

Annexes

Annex 1: Components of the Transport Corridor.....	2
Gateways and Other Interfaces	2
Links and Routes	2
Information Flows	3
Regulatory Processes.....	3
Evaluating Corridor Performance	3
Annex 2: International Conventions and Documents.....	4
UNECE Road Convention Agreements.....	4
Important Conventions for Transit Movements	6
Annex 3: Cargo Documentation.....	10
Bills of Lading	10
Electronic B/Ls	11
Annex 4: Coordination of the Development of TEN	13
Annex 5: EC-Road Transport-Related Legislation.....	18
Annex 6: Role of TRACECA.....	20
Annex 7: GMS and ASEAN Agreements.....	22
GMS Agreements	22
Asean Framework Agreement.....	24
Annex 8: System Maps.....	27
Annex 9:Canada-Mexico Corridors	30
Annex 10: Pan American Highway.....	33
Annex 11 African Road and Rail Corridors	35
Annex 12: Maputo Development Corridor	38
Annex 13: TransKalahari Corridor	40
Annex 14: Northern and Central Corridor	41
Northern Corridor	41
The Central Corridor	42
Annex 15: West Bengal Corridor.....	46
Annex 16: Laos Transit Corridors.....	49
Annex 17: West Bank-Gaza Transit Corridor	52
Bibliography	56

Annex 1: Components of the Transport Corridor

Transport networks are generally defined in terms of a series of links that are interconnected at nodes. Some of these nodes generate the traffic that travels over the links nodes while others merely provide a connection between links. Since a transport corridor is a subset of a network, these same concepts can be used, however, it is necessary to substitute gateways for nodes and routes for links to simplify the discussion.

Gateways and Other Interfaces

Gateways are nodes that serve as points of entry to or exit from the corridor. These are mostly located in major metropolitan areas where cargo is collected from or distributed to the surrounding region. Gateways may also be points of connection with international routes. Many corridors terminate at seaports and airports or at border crossings where cargo is transferred from domestic transport services to international services. Border crossings can function as gateways for corridors that end at a national boundary, but increasingly corridors extend beyond borders and the border crossings act as an interface between the regulatory functions of the adjoining nations. Similarly, airports, seaports, and rail yards are often located along the corridor and act as interfaces between services of the same of different modes.

These gateways and interfaces typically perform functions in addition to transfer between services. Among these are storage and processing of cargo. The performance of these gateways is measured in terms of the time and cost to move cargo through the interface assuming that the shipper does not undertake any warehousing or processing of the cargo.

Links and Routes

The transport links connecting gateways and interfaces include both physical infrastructure and transport services. The physical infrastructure is important for road and rail transport since it determines the capacity of the transport units and the maximum throughput. It is less important for air and water transport where capacity and throughput are determined by the airports and seaports.² The frequency of transport services and the size of the transport units are more important than physical infrastructure in determining the performance of the links. The cost and time for transiting these links are determined by these service providers, which respond to demand in a competitive market. Regulation is important to the extent it has an impact on operating costs and the level of competition.

The shippers using a corridor have a choice of a number of routes, which are constructed from these links. The performance of individual links is less important than the performance of these routes. The service providers will determine the number of intermediate locations at which cargo is loaded and unloaded. Increasing the number of these locations provides access to more cargo origins and destinations, but also increases the time required to transit the corridor and reduce the reliability of service. With sufficient demand, these service providers can offer multiple strings that provide access to different combinations of origins and destinations with less increase in transit time.

²The notable exception is locks on inland waterways which determine capacity. While there are throughput limits on channel for ocean transport and air corridors for air transport, these are not usually the constraining factor on throughput.

Information Flows

The most important information flows related to the functioning of a corridor are:

- Scheduling, reservations, and tracking of shipments
- Documentation and certification of cargo
- Financial transactions related to trade and transport
- Planning and coordination among transport service providers
- Management of inventory both in storage and in transit

Although these have separate sources and uses, it is important to provide an efficient means for exchanging this information between the cargo owners, service providers and government officials participating in the movement of goods through the corridor. This may involve development of a single system of data transfer, as was the case in Singapore, Malaysia and Tunisia or may be a more distributed system taking advantage of the Internet.

Regulatory Processes

The regulatory processes that affect the performance of a corridor can be grouped into those affecting cargo and those affecting logistics services. The former are more extensive for international shipments and include customs, standards, security, and sometimes, insurance and trade finance. The latter cover safety, anti-competitive behavior, and, in some cases, pricing and service frequency.

Evaluating Corridor Performance

Among the information, that it is important to exchange among users of the corridor are performance measures. These provide users with information that can be used in planning movements, predicting transit times and avoiding choke points. This information provides public agencies with a mechanism for evaluating their performance. This can be used to identify areas where changes need to be introduced and to evaluate the impact of these changes. Finally, this information gives service providers insight on where improvements can be made to increase market share and increase the range of services provided.

In order to produce useful information, it is necessary to identify the appropriate measures of overall corridor performance as well as measures for performance of individual components, e.g. transport links, intermodal interfaces, orders and gateways. These measures can then be evaluated using transaction-based supply chain analysis and marketing analysis.

Annex 2: International Conventions and Documents

UNECE Road Convention Agreements

Principal Agreements

With a mandate from the UN for the development of all international conventions in the field of land transport facilitation, the ECE has developed the following Road Conventions:

- The Customs Convention on the Temporary Importation of Commercial Road Vehicles 1956 (currently being updated)
- The Convention on the Contract for the International Carriage of Goods by Road 1956 (CMR Convention - legal relationships between road carriers and consignees and consignors)
- The Convention on Road Traffic 1968;
- The Vienna Convention on Road Signs and Signals 1968;
- Customs Convention on the International Transport of Goods under Cover of TIR carnets (TIR Convention) 1975;
- The Customs Convention on Containers 1972 (temporary importation of road goods vehicles and loading units)
- The International Convention on the Harmonization of Frontier Control of Goods 1982 – (minimize border control measures, harmonize inspection requirements and provide joint inspection facilities)

General Agreements

European agreements on definition of the corridors included:

- a. Main International Traffic Arteries (AGR), 1975 (legal framework for construction and development of a coherent international road network)
- b. Main International Railway Lines (AGC), 1985
Important International Combined Transport Lines and Related Installations (AGTC), of 1991 (development of combined transport infrastructure and services, particularly combined road/rail, and improvement of efficiency)
- c. Main Inland Waterways of International Importance (AGN), of 1996

Road Transport

For Road transport the harmonization of physical and fiscal standards were provided for in the

- Agreements concerning
 - Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be fitted and /or be used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, 1958
 - Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections, 1997
 - Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which can be fitted and / or be used on Wheeled Vehicles, 1998
- Conventions on the Taxation of Road Vehicles

- for Private use in International Traffic, 1956
- engaged in International Passenger Transport, 1956
- engaged in International Goods Transport, 1956
- Conventions on the Contract for the International Carriage of
 - Goods by Road (CMR), of 19 May 1956, Protocol 1978
 - Passengers and Luggage by Road (CVR), 1973, Protocol 1978
- General Agreement on Economic Regulations for International Road Transport, 1954

Traffic and Road Signs and Signals

The legal framework and set of uniform traffic regulations governing traffic on the cross-border routes includes the following:

- Convention on Road Traffic, 1949 and 1968,
- Convention concerning the Dimensions and Weights of Vehicles Permitted to Travel on Certain Roads of the Contracting Parties, 1950
- European Agreement on Road Markings, 1957
- Convention on Road Signs and Signals, 1968, Suppl. 1971, Additl. Protocol 1973
- Agreement on Minimum Requirements for the Issue and Validity of Driving Permits (APC), of 1 April 1975

Inland Water Transport

The conventions introduced to harmonize the physical and fiscal standards for inland water transport were:

- Unification of Certain Rules concerning Collisions in Inland Navigation, 1960.
- the Registration of Inland Navigation Vessels, 1965
- the Measurement of Inland Navigation Vessels, 1966
- the Limitation of the Liability of Owners of Inland Navigation Vessels (CLN), 1973, Protocol 1978
- the Contract for the International Carriage of Passengers and Luggage by Inland Waterway (CVN), 1976, Protocol 1978

Border Crossing Facilitation

The basic convention covering cross-border movements was the International Convention on the Harmonization of Frontier Controls of Goods, 1982, which reduced the requirements for completing formalities and the number and duration of all types of controls, e.g. for health, technical standards, quality standards. This applied to all goods being imported, exported or in transit in the European Community. The International Convention to Facilitate the Crossing of Frontiers was introduced with separate agreement to cover rail movements, specifically for

- Passengers and Baggage carried by Rail, 1952
- Goods Carried by Rail, 1952

In addition there is a series of Customs Convention on the Temporary Importation for

- Private Road Vehicles, 1954
- Private Use of Aircraft and Pleasure Boats, 1956
- Commercial Road Vehicles, of 18 May 1956

A similar agreement was the Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention), 1959, 1975, which permitted “the international carriage of goods by road from one Customs office of departure to a Customs office of destination, through as many countries as necessary, without any intermediate frontier check of the goods carried, but required secure sealing and standards for the design of the load compartment or the container. It also required an international guaranteeing chain, the TIR carnet, to cover duties and taxes at risk throughout the journey

Other Conventions were established for imports related to transport services including:

- Customs Convention concerning Spare Parts Used for Repairing European Wagons, 1958
- Customs Convention on Containers, 1956, 1972
- European Convention on Customs Treatment of Pallets Used in International Transport, 1960
- Convention on Customs Treatment of Pool Containers Used in International Transport, 1994

Transport of Dangerous Goods

Agreements covering the transport of dangerous goods include the European Agreement concerning the International Carriage of Dangerous Goods, specifically

- by Road (ADR), 1957, Protocol 1993
- by Inland Waterway (ADN), 2000

and the Convention on Civil Liability for Damage caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD), 1989

Transport of Perishable Foodstuffs

For perishable foodstuffs there was a specific Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (ATP), 1970.

Important Conventions for Transit Movements

As mentioned earlier, there are a set of international conventions that are used to facilitate the movement of cargo in-transit to third countries and movements of goods between adjoining countries. The three most important provide for the duties and tax regime that apply to these movements including the Customs Convention on International Transport of Goods Under Cover of TIR Carnets (1975), Temporary Importation of Commercial Road Vehicles (1956), and Containers (1972 Geneva). The major points of these are as follows.

The UN Geneva Customs Convention on the International Transport of Goods under Cover of TIR Carnets, 1975¹

Intent: The intent of this Convention is to facilitate the international carriage of goods by road vehicles, through establishing simplified Customs procedures and tax and duty exemptions for international transport of goods in transit.

¹ This convention was originally adopted in 1956 but was revised in 1975 to apply to Railway transport in the context of multimodal transport.

Policy: The Convention applies to all forms of vehicular and container transport provided that some portion of the journey is by road (art. 2). Under the TIR procedures, goods are allowed to pass through as many countries as necessary between the “Customs office of departure” and the “Customs office of arrival” without payment or deposit of taxes or duties or examination of the goods en route, except in case of suspected or actual irregularities (arts. 4, 5, 22 & 23). Risks of leakage are addressed through specifying Customs seals requirements, technical standards for vehicles and container compartment design to inhibit smuggling, and setting up an international system for guaranteeing duty and tax payment should the goods fail to exit at the appropriate point (arts. 3, 8 & 19). National authorities may also prescribe time limits and approved routes for travel in their territory (art. 22).

Implementation: Participating states authorize associations to issue TIR carnets, either directly or through corresponding associations, and to act as guarantors (art 6). The guaranteeing association fixes the period of validity of the TIR carnet and is liable for goods enumerated in the TIR carnet and any other goods contained in the sealed container or the sealed section of the vehicle in the event the TIR carnet is not duly discharged by Customs. The Convention directs Customs authorities to seek payment from the persons directly liable before making a claim against the guaranteeing association (arts. 8-11). For identification purposes, a vehicle operating under TIR procedures must bear special TIR plates, and the TIR carnet must be produced at each Customs office en route (arts. 16 & 21). In the case of bulky or heavy goods, the Convention provides for special procedures as regards affixing of customs seals and related matters (arts. 29-35). Irregularities in violation of the Convention subject the offender to penalties prescribed in the country where the offence was committed. (art. 36). States may exclude from the TIR procedures any person guilty of a serious Customs offence, subject to notice to the Customs authorities on whose territory the offender is established or resident, and to the applicable guaranteeing association or associations (art. 38).

UN Geneva Customs Convention on Temporary Importation of Commercial Road Vehicles, 1956

Intent: The intent of this Convention is to facilitate the international movement of road vehicles used for commercial carriage, through providing for the use in such cases of simplified Customs procedures and exemption from tax, duty and import restrictions.

Policy: The Convention provides for temporary admission of road vehicles engaged in international traffic for commercial use, without payment of tax and duty and free of import restrictions and prohibitions (art. 2). To qualify, the vehicle must be registered in a country that has also accepted the Convention and must be operating from that territory (art. 2). Admission of vehicles is subject to temporary importation papers/carnets describing the vehicle and guaranteeing payment of taxes, duties and Customs penalties should the need arise. It is also subject to re-exportation of the vehicle in the same general condition except for wear and tear, within the period of validity of the importation documents. (arts. 2 & 13). Similar exemptions from tax and duty and import restrictions apply to the personal effects of drivers and crew, spare parts for repair of the vehicle and fuel in ordinary supply tanks. (arts. 3-5).

Implementation: Participating states authorize associations to issue temporary importation papers for commercial road vehicles, either directly or through corresponding associations. (art 7). The papers may be issued for admission to one country or several countries with a maximum period of validity of one year from date of issue (art. 7). The papers must state net weight and value of the vehicle and describe any spare parts and accessories not considered normal equipment of the vehicle. (art. 10). Countries can deny the exemption from taxes and duties to vehicles that pick up and drop off goods or passengers within the country of importation (art. 13). The general requirement of re-exportation is waived in the case of vehicles that become badly damaged in the country of importation and is abandoned to the government of

that country or are destroyed under official supervision, or in the event that applicable taxes and duties are paid (art. 14).

UN Geneva Customs Convention on Containers, 1972

Intent: The intent of this Convention is to facilitate the use of cargo containers in international trade by providing for simplified temporary admission of such containers.

Policy: The Convention provides for temporary admission of containers, whether loaded or empty, on a tax-free and duty-free basis, subject to re-exportation of the containers within three a period of three months (art. 3). Such temporary admission is to be granted without the production of Customs documents or the furnishing of a security guarantee (art. 6). Similar treatment is given to spare parts for repair of temporarily admitted containers and accessories or equipment of such containers (arts. 10-11).

Implementation: Temporarily imported containers may be used for internal traffic one time, on a reasonably direct route, before their re-exportation. (art. 9). Customs may extend the three month requirement for re-exportation (art. 3). The re-exportation requirement is waived in the case of seriously damaged containers that are abandoned to the authorities, destroyed under official supervision, or on which tax and duty are paid (art. 5).

EU Road Transit Documents - Entry/Exit Documents

The following are a list of the documents used for the movement of goods across borders including the certification of the driver and vehicle

Documents for Vehicle / Drivers

- Domestic Vehicle Requirements
- ECMT

Documents for Exportation of Goods (under TIR carnet)

- ECMT
- Multimodal Dangerous Goods Form
- Required Documentation
- TIR Carnet

Documents for Temporarily Exported Goods (under ATA carnet)

- ATA Carnet
- ATA Carnet Procedure
- Countries That Accept ATA Carnet
- ECMT

Other documents (without TIR or ATA carnet)

- Cargo Manifest
- ECMT
- Forwarder's Certificate of Transport (FIATA-FCT)
- Forwarder's Warehouse Receipt (FIATA-FWR)
- Forwarding Instructions (FIATA-FFI)
- Multimodal Dangerous Goods Form
- Negotiable FIATA Multimodal Transport Bill of Lading
- Non-negotiable FIATA Multimodal Transport Way Bill

Required Transport Documentation for Legal Persons

Annex 3: Cargo Documentation

Bills of Lading

The bill of lading originated in the 14th century as a receipt for delivery of cargo to the ship but at this time the exporter traveled with the goods. With improvement in communications, the goods were sent without the owner and the bills of lading transmitted to the recipient of the cargo. The bill of lading became the primary transportation document since the captain of the ship could not deliver the cargo without the recipient presenting the original bill of lading. The B/L further evolved into a document establishing the liability of the different parties involved in the transportation of the goods. As such the B/L has a value that can be negotiated. The holder of the original B/L has the right to direct and change the destination depending on the shipping agreement and what is stated in the B/L. Currently the document serves three purposes

- a receipt providing evidence that the goods have been shipped as agreed and are in the possession of the carrier for delivery to the consignee at destination
- a statement or evidence of the terms of contract with the carrier
- A transferable document of title that can be pledged to a bank as collateral for international payments

The B/L also functions as a source of information in which the cargo is declared for international circulation. It provides government with information on what goods are transported to insure compliance with import/export regulations, the duties and taxes to be charged. As such it is normally submitted together with the customs declaration.

The B/L provides the following information:

Place and date where issued,
Issuer's signature – who is responsible (captain of ships agent) but can be a stamp, fax or electronic
Name of vessel – assures that carrier is contracted and assigns liability while in transit
Declaration of quantity and quality – Captain confirms that cargo is in good shape
Explanation that goods are on board
To whom the goods are to be delivered at the port of destination
Indication if freight has been paid

The entry for “To whom” can be “to order”, a specified named party or “order or a specific person”. If the entry is “not to order” then the B/L is not negotiable. A straight consigned B/L is made out to a named consignee and is not transferable, but not all jurisdictions agree that it is a document of title.

When the B/L is transferred to a third party, the underlying contract of carriage remains valid regulating the rights and liability between the initiating parties. The term negotiable refers to a set of circumstances under the law by which the transferee of the property acquires rights that are better or greater than the rights of the transferor. That is, the transferee will be entitled to the terms stated in the contract even if the transferor had agreed to accept a lesser condition. It would also be free of any encumbrances negotiated previously. Whereas two parties can essentially agree to whatever terms they want within the limits of the law, negotiability involves a third party that is not bound by the agreement.

Under US law, a B/L made out to named person and marked non-negotiable is a document of title and required to take receipt of cargo. If the B/L is made out to a specific person but another person attempts to claim the goods, then the consignee must establish an unbroken chain of names verifying the transactions of the document. A negotiable B/L can be pledged as security for L/C financing, but this is less important for shipments where there is a long-term relationship between buyer and seller and payments are not made through an L/C.

For containers there are now two types of B/L to take account of the fact that the shipping lines assumes possession of the box when it arrives at the terminal. There two are the received B/L for containers issued when they are received at terminal but not yet shipped and the shipped B/L issued after the container has been loaded on the vessel

The difficulties and costs associated with negotiable B/Ls in international trade have encouraged the use of non-negotiable transport documents where there is no intention to transfer ownership while in transit. For example, the seaway bill performs the first two functions of a B/L but not the third. It also does not conform to the Hague-Visby Rules,² since these refer to bills of lading or similar documents of title. Nevertheless some countries have extended these rules to non-negotiable seaway bills. Another problem with a seaway bills is that some customs will not accept it as an appropriate document for clearance of cargo. Another example is multimodal and combined transport documents. These may be represented as negotiable documents of title but their legal status is unclear and varies with jurisdiction.³ Other transport documents that do not act as documents of title include consignment notes for carriage by road, air and rail, freight forwarders receipts, and ship delivery orders.

Electronic B/Ls

The lengthy process for transmission of the B/L is one of the primary reasons for delay of shipment. Shipping lines have developed some mechanisms for overcoming this including issuing the cargo in exchange for a letter of indemnity (back letter) – even though this is in breach of the contract in B/L. Various attempts have been made to introduce electronic B/Ls as a way of reducing the time and cost for transmitting these documents. The problem is that it lacks the authority granted to a written document. In particular, the use of an electronic B/L by someone other than the “named party” on the document would create a significant but not an insurmountable problem. There is also a problem of transferability since the document is treated in the law as a physical thing that must be physically transferred between shipped and consignee. This transferability is recognized in a large number of countries and legal jurisdictions. The B/L acts as a contract between two parties for the transfer of title to the cargo. It also operates under an objective system to protect the seller’s creditor based on a physical transfer.

Under the CMI Rules for Electronic Bill of Lading, the shipper and consignee agree not to argue that the contract or any other document involved in transportation are not in writing, However, a third party does not have to accept this agreement. For an electronic B/L to be effective, there must be complementary laws affecting banks dealing with an electronic B/L. The legal core of the CMI Rules is the concept of the holder who can claim delivery of goods, nominate the consignee, transfer right of control to any other

² The Hague-Visby Rules are the Hague rules from the 1924 Brussels “International Convention for Unification of Certain rules relating to B/L” as amended by the Brussels Convention in 1968 undertaken by Comité Maritime International at Visby in France. They revised the shipper’s minimum compensation for loss and destruction while increasing the carriers protection against tort litigation.

³ Efforts by the UN to establish a Convention on International Multimodal Transport of Goods (1980) has not been ratified and the UNCTAD/ICC Rules for Multimodal Transport Documents (1992) have not been widely adopted although they have served as the basis for most regional documents.

party and instruct the carrier in accordance with the terms and conditions of the contract of carrier. The transfer of title would be done through a Private Key. For non-negotiable B/Ls most of the problems of an electronic document go away since this is an agreement between two parties. In this regard, ACL developed the Data Freight Receipt in 1971, which is in effect a non-negotiable seaway bill. However, there would still be problems with the document serving as collateral in documentary credit transactions.

The UN Commission on International Trade Law (UNCITRAL) established a Model Law on Electronic Commerce to recognize and validate contracts made by electronic means. However, EDI has not been visible in commercial law because of the costs and complicated technical system which users have to invest in. This situation should change with increased use of the Internet.

The US Customs Modernization Act allows parties subject to its provisions to keep information in electronic form but there is still need for international agreements and legislation supporting authentication of documents, evidential requirements for computer generated data, and control for access to computer systems and records.

Annex 4: Coordination of the Development of TEN

The development of the Trans-European Transport Network (TEN) has a long history beginning with the Common Transport Policy of the Treaty of Rome. The first European Council Directive in 1962 established common rules for specific forms of international road transport operations and reduced the authorizations required for these movements. These authorizations were harmonized in 1965 (Directives 65/269/EEC) and a Community quota on authorizations, where holders of these authorizations were not subject to quantity restrictions on the transport of goods between Member States including, where necessary, transit through a third Member State. This was followed by harmonization of conditions for competition in 1974 (Directive 74/561/EEC) based on the ECMT (European Community Ministers of Transport) quota system and finally in 1986 by an agreement to eliminate all quantity restrictions on intra-community transport of goods by 1993. This included harmonization of social and technical legislation and certain issues related to tolls and taxation.

In 1989, the EU Council regulation eliminated the checks and formalities performed at the frontier Member states for road and inland and waterway transport. This did not eliminate the need for technical inspections but recognized that they could “be performed with efficacy throughout the territory of the Member States concerned and crossing the frontier should not therefore be a pretext for carrying out such operations.”⁴ The latter retained the right of Member States to enforce national rules regarding weight and dimensions of vehicles as well as rate and rate related conditions governing transport contracts. The technical standards include dimensions, weights and other physical characteristics as well as certification of road-worthiness. In 1992, a Community (EMCT) license issued under Regulation 881/92 was introduced to replace the remaining quality restrictions. At the same time, an effort commenced to eliminate cabotage, which were completed by 1998.

The need for development of transport infrastructure was recognized with the establishment of the European Regional Development Fund in 1975 but there was little progress in this area until 1992, when under the Maastricht Treaty, the European Commission was allowed for establish guidelines for identifying projects and the TEN network was set out together with its objectives. The guidelines for TEN were prepared in 1993 and a total of 35 priority projects and 14 special priority projects were identified in 1994 at the Essen Summit. The guidelines for the development of the projects were set out in Decision 1692/96/EC emphasizing the need to ensure economic viability and sustainability and to interlink different modes (interconnection and inter-operability, and. Projects were to eliminate bottlenecks, fill in missing sections and complete major routes. These were to be funded through a six year Regional Support Programs based on priorities set by the Member States. As these had to compete for funds with non-transport projects, only about four have been completed, though work on several others has started. Because of delays in investment, a proposal was made to extend the deadline for implementation from 2015 to 2020.

The guidelines for the development of the Trans-European transport network, as described in Table A.1, were set out in the July 1996 Decision of the European Parliament and The Council (No 1692/96/EC). The basic goals were to improve the dynamics of the internal market and territorial cohesion as well as the competitiveness and growth potential of the European Union. Specific objectives mentioned were:

- smooth functioning of the internal market
- strengthening of economic and social cohesion;
- ensuring the sustainable mobility of persons and goods taking account of their comparative advantages

⁴ Council Regulation (EEC) No 4060/89

Table A.1: Description of TEN Corridors

Corridor I	Road-rail	Corridor II	Road; rail	Corridor III	Road; Rail
Via Baltica (road): 445 km; Rail Baltica: 550 km;		running parallel for the most part, Total length: 1.830 km		Total length 1.640 km running in parallel for the most par	
Helsinki Tallinn Riga Kaunas Klaipeda Warsaw Gdansk Kaliningrad	Finland Estonia Latvia Lithuania Poland Russia	Berlin Poznan Warsaw Brest Minsk Smolensk Moscow Nijni Novgorod	Germany Poland Belarus Russia	Berlin Dresden Wroclaw Katowice Cracow Lvov Kiev	Germany Poland Ukraine
Corridor IV	Road; rail	Corridor V	Road; rail		
Link EU-South-eastern Europe Danube ferry link; airports; ports ; combined transport. length: 3.258 km		length: 1.600 km			
Berlin Dresden Nuremberg Prague Brno Vienna (rail) Bratislava Győr Budapest Arad Craiova Bucharest Constantza Sofia Pflodiv Thessaloniki Omenio Istanbul	Germany Czech Republic Austria Slovak Republic Hungary Romania Bulgaria Greece Turkey	Venice Trieste Kopar Ljubljiana Maribor Budapest Uzgorod Lvov Kiev Bratislava Zilina Kosice Rijeka Zagreb Osijek Ploce Sarajevo	Italy Slovenia Hungary Ukraine Slovak Republic Croatia Bosnia-Herzegovina		

Corridor VI Road ; Rail	Corridor VII Waterway route	Corridor VIII Road; rail
link corridor V; combined transport. length: 1.800 km	Danube from Germany to Black Sea; connects to North Sea via the Rhine and the Main	expansion of port of Durrës; combined transport in Bitola; Length: 1.300 km
Gdansk Torun Poznan Grudziadz Warsaw Zebrzydowice Poland Zilina Slovak Republic Ostrava (corr IV) Czech Republic	Germany Austria Slovak Republic Hungary Croatia Serbia Ruse Bulgaria Moldova Ukraine Romania	Durrës Tirana Albania Skopje Bitola FYR Macedonia Sofia Dimitrovgrad Burgas Varna Bulgaria
Corridor IX Road; rail	Corridor X Road; rail	
port expansion, link Helsinki-St. Petersburg-Moscow length: 6 500 km	Length: 2 360 km	
Helsinki Finland Vyborg St Petersburg Pskov Moscow Kaliningrad Russia Kiev Ljubasevka Odessa Ukraine Chisinau Moldova Bucharest Romania Vilnius Kaunas Klaipeda Lithuania Minsk Belarus Alexandroupolis Greece Dimitrovgrad OrmenioBulgaria	Salsburg Graz Austria Zagreb Croatia Belgrade Thessaloniki Bitola Skopje FYR Macedonia Ljubljana Maribor Slovenia Budapest Hungary Belgrade Serbie Novi Sad Nis Sofia Bulgaria (Corr IV - Istanbul) Veles Florina Via Egnatia	

The Commission of the European Communities was to act as an advocate for regionwide planning and EU funding for the network. The strategy was to integrate the networks relating to the road, rail, inland waterway, sea and air transport of passengers and goods into a trans-European network and for combined transport to making better use of the inherent advantages of each mode. The emphasis was on the interoperability of the modes of transport and intermodality to encourage efficient use of available capacity. This implied improvement in interconnection points and intermodal platforms. The deadline given for completing the trans-European network was 2020

The directive proposed to identify projects of common interest for the various modes. These projects should be economically viable, meet the environmental requirements and promote safety and network reliability. The principal projects would be development of the connections, key links and interconnections needed to eliminate bottlenecks, fill in missing sections and complete major routes. Other projects would include traffic management and user information systems and positioning and navigation systems. As part of the project identification and evaluation process, the directive proposed applying corridor analysis covering all relevant transport modes taking into account the particular needs of island, landlocked and peripheral regions with the central regions of the Union. The network was also to be capable of being connected to the networks of the European Free Trade Association (EFTA) States, the countries of Central and Eastern Europe and the Mediterranean countries. An initial list of projects was proposed in October 2001.

The principal function has been to obtain European Parliament approval for priority projects with high value added. Initially the emphasis was on reducing congestion on the major routes, most of which were roads. The list of projects has gradually been extended to projects in the Alps, the Pyrenees and the Baltic Sea and more recently to include three rail projects and a broad proposal for sea routes, "motorways for the sea". Since the sea routes already exist, these projects focus on:

- Simplified customs and administrative checks similar to what applied at intra-Community land borders;
- Electronic reporting for port authorities;
- RoRo terminals and other port facilities for this activity with direct access to these ports
- Year-round navigability

The various projects are assigned a "European interest" label allowing the Member States to carry out coordinated evaluation procedures, and public consultation prior to the authorization of projects. This includes transnational efforts for their cross-border sections. There is now a proposal to amend existing regulations in order to allow Community co-financing of up to 30% of the cost of the cross-border sections of the projects declared to be of European interest.

The projects with a true European dimension, whether because of their scale, role in developing transnational trade or providing more environmentally friendly modes of transport, require a community level effort to coordinate with some financial support to obtain the commitment on the Member States to carrying them out. Investments in projects of European interest that have so far been identified are on the order of EUR 220 billion with EUR 80 billion required for short term investment. Part of the aid granted for the trans-European networks comes from the cohesion fund and from the instrument for structural policies for pre-accession.

In order to overcome the problems with coordination and inefficiency in sequencing development of projects affecting more than one state due to principle of the territoriality of financing and project supervision, it has been proposed to develop coordination teams for individual projects or groups of projects to synchronize implementation in a way that will increase socio-economic profitability of major projects on the trans-European network. Of particular concern was the coordination of planning for cross-

border sections that are technically and financially indivisible, especially the impact assessment study and the consultation with the populations in the affected Member States. The Community would subsequently need to coordinate the implementation of projects so as to avoid delays or abandonment of certain stretches that would impact on efforts undertaken by other States on the same route as well as on the financial interests of the Community.

Annex 5: EC-Road Transport-Related Legislation

The effectiveness of the Trans-European Network has been due largely to the simplification of cross border movements. IN 1989, Council Regulation (EEC) No 4060/89 abolished border crossing checks and formalities at the road and inland waterway crossings between Member States. This regulation covered both bilateral and transit traffic. The regulation addressed ten issues as follows:

- Functioning of the market access
- Fiscal harmonization
- Social harmonization
- Technical harmonization
- Road statistics
- Road infrastructure
- Combined transport, telematics and satellite communication
- Research & Development
- Public procurement
- Relations with third countries in central and eastern Europe

The first issue included:

- recognition of qualifications in respect of the professional activities,
- competition rules related to freight and passenger transport, and
- general liability and insurance.

The second issue covered vehicle taxes, excise on fuel, tolls accounting for infrastructure costs, the use of TIR for transit, customs and border inspections and veterinary controls.

Technical harmonization covered limits on the dimensions and other physical characteristics of the transport units including emission and noise. The regulation recognized the right of member states to conduct inspections of vehicles and inland waterway vessels relating to technical characteristics, authorizations and other documentation but that these should be moved away from the border and applied in a non-discriminatory fashion throughout the territory of a Member State. The border was defined as either an internal frontier within the Community or an external frontier, where carriage between Member States involved crossing a third country

Each Member State was to recognize the roadworthiness test issued in another Member State. While it allowed for random checks of vehicles as regards weight standards, checks for dimensions were only to be conducted where there was a suspicion of non-compliance. For documentation, the Directive required a single plate established and attached in accordance with Directive 76/114/EEC and a single registration document issued by the competent authorities of the Member State. It also indicated the information that must be provided on these documents.

For inland waterway vessels, there was a reciprocal recognition of navigability licenses, but the regulation allowed for checks at any time check that a vessel was carrying a valid certificate

The maximum authorized dimensions for national and international traffic and the maximum authorized weights in international traffic were set out in Council Directive 96/53/EC. The standards were meant to balance rational and economic use of commercial road vehicles and protection of infrastructure, road safety and environment. This directive allowed Member States to apply additional technical requirements

to commercial vehicles registered or put into circulation in a Member State but only if they did not impede the movement of commercial vehicles between Member States. It also allowed Member States to apply dimensions for vehicles or vehicle combinations used for national transport operations that were different from Community standards provided they did not significantly affect international competition. The Directive required Member State to adapt their road infrastructure to meet these conditions and be able to accept trucks meeting these standards by the beginning of 2004.

Annex 6: Role of TRACECA

The Trans-European network was expanded to a group of Pan-European corridors in 1994 as part of Transportation Infrastructure Needs Assessment in the Phare countries. The criteria and standards were to be consistent with the EU guidelines.

TRACECA was established by the EU to promote the development of transport routes across the Black Sea, through the Caucasus and the Caspian Sea to Central Asia and to support of economic independence of the countries surrounding the Black Sea and the CIS. The network was to serve as an extension of TEN thereby providing better access to European markets. Its major activity was to promote the development of this network through technical assistance and some limited investment in infrastructure. The program also encouraged cooperation among the participating government in areas such as transit fees and border crossing formalities.

The program began in 1993 with a set of project proposals to overcome deficiencies in the region's trade and transport systems that had limited potential trade with Europe. Working groups were developed to address problems in four sectors, trade facilitation, road, rail and maritime transport and to identify projects for potential EC support. The investments were to come primarily from the international development banks. This was to be complemented by an effort to commercialize and privatize transport service providers in the Central and Eastern European countries, in particular truck transport.

Table A.2:

Caucasus	Armenia Azerbaijan Georgia	Black Sea	Ukraine Moldova
Central Asia	Kazakhstan Kyrgyzstan Tajikistan Turkmenistan Uzbekistan	Non TACIS countries	Bulgaria Romania Turkey

The configuration of this backbone network was subsequently modified at the 1997 Helsinki conference on Pan European Transport, which identified the Black Sea Region as a Pan European Transport Area linking the corridors in Europe with the TRACECA route. This was followed in 1998 by the "Basic Multilateral Agreement on International Transport for the Development of the Transport Corridor Europe-Caucasus-Asia", which covered customs procedures and documentation as well as rail, road and maritime transport. The general objective was to promote economic relations and trade among Europe, Black Sea region, Caucasus, Caspian Sea region and Asia. Part of the strategy was to encourage competition by harmonizing transport policy and associated legal structure.

The TRACECA "corridor" of countries now extends from South-eastern Europe to the Chinese border. Initially it was a Pan European corridor including a road and a rail corridor from the Chinese border to Chimkent in Kazakhstan, from there two road and rail alternatives to Baku, a road and a rail corridor from Baku on the Caspian Sea to Poti/ Batumi on the Black Sea and two ferry routes on the Black Sea to Varna and Odessa. The network has since been increased to include a large number of ports, rail and/or road routes, rail ferry and ro-ro routes and the original collection of routes have been changed and extended to include Turkey and Ukraine. The TRACECA corridor now comprises:

- sections of the Pan European corridors in Ukraine and Moldova;
- All routes across the Black Sea through Poti or Batumi
- Ports and road/rail alternatives through Turkey;
- Road and rail routes through the Caucasus;
- Two routes across the Caspian Sea between the Baku and Aktau or
- Turkmenbashi;

- Road and rail routes these ports to Central Asia,
- Various links connecting to the borders with Afghanistan and China.

The investments initiated under TRACECA have focused on small-scale efforts to eliminate critical bottlenecks, e.g. cross-border bridges, port facilities to support services across the Caspian and Black Seas, and equipment for container terminals. All projects had to involve at least two countries

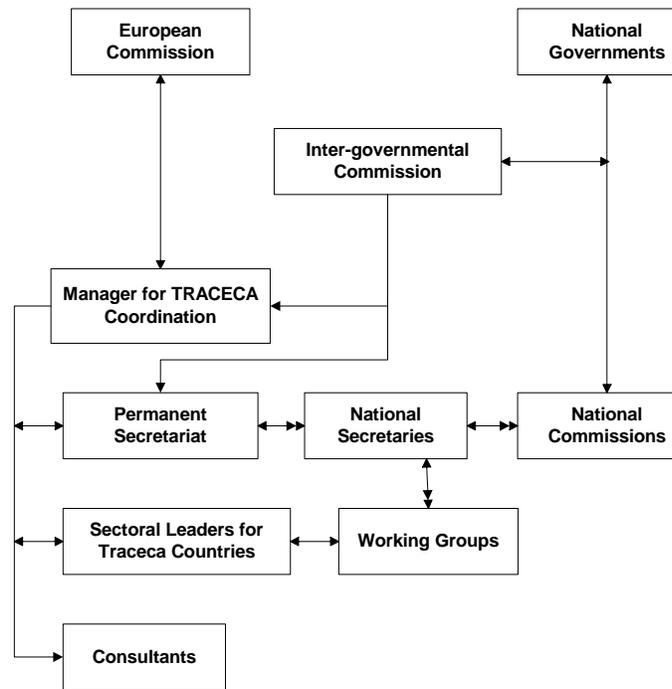
TRACECA is largely a rail and maritime corridor and most support has been provided to railways, ports and rail based container transport. The exception is the Caucasus where the TRACECA program has been instrumental in the upgrading of the road corridor.

As a result of the 1998 conference, an Inter-Governmental Commission (IGC) was established to regulate the issues concerning implementation of the Basic Agreement. It consisted of governmental authorities from the member states Meetings were held at least once a year and decisions were based on consensus. In order to support its deliberations, the IGC created a Secretariat. Its organization has been constrained in terms of budget and organizational structure (Figure A.2). It is limited to a consultative role and lacks in strong central leadership. The pivotal role falls to the Coordination team. It organizes the projects through country representatives working together with the sectoral experts appointed by the member countries.

A recent review of TRACECA's performance⁵ identified problems related to the lack of a strategic plan and clear prioritization of activities as well as the lack of commitment and participation by some countries. Part of the problem is that the organization has not changed its objectives even though the situation has changed substantially in the ten years since they were formulated. Another is that strategic coordination has been limited to an exchange of views at regional meetings. At the operational level performance has been mixed and largely dependent on individual project leaders, who are primarily contractors.

Despite these problems, the scope of TRACECA has expanded from specific corridor and transport to a broader program encompassing trade facilitation which has led to the current project emphasis on harmonization of border crossings, tariffs and the legal framework for transport.

Figure A.1



⁵ Evaluation of TRACIS Regional TRACECA Programme (1998-2002), Jacobs consultancy, July 2003

Annex 7: GMS and ASEAN Agreements

GMS Agreements

The GMS is a program for regional development supported by ADB rather than a formal regional agreement or a trading bloc such as ASEAN. It was established in 1992 as part of an agreement between Thailand, Vietnam, Myanmar, Laos, Cambodia and China. Initially it focused on developing basic infrastructure in the subregion. Since that time, the ADB has participated in a total investment of about US\$1 billion for transportation and energy projects in the GMS countries.

Towards the end of 1999, three of the GMS countries, Thailand, Laos and Vietnam, signed a Cross-Border Transport Agreement. This document is meant to facilitate cross-border movements of people and goods. Among the proposals for facilitating these transactions were:

- Single-stop/single window
- Transit traffic exemptions
- Other Provisions for Cross-Border Movement of Vehicles
- Harmonization of Vehicle technical standards

All together there are seventeen Annexes and three Protocols intended to standardize and upgrade the quality of transport between the GMS countries. Their titles are listed in Table A.4. These were to be signed in three stages beginning with those that were easiest to reach agreement on (italicized items in Table A.4). On April of 2004, the six members signed the annexes and protocols for stage 1.

Table A.3 List of Annexes and Protocols

Annex	
1	Carriage of Dangerous Goods
2	<i>Registration of Vehicles in International Traffic</i>
3	Carriage of Perishable Goods
4	<i>Facilitation of Frontier Crossing Formalities</i>
5	Cross-Border Movement of People
6	Transit and Inland Clearance Customs Regime
7	<i>Road Traffic Regulation and Signage</i>
8	Temporary Importation of Motor Vehicles
9	Criteria for Licensing of Transport Operators for Cross-Border Transport Operations
10	Conditions of Transport
11	<i>Road and Bridge Design and Construction Standards and Specifications</i>
12	<i>Border Crossing and Transit Facilities and Services</i>
13a	<i>Multimodal Carrier Liability Regime</i>
13b	Criteria for Licensing of Multimodal Transport Operators for Cross-Border Transport Operations
14	Container Customs Regime
15	<i>Commodity Classification System</i>
16	Criteria for Driving Licenses
Protocols	
1	<i>Designation of Corridors, Routes, and Points of Entry and Exit (Border Crossings)</i>
2	Road User Charges for Transit Traffic
3	Frequency and Capacity of Services (Quotas) and Issuance of Permits

This agreement was meant to facilitate the development of major transit corridors connecting the countries within the GMS (Figure A.2). These include corridors connecting the capital and also major

economic centers. However, the primary benefit is expected to be an increase in bilateral trade. Currently much of this trade is informal movements across the long porous borders. This includes both trade in prohibited goods, e.g. logs, and smuggling to avoid the costs and delays associated with formal trade. With the development of more favorable trade agreements and reform of government regulation of this trade, it is expected that the intraregional trade will increase. This will put greater demand on the major corridors. At the same time, ADB has been financing the development of three multi-country economic corridors, specifically the Phnom Penh-Ho Chi Minh City Highway, the East-West Corridor and the Chiang Rai-Kunming Road.

Figure A.2 GMS Corridors



Asean Framework Agreement

The Economic Ministers of ASEAN on 16 December 1998 signed three agreements in line with the goal of the Hanoi Plan of Action to hasten the economic integration of the ASEAN member countries. Two of these, the Framework Agreement on Mutual Recognition Arrangements and the Framework Arrangement on the Facilitation of Goods and Services are intended to make trade among ASEAN countries easier and faster. The objectives of the third, the Framework Agreement for the Facilitation of Goods in Transit are:

- facilitate transportation of goods in transit,
- support the implementation of the ASEAN Free Trade Area (AFTA),
- further integrate the region's economies;
- simplify and harmonize transport, trade and customs regulations and requirements for the purpose of facilitation of goods in transit; and
- establish an effective, efficient, integrated and harmonized transit transport system in ASEAN.

The agreement grants the right to load and unload third country cargo with origins or destinations in ASEAN countries. The agreement is to be combined with a specification of transit routes and crossing points.

As part of this framework, the nine signatories granted each other the usual rights for goods moving in transit. For example, they would not be subject to any unnecessary delays or restrictions, would exempt from customs duties and taxes, and, when transported in sealed road vehicles, would not be subjected to examination at Customs offices en route. However, Customs authorities of either Contracting Party could, when irregularity is suspected, examine the goods.

In order to facilitate cross-border movements, the parties agreed to follow, where possible, the 1982 International Convention on Harmonization of Frontier Control of Goods. They would also seek to locate border facilities near each other and have the same hours of operation.

The agreement would include a separate protocol setting out the technical requirements for vehicles regarding vehicle dimensions, maximum weights and loads, emission standards and related matters set out in the agreement Protocol. Each country would recognize the licenses and inspection certificates for truck operators of the other with countries. They also agreed to harmonization of traffic standards consistent with the provisions of the 1968 International Conventions on Road Traffic and Road Sign and Signals. A separate agreement on the facilitation of interstate transport would specify the conditions for operation of one country's vehicles in another country.

The agreement set up committees to prepare the protocols to the agreement which include:

- 1 Designation of Transit Routes
- 2 Designation of Frontier Posts
- 3 Types and Quantity of Road Vehicles
- 4 Technical Requirements of Vehicles
- 5 ASEAN Scheme of Compulsory Motor Vehicle Third-Party Liability Insurance
- 6 Railways Border and Interchange Stations
- 7 Customs Transit System
- 8 Sanitary and Phytosanitary Measures
- 9 Dangerous Goods

Protocols 3 and 4 were signed in 1999. However, additional protocols proved problematic and in 2001, the Transport Ministers could only agree to request the member countries to study the desirability and feasibility of phased implementation of the framework. In 2002, they signed Protocol 9, but in 2003 the Ministers were back to discussing “options to expedite the conclusion of the ASEAN transport facilitation agreements”. The progress on this agreement is indicated by the status of the protocols related to Goods in transit.

Table A.4 Status of Protocols for ASEAN Framework Agreement on Goods in Transit

Protocol	Status As Of May 2002
Protocol 1: Designation of Transit Transport Routes and Facilities (<i>pending</i>)	There has been no further development since October 2001 as Singapore and Malaysia cannot agree.
Protocol 2: Designation of Frontier Posts Protocol 7: Customs Transit System (<i>Both are still pending</i>)	Members countries of ASEAN are currently being asked to verify their designated frontier post in the annex of Protocol 2 and also the list of prohibited or restricted goods not permitted for transit transport in the annex of Protocol 7
Protocol 3: Types and Quantity of Road Vehicles Protocol 4: Technical Requirements of Vehicles (<i>Both signed on 15 September 1999</i>)	Signed and accepted by Lao PDR, Myanmar, and Vietnam Philippines ratified Protocol 3
Protocol 5: ASEAN Scheme of Compulsory Motor Vehicle Insurance (<i>Signed 8 April 2001</i>)	Cambodia and Vietnam have accepted/ratified this protocol
Protocol 6: Border and Interchange Stations Protocol 9: Dangerous Goods (<i>Both are still pending</i>)	Singapore made representation that there are still a number of issues that needed further clarification for Protocol 6 and 9.
Protocol 8: Sanitary and Phytosanitary measures (<i>Signed on 27 October 2000</i>)	Only Vietnam has accepted this Protocol to date.

Source: compiled from ASEAN Secretariat

This agreement is still not effective as there are difficulties regarding the negotiation of certain protocols, specifically:

- Designation of Transit Routes and Facilities
- Types and Quantity of Road Vehicles (draft)
- Dangerous Goods (draft)

ASEAN Framework Agreement On The Facilitation Of Inter-State Transport-September 2000

This agreement, prepared in 2000, seeks to harmonize the procedures used for import and export cargoes and has objectives of this agreement are similar to those for transit including:

- Facilitate inter-state transport of goods between and among the countries,
- Support the implementation of the ASEAN Free Trade Area (AFTA) and integrate the region’s economies,
- Simplify and harmonize transport, trade and customs regulations and requirements for the purpose of facilitation of inter-state transport of goods; and
- Work in concert towards establishing an effective, efficient, integrated and harmonized regional transport system that addresses all aspects of [transit and] interstate transport.

ASEAN Framework Agreement on Multimodal Transport 1998

This Agreement prepared in 1998 lays down the broad principles on minimum standard of registration and liability limits for ASEAN multimodal transport operators. It was scheduled to be adopted at the end of 2002, but as with other ASEAN agreements, approvals have been difficult to obtain. In reality, ASEAN economic relationships have been more competitive than co-operative. National interest continues to dominate regional interest. Even under AFTA (ASEAN Free Trade Area), ASEAN countries can exclude goods and services from the scheme for alleged reasons of national security.⁶ The political agenda of each member state does not facilitate the creation of economic co-operation and integration. Even with the Framework Agreement on the Facilitation of Goods in Transit and the framework for Inter State Transport in place, the member states have had many difficulties in negotiating all the protocols.

⁶ “Is ASEAN a paper tiger?” in: *Bangkok Post*, 15 February 1998, Internet Edition.

Annex 8: System Maps

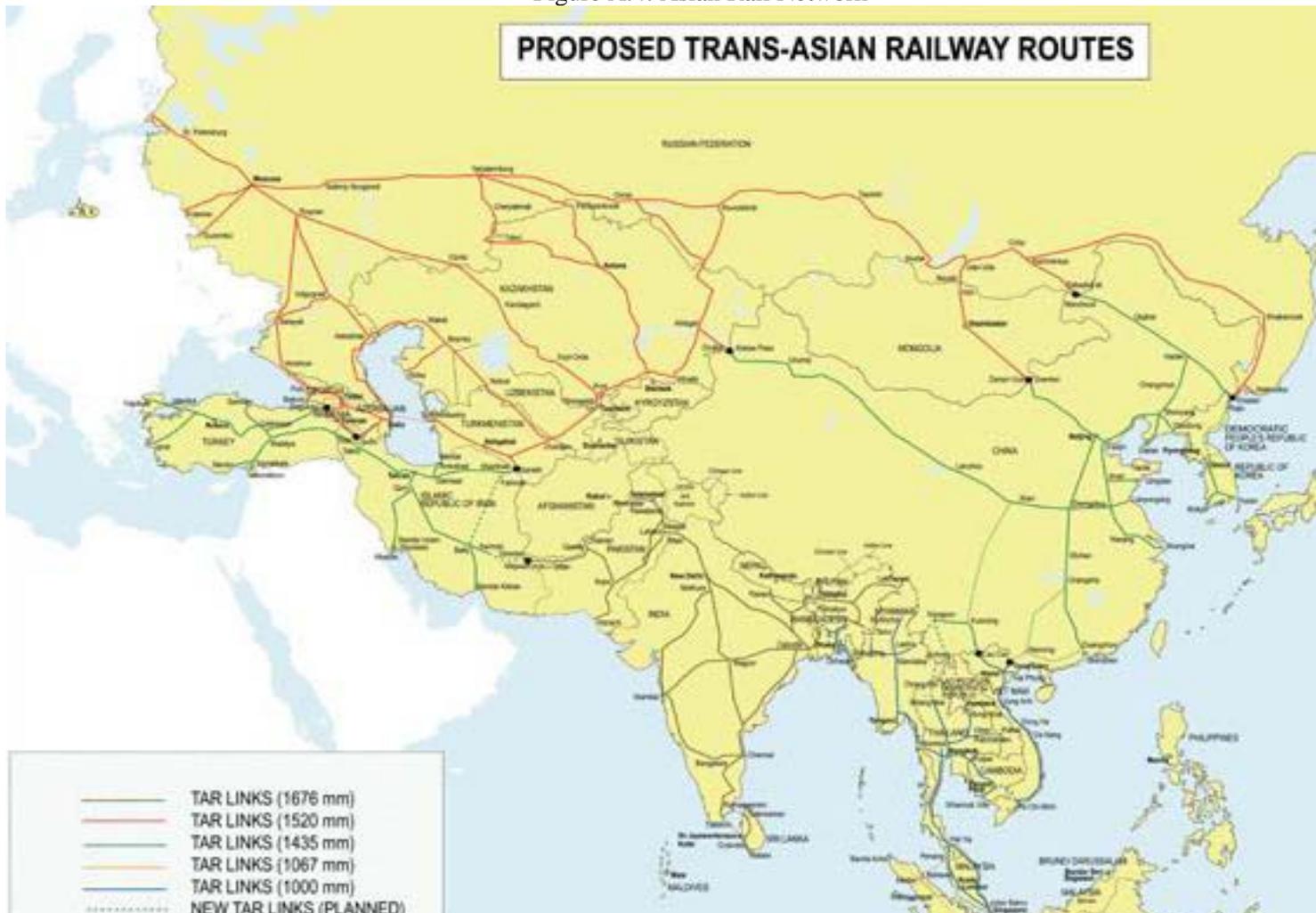
The Asian Highway Network is a collection of national roads identified by ESCAP that connects Afghanistan through to Singapore. This has now been expanded to a vast network of national roads covering most of Asia and stretching from St. Petersburg to Manila (Figure A.3). Most of the network are existing national roads but built to different standards. Also many of the countries lack arrangements for cross-border movements. This problem is now being addressed by ESCAP.

Figure A.3: Asian Highway



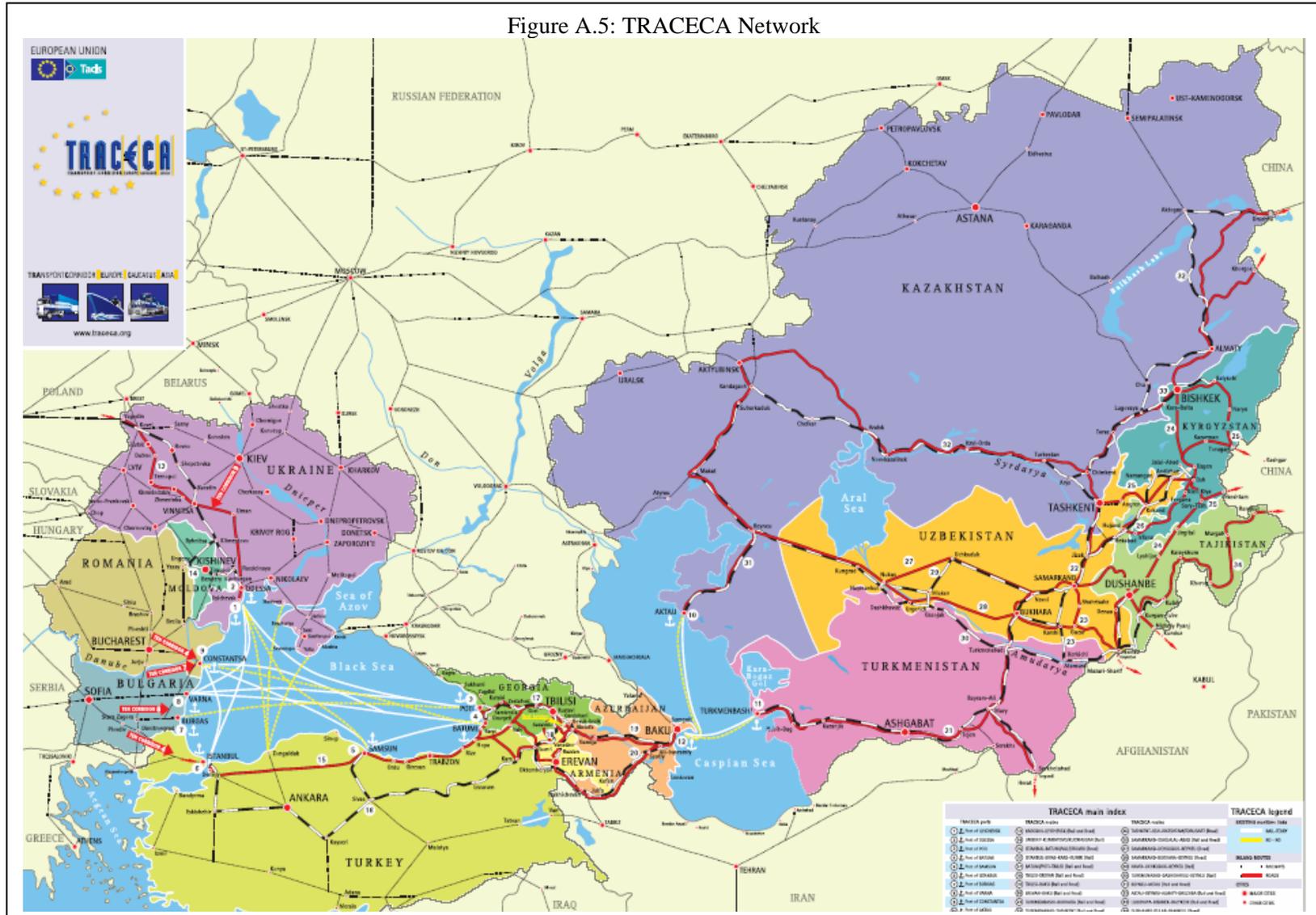
ESCAP has also promoted the development of the Asian Rail network. This is made up of existing rail links, but many of them no longer operate and others handle relatively little traffic. They also differ in physical specifications. So far, there are relatively few cross border movements except in Southeast Asia.

Figure A.4: Asian Rail Network



The TRACECA network was established to create a transport corridor on a west - east axis from Europe, across the Black Sea, through the Caucasus and the Caspian Sea to Central Asia. It is an extension of the TEN network including some 22 road and multimodal routes that cover the countries surrounding the Black Sea and the CIS (Figure A.5).

Figure A.5: TRACECA Network



Annex 9: Canada-Mexico Corridors

The NAFTA agreement not only facilitated substantial growth in trade between the US and Canada⁷ and the US and Mexico but also created opportunities for increase the trade between Canada and Mexico, which had already totaled \$6.6 billion in 1995/6. About 56% of this moves by road. In response to this potential, a number of corridors have been identified (see Table A.5). These are part of 43 national corridors identified in the Intermodal Surface Transport Efficiency Act of 1991 and included as high priority corridors in the 1995 National Highway System Designation (NHS) and Transport Equity Acts (TEA-21). The latter specifically encouraged bilateral and multi-jurisdictional efforts. While most of these corridors remain in the conceptual stage, this legislation provided funds to study of ways to improve these corridors. The state governments took advantage of this legislation to strengthen their requests for capital improvements on links in these corridors.

Table A.5 Canada-Mexico Corridors

Name	Border Crossings	Mode
Camino Real	El Paso, Texas – Shelby, Montana	All road
Canamex (through to Alaskan Highway)	Nogales, Arizona - Shelby, Montana	All road
Cascadia	Tijuana, Baja Cal. - Seattle, Washington	Road and rail routes
Central North America	Laredo and Brownsville, Texas – Minot, North Dakota	Road
Continental One World	Miami, Fla – Buffalo, New York	Road to port
I-69 Mid-continent	Laredo Texas - Port Huron, Minnesota	Road
I-95	Miami, Fla - Northern Maine	Multimodal
North America Superhighway	Lardeo, Texas – Duluth, Minnesota	Road
Pan America (through to Tierra De Fuego)	Laredo, Texas - Pembina, North Dakota	Road

Source: “North American Trade Corridors: A Survey of Current Endeavors”

Individual corridors are represented by coalitions of private and public sector interest groups that both advocate the concept and coordinate efforts to obtain funding for development of the corridor and related software. An example of such a coalition is the Canamex Corridor that involved cooperation between Alberta, Arizona, Montana, Utah, Nevada and Idaho. The first four are signatories to an agreement to promote the road, but so far, there has been no Mexican states participating in the coalition. The coalition supported construction of a bridge bypassing the road on the top of the Hoover Dam in order to reduce potential congestion on this route. This proposal was then been put forth by the Federal Highway Administration in cooperation with these states agencies and justified based on the economic advantages to the states from enhancing the capacity of the Canamex corridor, which serves Western Canada and the Rocky Mountain States and Mexico west of the Sierra Madres by connecting Nogales, Arizona to the Canadian border in Montana (highlighted in Figure A.6). Complementary initiatives considered for this corridor include additional highway improvements, use of the right-of-way for fiber-optics and other telecommunications cables, and a shared Information Technology system to provide service information

⁷ This amounted to 87% of Canada’s exports in 2001.

to commercial vehicle operators, and development of a common set of standards for secure commercial transactions.

Figure A.6: Canamex Corridor



A number of other alliances have been established to focus investment of the various strategic north-south corridors. Prominent among these is the Can/Am border alliance, which represents several corridors including two linking Alberta, Canada to Mexico via San Diego and El Paso, Ontario to Texas directly and via Florida. This alliance has representation from both the public and private sector in all three countries, including the states of Sonora, Sinaloa and Jalisco in Mexico. While most of these are road corridors, one of them, corridor involves an alliance between Canadian Pacific Railway and Union Pacific Railroad, which has service into Mexico

These corridors benefit from good road and rail infrastructure in Canada and the US. However, this is not the case in Mexico. Although most of the attention has been given to coordinating investments and activities in the US and Canada, the major difficulties remain in Mexico where transport beyond the border is slow and costly. Mexico lacks an East-West highway and the roads connecting to the north are in poor condition. The Mexican state governments have yet to join the various coalitions although city governments have participated. For example, the North American International Trade Corridor has formed a partnership that includes the cities of Guadalajara and San Nicolás de los Garza, while the Camino Real Economic Alliance includes business leaders from Chihuahua, Ciudad Juárez and Chihuahua in Mexico as well as El Paso Texas and Las Cruces, Albuquerque, and Santa Fe New Mexico

The US approach differs from that used in the European Union in various ways as shown in Table A.6. In particular, there is a lack of systemic approach. Different cities and states are competing for funds provided under the TEA-21 without consideration of the impact on trade.

Table A.6

Trans-European Network	North American Corridors
Assigned to National government through the treaty	Private and Public Promoters rather than government
Links beyond to Central and Eastern Europe	Limited to three countries
Promote efficiency and connectivity	Maximize trade and competitiveness

Source: “North American Trade Corridors: A Survey of Current Endeavors” modified by author

Not specifically included in the corridor initiatives are improvements in cross-border procedures. These are within the purview of the Customs and Immigration Agencies within the Department of Homeland Security. These have introduced the FAST program for facilitation of low risk goods, primary truck lanes, and PAPS system for expedited clearance.⁸ However, there are relatively few major crossings on the Canadian-US border and the Mexico-US border. This causes congestion at the border, especially with the increased security checks following the 9/11 incident. Improvements in throughput at the border will require the deployment of additional customs officials, the expansion of facilities and, most important, increased the use of ITC in clearance procedures.

Perhaps the most important restriction on cross-border movements has been the ban on Mexican trucks operating in the US. Only ten years after NAFTA went into affect did the US finally allow Mexican trucks to carry cargoes directly to and from US destinations/origins. The Mexican trucks had previously been restricted to a 20-mile zone in which they had to transship their cargo. Mexico responded by preventing US trucks from carrying goods across the border. Various issues such as safety and environment were used as arguments to support this practice but underlying it was the resistance of US truckers unions. In the end, a decision by the Supreme Court was required to overturn earlier judgments and break the impasse. Even then, the Mexican trucks are still prohibited from carrying domestic cargo between points with the US. As a result, they operate at a competitive disadvantage relatively to US operators.

⁸ FAST – Free and Secure Trade, PAPS – Pre-Arrival Processing System. The introduction of the latter at the Detroit and Buffalo crossing points have reduced the clearance time to less than one minute for 80% of the trucks versus only 35%-60% prior to its introduction

Annex 10: Pan American Highway

The Pan-American Highway is a system of national highways stretching some 25,750 km from Alaska to Chile. The northern section travels through 9 countries, 5 U.S. states, and 2 Canadian political entities (1 province and 1 territory).⁹ This road connects a number of national and provincial capitals including Vancouver, Seattle, Portland, San Francisco, San Diego, Mexico City, Guatemala City, San Salvador, and Managua, San Jose, Panama city. The southern section follows the Simón Bolívar Highway connecting Bogotá, Colombia and the Venezuelan port of La Guaira. It follows the western coast of the continent to Santiago, Chile before turning east across the Andes to Buenos Aires, Argentina and then up through Montevideo, Uruguay, to Rio de Janeiro, Brazil.

The Highway was originally proposed at the Fifth International Conference of American States in 1923. Most of the network was developed during the 1940s and 1950s with financing from the United States. Much of the highway was upgraded in the late 1960s. The network is modeled on the US highway system but its characteristics are far from uniform. Some stretches are passable only during the dry season. In several regions, driving is occasionally hazardous.

Furthermore, the highway has never been completed. It has been possible since the 1960s to drive on a continuous road from the Arctic Circle to the southern end of Central America, and from the northernmost section of the Andes to Tierra del Fuego, but there is a gap on Panama's border with Colombia. The Darién Gap is 87 km of harsh, mountainous jungle. Various reasons have been given for not completing this section including its rugged terrain, environmental issues relating to the rain forest and indigenous people, and health concerns regarding the spread of tropical diseases and preventing hoof and mouth disease from entering North America. There is also a fear of expansion of drug-trafficking and increased violence since the highway passes through a region in Colombia known for guerilla activity and cocaine trafficking.

Various proposals for completing this section have been put forward. These include continuing efforts by Panama and Colombia to pave a 262 kilometer dirt road in Panama. The U.S. signed a 1971 treaty to pay two-thirds of the cost for construction but it has never been implemented. About half of the highway was completed by 1975, but a U.S. judge blocked completion citing the foot-and-mouth problem, among other concerns. The project subsequently died. There was a 1997 IDB agreement with the governors representing the isthmus countries to evaluate alternatives for the financing, operation, maintenance, and management of the proposed project. In 1997, a legislated study (Pub. L. 104-59, title III, Sec. 359(a), Nov. 28, 1995, 109 Stat. 626) was completed on the adequacy of and the need for improvements to the Pan American Highway, the benefits of constructing a highway at Darien Gap, self-financing arrangement for completion and maintenance of the Pan American Highway, establishing a Pan American highway authority to monitor financing, construction, maintenance, and operations of the Highway. However, nothing resulted from this study.

Improvements in political and economic conditions in the isthmus have created the conditions for the rehabilitation, widening, and modernization of the Pan American Highway, but no mechanism for accomplishing this has been identified. While North American has benefited from the development of NAFTA, which allows for efficient transport between Mexico and Canada, there has been no comparable economic integration within Central America. As a result, the border crossings remain problematic and inter-country traffic limited.

⁹ Alaska, Yukon Territory, British Columbia, Washington, Oregon, California, Arizona, Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama

In South America, the integration of the Mercosur region has facilitated trade between Brazil, Uruguay and Argentina thereby increasing the traffic on this section of the Highway. The Andean pact nations have also reduced the difficulties with cross border trade and have allowed greater use of the highway. However, there has been no coordinated effort to encourage the use of the highway. Instead, the concept of the Pan American Highway has created a focus for funding roads connecting major cities and for rehabilitation of the network after disasters such as Hurricane Mitch

Annex 11 African Road and Rail Corridors

There are a number of corridors that have been identified in Africa. Most notable are the Northern and Central corridors through the ports of Kenya and Tanzania, the Maputo and Transkalahari corridors serving southern Africa and the less formal corridors in West Africa. A summary of these is presented in Table A.7

Table A.7: African Corridors

Country	City	Port	Transit country	Mode of transport	Distance	Corridors	Economic Community
Burundi	Bujumbura	Dar Es Salaam	Tanzania	Road	1800	Northern Corridor	SADC COMESA SAEN
		Mombasa	Rwanda/Uganda/Kenya	Road/Rail/Lake	1455		
				Road	2022		
				Road/Rail	1850		
Rwanda	Kigali	Dar Es Salaam	Tanzania	Road	1530	Northern Corridor	SADC COMESA
			Tanzania/Burundi	Lake/Rail	1530		
		Mombasa	Uganda/Kenya	Road/Lake/Rail	1706		
				Road	1740		
Uganda	Kampala	Mombasa	Kenya	Road	1149	Northern Corridor	SADC COMESA
			Tanzania	Rail	1336		
		Dar Es Salaam		Rail/Lake/Rail	1742		
				Road	1589		
Burkina Faso	Ouagadougou	Abidjan	Côte d'Ivoire	Road	1176	TRIE/ECOWAS	UEMOA ECOWAS REAO
		Lomé	Togo	Rail	1154		
		Tema/ Takoradi	Ghana	Road	990		
				Road	990/1120		
RCA	Bangui	Douala	Cameroun	Road/Rail	1802	TIPAC	CEMAC UDEAC
				Road	1798		
		Pointe-Noire	Congo	River/Rail	1710		
		Matadi	Zaire	River/Rail	1524		
Tchad	Njamena	Douala	Cameroun	Road/Rail	1725	TIPAC	CEMAC UDEAC
				Road	1980		
		Pt Harcourt	Cameroun/ Nigeria	Road	1577		
Mali		Dakar	Senegal	Rail	1250	TRIE/ECOWAS	UEMOA ECOWAS REAO
		Abidjan	Côte d'Ivoire	Road	1249		
		Lomé	Burkina Faso/Togo	Road	2071		
Niger		Cotonou	Bénin	Road/Rail	1060	TRIE/ECOWAS	UEMOA

Country	City	Port	Transit country	Mode of transport	Distance	Corridors	Economic Community
		Lomé Lagos Tema/ Tako-	Burkina Faso/ Togo Nigeria Burkina Faso/	Road Road	1240 1525 1489/1619		CEDEA REAOO
Botswana	Gaborone	Le Cap East London Pt Elizabeth Durban Maputo Le Cap East London Pt Elizabeth Durban Maputo Baie de Walvis	Zimbabwe et/ou South Africa " " " South Africa/ Mozambique South Africa " " " South Africa/ Mozambique Namibie	Rail/Rail-Road Rail/Rail-Road Rail/Rail-Road Rail/Rail-Road Rail/Rail-Road Road Road Road Road Road Road	1400 1170 1200 1100 1050 1357 1120 1319 1089 982 1700	Beira Development Corridor	SADC COMESA SAEN
Lesotho	Maseru	Durban East London Pt Elizabeth	South Africa South Africa South Africa	Rail Road Rail Road Rail Road	740 690 800 720 705 680	Beira Corridor	COMESA SADC SAEN
Malawi	Blantyre	Durban Durban Dar-es-Salaam Nacala	Zimbabwe/ Afrique du Sud Zambie Tanzania Mozambique	Road/Rail Road/Rail Rail/Lake/Road Rail	2667 3600 1728 815	Beira Corridor	COMESA SADC SAEN
Swaziland	Mbabane	Maputo Durban	Mozambique South Africa	Rail Road/Railroad Road	220 500 480	Beira Corridor	SADC COMESA SAEN
Zambia	Harare Lusaka	Dar-es-Salaam Beira Le Cap	Tanzania Zimbabwe/ Mozambique South Africa	Rail Road Rail Rail	1860 2134 2134 1016 2946	Beira Corridor	SADC COMESA SAEN

Country	City	Port	Transit country	Mode of transport	Distance	Corridors	Economic Community
		Pt Elizabeth	South Africa	Road	2619		
			South Africa	Rail	2746		
	East London		South Africa	Road	2585		
			Zaire/Angola	Rail	2646		
	Durban			Road	2351		
				Rail	2666		
				Road	2382		
		Lobito		Rail	2450		
Zimbabwe		Durban	South Africa	Road	2070	Beira Corridor	SADC
		Pt Elizabeth	South Africa	Road	2380		COMESA
		East London	South Africa	Road	2410		SAEN

Source : La problématique de la gestion intégrée des corridors en Afrique subsaharienne, N'Guessan N'Guessan

Terms:

COMESA Common Market of Eastern and Southern Africa

ECOWAS CEDEAO)Economic Community of West African States

REAO Business Network in West Africa

SADC South African Development Community

SAEN Southern Africa Enterprise Network

TIPAC Interstate Road Transport for the Countries of Central Africa

TRIE Interstate Road Transport

TTCA Transit Transport Coordination Authority of the Northern Corridor

UEMOA Economic and Monetary Union of West Africa

Annex 12: Maputo Development Corridor

The Maputo Corridor runs from Witbank in the Eastern South African province of Mpumalanga, through Nelspruit, to Maputo the capital of Mozambique. This route offers the shortest link to an export harbor for Gauteng, the industrial heart of South Africa.

The initiative for the corridor began in 1995 with a bilateral agreement to:

- Upgrade the links within the corridor and
- Promote industrial development within the corridor

The Corridor was to have three private sector components, a BOT toll road, a port rehabilitation and operating concessions for the port of Maputo and the rail line between the port and the border with South Africa. The road was packaged as a joint project by the two countries. A 30-year concession for the BOT project was awarded to Trans African Concessions (TRAC) in 1998.¹⁰ The concession included rehabilitation of the 380 km of N4 highway between Witbank and Maputo and construction of about 50 km of new road in Mozambique (estimated cost of US\$180 million). This highway includes five toll plazas, three in South Africa and two in Maputo that are operated by a subcontractor. A joint inspection facility is to be developed at the Komatipoort/Ressano Garcia border crossing, which will provide a one-stop border control procedure.

In 2002, the Mozambique government granted a 15 years concession (extendable to 25 years), to a joint venture of the South African rail utility, Spoornet, and NLPI, a SPC established by an international investor in infrastructure projects. The concessionaire is to upgrade the 90 km rail link between Maputo and Ressano Garcia at an estimated cost of US\$20 million and provide freight and passenger services on the rail line. Under this agreement, Spoornet will be able operate a direct train connection from the industrial area of South Africa to the port facilitated by the one-stop inspection at the border.

In 2003, the government of Mozambique awarded to Maputo Port Development Company (MPDC)¹¹ a 15-year concession (with an option for a further 10 years) to operate the port of Maputo¹² and the Matola coal, grain and aluminum terminal. The total development cost is put at \$70 million. The MPDC has already installed multi-purpose cranes, and with capacities varying between 40 and 63 tons, to improve the port's handling capacity and the consortium will implement a \$30 million marine and civil works rehabilitation program in the first three years of the concession. As a result of the competition between the road and rail connections, the port enjoyed strong growth with traffic increasing by about 15% volumes increased from 4.3 million tons in 2002 to 4.9mt in 2003¹³. Total container volumes increased 15% to 40,000 TEUs while the Fresh Produce Terminal had a 25% increase in throughput.

¹⁰ Together with investment in a private sector aluminum smelter in Mozambique to be supplied with electricity from South Africa.

¹¹ The consortium consists of a foreign joint venture (Mersey Docks and Harbour Company, Portuguese terminals operator Liscont and Swedish construction company Skanska) which own 51% and the government together with the national ports and railways authority, CFM, which hold 49%.

¹² The port has a container terminal, sugar terminal, steel terminal, five general cargo berths, two coal terminals, one coastal terminal, an oil terminal and a new grain terminal. Overall quay length is 3,375 meters with depths alongside varying 8- 12 meters allowing the berthing of vessels up to 40,000 Tons DWT. Access to Maputo Port is made through dredged channels, which are lit for 24 hour sailing.

¹³ In 1995, the Port handled 2.6 million tons versus an installed capacity of between 8 and 10 Mn tpa.

The corridor offers a significant savings in distance for the industrial areas of South Africa relative to Durban (about 200 km) and Richards Bay (400 kms). The savings are even greater for cargo from Zimbabwe.

There are two other railway lines to the port of Maputo that will have an impact on the Maputo Development Corridor. The recently rehabilitated Limpopo line (534 Km to Zimbabwe) handles imports of domestic cargo, food/aid and consumables, and transit exports of sugar, steel, ferrochrome, cotton, and potentially residual tobacco. The Goba line (74 Km to Swaziland) was recently rehabilitated with Italian aid and now handles mainly transit exports of sugar, wood pulp, coal, molasses, and canned fruit in containers. Additional improvements are contemplated including signal equipment and rolling stock, which will be factored into the concessions, and a reorganization of CFM (Mozambique's national railways). In addition, it is proposed to improve Maputo's airport and procure a couple of passenger ferries.

While the Maputo Corridor has been successful, other planned corridors in the same area have not been including:

Beira Rail Corridor (CFM - Centro) - Mozambique's second largest international port. It has a quay length of 1680 meters with depths alongside varying between 8-10 meters. The port has general cargo quays, a multi-purpose container terminal, a pre-cooling plant, a coal terminal, and a new oil terminal able to handle oil tankers of up to 50,000 DWT. The port is connected by 314 Km road and rail links to Zimbabwe and, through Zimbabwe, to Zambia. The principal cargoes of Beira are imports of petroleum products and fertilizer to Zimbabwe; tobacco, coffee, steel exports from Zimbabwe; and copper exports from Zambia. The port handled 4.2 million tons/port.

The Beira Corridor has benefited from major donor funding from 1986 onwards (ECU 407.3 million) which financed the reconstruction of quays and internal port roads, container handling and storage facilities at berths 2-5, a new oil terminal, capital and maintenance dredging, and port railway rehabilitation. Even so, the rail connection remains problematic and traffic on the corridor has not grown.

Nacala Rail Corridor (CFM-Norte) – Nacala port has a quay length of 990 meters with minimum alongside depth of 10 meters. It is connected by a 615 Km rail link to Malawi. Principal cargoes on this link include Malawi's imports and exports plus Mozambique's exports of cotton and tea, and exports of cashew from the northern provinces of Zambia, Nampula, and Niassa. Although open to commercial traffic since 19 November 1989, it suffered continual disruptions due to civil war activity up to the ceasefire in October 1992. The port has a nominal capacity of 2 million tons and its new container terminal a capacity in excess of 30,000 TEU. However, traffic levels remain low, around 0.5 million tons, because of the poor functioning of the rail links to Malawi.

Annex 13: TransKalahari Corridor

Walvis Bay is the principal port of Namibia and is situated on the west coast of southern Africa. It is a general cargo port that is being aggressively marketed as an alternate port of choice to South African ports further south and east. The port has a total of nine berths plus facilities for small craft and fishing vessels. It has a concrete quay of 1,400m in length and berths dredged to -12.8m. An average of 1,000 ships call at Walvis Bay each year. There are good road and rail connections with the rest of Namibia while the Trans Kalahari Corridor links the port with Botswana and Gauteng province in South Africa. Already the port is handling in excess of 2 million tons of cargo annually and has attracted a number of large shipping lines such as Unicorn Lines, which provides a weekly coaster service with South Africa, as well as Maersk/Safmarine and MACS Line which provide connections or direct sailing to Europe. However, containers traffic is only about 26 thousand TEU.

The Walvis Bay Spatial Development Initiative (WBSDI) covers an area of about 200 kilometers on either side of the 785-kilometer B2 road from the port of Walvis Bay via Namibia's capital, Windhoek, to the border with Botswana where it connects with the Trans-Kalahari Highway. This initiative aims to increase utilization of the port as a gateway for Southern Africa, specifically for Botswana and South Africa's industrial heartland in Gauteng. It is also promoting private sector investment in Route B2 in central Namibia. This is part of the Trans-Africa Coast-to-Coast route that connects Walvis Bay with the Mozambique capital of Maputo.

The Trans Kalahari Development corridor became operational in late 1999 as a result of efforts by the Walvis Bay Corridor Group, a public-private partnership. A 2003 Corridor Memorandum introduced a new single customs administrative document throughout the three countries to replace multiple documents in each country that the cargo transited. In August of 2003, an agreement was reached between the customs authorities to simplify the formalities on the Trans-Kalahari route through Botswana including the introduction of:

- a single administrative document for exporters and importers in all three countries,
- a single set of regulations and
- the possibility of a single bond as security for payments.

Also, the South African Revenue Services is to establish a website to provide information to shippers and transports. This agreement was formalized with the signing of a memorandum of between the three governments. This initiative is being actively supported by the USAID through its Southern Africa Global Competitiveness Hub initiative

Annex 14: Northern and Central Corridor

Currently, the eastern DRC, Burundi, Rwanda and Uganda are dependent for international trade on road and railway corridors to the Indian Ocean ports of Mombasa and Dar-es-Salaam

Northern Corridor

The Northern Corridor passes through Mombasa. It is a multimodal corridor that connects to Uganda, Rwanda, Southern Sudan, and Eastern DRC. The major links are shown in Figure A.7. The corridor includes a train from Mombasa to Nairobi, Malaba (border) and Kampala, with a branch to Kisumu. It is operated by Kenyan and Uganda Railways. There is also a road that follows the tracks and carries most of the cargo and a pipeline from the refinery in Mombasa to Nairobi and Kisumu. Refined products are carried by truck. Import containers are shipped to ICDs in Kisumu, Eldoret and Kampala and publicly operated dry ports in Kigali (Magerwa) and Bujumbura (Entrepots Public du Burundi) where goods are cleared for Rwanda and Burundi. By road, the transit time from Mombasa is estimated to be 6 days to Kampala, 8 days to Kigali and 12 days to Bujumbura. Rail requires about 10 days more than road.

Transit traffic accounts for over 20% of Mombasa's total traffic having risen from about 7.5% in the 1980s, but total flows have fluctuated due to the impact of civil strife on both total volumes and traffic routings. Uganda generates about 80% of the transit cargo as shown in Figure 2, however a significant portion of this is liquid bulk. Most of the transit cargo moves via road due to the deterioration in performance in the railways, which has experienced a 50% drop in volume over the last 30 years. Figure 3.

The major impediments to the growth in traffic on the Northern corridor have problems with the individual modes. The port of Mombassa has had perennial problems with equipment availability and productivity as well as poor management and inefficient investments. The railroad has failed to

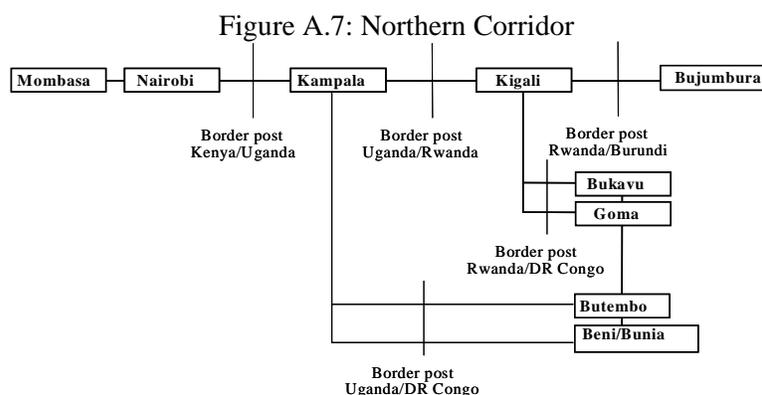


Figure A.8

Mombasa Transit Traffic (000 mt)

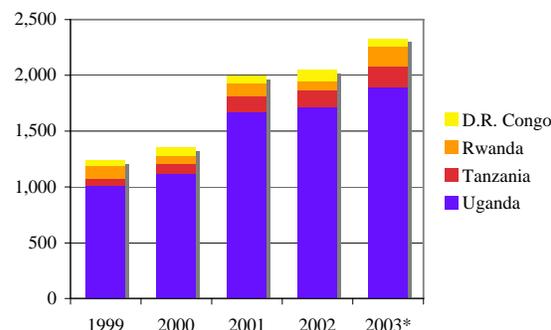
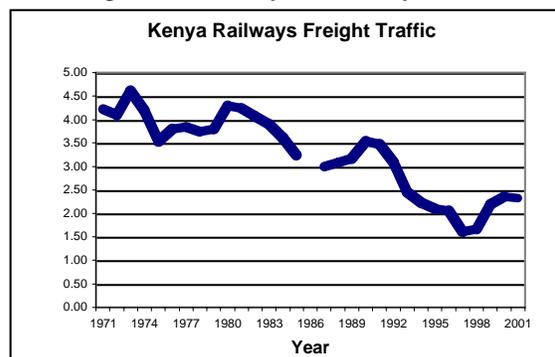


Figure A.9: Kenyan Railway Traffic

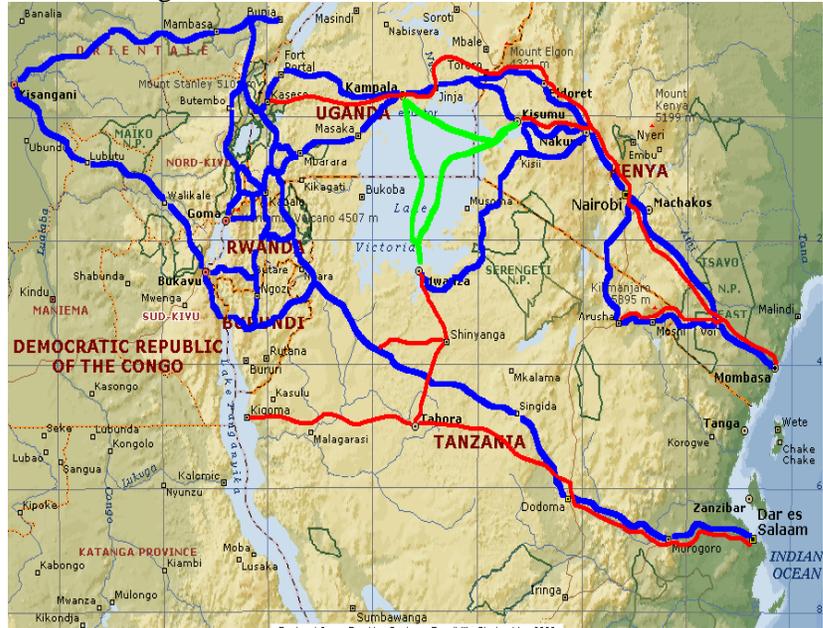


provide a viable alternative to road transport and has contributed to the chronic congestion at the Mombasa container terminal. The road network has not received adequate maintenance for the last two decades. Customs procedures are complex, manual and not transparent. The result has been a steady erosion of the corridor’s market share for transit cargo.

The Central Corridor

The Central Corridor serves the markets of mainland Tanzania and DRC, Burundi and Rwanda through a meter gauge railroad system running from the port of Dar es Salaam via Mwanza to the Great Lakes and via Kigoma to DRC and Rwanda. The routes include a rail connection up to the southern shore of Lake Victoria, and rail-ferries across the lake to Port Bell near Kampala. There are four rail-ferries serving this route. The road connection to the neighboring countries is still under development. An intermodal connection is possible since the road transport has a competitive advantage where it operates.

Figure A.10. Northern and Central Corridors



The Northern Corridor provides the shortest route by both rail and road to Uganda. The Central Corridor rail/ferry route to Port Bell and Kampala is 373 km longer. However, the former has problems with availability of rolling stock and associated delays in clearing cargo through Mombasa. On the other hand, the rail/road route from Dar es Salaam to Rwanda is 215 - 350 km shorter and the rail/lake routes are about 600 km shorter to Burundi and 400 km shorter to DRC. In recent years, the Tanzanian Railways has established a dry port at Isaka for Rwanda and Uganda transit traffic. Despite the advantages in terms of connections, Mombasa continues to handle a dominant share of the transit traffic for Uganda and Rwanda as shown in Table A.9.

Table A.8 :Kampala (Uganda) Distances in km

	Northern	Central
Road via Malaba	1170	
Road via Kisumu	1190	
Rail via Malaba	1333	
Rail/Lake via Kisumu	1222	
Rail/Lake via Mwanza		1669

About 23% of the cargo handled in the Port of Dar Es Salaam is transit or transshipment cargo. The volume has increased steadily since 1994. While Ugandan traffic through the ports has declined since its peak in 1995/6, market share has increased. For container traffic, it has been estimated that Dar es Salaam container terminal, handled 90% of Burundi’s container traffic. For Eastern Congo, it handled about 60-70% of import and 30-40% of its export containers, whereas for Rwanda, it handled only 10-50% (imports) and about 30% (exports). The distribution of transit traffic moving through the port by transit country is shown in Figure A.11 About 2/5 of the containerized transit cargo in Dar es Salaam moved by rail versus ¼ for Mombasa (Table A.10).

Table A.9: Port Transit Traffic in 2002

000 m. tons	Mombasa	Dar es Salaam
Uganda	1,710	40
Rwanda	81	48
Burundi	29	65
DR Congo*	100	101
Tanzania	157	
TOTAL	2,077	255

Ports

The ports play a critical role in these corridors not only because they act as the gateways but also they have a major impact on transit time. The publicly operated port of Mombasa creates a major

impediment nearly doubling the transit time as shown in Table A.11. Its performance in has not improved over the last decade with continuing congestion and long dwell times, performance. On the other hand, Dar es Salaam has improved substantially as a result of the port's conversion to private operation. Ship turnaround time has decreased by ¼ and container dwell time has dropped by half (Table A.12). This improvement has allowed Dar es Salaam to sustain growth in container traffic of 12% per annum, while Mombasa has growth at less than 9% (Figure 4). This has improved the competitive position of the Central Corridor, but its share of transit cargo is still constrained by a lack of road infrastructure and quality of the rail operations. With the transfer of the railways to private operation, the Central corridor will improve its position even for Ugandan transit cargo.

Table A.10: Container Transit Traffic
Uganda - Rwanda - Burundi - DRC

Destination	TEU	Share of rail
Mombasa	41 948	24.9%
Dar-Es-Salaam	15 699	43.0%

Table A.11: Typical Corridor Transit Times Inbound from Mombasa

Delay	Time (days)	Comment
Arrival to Removal from the Mombasa Nairobi	14	transit and imports similar
Transit in Kenya (convoys)	3 to 6	convoy from Mariakani (3/week)
Border crossing in Malaba	2	
Malaba to Kampala	1-2	
Kampala to Kigali	2-3	

Table A.12: Dar es Salaam Improvement in Performance with Concession

Measure	1997	1998	1999	2000	2001*	2002	2003
Ship Turnaround Time	1.02	1.02	1.09	1.10	1.10	0.69	0.76
Net SSG container moves/hour	14	12	14	15	19	20	21
Ave container dwell time days	33.90	37.80	37.70	25.90	16.70	16.70	17.00

While the Northern Corridor has the advantage of a better road network, there are a number of checkpoints along the route and sensitive cargo must move in escorted convoys. There is a daily convoy from Mombasa to Mariakani, but only three convoys per week to Uganda. As a result, transit time to the Ugandan border varies from 5 to and 8 days depending on the convoy.

Because of previous deregulation of the transport industry in Kenya, logistics services have thrived during the last decade, in part to compensate for the decaying public services especially concerning rail transport. Kenya has one of the most efficient and best-organized forwarding and road transport industry in Africa. The private sector has been a key player in instigating and pushing for modernization.

Table A.13: Container Transshipment Traffic in Mombasa (000 TEU)

	1999	2000	2001	2002	2003
1000 TEU	15.1	17.7	25.8	27.4	49.6
% of Total	6.5%	7.5%	8.9%	9.0%	13.0%

Source: KPA

Oversight of this corridor has been given to the Northern Corridor Transit Transport Coordination Authority (TTCA). Its principal function has been to promote the harmonization and simplification of procedures for transporting goods within the region. The TTCA has received substantial support from USAID and the UN Economic Commission for Africa and has proven itself quite effective in:

- Providing diagnostics to member states and stakeholders,
- Bringing stakeholders from the countries together to help design improvements (in 2000, it established a stakeholder forum to look at critical issues in facilitation. This group includes transport operators and representatives from the private sector),
- Helping to simplify the transit documentation by implementing the COMESA Customs Document,
- Supporting revisions of the transit agreement and promoting the harmonization of axle-load regulations.
- Introduction of the Road Transit Customs Declaration (RTCD)

The latter is meant to be a single administrative document attached to a shipment through the Corridor. In practice, however, the RTCD is often copied at the border onto a similar declaration issued by the adjoining country. It has also formed a stakeholders Forum that includes the revenue/customs authorities from the member country and Kenya Ports Authority, which controls the major gateway. Its general strategy is similar to that of other corridors including:

- Further Simplification of Documentation
- Introduction Of Joint Customs Border Controls
- Upgrading Transit Infrastructure and Facilities
- Harmonization of Policies and Technical Standards
- Removal of Non-Tariff Barriers to Trade

For road transport, the Kenyan government involves the private sector in road maintenance, and axle load control.¹⁴ The government proposes to enhance the proper design of roads, integrity in road contract procurement, enhance safety and maintenance of the road network, and allow for private sector participation.¹⁵ The stakeholders forum has been able to move the debate on facilitation from advocating reforms to concrete measures like the re-establishment of block trains between Mombasa and Kampala and the feasibility of one-stop border posts.

COMESA, of which Kenya and Tanzania are members, has made a number of efforts towards regional cooperation in transportation. Among COMESA initiatives adopted or under consideration by Kenya and Tanzania government are:

- a harmonized road transit charges system for heavy goods trucks and large buses. Tanzania has not yet adopted this system as it has very little road based transit cargo
- a regional carrier's license for commercial goods vehicles operating in all member states. All states except for Tanzania have adopted this

¹⁴ Republic of Kenya, supra note __ at 21.

¹⁵ Id at 22.

- harmonized axle loading and maximum vehicle weight for freight vehicles:
- a motor vehicle insurance (yellow) card that covers third-party liabilities and medical expenses in the other countries along these corridors.
- a simplified administrative document applicable for Imports, Exports and Transit of goods compliant with the UN layout key. This has been partially adopted for use in the northern corridor.

The goods transiting Kenya are covered by transit bonds that cover 100% of the duties. Efforts to introduce this bond in the other countries are in process. With this bond there are no inspections or other procedures for transit at the one stop centre in Kilindini near Mombasa port. Once the goods are cleared for transit and seals are affixed, the trucks go to the Mariakani station where they convoy after the axle-load control. A convoy of 100 trucks or more is formed about three times a week. The transit ends at the Uganda border. From Uganda there is a daily convoy. Transit time is from two days to a week. The difficulty is that trucks have to wait up to two days to form a convoy and there is congestion at the checkpoints and at the exit border posts.

Annex 15: West Bengal Corridor

The West Bank corridor is part of a group of corridors in the SAARC region that provide access to the sea for the landlocked countries of Nepal and Bhutan as well as the Northeast states of India. These terminate in the seaports of West Bengal and Bangladesh. The corridors have been established for a long time but their use was constrained by difficulties at the border crossing as well as poorly developed road infrastructure. Rail service, while extensive, has problems of connectivity due to different gauges and the absence of a rail network in Bhutan and Nepal.

Efforts to improve these corridors have followed two tracks, improving the regulatory environment and the physical infrastructure. It began with initial studies to identify potential demand and the major choke points. This was followed by a more extensive examination of the traffic flows on the corridor from Kolkata up through West Bengal to Nepal, Bhutan and Sikkim. From this was developed a set of projects to improve the multimodal network.

The trade and transit arrangements between India and Nepal and Bhutan also have a significant impact on the performance of the West Bengal corridor. The trade agreements have improved significantly and there is relatively free movement across the borders between India and Nepal and Bhutan. Movements in and out of Bangladesh are still constrained by the trade agreement between India and Bangladesh. Because of the significant imbalance in trade, procedures have been put in place to discourage exports for India but the volume of trade continues to grow rapidly.

The transit agreements affect the procedures at the borders and the movement along the corridors. While much has been made of the difficulties associated with back-to-back transfers between trucks at the border, this should not be a problem for containerized cargo. Even loose cargo can be handled efficiently through modern cross-docking procedures. The difficulty had been that these activities have been confined to the no-man's land at the border. This has been addressed through creation of ICDs and truck terminals at the border. There remain problems with the quality of the trucks and limitations on market access for trucks from Nepal and Bhutan but these do not appear to be linked to the agreements.

Multilateral efforts to coordinate improvements in trade and transit and to develop the corridors have promoted dialogue but have had limited impact on corridor performance. Most of the advances have been through bilateral arrangements and local investments. Repeated efforts have been made to define the problems of the corridors and prioritize the improvements needed, but these have been donor funded or undertaken at the national level. Until recently, there has been lack of coordination among the stakeholders to improve performance in the corridor and lack of local ownership of efforts to improve performance. The result has been an uncoordinated series of investments and a relatively slow rollout of improvement in procedures. The most recent undertaking by the ADB seeks to address this problem by involving state government in addressing the operating problems of the truckers and providing better services and facilities for them along the route.

Within Nepal a rail ICD was developed at Birgunj. It took a long time to construct and then was not operational for three years because of disagreements between India and Nepal on the mode of operations. An operating concession was eventually given to a consortium that included Concorps, the for-profit company owned by Indian Railways that provided the unit train service and several rail ICDs in India. However, the rail service faced strong competition from trucking services resulting in limitations on volume and frequency of service. This was compounded by the fact that the volume of containers generated on the Indian side of the border at Raaxal was relatively small.

The other major crossings between Nepal and India are road connections and have simple border facilities. The exception is a large terminal at Karkhabitta with extensive storage and parking facilities, a weighbridge and customs inspection facilities. This was recently completed even though traffic volumes were relatively small, about 100 trucks per day.

There had been a proposal to develop a similar terminal in Bhutan to facilitate cross border movements to the West Bengal Corridor. This was to be combined with the development of a bypass road around Phuentsholing so that trucks from Thimpu and elsewhere could cross over to India without congesting city streets. However, the Government has had second thoughts because of the level of investment required.

In Bangladesh, there is a national program to establish terminals at the major border crossings with India. These “land ports”, some of which are quite large, provide facilities for parking trucks and storage of cargo. While these facilities are capable of handling current volumes, they are designed to operate like Bangladesh seaports with slow clearance times and long turnaround for trucks and cargo. They generate significant revenue for the terminal operators but do not facilitate cross-border movements.

The largest facility is at Benapole, located about a kilometer for the main crossing between India and Bangladesh. This is a highly congested crossing with queues in excess of a thousand trucks waiting to cross into Bangladesh. The only significant facilities on the Indian side of the border crossings are at Petrapole across from Benapole and Hilli. The other border facilities are limited to simple offices for customs and borders security. There are no facilities for storage of cargo or for parking trucks waiting to cross. Since there is limited capacity to inspect documents and cargo, the movements across the border must be expedited.

There is now a program to significantly upgrade the facilities on the Indian side of the border but it is unclear whether this program will also improve the inspection procedures to insure expedited movements. There have been efforts to improve customs processes but these have failed to eliminate delays, which can extend for several days. It is also unclear whether this program will facilitate cross border movements or merely replicate what has been done on the other side of the border.

The other impediments to efficient transport services on the West Bank corridor are the quality of the road network and the efficiency of the seaports. Most of the corridor is part of the open access, two-lane national highway network. Sections where there is significant deterioration or limitations on capacity are now being upgraded. Over the longer term, there is a plan to extend the country’s four lane limited access highway system along the corridor up to Assam. Despite the long distance and slow average traveling speed on this corridor, truck transport has not been a significant problem. The major choke points remain the border crossings and the ports.

Despite introduction of some modern container handling equipment, the ports continue to suffer from low berth productivity and unreliable service. This has prevented the shipping lines from establishing regularly scheduled calls even for shuttle services to the major transshipment hubs. Low productivity and slow customs procedures limit FCL containers moving inland to Bhutan, Nepal and the Northeastern states. As a result, most cargo is moved as loose cargo in 10 wheel trucks.

The perennial expectation that the public ports will reform themselves appears to be giving way to acceptance that improvements will be achieved only through privatization of terminal operations. This process is well advanced in East Asia but has been slow to evolve in South Asia because of entrenched public sector management and union labor. Difficulties in introducing private concessions in existing facilities have meant additional delays establishing new terminals with private operations. Efforts to

improve customs through the introduction of modern practices and increased use of information processing and telecommunications have been slow.

Annex 16: Laos Transit Corridors

Lao PDR has two types of international corridors. The first are transit corridors maintained by Laos for use by its neighbors, China, Vietnam and Thailand for trade with each other. The second are the external corridors which provide Laos with access to international gateways through the ports of Thailand and Vietnam. The difficulty with the transit corridors is the relatively low level of traffic they have attracted. While they were developed through donor funding, it is still necessary that Laos maintain them. However, at low traffic levels the revenues from transit tariffs are insufficient to fund proper maintenance. In the past, the emphasis on external corridors was focused on providing essential links for a landlocked country. This changed towards the end of 2004, when the revised transit agreement with Thailand was finally approved along with related reforms allowed a shift in focus to efficient supply chains.

The revised transit agreement negotiated with Thailand in 1999 and finally signed in 2004 simplifies the movement of goods between the Lao PDR and the ports of Bangkok and Laem Chabang. It allows both Thai and Lao trucks to carry cargo goods direct between the ports and their origin/destination in Laos without having to transship the cargo at Nongkhai. Prior to signing this agreement, some garment exporters were able to move full container loads direct from the factory to the Bangkok ports and the World Food Program could move containers of rice and other essential goods direct from the ports to their warehouse in Laos, but these were the exception. Ratification of this agreement combined with relaxation of restrictions on choice of clearance agent and trucking company produced a drop in the door to port cost of about 30%. Additional rationalization and competition is expected to provide a further reduction of 20%.

Customs procedures have greatly improved on both sides of the border with Thailand. While neither has introduced EDI or formal risk analysis at their border crossings, they have greatly simplified the documentation and procedures while harmonizing commodity classifications and reducing duties. Problems still remain including the requirements that:

- Imports pass through the special transit facility in Bangkok port and be cleared for transit through Thailand,
- The consignee submit to Thai customs a letter of authorization from the Lao PDR and an import license in order to obtain a transit document
- Thai customs check the import cargo and add 15% to the FOB value to be used by Lao Customs as the C&F value,
- The seal on an import container be removed and replaced with a Thai custom seals prior to movement in transit,
- Import cargo be cleared at the terminal just over the Lao border at Thanelang rather than at their final destination, be it factory or bonded warehouse,
- Sealed export containers stop at the border to obtain the transit document from Thai Customs and have the Lao Customs seal replaced with a Thai seal,
- LCL export cargoes be checked by Thai customs prior to the issue of the transit document, and
- Export LCL containers with consignments to be delivered to multiple gateways (ports and airports) be deconsolidated at Bangkok Port and their consignments delivered separately.

With the current system, it is possible to deliver export cargo from the Lao factory to the port, a distance of about 650 km, in twelve hours. Import cargo requires more time because of the initial check at Bangkok port and the final clearance at Thanaleng. Nevertheless it is possible to receive cargo at the destination in Lao PDR within two to three days of being unloaded from a vessel.

The competition that has resulted from implementation of the new agreement has reduced the rates for movements of cargo to and from Lao PDR to levels approaching parity with the costs for moving Thai goods to and from the Thai provinces adjoining Laos. However, the costs are still high because of the large proportion of empty backhauls. Although there is a significant imbalance of imports over exports, the shipping lines have been reluctant to allow containers that have been unloaded to be repositioned for loading export cargo.

Three problems remain which to place cargo shipped to/from Lao PDR at a competitive disadvantage relative to cargo shipped to/from the nearby Thai provinces. The first is the cumbersome licensing procedures that apply to Lao companies involved in importing and exporting and also to individual shipments. These increase both the cost and time involved in shipping cargo. The second are informal payments to Thai and Lao customs officials especially for movement of transit cargo. The third is inefficient handling of LCL exports. The latter is important because of the large percentage of the exporters are SMEs whose shipments are all LCL. These companies minimize their transport costs by moving their cargo in less costly, open 10-wheel trucks to the transit facility in Bangkok port where they are consolidated. However, they incur the full cost of that truck movement as well as the higher charges for consolidating in Bangkok rather than in Laos. Companies that export full container loads also have a disadvantage since most of their shipments are 20 foot containers. These must be transported to Bangkok on individual trucks. Although the trucks have 40 foot trailers, the axle load limits prevent them from transporting two loaded 20 foot containers. Even the opportunity for moving two empty 20' containers is lost. For exports, the positioning of empties is arranged with the shipping lines for individual container shipments. For imports, the truck can either carry the empty container or make an empty backhaul.

While there are problems associated with using the transit routes through Thailand, these are insignificant when compared to the difficulties in using the transit routes through Vietnam. Because of the conditions of the road network, most transport on these routes is by open 10 wheel trucks. Each shipment must obtain formal approval from the Vietnamese government and the paperwork typically requires one month to complete. Once approval is obtained, the Lao trader must plan the movement to coincide with the feeder options at the Vietnamese port. These are smaller ports with much less frequent sailings relative to Bangkok. The sailing times to Singapore are similar to those from Bangkok and about a day less for sailings to Hong Kong.

The management of Lao PDR's export corridors has been accomplished formally through bilateral agreements and informally through the initiatives of the customs officials on both sides of the border. These determine the procedures for movement of shipments to and from the major gateways in Thailand and Vietnam. Beyond that, the corridors are government by market forces in both the selection of routes, form of shipment and type of vehicles used.

There are three difficulties with this management mechanism. The first is the relatively slow pace at which revisions in the transit arrangements have been introduced and the lack of a transparent mechanism for enforcing the agreements. This is especially difficult in situations where customs or other regulatory organizations have authority to introduce procedures that contradict the intention of these agreements.

The second is the limits on competitive alternatives for Lao traders. At present, there is no economically viable alternative to using the Bangkok ports for shipments other than for small shipments to/from East Asia that are not time sensitive. This places Lao traders at a disadvantage relative to the larger Thai traders when competing in the same markets. There is also limited competition between Lao and Thai logistics service providers. Because the Thai forwarders and transporters can also service the domestic cargo generated by the larger Thai economy, they can obtain economies of scale and better utilization for equipment that offsets any advantage associated with lower labor costs in Lao PDR.

The third is the dependency on Thailand and Vietnam for promoting efficiency on its side of the corridor. It is only recently, that Thailand has been able to introduce significant reforms on what had been inefficient and corrupt procedures at both the border and Bangkok port. While the trucking sector has been relatively robust, the movement of containers inland has been hampered by the failure to establish ICDs in provinces in the Northeast. This needs to be addressed through greater cooperation between the traders on both sides of the border.

While Vietnam has been willing to develop port facilities for Lao cargo and to allow the provinces to issue the approvals for movement of transit cargo between Laos and these ports, the procedures remain cumbersome and time consuming. Again, there is a need for a joint effort of the traders on both sides of the border to address these impediments to trade.

Annex 17: West Bank-Gaza Transit Corridor

The development of efficient corridors is one of the most critical issues for the establishment of the State of Palestine. The effectiveness of the link through Israel connecting West Bank and Gaza will determine its viability as a single political entity. The efficiency of Palestine's links with Israel, its major trading partner and source of external employment, will determine how fast its economy can recover from the devastation of the second Intifada and thus its ability to survive without massive financial support from various donors. Its links through Israeli gateways to other markets will determine how rapidly it can expand its export markets and simplify its supply chains, which are heavily reliant on Israeli middlemen and logistics companies.

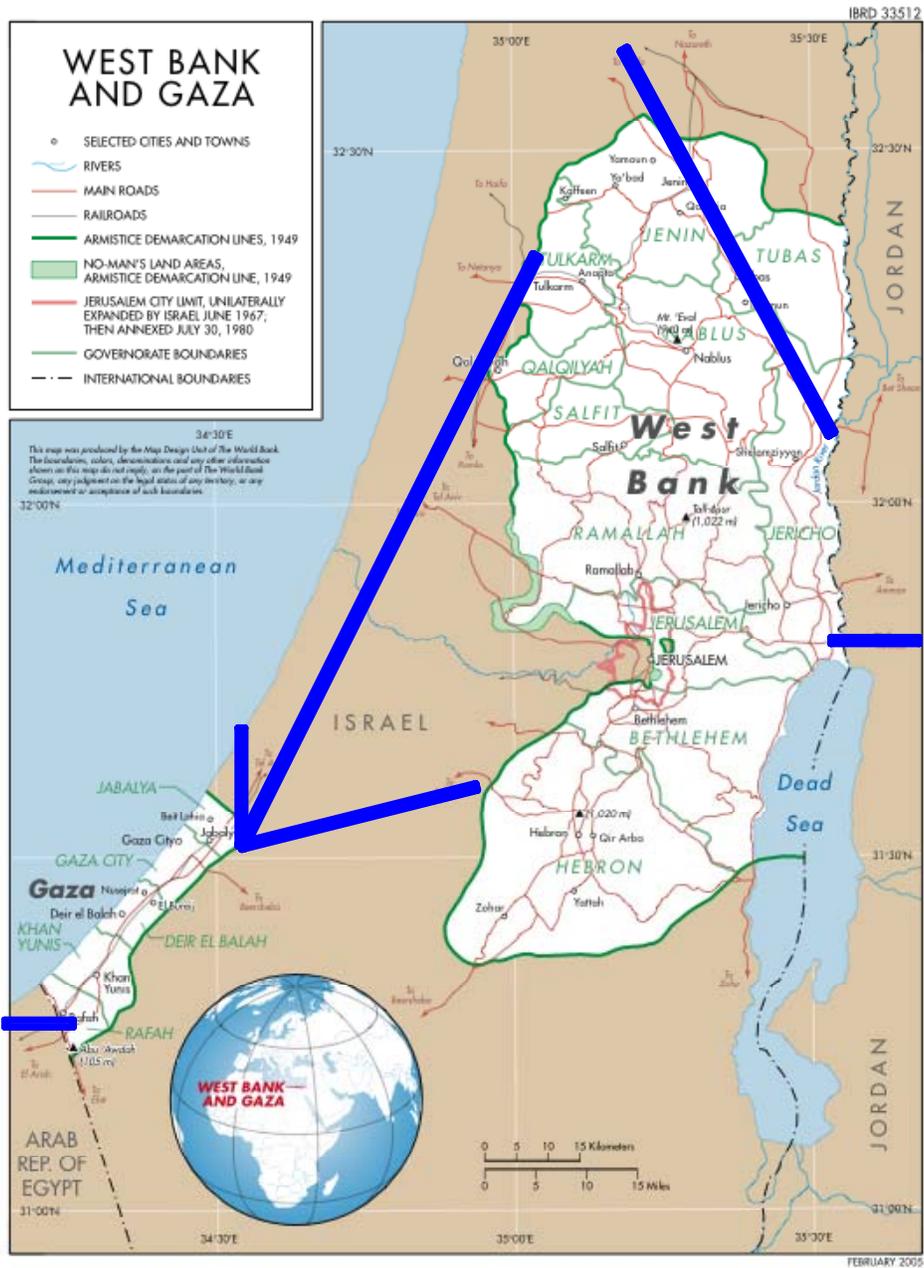
The principal problem preventing the establishment of efficient corridors is the security for the goods and people moving through these corridors. Traditionally, the focus of security efforts has been at the borders and included checking of all vehicles and cargo crossing the border. The thoroughness of the inspection varies by checkpoint. It is most rigorous checks for goods moving from Gaza into Israel, less thorough for goods moving from the West Bank into Israel, and least intrusive for cargo moving from Israel into either the West Bank or Gaza. The difficulty with this approach is that it depends on the diligence of the inspectors and security personnel at that crossing point. While relatively few "events" have occurred at these crossings over the last five years, the attack at Karni, the major crossing point for Gaza, early in 2005 demonstrated the risk of a "real-time inspection by one pair of eyes" as opposed to surveillance distributed among the participants in the supply chain..

This approach also raises questions as to the effectiveness of the installation of expensive security systems such as full trucks scanners at a crossing. When an event occurs, it was too late to protect the facility. Instead, the event is likely to result in damage to the security equipment and injury to those operating it. This would lead to a change in procedures that would emphasize protection of the equipment rather to the detriment of facilitation of the movement of the cargo.

Efforts to improve corridor performance must address the conflicting objectives of security and trade facilitation. This is done in two dimensions, the border and the supply chain. The first involves a "total border management" approach. This recognizes that the critical component of a border crossing is neither infrastructure nor equipment, but rather the procedures established for clearing the cargo and people crossing the border. These procedures need to consider both the potential risks and safe and efficient handling of cargo. With regards to the latter, Karni is especially problematic. There, goods must pass through a relatively small opening in a wall along the border. This necessitates the unloading of trucks on one side of the wall, movement of these goods by forklift or handtruck up to the opening in the wall, transfer onto a conveyor for movement through the wall and palette scanner, and finally transfer from the conveyor to the waiting truck where these goods are loaded. This process combined with frequent delays and border closures result in significant damage to agricultural produce, one of the major exports of Gaza. The delays and closures are also a problem for containerized cargo. The trucks carrying loaded import containers incur significant demurrage charges due to lengthy queues waiting for inspection. This occurs despite the relatively cursory inspection requires as the container have already been scanned upon their arrival at the port. There are similar queuing delays for containers destined for Israel even though they were empty since containerized exports from Gaza were prohibited.¹⁶

¹⁶ The empty containers had to be inspected because of an earlier problem in which miscreants had concealed themselves in an empty container.

Figure: Proposed Corridor for Palestine



The processing of all cargoes to/from Gaza through a single crossing was meant to reduce costs by concentrating security efforts but also concentrated the risk and likelihood of closures and delays. This meant that these delays and closures affect all cargoes. It also meant that dirty and clean cargoes were handled in close proximity with resulting contamination of agricultural products.

Many of the approaches for effective total border management have already been developed as part of a worldwide effort to reform and modernize customs procedures. These approaches apply equally well for security and include:

- increased use of data processing and risk management to limit and focus inspection efforts to those cargoes representing the greatest risk,
- increased coordination between the authorities on both sides of the border including sharing of information and intelligence activities,
- a movement away from the "one-size-fits-all" approach to one that applies channelization and specialization to address different levels and types of risk posed by different trades and types of commodities,
- shift of focus away from the cargo to the shipper and development of relations with those shippers based on their past performance and ongoing efforts to ensure compliance,
- simplification of procedures and greater transparency in implementation in order to promote cooperation and compliance on the part of the shippers.

Ultimately, there will be some trade-offs between security and trade facilitation that a border management procedure must address. The most important is between the requirements of modern transport and logistics for predictability the common security strategy of frequently altering procedures in order to thwart efforts by miscreants to bypass these procedures. Another is between the benefits of simplicity for improving compliance and minimizing door-to-door transit times and the need to anticipate all possible breaches of security and have develop procedures to prevent each type of threat. Finally, there is the conflict between the need for secrecy and to act arbitrarily in order to address security risks and the corruption and capricious behavior that result from lack of transparency.

The second level at which to address the conflicting objectives of security and trade facilitation is the supply chain. This involves the introduction of secure supply chains, an evolving concept that has received increasing attention since 2001. Like total border management approach, this approach emphasizes shippers rather than cargo and procedures rather than technology and infrastructure. It emphasizes the role of supply chain participants in ensuring security of the cargo. It emphasizes management initiatives to guarantee the trustworthiness of employees and accuracy of cargo documentation, to minimize the occasions on which the cargo is handled, and to maintain integrity of the cargo while in transit. These are normal features of good supply chain management but are receive greater attention when framed within the security context. These procedures are supported through existing technology, in particular increased unitization, computerized tracking and tracing of individual shipments and tamper proof seals for goods in transit.

While efforts to develop a new approach for management of borders and corridors were still underway at the time this report was prepared, most of the elements necessary to establish safe and efficient corridors had been identified. More unified management was required at the border for both public/security activities and commercial/cargo-handling activities. For security activities, this includes better cross-border coordination between security forces and possible participation by third-party observers in order to enlarge the security envelope and provide greater protection for the facility while offering some form of recourse to the users of the facility in the event of overzealous security measures. For commercial activities, this includes outsourcing of terminal operations to qualified private-sector operators through

competitive bidding in order to reduce the cost and delays as well as establish a more businesslike relationship between the terminal operator and the security forces. Any introduction of sophisticated security equipment would be preceded by the introduction of appropriate operating procedures, agreed to between the parties. These would ensure the equipment is used in a safe and efficient manner with the goal of reducing delays and damage to cargo crossing the border. Specialized facilities would be developed to efficiently process containerized cargo, to safely handle agricultural goods, and to avoid environmental deterioration when transferring bulk cargoes. The infrastructure for these facilities would be designed to control the flow of vehicles across the border in a way that would minimize queuing delays and allow implementation of the agreed procedures and placement of the equipment along the flow consistent with these procedures.

The introduction of secure supply chains is at the heart of the trust building effort needed to reduce the level of hostility between Israel and Palestine. In order to accomplish this, the private sector on both sides of the border would have to assume a more active role in promoting both security and trade facilitation. This would begin with monitoring performance at the border including delays in processing times. It would continue with the establishment of a relationship between "preferred" traders and the security/customs officials at the border combined with training for importers, exporters and logistics service providers in the procedures required to attain this status. As the essential element of a secure supply chain is information, there would be a concerted effort to integrate the data systems of shippers, forwarders, transporters and officials responsible for approving cargo movements. This integration has already occurred in most of the world due to market demands for more integrated logistics services.

The need to total border management and secure supply chains will create a demand for more pro-active corridor management involving both the public and private sectors. Global initiatives such as the US 24 hour rule and national initiatives such as the US CT-PAT and Canada's Smart Border will play an important role in fostering better corridor management. Efforts to reform and integrate border management services will also be important, but must be extended to coordination with the private sector. In the future, when the concerns for security and trade facilitation have reached a more stable equilibrium, there will be need to coordinate efforts to improve both. Assuming that the need for greater integration of agencies involved in clearing cargo at the border leads to unified border management agency, this agency will play a substantial role in corridor management. In order to continue efforts to improve trade facilitation, the private sector would require strong representation of its interests in facilitating cross border movement. This implies a single organization, in some cases a subsidiary of the Chambers of Commerce that would have the authority to act as advocate for all users. These two organizations would also be in a position for introducing secure supply chain management.

Bibliography

Asycuda Information Sheet

[http://Ints017:8080/Transport.nsf/3b8b3d27260832ec852569fa0059675f/66222517f0e6e0c685256caa00562e79/\\$FILE/General%20Concept%20%20AW-IS-GC-v2.pdf](http://Ints017:8080/Transport.nsf/3b8b3d27260832ec852569fa0059675f/66222517f0e6e0c685256caa00562e79/$FILE/General%20Concept%20%20AW-IS-GC-v2.pdf)

Asycuda Information Sheet: Processing customs declarations

[http://Ints017:8080/Transport.nsf/3b8b3d27260832ec852569fa0059675f/66222517f0e6e0c685256caa00562e79/\\$FILE/Processing%20Customs%20Declaration%20AW-IS-CD-v4.pdf](http://Ints017:8080/Transport.nsf/3b8b3d27260832ec852569fa0059675f/66222517f0e6e0c685256caa00562e79/$FILE/Processing%20Customs%20Declaration%20AW-IS-CD-v4.pdf)

ASYCUDA World: Information Sheet- AW-IS/GC: General Concept

Achieving Trade Security within a Standardized, Efficient and Transparent International Framework
UNECE, March 11, 2003

Annex 5: UN-EDIFACT

Application of Transaction Costs to Choice of Transport Corridors, Kalevi Kyläheiko, Dragan Ciscic,
Pavao Komadina

Border Delays and Trade Liberalization, Edgar Cudmore and John Whalley, February 2003

By and Between The Government of the Republic of Moldova and SGS (Societe Generale De
Surveillance SA), October 2001

Compendium of Trade Facilitation Recommendations, Secretariat of the United Nations Centre for Trade
Facilitation and Electronic Business, 2001

Eliminating Obstacles to Efficient Trade Finance in Transition Economies: Practical Aspects: Procedures
of the Seminar, United Nations Economic Commission for Europe, 4-5 May 2000

Etude pour la Mise En Place D'Une Chaine Intenationale De Caution Douaniere Dans Le Cadre De La
Precedure TIPAC, Louis Berger S.A., September 1998

Expert Meeting on the Development of Multimodal Transport and Logistics Services, Chris Trelawny,
24-26 September 2003

Facilitation measures related to International Trade Procedures

http://www.unece.org/cefact/rec/rec18/Rec18_pub_2002_ecetr271.pdf

GFP TTFSE Indicators, IBRD, June, 12 2001

Guide: To Measure the Time Required For The Release of Goods, World Customs Organization, 2002

Guidelines on Application of Information and Communication Technology (Kyoto Convention)
March 2002

Guidelines to Recommendation No. 4 National Trade Facilitation Bodies, UNCTAD, March 2000

Implementation of Multimodal Transport Rules: Comparative Table, UNCTAD secretariat, 9 October 2001

Integration of Transport and Trade Facilitation: Selected Regional Case Studies, T.R. Lakshmanan, Uma Subramanian, William P. Anderson, Frannie A. Leautier, IBRD, January 2001

IRU Handbook on the European Harmonisation of Road Transport Legislation and Practices, 3rd edition, TRANSLex, IRU, 2001

Iraq: Investment Climate and Trade Facilitation Engagement Strategy, World Bank Group, October 24, 2003

Landlocked Countries: Opportunities, Challenges, Recommendations

Major International Transit Procedure: the TIR

Mercosur: A Preliminary Assessment of the Transportation Infrastructure Supporting Supply Chain Efficiency, Walter Zinn, Univ. of Miami, April 1999

Note de Presentation du Programme de Simplification et D'Harmonisation des Procedures Administratives Et De Transit Portuaire Au Sein De L'Uemoa, June 12-19 2002

Notes on TIR Insurance and UNCTAD Programs
Facilitation Measures Related To International Trade Procedures, United Nations, 2001

“Policy and Operational Lessons Learned from Eight Country Case Studies, Chapter 6, Customs Modernization Handbook, edit. De Wulf, and Sokol, World Bank, 2005

Recommendation of the Customs Co-operation Council Concerning the Unique Consignment Reference Number (UCR) For Customs Purposes, March 2002

Report of the Expert Meeting on the Development of Multimodal Transport and Logistics Services, United Nations Conference, 24 October 2003

Report of the Expert Meeting on Efficient Transport and Trade Facilitation to Improve Participation by Developing Countries in International Trade: Problems and Potential for the Application of Current Trade Facilitation Measures by Developing Countries, United Nations, 12 December 2002

Review of Developments in Standardization Activities and in the Field of Regulatory Cooperation at the International, Regional, and National Levels., 10-12 November 2003

Review of the Current Situation Analysis of Impediments Recommended Mechanisms, July 3, 2002

SAR Bolivia Export Corridors Project, Report 700-OB 1989
http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/1989/04/12/000009265_3960927183613/Rendered/PDF/multi0page.pdf

Short Brochure: The Single Window Concept: United Nations Economic Commission for Europe

Staff Appraisal Report: Bolivia: Export Corridors Project, Infrastructure and Energy Operations Division, IBRD, April, 12 1989

Supply Chain Management and Regulatory Controls: A Case for Trade Facilitation, Andrew Grainger, 2003

The ITF/ETF Corridor Project: Description of Corridors, March 23, 2004

The Negotiability Of Electronic Bills Of Lading, Anders Hansson, Juris Kandidat, LL.M, January 1999

<http://www.andershansson.com/>

Third Meeting of the Trade, Investment and Private Sector Cooperation Working Group, 20 January 2004

Transit Transport Issues in Landlocked and Transit Developing Countries, United Nations, 2003

Trade Facilitation: The Benefits of Simpler, more Transparent Border Procedures, Organization for Economic Co-Operation and Development, August 2003

Transport Trends and Economics: Euro-Asian transport links, Inland Transport Committee, UN-ECE, February 2004

Transit Systems of Landlocked and Transit Developing Countries: Recent Developments and Proposals for Future Action, UNCTAD secretariat, 7 May 2001

Transport Sector Review Of Armenia, Azerbaijan And Georgia, World Bank, 2002

<http://Ints017:8080/Transport.nsf/ECADocByUnid/A31E92AFFCAA57A685256C39003FBF41?OpenDocument>

United Nations Conference on Trade and Development: The Use of Transport Documents in International Trade, UNCTAD secretariat, 26 November 2003

UNCTAD Meeting on Landlocked and Transit Developing Countries, July 30-August 3

United Nations Conference on Trade and Development: Implementation of Multimodal Transport Rules-Comparative Table, UNCTAD secretariat, 9 October 2001

United Nations Conference on Trade and Development: Multimodal Transport: The Feasibility of an International Legal Instrument, UNCTAD secretariat, 13 January 2003

World Bank/UNESCAP Technical Workshop on Transport and Transit Facilitation

Working Party on Technical Harmonization and Standardization Policies, Committee For Trade, Industry And Enterprise Development, Economic Commission For Europe

<http://www.gfptt.org/Entities/ReferenceReadingProfile.aspx?id=decd3abf-cae4-4602-b264-d1bad161b4cb>

Working Party of the Trade Committee: Business Benefits of Trade Facilitation, April 10, 2002

EU Regulations

Commission Regulation (EC) No 2843/98 of 22 December 1998

On the form, content and other details of applications and notifications provided for in Council Regulations (EEC) No 1017/68, (EEC) No 4056/86 and (EEC) No 3975/87 applying the rules on competition to the transport sector

http://europa.eu.int/eur-lex/en/archive/1998/l_35419981230en.html

Council Directive 76/135/EEC of 20 January 1976 on reciprocal recognition of navigability licences for inland waterway vessels

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31976L0135&model=guichett

Council Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels

<file:///C:/Documents%20and%20Settings/Arnold%20Projects/TTSFE/EU%20Legal%20Framework/inland%20water%20vessel%20specifications.html>

Council Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31982L0714&model=guichett

Council Directive 96/53/EC of 25 July 1996

Laying down for certain road vehicles circulating within the Community the maximum authorized dimensions in national and international traffic and the maximum authorized weights in international traffic

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31996L0053&model=guichett

Council Directive 96/96/EC of 20 December 1996 on the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers

http://europa.eu.int/eur-lex/en/lif/dat/1996/en_396L0096.html

Council Directive 70/157/EEC of 6 February 1997 on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles

http://europa.eu.int/eur-lex/en/lif/dat/1970/en_370L0157.html

Council Regulation (EEC) 881/92 of 26 March 1992 on access to the market in the carriage of goods by road within the Community to or from the territory of a Member State or passing across the territory of one or more Member States

http://europa.eu.int/eur-lex/en/lif/dat/1992/en_392R0881.html

Council Regulation (EEC) 1262/84 of 10 April 1984 implementing the international convention on the harmonisation of the frontier control of goods.

http://europa.eu.int/eur-lex/en/lif/dat/1984/en_384R1262.html

Council Regulation (EEC) 1262/84 of 10 April 1984 implementing the international convention on the harmonisation of the frontier control of goods.

http://europa.eu.int/eur-lex/en/lif/dat/1984/en_384R1262.html

Council Regulation (EEC) 4060/89 of 21 December 1989 on the elimination of controls performed at the frontiers of Member States in the field of road and inland waterway transport
http://europa.eu.int/eur-lex/en/lif/dat/1989/en_389R4060.html

Council Resolution of 19 June 1995 on social harmonization in road freight transport in the Internal Market
[http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31995Y0705\(03\)&model=guichett](http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31995Y0705(03)&model=guichett)

Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system
http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32001L0016&model=guichett

Council Regulation (EC) No 1/2003 of 16 December 2002
On the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty

Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001
On the interoperability of the trans-European conventional rail system
http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/l_110/l_11020010420en00010027.pdf

European Parliament and Council Directive 1999/62/EC of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures
http://europa.eu.int/eur-lex/en/lif/dat/1999/en_399L0062.html

Regulation (EC) No 1592/2002 of the European Parliament and of the Council of 15 July 2002
On common rules in the field of civil aviation and establishing a European Aviation Safety Agency
http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_031/l_03120020201en00010024.pdf

Can-Mex Highway

Canadian/American Border Trade Alliance
<http://www.canambta.org/html/usdot.htm>

Canamex Trade corridor
<http://CANAMEX.org>

CANAMEX Corridor
<http://www.azleg.state.az.us/issues/senate/canamex%20corridor.pdf>

CAN/AM Border Trade Alliance Executive Director's Remarks U.S. Dot One-Dot Conference Detroit, Michigan August 27, 1998
<http://www.canambta.org/html/usdot.htm>

Development of the CANAMEX Trade Corridor: A Background Paper
<http://www.americas-society.org/bna/downloads/Canmextradecorridor.pdf>

Memorandum of Understanding, Revision 3 : Between Five Western States for the Planning and Development of the CANAMEX Corridor, Oct 31, 2003
<http://www.canamex.org/CCC/MOU%202003.pdf>

North American Trade Corridors: A Survey of Current Endeavors
<http://www.ops.fhwa.dot.gov/freight/pp/NORTH%20AMERICAN%20TRADE%20CORRIDORS.doc>

“The Forgotten Highway: Why you still can't drive from the top of the Americas to the bottom”
Benjamin Ryder Howe, Atlantic Monthly, March 2001
<http://www.theatlantic.com/issues/2001/03/>

The NAFTA Superhighway Case Statement
http://www.ambassadorbridge.com/nafta_case.html

Trade Corridors in North America, John D. Wirth, Symposium Report, North American Institute, October 1999
<http://www.northamericaninstitute.org/files/tradecorridors.doc>

Transportation Corridor and Border Gateways: US and Canadian Focus
Summary Highlights from CAN/AM Border Trade Alliance Conference
http://www.canambta.org/MINN_CONF_03_SUMMARY.pdf

Transport Corridors of Canada
Author : Dr. Brian Slack
<http://people.hofstra.edu/geotrans/eng/ch2en/appl2en/ch2a2en.html>

U.S. and Canadian Focus, Trade Corridor and Border Gateways, Conference Briefing, Can/Am Border Trade Alliance, 2003

What is CANAMEX? Federal definition
<http://www.canamex.org/fed%20def.htm>

Northern and Central Corridor

Africa: The Great Lakes Corridor Study: Main Report, East Africa Dept, IBRD, April 17, 1995

Concessioning of Tanzania Railways Corporation, Information Memorandum, Presidential Parastatal Sector Reform Commission, Dar es Salaam, 2004

Feasibility study for a regional cargo tracking system on the Mombasa (Northern) and Dar-Es-Salaam (Central) corridors: Executive Summary: Volume 1, Jean Kizito Kabanguka, Athman M. Athman, Anthony Murithi, December 2003

Feasibility Study For A Regional Cargo Tracking System On The Mombasa (Northern) An Dar-Es-Salaam (Central) Corridors, Main Report, Volume II, December 2003

International Transport in East Africa: A Discussion Brief: The Great Lakes Corridor Study, Handout, 1991

Kenya: Transport Sector Memorandum, World Bank

Northern Corridor Forum Meets in Kamapala
<http://www.revenue.go.ke/kra/new/ncforum.html>

Technical Report: Consultative Survey Regarding Current Customs Transit Procedures in the Dar es Salaam Corridor, Ranga Munyaradzi, SMAK Kaombwe, Chemonics Intl, USAID, June 2003

South African Corridors

Border Post & Transit Facilitation Workshop, Southern Africa Transport and Communications Commission Technical Unit (SATCC-TU), 23-24 November, 1998

Final Report: Transport and Trade Facilitation: East and Southern Africa: Review of Present Problems and Reform Initiatives: Volume 1, Consilium Legis (Pty) Ltd, July 2003

Final Report: Transport and Trade Facilitation: East and Southern Africa: Review of Present Problems and Reform Initiatives: Volume II: Corridor Assessment Annexes, Consilium Legis (Pty) Ltd, July 2003
Implementation Completion Report: Republic of Mozambique: Maputo Corridor Revitalization (Technical Assistance) Project, IBRD, June 28, 1999

Institutional Aspects of the Maputo Development Corridor, DPRU Policy Brief No 01/P16, University of Capetown, October 2001

How will the Maputo Development Corridor impact freight flows?, JDPRU Policy Brief No 00/P1, University of Capetown, July 2000

Maputo Development Corridor Spatial Development Initiative(SDI): Strategic Environmental Management Plan (SEMP) (Executive Summary), Roger Naidoo, Dept of Arrairs and Toursim, South Africa

Memorandum of Understanding between the governments of the Republics of Botswana, Namibia and South Africa, 03 November 2003

MPDC Website <http://www.portmaputo.com/home.html>

Ports and Shipping, South Africa http://www.ports.co.za/news/article_2004_02_21_1533.html

Project Name Maputo Development Corridor: Financing Institutions

South African National Roads Agency <http://www.nra.co.za/aboutpppn4a.html>

SADC Protocol on Transport, Communications and Meteorology in the Southern African Development Community (SADC) Region

SDIs- Creating New Wealth in Southern Africa, brochure, Nacala Development Corridor

SWEDfund website <http://www.swedfund.se/press/maputoport.htm>

Transport Corridors, Development Corridors, and SDIs: What's the Difference?

"Trans-Kalahari customs procedures to be eased" The Namibia, July 18
<http://www.queensu.ca/samp/migrationnews/2003/jul.htm>

Other African corridors

Bank Lending for African Corridors: an OED Review, IBRD, 1994

Implementation Completion Report: Malawi: Northern Transport Corridor Project, IBRD, May 6, 1996

La problématique de la gestion intégrée des corridors en Afrique subsaharienne, N'Guessan N'Guessan, Document d'analyse SSATP No. 3F, World Bank, May 2003

Project Appraisal Document and a Proposed Grant to the Republic of Mali for the Transport Corridors Improvement Project, World Bank, February 11, 2004

Report on Transport Covenants for Africa, J. Grosdidier de Matons,

Staff Appraisal Report: Malawi: Northern Transport Corridor Project, IBRD, January 27, 1988

Vers L'Union Douaniere En Afrique Centrale, Claude Dufly, Jean Puons and Marcel Steenlandt, Banque Mondiale, November 2002

GMS

ASEAN Framework Agreement on the Facilitation of Goods in Transit

<http://www.aseansec.org/8872.htm>

Economic Cooperation in the Greater Mekong Subregion: An Overview, ADB, 2000

Eighth ASEAN Transport Ministers Meeting and First ASEAN and China Transport Ministers Meeting , 2002

<http://www.aseansec.org/12608.htm>

Facilitating the Cross-Border Movement of Goods and People in the Greater Mekong Subregion, SASEC Transport Working Group, March 2002

GMS Assistance Plan : V. Strategic Directions of the GMS Program for 2001-2003

<http://www.adb.org/documents/CAPs/gms/0503.asp>

“GMS countries sign documents for cross-border transport”, Vietnam net Bridge, 4/04

<http://english.vietnamnet.vn/politics/2004/05/140204/>

Greater Mekong Subregional (GMS) Program for Subregional Cooperation, ADB, 2000

<http://www.adb.org/Documents/Brochures/GMS/gms1.asp>

Joint Press Statement Seventh ASEAN Transport Ministers Meeting, 2001

<http://www.aseansec.org/1066.htm>

Ninth ASEAN Transport Ministers Meeting, 2003

<http://www.aseansec.org/15351.htm>

“Signing of the trilateral agreement among Lao PDR, Thailand, and Viet Nam, 26 November 1999”

<http://www.adb.org/GMS/agreement.asp>

Technical Workshop on the Study Methodology of the Transport Working Group RETA 6112: Subregional Corridor Operational Efficiency Study, ADB, 2-3 February 2004

SASEC Corridors

Facilitating the Cross-Border Movement of the Goods and People in the Greater Mekong Subregion, Presentation, SASEC Transport Working Group, Nepal, 2002

First Private Sector Forum on South Asian Sub-Regional Economic Co-operation International Conference: Co-operation in Transport and Communications, Mr. Hans Carlsson, November 28-29 2000

Study on Facilitation of Cross-border Movement of Goods and People in the SAARC Region (Phase II), Asian Institute of Transport Development, August 2001

Caucasus

Balancing and Optimizing Trade Facilitation and Border Integrity, 2003
Central Asia Trade & Transport Facilitation Audit: National Reports/Uzbekistan, NEA Transport, Netherlands, March 2003

Central Asia Trade and Transport Facilitation Study: Synthesis Report, NEA Transport research and training

Central Asia Trade & Transport Facilitation Audit: National Reports- Turkmenistan, NEA Transport, The Netherlands, March 2003

Declaration adopted by the Second International Euro-Asian Conference on Transport, 12-13 September 2000

Report of a Diagnostic Workshop Conducted with the Customs Administration of The Republic of Armenia, Alan Morley, Manuel Henriques, Michael Lane, Barents Group, April 7, 2000

Trade and Transport Facilitation in the South Caucasus: Georgia Policy Note, The World Bank, November 2003
<http://lnweb18.worldbank.org/ECA/Transport.nsf/ECADocByUnid/612BCFE1E62E630585256C85006ABAEF?Opendocument>

Trade and Transport Facilitation in the Southern Caucasus, Azerbaijan, World Bank, 2002

Transit Development: Strategy and Action Plan for Regional Cooperation in East and Central Asia Governance, Finance, and Trade Division East and Central Asia Department, ADB

Transport and Trade Facilitation Issues in the CIS 7, Kazakhstan and Turkmenistan, Eva Molnar and Lauri Ojala, World Bank, 20-22 January 2003

Silk Road

“The New Silk Road: A Georgian Perspective”, Archil Gegeshidze Journal of International Affairs, March-May 2000, Volume V - Number 1
<http://www.mfa.gov.tr/grupa/percept/V-2/egeges.htm>

TRACECA

Identifying and Prioritizing Policies for Improving the Intermodal Freight Transport System Linking Western Europe and the Central and Eastern European Countries, Warren E. Walker, H.J.M. van Grol, S. Adnan Rahman, Abigail Lierens, Edwin Horlings, RAND Europe

Infrastructure, Combined Transport and the Trans- European Transport Network

TRACECA website

<http://www.traceca-org.org/default.php>

Trade and Transport Facilitation: From Diagnostic to Implementation: Our CIS7+2 and Southeast Europe Experience, Gerald Ollivier, May 2003

WTO

After the“Fifth Protocol” :- World Trade Organization Agreements and Trade in Insurance Services, Nigel Easton, Presentation from XII Insurance Congress Of Developing Countries, 2001
r0.unctad.org/insuranceprogramme/airdc.ppt

Annex 1b: General Agreement On Trade In Services, WTO, "The Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations.

http://www.wto.org/english/docs_e/legal_e/ursum_e.htm#mAgreement

http://www.wto.org/english/docs_e/legal_e/26-gats.pdf