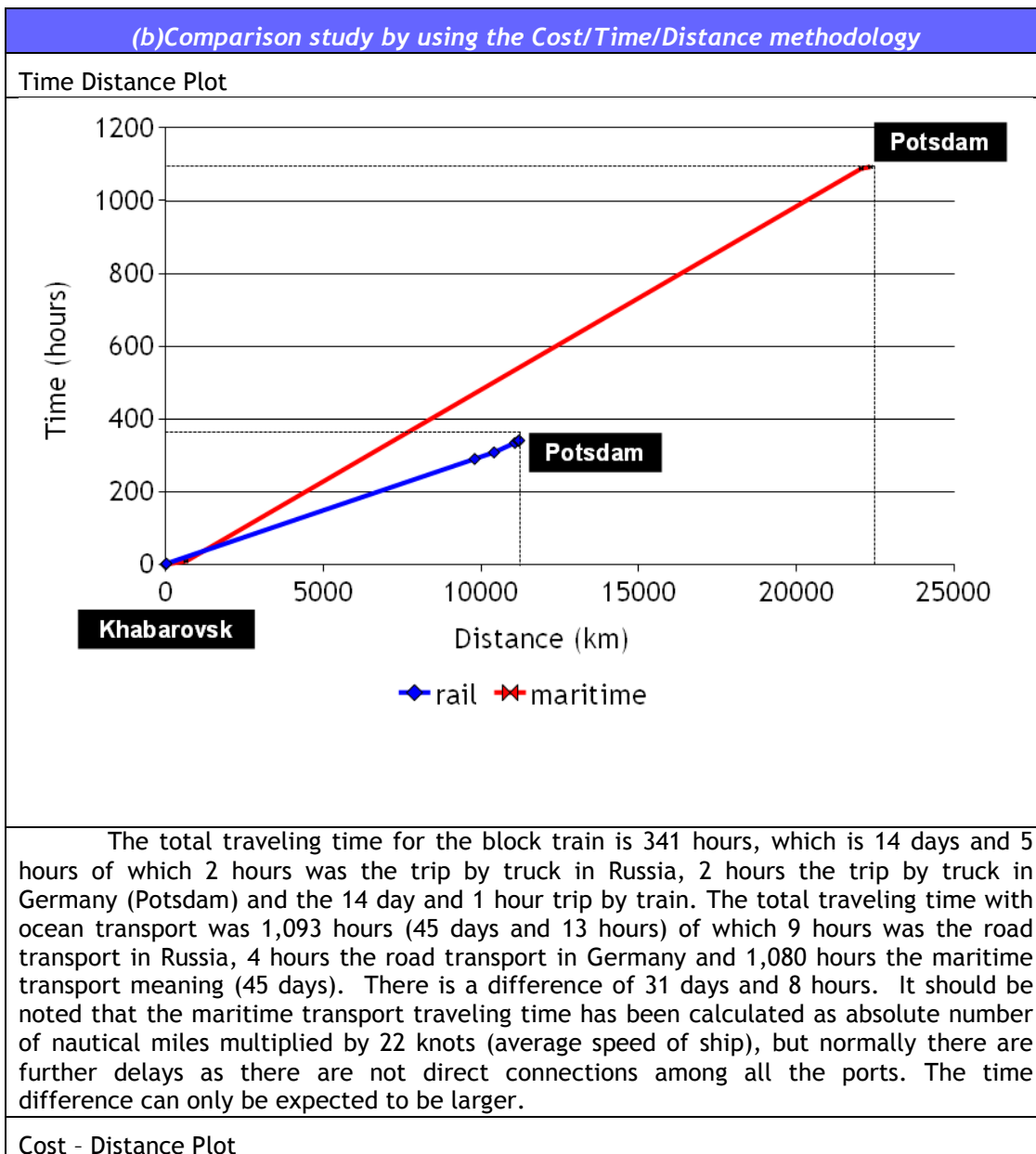


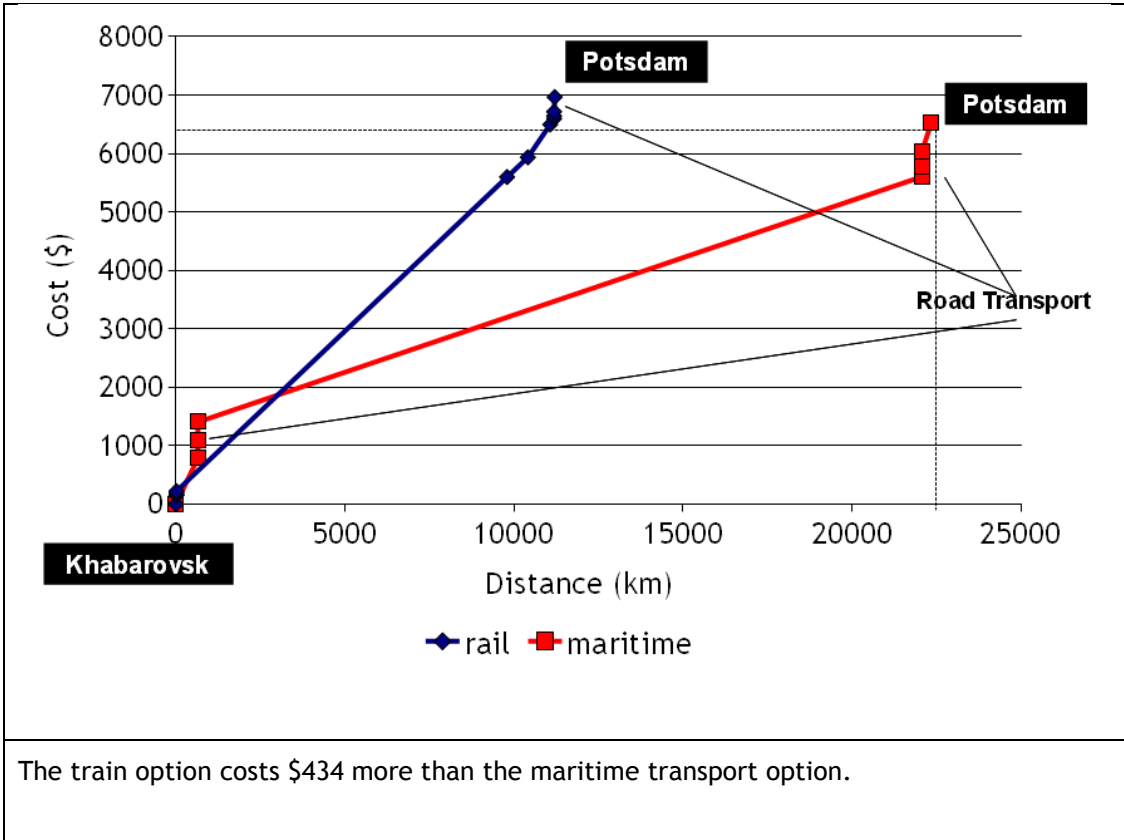
Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

MARITIME TRANSPORT: Khabarovsk (via Vostochny Port) - Potsdam (via Hamburg Port)			
Route	km	Cost(\$)	Time (hrs)
Khabarovsk - Vostochny port (by road)	653	783	9
Vostochny port THC costs	-	300	-
Vostochny port other costs	-	320	-
Vostochny port - Hamburg port (by sea)	21,414	4,200	1,080
Hamburg port THC costs	-	180	-
Hamburg port other costs	-	250	-
Hamburg port - Potsdam (by road)	282	500	4
<u>Total maritime transport</u>	<u>21,414</u>	<u>5,250</u>	<u>1,080</u>
<u>Total road transport</u>	<u>935</u>	<u>1,283</u>	<u>13</u>
<b>TOTAL</b>	<b>22,349</b>	<b>6,533</b>	<b>1,093</b>
INLAND TRANSPORT: Khabarovsk - Potsdam			
Route	km	Cost(\$)	Time (hrs)
Khabarovsk - Khabarovsk rail station by road	20	150	2
Khabarovsk rail station loading cost	-	30	-
Khabarovsk rail station other costs	-	40	-
Russia (Vostochny - Redki) by rail	9,779	5,378	288
Belarus (Redki - Brest) by rail	613	337	18
Poland (Terespol - Rzepin) by rail	662	562	26
Germany (Oder - Berlin) by rail	114	100	5
Potsdam rail station unloading cost	-	45	-



Potsdamrail station other costs	-	75	-
Potsdam rail station - Potsdam by road	20	250	2
<u>Total rail transport</u>	<u>11,168</u>	<u>6,567</u>	<u>337</u>
<u>Total road transport</u>	<u>40</u>	<u>400</u>	<u>4</u>
<b>TOTAL</b>	<b>11,208</b>	<b>6,967</b>	<b>341</b>





**6.3. EATL ROUTE 2 [from Hangzhou (China-Origin) to Kaluga (Russia-Destination)]**



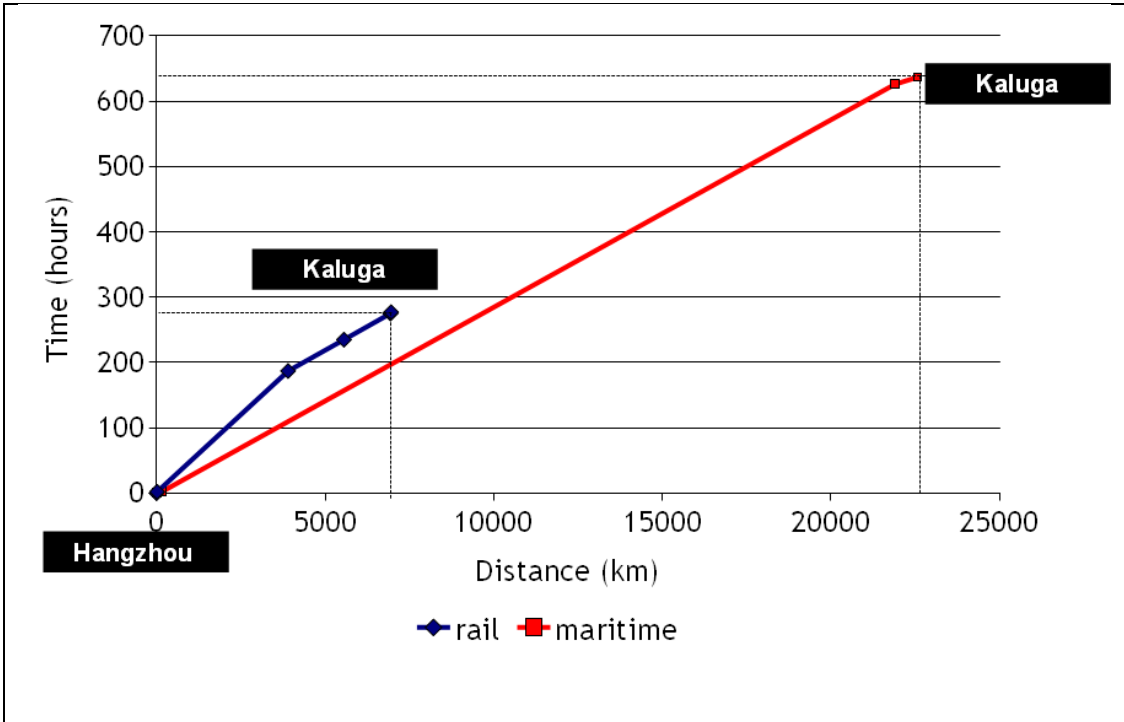
Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

MARITIME TRANSPORT: Hangzhou (via Shanghai port) - Kaluga (via Saint Petersburg port)			
Route	km	Cost(\$)	Time (hrs)
Hangzhou - Shanghai port by road	158	220	2
Shanghai port THC costs	-	100	-
Shanghai port other costs	-	150	-
Shanghai port - Saint Petersburg port by sea	21,733	5,000	624
Saint Petersburg port THC costs	-	250	-
Saint Petersburg port other costs	-	250	-
Saint Petersburg port - Kaluga by road	680	816	11 hrs
<b>Total maritime transport</b>	<b>21,733</b>	<b>5,750</b>	<b>624</b>

<u>Total road transport</u>	<u>838</u>	<u>1,036</u>	<u>13</u>
<b>TOTAL</b>	<b>22,571</b>	<b>6,786</b>	<b>637</b>
<b>RAIL TRANSPORT: Hangzhou - Kaluga</b>			
<b>Route</b>	<b>km</b>	<b>Cost(\$)</b>	<b>Time(hrs)</b>
Hangzhou - Hangzhou rail station by road	20	100	2
Hangzhou rail station loading cost	-	25	-
Hangzhou rail station other costs	-	30	-
China (Shanghai - Alataw) by rail	3,884.51	1,942.25	185
Kazakhstan (Ucharal - Petropavi) by rail	1657	1,706.7	48
Russia (Petropavi - Kaluga) by rail	1374	755.7	40
Kaluga rail station unloading cost	-	25	-
Kaluga rail station other costs	-	30	-
Kaluga rail station - Kaluga by road	20	100	2
<u>Total rail transport</u>	<u>6,915.51</u>	<u>4,514.65</u>	<u>273</u>
<u>Total road transport</u>	<u>40</u>	<u>200</u>	<u>4</u>
<b>TOTAL</b>	<b>6,955.51</b>	<b>4,714.65</b>	<b>277</b>

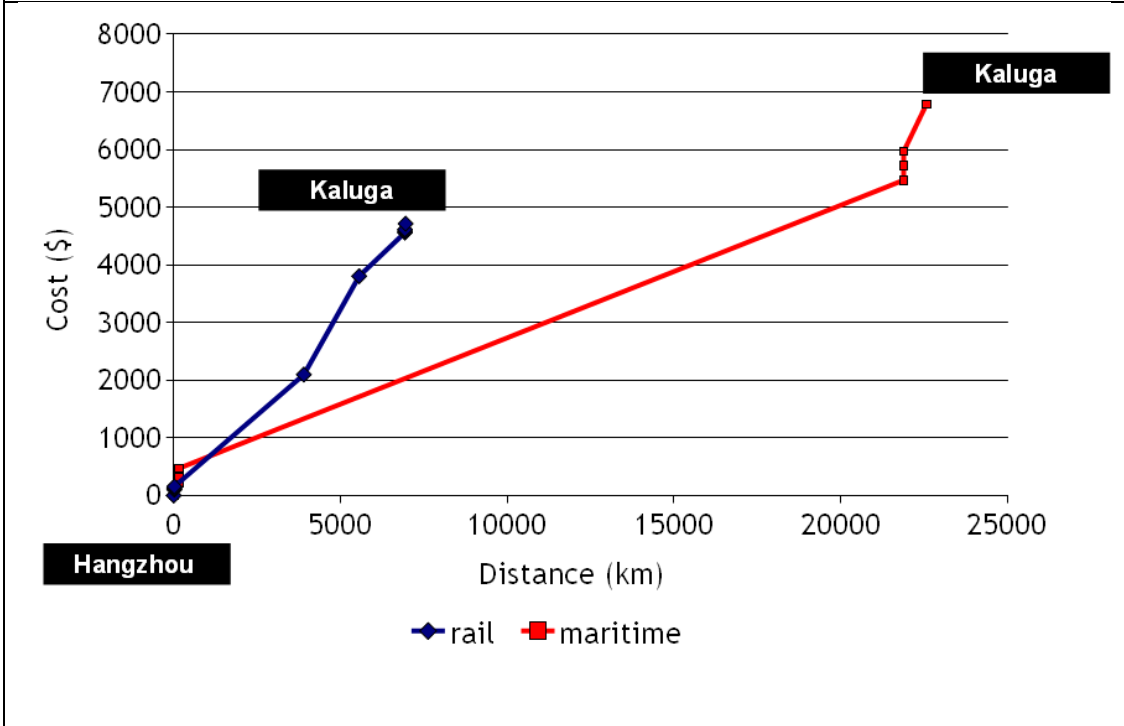
*(b) Comparison study by using the Cost/Time, distance methodology*

Time - Distance Plot



The ocean freight needs 26 days to reach Kaluga while the rail needs 11 days and 13 hours.

Cost - Distance Plot



The maritime transport is more expensive (by \$2,071) compared to the rail transport.

## 6.4. EATL ROUTE 3 [ from Tashkent (Uzbekistan -Origin) to Varna (Bulgaria - Destination)]



### Maritime Transport

**A** Truck cost

**D** THC / Port costs

**B** THC / Port costs

**E** Truck cost

**C** Maritime cost

### Rail Transport

**A** Truck cost

**D** Unloading / other costs

**B** Loading / other costs

**E** Truck cost

**C** Rail cost

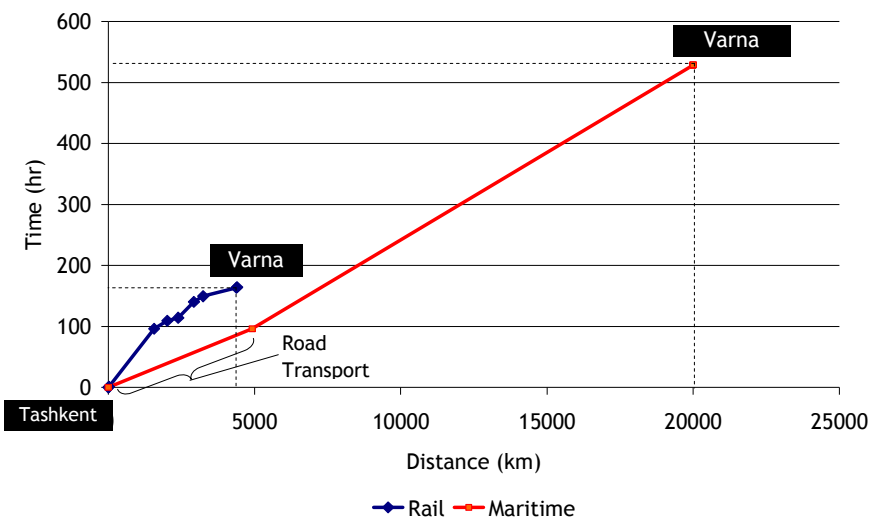
### MARITIME TRANSPORT: Tashkent (via Shanghai port) – Varna (via Varna port)

Route	km	Cost(\$)	Time(hrs)
Tashkent - Shanghai port by road	4,920	3,000	96
Shanghai port THC costs	-	100	-
Shanghai port other costs	-	150	-
Shanghai port - Varna port by sea	15,066	3,650	432
Varna port THC costs	-	250	-
Varna port other costs	-	250	-
Varna port - Varna by road	20	150	1
<b>Total maritime transport</b>	<b>15,066</b>	<b>4,400</b>	<b>432</b>

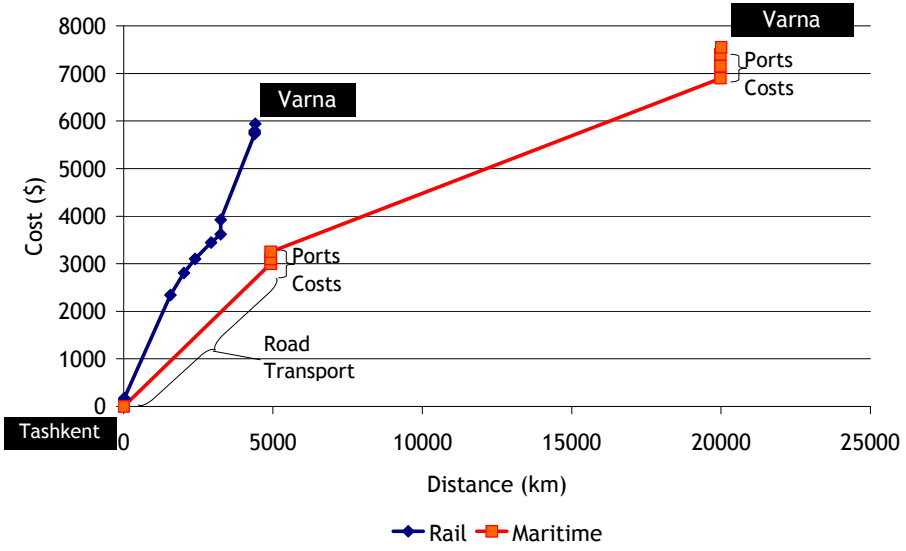
<u>Total road transport</u>	<u>4,940</u>	<u>3,150</u>	<u>97</u>
<b>TOTAL</b>	<b>20,006</b>	<b>7,550</b>	<b>529</b>
<b>RAIL TRANSPORT: Tashkent - Varna</b>			
<b>Route</b>	<b>km</b>	<b>Cost(\$)</b>	<b>Time(hrs)</b>
Tashkent - Tashkent rail station by road	20	120	1
Tashkent rail station loading cost	-	25	-
Tashkent rail station other costs	-	30	-
Uzbekistan by rail	1,547.48	2,166.4	95
Kazakhstan by rail	450	464	13.26
Caspian sea by ferry	375	300	5
Azerbaijan by rail	535.86	343	25.83
Georgia by rail	317.63	175	9.30
Port Poti costs	-	300	-
Black sea by ferry	1135	1,800	14
Varna rail station unloading cost	-	35	-
Varna rail station other costs	-	35	-
Varna rail station - Varna by road	20	150	1
<u>Total rail transport</u>	<u>2,850.97</u>	<u>3,275</u>	<u>144</u>
<u>Total sea transport</u>	<u>1,510</u>	<u>2,400</u>	<u>19</u>
<u>Total road transport</u>	<u>40</u>	<u>270</u>	<u>2</u>
<b>TOTAL</b>	<b>4,400.97</b>	<b>\$5,946</b>	<b>165</b>

*(b) Comparison study by using the Cost/Time, distance methodology*

Time - Distance Plot



Cost - Distance plot



6.5.



## 6.6. EATL ROUTE 4 [from Almaty (Kazakhstan - Origin) to Istanbul (Turkey - Destination)]



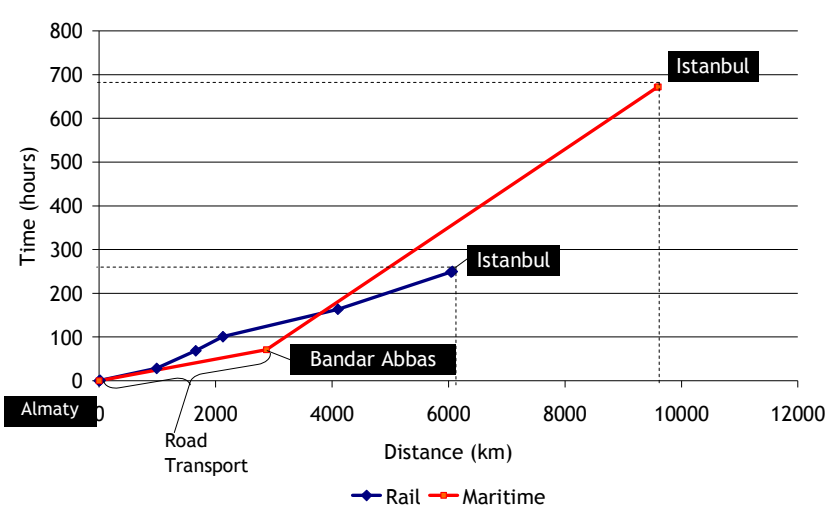
Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

MARITIME TRANSPORT: Almaty (via Bandar Abbas port) - Istanbul (via Istanbul port)			
Route	km	Cost(\$)	Time(hrs)
Almaty - Bandar Abbas port by road	2873	2,300	71
Bandar Abbas port THC costs	-	150	-
Bandar Abbas port other costs	-	150	-

Bandar Abbas port - Istanbul port by sea	6,711	1,650	25 days
Istanbul port THC costs	-	220	-
Istanbul port other costs	-	220	-
Istanbul port - Istanbul by road	20	300	1
<u>Total maritime transport</u>	<u>6,711</u>	<u>2,370</u>	<u>600</u>
<u>Total road transport</u>	<u>2,893</u>	<u>2,600</u>	<u>72</u>
<b>TOTAL</b>	<b>9,604</b>	<b>4,970</b>	<b>672</b>
<b>RAIL TRANSPORT: Almaty - Istanbul</b>			
<b>Route</b>	<b>km</b>	<b>Cost(\$)</b>	<b>Time(hrs)</b>
Almaty - Almaty rail station by road	20	150	1
Almaty rail station loading cost	-	30	-
Almaty rail station other costs	-	30	-
Kazakhstan by rail	969	998	28
Uzbekistan by rail	670	938	40
Turkmenistan by rail	469	1,220	32
Iran by rail	1,972	1,340	63
Turkey by rail	1,945	800	85
Istanbul rail station unloading cost	-	30	-
Istanbul rail station other costs	-	45	-
Istanbul rail station - Istanbul by road	20	300	1
<u>Total rail transport</u>		<u>5,431</u>	
<u>Total road transport</u>	<u>40</u>	<u>450</u>	<u>2</u>
<b>TOTAL</b>	<b>6,065</b>	<b>5,881</b>	<b>250</b>

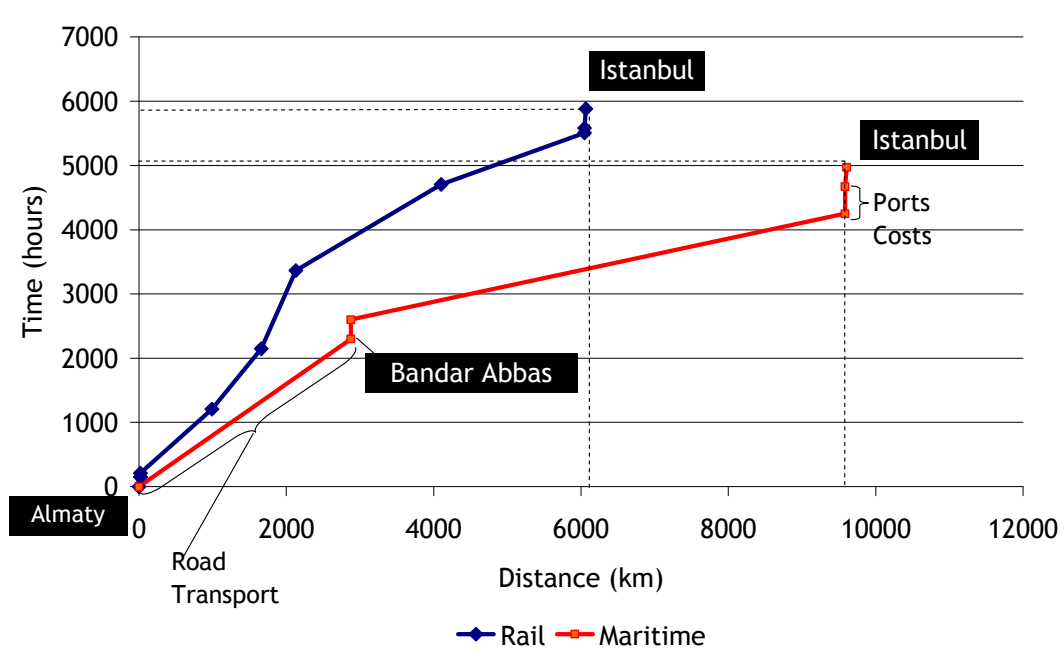
*(b) Comparison study by using the Cost/Time, distance methodology*

Time - Distance Plot



The ocean freight takes 28 days to reach location B and the rail needs 10 days; a difference of 18 days. This is acceptable as the distance from Almaty to the first port, Bandar Abbas, is long (2,873 km) - a distance that should also be served by train. Kazakhstan is a landlocked country and the location of Almaty makes the logistics challenging. Today, cargo from Istanbul to Almaty is served via Novorossiysk port in Russia and by train to Almaty. Looking at the map only, rail appears to be more competitive than maritime, but the cost analysis shows different results.

Cost - Distance Plot



The cost difference of the two routes is \$911. The plot shows clearly the extremely high prices that rail is charged in Turkmenistan and Kazakhstan. Because of the long distance between Almaty and the port of Bandar Abbas in Iran and the high road rates, one would expect that maritime transport would be less competitive than rail, but this is not the case. On the contrary, it is actually cheaper. The non-existence of aligned tariffs in the countries of Central Asia, and the effect this has upon trade, is evident.

## 6.7. EATL ROUTE 5 [from Morvarid Town (Iran) to Pushkin (Russia)]



### Maritime Transport

- A** Truck cost
- B** THC / Port costs
- C** Maritime cost
- D** THC / Port costs
- E** Truck cost

### Rail Transport

- A** Truck cost
- B** Loading / other costs
- C** Rail cost
- D** Unloading / other costs
- E** Truck cost

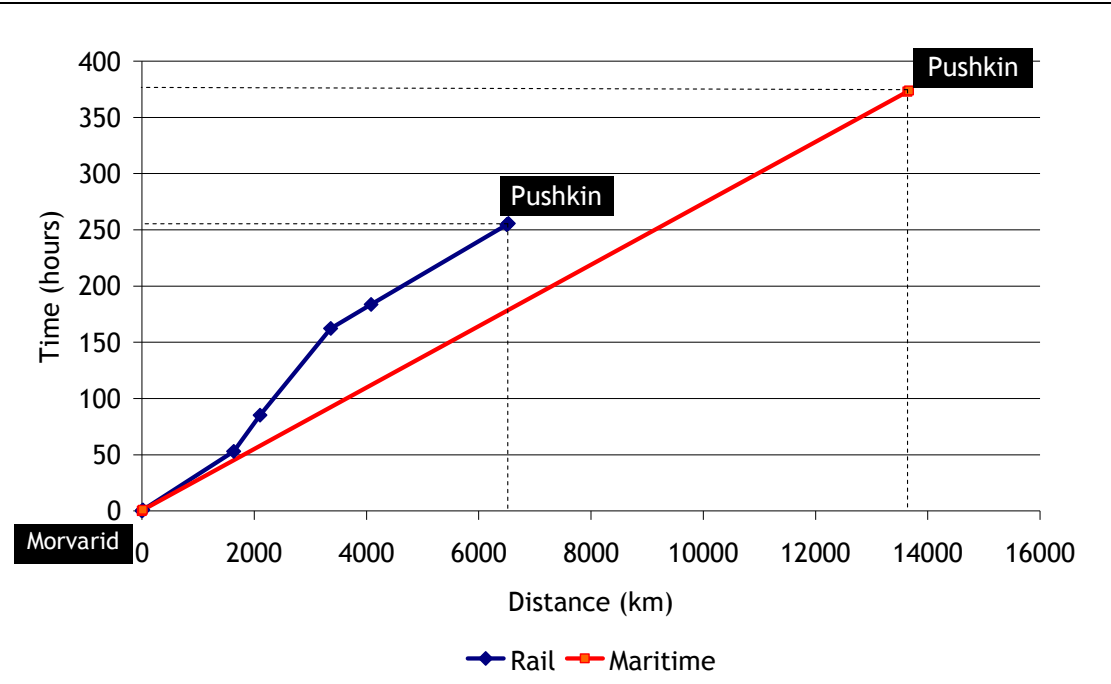
**MARITIME TRANSPORT: Morvarid (via Bandar Abbas port) - Pushkin (via Saint Petersburg port)**

Route	km	Cost(\$)	Time(hrs)
Morvarid town - Bandar Abbas port by road	16.7	50	1

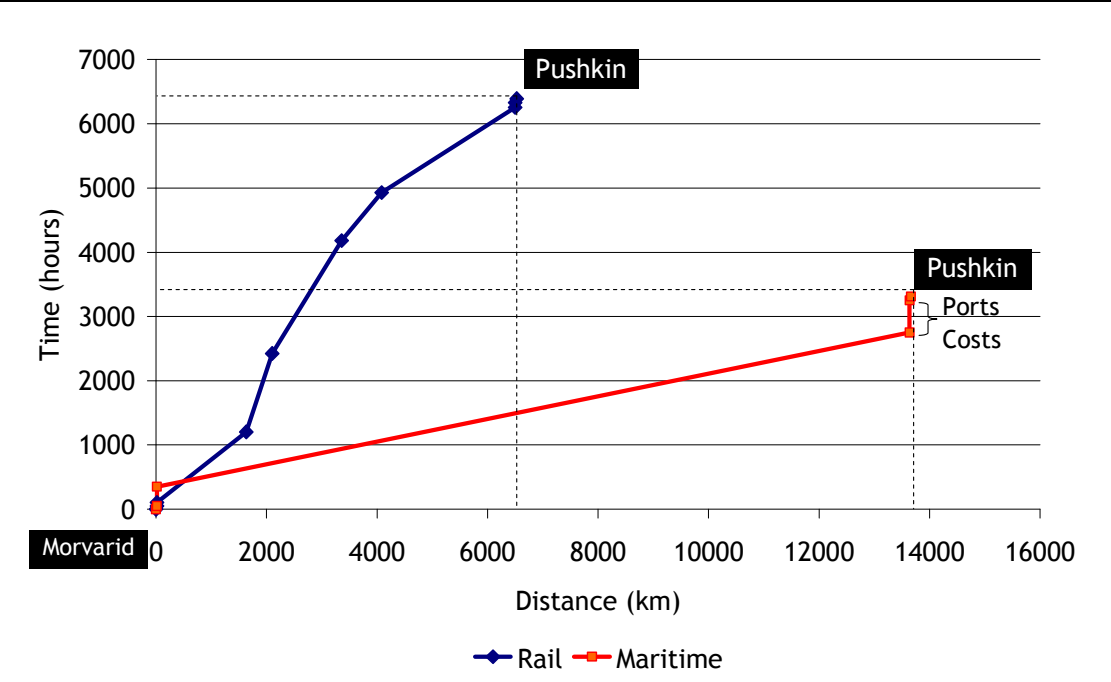
Bandar Abbas port THC costs	-	150	-
Bandar Abbas port other costs	-	150	-
Bandar Abbas port - Saint Petersburg port by sea	13,621	2,400	372
Saint Petersburg port THC costs	-	250	-
Saint Petersburg port other costs	-	250	-
Saint Petersburg port - Pushkin by road	27.3	60	1
<u>Total maritime transport</u>	<u>13,621</u>	<u>3,200</u>	<u>372</u>
<u>Total road transport</u>	<u>44</u>	<u>110</u>	<u>2</u>
<b>TOTAL</b>	<b>13,665</b>	<b>3,310</b>	<b>374</b>
<b>RAIL TRANSPORT: Morvarid - Pushkin</b>			
<b>Route</b>	<b>km</b>	<b>Cost(\$)</b>	<b>Time(hr)</b>
Morvarid to Morvarid rail station by road	16.7	50	1
Morvarid rail station loading cost	-	25	-
Morvarid rail station other costs	-	30	-
Iran by rail	1,619	1,100	52
Turkmenistan by rail	469	1,219	32n
Uzbekistan by rail	1,256.5	1759	77.5
Kazakhstan by rail	722.8	744.5	21.5
Russia by rail	2,415	1,328	71
Pushkin rail station unloading cost	-	30	-
Pushkin rail station other costs	-	45	-
Pushkin rail station - Pushkin by road	20	60	1
<u>Total rail transport</u>	<u>6482,29</u>	<u>6,280.5</u>	<u>254s</u>
<u>Total road transport</u>	<u>36.7</u>	<u>110</u>	<u>2</u>
<b>TOTAL</b>	<b>6,519</b>	<b>6,390.5</b>	<b>256</b>

(b) Comparison study by using the Cost/Time/Distance methodology

Time - Distance plot

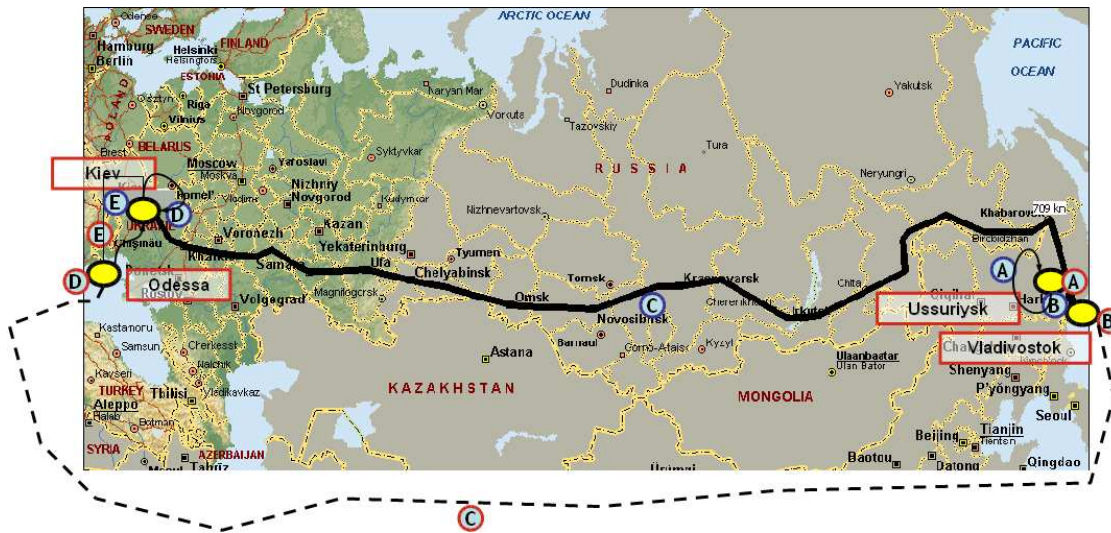


Cost Distance Plot





## 6.8. EATL ROUTE 6 [ from Ussuriysk (Russia Federation -Origin ) to Kiev (Ukraine Destination)]



Maritime Transport		Rail Transport	
A Truck cost	D THC / Port costs	A Truck cost	D Unloading / other costs
B THC / Port costs	E Truck cost	B Loading / other costs	E Truck cost
C Maritime cost		C Rail cost	

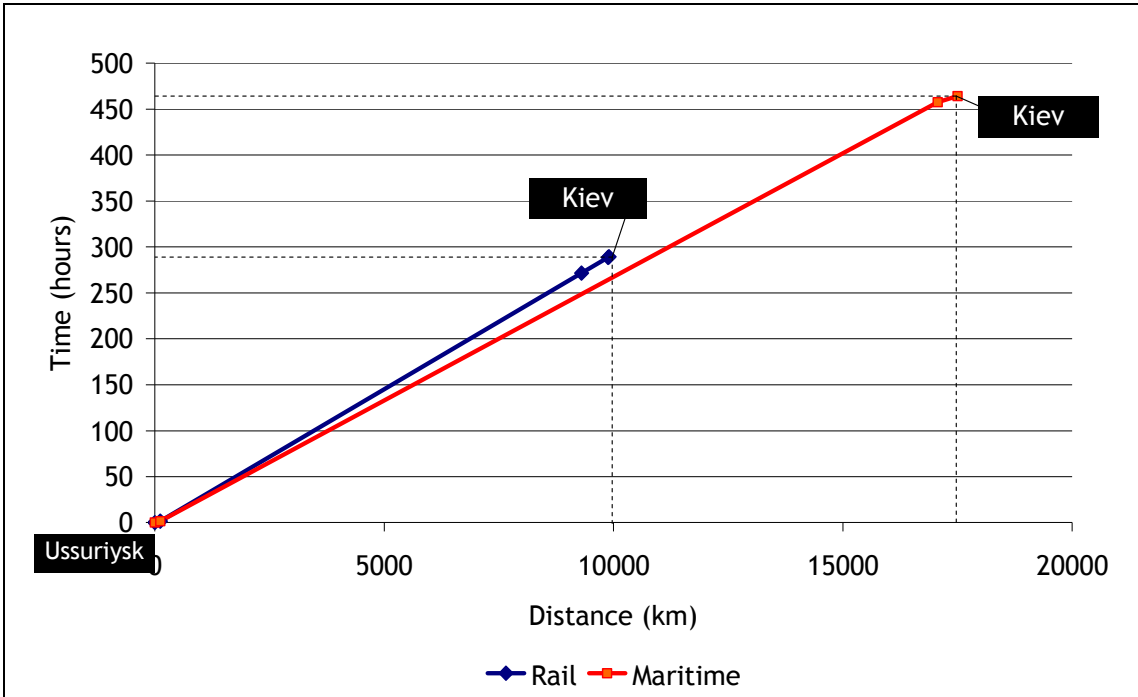
MARITIME TRANSPORT: Vladivostok port - Odessa port			
Route	km	Cost(\$)	Time(hrs)
Ussuriysk - Vladivostok port by road	118	140	1.5
Vladivostok port THC costs	-	250	-
Vladivostok port other costs	-	250	-
Vladivostok port - Odessa port by sea	16,947	4,900	456
Odessa port THC costs	-	200	-
Odessa port other costs	-	200	-
Odessa port - Kiev by road	436.25	350	6.5

<u>Total maritime transport</u>	<u>16,947</u>	<u>5,800</u>	<u>456</u>
<u>Total road transport</u>	<u>554.25</u>	<u>490</u>	<u>8</u>
<b>TOTAL</b>	<b>17,501.25</b>	<b>6,290</b>	<b>463</b>
<b>RAIL TRANSPORT: Vladivostok rail station - Kiev rail station</b>			
<b>Route</b>	<b>km</b>	<b>Cost(\$)</b>	<b>Time(hrs)</b>
Ussuriysk - Ussuriysk rail station by road	20	140	1.5
Ussuriysk rail station loading cost	-	35	-
Ussuriysk rail station other costs	-	35	-
Russia by rail	9,185	5,052	270
Ukraine by rail	579	320	17
Kiev rail station unloading cost	-	30	-
Kiev rail station other costs	-	45	-
Kiev rail station - Kiev by road	20	200	1
<u>Total rail transport</u>	<u>9,764</u>	<u>5,517</u>	<u>287</u>
<u>Total road transport</u>	<u>40</u>	<u>\$340</u>	<u>2.5</u>
<b>TOTAL</b>	<b>9,804</b>	<b>\$5,857</b>	<b>289</b>

*(b) Comparison study by using the Cost/Time, distance methodology*

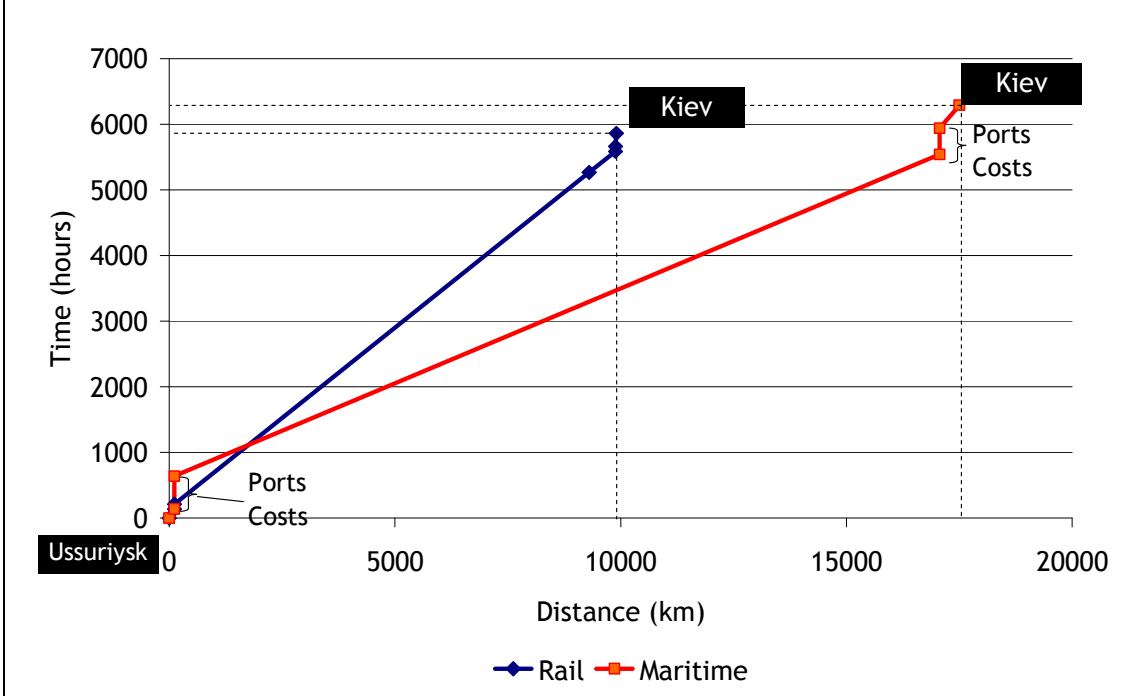
Time - Distance Plot





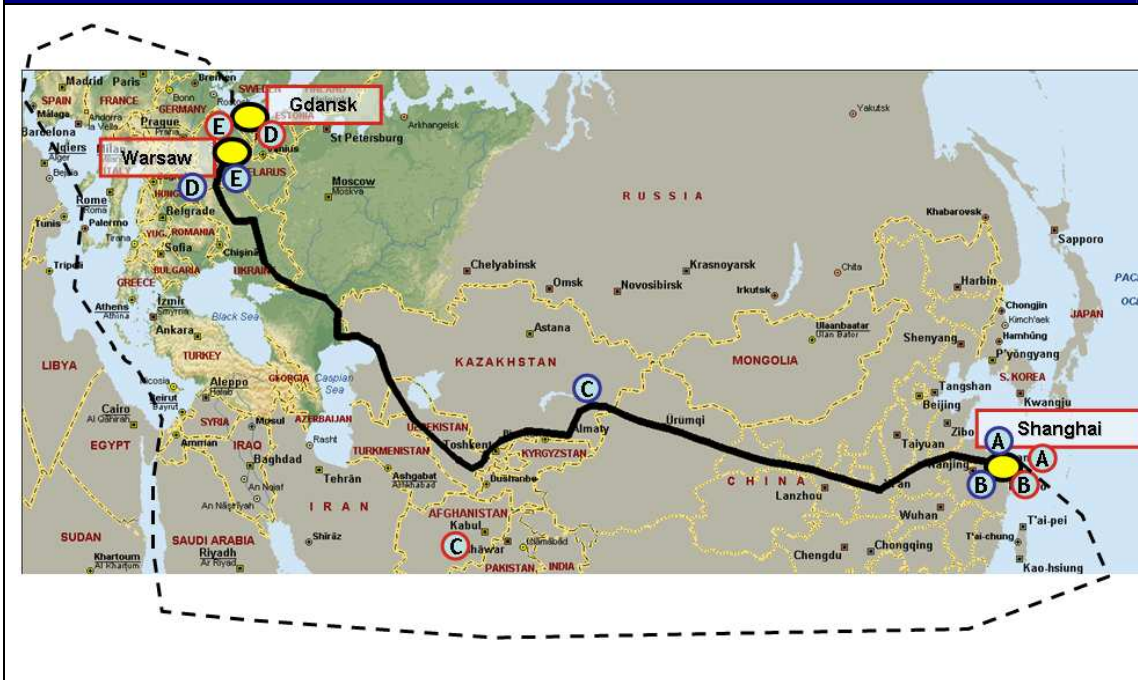
The time difference between the transportation means is more or less 7 days. In combination with the cost difference, the time difference becomes an advantage. The benefit of this route is that trains have to cross only two countries, both with great railway traditions, with the highest average total traveling speed of 34 kilometers per hour. These conditions make railways in this case study more competitive than maritime transport.

Cost - Distance Plot



The cost difference of \$433 is not large, but it is enough to make railways more competitive than maritime transport.

6.9. EATL ROUTE 7 [ from Shanghai (China - Origin) to Warsaw (Poland - Destination)]



Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

MARITIME TRANSPORT: Shanghai port - Gdansk port			
Route	km	Cost(\$)	Time(hrs)
Shanghai - Shanghai port by road	20	\$200	1
Shanghai port THC costs	-	\$100	-
Shanghai port other costs	-	150	-
Shanghai port - Gdansk port by sea	20,888	4,900	564
Gdansk port THC costs	-	250	-
Gdansk port other costs	-	250	-
Gdansk port - Warsaw by road	330	450	4
<u>Total maritime transport</u>	<u>20,888</u>	<u>5,650</u>	<u>564</u>
<u>Total road transport</u>	<u>350</u>	<u>650</u>	<u>5 hrs</u>
<b>TOTAL</b>	<b>21,238</b>	<b>6,300</b>	<b>569</b>

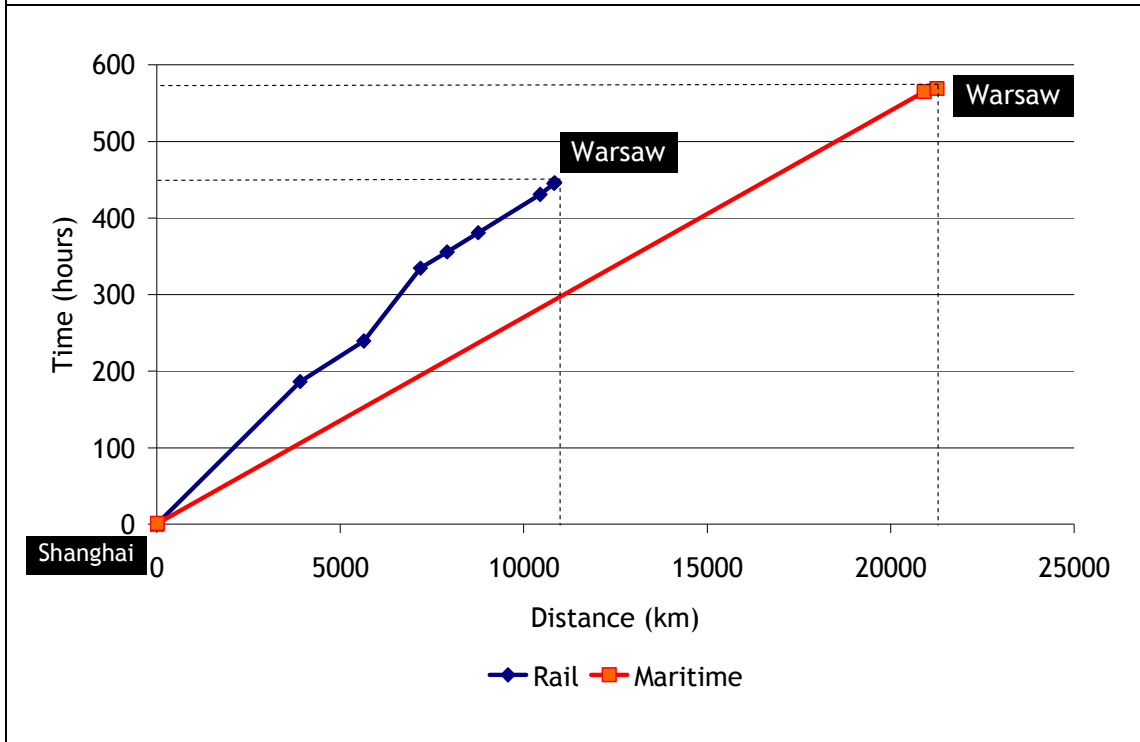
  

RAIL TRANSPORT: Shanghai rail station - Warsaw rail station			
Route	km	Cost(\$)	Time(hrs)
Shanghai - Shanghai rail station by road	20	200	1
Shanghai rail station loading cost	-	25	-
Shanghai rail station other costs	-	30	-
China by rail	3,884.5	1,942.25	185.5
Kazakhstan by rail	1,735	2532 (total)	53
Uzbekistan by rail	1,547.5	2,166	95
Kazakhstan by rail	723	-	21.5
Russia by rail	849.5	467	25
Ukraine by rail	1,688	928	50

Poland by rail	373	317	14.5
Warsaw rail station unloading cost	-	35	-
Warsaw rail station other costs	-	45	-
Warsaw rail station - Warsaw by road	20	250	1
<u>Total rail transport</u>		<u>8,487</u>	<u>444</u>
<u>Total road transport</u>	<u>40</u>	<u>450</u>	<u>2</u>
<b>TOTAL</b>	<b>10,800</b>	<b>8,937</b>	<b>446</b>

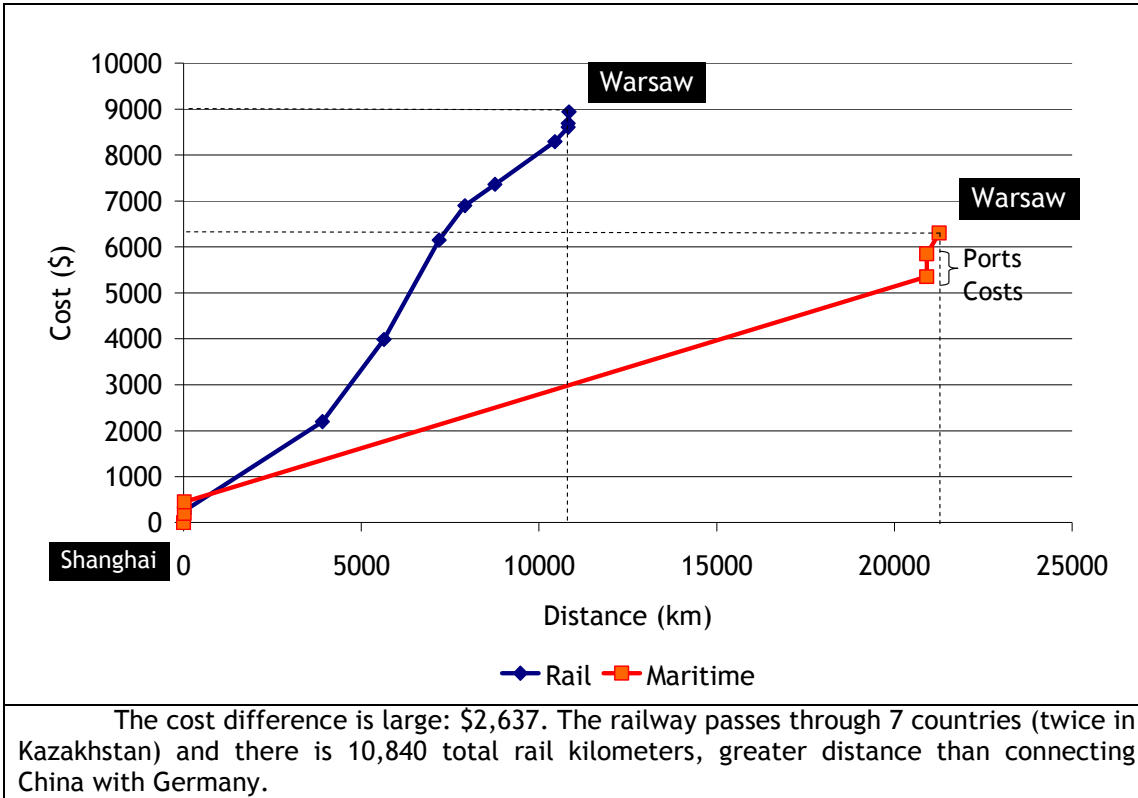
*(b) Comparison study by using Cost/Time, distance methodology*

Time - Distance Plot

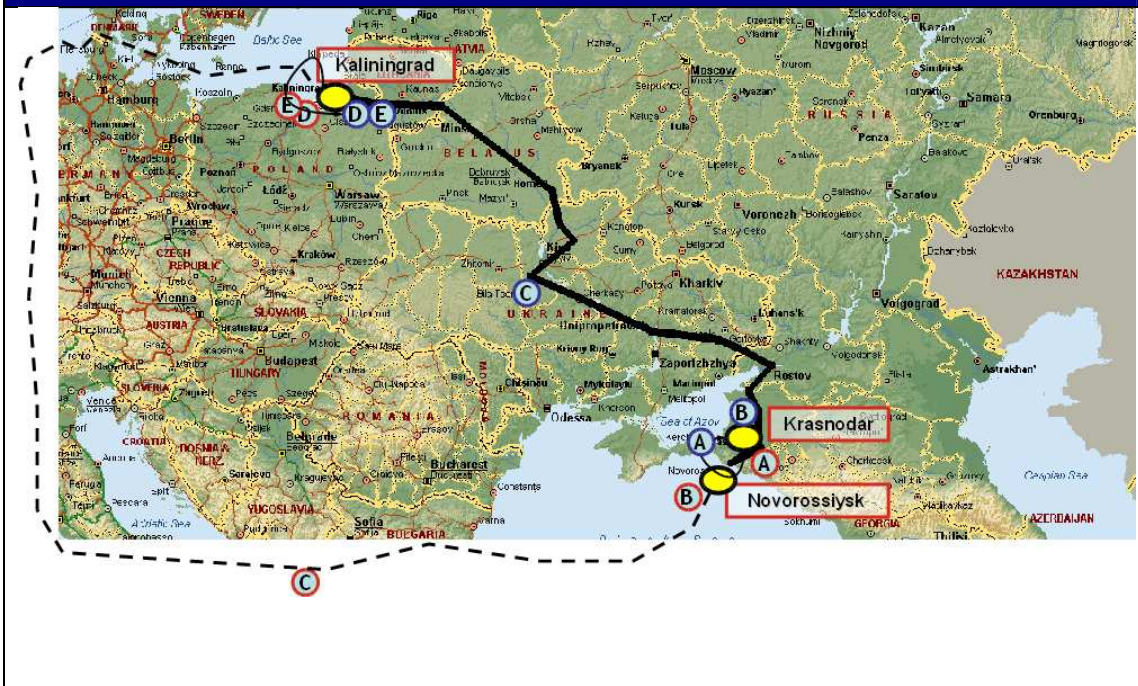


Connecting China with Poland via the countries of Central Asia does not appear competitive for railways. The time difference is only 5 days less for the railways. A block train that operates according to normal conditions (not supported by governments) is likely to waste five days due to the delays at border crossings.

Cost - Distance Plot



### 6.10. EATL ROUTE 8 [from Krasnodar (Russia - Origin) to Kaliningrad (Russia - Destination)]



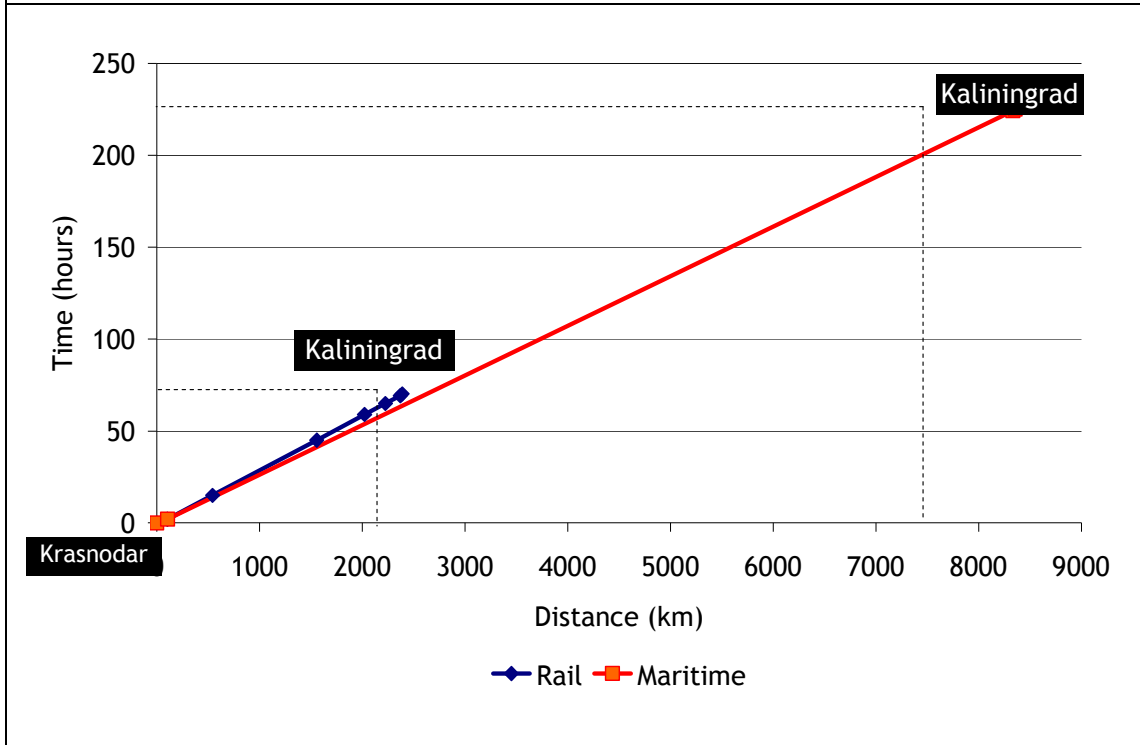
Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

MARITIME TRANSPORT: Novorossiysk port - Kaliningrad port			
Route	km	Cost(\$)	Time(hrs)
Krasnodar - Novorossiysk port by road	105	150	2
Novorossiysk port THC costs	-	250	-
Novorossiysk port other costs	-	250	-
Novorossiysk port - Kaliningrad port by sea	8,230	3,900	222
Kaliningrad port THC costs	-	150	-
Kaliningrad port other costs	-	250	-
Kaliningrad port - Kaliningrad by road	20	100	1
<u>Total maritime transport</u>	<u>8,230</u>	<u>4,800</u>	<u>222</u>
<u>Total road transport</u>	<u>125</u>	<u>250</u>	<u>3</u>
<b>TOTAL</b>	<b>8,355</b>	<b>5,050</b>	<b>225</b>
RAIL TRANSPORT: Novorossiysk rail station - Kaliningrad rail station			
Route	km	Cost(\$)	Time(hrs)
Krasnodar - Krasnodar rail station by road	20	150	2
Krasnodar rail station loading cost	-	25	-
Krasnodar rail station other costs	-	30	-
Russia by rail	438	241	13
Ukraine by rail	1014	558	30
Belarus by rail	465	256	14
Lithuania by rail	203	112	6
Kaliningrad by rail	145	78	4

Kaliningrad rail station unloading cost	-	20	-
Kaliningrad rail station other costs	-	25	-
Kaliningrad rail station - Kaliningrad by road	20	100	1
<u>Total rail transport</u>	<u>2,265</u>	<u>1,345</u>	<u>67</u>
<u>Total road transport</u>	<u>40</u>	<u>\$250</u>	<u>3</u>
<b>TOTAL</b>	<b>2,305</b>	<b>1,595</b>	<b>70</b>

*(b) Comparison study by using the Cost/Time, distance methodology*

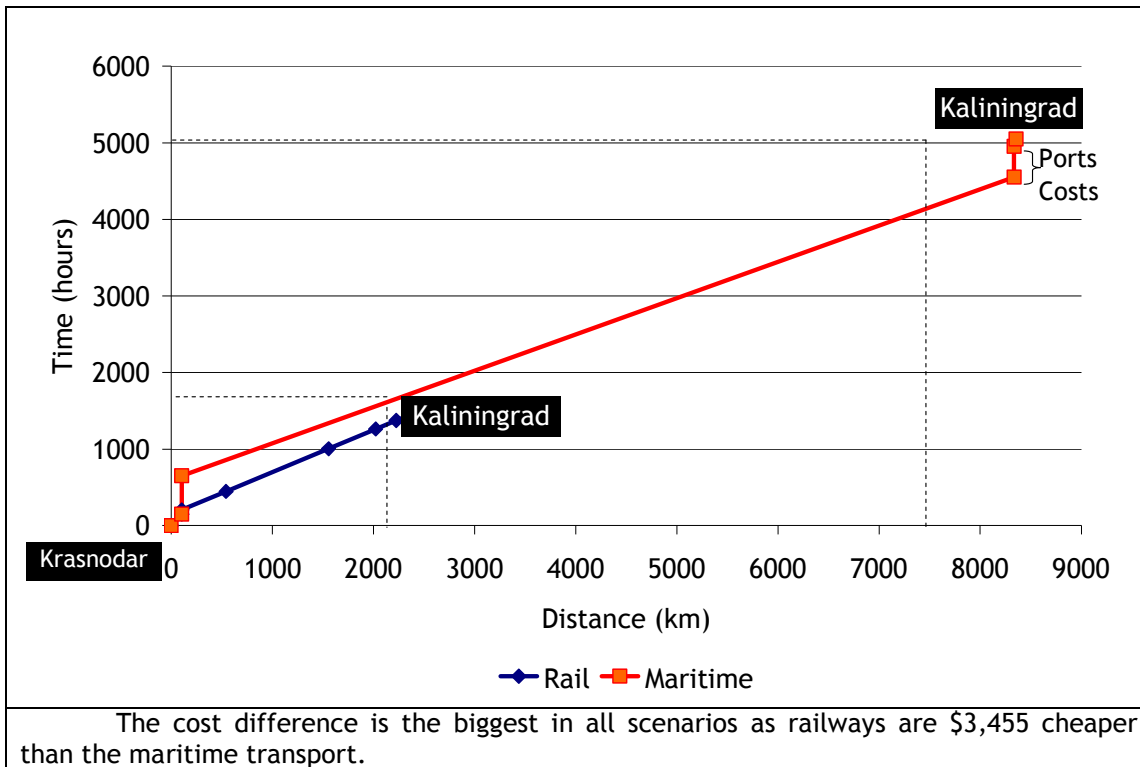
Time - Distance Plot



This case study is dominated by railways. Rail is very competitive in connecting these 5 countries which are all CIS. The time difference is 7 days.

Cost - Distance Plot





### 6.11. Case Study: Car manufacturers along Euro Asia Transport Links

Peugeot - Citroen - Mitsubishi Automobiles - Kaluga Russia

#### A Multimodal Project

This multimodal and logistics project includes 6,000 km roundtrip, 400 dedicated wagons, 1,200 dedicated containers and 80 trucks

. It is used for transport of parts from eastern France to Russia to be assembled in Kaluga.

**Step 1: Transport of 144 cars (308 & C4) per day from Sochaux (France) and Mulhouse (France) and 60 from Zeebrugge (Belgium) to Vesoul (France) for disassembling.**



**Step 2: In Vesoul the containers are loaded on the block train and start their trip to Russia.**



- Step 3: At the Polish-Belarussian border the containers are transhipped onto wide-gauge trains.
- Step 4: The train passes from Belarus to the Russian station of Vorotinsk.
- Step 5: The train arrives at the factory in Kaluga.
- Step 6: Transport of finished cars from Kaluga to the GEFCO car compound in Bykovo (Moscow).

Analysis of alternative options:

### 6.12. PCMA RUS LLC - Case Study [ from Vesoul (France) to Kaluga (Russia)]





Maritime Transport		Rail Transport	
<b>A</b> Truck cost	<b>D</b> THC / Port costs	<b>A</b> Truck cost	<b>D</b> Unloading / other costs
<b>B</b> THC / Port costs	<b>E</b> Truck cost	<b>B</b> Loading / other costs	<b>E</b> Truck cost
<b>C</b> Maritime cost		<b>C</b> Rail cost	

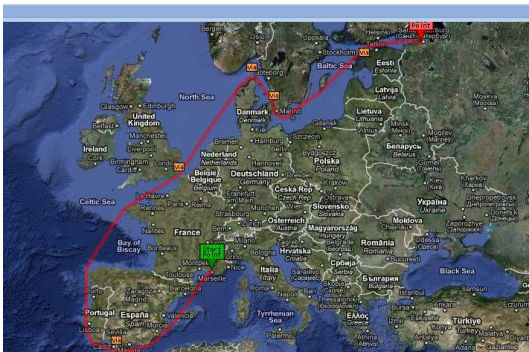
**MARITIME TRANSPORT: Vesoul (via Marseille port) - to Kaluga (via Saint Petersburg port)**

Route	km	Cost(\$)	Time(hrs)
Vesoul - Marseille port by road	608	750	9
Marseille port THC costs	-	200	-
Marseille port other costs	-	200	-
Marseille port - Saint Petersburg port by sea	6,098	3,900	163
Saint Petersburg port THC costs	-	250	-
Saint Petersburg port other costs	-	250	-
Saint Petersburg port - Kaluga by road	873	750	36
<u>Total maritime transport</u>	<u>6,098</u>	<u>3,900</u>	<u>163</u>
<u>Total road transport</u>	<u>1,481</u>	<u>1,500</u>	<u>45</u>



TOTAL	7,579	5,400	208
<b>MARITIME TRANSPORT: Vesoul (via Hamburg port) - to Kaluga (via Saint Petersburg port)</b>			
Route	km	Cost(\$)	Time(hrs)
Vesoul - Hamburg port by road	913	1000	12
Hamburg port THC costs	-	200	-
Hamburg port other costs	-	200	-
Hamburg port - Saint Petersburg port by sea	1,150	1,200	120
Saint Petersburg port THC costs	-	250	-
Saint Petersburg port other costs	-	250	-
Saint Petersburg port - Kaluga by road	873	750	36
<u>Total maritime transport</u>	<u>1,150</u>	<u>2,100</u>	<u>120</u>
<u>Total road transport</u>	<u>1,786</u>	<u>1,750</u>	<u>48</u>
<b>TOTAL</b>	<b>2,936</b>	<b>3,850</b>	<b>168</b>

6,8 days or 163,2 hours (3293 nm = 6098km) 608km (9 hours) + 873,8km (1 day & 12 hours)

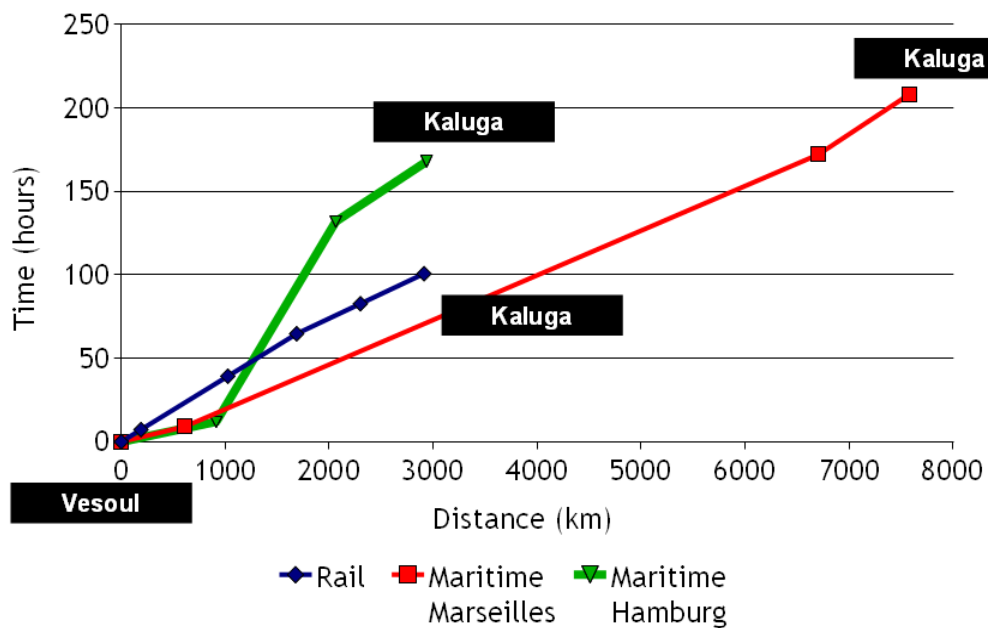


<b>RAIL TRANSPORT: Vesoul rail station - Kaluga rail station</b>			
Route	km	Cost(\$)	Time(hrs)
France: Vesoul - Belfort (53,88km) / Belfort - Mulhouse(37,84km) / Mulhouse - Strasbourg (97,30km) = total 189,02 km, total 7,27 hours;	189	161	7
Germany: Strasbourg - Karlsruhe (67,85km) / Karlsruhe - Stuttgart (85,6km) / Stuttgart - Nurnberg (157,55km) / Nurnberg - Dresden (259,63km) / Dresden - Berlin (165,87km) / Berlin - Rzepin (99,17km) = total 835,67 km, total 32 hours;	836	710	32
Poland: Rzepin (German borders) - Terespol (Belarussian borders) = total 662,3 km, total 25 hours & 47 min ;	662	563	25.5

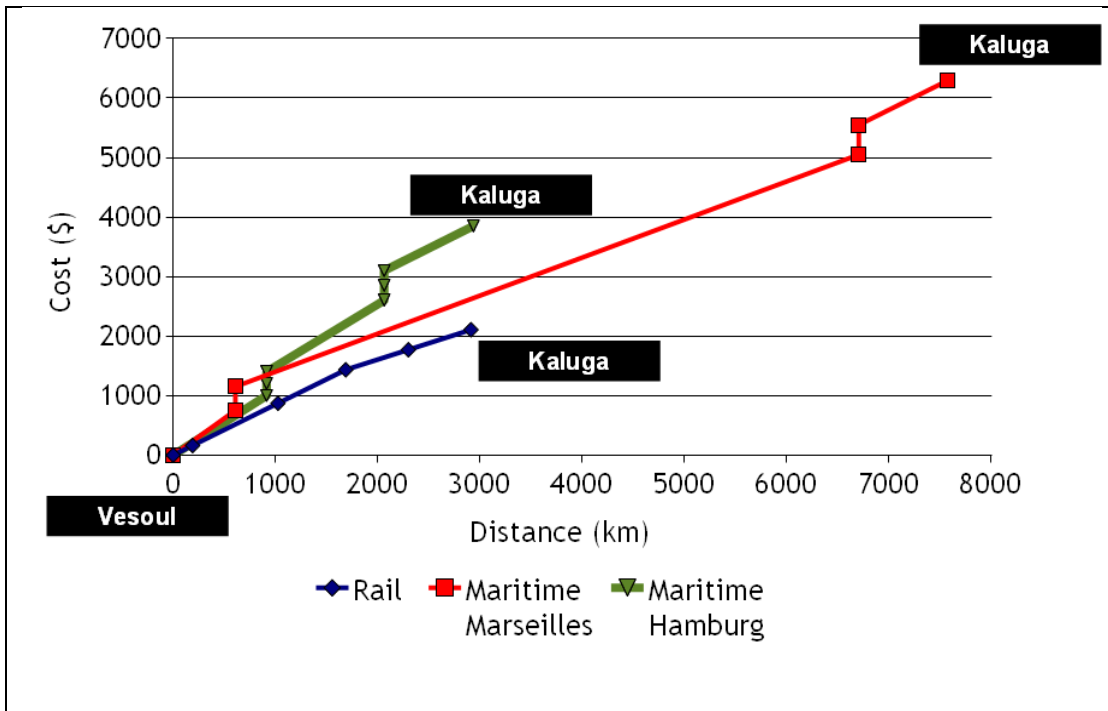
Belarus : Brest (Polish Borders) - Redki- (Russian borders) = total 613,2 km, total 18 hours;	613	337	18
Russia: Redki - Kaluga = total 611,57 km, total 18 hours;	612	336	18
<u>Total rail transport</u>	<u>2,912</u>	<u>2,107</u>	<u>101</u>
<u>Total road transport</u>	-	-	-
<b>TOTAL</b>	<b><u>2,912</u></b>	<b><u>2,107</u></b>	<b><u>101</u></b>

*(b) Comparison study by using the Cost/Time, distance methodology*

Time - Distance Plot



Cost - Distance Plot



The results illustrate that the selected transport route for this case study appears to be the optimal one. The train used 5 days less and costs \$3,293 less (Marseille) or \$1,743 less (Hamburg).

# ANNEX I

## Survey

As part of the study tailor-made questionnaires (see below) for rail and road and for every participating country were developed and distributed to rail organisations and freight forwarding associations. Forty-four custom-made questionnaires were sent. Six completed questionnaires were received. In addition five unofficial responses were received.

## Forwarders Questionnaire.

<b>Questionnaire</b> UNECE Expert Group on Euro Asian Transport Links (EATL)		
<b><i>Personal Information</i></b>		
Country:	<input type="text"/>	Date: <input type="text"/>
Organization:	<input type="text"/>	
<i>The respondent</i>		
Name & Surname:	<input type="text"/>	
Organization:	<input type="text"/>	Position: <input type="text"/>
Tel:	<input type="text"/>	Fax: <input type="text"/> Email: <input type="text"/>
<small>Deadline: <b>Please reply before before the end of March 2010 by e-mail (port@unece.org) or by fax (+41-22-917 0039).</b> The information that you provide will be considered as strictly confidential</small>		
<b><i>Objective of the Questionnaire</i></b>		
<small>This Questionnaire aims to compare the performance of EATL (time-cost) routes with relevant maritime-based routes (port to port plus inland sections) and identify conditions under which EATL options would be competitive.</small>		

### 1. Cost / Time analysis of specific maritime routes

Ref	Maritime Route	Time (Days)	Cost (\$)	
			TEU	FEU
1	Busan - Bandar Abbas		( )	( )
2	Shanghai - Bandar Abbas		( )	( )
3	Vladivostok - Bandar Abbas		( )	( )
4	Bandar Abbas - Rotterdam		( )	( )
5	Bandar Abbas - Hamburg		( )	( )
6	Bandar Abbas - Barcelona		( )	( )
7	Bandar Abbas - Antwerp		( )	( )
8	Bandar Abbas - Riga		( )	( )
9	Bandar Abbas - Tallinn		( )	( )
10	Bandar Abbas - Klaipeda		( )	( )
11	Bandar Abbas - Yokohama		( )	( )
12	Bandar Abbas - Murmansk		( )	( )
13	Bandar Abbas - St. Petersburg		( )	( )
14	Bandar Abbas - Odessa		( )	( )
15	Bandar Abbas - Kaliningrad		( )	( )
16	Bandar Abbas - Thessalonica		( )	( )
17	Bandar Abbas - Varna		( )	( )
18	Bandar Abbas - Costanta		( )	( )
19	Bandar Abbas - Novorossiysk		( )	( )
20	Bandar Abbas - Kavkaz		( )	( )
21	St.Petersburg - Shanghai		( )	( )
22	St.Petersburg - Rotterdam		( )	( )
23	St.Petersburg - Barcelona		( )	( )
24	St.Petersburg - Vladivostok		( )	( )

### 2. Cost of Delivery to final destinations and to ports by trucks.

(Transportation of empty cntr to shipper, loading and return full cntr back to port of origin and transportation of full container to final shipper, unloading and return of empty container back to port of destination)

Country	30 km radius		100 km radius		Trip per km (\$)
	TEU(\$)	FEU(\$)	TEU(\$)	FEU(\$)	
Kazakhstan					

### 3. Cost of value added services in ports

Ports	Unloading of Containers (\$)	Loading of Containers (\$)	Customs Formalities (\$)
Bandar Abbas			
St. Petersburg			

Other Costs	P	(\$)
Entrance cost		
Parking cost		
Loading to truck cost		
Unloading from truck		
Other documents		
Other cost/ Specify		

**4. Please provide information for the following train services that operate on Euro-Asian routes.**

Train	Train Services	Cost per container TEU (FEU)	Total time (days / hours)	Total Km	Capacity in Containers
1406	Brest (Belarus) - Nauschki (Russia), Ulan Bator (Mongolia) - Huh Hoto (China)	( )			
1208	Berlin (Germany) - Kunzevo (Russia) "Ostwind"	( )			
1251/1252	Almaty (Kazakhstan) - Dostyk (Kazakhstan) - Alaschankou (China)	( )			
1402/1401	Lianyungang (China) - Alaschankou - Dostyk - Saryagasch (Kazakhstan) - Assake (Uzbekistan)	( )			
1401/1402	Tianjin (China) - Alaschankou (China) / Dostyk (Kazakhstan) - Almaty (Kazakhstan)	( )			
	Shenzhen, Alaschankou (China) - Dostyk (Kazakhstan) - Llezk, Susemka (Russia) - Zernovo, Cop (Ukraine) - Hungary	( )			
1418/1417	Klaipeda (Lithuania) - Radviliskis - Eglaine (Latvia) - Posinj (Russia) - Sebesch (Russia) - Ozinki (Russia) - Aktobe, Almaty (Kazakhstan)	( )			
1407	Shenzhen (China) - Ulan Bator (Mongolia) - Nauschki (Russia) - Brest (Belarus) - Maleszewicze (Poland)	( )			
1409	Beijing (China) - Ulan Bator (Mongolia) - Nauschki (Russia) - Brest (Belarus) - Maleszewicze (Poland) - Hamburg (Germany)	( )			

**6. Specify reasons for delays or high costs in central Asia when cargoes are being transported by trucks or by trains.**

Reasons for delays or high costs	by truck	by rail
Border crossing: technical operations		
Border crossing: customs procedures		
Border crossing: police controls		
other controls		
Unofficial stopovers		
Safety - Cannot travel during the night		
Unnecessary inspections (provide examples)		
Hidden costs (please specify)		
Documents (CMR - TIR - CIM - SMGS etc)		
Visa procedures		
Other factors (specify)		

**Please note any other comment you would like concerning the Euro Asian Transport Linkages.**

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**Questionnaire**  
**UNECE Expert Group on Euro Asian Transport Links**  
**(EATL)**

***Personal Information***

Country:  Date:

Organization:

The respondent

Name & Surname:

Organization:  Position:

Tel:  Fax:  Email:

Deadline: **Please reply before before the end of April 2010 by e-mail ([port@unece.org](mailto:port@unece.org)) or by fax (+41-22-917 0039).**  
**The information that you provide will be considered as strictly confidential.**

***Objective of the Questionnaire***

The overall objective is to compare the (time-cost) performance of EATL routes with relevant maritime-based routes (port to port plus inland sections) and identify conditions under which EATL options would be competitive.

This survey focuses on the information necessary to estimate and compare the duration and costs of the EATL routes using container block trains and competing routes based on deep-sea shipping in combination with road transport to final destination.

These questions aim to collect the following data on operations of block trains: (1) time schedule of the specific route (km analysis, stopover analysis, time analysis), (2), main tariffs and any additional charges, (3) train capacity (number of wagons), (4) information on consignment notes, and (5) investment projects that would improve the operation of trains.



### 3. Train Capacity

How many container wagons can one locomotive of your rail organization pull?

Please indicate the maximum length of a train

Please indicate the maximum gross weight of the train (including cargo)

### 4. Consignment Notes

What kind of consignment notes do you use?

<i>CIM</i>	_____
<i>SMGS</i>	_____
<i>Common CIM/SMGS</i>	_____
<i>Local</i>	_____
<i>Other</i>	_____

### 5. Investment Projects

Indicate any kind of investments (incl. border stations, marshalling yards, etc) that would facilitate the operations of the block train and could improve its safety, time schedule, tariffs etc.

Description of the project	Budget	Why will improve operations
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**PART VII**  
**PROMOTING EURO-ASIAN TRANSPORT AND TRADE**

**To come**

**PART VIII**

**GEOGRAPHICAL INFORMATION SYSTEM (GIS) INTERNET APPLICATION**

**To come**

**PART IX**  
**CONCLUSIONS**

**To come**

**PART X**  
**RECOMMENDATIONS**

**To come**