

TRANSIT POTENTIAL OF TRANSPORT FACILITIES IN THE COUNTRIES OF THE CENTRAL ASIAN REGION: RAILWAY AND MOTOR TRANSPORT

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The ongoing changes in the geopolitical picture of the world have already given rise to a radically new situation in the Central Asian region, once a peripheral area now growing into a region of crucial geopolitical importance for the rest of the Eurasian continent. Its transport potential, and above all the transit component, is among the key factors that determined the region's increasing importance and new geopolitical role.

The region has a fairly sophisticated network of transport and communication facilities, and lies at the junction of European and Asian trunk railways. It has access to the Persian Gulf across Iran, to the Indian Ocean across Afghanistan and Pakistan, and to the Asia-Pacific region across China. Generally speaking, the Central Asian region has broad opportunities for participating in the rapidly growing international transit.

An advantageous geographical position, though, does not necessarily imply that the region will be able to put it into practice. The transit potential of the Central Asian nations can be realized mainly by joint effort with countries working to expand the existing railways and build new ones in a bid to create efficient transport corridors. This is essentially one of the key integration targets in Central Asia.

It would be advisable to review briefly the general situation in this context: the existing and emerging railway and motor corridors, national interests in choosing some routes or others, and challenges in putting the transit potential into effect.

On the whole, the Central Asian countries see the following three directions as top-priority routes in terms of the development of their regional transport pattern:

- ▶ Russia, Europe and the Baltic countries;
- ▶ China, Japan and Southeast Asian countries;
- ▶ Transcaucasian countries, Pakistan, Iran and Turkey.

There are a number of operating transport corridors on these routes, including land and sea lines, designed for attracting international transit shipments and providing Central Asian countries themselves with routes for export and import of their own goods.

Historically, railway and motor transport facilities are best developed in Central Asia. They are responsible for 90 percent of transit shipments. The involvement of water or air transport in these shipments is insignificant now. For this reason, keen attention should be focused on the former two directions.

RAILWAY TRANSIT POTENTIAL

The first aspect that should be addressed here concerns the geography and infrastructure of railway transport corridors passing across the Central Asian region.

The following five Eurasian routes have been defined as preferential by the UN Economic Commission for Europe (ECE) and the Economic and Social Commission for Asia and the Pacific (ESCAP):

- I. West Europe – Russia – the Korean peninsula directly or across Kazakhstan and China or across Mongolia and China – “West-East” – (the Trans-Siberian corridor)
- II. *The northern corridor of the Trans-Asian railroad*
- III. Europe – South and Southeast Asia across Turkey and Iran
- IV. Southeast Europe – Turkey – Iran – Central Asia – China “Central Corridor”
- V. *(Running across Central Asia (Kazakhstan, Uzbekistan, Turkmenistan) – southern corridor of the Trans-Asian railroad)*
- VI. Europe – the Caucasus – Asia (across the Black Sea – the Caucasus – across the Caspian Sea – Central Asia) – “TRASECA”
- VII. North Europe – Russia – Central Asia – the Persian Gulf – “North-South”.

Four of the above routes (1, 3, 4, 5) include, to a greater or lesser degree, transport systems of Central Asian countries.

In addition to the directions already involved in shaping major transcontinental routes, mention should be made of the China-Kyrgyzstan railroad project.

For the most part, corridors running across the territory of the Central Asian region are newly-built railway lines that have been rapidly expanded since the 1990s. In 1991, Kazakhstan's and China's rail lines were linked up to open an international check point called “*Druzhba - Alashankou*”; in 1997 a Mashhad – Serakhs – Tejent line section was opened to form two transcontinental transport corridors known as the Eurasian and Trans-Asian railroads. On the EU's initiative, active work started on the TRASECA project. Also, the North-South corridor has been given a boost in the past few years.

The new transport corridors, though, remain somewhat outweighed by the traditional routes like the Baltic and Black Sea lines, Trans-Siberian railroad, as well as by a sea-lane through the Suez Canal in terms of infrastructure standards and reliability.

The Trans-Asian railroad appears to be among the most promising routes when seen from the point of view of the routes' potential transit capacities and its present ability to meet freight loads.

The TRASECA corridor, too, shows a certain promise but it isn't of much benefit to improving transit shipments for a number of reasons that we will examine later.

The North-South direction, even though by its meridian orientation it acts as an additional factor opening up broader transit opportunities, cannot bring sizeable economic benefits except in the more or less distant future.

On the whole, though, the Central Asian nations' shares in international transit shipments vary with corridors and the countries' geographic location.

**TRANS-ASIAN RAILROAD
(CENTRAL AND NORTHERN CORRIDORS)**

The Central corridor of the Trans-Asian railroad (TAR), which, in fact, follows the so-called Great Silk Road, appears to be the most promising route throughout the Central Asian region. This corridor runs from China's eastern ports across Alashankou (**China**), Druzhba, Chengeldy (**Kazakhstan**), Tashkent, Bukhara (**Uzbekistan**), Charjew, Tejen (**Tukmenistan**), Mashhad (**Iran**), Istanbul (**Turkey**) and on along **the Fourth Cretan corridor**.

TAR's central branch provides the shortest way, one via the Serakhs – Mashhad border railway passage, to Iran's rail-line network on to the Persian Gulf port of Bandar-e Abbas.

At this stage, though, the corridor's potential has not been put into effect as yet, the shipment amount being under 0.2 to 0.3 million tons (Uzbekistan's trade links with South Korea).

The most intensive traffic throughout the region is to be found in **the northern corridor of the Trans-Asian railroad** connecting, across Kazakhstan, China with Russia, Baltic countries and Europe.

Noteworthy, the development of this corridor as a transit route would be most beneficial for Kazakhstan.

Kazakhstan's major advantage in a competition for transcontinental shipments is shorter distance and, accordingly, faster delivery. It is 2,000 to 3,000 kilometers shorter compared to the Trans-Siberian railroad. Goods transit via the China-Europe line running across Kazakhstan is half the length of sea-lanes (goods shipments from the port of Lianyungang (China) to Berlin (Germany) by sea take 20 to 30 days compared with 11 days by train across Druzhba - Alashankou).

However, the average speed of ordinary freight trains at the Kazakhstan stretch is slightly more than 40 km/h, which is too slow for the effective organization of transit shipments and can, thus, bring the advantages of the shorter distance to nothing.

The development of the Druzhba station on the Kazakh-Chinese border is particularly important for ensuring international shipments through the Trans-Asian railroad.

The amount of shipments through this passageway grows each year (see Table 1).

Table 1. Dynamics of Exports and Imports through Druzhba Station (thousands of tons)

Period	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports	634	528	460	1115	2005	1768	2121	3236	3795	4386
Imports	145	36	57	60	196	270	229	297	499	622

Source: reports of Kazakhstan's Transport and Communications Ministry.

By 2005, the volume of goods shipped through this passageway is projected to reach seven to eight million tons. For the time being, though, both transfer points face the same problem: their freight turnover remains a mere ten to 50 per cent, which is too low.

Transit's proportion in the transfer of goods shipped across Kazakhstan's territory in either direction is put at about 12 per cent - mainly Central Asian and Russian goods. Shipments to China include ferrous and nonferrous metals, oil, chemicals, fertilizers, scrap metal, cotton and paper. Goods shipped from China are equipment, consumer goods, foodstuffs, coke and building materials.

EUROPE – THE CAUCASUS – ASIA TRANSPORT CORRIDOR (TRASECA)

The TRASECA project's objective is to create conditions facilitating shipments of oil, petrol products and cotton to Europe by introducing standardized documents, customs procedures, machinery types, etc.

TRASECA is expected to take final shape in three phases by 2010 to comprise nine corridors and 13 branches. At the same time, it is supposed to facilitate the progressive and balanced development of a multi-modal rail network.

One of TRASECA's routes extends across Kazakhstan and Uzbekistan to the Caspian Sea port of Turkmenbashi while the other directly crosses Kazakhstan's central regions to reach the Kazakh port of Aktau.

TRASECA has a number of advantages distinguishing it from its major alternative – a latitudinal transport corridor, the Trans-Siberian railroad. These advantages include:

- ▶ A more favorable geographic location;
- ▶ A more agreeable climatic environment;
- ▶ Warm-water ports of China's Pacific coast;
- ▶ The line's shorter length (10,800-km long, the route is 1,300 km shorter than the Trans-Siberian railroad);
- ▶ A greater number of customer countries.

On the other hand, there are several impediments to the line's further development and an increase in transportation volumes. They include:

- ▶ The member countries' limited potentials and opportunities for using their own resources to maintain the existing and erect new transport facilities;
- ▶ Absence of international agencies supervising the transport corridor's development and operation;
- ▶ Technical challenges: the need to change the track width twice and mode of transport more than twice throughout the route.

Joints, even in the same vehicle, create additional problems slowing down the goods movement, making shipments costlier, and increasing the risks of losses or damages. Still worse, transport factors are also influenced by customs technicalities and internal problems of countries en route.

Considering that the western route will dominate in freight carriages there is a risk that the eastern route may suffer under loading – a circumstance, which dramatically decreases this route's efficiency.

At present, the bulk of goods shipped via the TRASECA corridor comprise oil from the Tengiz field in Kazakhstan, petrol products from Azerbaijan and cotton from Uzbekistan. Oil and petrol products account for 60 per cent of all shipments.

Due to the low speed of freight trains (and, consequently, low line capacity), underdeveloped infrastructure and high tariffs, TRASECA is inferior to the Trans-Siberian railroad in terms of economic feasibility. All parameters point to the corridor being of regional, not continental dimensions.

We will note in passing that this corridor – just an ordinary transit route for other countries – is an issue of export/import dimensions for Kazakhstan.

As TRASECA – both now and in the future – is supposed to serve primarily export/import interests of the project’s member countries themselves, there are very few grounds to believe that freight traffic on this route will be really significant.

NORTH-SOUTH INTERNATIONAL TRANSPORT

This corridor is the shortest way linking Europe to the countries of the Far and Near East, Indian Ocean and Southeast Asia. Experts estimate its capacity at 20 to 30 million tons of goods per year. There are estimates pointing out that the amount of goods it carries at present is insignificant. Current amounts have yet to reach the huge turnover between India and Europe for which purpose the project was conceived.

The corridor operates primarily to serve Russia’s trade with Iran and other countries.

Projects championing the idea of complementing Caspian Sea routes between Iran and Russia by land routes (along the Astrakhan – Maqat – Beyneu – Yeraliyev – Bekdash – Turkmenbashi – Gazanjik – Guduroloom route and on to the Bandar-Torkeman rail network of Iran) assign the Central Asian countries, especially Kazakhstan and Turkmenistan, a serious role to play.

On the whole, though, the project is more promising when seen from the medium-term perspective due to the need to re-orient traffic and provide a stable and sizable inflow of goods. In this case, Turkmenistan’s and Kazakhstan’s railroads and seaports will, indeed, be in demand. In this context, the development of the northeastern route of the North-South corridor leading to the Urals and West Siberia appears to be the most feasible for Kazakhstan. This would provide good transit outlooks to Kazakhstan’s rail lines and the port of Aktau.

CHINA-KYRGYZSTAN RAILROAD

Prospects of yet another transport corridor leading up to Kashgar (China) across Kyrgyzstan are now under consideration. For this purpose, a China-Kyrgyzstan Railroad (CKR, running through Bishkek – Balykchi - Jalal-Abad – Torugart - Kashgar) is to be built to merge with Uzbekistan’s railways through Jalal-Abad.

The construction of a new rail line through Andizhan – Osh – Kashgar is expected to shape a new transcontinental corridor offering eastern China’s ports the shortest connection with the Near East and southern Europe. The project is to be completed by 2005 or 2006. All three stretches – Chinese, Kyrgyz and Uzbek – are due to go into operation simultaneously.

Much of the controversy surrounding the railroad project focuses on a likely competition between the Trans-Asian Railroad’s Central Corridor and CKR. According to expert estimates, the above railroad project wholly meeting the interests of Kyrgyzstan and China may rob Kazakhstan of certain economic and political benefits:

- ✓ Likelihood of China reducing its transit freights across Kazakhstan;
- ✓ Probable refocusing, at least in part, of Southeast Asian goods currently passing across China to the Central Asian countries, the Caucasus and Europe;
- ✓ CKR is an indication of a certain influence throughout the region. The road may enable Uzbekistan to significantly reduce its transit dependence on Kazakhstan.

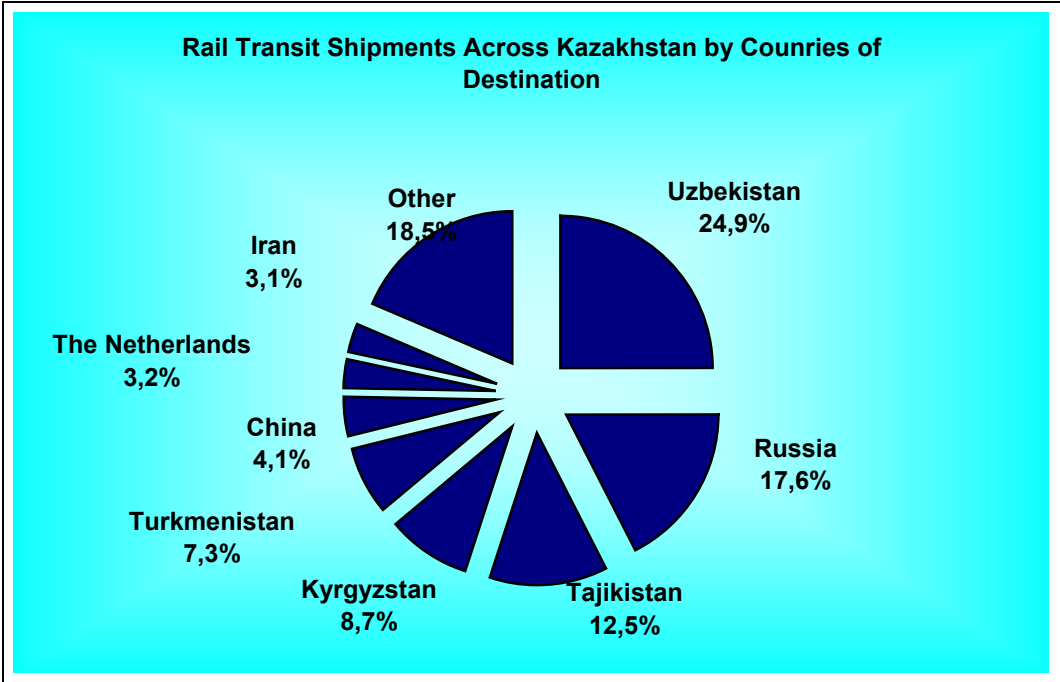
In more realistic terms, considering CKR's extremely challenging topogeodesic environment and rather brief construction period, TAR's Central Corridor has every ground to retain its positions in servicing transport links between Central and East Asian countries provided that conditions more agreeable for the entire complex of services are created within a very short time to attract European transit to this route.

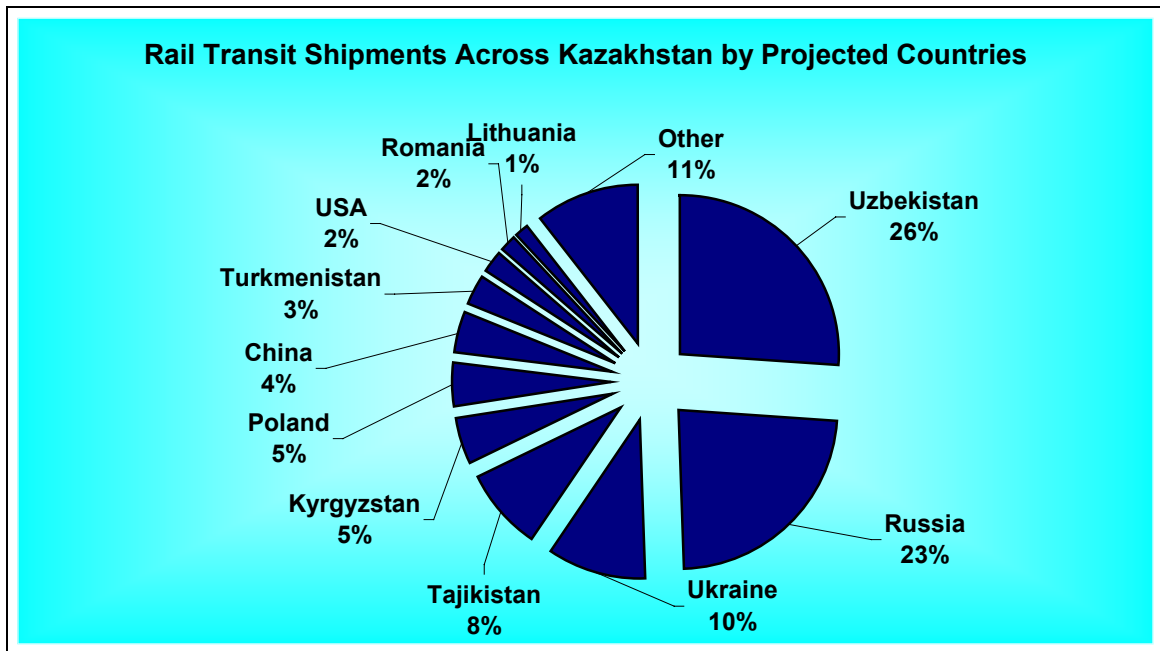
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In communication between Europe and Asia, though, the regional transit freights carried by rail are still inferior to those by sea.

This can well be seen in Kazakhstan where **the bulk of transit shipments** are made up by export-import flows coming from **neighboring countries**. Russia and the Central Asian countries account for more than 50 per cent of the entire transit traffic (see chart 1).

Chart 1. Percentage of Countries of Destination and Transit Flows





As shown in the above chart, these countries are involved in a much greater measure than third countries, including non-CIS nations. Therefore, broader opportunities for transit shipments across Kazakhstan and Central Asia at large, while maintaining stable transit flows within the region, are connected with efforts aimed at **attracting Europe-Asia goods transports** (traditionally done by sea) **to Kazakhstan and Central Asian routes.**

In this context, we would like to outline some bottlenecks of transcontinental transit across Central Asia and factors responsible for this situation.

- ☑ A number of technical reasons, including inadequate assets of Central Asian railways and intraindustry problems. Their key assets and infrastructures are largely outdated and inefficient. 90 per cent of the entire infrastructure needs renovation.
- ☑ Intergovernmental cooperation is at a minimum level and statutory acts passed are frequently inadequate.
- ☑ Political implications of transport projects.
- ☑ Ongoing rivalry among the Central Asian countries for transit flows.
- ☑ Inability of the state-run transport network to work regularly. What we are witnessing today is the absence of safety in goods deliveries, poor container monitoring, lack of state-of-the-art communication facilities. Altogether, these are factors that prevent railways from accomplishing their main mission: strict observance of delivery time, which is especially important in international transportation. Regular operation of national transport systems is, in many ways, an indication of their competitive capacity. The Central Asian network, though, is still lagging behind on this front.

TRANSIT POTENTIAL OF MOTOR TRANSPORT IN CENTRAL ASIA

In parallel with the development of railroads linking the Central Asian nations to neighboring countries, motor passages were opened across national frontiers.

At present, Kazakhstan attaches great importance to five international corridors to be used to meet basic freight loads both now and in the future (see Table 2).

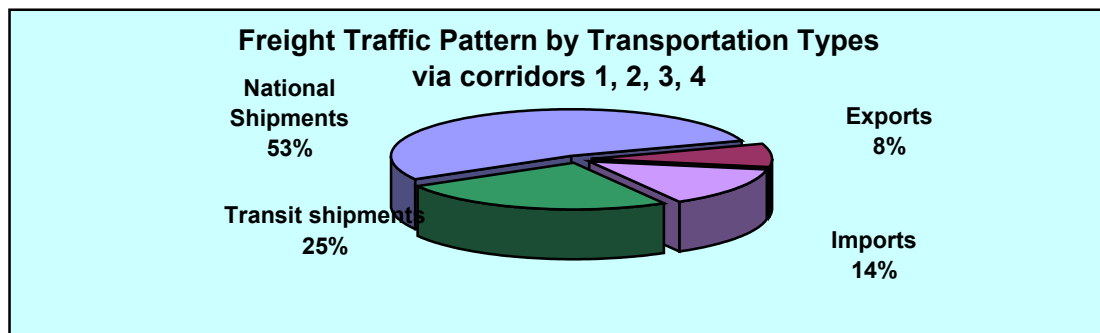
Table 2.

<i>Motor Corridors</i>
<p>☑ (1) Tashkent – Shymkent – Taraz – Bishkek – Almaty - Horgos («Great Silk Road») Stretching from Tashkent to the border point of Horgos (on the Chinese border) it is responsible for transit freight flows between Central Asia and China.</p>
<p>☑ (2) Tashkent – Shymkent – Qyzylorda – Aktyubinsk – Uralsk - Samara Responsible for the transportation of export-import goods of Kazakhstan and transit flows from China and Central Asian countries to Russia, other CIS countries and Europe, and back.</p>
<p>☑ (3) Almaty – Qaraghandy – Astana - Petropavlovsk Provides transport links between southern Kazakhstan and Russia.</p>
<p>☑ (4) Omsk – Pavlodar – Semipalatinsk - Maiqapshaghay Provides export-import and transit motor routes linking China to industrialized regions of Russia.</p>
<p>☑ (5) Astrakhan – Atyrau – Aqtau – Turkmenistan border An international transport corridor connecting Middle East, the port of Aqtau, Russia and Europe.</p>

Corridors 1, 2, 3 and 4 are the most intensive (in the order of intensity).

Transit accounts for 25 percent of total shipments across all corridors. National long-distance transportation is responsible for the greater proportion averaging 53 per cent, followed by imports (14 per cent) and exports (8 per cent) (see Chart 2).

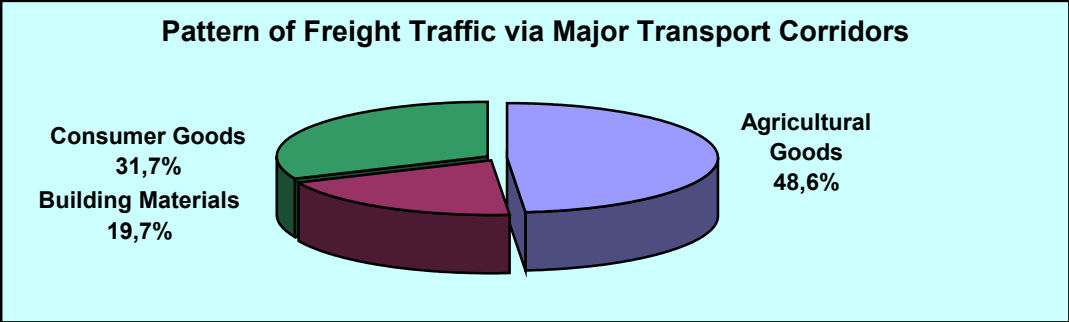
Chart 2.



Source: Transportation and Communications Ministry, Kazakhstan.

The existing traffic pattern shows that the transit via Kazakhstan corridors is responsible for freight traffic between Central Asia and Russia: the Central Asian countries export agricultural goods while importing consumer goods, equipment, etc. from Russia (see Chart 3).

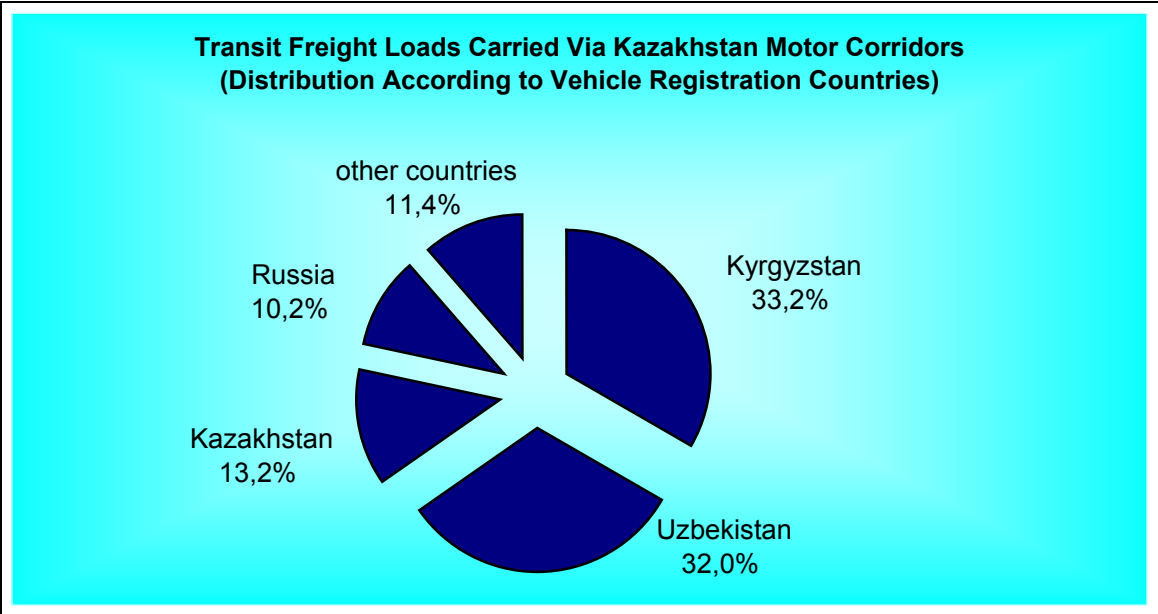
Chart 3.



Source: Transportation and Communications Ministry, Kazakhstan.

The bulk of transit shipments across Kazakhstan are hauled by vehicles registered abroad (see Chart 4).

Chart 4.



Source: Transportation and Communications Ministry, Kazakhstan.

Kyrgyzstan heads the list of countries using Kazakhstan’s transport corridors (33.2 per cent in average annual terms) followed by Uzbekistan (32 per cent) and the vehicles of Kazakhstan (13.3 per cent). Russia is the fourth country as far as transit volumes are concerned. Thus, we should note that Kazakhstan’s motor transit has a considerable untapped potential.

There are four transit motor roads that run across Kyrgyzstan. In 1995, UN ESCAP included them in the networks of the regional Asian main roads:

- ▶ Bishkek – Osh– Sary-Tash – Irkeshtam – 898 km;

- ▶ Bishkek – Naryn – Torugart – 539 km;
- ▶ Kordai (Kazakhstan) – Bishkek – Chaldovar – 110 km;
- ▶ Osh - Andizhan (Uzbekistan) – 5 km.

The Bishkek – Osh motor road is part of the regional Asian main road running through Irkeshtam – Sary-Tash – Osh – Bishkek – Kordai (Kazakhstan) providing access to the south (China) and north (Kazakhstan).

The credit line of the Asian Development Bank since 1997 has centered on the rehabilitation of the Bishkek – Osh highway, the project's cost being estimated at more than US \$240 million. So far, repairs and construction have been completed for a 300-km stretch of the 648-km road.

The Bishkek – Naryn – Torugart road, the second major route, provides transit over the republic's territory in the north – south direction running from China (the Torugart border point) as the southernmost point to the settlement of Kordai in Kazakhstan as the northernmost destination.

The distinguishing feature of the route is that near Bishkek it merges into the **Tashkent – Shymkent – Taraz – Bishkek – Almaty – Khorgos motor road.**

A grant provided by the Islamic Development Bank was used to develop the feasibility study and tender documentation for the Bishkek – Naryn – Torugart road rehabilitation project worth US \$182 million. The Islamic Development Bank has also helped develop a feasibility study and tender documents for the Otmek – Talas – Taraz motor road (Kazakhstan).

The Kordai (Kazakhstan) – Bishkek – Chaldovar motor road is part of the Almaty – Bishkek – Tashkent - Ashgabat international trunk road.

Motor transport is the major kind of transportation in **Tajikistan** due to its rocky geological conditions and lack of well-developed railway network.

The rehabilitation project of the Isfara (Tajikistan) – Ak-Turpak – Kadamjai – Uch-Korgon – Osh motor road is extremely important for that country.

The 260-km road running mainly through the southern regions of Kyrgyzstan provides access to:

- ▶ The sea via Afghanistan (the Osh - Khorugh road);
- ▶ China and Pakistan (Osh – Kashgar – Karakorum highway);
- ▶ Kazakhstan and Russia (through Osh - Bishkek).

Great importance is also attached to the Dushanbe – Tashkent road which further merges with the motor transport corridor running through **Tashkent – Shymkent – Qyzylorda – Aktyubinsk – Uralsk – Samara.**

In Tajikistan this road crosses the Turkestan and Ghissar ridges and the Shahrستان and Anzob Passes. In the autumn and winter period (five to six months) the passes are closed for risks of heavy snow cover and intensive avalanches.

To this end, a 5-km Anzob tunnel project was started to pass through the Ghissar Ridge. This tunnel supplemented by the Shahrستان tunnel, also under construction, is supposed to promote regular transport communication via the Dushanbe – Tashkent motor road all the year round.

To build an international transport corridor to the Southeastern countries and Indian Ocean ports as part of the Dushanbe – Kulob – Kalaikhum – Khorough – Murgab – Kulma pass and on to the Karakorum highway, a Murgab – Kulma pass motor road project has been completed and isolated sections of the Kulob – Kalaihum motor road have been expanded.

There are plans to build new transit corridors or put into operation old corridors that have not been in use until now. But these plans cannot be translated into reality until the situation in Afghanistan has stabilized.

According to expert estimates, it would be more sensible to deliver goods to the northern provinces of Afghanistan using transit routes through Tajikistan reaching the

station of Kolkhozabad and further on by trucks via the Dusti – Lower Panj route, the least costly in that direction.

After reviewing the major transit routes we can proceed to the basic bottlenecks impeding regular transit shipments. We can single out two major groups of problems retarding the development of transit shipments by trucks across the Central Asian region.

They include, above all, the so-called **physical barriers**: low road capacity and poor condition of road infrastructure.

This is the case, say, with Kazakhstan, where the growth of shipment volumes is largely impeded by the poor condition of transit roads, particularly the deteriorating bearing strength of road surfaces as most roads (86 per cent) were designed and built in the 1960s-1980s. According to expert estimates, there may be lost about 1,500 kilometers of main roads while the eventual reconstruction costs may reach US \$1 billion unless the roads are regularly maintained or repaired every four years.

Moreover, the technical condition of the vehicle fleet has dramatically worsened (less than 70 per cent of vehicles were in operating condition early in 2000). This situation is mainly due to over-age equipment, as 83 per cent of all trucks have been in operation for over eight years and only 3.5 per cent of trucks have under three year's service.

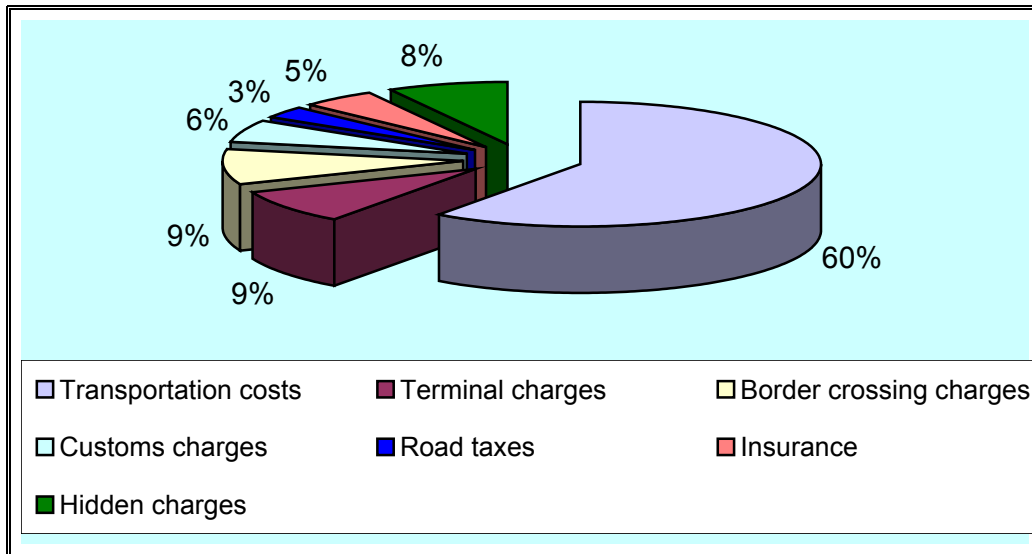
According to reports of the motor roads inspection made in Kyrgyzstan in the autumn of 2001, more than 5,000 km, or 27 per cent of the total public road carpet, is on the verge of destruction and has dangerous defects. Over 50 per cent of bridges do not meet the existing requirements in terms of the vehicles' size or axle load. Noteworthy, 75 per cent of the road-building machinery fleet is worn out while half of it is beyond repair and must be written off from the road authorities' fixed assets.

The situation in the other Central Asian republics is pretty much the same. The predominantly poor capacity of motor roads leads to a waste of resources. Meanwhile, the roads and road infrastructure standards are, in many ways, precisely what makes international routes attractive because, after all, they hold the key to the service quality, including a short delivery period, low costs and safety.

Non-physical barriers include unjustified delays while crossing the border, bureaucratic trammels, frequent changes in transit regulations, arbitrary practices while weighing goods, high transit charges (especially for foreigners) as well as official and unofficial taxes imposed by authorities controlling international shipments.

These barriers increase the cost of motor transportation. Expert analysis has made it possible to produce a structure of average costs – a pattern that with sufficient accuracy shows cost components. Accordingly, the transportation cost as such is a mere 60 per cent of the total cost where 20 per cent is attributable to overcoming the non-physical barriers (see Chart 5).

Chart 5.



Source: Transportation Research Institute, Kazakhstan

The barriers cannot be broken down unless the legislation and management patterns have been improved to meet international standards governing the shipment system.

In more general terms, as we see it, a comprehensive approach towards harmonious improvements in the motor complex in its entirety is the overall requirement to be met in order to make Central Asian transit routes more attractive. The following measures can be termed as guidelines towards this goal:

- ▶ **Firstly**, develop motor roads, road infrastructure and service facilities;
- ▶ **Secondly**, create a single information framework for all players in the market of international motor-transport services;
- ▶ **Thirdly**, promote the ongoing process of concluding bilateral agreements, which govern the economic activities of motor-transport entities as they go international, on the one hand, and establish quality standards for motor vehicles, on the other;
- ▶ **Fourthly**, ensure safe motor traffic.

The above efforts should be aimed at creating a modern motor transport system able to provide quality services to ever-increasing transportations.

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Thus, despite the existing constraints, it would be advisable to join efforts for creating efficient transit corridors that could make Central Asian more attractive. Collaboration in the transportation sector must become a foundation for interaction between the Central Asian countries towards integration. Forging the collaboration would contribute to the expansion of economic and trade relations among the regional economies thus stimulating their further growth.

Meanwhile, attention should be given to the fact that transit is a complex and dynamic industry nowadays. Accordingly, it requires permanent and consistent efforts to monitor and predict its qualitative and quantitative parameters.

Endowed with advantageous geographical benefits and huge potential, the Central Asian countries have so far failed to tap in full measure their opportunities as transit territories. In this context we see it as our overall common goal to put in place a broad range of programs to tap the full potential available, keep national transport communication facilities competitive in the world service market and give a boost to freight traffic running via the Central Asian region.

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