

CHAPTER VIII. CASE STUDY OF MONGOLIA

A. Country profile

Mongolia is one of the largest landlocked countries in the world, with a territory extending over 1.6 million square kilometres on a plateau 1,580 metres above sea level. It is bordered by China on three sides, to the east, south and west and by the Russian Federation to the north. The land is principally steppe and semi-desert, with the Gobi desert to the southeast and mountains to the west and southwest. Over 80 per cent of the territory is pastureland and 8.0 per cent is forest. The country is rich in a variety of mineral resources and has substantial livestock herds, ranking first in per capita ownership of livestock in the world. However, agricultural activity is restricted by the severity of the continental climate, the shortness of the growing season, the scarcity of water and poor land quality due to desertification and overgrazing.

Mongolia is a sparsely populated country, with a population of around 2.6 million in 1999, giving it a population density of less than 2 persons per square kilometre. However, around 63 per cent of the population live in urban areas, while 15 per cent of the rural population still live in semi-nomadic conditions. Migration to the cities from rural areas continues to be a significant trend. Infrastructure, including transport, is poor. The few roads are badly maintained, and Mongolians remain heavily dependent on the railway for transportation. Most roads are either gravel or earth, becoming impassable in winter and during rains and floods. Pastureland is frequently destroyed by the creation of new earth track roads as existing roads become blocked, occasionally by vehicles in transit. As population growth and rural-urban migration continue, the transportation infrastructure is currently struggling to handle the increase in cargo and passenger traffic. The construction of new roads and the maintenance of existing ones are being given high priority by both the Government and donors, as greater integration into the national economy and improved access to economic opportunities are considered key to poverty reduction and human development, particularly in rural areas.

Mongolia, which used to be received financial and technical assistance from the former Soviet Union, has embarked on economic reforms to transform itself from a centrally planned to a market economy. In the aftermath of the collapse of the Soviet Union, GDP per capita contracted at the rate of 4 per cent annually between 1990 and 1995. Economic growth replaced contraction starting in 1994, and notwithstanding annual population growth of 1.6 per cent, GDP per capita grew at 1.6 per cent per annum between 1996 and 2000.⁴⁵ The country remains poor, however, with some 35 per cent of the population below the national poverty line and 23 per cent in extreme poverty. Income inequality also appears to be widening, in particular between the rural and urban populations.⁴⁶

Economic growth has been constrained by the lack of diversification in the economy, which remains dependent on mineral resources and animal husbandry. Although agricultural production accounts for one third of total output in the economy, Mongolia is not self-sufficient in food, and agricultural activities are highly vulnerable to severe weather

⁴⁵ ESCAP and the United Nations Development Programme, *Promoting the Millennium Development Goals in Asia and the Pacific: Meeting the Challenges of Poverty Reduction* (United Nations publication, Sales No. E.03.II.F.29).

⁴⁶ ESCAP, *Economic and Social Survey of Asia and the Pacific 2003* (United Nations publication, Sales No. E.03.II.F.II).

conditions and other shocks. The harsh winters of 2000 and 2001 and a major drought caused large losses in animal herds and a significant decline in the output of the livestock sector. On a brighter note, the services sector has been contributing a greater share to overall GDP, and manufacturing, in particular textiles and food processing, has been expanding at double-digit rates recently.

Compared to other countries in transition, Mongolia has achieved tangible results in trade liberalization. Mongolia's accession to the WTO in January 1997 highlights its relative success in pursuing economic reforms and developing a new trade regime in line with international trading principles. However, because of the undiversified nature of its output, Mongolia has difficulty in expanding exports and has to rely on imports from neighbouring countries and the rest of the world to meet the needs of its citizens. The ratio of exports and imports of goods and services to GDP has been around 65 per cent and 81 per cent respectively in recent years. Trade deficits have been chronic and, notwithstanding increased revenues from tourism and other invisible earnings from, for example, the granting of over flight rights, the current account deficit has been around 15 per cent of GDP on average in recent years.

Mongolia's export receipts depend heavily on global demand conditions and the terms of trade commanded by its principal export commodities, copper, gold, and cashmere products, as well as hides and skins, meat and other animal products. The outlook for copper exports has worsened markedly as the global slowdown in high-tech industries depressed world copper prices. There are signs that this trend may be reversing, and the increase in the price of gold is another encouraging development. The demand for finished cashmere in major industrial countries has, however, been slowing. Mongolia and China have agreed to set up a joint Cashmere Council for research into the quality and pricing of cashmere, as most of the raw cashmere exported by Mongolia goes to China officially and unofficially. Exports of meat products face periodic import bans in neighbouring countries owing to animal health problems. However, there have been substantial increases in meat exports to markets in Asia and the Middle East, as well as to the Russian Federation, in recent years and this sector has strong potential for future growth.

Imports into Mongolia have been growing very rapidly, owing to higher imports of food, textiles, machinery and equipment and spare parts. Oil and oil products are other major imports and the recent increase in the price of oil has caused these imports to balloon.

Like other landlocked countries, Mongolia's most important trading partners are its two giant neighbours, the Russian Federation and China, although the United States of America has recently become a major export market. China's share of exports from Mongolia has been around 48 per cent by value (in US dollars) and its share of imports into that country has been around 20 per cent in recent years. The Russian Federation receives a negligible share of Mongolia's exports but has been the origin of around 34 per cent of Mongolia's imports on average in the past few years. The United States of America has seen its share in Mongolia's exports increase from around 6-8 per cent in the mid-1990s to around 30 per cent more recently. Republic of Korea and Japan are other major import sources.

B. Transit transport infrastructure and facilitation

1. Transit transport infrastructure

The transport network in Mongolia consists of four subsectors, road, railway, air and water. Conditions specific to the country have predetermined that the first two play dominant roles. Air transport is, however, vital for access to the remote regions and a small fleet of cargo boats operates on some lakes and rivers. In 2001, of the 98.5 million passengers carried by the transport network in Mongolia, 96 per cent travelled by road and just under 4 per cent by railway.⁴⁷ Air transport had a negligible share. However, in terms of passenger turnover⁴⁸, the share of road transport was only 19 per cent in 2001, while the shares of railway and air transport were 54 per cent and 27 per cent respectively. Not surprisingly, passengers travelling longer distances choose the latter two modes of transport, given the sheer size of the country and the poor state of the road network. In terms of total freight carried in 2001, 86 per cent was carried by the railway and nearly 14 per cent by road. The share of the railway sector increases to 97 per cent when freight turnover⁴⁹ is considered, with the road transport share falling to only 2 per cent.

Thus, the railway appears to be the backbone of Mongolia's transport network, with roads being used by people living in and around conurbations. However, there is no doubt that if there was even a rudimentary network of properly maintained roads of international standard, the flexibility afforded by road transport would attract more traffic. The total number of registered vehicles in 2001 was just over 93,000 and, of these, 57 per cent were passenger automobiles and 27 per cent were trucks.

(a) Road transport

The total road network in Mongolia is 49,250 kilometres in length, with 11,063 kilometres of state roads and 38,187 kilometres of local roads.⁵⁰ Of the total state road network, 13 per cent are paved, while 30 per cent are gravel or formed earth roads and 57 per cent are earth tracks.⁵¹ There are few paved roads beyond the vicinity of the major cities.

The relatively poor road network limits road transport within Mongolia. The road transport network is currently being refurbished with external assistance and with the construction of an east-west arterial road that began in 2001. This east-west arterial road and five other vertical arterial roads are part of the Millennium Road Project approved by the Mongolian Parliament in January 2001 and supported by donors. The purpose of this project is not only to improve road transport in Mongolia but also to construct additional road links with Russian Federation and China.

⁴⁷ From the web site of the National Statistical Office, Mongolia, accessible at http://www.nso.mn/yearbook/2001/sect_12.pdf (26 June 2003).

⁴⁸ Defined as the number of passengers carried multiplied by the distance travelled.

⁴⁹ Defined as freight carried multiplied by the distance travelled.

⁵⁰ State roads connect Ulaanbaatar with the provincial centres, important towns and border crossings designated as such by Government resolutions. Local roads connect provincial centres with other provincial centres.

⁵¹ See World Bank Country Brief on Mongolia, available at <http://www.worldbank.org/eap/eap.nsf/Countries/Mongolia/075015C0507B45BD85256C7000653113?OpenDocument> (26 June 2003).

(b) *Rail transport*

Mongolian imports and exports are primarily carried by rail, both within the country and to and from neighbouring countries. The total length of railway is just over 1,800 kilometres, most of it consisting of the trunk line between Sukhbaatar on the Russian border, through Ulaanbaatar, to Zamiin Uud on the Chinese border, a distance of around 1,400 kilometres. It also serves the three largest agglomerations in Mongolia, namely Ulaanbaatar, Darkhan and Erdenet. It is in reasonably good condition and is a transit route for cargo moving between China and the Russian Federation via Mongolia. Mongolian Railway is a Mongolian-Russian joint venture, owned 50 per cent by each side. Railroad tracks in Mongolia and the Russian Federation are broad gauge (1,520-mm) while Chinese rail lines use the standard gauge (1,435-mm). There have been some discussions on overcoming break-of-gauge problems between the three countries.

Rail carries the bulk of Mongolian cargo tonnage, and spur rail lines connect to major coalmines and the copper mine at Erdenet. Of the 10.1 million tons of freight carried by railway in 2001, 62 per cent was local freight and 38 per cent international, of which some 56 per cent is estimated to have been transit traffic. Wood and wood products, crude oil and fertilizer are the most important goods in transit between the Russian Federation and China carried by Mongolian Railway.⁵² Through traffic between China and Russia has been estimated at 50,000 tons per month but more detailed data are lacking.

Zamiin Uud is linked with Erenhot on the Chinese side of the border and from there to the port of Tianjin, a distance of some 995 kilometers. The route through Russian Federation passes from Sukhbaatar to Naushkhi on the Russian side of the border and on to ports on the Sea of Japan, the Baltic Sea and the Black Sea. The distances through Russian Federation are very much longer; for example, the distance from Naushkhi to Vanino is 3,845 kilometres and to Nakhodka is 5,600 kilometres. Both these ports are on the Sea of Japan.

(c) *Air transportation*

The air transport system of Mongolia is relatively well developed for both domestic and international passenger air travel but airfreight has not had a significant role in transit traffic so far and the airfreight option was not examined in this case study. Today, however, airfreight is growing in importance and if Mongolia is able to diversify its exports to include high-value, low-bulk items, air transport will become not only feasible but also essential. Mongolia has direct flights to Beijing and Hot Hot in China; Berlin and Frankfurt in Germany; Seoul in the Republic of Korea; and Moscow and Irkutsk in Russian Federation.

2. Legal framework

(a) *Bilateral agreements*

Mongolia has a transit transport agreement with the Russian Federation, dating from 1992, and a road transport agreement, which was signed in February 1996 and permits trucks from one country to transport goods into the other. It also has transit and road transport agreements with China, also dating from 1991. In practice, however, trucks from Mongolia are prohibited from entering China, while Chinese trucks are permitted to travel up to the nearest Mongolian border town.

⁵² ESCAP, Report on advisory services to Mongolia on land transport development policy, 5-17 December 2002.

Policy makers from Mongolia have tended to focus on transit transport by rail from the Russian Federation via Mongolia to China and vice-versa. However, they have continued to see Mongolia as a “landlocked” country, whose geographic situation is an impediment to efficient logistics, rather than as being “land-linked” and potentially able to develop an integrated logistics platform that could serve its own and its neighbours’ logistics needs efficiently. Some consideration has been given to access to European markets for exports from Mongolia by rail transport, but issues related to seaport access and its implications have not yet been given the attention they deserve.

(b) *Trilateral agreement*

China, Mongolia and the Russian Federation are currently negotiating a proposed draft framework agreement on transit transport, with the United Nations Conference on Trade and Development (UNCTAD) acting as a facilitator.⁵³ The agreement will provide a legal framework for efficient transit systems to and through Mongolia. In particular, it will guarantee freedom of transit by all modes of transport and promote simplification, harmonization and standardization of customs, administrative procedures and documentation.

The Mongolian Ministry of Foreign Affairs has taken the lead in the negotiations on the draft framework agreement but the involvement of the Ministry of Infrastructure is considered to be critical to their success. The draft framework agreement is not of itself problematic and most major issues have been settled during the negotiating meetings held in Irkutsk, Russian Federation and Ulaanbaatar.⁵⁴ However, differences in the interpretation of some clauses remain and major hurdles, such as the negotiation of appendices on issues such as border controls, still lie ahead.

(c) *Multilateral conventions*

Mongolia is a signatory to the Convention on Transit Trade of Land-locked States, signed on 8 July 1965 in New York. This Convention recognizes that the transit trade of landlocked countries, comprising one fifth of the nations of the world, is of the utmost importance to economic cooperation and the expansion of international trade. The difficulty for Mongolia is that China has not acceded to this convention and is, therefore, not bound by its principles.

Mongolia acceded to the Customs Convention on the International Transport of Goods under Cover of TIR Carnets on 1 October 2002.⁵⁵ This Convention entered into force in Mongolia on 1 April 2003. The International Road Transport Union is in the process of authorizing the National Road Transport Association of Mongolia as an issuing association and a guaranteeing association for the purposes of the Mongolian customs authorities. If the authorization process is not delayed, the TIR procedure can be expected to be used in

⁵³ UNCTAD, “Draft transit framework agreement between the People’s Republic of China, Mongolia and the Russian Federation” (UNCTAD/LDC/Misc.47/Add.3).

⁵⁴ UNCTAD, “Report of the third negotiating meeting on the draft transit framework agreement between the People’s Republic of China, Mongolia and the Russian Federation” (UNCTAD/LDC/Misc.81).

⁵⁵ The Customs Convention on the International Transport of Goods under Cover of TIR Carnets was elaborated under the aegis of the United Nations Economic Commission for Europe (UNECE).

Mongolia as from June 2003. Russia is also a member of the TIR Convention⁵⁶ but not China.

3. Coordination of trade and transport facilitation

Discussions are currently ongoing within the Government of Mongolia on the establishment of a national transport and transit committee to deal with all the issues involved in the coordination of trade and transport facilitation.

C. Analysis of selected corridors

The only Chinese seaport currently used for Mongolian transit traffic is the new port of Xingang, operated by the Port of Tianjin Authority. This is a large, well equipped and well run port with plans for phased expansion through 2010. Mongolia can use at least six Russian seaports: Vladivostok, Nakhodka, Vanino and Vostochny on the Sea of Japan; St.Petersburg on the Baltic Sea; and Novorossisk on the Black Sea. All these ports have adequate facilities and rail connections with the ports are also adequate.

The analysis in this report has focused on four alternative transit corridors: via Tianjin in China, by rail or by a combination of road and rail; via Vladivostok/Vostochny in the Russian Federation, by rail; and via Belarus, an overland rail route to Western Europe (table VIII.1). Due to the limited time available for the conduct of the study, transit routes via St Petersburg and Novorossik have not been included. The main emphasis was on import transit routes, with some reference to export routes where data was available.

Table VIII.1. Selected routes for imports in transit to Ulaanbaatar, Mongolia

<i>Route</i>	<i>Origin</i>	<i>Mode</i>	<i>Border crossing</i>	<i>Onward mode</i>
1	Tianjin Port (China)	Rail	Erenhot-Zamiin Uud	Rail
2	Tianjin Port (China)	Road	Erenhot-Zamiin Uud	Rail
3	Vladivostok/Vostochny Port (Russian Federation)	Rail	Naushkhi-Sukhbaatar	Rail
4	Brest dry port (Belarus)	Rail	Naushkhi-Sukhbaatar	Rail

(a) *Route 1: Tianjin Port-Ulaanbaatar, all rail*

The estimated time and costs associated with this route are shown in table VIII.2 and plotted in figures VIII.1. and VIII.2. The major part of Mongolian transit traffic is carried by rail through this corridor. Tianjin Port is the closest seaport to Mongolia and is the designated port for goods in transit to Mongolia according to the transit agreement between

⁵⁶ Russia was temporarily suspended from the TIR convention in November 2002. However, on 17 December 2002, the International Road Transport Union and the customs authorities of the Russian Federation signed a cooperation agreement that will allow the continuation of the guarantee coverage of TIR transport operations in the Russian Federation. As a result of the cooperation agreement, the suspension has been cancelled and Russian as well as international transport operators are able to continue to carry out TIR transport operations in the Russian Federation. Russian transport operators are also allowed to continue to perform TIR transport operations in other countries.

China and Mongolia. The total distance from Ulaanbaatar to the port of Tianjin is estimated at around 1,700 kilometres. This transit corridor has been in operation since 11 September 1989. Transit traffic through this corridor has fluctuated greatly since its opening, but the average annual rate of growth in this traffic between 1991 and 2001 is estimated at 27 per cent. In 2001, a total of 15,732 TEU transited via Tianjin port to and from Ulaanbaatar.⁵⁷ Statistics gathered from industry sources suggest that the volume of imported containers was within the 4,800-6,000 TEU range in 2001.

Table VIII.2. Estimated time and costs required for the import of containerized cargo by rail from Tainjin Port to Ulaanbaatar (Per TEU)

Leg	Mode	Distance (km)	Cum. distance (km)	Time (days)				Cost (US\$)*	Cum. cost (US\$)
				Min.	Cum. Min.	Max.	Cum. Max.		
Port charges in Tianjin								80	80
Tianjin-Erenhot	rail	990	990	1	1	3	3	500	580
Document charges								13	
Transit charges					2		8	30	873
Erenhot-Zamiin Uud (border crossing)		14	1 004	1		5		250	
Zamiin Uud-Ulaanbaatar	rail	710	1 714	1	3	3	11	150	1 023
Ulaanbaatar-warehouse	road	10	1 724	0.5	3.5	1	12	20	1 043
Total		1 724		3.5		12			
Return of empty container: Warehouse-Ulaanbaatar	road							20	
Ulaanbaatar-Zamiin Uud	rail		3 418	n/a	n/a	n/a	n/a	70	1 480
Zamiin Uud-Erenhot (border crossing)								117	
Erenhot-Tianjin Port	rail							230	
Total (incl. return)		3 418						1 480	

* Cost refers to a container owned by the carrier. Source: Data collected by ESCAP staff. (Cum. = cumulative).

Export transit traffic via China is minimal compared to import traffic. While containerized imports are estimated to account for 80 per cent of total imports, containerized exports are only some 3-5 per cent of total exports. The containerization of exports has been and the principal exports shipped using this method are garments, crude wool, animal skins and cashmere. However, for the time being, containers used to ship imports to Ulaanbaatar generally return empty to Tianjin Port.

The International Freight Forwarding Centre (IFFC) is the forwarding arm of Mongolian Railway that arranges transit rail services. The IFFC is 100 per cent owned by Mongolian railway but managed independently. The IFFC recently introduced a block train service between Tianjin Port and Ulaanbaatar that has been in operation since 28 May 2002. The "Friendship Express" is provided twice weekly with a guaranteed transit time of just over

⁵⁷ *Future Development of Sea Transportation Corridors in North East Asia*, paper presented at the 3rd Northeast Asia Port Director-General Meeting, September 12-18, 2002, China.

three days. Additional services may be introduced when container traffic increases. For goods not able to be transported on the Friendship Express, the average transit time is seven days for exports or imports, with an average of three days of rail transportation in each country and one day for the border crossing between Erenhot and Zamiin Uud, including transloading.

Figure VIII.1. Estimated cumulative time required for the import of containerized cargo by rail from Tianjin Port to Ulaanbaatar (up to warehouse)

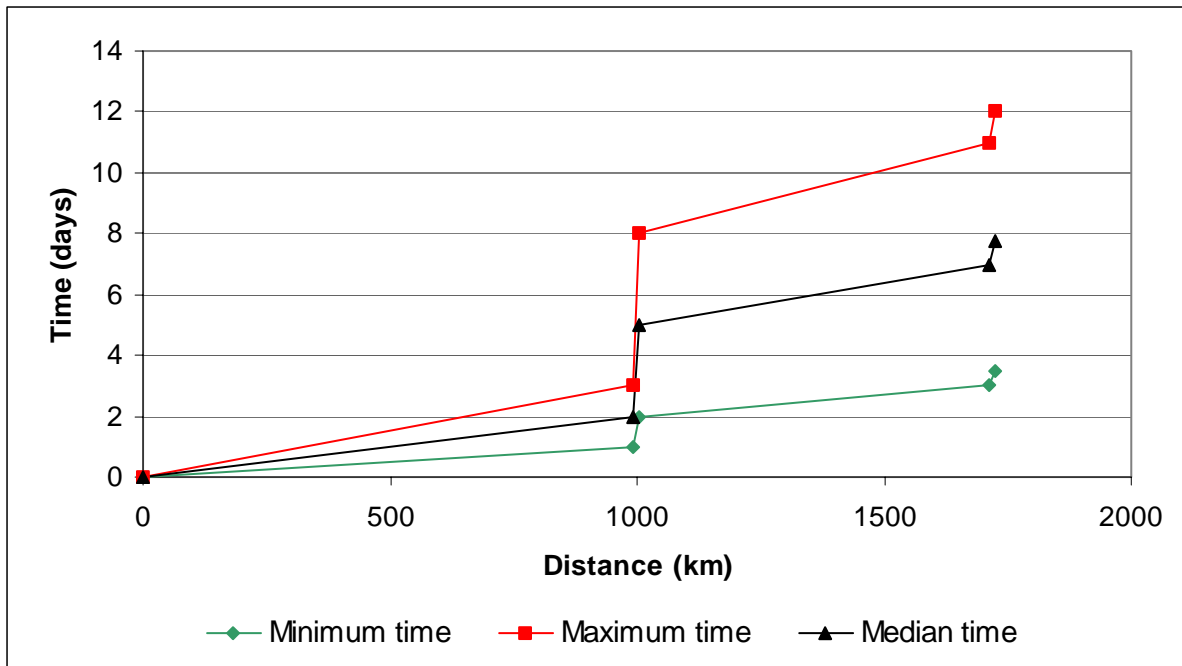


Figure VIII.2. Estimated cumulative costs required for the import of containerized cargo by rail from Tianjin Port to Ulaanbaatar, including cost of empty return (Per TEU)

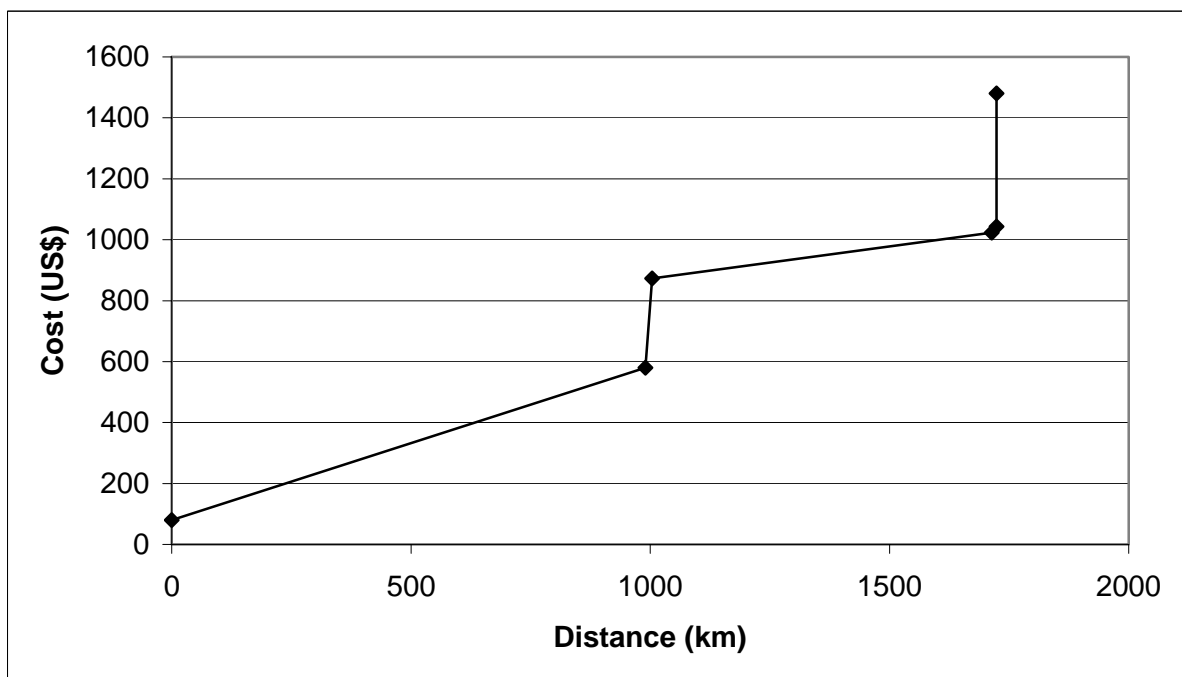


Figure VIII.1 illustrates the variation in transit time for the Tianjin Port-Ulaanbaatar all-rail corridor. For the regular service train, in the best case scenario, goods arrive in Ulaanbaatar within three and a half days of discharge from Tianjin port but, in the worst case, it can take 12 days for the goods to be delivered. This variation in terms of transit time seriously hinders the ability of Mongolian importers to plan their inventory levels, with safety stocks being the norm. For the return of the empty containers, data for minimum and maximum times were not obtained but it is assumed that they are approximately the same as the journey to Ulaanbaatar.

The costs associated with the Tianjin Port-Ulaanbaatar all-rail corridor are plotted in figure VIII.2. The transit cost of importing one TEU from Tianjin Port to Ulaanbaatar has been quoted as US\$ 1,480 for a container owned by the carrier, and at US\$ 1,100 for a container owned by the shipper. In the case of one FEU (Forty-foot Equivalent Unit) owned by the shipper, the quoted price is around US\$ 1,600. These prices can be negotiated for larger volumes. The prices quoted include the costs of returning the empty container to Tianjin port, which represent 31 per cent of total transit transport costs. This implies that, as export volumes grow, import transit costs should decline.

The rail transport cost from Tianjin Port to Erenhot has been quoted at US\$ 500 per TEU, which is equivalent to around US\$ 0.5 per TEU per kilometre. The rail transport cost from Zamiin Uud to Ulaanbaatar is much less, at US\$ 0.21 per TEU per kilometre. The cost of local road transport within Mongolia is also quite reasonable, at US\$ 20 per container within a 10-kilometre radius of the railway station at Ulaanbaatar.

The critical cost increases on this corridor are at the border crossing, between Erenhot and Zamiin Uud, and when the empty container is returned to Tianjin Port. Border crossing costs, at around 20 per cent of total transit transport costs, are quite significant. These costs are composed of document and transit charges as well as the cost of physically crossing the border. In any transit system, the capacity and reliability of the system will be a reflection of its weakest link. The reliability indicator, which is a perceptual tool, clearly demonstrates that the level of confidence regarding transport along this corridor is positive, except for the border crossing, which has a negative perception associated with it. Border crossing charges also represent around 27 per cent of the costs of returning an empty container to Tianjin Port.

(b) Route 2: Tianjin Port-Ulaanbaatar, road-rail

One of the major constraints regarding the utilization of the all-rail option is the limited capacity available on the railways in China, as higher priority is given to domestic traffic over transit traffic to Mongolia (except for the case of the Friendship Express). The road-rail combination offers an alternative that may not be competitive in terms of cost but provides greater flexibility for Mongolian importers. Road transport from Tianjin Port to Erenhot and Zamiin Uud is easier to organize and perceived by Mongolian respondents to be more reliable than Chinese rail transport. From Zamiin Uud, goods are moved by rail to Ulaanbaatar as the roads between the two cities are not suitable for the movement of containers at present. However, as the route from Zamiin Uud to Ulaanbaatar is on Asian Highway route AH3, it is likely to be upgraded in the near future. The estimated time and costs associated with the Tianjin Port-Ulaanbaatar road-rail route are presented in table VIII.3 and plotted in figures VIII.3. and VIII.4. below. As can be seen from the table, the main advantage of the road/rail route from Tianjin Port is a slight savings in time (on the Tianjin-Erenhot leg), but at a slightly greater cost.

Table VIII.3. Estimated time and costs required for the import of containerized cargo by road and rail from Tianjin Port to Ulaanbaatar

(Per TEU)

Leg	Mode	Distance (km)	Cum. distance (km)	Time (days)				Cost (US\$)	Cum. cost (US\$)
				Min.	Cum. Min.	Max.	Cum. Max.		
Port charges in Tianjin								80	80
Tianjin-Erenhot	road	990	990	1	1	1.5	1.5	655	735
Document charges								13	
Transit charges					2		6.5	30	1 028
Erenhot-Zamiin Uud (border crossing)		14	1 004	1		5		250	
Zamiin Uud-Ulaanbaatar	rail	710	1 714	1	3	3	9.5	150	1 178
Ulaanbaatar-warehouse	road	10	1 724	0.5	3.5	1	10.5	20	1 198
Total		1 724		3.5		10.5			
Return of empty container: Warehouse-Ulaanbaatar	road							20	
Ulaanbaatar-Zamiin Uud	rail	1724	3 418	n/a	n/a	n/a	n/a	70	1 712
Zamiin Uud-Erenhot (border crossing)								117	
Erenhot-Tianjin Port	road							307	
Total (incl. return)		3 418						1 712	

Source: Data collected by ESCAP staff. (Cum. = cumulative).

In the case of transit traffic from Tianjin Port, the Chinese transport company, SINOTRANS, is the only company authorized to carry Mongolian cargo by road to the border. The crossing of the border is done with the help of a Mongolian truck driver, whose job is to drive the Chinese truck from Erenhot to Zamiin Uud. Chinese trucks are allowed into Mongolia up to Zamiin Uud whereas Mongolian trucks are not permitted to cross the border. While the data for the road-rail route shown above does not show the additional time required at Zamiin Uud railway station in order to collect a sufficient number of containers to form a trainload, transit time is usually faster than the all-rail route, especially for inland transport within China. In this regard, the twice weekly Friendship Express is more competitive in terms of transit time and reliability but is less flexible with respect to departure times. Transit time to Erenhot is on average less than one day using two drivers, and the border crossing itself can be done within a couple of hours.

When the goods arrive in Zamiin Uud, they are subject to the same treatment as goods arriving by train, as all containers are at present transhipped on to trains for carriage up to Ulaanbaatar. Customs charges for the border crossing are US\$ 12 in China and around US\$ 15 in Mongolia. Pre-clearance with customs in Ulaanbaatar can reduce customs checking time. If the goods are not transported in containers, the border crossing charge is US\$ 100-150.

Figure VIII.3. Estimated cumulative time required for the import of containerized cargo by road and rail from Tianjin Port to Ulaanbaatar (up to warehouse)

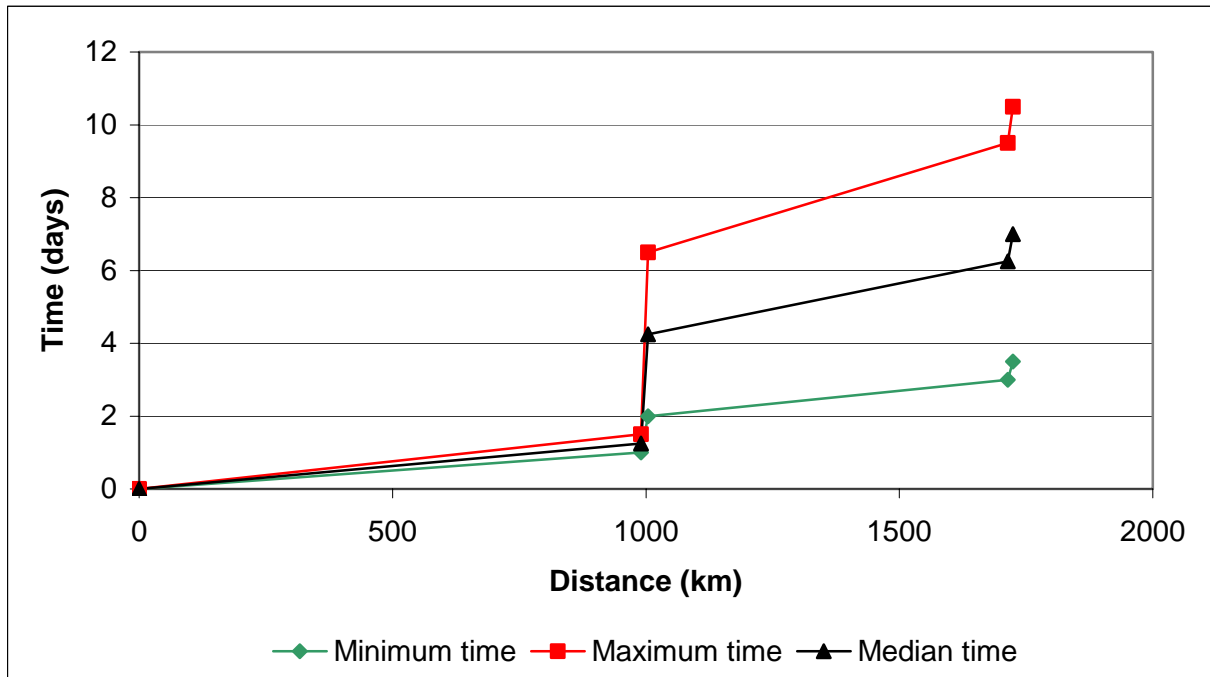
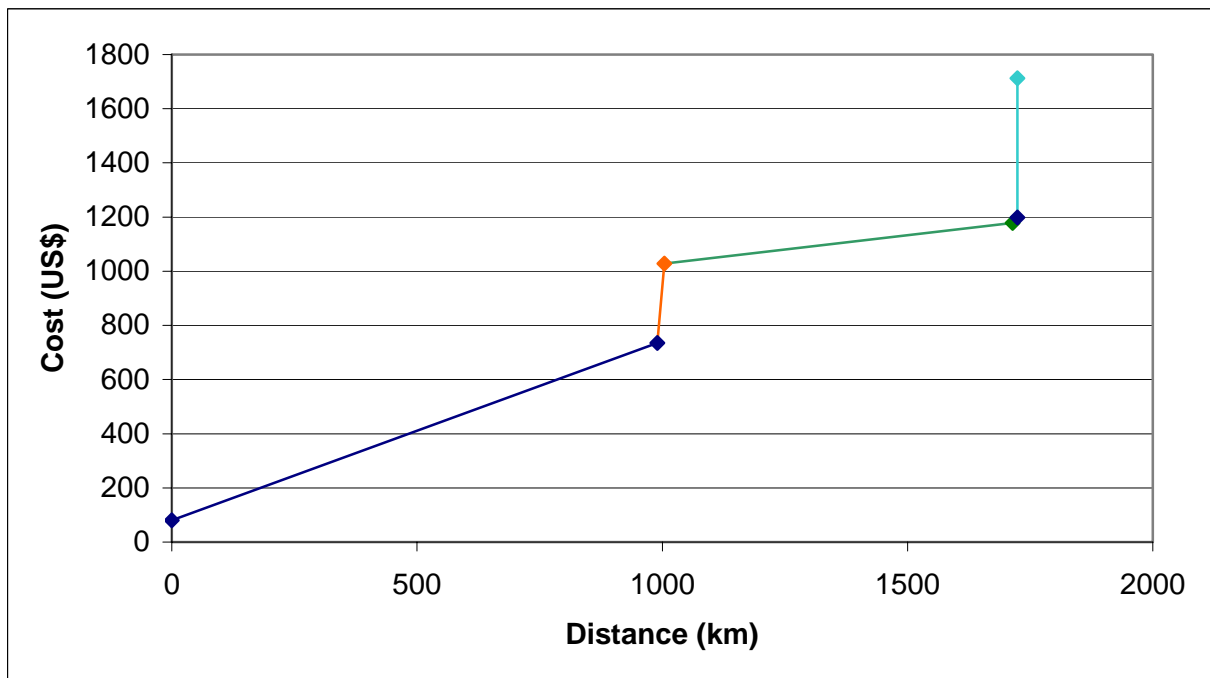


Figure VIII.4. Estimated cumulative costs required for the import of containerized cargo by road and rail from Tianjin Port to Ulaanbaatar, including empty return (Per TEU)



Dark blue = road; orange = border crossing costs; green = rail; light blue = cost of empty return.

If SINOTRANS is not utilized all the way to Zamiin Uud, the container will have to be transhipped in Erenhot. There are specialized road transport companies that only provide transportation services between Erenhot and Zamiin Uud at a cost of around US\$ 250 (including handling charges). This service is operated in accordance with the 1991 road transit agreement. While the charge quoted here is on the same level as for the all-rail route, road transport is slightly more expensive than rail between Tianjin Port and Erenhot. Road transport charges from Tianjin Port to Erenhot have been quoted at US\$ 655 per TEU, or around US\$0.66 per TEU per kilometre, higher than the US\$ 0.5 per TEU per kilometre by rail. The border crossing and the return of the empty container to Tianjin Port again represent critical points for cost increases along this route.

(c) *Route 3: Vladivostok-Ulaanbaatar, all rail*

In the past few years, some cargo in transit for Mongolia has been routed through seaports in the Vladivostok cluster area, which includes Vostochny and Nakhodka. Most of the cargo has been grain, primarily wheat, representing grant aid from the United States. Automobiles from Japan have also been transported using this route. The infrastructure of Vladivostok port is adequate to handle practically all transit cargo to and from Mongolia, both for open and covered storage, as well as cargo in containers. However, cargo handled in Vladivostok is mostly bulk cargo. The port authorities in Vladivostok offer a discounted container-handling tariff for Mongolian transit cargo, regardless of the type. For example, rates for transit containers are US\$ 80 per 20-foot container and US\$ 104 per 40-foot container. Rates for other general cargo depend on several factors and are negotiated separately on a case-by-case basis.

In addition to the cargo shipped through Vladivostok, the port of Nakhodka has handled shipments of copper concentrate from Mongolia to Japan and Republic of Korea. Other ports of in the area do not handle Mongolian transit cargo. However, port managers repeatedly said during meetings that their ports are ready to handle such cargo as they have adequate capacity.

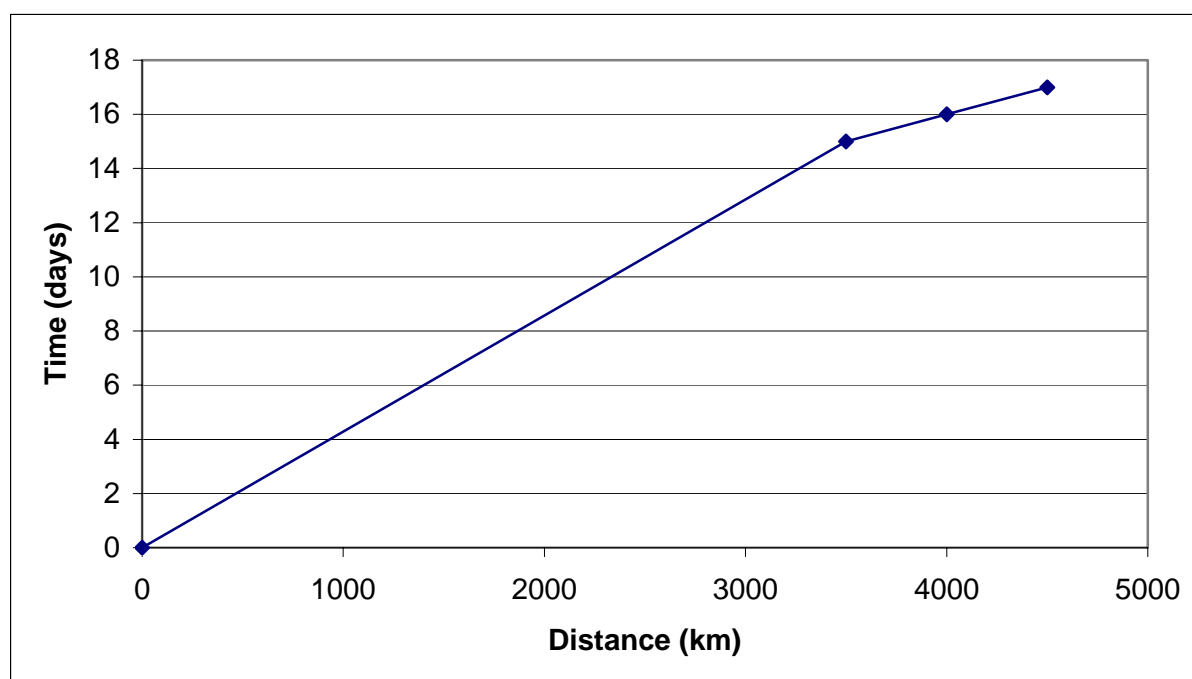
The cumulative time required for the Vladivostok-Ulaanbaatar route is provided in table VIII.4 and illustrated in figure VIII.5. The one-way rates for general cargo, using shipper-owned containers, from the container yard in Vostochny Port to Ulaanbaatar were quoted at US\$ 1,160 for a 20-foot container and US\$ 2,140 for a 40-foot container. A more detailed breakdown of costs along the route was not available.

Table VIII.4. Estimated cumulative time required for the import containerized cargo by rail from Vladivostok Port to Ulaanbaatar

<i>Leg</i>	<i>Distance (km)</i>	<i>Cum. distance (km)</i>	<i>Time (days)</i>	<i>Cum. time (days)</i>	<i>Cost (US\$) 20 foot cont.</i>	<i>Cost (US\$) 40 foot cont.</i>
Vladivostok Port	0	0	0	0	1 160	2 140
Vladivostok-Naushki	3 500	3 500	15	15		
Naushki-Sukhbaatar	500	4 000	1	16		
Sukhbaatar-Ulaanbaatar	500	4 500	1	17		

Source: Data collected by ESCAP staff. (Cum. = cumulative).

Figure VIII.5. Estimated cumulative time required for the import of containerized cargo by rail from Vladivostok Port to Ulaanbaatar



Based on the quote above, the cost of transporting a 20-foot container from Vladivostok to Ulaanbaatar would be US\$ 0.25 per TEU per kilometre, as the distance to be covered is estimated at around 4,500 kilometres. The required transit time to Naushki would be 15-17 days, with a further two days from Naushki to Ulaanbaatar.

The main problems related to using this route include the higher cost, owing to the longer distances which make Russian ports less competitive when compared with Chinese ports. Although the estimated transit time, at 17 days, is competitive with the worst case scenario on the route through China, there are difficulties in the customs clearance of this cargo, even though a 1991 transit agreement exists between the Russian Federation and Mongolia. There is also a shortage of wagons as well as a prohibition on the use of leased

wagons outside the Russian Federation. It was also discovered that scheduled container ships only called at Vostochny Port in the port cluster area.

(d) *Route 4: Brest-Ulaanbaatar, all rail*

The transit route from Brest to Ulaanbaatar is the newest and probably the most challenging, as it is used as a gateway for Mongolian trade with Europe. Under the auspices of the International Coordination Council of Trans-Siberian Transportation, the transit route is organized in cooperation between Belintertrans in Belarus, Rubikon in Russian Federation and Tuushin in Mongolia. It is a block train service, called the Mongolian Vector, with two monthly departures from Brest, on the 15th and 30th days of the month. A minimum of 30 TEU is required for the service to operate at the advertised transit rate; with fewer than 30 TEU, a different transit rate applies. The advertised transit time is 10 days, but, in practice, it averages 15 days and can take as long as 18 days. Extra security and dedicated handling increases the reliability of the service. The total transport cost for Brest to Ulaanbaatar is US\$ 1,020 per TEU including handling charges. A more detailed breakdown of the transit time and costs along the route is presented in table VIII.5 and plotted in figures VIII.6 and VIII.7.

Table VIII.5. Estimated time and costs required for the import of containerized cargo by rail from Brest to Ulaanbaatar
(Per TEU)

<i>Route</i>	<i>Distance (km)</i>	<i>Cum. distance (km)</i>	<i>Time (days)</i>	<i>Cum. time (days)</i>	<i>Cost (US\$)</i>	<i>Cum. cost (US\$)</i>
Brest-Naushki	6 690	6 690	13	13	800*	800
Naushki-Sukhbaatar	230	6 920	1	14	35	835
Sukhbaatar-Ulaanbaatar	420	7 340	1	15	65	900
Transit and service charges					120	1 020
Total	7 340		15		1 020	

Note: * Includes transit and service charges. Source: Data collected by ESCAP staff. (Cum. = cumulative).

There are no particular problems with customs clearance in either Belarus or Russian Federation, as the goods are moved under a single through-transport document, which is issued by the service provider. The only potential difficulty can be customs clearance in Mongolia at Sukhbaatar but this issue can be solved through pre-clearance with customs in Ulaanbaatar. At the start of the service, there were many difficulties with customs authorities in transit countries but these problems appear to have been solved. It is still possible that the train might be delayed at borders for verification by relevant authorities, which may take from a couple of hours to three days, but the emphasis is now more on facilitating the movement of the train service.

In terms of costs and time, this route has the potential of becoming a substantial transit route for the European market. If goods are imported from Europe through the traditional sea routing, it takes 5-6 weeks before they arrive in Ulaanbaatar. Some service providers have already started to quote rates of US\$ 2,100 per TEU from any point of origin in Europe to Ulaanbaatar, with a transit time of 3-4 weeks. An expansion of traffic along this corridor could lower transit costs even further and increase its reliability. The cost build up

along this route is gradual as there are no break-of-gauge points where the wagons need to be transhipped. The cost of transport is around US\$ 0.12 per TEU per kilometre on average for the whole route but the portion in Mongolia is slightly more expensive at around US\$ 0.15 per TEU per kilometre.

Figure VIII.6. Estimated cumulative time required for the import of containerized cargo by rail from Brest to Ulaanbaatar

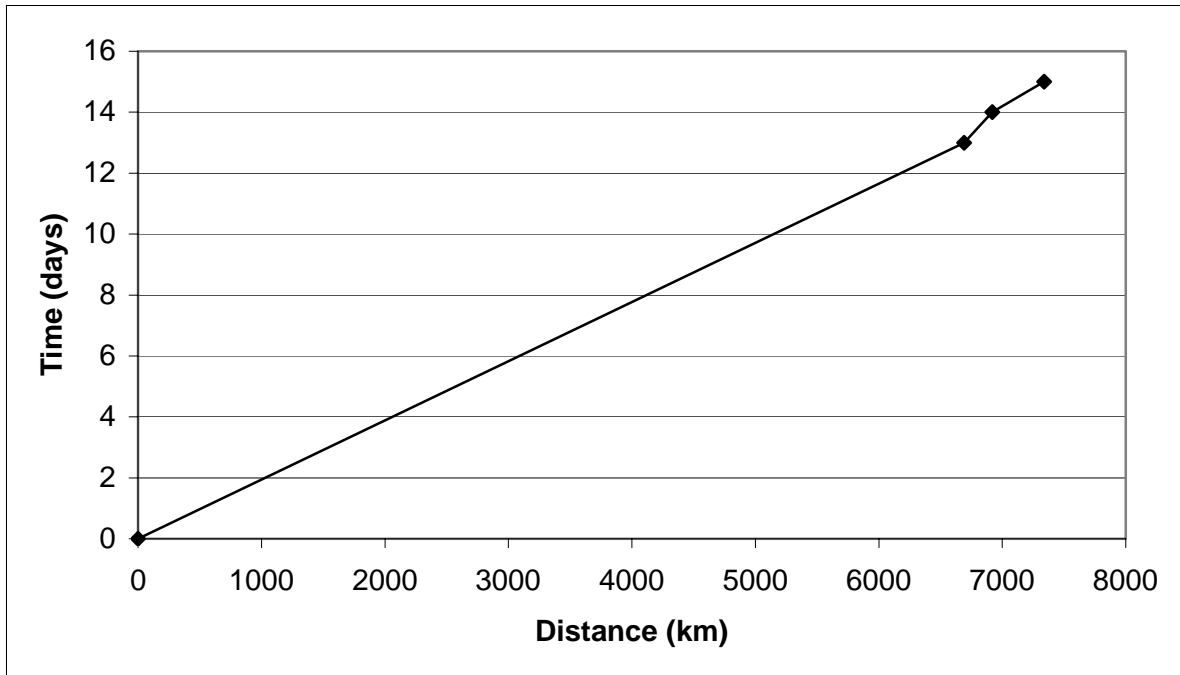
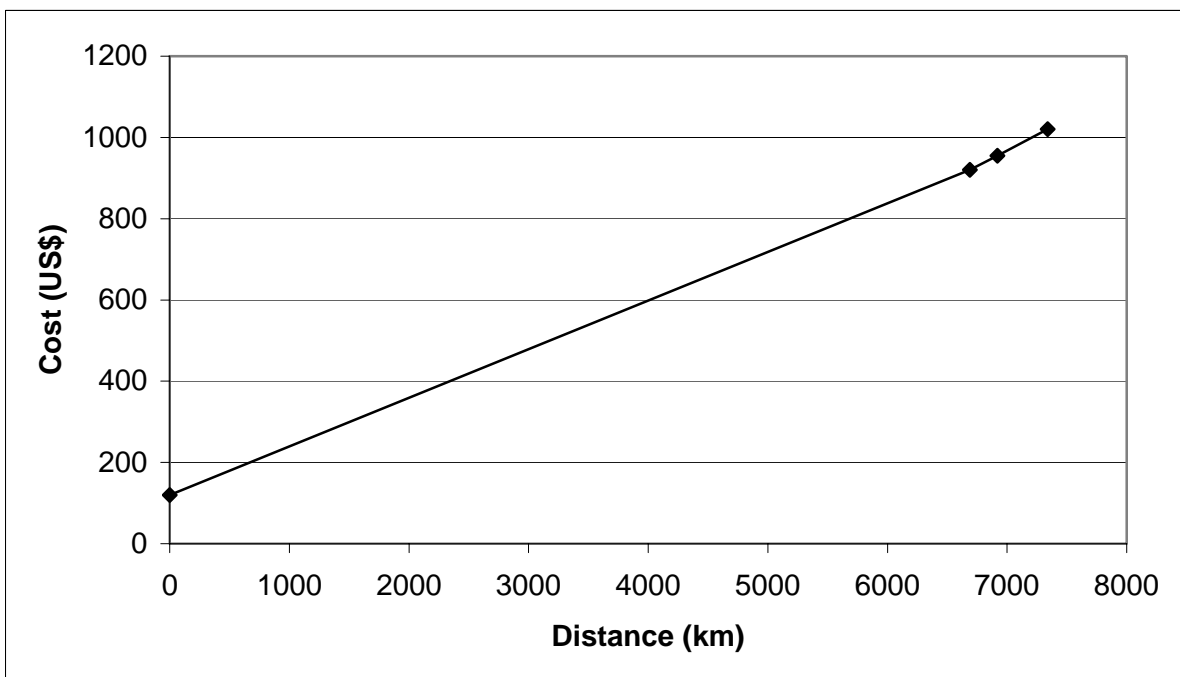


Figure VIII.7. Estimated cumulative costs required for the import of containerized cargo by rail from Brest to Ulaanbaatar* (Per TEU)



Note: * Includes transit and service charges.

(e) *Comparison of four routes*

Mongolian exporters, importers and transport service providers can re-evaluate their strategies for freight transportation, considering the transfer of goods between modes and all alternative routes. With the development and improvement of infrastructure in the region, Mongolia has achieved greater choice in accessing the international market. A summary of import transit times and costs of the four selected transit corridors is provided in table VIII.6.

Table VIII.6. Summary of the estimated times and costs required for the import of containerized cargo to Ulaanbaatar using selected routes
(Per TEU)

<i>Route</i>	<i>Origin</i>	<i>Mode</i>	<i>Distance (km)</i>	<i>Average transit time (days)</i>	<i>Total cost (US\$)</i>
1	Tianjin Port, China	Rail	1 700	7	1 480
2	Tianjin Port, China	Road & Rail	1 684	5	1 712
3	Vostochny Port, Russia	Rail	4 500	17	1 160
4	Brest dry port, Belarus	Rail	7 340	15	1 020

Source: Data collected by ESCAP staff.

A comparison of the route via Tianjin Port with the route originating in Brest is very difficult as the distances involved are not comparable. As an indicator, the sea freight rate from northern Europe to Tianjin Port is in the US\$ 800-1,900 per TEU range, depending on the commodity, with an average transit time of at least four weeks. This means that for imports from Europe, the route via Brest is very competitive, both in terms of cost and transit time, while the reliability of this route is considered to be adequate.

Mongolia's geographical location makes it remote from its markets and suppliers. Access cost is relatively high, with a high dependency on transit states for access to the sea, international gateways and local markets. It is very important for Mongolia to be able to formulate transit development strategies that will help it become a "land-linked", rather than a landlocked, country. Some of the strategies that Mongolia can follow are:

- Find market niches for high value products where transport costs represent a smaller share of total value (for example, cashmere products).
- Seek mutually advantageous transport policies with transit states. The joint formulation of transit routes and their operationalization would be critical for improved access to and from the country.
- Minimize rather than emphasize transport and transit barriers. Transport facilitation should be done in conjunction with transit states (for example, making truck regulations compatible).