UNECE

Logistics and Transport Competitiveness in Kyrgyzstan

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UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

LOGISTICS AND TRANSPORT COMPETITIVENESS IN KYRGYZSTAN

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The author worked under the guidance of, and benefited from significant author contributions from Francesco Dionori, Chief of Transport Networks and Logistics Section, Sustainable Transport Division, UNECE.

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UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (UNECE)

The United Nations Economic Commission for Europe (UNECE) is one of the five United Nations regional commissions, administered by the Economic and Social Council (ECOSOC). It was established in 1947 with the mandate to help rebuild post-war Europe, develop economic activity and strengthen economic relations among European countries, and between Europe and the rest of the world. During the Cold War, UNECE served as a unique forum for economic dialogue and cooperation between East and West. Despite the complexity of this period, significant achievements were made, with consensus reached on numerous harmonization and standardization agreements.

In the post-Cold War era, UNECE acquired not only many new member States, but also new functions. Since the early 1990s the organization has focused on analyses of the transition process, using its harmonization experience to facilitate the integration of Central and Eastern European countries into the global markets.

UNECE is the forum where the countries of Western, Central and Eastern Europe, Central Asia and North America – 56 countries in all – come together to forge the tools of their economic cooperation. That cooperation concerns economics, statistics, environment, transport, trade, sustainable energy, timber and habitat. The Commission offers a regional framework for the elaboration and harmonization of conventions, norms and standards. The Commission's experts provide technical assistance to the countries of South-East Europe and the Commonwealth of Independent States. This assistance takes the form of advisory services, training seminars and workshops where countries can share their experiences and best practices.

TRANSPORT IN UNECE

The UNECE Inland Transport Committee (ITC) facilitates the international movement of persons and goods by inland transport modes. It aims to improve competitiveness, safety, energy efficiency and security in the transport sector. At the same time it focuses on reducing the adverse effects of transport activities on the environment and contributing effectively to sustainable development. The ITC is a:

- Centre for multilateral transport standards and agreements in Europe and beyond, e.g. regulations for dangerous goods transport and road vehicle construction at the global level
- Gateway for technical assistance and exchange of best practices
- Promoter of multi-country investment planning
- Substantive partner for transport and trade facilitation initiatives
- Historic centre for transport statistics.

For more than six decades, ITC has provided a platform for intergovernmental cooperation to facilitate and develop international transport while improving its safety and environmental performance. The main results of this persevering and important work are reflected in more than 50 international agreements and conventions which provide an international legal framework and technical regulations for the development of international road, rail, inland water and intermodal transport, as well as dangerous goods transport and vehicle construction. Considering the needs of transport sector and its regulators, UNECE offers a balanced approach to and treatment of facilitation and security issues alike.

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ABBREVIATIONS

ADB	Asian Development Bank
ACI	International Council of Airports
AIRC	Association of International Road Carriers
AIS	Automated Information System
CAA	Civil Aviation Agency
CAC	Central Asian Cooperation
CAREC	Central Asia Regional Economic Cooperation
CC	Civil Code
CIM/SMGS	Unified Railway Bill of Lading
CIS	Commonwealth of Independent States
CRT	Council for the Railway Transport
CSTO	Collective Security Treaty Organization
CTU	Cargo Transport Unit
DIRT	Department of International Road Transport
EATL	Euro-Asian Transport Links
EBRD	European Bank for Reconstruction and Development
ECMT	European Conference of Ministers of Transport
ECO	Economic Cooperation Organization
EDB	Eurasian Development Bank
EEU	Eurasian Economic Union
ETC	Electronic Transport Control
EU	European Union
EUROCONTROL	European Organisation for the Safety of Air Navigation
Eximbank	Export-Import Bank of China
IAEA	International Atomic Energy Agency
IAM	International Airport of Manas
IATA	International Air Transport Association
IAC	Interstate Aviation Committee
IAS	International Aero-navigation Service
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICRW	Intergovernmental Council of Road Workers
IMF	International Monetary Fund
IRFA	International Rail Freight Agreement
IRU	International Road Transport Union
IDB	Islamic Development Bank
FEZ	Free Economic Zones
GDP	Gross Domestic Product
KTZh	Kyrgyz Temir Zholu
LPI	Logistics Performance Index
NC	National Company
NSDS	National Sustainable Development Strategy
OJSC	Open Joint Stock Company Logistics Performance Index
OSCE	Organization for Security and Co-operation in Europe
OJSC	Open Joint Stock Company
OSJD	Organization for Cooperation of Railways
PRCI	People's Republic of China

PTC	Points of Transport Control
QATTJSC	Quadrilateral Agreement on Traffic in Transit
RKPRC	Republic of Kyrgyzstan
SCO	Shanghai Cooperation Organization
SE	State Entreprise
STI	State Transport Inspectorate
TCM	Transport Coordination Meeting
TIRC	Traffic accident
TIR	Transport International Road
TLC	Transport and logictics centre
TRACEKA	Transport Corridor Europe Caucasus Asia
UNECE	United Nations Economic Commission for Europe
WB	World Bank
WTO	World Trade Organization

EXECUTIVE SUMMARY

This study has been commissioned by UNECE to review transport competitiveness and logistics in Kyrgyzstan. The aim of the project is to identify key transport related infrastructure and trends and review how transport in Kyrgyzstan can help it to develop its strategic position in Central Asia.

In this regard, the study reviews the current state and prospects for the development of transport and logistics in Kyrgyzstan, along with the transport regulatory framework of the country. The study also identifies actions for the further development based on current trends in development, risks and challenges for the sector. Data and information has been updated to September 2018.

The economy of Kyrgyzstan, as in any other country, is dependent on its transport infrastructure which includes road, rail, water and air transport. Transport and warehousing accounted for 4.0% of GDP.

Road transport has a leading position due to the difficult geographic and climatic conditions. The Government has stressed the importance of developing this mode of transport along with related infrastructure to provide year-round links between all regions of the country and neighbouring countries. There are acute transport problems in rural and mountainous regions and efforts are required to reduce the negative impact of transport on the environment.

Rail transport plays an important role in freight transport both inside the country but also for imports, exports and transit. Importance is attached to the construction of railways connecting the centre with strategically important regions of the country and internationally.

With the mountainous terrain, air transport is of particular importance for passenger as well as certain types of cargo transport. The Government is providing financing to improve the level of service and competitiveness of air transport.

Cargo transportation by inland water transport has not been adequately developed in Kyrgyzstan. The country is is making efforts to resume the transport of goods and passengers across the Issyk-Kul lake.

In Kyrgyzstan, the level of logistics development is still low. The country's leadership is making great efforts to improve the efficiency of logistics. As a result, the republic is now in 108th place in the world ranking, compared with 146th place in 2016. This increases the cost of transportation and causes various obstacles to the movement of goods. Therefore, for Kyrgyzstan it is important to create a highly efficient logistics system and ensure its integration into the international logistics system.

The gradual economic growth of Kyrgyzstan in recent years has contributed to the development of its transport sector. The Ministry of Transport and Communications drew up a programme for the development of road and water transport for 2009-2011, which determined the main priorities and objectives for these sectors. In 2012, a strategy for the development of road transport for 2012-2015 was issued. However, not all the plans outlined in the Strategy were implemented, primarily due to a lack of funding. The Government subsequently issued a road sector development strategy until 2025 with the main goal of ensuring the safe, efficient and integrated operation of transport and infrastructure that contributes to socio-economic development.

In 2012, a strategy for the development of rail transport for the period 2012-2020 was adopted. According to the strategy, new wagons, diesel locomotives, infrastructure and railway lines were to be commissioned, with the aim of opening up the transit potential of Kyrgyzstan and connect the southern and northern regions of the country, partially eliminating the need for transit through neighbouring States.

The Government has also issued a civil aviation development programme for 2016-2020, based on an analysis and assessment of current trends in the development of civil aviation, establishes goals, priorities and medium-term and long-term objectives.

To further stimulate the growth of the economy, and to attract transit flows where possible, Kyrgyzstan needs to ensure that it has modern transport infrastructure. Significant investment is being undertaken in the transport sector and this will further help to alleviate some of the challenges affecting the sector which include: provide safe car traffic year-round; integrate the railways transport of the republic into the world international transport system; ensure the further development of air transport and resume inland waterway transport.

These challenges can be addressed through the accession to key UN inland transport Conventions and Legal Agreements, especially those that facilitate the coordinated development of infrastructure and harmonize the vehicles travelling on the infrastructure.

The remainder of this study goes into more detail on each of these areas.

1. BRIEF ANALYSIS OF THE ECONOMIC SITUATION IN KYRGYZSTAN

1.1. MAIN INDICATORS OF THE SOCIAL AND ECONOMIC SITUATION

Kyrgyzstan is located in the northeast of Central Asia. In the north it borders with Kazakhstan, in the west with Uzbekistan, in the southwest with Tajikistan and in the southeast and east with China. The total area of the country is 199,951 km^2. The total length of the state border is 3,051 km, including 1,224 km with Kazakhstan, 1,099 km with Uzbekistan, 870 km with Tajikistan and 858 km with China. It is only one of two countries around the world that is double landlocked.

Kyrgyzstan is made up of 7 provinces, 40 administrative districts, 31 cities, 9 urban-type settlements, 3 villages and 453 rural administrations.

Figure 1.1: **Administrative-territorial division of Kyrgyzstan**

Source: https://kyrgyzstan-tourism.com/blog/kyrgyzstan-tourism/.

Kyrgyzstan has enormous reserves of natural resources. The main wealth of the country is provided by its hydropower resources. Kyrgyzstan is ranked the third in terms of hydropower generation in the CIS after the Russian Federation and Tajikistan. The country has significant reserves of raw materials including gold, mercury, antimony, rare earth elements, tin, tungsten, coal, oil, gas, etc.[1]

The main macroeconomic indicators of Kyrgyzstan in recent years are shown in table 1.1. The main macroeconomic indicators of Kyrgyzstan show that GDP grew constantly until 2013, after which there was a decline that has yet to be fully recovered. GDP noticeably declined in 2015 and 2016 due to the weakening of the national currency. GDP per capita in US$ in recent years has also declined and only in 2017 did it start to grow again.

[1] Natural resources and minerals. Ministry of Foreign Affairs of the Kyrgyz Republic.

Table 1.1: **Main macroeconomic indicators of Kyrgyzstan**

Indicator	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
GDP, billions of US$	4.79	6.20	6.60	7.34	7.47	6.68	6.55	7.16
Change in GDP compared to the previous year, in %	102.2	129.3	106.5	111.1	101.8	89.4	98.1	109.3
Population, thousands	5 477.6	5 551.9	5 663.1	5 776.6	5 895.1	6 019.5	6 140.2	6 256.7
Number of permanent residents compared to the previous year, in %	101.1	101.4	102.0	102.0	102.1	102.1	102.0	101.9
GDP per capita, US$	884.0	1 183.1	1 233.2	1 319.7	1 331.2	1 163.3	1 133.6	1 144.4
Industrial products, as % of the previous year	110.0	112.0	80.0	128.6	98.4	95.6	104.9	111.5
Agricultural products, as % of the previous year	97.0	102.0	101.0	102.7	99.5	106.2	103.1	102.2
Investments in fixed assets, as % of the previous year	91.0	96.9	142.0	107.6	124.9	114.0	105.8	106.2
Producer price index of industrial goods, as % of the previous year	123	122	105	90.8	108.0	112.1	99.7	104.5
Consumer price index, as % of the previous year	108	117	109	104.0	110.5	103.4	99.5	103.7
Foreign trade turnover, mln. US$, including:	4 978.7	6 503.4	7 503.9	7 993.8	7 618.4	5 636.8	5 463.7	6 280.7
Exports, mln. US$	1 755.9	2 242.2	1 927.6	2 006.8	1 883.7	1 482.9	1 544.6	1 790.8
Imports, mln. US$	3 222.8	4 261.2	5 576.3	5 987.0	5 734.7	4 153.9	3 919.1	4 489.9

Source: http://databank.worldbank.org/data/.
Kyrgyzstan. Brief statistical handbook. Bishkek, 2017.
Kyrgyzstan in figures. Statistical collection. Bishkek, 2015-2017.
Social and economic situation of Kyrgyzstan. Monthly publication.
January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017-2018.
Statistical Yearbook of Kyrgyzstan, edited by A. Sultanova, National Statistical Committee of Kyrgyzstan. Bishkek, 2018.

To assess the level of development of Kyrgyzstan in comparison with partner countries in foreign trade, table 1.2 shows the GDP of all neighbouring countries.

Table 1.2: **GDP of neighbouring countries in comparison to Kyrgyzstan**

Country	*1990*	*2000*	*2010*	*2017*
China	134.9	884.3	1 272.4	1 697.0
Kazakhstan	10.1	13.3	30.9	23.1
Uzbekistan	5.0	10.0	8.2	10.5
Tajikistan	1.0	0.63	1.2	0.8
Kyrgyzstan	**1.0**	**1.0**	**1.0**	**1.0**

Source: World Bank.

Over the period identified in the table above, and except for 2010, Kyrgyzstan had the second lowest GDP and the gap between it and all but one of its surrounding countries has widenend over time. The GDP per capita of Uzbekistan and Kazakhstan compared to Kyrgyzstan has doubled over the past 27 years, and the same ratio between China and Kyrgyzstan has increased by more than 16 times (table 1.3). Only Tajikistan has a GDP per capita that has decreased compared to Kyrgyzstan.

Table 1.3: **GDP per capita of neighbouring countries in comparison to Kyrgyzstan**

Country	*1990*	*2000*	*2010*	*2017*
China	0.52	3.43	5.18	8.48
Kazakhstan	2.71	4.40	10.31	7.12
Uzbekistan	1.07	2.00	1.56	1.86
Tajikistan	0.82	0.49	0.84	0.62
Kyrgyzstan	**1.0**	**1.0**	**1.0**	**1.0**

Source: World Bank.

In 2017, the share of industries producing goods in the structure of GDP was 38.7%, while the share of industries providing services was 48%.

The country is focusing on investments in fixed assets, which may lead to an increase in GDP in the future and, on this basis, an increase in the welfare of the population. The volume of investments in the economy is growing steadily, but the rate of growth is unstable.

The population of the country as of 1 January 2018 was 6,256,700. Over the past 5 years, the population has grown by 1.7-2.1% annually.[2]

The debt of Kyrgyzstan amounts to US$4.45 billion, including external debt of US$4.15 billion. The majority of the external debt (41.6%) is held by China, in particular by the Export-Import Bank of China. Most of the loans are for construction and repair of roads, or meeting the budget deficit. China provides loans for projects, work on which is carried out by Chinese companies. National stakeholders have stated that credit could be used in a more efficient manner.

In terms of trade, exports are significantly less than imports, causing a negative balance of payments but this negative balance is falling, from US$3,649 million in 2012 to US$2,699.1 million in 2017.

The volume of foreign trade in goods of Kyrgyzstan in 2017 amounted to US$6,280.7 million, an increase of 12.6% compared to 2016. Exports amounted to US$1,790.8 million and imports reached US$4,489.9 million. In terms of commodities, exports accounted for 28.5% and imports for 71.5%.

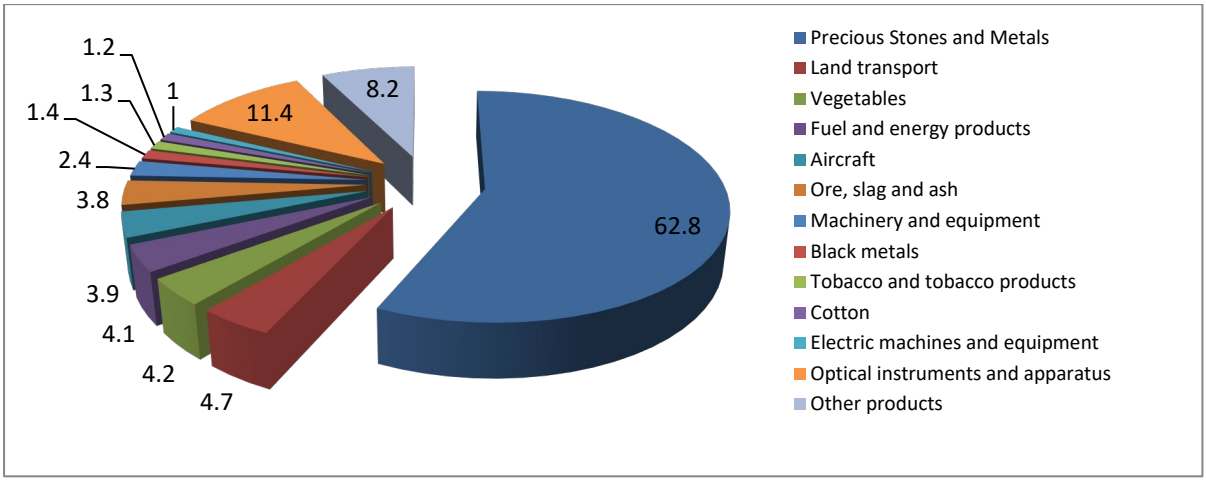
In the total volume of the country's trade, 38.6% was with Eurasian Economic Union (EEU) member States in 2017, 31.7% in exports and 41.4% in imports.

[2] Social and economic situation of the Kyrgyz Republic. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. www.stat.kg/media/publicationarchive/47a55d1e-b665-4384-9a2c-0b79ddfb3529.pdf.

In 2017, the main export destinations for Kyrgyz products were Switzerland (27.3%), Kazakhstan (15.8%), Russian Federation (15.4%), United Kingdom (10.7%) and Turkey (7.3%). Goods were imported mainly from China (33.4%), Russian Federation (26.3%), Kazakhstan (13.2%) and Turkey (5%). Oil and oil products, cast iron and steel and natural gas were imported from the Russian Federation; cereals and cereal products from Kazakhstan; and clothing, cast iron and steel from China.

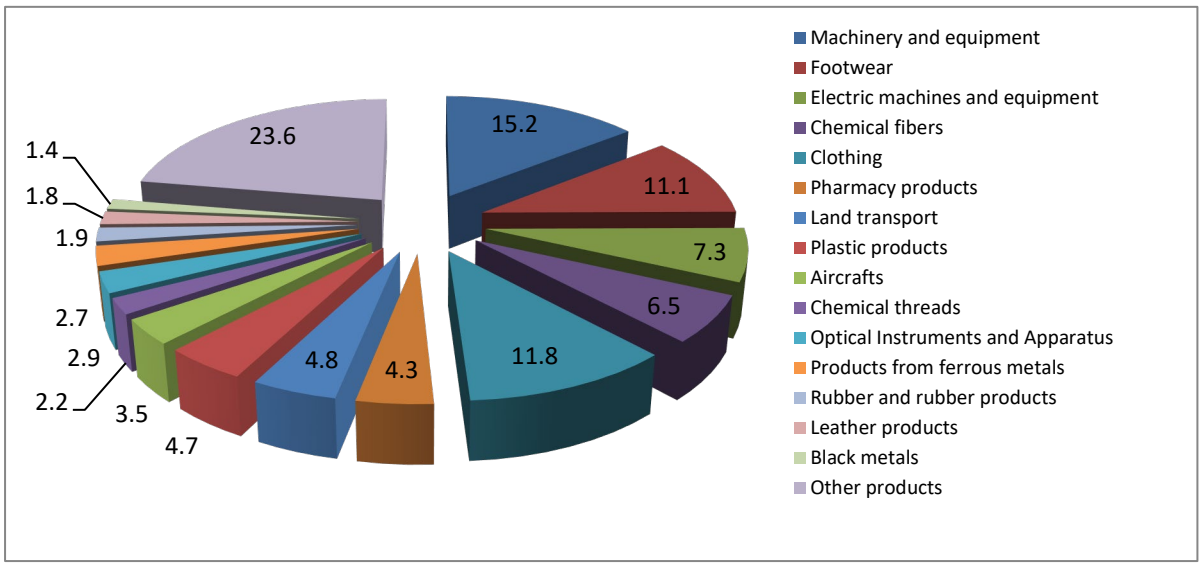
Kyrgyzstan exports gold to Switzerland, vegetables and fruits and raw cotton to Turkey, vegetables and fruit to the Russian Federation and dairy products, vegetables and fruit, paper, cardboard and paper or cardboard products to Kazakhstan. The structure of exports and imports in 2016 is shown in figures 1.2 and 1.3.

Figure 1.2: **Structure of exports of goods in 2017 (%)**



Source: Kyrgyzstan in figures. Statistical collection. Bishkek, 2017.
Social and economic situation of Kyrgyzstan. Monthly publication.
January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017.

Figure 1.3: **Structure of imports of goods in 2017 (%)**



Source: Kyrgyzstan in figures. Statistical collection. Bishkek, 2017.
Social and economic situation of Kyrgyzstan. Monthly publication.
January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017.

Kyrgyzstan is a member of more than 120 international organizations, including the United Nations, Organization for Security and Co-operation in Europe (OSCE), Economic Cooperation Organization (ECO), Organization of Islamic Cooperation (OIC), World Trade Organization (WTO), International Monetary Fund (IMF), International Bank for Reconstruction and Development (IBRD), European Bank for Reconstruction and Development (EBRD), Islamic Development Bank (IDB), Asian Development Bank (ADB), International Atomic Energy Agency (IAEA), Collective Security Treaty Organization (CSTO), etc. Kyrgyzstan participates in the Commonwealth of Independent States (CIS), the Eurasian Economic Union (EEU) and the Shanghai Cooperation Organization (SCO).

The most active regional cooperation is carried out within the framework of the EEU. In mutual trade with EEU member countries all tariffs and quantitative restrictions have been abolished and the free movement of individuals and companies is in effect. Trade operations with virtually all SCO member countries are also carried out in a free trade regime, and with China under WTO rules.

Kyrgyzstan's membership in the WTO creates the conditions for access to the markets of WTO member countries in the form of most-favoured-nation treatment and the national regime for the export of goods.

The strict international standards observed in the EU and the inconsistency of Kyrgyz laws with them are barriers to the development of trade with EU countries.[3]

Services account for a significant share of GDP. In 2017, industry (44.4%), trade (24.4%) and construction (13.3%) contributed to GDP growth. Services accounted for 24.5% of GDP growth (table 1.4).

Table 1.4: **Structure of GDP by types of economic activity in 2017**

	As a percentage of total GDP growth	*As a percentage of GDP*
GDP	**100.0**	**100.0**
Industries producing goods	**64.4**	**38.7**
including:		
agriculture, forestry and fisheries	6.7	12.6
industry	44.4	17.5
construction	13.3	8.6
Industries providing services	**24.5**	**48.0**
including:		
wholesale and retail trade, car and motorcycle repair	24.4	18.2
transport and warehousing	6.7	4.0
hotels and restaurants	4.4	1.8
information and communication	-15.5	3.4
other types of services	4.4	20.6
Net taxes on products	**11.1**	**13.3**

Source: Kyrgyzstan in figures. Statistical collection. Bishkek, 2017.

[3] Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. www.stat.kg/media/publicationarchive/47a55d1e-b665-4384-9a2c-0b79ddfb3529.pdf.

In 2017, the share of service industries decreased by 1.1% compared to 2016 and totalled 48%. The share of transport and cargo storage accounted for only 4% of total GDP growth. The volume of market services created by business entities in 2017 amounted to 659.4 billion Soms, an increase of 5.3% compared to 2016 (table 1.5).

Table 1.5: **Volume of market services in 2017**

Indicator	*Million Soms*	*As a percentage of the previous year*
Volume of market services, **total**	**659 412.5**	**105.3**
Including:		
Transport and storage of goods	45 118.8	107.5

Source: Kyrgyzstan in figures. Statistical collection. Bishkek, 2017.

In 2017, the volume of services in transport and storage of goods increased by 7.5% compared to 2016 and amounted to 6.8% of the total volume of market services.

1.2. TRANSPORT IN KYRGYZSTAN

The reliable functioning of the transport system is the basis of economic growth, the main driving force for ensuring regional security and the most important means of communication between regions. It also contributes to the preservation of economic security and the integrity of each region and the country as a whole. Transport fills the needs of the national economy for the transport of goods and passengers and is a link between producers and consumers of goods, products and services, which makes the functioning of the market possible. Transport networks play a crucial role in the integration of regional markets providing physical access to all sectors of the economy.

The cost of transport, which is significant is added to the cost of goods. The share of transport costs substantially reduces the competitiveness of goods. For example, in Central Asia, including Kyrgyzstan, transport costs for export-import products amount to 25%, while in countries situated close to maritime transport this share is about 10%.[4]

Kyrgyzstan has an underdeveloped transport system. The geographic location of the country, labour-intensive border procedures and other physical barriers hamper the development of the transport sector and the development of trade. At the same time, the country's location means it is an important transit zone for commercial transport and trade between China, the Russian Federation, Kazakhstan, South Asia and the Middle East.

Kyrgyzstan has high transport costs due to the inadequate development of its transport infrastructure and difficult climatic and geographic conditions, especially in winter. As a result, freight transport is slow, which negatively impacts the competitiveness of goods. An export-oriented business in agriculture or industry requires fast, reliable and affordable transport and telecommunications links.

[4] www.unece.org/fileadmin/DAM/trans/doc/2016/speca/Kyrgyzstan_1_2016.pdf.

Over the past decade, the country has significantly improved its transport infrastructure through the development of regional trade with China and other Asian countries. The transport sector is making every effort to meet rapidly growing demand and to overcome the chronic shortage of financial resources invested in the sector. National transport policy is at an early stage and until recently it has not been documented.

Over the past decade, the following national programmes related to the transport sector have been issued in Kyrgyzstan:

- Country development strategy (2009-2011);
- Programme for the development of road and water transport (2009-2011);
- Transport and communications development programme (2009-2011);
- Strategy for the development of roads (2007-2010);
- Strategy for the development of road transport (2012-2015);
- Strategy for the development of rail transport in Kyrgyzstan (2014-2020); and
- Government programme on the development of civil aviation (2016-2020).

The main objectives for the development of roads within the framework of the strategy for 2009-2011 were to strengthen the country's transit potential and expand access to local markets, create new jobs and develop passenger transport.

The strategy had the following tasks: reconstruct six roads that are part of international transport corridors, repair and improve the road network and ensure the transport independence of the country. These activities required the introduction of new forms of public-private partnerships and the adoption of legislation on toll roads and new concepts for road financing.

At the regional and international levels, transport policy is determined in line with the TRACECA and CAREC programmes, within which regional activities in the field of freight and passenger transport are coordinated.

The CAREC participating countries have developed an action plan for the year 2020 to remove obstacles to trade and transport links between them. As part of the CAREC programme, Kyrgyzstan intends to reform its regulatory framework, which was created when Kyrgyzstan gained independence.

Liberalization of the economy and structural transformations in the transport sector have led to the development of a market economy in the sector and changes in the regulatory and legal framework as well as to the manner in which the system is managed.

As of 1 January 2018, 40,474 entities, including 566 in state ownership, 13 municipal and 39,895 privately-owned companies worked in the provision of transport and storage services (table 1.6). Pointing towards the creation of a market in the field of transport and storage of goods where only 1.4% of the entities are state-owned. The development of the transport services market and the creation of a competitive environment, as well as the strengthening of state regulation, have ensured relatively stable conditions for the transport sector thus facilitating the growth of freight and passenger transport services.

Table 1.6: **Number of entities involved in the provision of transport and storage of goods by ownership as of 1 January 2018**

		Including by forms of ownership		
Indicator	*Total*	*State*	*Municipal*	*Private*
Transport and storage services	40 474	566	13	39 895

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. January–December. Bishkek, 2017.

The work of the transport sector is regulated and coordinated by the Ministry of Transport and Roads. It carries out its activities in accordance with the National Sustainable Development Strategy (NSDS) for 2013-2017, the Government Action Plan for 2018 and other priorities and objectives set by the Government for the relevant year.

In 2016, out of the 14 NSDS projects, three were implemented and one was partially implemented:

1. Purchase of road vehicles and equipment: 43 road graders, 20 forklifts and 3 asphalt plants (2013);
2. Implementation of the project on the modernization of the national system of air traffic organization (2015);
3. Development of a feasibility study for the construction of the railway route China – Kyrgyzstan - Uzbekistan (2015); and
4. Modernization and acquisition of navigation and technical equipment for the airports of Manas, Osh and Issyk-Kul (2016) (partially implemented).

The implementation of 10 national projects was postponed, including:

- Rehabilitation of the Taraz – Talas - Suusamyr road (km 75 to 105) (Phase III);
- Rehabilitation of the Bishkek – Naryn - Torugart road;
- Rehabilitation of the Isfana - Sulukta – Khujand road; and
- Construction of an alternative North-South road.

Official statistics show that at the beginning of the 1990s the total volume of cargo transported began to fall sharply in all modes of transport. In 1990 it amounted to 338.6 million tonnes, in 1993 it was only 70.8 million tonnes and in 1994 it halved again. In the period 1994-2017 the volume of cargo transport stabilized and fluctuated between 27 and 40 million tonnes. In the last three years it amounted to 31-32 million tonnes.

Throughout the period under consideration, road transport has played the main role in the transport of goods. Other modes of transport such as rail, water, air and pipeline have not yet been properly developed in Kyrgyzstan.

In 1990, road transport accounted for more than 97% of goods carried, in 2000 — 94% and in 2017 — 93%. There has been a slight gradual decrease in the share of road transport in the total volume of transport. In 2017 it was due to a reduction of freight traffic by road.

In 2017, the volume of cargo transported by all modes of transport increased by 718.5 thousand tonnes compared to 2016. The bulk of goods transport (about 92%) was carried by private entrepreneurs (individuals). This figure increased by 1.4% compared to 2016 (table 1.7a-c).

Table 1.7a: **Transport of goods by all modes of transport, millions of tonnes**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, in total	**338.6**	**366.2**	**237.7**	**70.8**	**34.6**	**28.1**	**35.2**	**35.9**	**35.7**	**36.6**	**26.6**
Including:											
Railway	8.0	6.5	5.5	3.0	1.4	0.9	1.3	1.5	1.4	1.1	1.0
Road	329.9	359.1	231.9	67.7	33.1	27.2	33.9	34.4	34.2	35.0	25.0
Pipeline	-	-	-	-	-	-	-	-	-	0.5	0.6
Water	0.67	0.55	0.34	0.13	0.05	0.04	0.03	0.01	0.03	0.05	0.04
Air (thousands of tons)	10.8	9.4	5.0	1.0	3.4	5.6	7.7	10.7	9.6	6.9	3.3

Table 1.7b: **Transport of goods by all modes of transport, millions of tonnes**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, in total	**28.0**	**29.8**	**29.8**	**30.8**	**28.4**	**27.4**	**30.0**	**34.3**	**36.3**	**36.9**
Including:										
Railway	0.9	1.1	1.7	1.9	1.7	1.9	2.3	1.8	1.0	1.0
Road	26.5	28.0	27.5	28.3	26.1	24.9	27.1	31.9	35	35.6
Pipeline	0.58	0.69	0.56	0.63	0.58	0.60	0.61	0.59	0.25	0.26
Water	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.04	0.02	0.02
Air (thousands of tons)	4.2	2.9	1.9	1.3	1.4	0.7	0.6	0.9	0.9	1.0

Table 1.7c: **Transport of goods by all modes of transport, millions of tonnes**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**37.7**	**39.8**	**41**	**28.9**	**29.7**	**31.2**	**31.9**
Including:							
Railway	1.0	1.1	1.4	1.5	1.3	1.7	1.9
Road	36.4	38.4	39.4	27.2	28.2	29.3	29.8
Pipeline	0.27	0.30	0.22	0.19	0.21	0.21	0.23
Water	0.11	0.12	0.11	0.01	0.01	0.002	0
Air (thousands of tons)	1.3	0.7	0.5	0.2	0.2	0.1	0.2

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

In 2017, the transport of goods by all modes of transport increased by 1.5% compared to 2016, and in comparison with 2015 it increased by 3%. Revenues from transport grew throughout the period under review (2010-2017) (table 1.8).

Table 1.8: **Income from cargo transport by all modes of transport, millions of soms**

	2010	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**5 627.6**	**6 971.1**	**7 667.4**	**8 267.7**	**9 454.9**	**9 614.4**	**9 813.5**	**10 646.1**
Including:								
Railway	1 680,1	2 383,1	2 665.5	3 009.6	3 816.3	3 372.2	3 135.9	3 763.9
Road	3 913.7	4 520.3	4 953.6	5 211.4	5 589.7	6 204.6	6 600.2	6 774.4
Water	6.3	2.9	3.5	3.1	11.1	3.6	1.2	-
Air	27.5	64.8	44.8	43.6	37.8	34	76.2	107.8

Source: http://stat.kg/ru/statistics/transport-i-svyaz/.

This increase is explained by the price factor. The index of tariffs for cargo transport services by the main modes of transport is presented in table 1.9. Tariffs for rail transport grew fastest. Over the past three years, tariffs have declined in road and air transport, while for water transport they have been stable.

Table 1.9: **Index of tariffs for cargo transport services by main modes of transport, as a percentage of the previous year**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**116.2**	**99.7**	**109.8**	**126.5**	**114.5**	**113.6**	**105.5**
Including:							
Railway	117.0	99.3	110.3	128.8	116.0	115.4	106.2
Road	112.5	101.6	111.5	117.3	105.2	98.9	98.6
Water	106.7	104.9	96.1	108.9	100.0	100.0	100.0
Air	98.4	103.5	112.9	109.8	99.5	92.8	100.1

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/ National Statistical Committee of Kyrgyzstan. Bishkek, 2011-2018.

Growth in the volume of cargo transport by all modes of transport has taken place in all regions of the country, but the most significant growth in 2017 was in Osh and Bishkek, while in 2016, the most significant growth was in the Jalal-Abad region and in Bishkek (table 1.10).

Table 1.10: **Transport of goods by all modes of transport**

	Thousands of tonnes		*As a percentage of the previous year*	
	2016	*2017*	*2016*	*2017*
Republic of Kyrgyzstan	**31 233.5**	**31 952.4**	**105.3**	**102.3**
Batken region	1 231.0	1 242.2	102.7	100.9
Jalal-Abad region	2363.5	2 449.1	111.8	103.6
Issyk-Kul region	3 842.6	3 903.9	105.2	101.6
Naryn region	1 128.4	1 161.3	103.9	102.9
Osh region	2 515.0	2 531.2	101.0	100.6
Talas region	946.1	957.2	101.1	101.2
Chui region	11 237.8	11 394.2	102.5	101.4
Bishkek	7 453.1	7 769.7	111.0	104.2
Osh	516.0	543.6	102.2	105.3

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2018.

Analysis of cargo turnover shows that the total turnover of all modes of transport and the volume of transport have fallen sharply since the early 1990s. The turnover of goods decreased from 8,732.1 million tonnes in 1990 to 2,384.8 million tonnes in 1993. In 1994, the turnover almost halved. In subsequent years, the total cargo turnover and volume of traffic stabilized and fluctuated between 1,200-2,650 million tonnes.

The largest falls in the share of freight turnover occurred in road transport. In 1990 road transport accounted for 64.4%, in 2000 63.4%, in 2010 58.8% and in 2017 57.7% of total freight turnover. The figures show a constant decrease in the share of freight turnover in road transport and an increase in the share of rail and pipeline transport. In 1990 the share of rail transport was 30%, in 2000 17.9%, in 2010 33.9% and in 2017 35.5%. The share of air transport has decreased significantly. In 2010 it was 3% and in 2017 only 0.5% (table 1.11a-c).

Table 1.11a: **Cargo turnover by all modes of transport, mln. tkm**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, in total	**8 732.1**	**8 808.4**	**5 633.5**	**2 384.8**	**1 452.3**	**1 211.8**	**1 476.2**	**1 824.2**	**1 573.0**	**1 787.6**	**1 891.6**
Including:											
Railway	2 619.6	2 414.6	1 588.9	923.0	628.9	402.6	480.8	471.6	465.6	354.8	337.2
Road	5 626.9	5 932.4	3 761.6	1 392.5	749.9	708.6	887.8	1 253.3	1 014.7	1 125	1 199.9
Pipeline	-	-	-	-	-	-	-	-	-	232.4	292.4
Water	113.9	97.9	60.8	23.1	9.0	6.2	5.9	1.9	6.1	8.3	5.9
Air	371.7	363.5	222.2	46.2	64.5	94.4	101.7	97.4	86.6	68.1	55.5

Table 1.11b: **Cargo turnover by all modes of transport, mln. tkm**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, in total	**1 725.5**	**1 656.9**	**1 686.5**	**2 067.5**	**1 844.7**	**1 825.8**	**2 021.6**	**2 338.3**	**2 140.7**	**2 178.1**
Including:										
Railway	331.6	394.6	561.4	714.9	661.7	751.8	848.9	945.5	744.5	737.7
Road	1 050.5	875.1	797.2	847.4	821.2	819	902.5	1 113.9	1 256.4	1 281.5
Pipeline	287.4	341.2	277.4	453.4	314.4	214.6	218.3	211.5	90.0	91.5
Water	6.4	7.2	7.4	6.3	4.9	6.3	4.8	8.0	4.4	3.0
Air	49.6	38.8	42.8	45.5	42.4	34.2	47.1	59.4	45.4	64.4

Table 1.11c: **Cargo turnover by all modes of transport, mln. tkm**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**2 360.4**	**2 604.4**	**2 662.3**	**2 497.1**	**2 525.1**	**2 466.4**	**2 642.9**
Including:							
Railway	798.3	922.7	1001.7	1010.0	917.8	807.0	935.0
Road	1 302.8	1 371.5	1 392	1 264.7	1 401.7	1 501.3	1 525.9
Pipeline	146.3	208.8	156.7	136.2	145.9	140.7	166.5
Water	2.0	2.2	2.0	2.8	2.3	0.5	0
Air	111	99.2	109.9	83.4	57.4	16.9	13.2

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

Mobility of the population of Kyrgyzstan began to decline sharply in the early 1990s due to a decline in the standard of living. The consequence was a decrease in the volume of passenger transport for the period 1990-1993 by 2.4 times. There was a period of stabilization until 1996 and then the volume of passenger traffic began to grow slowly and in 2015 reached the level of 1990. In 2017, this indicator increased by 8.7% compared to 2015. The average annual growth in passenger transport for the last seven years has been 3.6%.

Road transport is the dominant mode for both passenger transport and freight transport. In 1990, 84.6% of passengers were transported by bus. In 2000 it was 84.9%, in 2010 - 92.4% and in 2017 - 91.5%. In recent years, the volume of passenger transport by bus has stabilized at the level of 92-94%. In parallel, the popularity of taxi transport should be noted. Since 2001, this indicator has been constantly growing and in 2017 it was 5.6 times higher than the level in 1994. No other modes of passenger and freight transport have seen such growth rates. The transport of passengers by other modes of transport such as rail, water and air is much lower (table 1.12a-c).

Table 1.12a: **Transport of passengers by all modes of transport, millions of passengers**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, in total	**656.6**	**609.7**	**445.0**	**273.6**	**263.2**	**267.7**	**317.1**	**378.7**	**433.8**	**415.3**	**462.7**
including:											
Railway	1.4	1.4	1.7	2.3	1.1	0.8	1.0	1.0	0.6	0.4	0.6
Bus	555.3	512.5	376.5	225.5	213.3	209.6	254.8	306.3	360.3	351.0	392.9
Trolley bus	75.5	70.7	61.2	41.2	45.8	54.0	56.1	66.0	66.3	60.5	66.4
Taxi	22.6	23.4	4.6	4.3	2.6	2.8	4.6	4.9	6.2	3.0	2.5
Air	1.8	1.7	1.0	0.3	0.4	0.5	0.6	0.5	0.4	0.3	0.3

Table 1.12b: **Transport of passengers by all modes of transport, millions of passengers**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, in total	**466.3**	**432.1**	**440.1**	**453.1**	**445.0**	**453.6**	**470.7**	**504.3**	**545.7**	**532.9**
including:										
Railway	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.6	0.8	0.7
Bus	398.7	373.4	390.9	395.5	393.6	403.5	436.2	474.4	510.5	492.6
Trolleybus	63.3	54.6	44.7	52.9	46.3	42.7	24.7	17.4	21.1	24.6
Taxi	3.5	3.4	3.9	4.1	4.5	6.8	9.1	11.5	12.9	14.5
Air	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.4	0.4	0.5

Table 1.12c: **Transport of passengers by all modes of transport, millions of passengers**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**566.6**	**603.1**	**619.0**	**638.6**	**653.1**	**682.2**	**710.0**
including:							
Railway	0.6	0.5	0.4	0.3	0.3	0.3	0.3
Bus	524.2	563.8	579.5	596.1	604.1	627.3	649.7
Trolley bus	23.8	19.5	19.0	20.1	23.3	25.9	29.3
Taxi	17.3	18.5	19.1	20.9	24.2	27.7	29.2
Air	0.7	0.8	1.0	1.2	1.2	1.1	1.5

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

Income from passenger transport has increased in line with volumes as set out in the table below.

Table 1.13: **Income from transport of passengers by all modes of transport, millions of soms**

	2010	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**11 699.6**	**16 013.6**	**18 094.7**	**19 879.1**	**20 796.4**	**20 647.8**	**21 627.6**	**11 699.6**
including:								
Railway	664.0	646.1	607.7	514.7	403.3	249.4	178.1	664.0
Bus	3 427.1	4 759.4	5 463.1	5 596.9	5v804.4	6 185.2	6 647.5	3 427.1
Trolley bus	118.5	110.3	124.8	140.2	153.1	181.4	201.9	118.5
Taxi	3 628.7	4 259.8	4 721.2	5 265.5	6 468.8	7 096.7	7 930.1	3 628.7
Air	3 861.3	6 238.0	7 177.9	8 361.8	7 966.8	6 935.1	6 670.0	3 861.3

Source: http://stat.kg/ru/statistics/transport-i-svyaz/.

Looking at most recent statistics, the growth in the volume of passenger transport by all modes of transport occurred across all regions (table 1.14).

Table 1.14: **Transport of passengers by all modes of transport and by region**

	Thousands of passengers		*As a percentage of the previous year*	
	2016	*2017*	*2016*	*2017*
Kyrgyz Republic	**682 177.3**	**709 988.4**	**104.4**	**104.1**
Batken region	7 825.1	7 936.1	100.9	101.4
Jalal-Abad region	32 074.1	33 017.3	102.9	102.9
Issyk-Kul region	52 090.8	53 175.9	103.4	102.1
Naryn region	7 041.4	7 339.1	105.7	104.2
Osh region	24 165.3	25 630.0	104.9	106.1
Talas region	14 501.6	14 628.9	100.8	100.9
Chui region	123 488.4	125 625.7	101.6	101.7
Bishkek	398 196.0	417 995.9	105.8	105.0
Osh	22 794.6	24 639.5	104.2	108.1

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017.

The highest growth rates were in Osh and the Osh region, as well as in Bishkek. In 2016, Bishkek was the leader in terms of the growth in the volume of passenger transport.

Analysis shows that total passenger turnover of all modes of transport began to fall sharply in the early 1990s. It decreased from 9,523.4 million passenger km in 1994 to 2,889.6 million passenger km in 1994 or a decline of 3.3 times. In subsequent years, the overall passenger turnover saw constant growth and in 2012 it exceeded the 1990 level. In 2017 it exceeded the 1994 level by 4.2 times. The largest volume of passenger turnover is accounted for by road transport. In 1990, passenger turnover by bus accounted for 52.6% of total passenger turnover. In 2000 this indicator amounted to 83.4%, in 2010 - 83.8% and in 2017 - 72.7%. The data, however, show a decrease in the share of passenger turnover by bus and an increase in the share of passenger turnover by other modes of transport (table 1.15a-c).

Table 1.15a: **Passenger turnover by all modes of transport, millions of passenger-km**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, in total	**9 523.4**	**9 495.9**	**6 364.4**	**2 944.6**	**2 889.6**	**3 279.7**	**3 677.5**	**4 066.2**	**4 577.1**	**4 675.1**	**5 184.3**
including:											
Railway	205.0	200.0	234.9	295.3	172.4	87.0	91.8	93.4	59.3	31.3	44.0
Bus	5 013.6	5 028.4	3 533.9	2 025.3	1 920.7	2 138.3	2 493.8	3 021.6	3 646.1	3 880.6	4 325.7
Trolley bus	241.6	226.2	195.8	135.1	150.6	175.2	181.9	213.2	215.6	197.4	271.6
Taxi	245.4	275.8	104.9	30.5	39.6	23.7	41.4	53.2	52.4	34.1	24.2
Air	3 817.8	3 765.5	2 294.9	458.4	606.3	855.5	868.6	684.8	603.7	531.7	518.8

Table 1.15b: **Passenger turnover by all modes of transport, millions of passenger-km**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, in total	**5 464.6**	**5 465.8**	**5 734.0**	**6 128.1**	**6 341.5**	**6 538.5**	**7 037.4**	**7 541.0**	**7 834.7**	**8 122.4**
including:										
Railway	50.0	43.1	49.8	45.3	46.1	61.5	59.9	90.2	106.1	98.7
Bus	4 715.7	4 803.4	5 026.1	5 337.7	5 600.5	5 816.6	6 162.6	6 508.6	6 806.8	6 810
Trolley bus	259.1	223.5	182.8	216.6	189.4	170.9	101.3	71.1	84.9	100.9
Taxi	58.4	53.9	64.8	69.6	84.3	129.3	204.3	235.8	265.0	298.6
Air	381.4	341.9	410.5	458.9	421.2	360.2	509.3	635.3	571.9	814.2

Table 1.15c: **Passenger turnover by all modes of transport, millions of passenger-km**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, in total	**8 862.6**	**9 620.7**	**10 378.1**	**10 776.8**	**11 012.5**	**11 333.6**	**12 289.9**
including:							
Railway	82.8	75.8	55.5	42.9	40.8	40.8	43.0
Bus	6 925.5	7 466.2	7 717.7	8 000.0	8 410.4	8 839.3	8 931.0
Trolleybus	97.7	79.9	77.8	82.5	95.6	106.1	120.2
Taxi	356.2	397.2	427.7	471.4	499.6	546.0	569.1
Air	1 400.4	1 601.6	2 099.4	2 180	1 966.1	1 801.4	2 626.6

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

It should be noted that the average monthly nominal wage of employees of enterprises engaged in transport and storage of goods in 2016 was 19,862 Soms while in the January-November 2017 period it was 22,617 Soms, i.e. an increase of 113.9%. In terms of wages, employees of transport and storage activities in 2017 occupied sixth place after financial intermediation and insurance (33,038 Soms), information and communication (26,160 Soms), electricity supply (29,528 Soms), mining (24,254 Soms) and manufacturing industries (24,026 Soms).[5]

A total of 48% of the country's GDP is created by service industries and only 38.7% by goods production. Transport activities and storage of goods account for only 3.9% of all services. This suggests that freight and passenger transport and warehouse logistics have not been properly developed.

Therefore, it can be said that transport currently has a limited impact on economic development, which could negatively affect the efficiency of economic activity and ultimately be a brake on the measures planned by the Government for the socio-economic development of the country in the long-term. In this regard, there is a need to modernize state policy regarding transport as a whole as well as for its individual modes.

[5] Kyrgyzstan in figures. Statistical collection. Bishkek, 2018.

2. ROADS AND ROAD TRANSPORT IN KYRGYZSTAN

2.1 ANALYSIS OF THE STATE OF THE ROAD SECTOR

2.1.1 GENERAL INFORMATION ON ROADS

Kyrgyzstan is a landlocked country. The extremely high level of costs of carriage which landlocked countries are forced to bear, hampers the development of exports and limits the range of potential export goods and markets where competitive trade is possible. High transport costs also mean that the the cost of imports is greater. That is why carriers in landlocked countries cannot compete with carriers of countries with seaports.

The geographic location of Kyrgyzstan at the intersection of east-west transport corridors creates considerable opportunity to use existing road corridors to increase both internal and transit traffic. Over the last 27 years, road transport has provided annually an average of more than 95% of freight and 99.7% of passenger traffic in Kyrgyzstan.

International transport corridors provide practically the only way for Kyrgyzstan to access regional markets for goods and services and play a significant role in providing transport links between the main economic centres within the country.

Only since 2007 have the country's roads begun to receive small but stable investment. Despite this, there are many problems that demand immediate attention. The key problem is financing, volumes of which have not exceeded 40% of demand. The stable functioning of the road network depends not only on the amount of financing, but also on setting and achieving targets such as those outlined in the Government's "Strategy for the development of roads until 2025".

The goal of the previous "Strategic development plan for roads for 2007-2010" was to ensure entry to regional markets for goods, labour and passengers through the rehabilitation of international transport corridors with loans from international financial institutions. Of the 2,232 km of roads that make up the international transport corridors providing transit through Kyrgyzstan, 1,497 km have received investment.

Despite financing for roads of just 1.6-1.8% of the national budget recently the Ministry of Transport and Roads increased its focus on upgrading the road network. This policy has led to a significant improvement in the condition of roads, especially international transport corridors. In the period 2010-2014, 830 km of transport corridors were rehabilitated, 530 km of new asphalt-concrete surfacing was laid on national and local roads, 800 km of non-skid surfacing was laid, 29 new roads were built and more than 56 existing bridges were repaired.[6]

In accordance with the Law of Kyrgyzstan on Roads, the road network is divided into the following categories according to the functions of roads (table 2.1).

[6] Strategy for the development of the roads sector until 2025. www.gov.kg/?p=59602&lang=ru.

Table 2.1: **Classification of public roads**

Road category	*Planned density of traffic*	*Geometrical charateristics*	*Type*	*Km*	*%*
I A	More than 9 000	4 lanes, width 15 m, with division	Trunk road	149	0.8%
I B	7 000-9 000	4 lanes, width 15 m	International and national roads and corridors	225	1.2
II	3 000-7 000	2 lanes, width 7.5 m	International andnational roads, not in the category I	374	2.0%
III	1 000-3 000	2 lanes, width 7 m	International, national and local roads	3 164	16.8%
IV	100-1 000	2 lanes, width 6 m	State and local roads	7 769	41.3%
V	< 100	1 lane, width 4.5 m	Local roads	7 129	37.9%

Source: Strategy for the development of the road sector until 2025. www.gov.kg/?p=59602&lang=ru.

According to the classification of roads only 0.8% belong to the highest category IA and 3.2% belong category to IB and II. As a key transit country this needs to improve.

2.1.2. CHARACTERISTICS OF THE ROAD NETWORK

The total length of Kyrgyzstan's roads is 34,000 km, including 18,811 km of public roads, under the responsibility of the Ministry of Transport and Roads, and 15,189 km of roads in cities, villages, agricultural, industrial and other enterprises.

The length of roads of international importance is 4,090 km (including 2,232 km on international road corridors), national roads 5,616 km and local roads 9,105 km. The length of paved public roads is 8,089 km, including 6,390 km with asphalt-concrete surfacing and 1,699 km with a black gravel surface. Gravel roads account for 9,083 km and unsurfaced roads for 1,639 km (table 2.2).

Table 2.2: **Characteristics of public roads in Kyrgyzstan**

		Type of surfacing			
Roads	*Total, km*	*asphalt-concrete*	*black gravel*	*gravel*	*unmetalled*
Public roads, km	18 811	6 390	1 699	9 083	1 639
%	100.0	34.0	9.0	48.3	8.7
Including:					
Roads of international importance	4 090	2 946	412	725	7
Roads of national importance	5 616	1 600	697	3 126	193
Roads of local importance	9 105	1 844	590	5 232	1 439

Source: Data of the Ministry of Transport and Roads.

To maintain public roads and build new roads, huge financial investment is required. The cost of new construction, as well as reconstruction and rehabilitation of roads depends on many factors: number of lanes, estimated axle load, carrying capacity of the road, category and parameters, number of bridges, overpasses and tunnels, terrain, climatic conditions and other factors. Given these factors, the estimated cost of one km of road in Kyrgyzstan is:

- US$650 to 900 thousand for rehabilitation;
- US$1,500 to 1,700 thousand for reconstruction; and
- US$2,700 to 3,200 thousand for constructing a new road.[7]

The normal service life of an asphalt surface is 10-12 years although different climatic conditions can reduce this. In mountainous and difficult climatic conditions, as well as with high traffic density, the service life of an asphalt surface can be reduced to 5-6 years, even with careful compliance with all technical requirements during construction.

After the reconstruction of a road, in accordance with article 39-4 of the Law of Kyrgyzstan on Roads, a warranty period is provided for. The warranty period for newly constructed roads should be at least two years, and for reconstructed and renovated roads at least one year.

In case of defects during the warranty period due to the performance of the contract, the contractor is expected to correct the defects at his own cost and the warranty period starts again from the moment of completion of the work to correct the defects.

Charging for the use of roads can be an important means of raising financing for maintenance. However, at present, there are no plans to introduce toll roads in Kyrgyzstan with the exception of the toll road in the city of Uzgen funded through a public-private partnership.

A draft law which provides for the introduction of a tax for the use of roads by levying 2-7% levy on the sale of fuel and lubricants has been prepared and sent to ministries and departments for approval.

According to article 20 of the Law on Roads, toll roads can be created as prescribed by law. Therefore, in future the Ministry of Transport and Roads does not exclude the possibility that an alternative North-South road will be a toll road. A draft decree of the Government “On approval of conditions for the operation of public toll roads” is being prepared. The toll for the trip could be 45 Soms.

The Government has determined the procedure and conditions for the operation of toll roads. This is contained in the Decree of the Government No. 183 of 22 April 1996 “On the organization of tolls for tunnels on the Bishkek - Osh road” and the order of the Ministry of Transport and Communications No. 188 of 25 June 2004. According to the Law on Roads and in particular Article 21: “Additional funds are levied from vehicle owners for transporting vehicles on toll roads and artificial structures on public roads”.[8]

[7] http://mtd.gov.kg/dorogi-2/.
[8] http://cbd.minjust.gov.kg/act/view/ru-ru/80.

Until 2017, the repair and maintenance of public roads was carried out by 57 road enterprises. At the regional level, the road enterprises are managed by six road departments and on international roads by three road management departments for the following sections: Bishkek – Naryn - Torugart, Osh – Sarytash - Irkeshtam, Osh - Batken – Isfana, and by the State Directorate for the Bishkek - Osh highway. The general management of the nine road departments is carried out by the Road Administration in the Ministry of Transport and Roads. The total number of employees of the road departments is 3,150.

In the process of reforming the road sector in order to optimize its activities and eliminate duplication, four regional road authorities were abolished. One of the departments began to manage the North-South road under construction, the other began to manage transport corridors. The Department of Road Management of the Ministry of Transport and Roads of the Kyrgyz Republic manages other public roads through its regional divisions. It should be noted that the new scheme for managing the road sector optimizes, to some extent, the cost of administrative management.

Construction of new roads, as well as maintenance and repair, are carried out mainly with funds from the national budget. According to the Law of Kyrgyzstan "On the national budget for 2017 and forecasts for 2018-2019", 1,999.5 million Soms were provided for the construction and repair of roads. Funding for "State capital investments" in 2017 amounted to 900 million Soms, while in 2016 it amounted to 2,948.4 million Soms, less than a third of the 2016 value. The total budget for the Road Administration for 2017, taking into account the funds for capital investments, was 2,899.5 million Soms, a reduction of 1.6 times from the 2016 figure of 4,685.7 million soms.

In 2016, the outturn spending in the road sector amounted to 4,435.7 million Soms or 94.7% of the planned 4,685.7 million Soms, including:

- 1,733.7 million soms or 99.8% of the planned 1,737.3 million soms for construction and repair; and
- 2,702.0 million soms or 91.6% of the planned 2,948.4 million soms for capital investments.

The Strategy for the development of roads to 2025 indicates that more than 1,300 million Soms are required for the repair and maintenance of public roads. In the budget for 2017 an amount of 1,999.5 million Soms was allocated for the repair and maintenance of roads. Consequently, for the first time in recent years, more funds have been allocated for the repair and maintenance of public roads than recommended by the Strategy until 2025. However, this does not mean that the quality of all roads will meet the required standards in the short term.

In 2016, the Ministry of Transport and Roads collected fees and fines amounting to 114.9 million Soms (in 2015 it was 88 million Soms), including:

- 70 million Soms from fees for weight and dimensions checks (in 2015, 55 million Soms)
- 43.4 million Soms from permits for the transport of special cargoes and for compensation for damage to roads (in 2015, 32.7 million Soms); and
- 1.5 million Soms from payments of administrative fines (in 2015, 340 thousand Soms).

In the first quarter of 2017, fees and fines collected for weight and dimensions checks amounted to 23.4 million Soms. These funds go to funding road maintenance. The main road transport corridors in Kyrgyzstan are shown in figure 2.1.

Figure 2.1: **Road network of Kyrgyzstan**

Source: http://resizeme.club/imageresizer-317_17.html.

The road network, especially in mountainous areas, is not sufficiently developed, due first of all to the lack of financial resources.

2.1.3. THE INTERNATIONAL ROAD NETWORK

Of the 4,090 km of roads of international importance, 2,232 km are on international road corridors and are divided into the following sections:

- Bishkek – Osh (667 km);
- Bishkek – Kordy (25 km);
- Bishkek – Chaldovar (section of Karabalta – Chaldovar) (27 km);
- Bishkek – Naryn – Torygart (539 km);
- Taraz – Talas – Suumysar (199 km);
- Osh – Sary-Tash – Irkeshtam (254 km);
- Osh – Isfana (387 km); and
- Sary-Tash – Karamyk (134 km).

A total of 1,479 km of highways of international importance have been rehabilitated through external funding provided by international donors such as ADB, EBRD, IDB, Eximbank (China), WB, EU, EDB, State Bank of China and others. In the period from 2010 to 2017, the length of international road sections in excellent or good condition increased from 37.8% to 82.1% (table 2.3) thanks to this investment. In 2010, none of the international road transport corridors in Kyrgyzstan were in excellent condition. However, as of early 2017, the share of international roads in excellent condition was 67.1% (table 2.4). This shows that the Government is making great efforts to develop an network of international roads.

Table 2.3: **Condition of international roads**

		Condition of roads, km			
Years	*Total length, km*	*Excellent*	*Good*	*Satisfactory*	*Unsatisfactory*
2010	4 100	8.8	1 542	2 090	356
2017	4 090	2 946	412	725	7

Source: Statistical Yearbook of Kyrgyzstan 2012-2016. Bishkek, 2017. Based on table 2.2

Table 2.4: **Condition of international road corridors**

		Condition of roads, km			
Years	*Total length, km*	*Excellent*	*Good*	*Satisfactory*	*Unsatisfactory*
2010	2 242	-	849.5	603	922.5
2017	2 214	1 497	735	-	-

Source: Statistical Yearbook of Kyrgyzstan 2012-2016. Bishkek, 2017. Data of the Ministry of Transport and Roads.

The density of traffic on international road corridors is greater than on other categories of roads. A total of 75% of all traffic is on international road corridors, while public roads and local roads account for about 15% and 10%. Research on traffic density on transport corridors is not carried out on an ongoing basis. However, analysis of the number of vehicles that have passed through customs control shows that traffic on the main transport corridors has more than doubled in the last seven years.

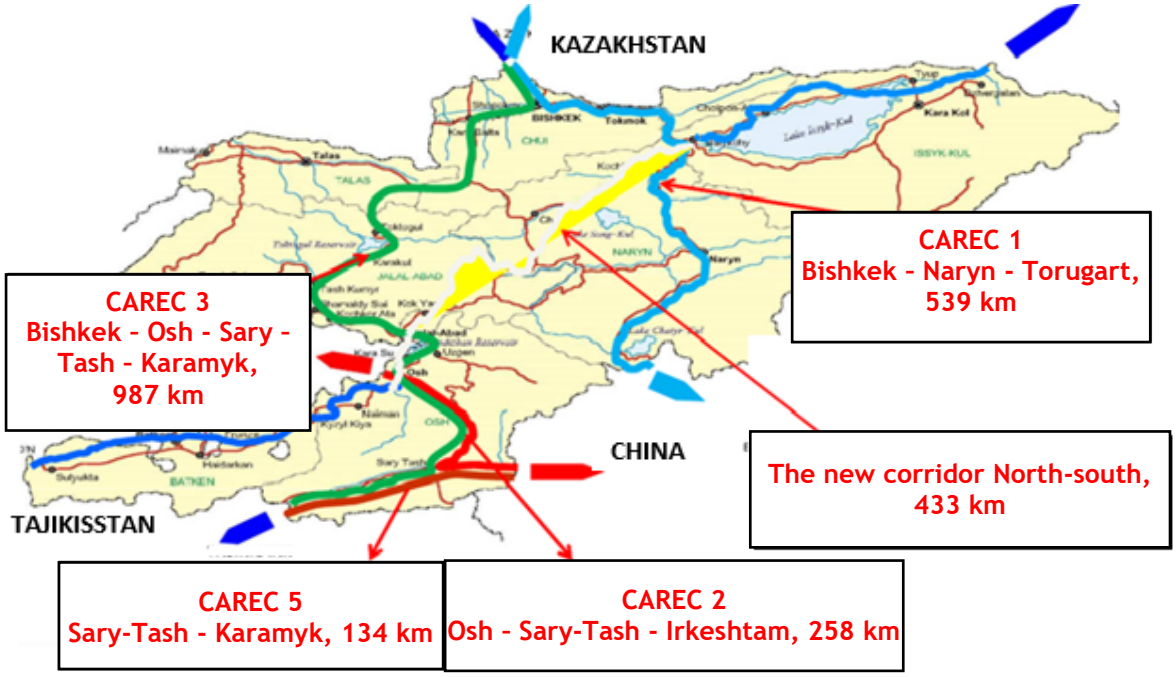
The main objective of the Government's road development strategy until 2025 is to ensure the safe, efficient and integrated operation of transport and infrastructure that contributes to the socio-economic development of the country. It is aimed at improving the level of service and minimizing transport costs, improving the quality of roads and increasing the speed of transport of goods and passengers. The strategy envisages an increase in the length of international transport corridors of the highest category to 2,675 km.

The implementation of the programme will allow Kyryzstan to complete the creation of a high quality basic network of roads linking Kyrgyzstan with neighbouring States, as well as Bishkek with other large cities in the country. For the completion of the network of public roads, it is necessary to build and reconstruct a number of sections of the main international transport highways that connect Kyrgyzstan with neighbouring States.

All the international road corridors in Kyrgyzstan are included in the road network of the Euro-Asian Transport Links (EATL) project. These road transport corridors provide access to many States, major ports, transport hubs and terminals. The EATL project is the part of a long-term collaborative effort to improve the terms of trade and socio-economic development on the continent. The project is supported by Kyrgyzstan. Phase III of the EATL project is currently being implemented.

Kyrgyzstan actively participates in the CAREC programme which is a partnership of 10 countries and 6 multilateral institutions aimed at promoting development through cooperation and accelerated economic growth and poverty reduction. CAREC is helping the countries of Central Asia and neighbouring countries to realize their enormous potential by promoting and facilitating regional cooperation in the priority areas of transport, trade, trade policy and energy. A number of CAREC roads pass through Kyrgyzstan.

Figure 2.2: **CAREC transit corridors passing through Kyrgyzstan**



Source: www.unece.org/fileadmin/DAM/trans/doc/2016/speca/Kyrgyzstan_1_2016.pdf.

International Transport Corridor CAREC 1: Bishkek - Naryn - Torugart. The corridor is included in the EATL project. It passes through the Russian Federation, Kazakhstan, Kyrgyzstan, China and Pakistan with access to the ports of Karachi.

The reconstruction of the 539 km road has almost been completed by the “China Road and Bridge Corporation”. Construction work is one year ahead of schedule. Total investment in the reconstruction amounted to US$427.8 million.

Figure 2.3: **International Transport Corridor CAREC 1: Bishkek - Naryn - Torugart**

Source: Transport and border crossing within SPECA, 21st meeting of the thematic working group, 7-8 September 2016, Ashgabat, 2016. www.unece.org/fileadmin/DAM/trans/doc/2016/speca/Kyrgyzstan_1_2016.pdf.

International Transport Corridor CAREC 2: Osh - Sary-Tash - Irkeshtam.

The corridor is included in the EATL project. It connects Kyrgyzstan with China. The length of the corridor is 258 km. The reconstruction of this corridor has been completed.

Figure 2.4: **International Transport Corridor CAREC 2: Osh - Sary-Tash - Irkeshtam**

Source: www.unescap.org/sites/default/files/Presentation-%20Kyrgyzstan.pdf.

International Transport Corridor CAREC 3: Bishkek - Osh - Sary-Tash - Karamyk.

The corridor is included in the EATL project. The E-60 road is the main transport artery between Kyrgyzstan and Tajikistan. It also forms an integral part of the regional road network in Central Asia, which links Kyrgyzstan, China, Tajikistan, Afghanistan, Uzbekistan and Turkmenistan. This highway is also part of the Asian Highway Network linking Iran and Pakistan's ports through Afghanistan with Kazakhstan and the Russian Federation. The length of the corridor is 987 km. The section from Bishkek to Osh has been completely reconstructed.

Figure 2.5: **Bishkek-Osh Section of the International Transport Corridor CAREC 3: Bishkek - Osh - Sary-Tash - Karamyk**

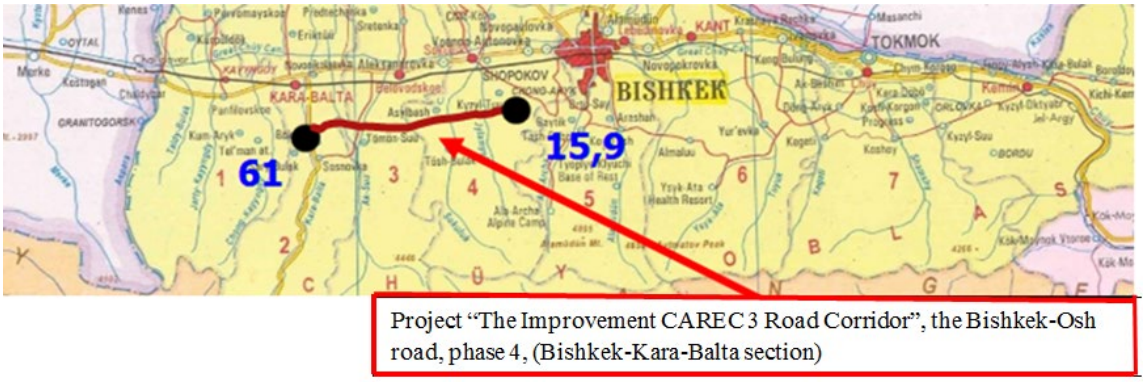
Source: http://flagma-kg.com/ru/rasstoyanie-oshkyrg-bishkek/.

In 2016, a law was passed to allow for an advance from the Asian Development Bank for the preparation of design estimates for the road project linking CAREC Corridors 1 and 3. The ABD has allocated US$3 million for the preparation of the documentation.

Some sections of CAREC Corridor 3 are under rehabilitation:

1. ***Rehabilitation of CAREC Corridor 3 of the Bishkek - Osh road, Phase 4 (Bishkek - Kara-Balta section, 45.1 km).***

Figure 2.6: Rehabilitation of the Bishkek – Kara-Balta section



Source: www.unece.org/fileadmin/DAM/trans/doc/2016/speca/Kyrgyzstan_1_2016.pdf.

The total amount of the loan provided by the ADB is US$100 million. The Government of Kyrgyzstan is providing US$20 million.

2. *Rehabilitation of CAREC Corridor 3 (Bishkek - Osh road), Phase 4 (Jalal-Abad - Madaniyat section, 67 km).*

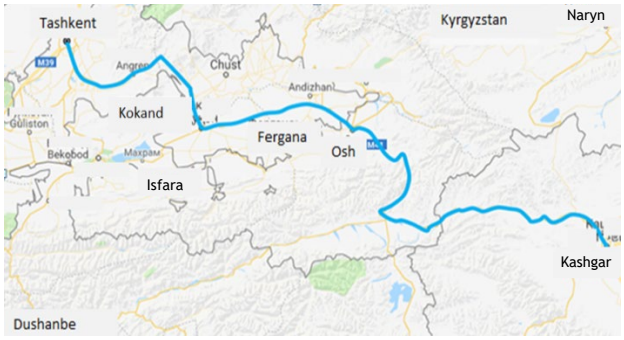
Figure 2.7: **Rehabilitation of the Jalal-Abad - Madaniyat section**

Source: www.unece.org/fileadmin/DAM/trans/doc/2016/speca/Kyrgyzstan_1_2016.pdf.

The length of this road section is 67 km. A loan of US$60 million will be provided by the Eurasian Developmant Bank (EDB) [9] and the Government will provide US$12 million.[10]

The International Road Corridor CAREC 2 connects Uzbekistan with China. This is the shortest road transport route from the Fergana Valley in Uzbekistan to China through Sary-Tash and the Irkeshtam pass in Kyrgyzstan. The road surface through Uzbekistan, Kyrgyzstan and China complies with the established norms for the movement of freight vehicles.

Figure 2.8: **Road corridor Uzbekistan - Kyrgyzstan - China**



Source: Department of Logistics, Belarus State University.

The first convoy of trucks to cover the entire transport corridor (Tashkent - Andijan - Osh - Irkeshtam – Kashgar) departed on 25 February 2018. The distance of 920 km was covered in 31 hours. By the end of 2018, it was planned to transport about 100,000 tonnes of export-import cargo along the new corridor.

[9] https://eabr.org/en/press/news/eurasian-development-bank-acquires-us-60-million-worth-of-jsc-kaztransgaz-international-bonds-/.

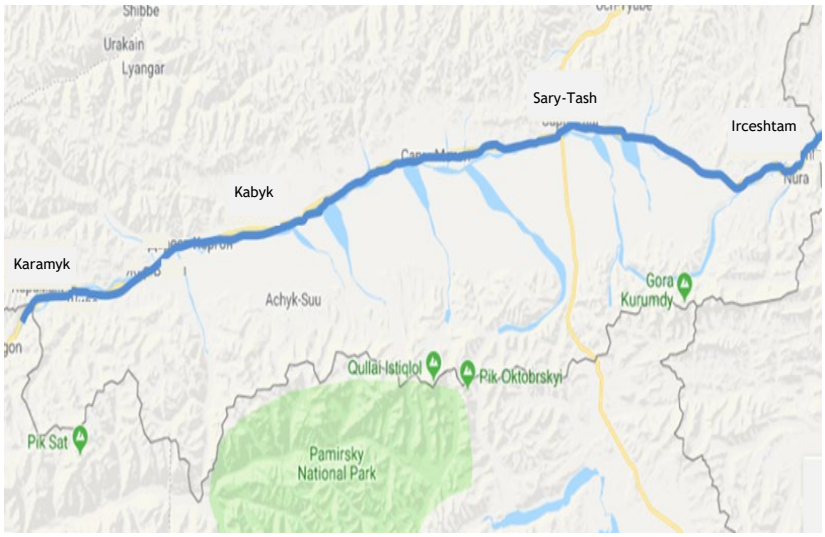
[10] On the results of the work of Ministry of Transport and Roads of Kyrgyzstan for 2016 and tasks for 2017. http://mtd.gov.kg/mintransdorkr-realizuyutsya-krupnye-investitsionnye-proekty/.

There is great interest in the new route due to the short delivery time. Cargo shipped from Uzbekistan to China used to take 8-10 days. Using the new route, it takes only two days. The average speed of the convoy was about 50-60 km/h. The time spent at the Uzbek-Kyrgyz border (post control "Dustlik") was about 1.5 hours, and at the Kyrgyz-Chinese border (Irkeshtam) about 2 hours.

International Transport Corridor CAREC 5: Irkeshtam - Sary-Tash - Karamyk.

The corridor is included in the EATL project. It connects China and Tajikistan. The length of the corridor is 204 km.

Figure 2.9: **International Transport Corridor CAREC 5: Irkeshtam - Sary-Tash - Karamyk**



Source: Department of Logistics, Belarus State University.

A Quadrilateral Agreement on Traffic in Transit (QATT) has been concluded in order to optimize the transit routes between the Islamic Republic of Pakistan , the People's Republic of China, the Kyrgyz Republic and the Republic of Kazakhstan. As a result of this agreement, transit transport along the Karakorum Highway on CAREC corridor 5b has resumed, creating the shortest and least expensive route which will facilitate trade between the member countries. The QATT will make it profitable for Kyrgyzstan to export its goods through the seaports of Pakistan (Karachi and Gwadar) to the countries of South-East Asia, the Persian Gulf and in particular the EU, under the system of trade preferences.

The Ministry of Transport and Roads of the Kyrgyz Republic is continuing to implement investment projects to upgrade the following road sections:

1. ***Osh – Batken - Isfana road, Zhany – Jer-Batken section from km 220 to km 232, and the Tort – Gul – Isfana section from km 248 to km 360***. These roads have an asphalt-concrete surface. The construction works were due to be completed by 2017.
2. ***Rehabilitation of the Osh – Batken - Isfana road section from km 28 to km 75***. In 2015, an agreement was signed to finance the project between the Government of Kyrgyzstan and JICA. Tender procedures are currently underway to select a consulting company to supervise and carry out the project. Work is continuing on the reconstruction of roads from Bishkek to Taraz and from Osh to Isfana.The construction of an alternative North-South road with a length of 433 km is important for Kyrgyzstan's economy. The construction was launched in 2014. The funding institution is the Export-Import Bank of China. The amount of the loan was US$400 million.

Figure 2.10: **Alternative North-South road**

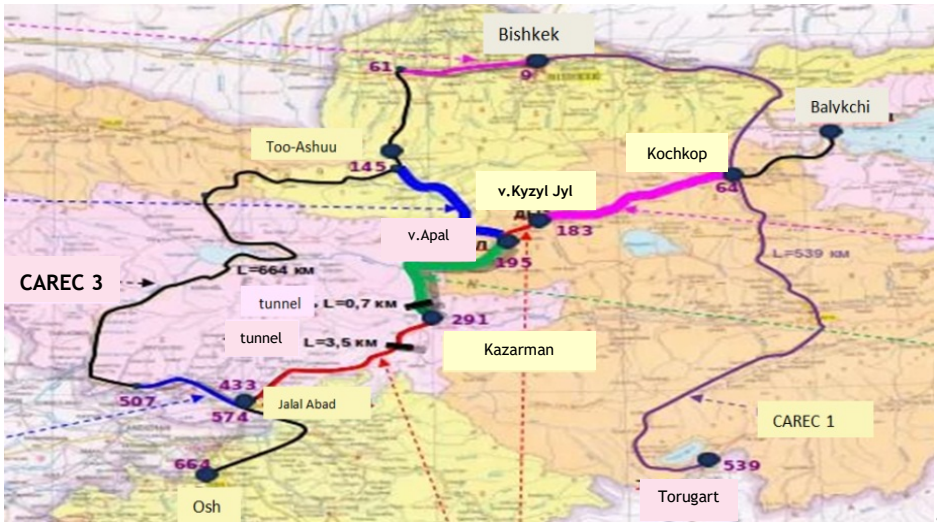
Source: https://stanradar.com/news/full/16830-kyrgyzstan-poluchit-novyj-kredit-na-stroitelstvo-dorogi-spasenija-v-obhod-uzbekistana.html?page=9.

Resolution No. 629 of the Government of Kyrgyzstan of 16 November 2013 approved the draft Law "On ratification of the preferential loan agreement for the North-South Alternative Road Project". According to the credit procedures of the Chinese Eximbank the work will be carried out by a Chinese company. The China Road and Bridge Corporation has been recommended for realization of this project.

The project provides for the construction of an alternative North-South road, specifically a section from the village of Kyzyl-Jyldyz to the village of Aral (km 183 – km 195) and a section from the village of Kazarman to Jalal-Abad (km 291 – km 433), including a 3.7 km tunnel through the Kok-Art pass. The total length of the project is 154 km. The alternative North-South road has been designed according to technical category II specifications with two to four lanes. The construction will be carried out in three phases.

Phase 1. Construction of the alternative North-South road between Kyzyl-Jyldyz and Aral, km 183 to km 195, and from Kazarman to Jalal-Abad, km 291 to km 433, including a 3.7 km long tunnel through the Kok-Art Pass

Figure 2.11: **Construction of the alternative North-South road**



Source: https://stanradar.com/news/full/10085-karta-finansirovanie-stroitelstva-alternativnoj-dorogi-severjug-v-kyrgyzstane.html.

At the beginning of 2017, 99% of the work had been completed on the stretch between Kyzyl-Jyldyz and Aral, only surfacing was outstanding. On the stretch from Kazarman to Jalal-Abad 46% of the work had been completed. The construction of the tunnel through the Kok-Art Pass was still ongoing. A 10 kW power line has been laid to provide power to the tunnel. All sections were due to be completed by November 2018.

Phase 2. Construction of the alternative North-South road between Aral and Kazarman, km 195 to km 291.

Work has started on this section. Temporary access roads have been built. The project includes four tunnels with a total length of 1.891 km instead of bridges. At the beginning of 2018 about 22% of the work on this section has been completed.

Phase 3. Construction of the alternative North-South road sections between Balykchy and Kyzyl-Jildyz (136 km), and Aral- Suusamyr road (91 km).

Currently, preparations are being made to sign an agreement with the ADB on the financing of the phase 3 section of the North-South alternative road project between the villages of Epkin and Dyikan.[11] On 16 January 2018, a contract was signed between the Ministry of Transport and Roads and the consulting company Saudi Tech Engineering & Geological Consultant for the provision of consulting services and the preparation of tender documents for the project "Reconstruction of the alternative North-South road, Phase III, km 159 to km 183" from the village of Dyikan to the village of Kyzyl-Jyldyz, financed by the Islamic Development Bank and the Saudi Development Fund.[12]

[11] http://airto-kr.com/17-iyulya-2018goda-proshla-kollegiya-mtid-kr-po-itogam-pervogo-kvartala-2018-goda-i-zadachax-na-na-2-polugodie-2018-goda-pod-predsedatelstvom-glavy-vedomstva-zh-kalilova/.

[12] http://kenesh.kg/ru/committee/article/6/2351/show/r-e-sh-e-n-i-e-komiteta-zhogorku-kenesha-kirgizskoy-respubliki-po-transportu-kommunikatsiyam-arhitekture-i-stroitelystvu-ot-26-fevralya-2019-goda-o-sostoyanii-avtomobilynih-dorog-respubliki-podvedomstvennih-ministerstvu-transporta-i-dorog-kirgizskoy-respubliki-i-hode-realizatsii-ratifitsirovannih-zakonov-po-rekonstruktsii-i-stroitelystvu-avtomobilynih-dorog.

Kyrgyzstan has borders with four countries, Kazakhstan, China, Tajikistan and Uzbekistan. Kyrgyzstan has checkpoints on all its borders. Some checkpoints, such as Kyzyl-Art, Torugart and Irkeshtam are located near mountain passes and are remote from human settlements. Not all border posts in Kyrgyzstan and neighbouring countries work around the clock. Some of them work only during the day and the mode of operation can vary. A list of border crossing points and their hours of operation are given in table 2.5a-d.

Table 2.5a: **Border checkpoints in Kyrgyzstan**

Border checkpoints in Kyrgyzstan	*Border checkpoints in Kazakhstan*	*Opening hours*
Ak-Jol road Chuy district, village of Kordy	Kordy road Kordy region, Gambyl distict	24 hours
Chaldabar road Chuy district, Panfilow region	Aysha Bibi road Gambyl district	Light day until 18:00
Ak-Tilek road Chuy district, Issyk-Ata region	Karasy road Zhambyl district	Light day until 18:00
Karkyra road* Issyk-Kul region, Tyupsky region	Kegen road* Almaty district	Light day until 18:00
Chop-Kapka Manas region, Talas district	Zhibek Zholyi Korday region, Zhambyl district	Light day until 18:00

* Checkpoint opens from May till September/October.

Table 2.5b: **Border checkpoints in Kyrgyzstan**

Border checkpoints in Kyrgyzstan	*Border checkpoints in China*	*Schedule*
Torugart road* Naryn district, Torugart pass	Torugart road China's autonomous district Xinjiang	10:00 to 16:00, closed 12:00 - 14:00
Irkeshtam road* Osh region, Irkeshtam pass	Irkeshtam road Xinjiang-Uigur autonomous region	10:00 to 16:00, closed 12:00 - 14:00

* Checkpoints are closed on Saturday, Sunday and holidays in China.Checkpoints on the border with China work on Chinese time.

Table 2.5c: **Border checkpoints in Kyrgyzstan**

Border checkpoints in Kyrgyzstan	*Border checkpoints in Tajikistan*	*Schedule*
Kyzyl Bel road Batken district, village of Kyzyl Bel	Gulistan road Isfara	Light day until 18:00
Kulundu* Batken district, village of Kulundu	Owchy-Kalyachy road B. Gafursk region	Light day until 18:00
Bor Dobo road Osh region, Kyzyl-Art pass	Kyzyl Art road Murgarb region	Light day until 18:00

* Checkpoint is closed for tourists.

Table 2.5d: **Border checkpoints in Kyrgyzstan**

Border checkpoints in Kyrgyzstan	*Border checkpoints in Uzbekistan*	*Schedule*
Dostlik road Osh region	Dostlik road Andijan region, Khojaabad district	Daytime until 18:00
Madaniyat Jalal-Abad district, Nooken region	Uchkurgan road Namangan region Uchkurgan district	Daytime until 18:00

Source: www.advantour.com/rus/kyrgyzstan/border-crossing.htm.

2.1.4. ROAD SAFETY

The unsatisfactory condition of roads is one of the main causes of road accidents. In the period 2006-2017 there were 62,063 road accidents in Kyrgyzstan. In the period 1997-2014 there were only 28,181 road accidents in Tajikistan. Over a longer period in Tajikistan, there were less than half the number (table 2.6).

Table 2.6: **Number of road accidents in Kyrgyzstan**

	2006	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Kyrgyzstan	**3 911**	**4 692**	**4 540**	**4 248**	**4 402**	**4 813**	**5 803**	**7 492**	**7 119**	**7 066**	**5 868**	**2 109**
Batken region	162	183	159	147	204	190	228	268	285	279	291	126
Jalal-Abad region	468	542	621	581	570	531	600	733	723	647	681	100
Issuk-Kul region	355	508	414	394	384	375	421	441	444	451	472	223
Naryn region	117	142	138	123	132	123	143	155	140	138	127	23
Osh region	370	518	485	465	507	537	631	683	727	762	761	347
Talas region	95	91	80	91	105	96	125	177	163	148	128	17
Chuy region	1 074	1 259	1 186	1 074	1 190	1 283	1 506	1 702	1 657	1 626	1 621	39
City of Bishkek	922	1 046	1 039	989	992	1 319	1 785	2 898	2 575	2 592	1 352	-
City of Osh	348	403	418	384	318	359	364	435	405	423	435	-

Source: Statistical Yearbook of Kyrgyzstan, Edited by A. Osmonaliev, National Statistical Committee of Kyrgyzstan. Bishkek, 2016.

The table above shows that, despite the construction and rehabilitation of roads, the number of road accidents before 2014 grew sharply. After 2014 the number of road accidents declined sharply in the capital but remained practically unchanged in other regions of the country. Individual vehicle owners are responsible for the majority of road traffic accidents as shown in table 2.7 below.

Table 2.7: **Responsibility for road accidents**

	2014	*2015*
Total number of road accidents	7 119	7 066
split by:		
Individual vehicle owners	4 925	5 071
Company and commercial vehicles	137	176

Source: Statistical Yearbook of Kyrgyzstan, Edited by A. Osmonaliev, National Statistical Committee of Kyrgyzstan. Bishkek, 2016.

Furthermore, there are a large number of fatalities and injuries in road traffic accidents in Kyrgyzstan (table 2.8), and the number of fatal accidents is not decreasing. Individual vehicle owners are also responsible for the majority of serious accidents.

Table 2.8: **Number of fatalities and injuries in road traffic accidents**

	Fatalities		*Injuries*	
	2014	*2015*	*2014*	*2015*
Total number of fatalities and injuries in road traffic accidents	1 022	1 060	10 510	10 402
Including those caused by:				
Individual vehicle owners	697	742	7 693	7734
Company and commercial vehicles	16	27	176	234

Source: Statistical Yearbook of Kyrgyzstan, Edited by A. Osmonaliev, National Statistical Committee of Kyrgyzstan. Bishkek, 2016.

The main reason for the increase in road traffic accidents is the increase in the number of vehicles in the country and also the lack of controls by law enforcement agencies. In the last ten years, the vehicle fleet has more than doubled.

2.2 ANALISYS OF ROAD TRANSPORT

2.2.1. REFORM OF ROAD TRANSPORT

The development of the road transport sector in Kyrgyzstan began in the 1920s. In 1925, the Bishkek branch of "Road Transport Communications" opened with a fleet of five vehicles. Then branches were established in Osh and Jalal-Abad. By the end of 1951 the fleet had reached 12,000 vehicles. During the following years the pace of road transport development was stable. In the 1980s more than 47% of goods and about 95% of passengers were transported by road.

Structural changes in the economy after 1991 caused large-scale privatization of the transport system, as a result of which more than 80% of road transport enterprises were transformed into joint-stock companies. Unlike the road construction industry, which is still in the state sector, the road transport industry was completely privatized in the second half of the 1990s. In fact all road transport companies are currently private. International road transport began to develop in 1993.

In the 1990s, the functioning of the transport industry suffered outside the control and regulation of the State. Private owners ignored the rules on the carriage of passengers and cargo and safety requirements. Transport of passengers began to be carried out only on profitable routes. To resolve this situation, when issuing permits for passenger transport, the State Transport Inspectorate would join one profitable route and two non-profitable routes under one permit. In 2018, as a result of such measures, out of 1829 settlements, 1614 had regular passenger transport, which is 88.9% coverage of the country. Strong competition has begun to develop in the international transport market.

These negative events in the road transport industry hindered the development of the country's economy and required the State to intervene.

At that time, regulatory issues in the sector of road and water transport were the responsibility of the State Transport Inspectorate (STI) and the Department of International Road Transport (DIRT) "Kyrgyzintrans" under the Ministry of Transport and Communications.

A road carrier engaged in the international transport of passengers and cargo would receive a permit to travel from DIRT "Kyrgyzintrans", and a license for international transport from the State Transport Inspectorate. At border checkpoints the activities of international passenger transporters were controlled by STI, and the operations of international freight carriers were checked by "Kyrgyzintrans". At the same time, STI carried out transport checks for both passenger and freight traffic. These subdivisions of the Ministry worked on unified regulatory and legal documents, but there was no clear link in control functions between them, as they belonged to different departments. This situation caused a lot of complaints and discontent from service providers.

In order to streamline and optimize the activities of these state bodies and to eliminate duplication of functions, they were merged into one body, the Agency for Road and Water Transport under the Ministry of Transport and Communications. Later there were further structural changes.

In order to reform the road transport system, the programme for the development of the industry for 2009-2011 was developed and the legislative base was updated. Then the strategy for the development of road transport for 2012-2015 was approved.

Given the inaccessibility of many regions of the country, road transport has become the main mode of transport. More than 95% of cargo and 98% of passengers are carried on the roads. The importance of road transport remains the most significant factor of sustainable socio-economic development for the country and one of the main tools for solving national economic and social issues.

In the development of road transport, trucking plays an important role. International cargo transport is carried out on the basis of bilateral intergovernmental and multilateral agreements on road transport.

Currently, road transport relations have been established with 40 countries. Of these, bilateral agreements on road transport have been drawn up with 19 States: Azerbaijan, Armenia, Belarus, Germany, Georgia, Iran, Kazakhstan, China, Latvia, Moldova, Mongolia, Pakistan, Poland, the Russian Federation, Tajikistan, Turkmenistan, Turkey, Uzbekistan and Ukraine. Kyrgyzstan also has agreements on road transport with France and Austria.

In accordance with intergovernmental agreements signed by the Government, the Ministry exchanges permits for international transport by road. In order to protect the interests of Kyrgyz carriers and create favourable conditions for the international market for road transport services, additional negotiations are held each year with States that have not yet signed agreements on international road transport, but have agreed to provde permits to Kyrgyz carriers.

Kyrgyzstan has agreements on the exchange of permits with the following countries: Austria, Belgium, Bulgaria, Denmark, Estonia, Greece, Hungary, Italy, Lithuania, Netherlands, Norway, Portugal, Romania, Serbia, Slovakia, Slovenia, Montenegro, Czechia, Sweden and Switzerland.

Kyrgyzstan is a party to eight major international UNECE conventions and agreements in the field of road transport. The entry of Kyrgyzstan and other Central Asian States into the Economic Cooperation Organization (ECO) uniting the States of South Asia has played a major role in the resolution of a whole range of transport problems.

In November 2012, the International Road Transport Union (IRU) accepted the membership of the Association of International Road Carriers of Kyrgyzstan (AIRC KR) with the goal of integrating Kyrgyz carriers into the European transport market and promoting the use of advanced technologies for customs and road transport. Before the creation of AIRC KR this function had been carried out by the Association of International Road Transport Carriers of Kyrgyzstan (KyrgyzAIRC), which was admitted to the IRU in 1999.

In 2012, a Memorandum of Understanding was signed between the State Customs Service, the Association of International Road Transport Carriers of Kyrgyzstan and the IRU regarding cooperation on the implementation of the computerized TIR applications Safe-TIR (transfer of data on completion of transport) and TIR-EPD (preliminary electronic reporting). The Safe-TIR and TIR-EPD applications were successfully implemented in 2013 and 2014 respectively.

With the introduction of electronic TIR applications the quality of the customs administration has improved, the time for customs registration of goods and vehicles at the border has decreased and the safety and security of transport under the TIR regime has increased.

Automated customs systems can help pre-estimate potential risks on the basis of preliminary information. After the entry of Kyrgyzstan into the Eurasian Economic Union, modernization of the automated information system was needed, which led to a temporary halt in the work on the Safe-TIR and TIR-EPD applications. In December 2016, the State Customs Service successfully restarted all the relevant modules of Safe-TIR in real time. Future plans include the update of the TIR-EPD application and further work on the digitalization of the TIR system.

Work on the introduction of an automated information system “Electronic transport control” (AIS ETC) is continuing. There are 27 points of transport control (PTC) including weight control. 14 PTCs out of 27 have already been installed in AIS ETC which minimises human involvement and also makes it possible to monitor the PTCs through the central service established in the Ministry of Transport and Roads. Currently, work is being done to connect the remaining 13 PTCs to AIS ETC. However, there are problems in terms of financing and internet connections complicated by the geographical location.

In 2016 the Agency for Road, Water Transport and Weight and Dimensions Control under the Ministry of Transport and Roads (Road Transport Agency) was established, in order to streamline and optimize the activities of the structural units of the Ministry, as well as to eliminate duplication. In February 2017, the Agency’s regulations were adopted.

2.2.2 TRANSPORT OF GOODS BY ROAD

At present, according to the State Registration Service, there are approximately 1.2 millon road vehicles in the country. 350 companies are involved in the transport of passengers and goods, more than 20,300 individuals work in the transport of goods and 72 enterprises ensure road transport processes such as bus stations or ticket offices. The number of employees in the industry is more than 32,000.

In the first quarter of 2017, Kyrgyz road hauliers made 8,489 trips and carried 110,424 tons of freight. During the same period in 2016, 19,390 trips were recorded and 266,637 tons of freight were transported. The volume of goods transported has decreased by almost 2.4 times.

In 2017, from the issuance of permit documents and paid services and the collection of fines for administrative violations the Road Transport Agency transferred 182,519,500 Soms to the national budget, while for 2016 this figure amounted to 187,994,500 Soms. In 2017, the Agency issued 20,187 permits, bringing in fees amounting 110,137,300 Soms. In 2016 20,375 permits were issued for an amount of 114,129,000 Soms. Of these 13,776 permits were for passenger transport (in 2016, 14,036), 6,114 were for international freight transport (in 2016, 6,021) and 297 permits were for the activities of companies (in 2016, 318). Of the 297 permits, 245 were for passenger transport and 52 were for international freight transport (in 2016, 257 were for passenger transport and 61 for freight). These data show that there has been a fall in entrepreneurial activity in passenger and freight transport.

At present there are 85 transport, shipping and logistics companies registered with the Association of international road carriers of Kyrgyzstan, operating in the transport and forwarding market in Kyrgyzstan. More than 74% of the 85 companies are located in Bishkek, 18% in the Chui region and other regions have one company each. Only 4 companies have an office in both Bishkek and the Chui region. According to specialists of the Ministry of Transport and Roads, many companies lack highly qualified personnel, a transport and distribution network, a fleet of vehicles, consulting departments, warehouses and modern handling equipment. Some have a few staff and no office space.

Official statistics show that at the beginning of the 1990s the total volume of cargo transport began to fall sharply by all modes of transport. In 1990 it amounted to 338.6 million tonnes, in 1993 - 70.8 million tonnes and in 1994 it fell twofold. During the period of 1994-2017, the volume of cargo transport stabilized and fluctuated within the limits of 27-40 million tonnes. In the last three years it has stabilized at 31.2-31.9 million tonnes.

Throughout the period under consideration road transport accounted for the majority of goods transport. In 1990, road transport accounted for more than 97% of all freight, in 2000 — 94%, in 2010 — 96% and in 2017 — 93%. There has been a slight decrease in the share of road transport in the total volume of transport. In 2017, the volume of goods transported by road, compared with 2016, increased by 2.2% (table 2.9a-c).

Table 2.9a: **Freight transported, millions of tonnes**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport total	**338.6**	**366.2**	**237.7**	**70.8**	**34.6**	**28.1**	**35.2**	**35.9**	**35.7**	**36.6**	**26.6**
including:											
Road transport	329.9	359.1	231.9	67.7	33.1	27.2	33.9	34.4	34.2	35.0	25.0

Table 2.9b: **Freight transported, millions of tonnes**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport total	**28.0**	**29.8**	**29.8**	**30.8**	**28.4**	**27.4**	**30.0**	**34.3**	**36.3**	**36.9**
including:										
Road transport	26.5	28.0	27.5	28.3	26.1	24.9	27.1	31.9	35	35.6

Table 2.9c: **Freight transported, millions of tonnes**

	2011	*2012*	*2013*	*2014*	*2015*	*2066*	*2017*
Transport total	25.2	26.8	27.9	28.9	29.7	31.2	31.9
including:							
Road transport	23.9	25.4	26.3	27.2	28.2	29.3	29.8

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

The main volume of transport was conducted by individual entrepreneurs. Their share of transport is growing constantly. In 2017 it increased by 1.4% compared with the previous year (table 2.10).

Table 2.10: **Transport of goods by entrepreneurs engaged in commercial transport by road**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Goods carried in total, millions of tonnes	23.9	25.4	26.3	27.2	28.2	29.3	29.8
Including by individual entrepreneurs, millions of tonnes	23.4	24.7	25.5	26.4	27.6	28.9	29.3
Total freight turnover, mln tkm	1 094,6	1 142,6	1 175,8	1 264,7	1 401,7	1 501,8	1 525,9
Including by individual entrepreneurs, mln tkm	1 072.4	1 118.1	1 158.5	1 242.0	1 385.1	1 479.3	1 502,7

Source: Statistical Yearbook of Kyrgyzstan 2010-2017. Bishkek.

Analysis of turnover shows that, like the total volume of transport, total cargo turnover of all modes of transport began to fall sharply in the early 1990s and by 1993 it had decreased from 8,732.1 million tons to 2,384.8 million tons. In 1994, it decreased almost twofold. In subsequent years, total cargo turnover, like the volume of transport, stabilized and fluctuated between 1,200-2,650 million tons (table 2.11a-c).

Table 2.11a: **Cargo turnover of all modes of transport, mln tkm**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
Transport total	8 732.1	8 808.4	5 633.5	2 384.8	1 452.3	1 211.8	1 476.2	1 824.2	1 573.0	1 787.6
including:										
Road transport	5 626.9	5 932.4	3 761.6	1 392.5	749.9	708.6	887.8	1 253.3	1 014.7	1 125

Table 2.11b: **Cargo turnover of all modes of transport, mln tkm**

	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Transport total	1 891.6	1 725.5	1 656.9	1 686.5	2 067.5	1 844.7	1 825.8	2 021.6	2 338.3	2 140.7
including:										
Road transport	1 199.9	1 050.5	875.1	797.2	847.4	821.2	819	902.5	1 113.9	1 256.4

Table 2.11c: **Cargo turnover of all modes of transport, mln tkm**

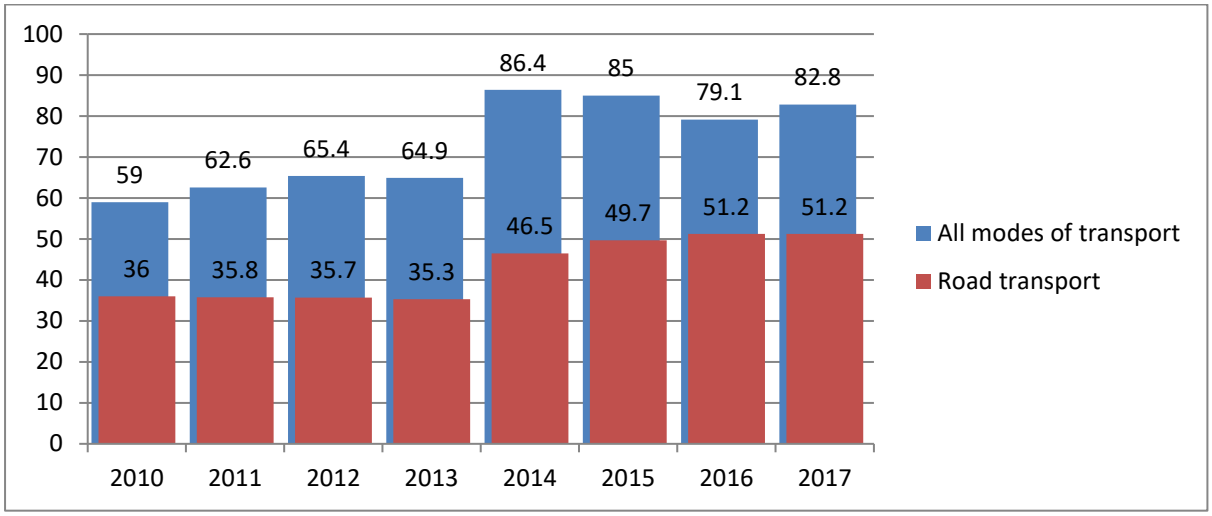
	2010	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport total	2 178.1	2 152,2	2 375,5	2 446,1	2 497.1	2 525.1	2 468.6	2 642.9
including:								
Road transport	1 281.5	1 094,6	1 142,6	1 175,8	1 264.7	1 401.7	1 501.8	1 525.9

Source: http://stat.kg/ru/statistics/transport-i-svyaz/.

The largest volume of turnover is in road transport. In 1990 it represented 64.4%, in 2000 — 63.4%, in 2010 — 58.8%, and in 2017 — 57.7% of total cargo turnover. The data show a constant decrease in the share of freight turnover of road transport and an increase in the share of railway and pipeline transport.

The data in tables 2.9 and 2.11 can be used to determine the average distance goods are transported by all modes of transport including road. The average distance of transport of 1 tonne of cargo by all modes of transport in 1990 was 25.8 km, in 2000 71.3 km, in 2010 59 km and in 2017 82.8 km.

Figure 2.12: **Average distance of transport of 1 tonne of cargo**



Source: Based on the data in tables 2.9 and 2.11.

Looking at the same measure but focusing on road transport only, the average distance of transport of 1 tonne of freight by road transport in 1990 was 17.1 km, in 2000 — 48 km, in 2010 — 36 km and in 2017 — 51.2 km. The fact that road freight moves over shorter distances could indicate that it is focused on transport within a city or district. Road transport either delivers goods to the rail sector, or delivers goods to consumers in district and city areas. The transport of goods in containers is almost zero, which does not allow the use of modern intermodal transport. It is not possible to study container transport by road in more detail because of the lack of official statistics.

Tariffs for cargo transport services by all modes of transport have shown a continuous growing trend. In 2017, they increased by 5.5% compared to 2016, while in 2015 the increase amounted to 13.6% (table 2.12).

Table 2.12: **Tariff index for cargo transport services (as a percentage of the previous year)**

	2016	*2017*
Total	**113.6**	**105.5**
Including:		
Railways	115.4	106.2
Road	98.9	98.6
Water	100.0	100.0
Air	92.8	100.1

Source: Statistical Yearbook of Kyrgyzstan, Edited by A. Sultanov, National Statistical Committee of Kyrgyzstan. Bishkek, 2018.

Tariffs on road transport declined. In 2016, they decreased by 1.1% in comparison to 2015 and by another 1.4% in 2017. The main reason is competition in the road transport market, reduction in traffic volumes and the unsustainable financial situation of customers.

2.2.3. INTERNATIONAL TRANSPORT OF GOODS BY ROAD

The research conducted justifies the expectation that the role of road transport both in Kyrgyzstan and in most EATL countries will increase, especially if operators are provided with high-quality and flexible logistics services. Road transport should be considered as an addition to rail transport and not as a direct competitor. In particular, road transport should be used for the following:

- Small volume cross-border trade;
- Long distance transport where there are no railway lines or rail cannot provide efficient services for certain goods (perishables, high value goods, etc.); and
- As a road transport component in an intermodal rail transport system. The road transport component connecting the consignor/consignee and the intermodal terminal or logistics centre could be hundreds of kilometers.

The latter option is the most important from the point of view of logistics supply chains and increasing the competitiveness of EATL. In order to achieve the efficiency of road transport over long distances, it is important to ensure consistent weight and dimension parameters for trucks along the main routes. The experience of countries that have opened up roads with low traffic density and the profile of roads used for heavy and long-distance road trains could be instructive for Kyrgyzstan.

At present there are 90 companies engaged in international road transport using the permit system with a fleet of more than 5,000 vehicles.

Kyrgyzstan is a full member of the Eurasian Economic Union. Since 2015, in accordance with the Agreement of the EEU on the development of international road transport, the permit system was abandoned for all types of transport within the Union. For example, a Kyrgyz carrier can transport goods to Belarus through the Russian Federation and other countries without a permit. Furthermore, in relation to third countries, an agreement on phased liberalization has been reached. At the same time there are still quotas for transport to and from third countries.

There are also set stages of liberalization that have been set up which define the rules for cabotage. The first stage ended on 31 December 2017. In this stage, carriers registered in the Russian Federation, Belarus, Armenia and Kyrgyzstan, after the completion of international carriage of goods by road in a non-member State of the Union, had the right to perform one cabotage operation within the territory of a neighbouring country of the Union upon return to the state of registration. In this stage, when carrying out cabotage, unloading had to be carried out within three calendar days of the completion of international transport in the member State in which cabotage was carried out.

In the second stage (1cJanuary 2018 to 31 December 2019) EEU carriers have the same rights as in the first stage but the time limit for unloading cabotage operated goods is extended to within seven calendar days of the completion of international transport.

In the third stage (1 January 2020 to 31 December 2024), Armenia, Belarus, Kyrgyzstan and the Russian Federation grant the right to carriers registered in the EEU, after completing the international carriage of goods by road, to perform one cabotage operation of goods between points located in other States of the EEU (but no longer limited to neighbouring countries), upon return to the state of registration. In this stage, when carrying out cabotage, unloading must be carried out within seven calendar days of the completion of international transport in the member State in which cabotage is carried out.

In the fourth stage, after 1 January 2025, EEU member States grant the right to carriers registered in one of the member States, after completing international carriage of goods by road in another member State, to perform in the same vehicle up to three consecutive cabotage operations between points located in that other member State. It this stage, the last unloading must take place within seven calendar days of the date of completion of international transport in the member State in which cabotage is carried out.

A comparative analysis of growth in the volume of freight transport as a result of the creation of the EEU according to statistics for 2014 and 2016 shows that the volume of freight transport with Belarus increased from 3,320 tonnes in 2014 to 15,391 tonnes in 2016, i.e. by 5 times; and with Kazakhstan from 18,932 tonnes in 2014 to 240,994 tonnes in 2016, i.e. by 13 times (table 2.13).

Table 2.13: **Comparative analysis of the volume of freight transport by road as a result of the creation of the EEU**

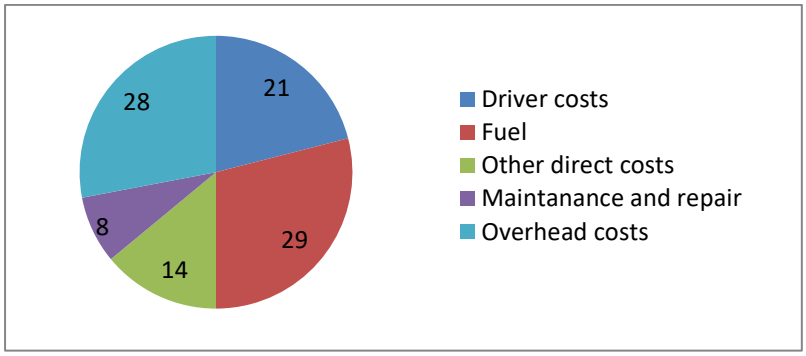
	Before joining the EEU - 2014		*After joining the EEU - 2016*	
	Entry, exit and transit of freight vehicles	*Transport volume, tonnes*	*Entry, exit and transit of freight vehicles*	*Transport volume, tonnes*
Armenia	4	22	2	**29**
Belarus	404	3 320	852	15 391
Kazakhstan	5 899	18 932	14 224	240 994

Source: http://mtd.gov.kg/informatsiya-o-rabote-mtid-v-ramkah-eaes-v-2016-godu/.

In order to provide foreign carriers with permits for international transport, in accordance with international treaties and 2017 agreements for mutual exchange, the Road Transport Agency exchanged permits with 40 States: 41,655 permits were sent to other countries and 43,885 permits were received, including 22,150 permits from China, and only 500 from both the Russian Federation and Kazakhstan. In 2017, 33,180 permits were issued for international road transport. In 2018, 44,735 permit forms were obtained from a total of 41 countries. Belarusian carriers have noted that the number of permits issued for international transport with Kyrgyzstan is insufficient.

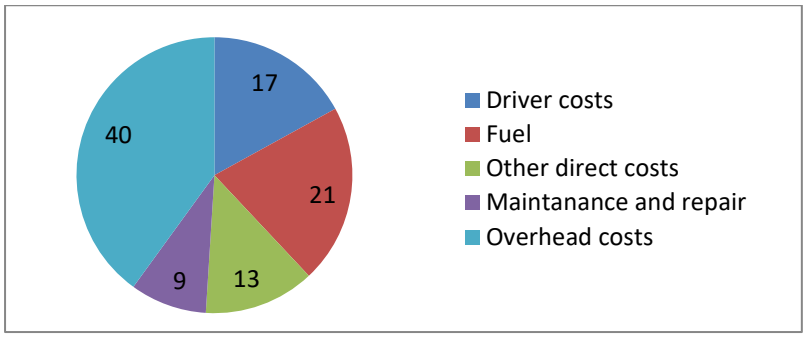
Analysis of the cost of transporting goods by road shows that on average in the EU, Kazakhstan and Belarus the cost for 1 km is approximately the same. In the EU it costs 0.660 euro/km, in Kazakhstan 0.692 euro/km and in Belarus 0.682 euro/km. Driver incomes and fuel costs account for the largest share of costs: in the EU they represent 21% and 29%, respectively. Overhead costs in EU countries are the least at 28%. The costs for maintenance and repair, as well as other direct costs, are almost the same in all the countries.

Figure 2.13: **Cost structure of road transport of goods in the EU (%)**



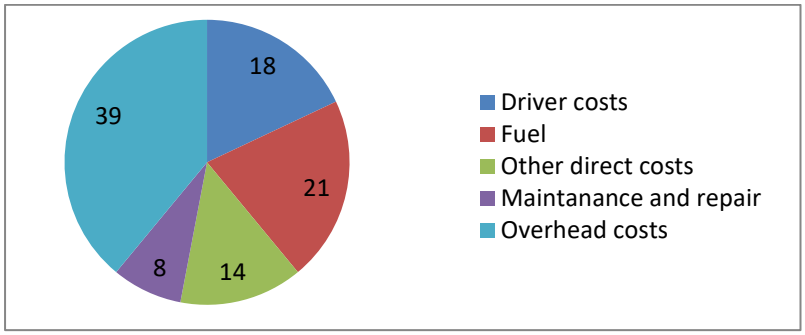
Source: Department of Logistics, Belarus State University.

Figure 2.14: **Cost structure of road transport of goods in Kazakhstan (%)**



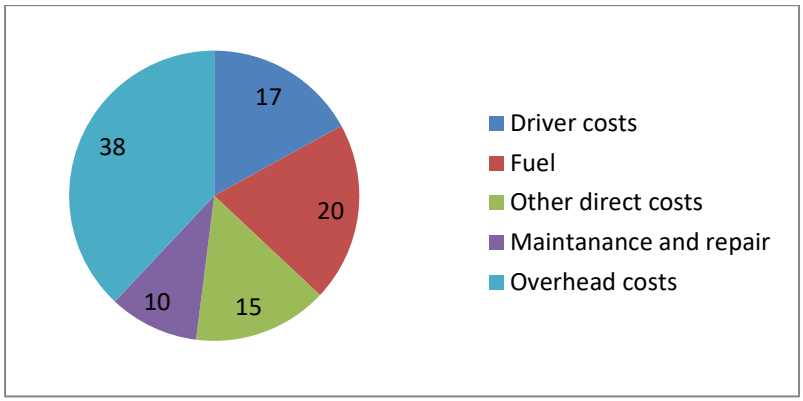
Source: Department of Logistics, Belarus State University.

Figure 2.15: **Cost structure of road transport of goods in the Russian Federation (%)**



Source: Department of Logistics, Belarus State University.

Figure 2.16: **Cost structure of road transport of goods in Belarus (%)**



Source: Department of Logistics, Belarus State University.

Data on the structure of the cost of trucking of goods in Kyrgyzstan are not available. With the expansion of regional trade and the creation of attractive conditions for transit, the arrival of foreign logistics services providers in Kyrgyzstan that have advanced technologies and resources is to be expected. Given this international competition, state bodies need to formulate a flexible transit tariff policy to prevent transit cargoes bypassing Kyrgyzstan.

2.2.4. PASSENGER TRANSPORT BY ROAD

According to the approved passenger route network of Kyrgyzstan for 2017, there are 981 bus routes, including bus and trolleybus routes in Bishkek and Osh. There are 27 international, 131 interregional, 544 regional and 279 urban bus routes. As of 1 July 2018, there were 1,829 settlements in the country, of which 1,614 were covered by regular bus services, which translates to a coverage of 88.9%. The total length of bus routes in the country, including city routes, is 107,479 km. On these routes operate 9,412 buses and minibuses daily according to approved timetables, carrying out 40,476 trips. These bus routes are serviced by 244 transport companies.

All vehicles and passenger transport infrastructure are subject to regular checks. In 2017, a total of 1,030 violations of the transport and licensing legislation of Kyrgyzstan were registered (1,137 — in 2016). 712 fines were issued to offenders (770 — in 2016) totaling 743,900 Soms (985,600 Soms — in 2016).

As of 1 January 2017 there were 12 bus terminals, 33 bus stations and 27 ticket offices across the country. Of these, 7 bus terminals, 10 bus stations and 11 ticket offices were in state ownership, and 5 bus terminals, 23vbus stations and 16 ticket offices were private. State bus terminals and bus stations in the country achieved revenues of 1.6 million Soms for a 3 month period in 2017 (compared to 1.5 million Soms for the same period of 2016, or 108.5% compared to 2016).[13]

The mobility of the population began to decline sharply in the early 1990s due to a decrease in living standards as a result of unsuccessful democratic reforms, leading to a fall in the total volume of passenger transport for the period 1990-1993 of 2.4 times. There followed a period of relative stability until 1996. Then the volume of passenger traffic began to grow slowly and in 2015 it had reached the level of 1990. In 2017, passenger volume increased by 8.7% compared to 2015.

Road transport is the main player in the transport of passengers, as well as freight. In 1990, 84.6% of passengers were transported by bus, in 2000 84.9%, in 2010 92.4% and in 2017 91.5%. In recent years there has been a stabilization in the volume of passenger transport by bus at the level of 92-94%. The popularity of passenger taxi transport should be noted. Since 1995, taxi transport has been constantly growing, in 2017 reaching 5.6 times the level of 1994 (table 2.14a-c).

Table 2.14a: **Volume of passenger transport, millions of passengers**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, total	**656.6**	**609.7**	**445.0**	**273.6**	**263.2**	**267.7**	**317.1**	**378.7**	**433.8**	**415.3**	**462.7**
including:											
bus	555.3	512.5	376.5	225.5	213.3	209.6	254.8	306.3	360.3	351.0	392.9
trolleybus	75.5	70.7	61.2	41.2	45.8	54.0	56.1	66.0	66.3	60.5	66.4
taxi	22.6	23.4	4.6	4.3	2.6	2.8	4.6	4.9	6.2	3.0	2.5

[13] http://mtd.gov.kg/segodnya-4-maya-2017-goda-v-ministerstve-transporta-i-dorog-kr-proshla-kollegiya-po-itogom-pervogo-kvartala/.

Table 2.14b: **Volume of passenger transport, millions of passengers**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, total	**466.3**	**432.1**	**440.1**	**453.1**	**445.0**	**453.6**	**470.7**	**504.3**	**545.7**	**532.9**
including:										
bus	398.7	373.4	390.9	395.5	393.6	403.5	436.2	474.4	510.5	492.6
trolleybus	63.3	54.6	44.7	52.9	46.3	42.7	24.7	17.4	21.1	24.6
taxi	3.479	3.458	3.941	4.103	4.529	6.804	9.054	11.532	12.897	14.501

Table 2.14c: **Volume of passenger transport, millions of passengers**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, total	566.6	603.1	619.0	638.6	653.1	682.2	710.0
including:							
bus	524.2	563.8	579.5	596.1	604.1	627.3	649.7
trolleybus	23.8	19.5	19.0	20.1	23.3	25.9	29.3
taxi	17.259	18.536	19.074	20.898	24.169	27.654	29.156

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

The volume of passenger transport by other modes of transport, such as railway, water and air is several times lower. In Kyrgyzstan, passengers are transported mainly by private entrepreneurs (individuals). Bus services accounted for 84.5% of the volume of passenger transport in 2011 and 93.6% in 2015. As shown in table 2.15, public opeartors are experiencing a fall in their share of bus transport. In terms of passenger turnover the figures are even higher.

Table 2.15: **Transport of passengers by entrepreneurs carrying out commercial transport by bus and taxi**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Passengers transported by bus, total, mln	524.2	563.8	579.5	596.1	604.1	627.3	649.7
Including private entrepreneurs, mln	442.8	495.2	522.5	541.6	565.6	-	-
Passenger turnover by bus, total, mln pass. km	6 925.5	7 466.2	7 717.7	8 000.0	8 410.4	8 839.3	8 931
Including private entrepreneurs, pass. km	6 414.2	7 042.3	7 346.1	7 635.1	8 117.6	-	-
Passengers transported by taxi, mln	17.3	18.5	19.1	20.9	24.2	27.654	29.2
Including entrepreneurs, mln	17.3	18.5	19.1	20.9	24.2	27.6	29.2
Passenger turnover by taxi, mln pass. km	356.2	397.2	427.7	471.4	499.6	546.0	569.1
Including private entrepreneurs, pass. km	356.2	397.2	427.7	471.4	499.6	546.0	569.1

Source: Statistical Yearbook of Kyrgyzstan 2010-2017. Bishkek.

Passenger transport by bus has increased in all regions of the country (table 2.16).

Table 2.16: **Transport of passengers by bus**

	Thousands of passengers		*As a percentage of the previous year*	
	2016	*2017*	*2016*	*2017*
Kyrgyz Republic	**627 274.2**	**649 713.1**	**103.8**	**103.6**
Batken region	7 493.4	7 604.5	100.8	101.5
Jalal-Abad region	30 248.5	31 184.3	102.7	103.1
Issyk-Kul region	49 984.3	50 933.5	102.8	101.9
Naryn region	2 113.4	2 156.3	106.5	102.0
Osh region	22 410.4	23 832.2	104.0	106.3
Talas region	14 380.4	14 506.4	100.8	100.9
Chui region	119 401.4	121 349.7	101.6	101.6
Bishkek	360 608.8	376 113.9	104.9	104.3
Osh	20 633.6	22 032.3	105.4	106.8

Source: Statistical Yearbook of Kyrgyzstan 2013-2017. Bishkek, 2018.

In 2017, the highest growth rates of passenger transport by bus were in Osh and the Osh region.

The analysis of passenger turnover shows that, like the volume of passenger transport, total passenger turnover by all modes of transport began to fall sharply in the early 1990s and by 1994 it had decreased from 9,523.4 million passenger-km to 2,889.6 million passenger-km, i.e. a decrease of 3.3 times. In the following years total passenger turnover grew at a constant rate and in 2012 it had already exceeded the 1990 level. By 2017 passenger turnover exceeded the 1994 level by 4.2 times (table 2.17a-c).

Table 2.17a: **Passenger turnover by all modes of transport, millions of passenger-km**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, total	**9 523.4**	**9 495.9**	**6 364.4**	**2 944.6**	**2 889.6**	**3 279.7**	**3 677.5**	**4 066.2**	**4 577.1**	**4 675.1**	**5 184.3**
including:											
bus	5 013.6	5 028.4	3 533.9	2 025.3	1 920.7	2 138.3	2 493.8	3 021.6	3 646.1	3 880.6	4 325.7
trolleybus	241.6	226.2	195.8	135.1	150.6	175.2	181.9	213.2	215.6	197.4	271.6
taxi	245.4	275.8	104.9	30.5	39.6	23.7	41.4	53.2	52.4	34.1	24.2

Table 2.17b: **Passenger turnover by all modes of transport, millions of passenger-km**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, total	**5 464.6**	**5 465.8**	**5 734.0**	**6 128.1**	**6 341.5**	**6 538.5**	**7 037.4**	**7 541.0**	**7 834.7**	**8 122.4**
including:										
bus	4 715.7	4 803.4	5 026.1	5 337.7	5 600.5	5 816.6	6 162.6	6 508.6	6 806.8	6 810
trolleybus	259.1	223.5	182.8	216.6	189.4	170.9	101.3	71.1	84.9	100.9
taxi	58.4	53.9	64.8	69.6	84.3	129.3	204.3	235.8	265.0	298.6

Table 2.17c: **Passenger turnover by all modes of transport, millions of passenger-km**

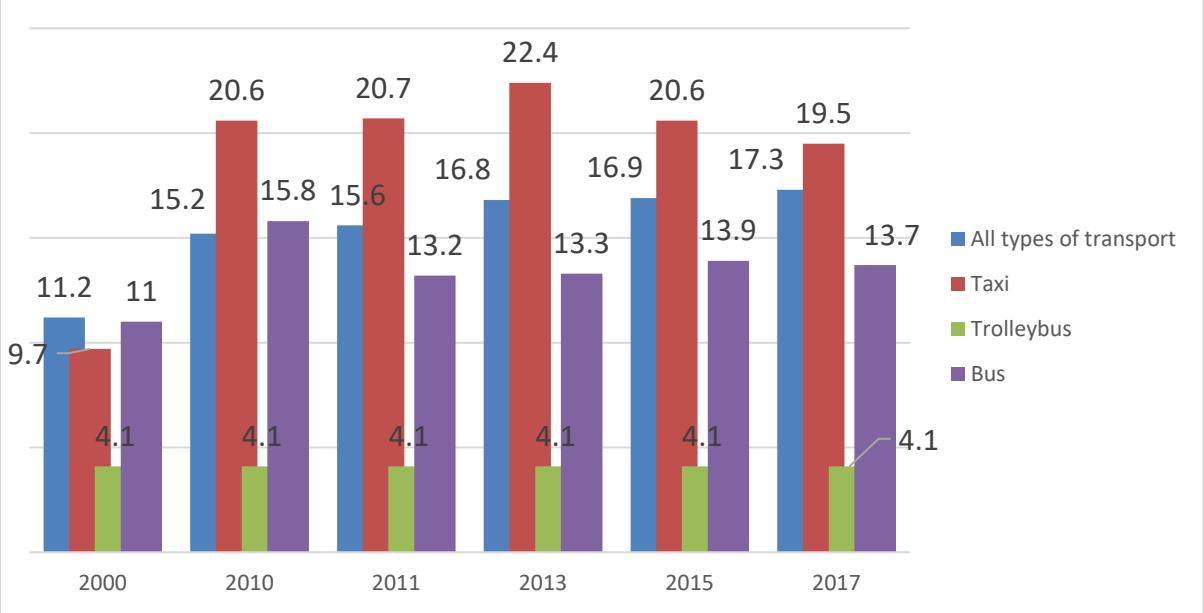
	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, total	**8 862.6**	**9 620.7**	**10 378.1**	**10 776.8**	**11 012.5**	**11 333.6**	**12 289.9**
including:							
bus	6 925.5	7 466.2	7 717.7	8 000.0	8 410.4	8 839.3	8 931.0
trolleybus	97.7	79.9	77.8	82.5	95.6	106.1	120.2
taxi	356.2	397.2	427.7	471.4	499.6	546.0	569.1

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

Road transport makes up the largest share of passenger turnover. In 1990, passenger turnover by bus accounted for 52.6% of total passenger turnover, in 2000 83.4%, in 2010 83.8% and in 2017 — 72.7%. The data show a slight decrease in the share of passenger turnover by bus and an increase in the share of passenger turnover by other modes of transport.

It is possible to calculate the average distance of transportation of passengers on the basis of tables 2.14a-c and 2.17a-c. Over the past seventeen years, the average distance for the carriage of passengers by all modes of transport has steadily increased.The average distance of passenger transport in 1990 was 14.5 km, in 2000 11.2 km, in 2010 15.2 km and in 2017 17.3 km.

Figure 2.17: **Average distance of passenger transport**



Source: Based on the data in tables 2.14a-c and 2.17a-c.

The average distance of passenger transport by trolleybus during the period under study remained at 4.1 km. This is due to the established trolley bus route network and stable passenger traffic on these routes. The average distance of taxi transport is longer than by bus.

The volumes of passenger transport by electric trolleybus are presented in table 2.18.

Table 2.18: **Volume of passenger transport by trolleybus, millions of passengers**

Year	*Millions of passengers*
2010	24.6
2011	23.8
2012	19.5
2013	19.0
2014	20.1
2015	23.3
2016	25.9
2017	29.3

Source: Statistical Yearbook of Kyrgyzstan 2010-2017. Bishkek.

Transport of passengers by electric trolleybus takes place in the capital Bishkek, as well as in Osh and Naryn.

In Bishkek, transport was carried out on 18 routes, which have the greatest need for urban public transport. The lowest route length was 7.5 km, the highest was 18.1 km. Most routes have a length of 10-12 km. The average operating speed was 17 km/h.

There are 148 trolley buses operating in the city of Bishkek. Trolleybus transport in the city is served by two trolleybus fleets. Currently, the Bishkek Trolleybus Administration is one of the largest operators in passenger transport in Bishkek. There are 168 trolleybuses in the fleet (previously the number was 204), the average age of the fleet is approximately 18 years. In percentage terms, trolleybuses less than 10 years old account for 16%, from 10 to 15 years — 24.5% and over 16 years — 59.5% of the total number. The estimated service life of a trolleybus is 10 years. According to experts, the optimal average age of vehicles in service should be 5 years, when the costs of operation and repair are at an acceptable level. Not having the means to purchase new trolleybuses, the administration began to implement a programme to restore old ones.

At present, 912 people work for the trolleybus companies. The trolleybus system lacks drivers, many of whom went to work in Almaty, Kazakhstan, where wages are higher.

There are two routes operating in Osh. A third line is currently under construction with a length of 46 km. The number of trolleybuses is 22. New trolleybuses have been provided with the support of Japan.

The city of Naryn with a population of 40,000 people there is one trolleybus route running through the city's main street. The number of trolleybuses is seven. There is no trolleybus depot.

In order to reform the existing system of road transport the “Concept of state regulation of the road transport industry of Kyrgyzstan” was developed, which determines the prospects for the development of the road transport industry and should become the basis for the formulation of designated programmes for the development of road transport in the medium term.

2.3. SWOT ANALYSIS OF THE ROAD SECTOR AND OF ROAD TRANSPORT

To determine the main objectives for the further development of the road sector and road transport, a SWOT analysis has been conducted, examining the strengths and weaknesses in terms of developing national, transit and export-import transport, as well as the opportunities and threats that this sector may face (table 2.19).

Table 2.19: **SWOT analysis of the road sector and of road transport**

Strengths	
1.	A strategy for the development of the road sector is included in the strategic plan for the development of Kyrgyzstan.
2.	Interest of Kyrgyzstan and neighbouring States in the development of land corridors.
3.	Favourable location from the standpoint of transport access to the world leader in export-import of finished goods and raw materials.
4.	Existence of a network of international CAREC transport corridors connecting China with the European Union and the countries of the EEU through Kyrgyzstan.
5.	It is the shortest land route from China to Uzbekistan and to the huge Russian market.
6.	Transport corridors linking the Russian Federation with Tajikistan, Uzbekistan and Turkmenistan pass through Kyrgyzstan.
7.	Huge reserves of various types of mineral resources, which require good roads for their transport.
8.	Fairly steady growth in the volume of goods transported by road.
9.	The desire of China to significantly increase the volume of freight transport by land.
10.	High level of cooperation with Russian enterprises requires the development of transport links and logistics between the countries.
11.	Cargo that has passed customs clearance in Kyrgyzstan may be moved through the territory of the EEU freely.
Weaknesses	
1.	Varied topogarphy hampers the construction of highways and requires large financial investments.
2.	Low population density and a large share of rural population mean that a significant proportion of regional roads have low traffic density, making the financing of road development difficult.
3.	Need for large financial investments in the construction and reconstruction of roads, which reduces the financial resources available to maintain and repair existing roads.
4.	Accelerated ageing of the road infrastructure due to increased traffic, especially of heavy vehicles.

5. Poor local transport infrastructure in the regions.
6. Inadequate transport links that traverse the country.
7. Poor condition of the road infrastructure will gradually change the investment priorities from the construction and expansion of the road network to their maintenance and repair to ensure the required technical characteristics.
8. Absence of systemic management of international corridors.
9. Lack of skilled workers and specialists in the road sector.
10. Obsolete technology for maintenance and repair of road surfaces.
11. Low income of companies and the population and insufficient quantity of high-quality alternative roads makes it difficult to introduce toll roads more widely.
12. The difficult geographic location of some regions of Kyrgyzstan, as well as poor quality roads reduces the speed of delivery of goods and increases the cost of transport.
13. The low level of freight forwarding services for road transport.
14. The lack of transport in conformity with relevant European standards, which reduces the share of national carriers in export-import operations.
15. Significant wear on the vehicles of Kyrgyzstan.
16. The small average distance of transport by road, which increases the cost of shipping of goods.
17. The lack of direct transport links between the north and south regions, which increases the distance of transport and the time taken for delivery of goods.
18. The lack of measuring devices for weighing vehicles on the most intensive sections of roads of national importance.
19. The small proportion of environmentally friendly vehicles.
20. The high number of road accidents.
21. The low share of intermodal transport, with the participation of road transport.
22. The small number of large enterprises able to carry large volumes of freight on regular routes.
23. The extremely low percentage of carriers that are members of the Association of international road transport carriers of Kyrgyzstan “KyrgyzAIRC”, reflecting the weak financial position of road carriers in the country.
24. Transport companies do not focus on customers and offer a limited range of services.
25. Transit over long distances is associated with a large number of intermediaries, which significantly increases the cost of transport.

Opportunities

1. High growth rates of the economies of China and South-East Asia, which is expected to contribute to an increase in transit through Kyrgyzstan.
2. Expansion of toll roads.

3.	Involvement of foreign workers and specialists in road construction.
4.	Attraction of loans for the development of the road sector.
5.	Application of modern technologies for the construction, maintenance and repair of roads.
6.	Expansion of public-private partnerships in the road sector.
7.	Organization of systemic management of international corridors.
8.	Development of forwarding services in road transport.
9.	State support for the development of international road transport.
10.	State support for the renewal of the goods vehicle fleet.
11.	State support for the use of intermodal transport involving road transport.
12.	Integration within the framework of the EEU information system, which allows the availability of permits to be checked automatically.
13	The introduction of an automated system for monitoring the movement of freight vehicles.
14	Introduction of standardized shipping documents.
15.	Increased number of measuring devices for checking the weight of vehicles on the most used sections of national roads.
16.	Limiting the movement of heavy trucks in the daytime at high temperatures in order to preserve the road surface.
17.	Increased checking of compliance with speed limits to reduce the number of road accidents.

Threats	
1.	The increase in the density of traffic along international corridors and the increasing demands of society for better quality roads require increased funding for the road sector which is currently not available.
2.	High interest rates on loans.
3.	The large share of debt owned by China, including in the road sector.
4.	Limited interest of private businesses in participating in public-private partnerships in the road sector and road transport.
5.	The increase in the need for vehicle fleet renewal coupled with the limited financial resources at the disposal of the State and the private sector.
6.	Limited access to credit for the acquisition of vehicles by small and medium-sized enterprises, as well as individuals.
7.	The development of the rail and road transport sectors in Kazakhstan will reduce the flow of goods through Kyrgyzstan.
8.	Danger to cargo posed by difficult meteorological conditions.

2.4. RECOMMENDATIONS

Based on the SWOT analysis and the information provided in this chapter the following recommendations can be made:

For road infrastructure:

- Develop the road industry as an independent business structure based on public-private partnerships;
- Meet public expectations regarding the quality of roads and traffic safety;
- Integrate the Kyrgyz road network into the Euro-Asian transport corridors to increase cargo flows, ensure high delivery speed, timeliness, accessibility and reliability of transport;
- Continue the construction of new sections of highways and engineering facilities to address the problems of national road transport;
- Expand the practice of introducing tolls for the use of roads;
- Improve public roads in accordance with recognised standards, taking into account the growth of traffic and axle loads;
- Expand the construction and reconstruction of access roads and bypass roads around large cities and towns in order to reduce the negative impact of road transport on the environment and human health;
- Continue the reconstruction of some sections of public roads that provide access to natural parks and tourist sites;
- Ensure the maintenance of the network of public roads to a level guaranteeing safe, year-round passage for vehicles;
- Continue to upgrade sections of roads to higher technical categories;
- Stimulate the development of roadside infrastructure and bring it in line with international standards;
- Create an effective system for checking the weight and dimensions of vehicles involved in the transport of goods; and
- Improve the level of training of engineering and management personnel.

The limited financial resources available for the development of transport infrastructure means that new projects should:

- Use domestic sources of financing where projects are only of national interest, ranking their importance to ensure that they bring the greatest benefits to the country;
- Co-finance projects with international partners when the interests of two or more States are involved; and
- Use the political and financial support of international organizations and interested transnational companies when there are global interests.

For road transport operations key initiatives include:

- Continue cooperation with neighbouring countries to minimize the risks of losing transit cargo flows;
- Provide villages and small towns with high-quality transport links;
- Create conditions for increasing the competitiveness of national carriers;
- Increase the share of Kyrgyz carriers in the national market for international road transport by 2020 to 20% by reducing quotas for foreign carriers and developing forwarding services;
- Stimulate the growth of the fleet of vehicles for the transport of goods with special temperature requirements and increase the speed of delivery and safety of goods;
- Reduce the share of transport costs in the cost of the final product through the development of transport logistics;
- Apply flexible tariffs to attract freight traffic through the territory of Kyrgyzstan;
- Improve the quality of services in the field of international freight and increase the number of vehicles of Euro-5 class and above to ensure the competitiveness of national carriers in the international road transport market;
- Develop intermodal transport to reduce the cost of transport services; and
- Introduce an electronic document management system for international and domestic transport of goods.

The efficiency of transport activities in the performance of transit traffic is largely determined by the capacity of border checkpoints. Currently, there are long waiting times for vehicles at customs clearance points on the borders with Uzbekistan, Tajikistan, Kazakhstan and China, which reduce traffic flows. Reducing this will increase efficiency significantly. It is necessary to continue work on improving customs legislation, introducing modern information technologies for customs control and developing the transport infrastructure. For this purpose, it is recommended to:

- Combine all control functions under the supervision of customs and implement a “single window” system;
- Maintain a continuous flow of goods 24 hours a day, 7 days a week;
- Divide passenger and cargo flows to reduce queues and delays;
- Manage queues and improve the queuing culture;
- Introduce a separate accelerated corridor for trucks with perishable goods under the TIR regime at the Korday - Ak-Jol checkpoint, and redirect the rest of the cargo to the Karasu - Ak-Tilek checkpoint;
- Increase the throughput capacity of the Ak-Jol and Torugart crossing points. To do this, create additional lanes, expand or build a second bridge at Ak-Jol and increase the number of personnel during peak hours;
- Introduce electronic seals to exclude the need for checks;

- Implement a feedback system: set a maximum waiting and verification time, introduce hotlines for carriers unsatisfied with the speed and level of service;
- Install inspection systems;
- Reduce delays on transit corridors, after passing the border;
- Reduce the number of required documents; and
- Introduce a system of preliminary applications for crossing the State border.

To reduce the downtime of vehicles by improving the technology of customs control it is necessary to:

- Introduce special scanning devices (mobile inspection equipment) at the main checkpoints. The use of inspection equipments would allow not more than 0.5% of vehicles in transit to be inspected;
- Implement the experience of Belarus and the Russian Federation of single window customs checks. In these countries, all the functions of state control at the border with regard to companies, individuals, vehicles, cargo, goods and animals are distributed between the two services: passport control is carried out by the border service, and all other types of control are done by customs services. Customs officers are given responsibility for verification of documents for imported goods subject to veterinary, quarantine and sanitary and phytosanitary control. However, when there are doubts about the authenticity of documents, violations of transport regulations, damage to packaging or unauthorized opening of containers, all documents are submitted for further verification to representatives of the competent supervisory authorities who make the final decision on whether the goods can cross the border. The introduction of this technology has shown that the downtime of vehicles at border crossings can be reduced by approximately two times;
- Introduce an automated system of electronic preliminary information for goods transported by road and rail through the borders of Kyrgyzstan. This will reduce the time spent at border checkpoints by about 1.5 times.
- Introduce barrier-free and simplified passage of goods across borders with the proper organization, regulation of customs and technological procedures;
- Improve existing standards, tariff policy and technologies;
- Set up a special simplified procedure for customs clearance of goods in logistics centres at the legislative level;
- Use automation and unification of transport documents to simplify the document flow in the provision of logistics services;
- Develop transit potential through the carriage of transit cargo in containers;
- Improve the legislative basis for the transport of goods, especially for international container transport;
- Develop the national infrastructure of customs clearance points;
- Provide customs and information services and the services of a customs representative to accredited freight forwarding and logistics companies;

- Continue work on the unification of the legislation of Kyrgyzstan and neighbouring countries in the field of logistics and transport and forwarding activities, taking into account the national interests of freight forwarders and logistics experts;
- Abolish the mandatory transshipment of goods from foreign carriers to national carriers in terminals;
- Involve large investors in the development of the transport complex of the country and create the necessary conditions for them to invest;
- Deploy transport and logistics complexes correctly, taking into account the future development of the region and international transport corridors;
- Create favourable conditions for the effective integration of transport and logistics systems into the transport services market; and
- Eradicate corruption at checkpoints.

The introduction of these measures would increase the attractiveness of Kyrgyzstan for transit traffic. As the volume of transit traffic increases, the Government is making efforts to simplify customs procedures.

In this framework it is important that Kyrgyzstan becomes a contracting party to those road related Conventions and Legal Agreements that it is not yet a party to as identified in Chapter 7.

3. RAIL TRANSPORT IN KYRGYZSTAN

3.1. DEVELOPMENT OF THE RAILWAY SECTOR

The railway sector plays an important role in the economy of Kyrgyzstan. Kyrgyzstan has no access to the sea so there is increased pressure on rail transport. Railways are mostly used to transport goods.

The development of Kyrgyzstan's railways started when the Lugovaya – Pishpek route was put into operation in 1924 during the construction of the Turkestan - Siberian railway.

In 1929, the Kuvasai to Kyzyl-Kiya section was completed, in 1930 — Pishpek to Frunze, and in 1932 — Frunze to Kant and Jalal-Abad to Kok-Yangak. In 1936 the Kara-Suu to Osh route was opened, in 1941 — Uch-Korgon to Tash-Kumyr and in 1942 Kant to Tokmak and Tokmak to Bystrovka.[14]

The construction of railway sections in the south of the country from Jalal-Abad to Kok-Yangak, Kuvasai to Kyzyl-Kiya and Uch-Korgon to Tash-Kumyr was carried out in connection with the exploitation of the coal deposits of Kok-Yangak, Kyzyl-Kiya and Tash-Kumyr to fuel mainly the Fergana Valley of Uzbekistan. The Frunze to Kant section was completed with the commissioning of a sugar factory in Kant.

In 1950, the construction of a section from Bystrovka station to Rybachye station allowed for increased the economic links between Kyrgyzstan and the central regions of the Russian Federation, Kazakhstan, the Central Asian countries and Siberia.

After the collapse of the Soviet Union and Kyrgyzstan's political and economic independence, in 1992 the Bishkek railway branch of Kyrgyz Railways was established. In October 1994, the sections of the former Central Asian Railway, located in the Osh and Jalal-Abad regions were transferred to Kyrgyz Railways.

The total length of the main railway network of Kyrgyzstan in 2018 is 424.6 km. The length of railways per 1,000 km^2 is 2.1 km, which is the lowest rate in the CIS. The track gauge is the Russian standard of 1,520 mm. The rail network has unconnected lines inherited from the Soviet Union. State Enterprise Kyrgyz Temir Zholu "NC KTZh" is responsible for servicing the main railway lines, 220 km of station tracks and 66.4 km of access roads.[15]

Kyrgyz Railways participates in the:

- Council for the railway transport of the CIS Member States (CRT CIS). This intergovernmental body was established in 1992 in Minsk, Belarus. Its members are the heads of the railway administrations of the Commonwealth member states, and it is also attended by representatives from Bulgaria, Georgia, Finland and the Baltic States;[16]
- Economic Cooperation Organization (ECO). Kyrgyzstan joined in 1992;

[14] http://kjd.kg/ru/about/history/.
[15] www.kjd.kg/ru/about/general-information/.
[16] https://uic.org/com/uic-e-news/472/article/63rd-meeting-of-the-council-for?page=thickbox_enews.

- Organization for Cooperation between Railways (OSJD). The agreement was signed by the Ministry of Transport and Communications of Kyrgyzstan on 30 May 1995 in Hanoi, Viet Nam;
- Transport Corridor Europe Caucasus Asia programme (TRACECA);
- Shanghai Cooperation Organization (SCO); and
- Intergovernmental Council of Road Workers (MSD).

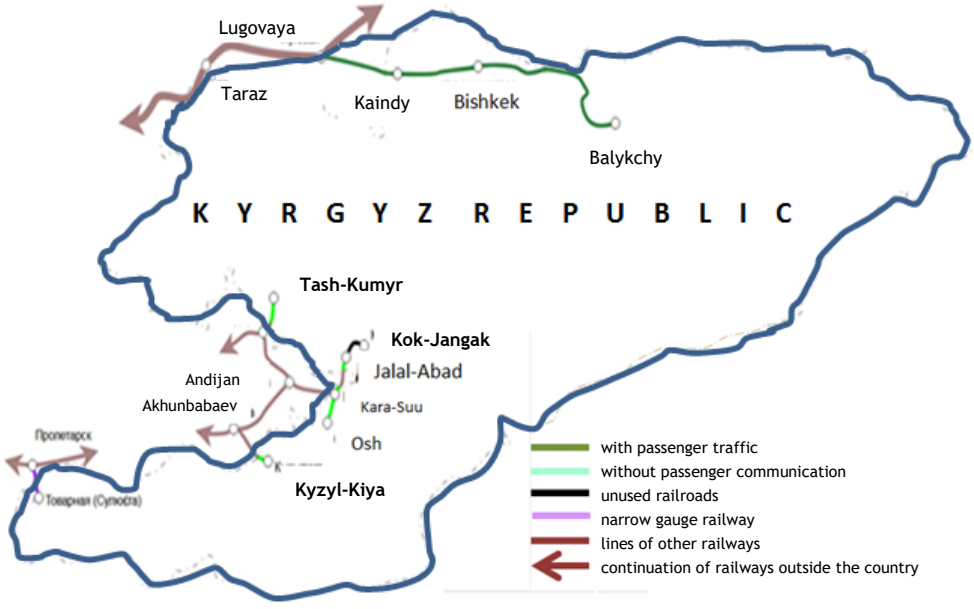
Kyrgyzstan also takes part in decision making related to rail transport issues within the framework of the Eurasian Economic Community (EEC) and the Central Asian Cooperation (CAC).

Bilateral and multilateral agreements coordinating rail transport activities have been concluded or are being implemented with neighbouring States. Bilaterial intergovernmental meetings of commissions have been organized to address rail regulation between Kyrgyzstan and Kazakhstan, Uzbekistan, the Russian Federation, Iran, Turkmenistan and Turkey.

Geographically, the railway is divided into two sections, the northern one with a length of 323.4 km and the southern section (101.2 km), which ensure access to the railway network of the neighbouring States of Kazakhstan and Uzbekistan.

The main railway line is the northern line which runs from Lugovaya station in the Dzhambul region of Kazakhstan along the foothills of the Kyrgyz ridge through Bishkek and ends in Balykchy on the western shore of Lake Issyk-Kul. Over 7 million tonnes of freight is transported annually on this line. In the northern part of Kyrgyzstan, goods such as metals, oil products and mineral fertilizers are transported by rail. Four lines in Tash-Kumyr, Jalal-Abad, Osh and Kyzyl-Kiya in the south-western part of the country connect densely populated industrial centres with the Fergana railway ring in Uzbekistan but are not connected to the rest of the Kyrgyz network.

Figure 3.1: **Railways in Kyrgyzstan**



Source: Department of Logistics, Belarusian State University.

Passenger traffic by rail remains only in the north of the country near Bishkek. There are two railway stations in Bishkek: Bishkek-I and Bishkek-II. Passenger trains from Bishkek II railway station go to Moscow and Novokuznetsk. There is also a suburban service to the west to Kazakhstan (towards Merke), to the east to Tokmak station and a local train to the town of Balykchy on Lake Issyk-Kul.

In accordance with the Agreement between the Governments of Kyrgyzstan and Kazakhstan on the regulation of enterprises, institutions and organizations involved in rail transport of 8 April 1997:

- the section of railway in the Talas region (12 km long) (from Kurkureusu station to Choldala station on the Shymkent-Zhambyl line), which includes Maimak station, belongs to the railways of Kazakhstan; and
- the section (59 km long) (from Kainda station to Lugovaya station in Kazakhstan on Bishkek-Lugovaya line) is part of Kyrgyz Railways.

The activities of Kyrgyz Railways are based on the principles of self-financing and self-sufficiency in the absence of budget subsidies. The railway operator is the State Enterprise Kyrgyz Temir Zholu (KTZh) one of the largest enterprises in Kyrgyzstan. It has ten branches and two self-supporting enterprises. In total the company employs 4,700 people.

The activity of Kyrgyz Temir Zholu is controlled by the Ministry of Transport and Roads, which implements state policy in the field of rail transport involving coordination, regulation and control of the sector. KTZh performs both passenger and cargo transport.

3.2. TRANSPORT OF GOODS BY RAIL

Official statistics show that in the early 1990s the total volume of freight transport began to fall sharply. In 1990 it amounted to 338.6 million tonnes, in 1993 70.8 million tonnes and in 1994 it halved again. In the following period (1994-2017), the volume of freight transport stabilized and fluctuated within the limits of 27-40 million tonnes. In the last three years it has stabilized further at 31.2-31.9 million tonnes. During the period under review, rail's modal share in freight was very small. In 1990, 2.4% of cargo was transported by rail, 3.7% in 2000, 2.7% in 2010, and it rose to almost 6% in 2017 (table 3.1a-c). More recently there has been a minor increase in the share of freight transported by rail.

Table 3.1a: **Volume of carriage of goods by rail, millions of tonnes**

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, total	**338.6**	**366.2**	**237.7**	**70.8**	**34.6**	**28.1**	**35.2**	**35.9**	**35.7**	**36.6**	**26.6**
Railway	8.0	6.5	5.5	3.0	1.4	0.9	1.3	1.5	1.4	1.1	1.0

Table 3.1b: **Volume of carriage of goods by rail, millions of tonnes**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, total	28.0	29.8	29.8	30.8	28.4	27.4	30.0	34.3	36.3	36.9
Railway	0.9	1.1	1.7	1.9	1.7	1.9	2.3	1.8	1.0	1.0

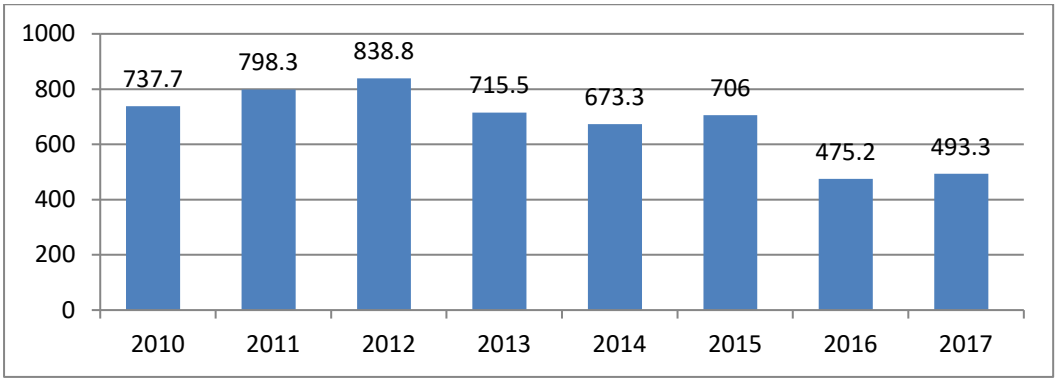
Table 3.1c: **Volume of carriage of goods by rail, millions of tonnes**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, total	37.7	39.8	41	28.9	29.7	31.2	31.9
Railway	1.0	1.1	1.4	1.5	1.3	1.7	1.9

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

The calculation of the average distance of goods transport by rail showed that the average distance increased until 2012, and in subsequent years there was a decreasing trend. In 2017, the average distance had decreased by 1.7 times compared to 2012 and amounted to 493.3 km. This indicates that the goods were transported mainly in the domestic market and to neighbouring countries. Reductions in the distance of transport leads to a loss of revenue from the carriage of goods.

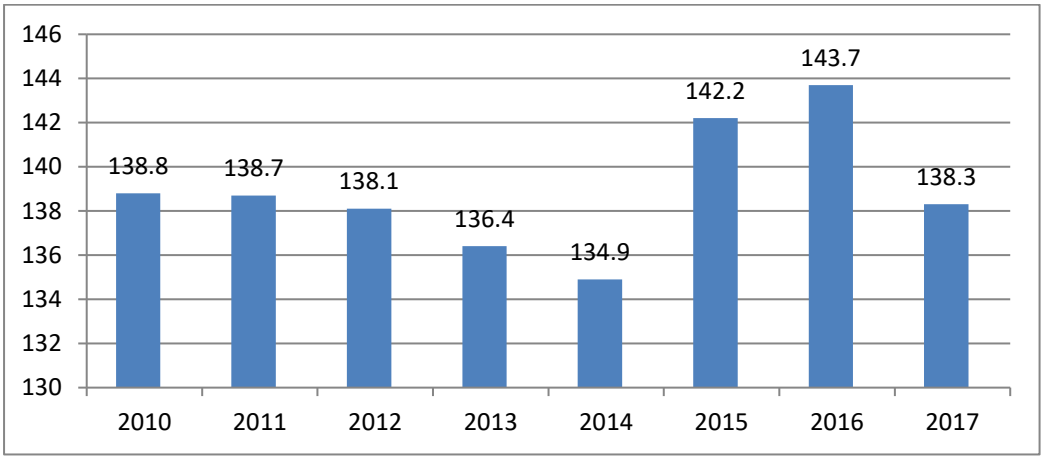
Figure 3.2: **Average distance of freight transport by rail, km**



Source: Based on the data in tables 1.7 and 1.11.

The calculation of the average distance of passenger transport by rail showed that until 2014 the average distance decreased, but only slightly. In the next two years, it grew, but by 2017 it had fallen back to the 2012 level. This was caused by population resettlement to the border region with neighbouring Kazakhstan and also contributed to the lack of growth of revenues from this type of transport (figure 3.3).

Figure 3.3: **Average distance of passenger transport by rail, km**



Source: Based on the data in tables 1.12 and 1.15.

3.2.1. TRANSPORT OF GOODS BY RAIL IN INTERNATIONAL TRAFFIC

Estimates of the future evolution of the world economy show that the principal financial and trade flows at present are concentrated in the triangle of the United States, Europe and South-East Asia and China. Consequently, the main flow of goods in this chain will move through Central Asia to the east to China and the countries of the Asia-Pacific region; to the south through India, Pakistan and countries of the Middle East; and to the west and to the north through Turkey, Europe and the Russian Federation.

The location of Kyrgyzstan in the middle of Central Asia, from a macro and geographical viewpoint, could capture significant amounts of transit traffic, bringing considerable economic benefits to the State. Taking into account that about half of the world's traffic is transport from Europe to Asia and vice versa, it is very important for Kyrgyzstan to create a transport corridor, through its territory.

Due to the current political and economic situation in the region, the use of established railways (Trans-Siberian railway, Eastern Kazakhstan railway) is not always the best choice in the opinion of the main shippers. The creation of a Transcontinental Eurasian railway through Kyrgyzstan could be extremely beneficial. The development of competition between transport corridors leads to a reduction in transport costs and the development of international trade.

Calculations by Western and Chinese economists show that, at the current rate of economic growth, China will become the world's largest consumer and producer by 2020. Aware of its role in international trade, in the current five-year period China is investing US$15.7 billion in the construction of railways in its western regions where it is building 2,600 km of new railways, including 1,300 km of two-track and 500 km of electrified tracks. This shows China's intention to turn the western region into an international trade centre with the countries of Central Asia.

A precondition for the creation of a new railway corridor from China through Kyrgyzstan to Uzbekistan was the construction in southern Xinjiang of the Korla to Kashgar railway section (974 km long). The new railway corridor is beneficial not only for China and Kyrgyzstan, but also for other countries. It will allow Uzbekistan to ship a significant part of its freight directly through the Fergana Valley to the east and west, which will contribute to the socio-economic development of the densely populated, energy-rich region and the economy of Uzbekistan in general.

The new international route would have significant advantages for operators by reducing the transport distance by around 1,500-2,000 km. In addition, a reduction in the length of the Urumqi to Jizak route from China to Central Asia via Kashgar (China), Torugart, Jalal-Abad (Kyrgyzstan) and- Andijan (Uzbekistan) would increase its competitiveness in the global transport market.

According to expert estimates, the projected volume of freight turnover on the new route could be approximately 10 million tonnes per year. At the same time, Kyrgyzstan's annual income from transit would be US$200-280 million.

The volume of freight transported on the Asia – Kyrgyzstan - Europe railway corridor is expected to be made up as follows:

- 35% would be switched from road transport;
- 15% would be moved from the railways of other countries of the EEU and the CIS;
- 10% would be switched from maritime transport;
- 30% would be new freight traffic generated as a result of the construction of railway lines and increased economic activity of neighbouring countries; and
- 10% would be new freight traffic as a result of domestic economic growth in transit countries.[17]

The main issue for the further development of the national railway network in Kyrgyzstan is the construction of the railway from China through Kyrgyzstan to Uzbekistan, which would enable Kyrgyzstan not only to connect the north and south of the country, but also to join the southern corridor of the Eurasian transcontinental railway with access to the Pacific ports, the Persian Gulf, Europe and the Mediterranean. It could also promote the development of energy, tourism and the exploitation of natural mineral resources.

Today, three countries have participated in the work of expert groups on the project. Within the meetings of expert groups, work is carried out to determine the optimal route for the railway through Kyrgyzstan, as well as to resolve technical issues.

In 2015, on the basis of a Memorandum of Cooperation between the Ministry of Transport and Communications and the China Road and Bridge Corporation, work was completed on the development of a feasibility study for the project. In November 2015, the feasibility study was submitted to Kyrgyzstan for review.

Kyrgyzstan has determined that the optimal route for the railway is Torugart - Dostyk - Jalal-Abad with a length of 432.78 km. This route is characterized by the presence of a developed system of communications (existing power lines, communications, road network), favourable natural and climatic conditions, and proximity to settlements (At-Bashinsky, Ak-Talinsky, Toguz-Torou districts) and mineral deposits (in particular, the brown coal deposit at Kara-Keche).

The creation of this new railway line in Kyrgyzstan would help to avoid the huge expenses for transit transport on the railways of neighbouring countries, solve the problem of providing the country with fuel and create favourable conditions for the development and exploitation of the land through which the railway passes. Therefore, this project has considerable economic potential.

Another main objective of Kyrgyzstan is the creation of a unified railway network connecting the north and south of the country. This would improve communication between the two main cities of Bishkek and Osh. A unified railway network would create a national network of reliable transport hubs and ensure the integration of the relatively poor south and the richer north.

[17] Kambarova Zh.U., Isagalieva A.K., Trade and logistics centres of Kyrgyzstan in Eurasian economic integration, Currentl problems of the humanities and natural sciences, 2017. No. 5-1, p. 26-27.

The creation of the unified railway network would be carried out by connecting the Balykchy - Kochkor - Kara-Keche railway and the China - Kyrgyzstan – Uzbekistan railway.

Construction of the railway line Balykchy - Kochkor - Kara-Keche would be the first stage in connecting the north and south. The length of this section is 185.3 km. At present, this project is planned to be implemented at the same time as the development of the Kara-Keche coal deposit and the construction of the Kara-Keche thermal power plant. The three projects will be put up for tender as a single investment project. The Balykchy – Kochkor - Kara-Keche railroad will allow coal to be transported by rail between the Issyk-Kul and Chui regions, providing lower prices for domestic coal due to lower transport costs.

The second stage would be the connection of the Balykchy – Kochkor - Kara-Keche railway line with the planned China – Kyrgyzstan – Uzbekistan railway along the Kara-Keche - Ugut section which is 65 km long.

The construction of this second section would directly connect the northern and southern regions of the country by joining the China – Kyrgyzstan - Uzbekistan railway line near the station of Ugut and further to Jalal-Abad station on the Uzbekistan-Kyrgyzstan border.

The construction of a railway line along the route Kyrgyzstan - Tajikistan - Afghanistan – Iran has been considered in the framework of the Economic Cooperation Organization (ECO). In April 2017, the thirteenth meeting of the Heads of the ECO Railway Authorities was held in Baku. The China – Kyrgyzstan – Tajikistan – Afghanistan - Iran Railway Project was discussed. The meeting reviewed progress on the feasibility study of individual segments of the route and the possibility of starting work on the remaining sections of the route.

3.3. PROSPECTS FOR THE DEVELOPMENT OF THE RAILWAY SECTOR IN THE FRAMEWORK OF THE STRATEGY FOR 2012-2020

The Ministry of Transport and Roads has approved a “Strategy for the development of rail transport in Kyrgyzstan for the period 2012-2020”. According to this Strategy, it is planned to commission new wagons, diesel locomotives, infrastructure and railway lines that will open up the transit potential of the country, and make it possible to connect the southern and northern regions of the country, partially eliminating the need for transit through neighbouring States. This would also better integrate rail transport in Kyrgyzstan into the world transport system. The construction of new railway lines would also contribute to the development of the accompanying infrastructure, including stations, crossings and accomodation for railway workers.

One of the Strategy's main projects is the electrification of the Lugovaya to Alamedin railway section (Bishkek). The country does not have its own source of diesel fuel, but there is great potential for hydroelectric power, so the electrification of railway sections would be highly desirable. The electrification of a 157-kilometer section would not only solve economic problems, but would also have a significant impact on the ecological situation in the country. In addition, the importance of electrification of this section is that the annual volume of freight along the route could amount to 6.3-12.5 million tonnes in the long term. The maximum throughput

of this section could be 15 million tonnes per year. The maximum design speed would be 130 km/h, with an operational speed of 80 km/h for freight and 100 km/h for passenger trains. After electrification, the largest load for freight trains would be 5,000 tonnes and the largest load for passenger trains would be 1,100 tonnes.[18]

The cost of the project would be about US$300 million. To date, the Ministry of Transport and Roads, together with KTZh, has been working on the development of the Project Concept to attract further investors and a full feasibility study.

The rehabilitation of the railway section from Lugovaya to Balykchy is vital for the capital and densely populated Chui region and adjacent areas. The railroad supplies coal for a power station in Bishkek, and almost all the oil, oil derivatives, fuel and lubricants consumed in the country are transported on this section. As a result of the potential increased volume of traffic, rehabilitation is extremely important to ensure safe and trouble-free operation of the only railway line in the northern part of the country.

To date, KTZh has developed the plans for the electrification of this railway line which is currently being reviewed by the Ministry of Transport and Roads. Calculations of the estimated cost of construction are not currently available.

The Strategy foresees the modernisation and development of track infrastructure coupled with the replacement of wooden sleepers with reinforced concrete, which would enable Kyrgyz Railways to increase the speed of trains and ensure the established level of service of passengers and freight trains on all sections of the railway. During the period 2012-2020, it is planned to lay 320,000 sleepers (280,000 on the northern section and 40,000 on the southern section), which corresponds to 200 km of track in total.

The implementation of the Strategy would allow the complete modernization of 25 km of track annually using national funds and the full replacement of sleepers by on the Lugovaya to Balykchy section within 5-8 years. This would allow the gradual increase in the service speed on the most difficult sections of track every year reaching the established speed of 70-80 km/h within 5-8 years. The cost of this project as included in the Strategy is 960 million Soms.

An important objective of the Strategy is to ensure the growing needs of the economy and the population for rail transport. According to the Stategy, this would be done through the renewal and modernization of the existing rolling stock through repair and maintenance, to be carried out by KTZh, as well as the purchase of additional rolling stock. From 2018 to 2020, it is planned to carry out repairs of two TR-3 diesel locomotives in Kyrgyzstan and four abroad. In addition, the Strategy allows for the acquisition of five main and five shunting locomotives by 2020, and also the repair of 212 wagons in Kyrgyzstan.

Increasing the rolling stock fleet is the most important task for Kyrgyz Railways and will be achieved by expanding cooperation with the owners of private rolling stock in the framework of public-private partnerships. Where possible, financial support from international donor organizations is being considered. The required financing is about US$160 million.

[18] https://pandia.ru/text/77/294/82913-3.php.

The implementation of the measures envisaged by the Strategy would also have a multiplier effect leading to the development of related economic sectors, such as natural resources and construction materials, agricultural products, and the development of trade and other spheres of the economy.

One of the priority areas of the Strategy is increasing domestic scientific and human capacity and skills in the field of rail transport. As a result of the separation of Kyrgyz Railways from Almaty Railways there has been a breakdown in communications with leading professional and higher educational institutions in Kazakhstan, where Kyrgyz specialists were trained.

Today the personnel is trained at the national railway institute, which in 2017 marked its seventy-fifth anniversary, as well as at the Kyrgyz State Technical University and the Kyrgyz State University of Construction and Transport, which focuses on training engineers and technical experts. However, these universities do not train specialists in the field of railway operations and rail transport. The lack of skilled personnel will become especially critical when new railways are put into operation. Current trends including the emmigration of young specialists and the weak scientific base for the training of the next generation of workers will have to be reversed if the construction and exploitation of new railway lines is to go ahead.

In 2006, KTZh received a license from the Ministry of Education and Science allowing it to conduct advanced training courses on a wide range of railway specialities. Courses are being held to upgrade the qualifications of workers in various railway specialities, from the preparation of traffic controllers to the training of shunting dispatchers. Driver retraining courses, as well as courses for improving the qualifications of specialists in loading and track facilities are being carried out.

However, the issue of attracting qualified young specialists, especially engineers, is still acute. Kyrgyz Railways is forced to train engineers on its own, while sending young employees to training universities in Kazakhstan and Uzbekistan.

The following activities are recommended:

- organize training for railway workers;
- develop programmes for attracting young professionals to the industry, increase the professional capacity of specialists and expand social guarantees for young professionals;
- organize cooperation with scientific institutions engaged in studying the development of rail transport;
- strengthen cooperation between existing professional and higher educational institutions and leading foreign universities that train specialists for the railway industry;
- establish centres for the professional development of railway workers at professional and higher educational institutions; and
- organize the exchange of experience and expand cooperation with other countries on transport activities.

3.4. SWOT ANALYSIS OF THE RAILWAY SECTOR

A SWOT analysis has been conducted, considering the strengths and weaknesses of the country in terms of rail transport development, as well as the country's potential and the threats that rail transport may encounter in light of the national Strategy (table 3.2).

Table 3.2: **SWOT analysis of the railway sector**

Strengths	
1.	There is a strategy for the development of rail transport for the period 2012-2020.
2.	Interest of Kyrgyzstan and neighbouring States in development of a railway corridor through Kyrgyzstan.
3.	Favourable location of the country from the standpoint of transport accessibility to China.
4.	Huge stocks of various types of mineral resources, the transport of which is suited to rail.
5.	Transport communication between Western Siberia of the Russian Federation and Tajikistan, Afghanistan, and Pakistan is most effective through Kyrgyzstan.
Weaknesses	
1.	Complex topography.
2.	Low level of freight forwarding services in rail transport.
3.	Absence of electrified railways.
4.	Outdated locomotives and railway infrastructure.
5.	The small average distance of the transport of goods, which increases the cost of transport.
6.	Lack of a link between the country’s two railway lines.
7.	The low speed of transit.
8.	Absence of intermodal transport involving rail and road transport.
9.	Low density of railways.
10.	Absence of mechanisms for public-private partnerships in the sphere of railway shipping.
11.	Universities do not have training specialists in the field of railway transport operation.
Opportunities	
1.	Attracting loans for the development of the railway sector.
2.	Expansion of public-private partnerships in rail transport.
3.	Involvement of foreign workers and specialists in the railway sector.
4.	Development of freight forwarding services in rail transport
5.	State financing for the renewal of freight rolling stock.
6.	Construction of the railway corridor “China – Kyrgyzstan – Uzbekistan”.
7.	The linking of existing railways by building the “North-South” railway.

Threats	
1.	Possible decrease in the growth of the economy and the level of investment activity.
2.	Insufficient technical and regulatory support for the Strategy for the Development of Railway Transport of Kyrgyzstan for 2012-2020.
3.	The lack of an intergovernmental agreement on the construction of the China – Kyrgyzstan - Uzbekistan and North-South railway corridors.
4.	The instability of the international situation could have a negative impact on the implementation of the project to create a transport corridor and to access maritime transport through third countries.
5.	The rapid development of rail transport in Kazakhstan may be reduced as a result of freight transit through Kyrgyzstan.

3.5. RECOMMENDATIONS FOR THE RAILWAY SECTOR

Given the SWOT analysis and the information provided in the rest of the chapter, the following recommendations can be made for the railways in Kyrgyzstan:

- Search for investors to start construction of the transcontinental railway corridor China - Kyrgyzstan - Uzbekistan;
- Create a unified railway network connecting the north and south of the country to improve communication between the two main cities of Bishkek and Osh;
- Electrify the northern railway;
- Construct a second track on main railway routes;
- Develop a system of forwarding services in rail transport;
- Accelerate renewal of locomotives and wagons;
- Introduce a preliminary information system for border crossings;
- Expand freight transport using the CIM/SMGS consignment note;
- Establish the legal responsibility for safety of freight rolling stock; and
- Expand the training of qualified personnel for the railways.

Furthermore, accession to the UN Inland Transport Conventions and Legal Agreements relating to railways will facilitate the growth of this sector as well as participation in international projects such as the Euro-Asian Transport Linkages.

4. WATER TRANSPORT IN KYRGYZSTAN

4.1 STATE OF WATER TRANSPORT

The water sector is very small in Kyrgyzstan. The carriage of goods by inland water transport in Kyrgyzstan is carried out on Issyk-Kul Lake. The length of Issyk-Kul Lake from east to west is about 180 km and the width is 60 km. Shipping on the lake can be conducted all year round. Water transport started in the 1920s and the State Enterprise Issyk-Kul Shipping Company was established in 1926 to carry freight on the lake. The structure of the shipping company included the port at Rybachye and the piers at Przhevalsk, Kurmenty and Pokrovka. In 1956, the Issyk-Kul Shipping Company was transformed into an independent self-supporting enterprise, and in 1998 it became the OJSC Issyk-Kul Shipping Company.

The following year, the company was declared bankrupt and was liquidated and for the next six years it did not operate. Since then, the company has been in and out of bankruptcy on a number of occasions. Currently, the shipping company owns two ports in Balykchy and Karakol and the pier in village of Kurmenty. The company still has two ships, one small steamer, four barges and two cranes.

On the eastern side of the lake there is a large gypsum deposit, which is used for the production of cement. On the western side there is a factory for the production of large secondary cement products. Currently, all cement and gypsum are transported by road, despite the fact that it is advisable to transport bulk and dry cargo by water transport, rather than by road. Transporting heavy loads by inland waterway reduces damage to the road surface.

4.2. CARRIAGE OF GOODS BY WATER TRANSPORT

Vessels were used to deliver coal, wheat and other cargoes to the residents of the Issyk-Kul coast and Karakol and on the return voyage plaster was delivered. The volume of carriage of goods by water transport is very small and has been falling over time. (table 4.1a-c) In 1990, the share of water transport in the total volume of cargo transport was 0.19%, in 2000 0.13% and in 2010 0.04%. In 2017, almost no cargo was transported on Issyk-Kul Lake.

Table 4.1a: Volumes of cargo carried by water transport

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Transport, total, millions of tonnes	**338.6**	**366.2**	**237.7**	**70.8**	**34.6**	**28.1**	**35.2**	**35.9**	**35.7**	**36.6**	**26.6**
Water transport, thousands of tonnes	646.8	550.1	338.1	132.7	52.9	35.6	31.9	10.4	30.6	46.2	35.4

Table 4.1b: **Volumes of cargo carried by water transport**

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*
Transport, total, millions of tonnes	**28**	**29.8**	**29.8**	**30.8**	**28.4**	**27.4**	**30**	**34.3**	**36.3**	**36.9**
Water transport, thousands of tonnes	36.2	38.9	38.7	33.8	25.8	34.6	26.5	42.6	23.4	16

Table 4.1c: **Volumes of cargo carried by water transport**

	2011	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, total, millions of tonnes	37.7	39.8	41	28.9	29.7	31.2	31.9
Water transport, thousands of tonnes	10.8	11.6	10.8	15	12.2	2.6	0

Source: Social and economic situation of Kyrgyzstan. Monthly publication. January-December/National Statistical Committee of Kyrgyzstan. Bishkek, 2017. http://stat.kg/ru/statistics/transport-i-svyaz/.

The main regulatory functions of the state in relation to compliance with transport legislation, maintenance of the State Register of Vessels, technical surveys and technical supervision of the construction and operation of ships and certification of masters sit with the Agency for Roads, Water Transport and Weights and Dimensions Control of the Ministry of Transport and Roads.

In order to revive water transport in Kyrgyzstan and regulate its activities at state level, the development and adoption of a Law on inland water transport is currently being undertaken. Currently, the above mentioned Agency is preparing a number of subordinate regulatory legal acts regulating water transport. The resumption of cargo transport on the Issyk-Kul Lake will be possible following the renovation of the vessel fleet and the rehabilitation of the cargo ports in Balykchy and Karakol and the pier in the village of Kurmenty.

4.3. SWOT ANALYSIS OF THE WATER TRANSPORT SECTOR

Recognising the limited scope for water transport in Kyrgyzstan a SWOT analysis has been prepared for the sector (table 4.2).

Table 4.2: **SWOT analysis of the water transport sector**

Strengths	
1.	Presence of mineral resources, which are suited to transport by water.
2.	Experience in the transport of goods on the Issyk-Kul Lake.
Weaknesses	
1.	Lack of a State program on the development of water transport.
2.	Poor condition of the existing fleet of inland water vessels.
3.	The lack of a mechanism for public-private partnerships in the field of water transport
4.	Poor level of development of the coastal infrastructure.
5.	Low interest of private business in the development of cargo traffic on the lake.
Opportunities	
1.	Creation of the State program for the development of water transport.
2.	Provision of state support for the development of cargo transport.
3.	Development of intermodal transport: railway – water - road transport.
4.	National efforts to stimulate the development of water transport.
5.	Development of public-private partnerships in the field of water transport.
6.	The need for the development of tourism and passenger transport.

Threats	
1.	Possible pollution effects on the lake.
2.	High level of competition from road transport.

4.4. RECOMMENDATIONS FOR THE DEVELOPMENT OF WATER TRANSPORT

Based on the above SWOT analysis, the following recommendations can be made:

- Adopt the Law on inland water transport;
- Create favourable conditions for the development of a modern vessel fleet;
- Develop intermodal transport (road – rail - water transport);
- Reconstruct the ports in Balykchy and Karakol and the pier in Kurmenty;
- Facilitate public-private partnerships in water transport;
- Renew the vessel fleet; and
- Resume cargo transport on Issyk-Kul Lake.

Accession to the UN Inland Transport Conventions and Legal Agreements relating to inland waterways will facilitate the streamlining of the sector and facilitate the return of freight flows on the Issyk-Kul Lake.

5. CIVIL AVIATION IN KYRGYZSTAN

5.1. DEVELOPMENT AND REFORM OF CIVIL AVIATION

For mountainous Kyrgyzstan, which has no access to the sea, has underdeveloped road and railway infrastructure and is distant from the world's economic and trade centres, the development of civil aviation is one of the priorities for the economy.

The history of civil aviation in Kyrgyzstan began in 1933, when a U-2 plane took off from Frunzenskaya airfield and made its first flight through the Kungei and Kirghiz mountain ridges at an altitude of 3,500 meters, proving the need for the development of aviation in the country. In the same year, the Frunze – Rybachye - Przhevalsk and the the Pishpek -Tashkent - Alma-Ata routes began to operate. At that time the air fleet consisted of three U-2 agricultural aircrafts.

Civil aviation in Kyrgyzstan developed rapidly in the 1960s with the introduction of the Il-18 and An-24 aircraft and the development of a number of airports. Under the Soviet Union, civil aviation in Kyrgyzstan grew significantly but, as with other transport sectors, after gaining independence, the volume of passenger and cargo transport decreased, impacting negatively the financial position of domestic airlines. The Government tried to set up a savings fund for the repair of aircraft, but without success. Consequently, when aircraft were approaching the need for repair, they were decommissioned and put into storage until better times.

In 1992, by decree of the President of Kyrgyzstan, the National Air Company Kyrgyzstan Aba Zholdoru was formed, which included the airport at Manas. In 1993, Kyrgyzstan became a full member of the International Civil Aviation Organization (ICAO). In 1996, the Ministry of Transport and Communications established the Department of Air Transport and Airspace Use. In 2002, the Department of Air Transport and Airspace Use was renamed the Civil Aviation Department of the Ministry of Transport and Communications. In 2010, the Civil Aviation Department was transformed into the Civil Aviation Agency (CAA) under the Ministry of Transport and Communications. Currently, it is the Civil Aviation Agency under the Ministry of Transport and Roads.[19]

In 2001, following the general policy of denationalization and privatization, Kyrgyzstan Aba Zholdoru was reorganized into three independent structures:

- JSC International Airport of Manas (IAM)
- JSC International air carrier Kyrgyzstan Aba Zholdoru; and
- SC Kyrgyzaeronavigation.

All 13 air carriers registered in Kyrgyzstan currently appear on the black list of the European Union.

Since the audit in 2009, the main observations made by European Union experts have been resolved. ICAO experts have also noted a positive change in ensuring the safety of flights. The maximum number of incidents in the period 2004-2014 was registered in 2006 with a decrease in the following years (table 5.1). As for aircraft damage on the ground, the overall trend has remained constant and close to zero.

[19] http://cbd.minjust.gov.kg/act/view/ru-ru/90964.

Table 5.1: **Number of accidents and incidents in civil aviation**

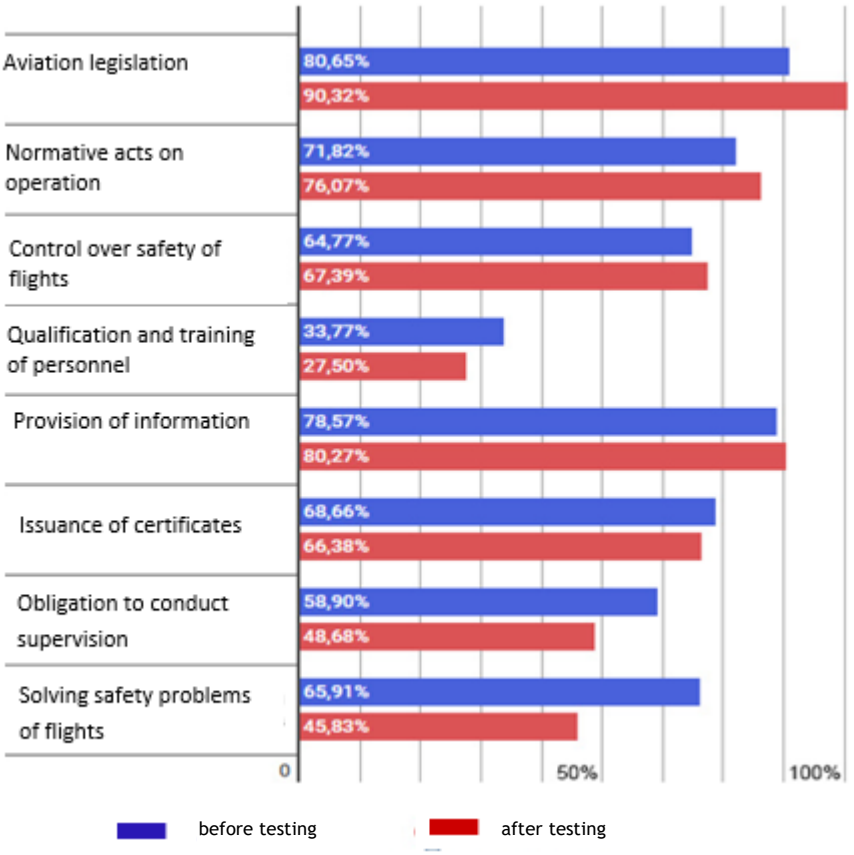
	Accidents			
	total	*with human losses*	*Incidents*	*Aircraft damaged on the ground*
2004	9	1	9	0
2005	15	1	13	2
2006	17	0	17	1
2007	15	0	15	3
2008	9	2	9	0
2009	15	0	15	0
2010	0	0	3	0
2011	5	0	4	1
2012	8	0	8	0
2013	6	1	5	0
2014	0	0	5	0

Source: Data of the Civil Aviation Agency.

An Action Plan has been developed for the withdrawal of Kyrgyz airlines from the black list. Based on the results of the latest audit conducted by the European Union in February 2016, 128 observations were made on such areas as air legislation, the organizational structure of the CAA, the airworthiness of aircraft and the issuance of certificates to aviation personnel. As a result Kyrgyz airlines remain on the blacklist – the only CIS country in this position.[20]

[20] https://ru.sputnik.kg/society/20171122/1036460388/premer-o-chernom-spiske-ikao.html.

Figure 5.1: **Results of the audit by the European Union of civil aviation in Kyrgyzstan**



Source: https://24.kg/obschestvo/38007_grajdanskaya_aviatsiya_poletyi_vo_sne_i_nayavu/.

Removal from the European Union's black list would not only allow new routes to be developed, but also reduce insurance payments and the cost of renting aircraft, since insurers and shippers are wary of companies from countries included on the "black list".

It should be noted that in December 2017 Kyrgyzstan successfully passed an International Civil Aviation Organization (ICAO) audit in the field of aviation security and facilitation. The purpose of the audit was to monitor the effectiveness of aviation security in Kyrgyzstan, the country's ability to comply with established requirements and to exercise appropriate control in the field of aviation security. The audit included analysis of regulations, policies, documentation, accounting data and meetings with authorized personnel of relevant ministries, departments and organizations in the country. An assessment was also made of the compliance with the requirements of ICAO Annex 9 on Facilitation (on questions concerning machine-readable travel documents and the system for producing and issuing national passports).

Work is underway on increasing the funding of the CAA, increasing staff numbers and pay as well as improving the material and technical base. Further investment is also being saught for the development of airports. Negotiations are underway with the leading airlines to establish a hub for cargo and passenger transport at Manas international airport.

In 2017 the following objectives were agreed for civil aviation in Kyrgyzstan:

- Strengthen work on bringing regulatory acts in line with ICAO Standards and Recommended Practices
- Implement the Action Plan for the withdrawal of airlines from the EU black list
- Modernize air navigation equipment at airports and open new air corridors and increase the number of airlines using the airspace of Kyrgyzstan
- Continue attracting investors for the reconstruction of airports at Batken, Isfana, Jalal-Abad and Issyk-Kul, as well as for creating air hubs at the international airports of Manas and Osh
- Improve the quality of services provided by air transport, as well as create more favourable conditions for passengers and tourists
- Develop an action plan to prepare for ICAO audits; and
- Sign agreements with the Air Traffic Management Centres of neighbouring States.[21]

Kyrgyzstan's aircraft are of Soviet and Western production. As of 18 July 2018 the register of civil aviation included 34 aircraft, 15 of which are airworthy, including three helicopters and 19 aircraft which are not airworthy. Information on the aircraft fleet is given in tables 5.2 and 5.3.

Table 5.2: **Number of aircraft registered in Kyrgyzstan**

	Number of aircraft	
	total	*with a valid certificate*
Mi-8	10	3
An-2	5	0
B737	8	5
DA-42	2	2
A-320	2	2
Tu-154M	1	1
BAe Avro RJ-85	2	2
Yak-40	1	0
Saab-340A	1	0
AN26	1	0
Il 62	1	0

Source: Data of the Civil Aviation Agency.

[21] http://mtd.gov.kg/ob-itogah-raboty-ministerstva-transporta-i-dorog-kyrgyzskoj-respubliki-za-2016-god-i-o-zadachah-na-2017-god/.

Table 5.3: **Average age of aircraft registered in Kyrgyzstan**

	Average age of aircraft, years
Il 62	26
A-320	24
Tu-154M	25
B 737-300, 400, 500, 800	22
BAe Avro RJ-85	21
DA-42	10
SaaB 340A	29
Mi-8	24
An-26	36
An-2	40
Yak-40	43
Average age of the whole fleet	26

Source: Data of the Civil Aviation Agency.

Note: the average age of the fleet is given for aircraft that do not perform passenger transport.

Minor repairs and operational maintenance of aircraft of Western manufacturers are carried out by Kyrgyzstan's own technical services, while more complex forms of service are carried out abroad. OJSC Air Kay Gee specializes in the maintenance of Soviet-made aircraft and OJSC CAAS maintains Mi-8 helicopters. However, these organizations are not certified for the maintenance of aircraft of Western maufacturers.

The civil aviation sector in Kyrgyzstan includes 25 enterprises, including 22 airlines, of which three carry cargo, nine are for passengers, ten are for special purposes, the State Enterprise Kyrgyzaeronavigation, OJSC IAM and the Kyrgyz Aviation Institute. The Kyrgyzstan air company is state-owned, the rest are private. Of the 22 companies in the register of the Civil Aviation Agency, 10 have valid certificates, nine companies have had their certificates suspended, and three have expired certificates (table 5.4).

Table 5.4: **Companies in the register of the Civil Aviation Agency**

	Operating certificate			
Air company	*Date of issue*	*Expiry date*	*Type of carriage*	*Comments*
Avia Traffic Company	14.08.2003	14.08.2018	Passenger traffic	
Air Kyrgyzstan	11.08.2006	08.08.2018	Passenger traffic	
Air Bishkek	28.02.2007	02.04.2017	Passenger traffic	OC suspended from 24.06.2017
Tez Jet	09.07.2013	10.07.2018	Passenger traffic	
Air Manas	05.12.2006	01.06.2018	Passenger traffic	
Air KG	06.03.2015	06.03.2018	Passenger traffic	
Sky KG Airlines	10.01.2011	04.02.2017	Special purposes	
Sky Way Air	22.06.2010	28.10.2016	Cargo	
Manas Airways	30.11.2011	17.08.2018	Special purposes	

	Operating certificate			
Air company	*Date of issue*	*Expiry date*	*Type of carriage*	*Comments*
Valor Air	05.03.2008	03.07.2015	Special purposes	OC expired
Sky Bishkek	08.11.2012	08.11.2014	Passenger traffic	OC expired
Air Jet	31.10.2014	31.10.2015	Special purposes	OC suspended from 15.10.2015
El Avia	04.11.2014	04.11.2015	Special purposes	OC suspended from 03.04.2015
CAAS	07.09.2009	22.03.2018	Special purposes	
Heli sky	25.07.2013	24.06.2018	Special purposes	
Supreme Aviation	04.11.2010	04.11.2014	Special purposes	OC suspended from 27.05.2014
Click airways	12.04.2002	12.04.2014	Cargo	OC suspended from 20.03.2014
SAMES	13.03.2003	15.03.2014	Special purposes	OC suspended from 21.10.2013
Kyrgyz Airlines	10.06.2013	10.06.2014	Passenger traffic	OC suspended from 10.04.2014
S.Group International	09.07.2013	25.07.2015	Cargo	OC suspended from 30.01.2015
Aerostan	19.06.2008	12.06.2012	Special purposes	OC suspended from 26.06.2012
Itek Air	10.09.2008	11.09.2012	Passenger traffic	OC suspended from 01.12.2011

Source: Data of the Civil Aviation Agency.

5.2. TRANSPORT OF PASSENGERS AND CARGO BY AIR

JSC "International Airport of Manas" (IAM) is one of the most important transport enterprises in Kyrgyzstan. It is a major, modern aviation entity in Central Asia for air transport services. The structure of JSC IAM includes five international and six regional airports. The international airports are Manas, Osh, Issyk-Kul, Karakol and Batken. The rest are regional airports serving domestic airlines at Jalal-Abad, Isfana, Karavan, Kazarman, Naryn and Talas.

At present, JSC IAM is evolving with the business strategy changing. The organizational and management structure is being improved, the airport infrastructure is being updated and a number of airport activities are growing. The goal of these reforms is the creation of a major air transport hub in Central Asia. In 2016, IAM celebrated its fifteenth anniversary. JSC IAM is developing in accordance with the civil aviation development programme of Kyrgyzstan for 2016-2020. With the development of the tourist industry, passenger traffic on international airlines has increased. In 2013, 2.4 million passengers were carried, in 2015-2016 more than 3 million passengers and in 2017 the number of pasengers reached 3.59 million. The total number of flights has also increased (table 5.5).

Table 5.5: **Number of flights at JSC IAM airports**

Years	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Total, including	**18 232**	**18 852**	**19 369**	**21 673**	**20 263**	**26 333**	**28 552**	**28 518**	**28 629**	**31 956**
International	9 387	9 763	10 258	12 766	14 587	18 420	18 933	19 229	19 623	21 006
Domestic	8 845	9 089	9 111	8 907	5 676	7 913	9 619	9 289	9 006	10 950

Source: www.airport.kg/about/mam.

In the period 2008-2017 the total number of flights increased by 1.7 times from 18,232 to 31,957. On international routes, the number increased by 2.2 times while on domestic lines it increased by only 1.2 times. The average annual growth of flights was 6.5%.

The population still prefers to travel by road on domestic routes, as the country's territory is small. However, total passenger traffic increased from 965,759 to 3,586,337, a growth of 371.3%.

The analysis of passenger traffic at the airports of JSC IAM in the period 2008-2017 shows that the share of passenger traffic on domestic routes in 2008 was 0.8% of total passenger traffic. In 2016 it had decreased by 4 times and amounted to just 0.2%. Data for 2017 for regional airports are not complete (table 5.6).

Table 5.6: **Numbers of domestic passengers at JSC IAM airports**

	Numbers of passengers								
Years	*Osh*	*Batken*	*Jalal-Abad*	*Isfana*	*Issyk-Kul*	*Karakol*	*Total by regions*	*Manas*	*Total passengers by JSC IAM*
2008	275 526	11 123	7 135	4 204	443	85	298 516	667 243	965 759
2009	299 451	10 750	4 534	6 240	1 278	123	322 376	604 963	927 339
2010	430 305	14 374	8 054	8 634	320	144	461 831	673 463	1 135 294
2011	642 766	19 043	8 694	11 154	1 718	121	683 496	879 259	1 562 755
2012	810 285	20 876	3 723	1 101	4 052	357	840 394	1 052 640	1 893 033
2013	997 050	30 343	8 733	8 211	3 415	121	1 047 873	1 372 380	2 420 253
2014	1 253 914	24 036	5 099	3 465	5 556	95	1 292 165	1 679 800	2 971 965
2015	1 217 427	23 083	105	12 759	10 329	86	1 263 789	1 778 603	3 042 392
2016	1 210 572	22 431	5 662	797	9 101	91	1 248 654	1 834 277	3 082 931
2017	1 409 768	-	-	-	11 670	41	1 421 479	2 164 858	3 586 337

Source: www.airport.kg/about/mam.

According to the National Statistics Committee, the share of air transport in the total volume of cargo transport was 0.6% in 2017, while in 2008 it was 2.6%. In terms of turnover, these figures were 0.5% and 2.5%, respectively (table 5.7).

Table 5.7: **Cargo transport and turnover, total and by air**

Years	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport, total, mln tonnes	34.3	36.3	36.9	37.7	39.8	41	28.9	29.7	31.2	31.9
Cargo transport by air transport, millions of tonnes	0.9	0.9	1	1.3	0.7	0.5	0.2	0.2	0.1	0.2
Turnover, total, tkm	2 338.3	2 140.7	2 178.1	2 360.4	2 604.4	2 662.3	2 497.1	2 525.1	2 468.6	2 642.9
Turnover by air transport, mln. tkm	59.4	45.4	64.4	111.0	99.2	109.9	83.4	57.4	16.9	13.2

Source: Based on the data in tables 1.7 and 1.11.

The share of air transport in the total volume of passenger traffic was 0.2% in 2017 and in 2008 only 0.07%. In terms of passenger turnover, these figures were 21.4% and 8.4% respectively (table 5.8).

Table 5.8: **Passenger transport and passenger turnover, total and by air**

Years	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Transport of passengers, total millions of passengers	**504.3**	**545.7**	**532.9**	**566.6**	**603.1**	**619.0**	**638.6**	**653.1**	**682.2**	**710.0**
Transport of passengers by air, millions of passengers	0.371	0.358	0.465	0.708	0.824	1.050	1.238	1.200	1.112	1.488
Passenger turnover, total millions of passenger-km	7 541	7 834.7	8 122.4	8 862.6	9 620.7	10 378.1	10 776.8	11 012.5	11 333.6	12 289.9
Passenger turnover by air, millions of passenger-km	635.3	571.9	814.2	1 400.4	1 601.6	2 099.4	2 180.0	1 966.1	1 801.4	2 626.6

Source: Based on the data in tables 1.12 and 1.15.

The data indicate an increase in the role of air transport in the whole of the country and especially on international routes. The increase in passenger traffic was due to an increase in the economic activity of the population and increased migration flows to other countries. Kyrgyzstan has become a transit point for migration from neighbouring countries. The positive growth in passenger air transport is likely to continue with forecasts of 3.5 million passengers per year by 2021.

The main volume of air transport outside the country is performed by foreign airlines. Due to being on the EU black list foreign carriers have a higher share of the air market than domestic operators. In 2016, domestic airlines carried 1,116,479 passengers, including 613,682 on international flights, about 11% fewer than in 2015, and 502,797 passengers on domestic flights, about 1.3% fewer than in 2015. Foreign airlines carried 1,459,811 passengers on international flights, 9.5% more than in 2015.

In 2016, cargo transport by air increased by 32.2% compared to 2015, and mail transport was 11.6% lower than in 2015.

Since 2012 there has been a significant drop in helicopter flights due largely to the high cost of maintenance and repair of aviation equipment, as well as the use of helicopters for the tourism sector and to conduct emergency rescue operations. At present, there is only one helicopter suitable for flights. If helicopter aviation is to be developed, new helicopters need to be purchased.

Kyrgyzstan has a huge potential for the development of transit air transport due to its geographical location. Analysis of the density of air traffic in its airspace for the period 2015-2016 is given in table 5.9.

Table 5.9: **Density of traffic in the airspace of Kyrgyzstan**

Year	*Transit*	*Aircraft taking off/landing*	*Total served*
2015	10 847	29 164	40 011
2016	11 691	28 987	40 678

Source: Plan for the implementation of navigation, based characteristics (PBN) in the airspace of the Kyrgyz Republic. Ministry of Transport and Roads of the Kyrgyz Republic. Civil Aviation Agency. Bishkek, 2017.
http://docplayer.ru/73647072-Plan-vnedreniya-navigacii-osnovannoy-na-harakteristikah-pbn-v-vozdushnom-prostranstve-respubliki-uzbekistan.html.

The table above shows that the traffic density in the airspace of Kyrgyzstan increased slightly in 2016 compared with 2015. However, it is expected that for the period 2017-2020, the annual increase will be about 3-3.5%.

The maximum daily density in Kygyz airspace varies during the day and amounts to 8-10 aircraft per hour in airports, and 11-14 aircraft per hour in the upper airspace. The interest of foreign airlines in flights through the Central Asian region gives hope for an increase in the density of air traffic in the future. The routes through the airspace of Kyrgyzstan to China, as well as to India and the South-East Asian countries are the most attractive. The main directions of transit flights through Kyrgyzstan in 2016 are shown in figure 5.2. According to experts, flights operated between Europe and South-East Asia, that had a refueling stop at airports in Kyrgyzstan, would reduce the cost of air transport by 20%.

Figure 5.2: **Main directions of transit flights through Kyrgyzstan in 2016**

Source: Plan for the implementation of navigation, based characteristics (PBN) in the airspace of the Kyrgyz Republic. Ministry of Transport and Roads of the Kyrgyz Republic. Civil Aviation Agency. Bishkek, 2017.
http://docplayer.ru/73647072-Plan-vnedreniya-navigacii-osnovannoy-na-harakteristikah-pbn-v-vozdushnom-prostranstve-respubliki-uzbekistan.html.

In connection with the increase in the density of air traffic, there is an urgent need to modernize air traffic management systems, which would ensure the attractiveness of these routes and the increase in the volume of air traffic.

The development of the international airports at Manas and Osh as international transport and logistics centres would have a positive impact on social and economic development, which would increase domestic revenue, attract investments, connect markets in Kyrgyzstan with world markets in Europe and South-East Asia and also create new jobs. In addition, it is recommended to work on expanding the number of destinations of international flights.

5.3. CHARACTERISTICS OF AIRPORTS

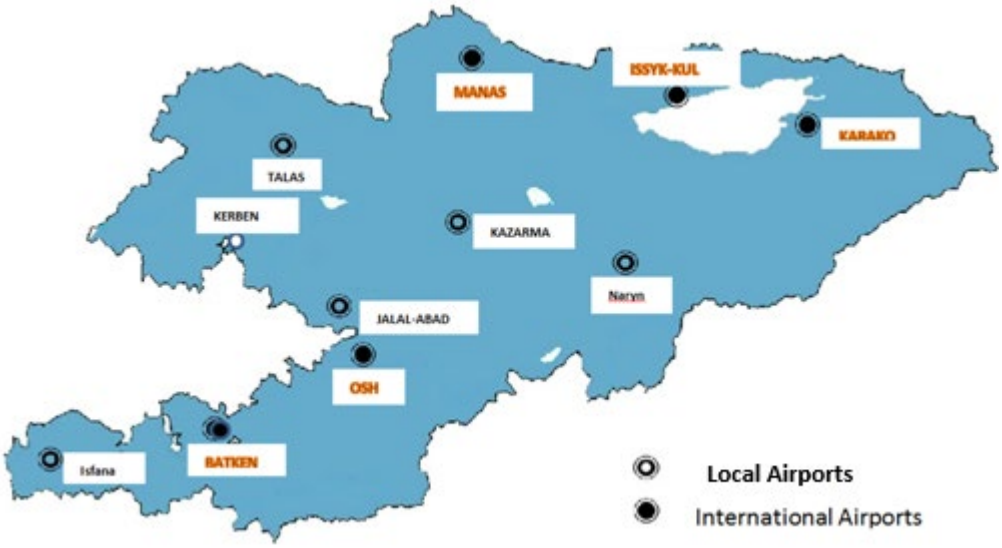
In Kyrgyzstan, there are 11 airports, of which 5 have international status (table 5.10, figure 5.3).

Table 5.10: **Characteristics of airports in Kyrgyzstan**

Airport name	*Airport status*	*Runaway size, m, surface*	*Capacity*
Manas	International	4 200 x 55, reinforced concrete	750 pass/hour 100 thousand tonnes/year
Osh	International	2 816 x 50, asphalt concrete	200 pass/hour
Issyk-Kul	International	3 800 x 45, cement concrete	50 pass/hour
Batken	International	1 800 x 35, asphalt concrete	50 pass/hour
Karakol	International	2 000 x 35, asphalt concrete	50 pass/hour
Talas	Domestic	1 700 x 35, asphalt concrete	50 pass/hour
Naryn	Domestic	2 145 x 40, asphalt concrete	50 pass/hour
Kazarman	Domestic	1 840 x 35, asphalt concrete	50 pass/hour
Jalal-Abad	Domestic	1 773 x 35, asphalt concrete	50 pass/hour
Karavan	Domestic	1 740 x 35, asphalt concrete	50 pass/hour
Isfana	Domestic	1 700 x 35, asphalt concrete	50 pass/hour

Source: Data of the Civil Aviation Agency.

Figure 5.3: **Location of airports in Kyrgyzstan**



Source: http://rus.gateway.kg/transport-kyrgyzstana/grazhdanskaya-aviaciya-kyrgyzstana/.

Manas International Airport is one of the largest, modern airports in Central Asia. It occupies an advantageous geographical position at the intersection of trade routes from Asia and Europe. The airport is located 23 km north-west of Bishkek, the capital of the country. The runway is 637 m above sea level. The airport is capable of receiving all types of aircraft. The throughput is 750 passengers per hour. The capacity of the cargo terminal is 100 thousand tonnes per year.

The first regular flight on the Moscow Domodedovo - Frunze Manas route was opened in 1975. Manas Airport is a member of the International Council of Airports (ACI) and is included in the board of the Airport Association, which increases its status among the airports in the Eurasian space. In 1994, the first international flight from Bishkek to Istanbul was opened. Currently, transport routes cover the countries of Europe, Asia and the Middle East.

Direct cargo transport services operate between Manas airport and Hong Kong, Istanbul, Tashkent, Shanghai and Baku. There is also transit cargo transport between Manas airport and cities of Europe and Asia.

Osh International Airport is part of the Osh branch of JSC IAM. It is the second largest airport in Kyrgyzstan and the largest passenger airport. The airport aims to meet the air transport needs of the entire southern region of Kyrgyzstan. The airport is located 9 km north of Osh at a distance of 601 km from Bishkek, 420 km from Tashkent, 142 km from Namangan and 72 km from Andijan. It has been in operation since 1974.

In 2012, the airport served 810,300 passengers and in 2016 1,210,600 passengers, a growth of 33%, closing the gap with Manas airport. In 2016, the following priority projects were implemented at Osh Airport using the company's own funds:

- Reconstruction of various airport installations;
- Expansion of the capacity of the airport complex;
- Installation of a modern passenger registration and baggage handling system; and
- Purchase of special equipment and a mechanized platform for servicing aircraft.

The main operators through the airport are Air Kyrgyzstan, Avia Trafik Company, Tez Jet and Air Manas. Transport routes cover the CIS countries, Asia and the Middle East.

At the moment, a cargo terminal needs to be built at Osh international airport to serve the Fergana Valley. This region is promising in terms of business activity and has high export-import potential. Osh airport, like Manas airport, is an entry point to the countries of the Eurasian Economic Union.

Issyk-Kul International Airport is a part of the Issyk-Kul Branch of JSC IAM. It is a modern aviation centre with significant development prospects due to the tourist potential of the region. The airport is located 35 km west of Cholpon-Ata and 5 km east of the village of Tamchi. The runway is 1653.8 m above sea level. The following aircraft use this airport: Tu-154, Tu-204, Boeing-737, A-319, A-320, BAE-146-200 and Embraer 170-175.

Issyk-Kul international (Tamchi – IATA Code IKU) airport provides services for local and international scheduled flights in the summer (June-September) with the cities of Osh, Almaty, Tashkent and Novosibirsk. It also accepts charter flights year round.[22] The resumption of international flights on the routes Astana to Tamchi, Almaty to Tamchi and Shymkent to Tamchi is expected soon.

In 2015-2016, stages I and II of the project "Reconstruction of Issyk-Kul international airport" were completed:

- The runway was extended by 1,800 m to 3,800 m;
- A new taxiway with a length of 1,212 m was built;
- Parking was extended for aircraft;
- A road was built from the Bishkek to Karakol road to the airport;
- The terminal has been doubled in size and has all the modern amenities for passengers;
- The airport was supplied with electricity in accordance with ICAO requirements; and
- The runway is equipped with a system of lighting and equipment for instrument landing systems.

The completion of the project allows aircraft to take off around the clock and in almost all weather conditions.

Karakol international airport, openend in 1978, is a part of the Issyk-Kul branch of JSC IAM. It is located 2.5 km north-east of the city of Karakol. The airport has an asphalt concrete runway and is 1704 m above sea level. The throughput is 50 passengers per hour with Yak-40, L-410, An-2, An-26 and An-28 aircraft and helicopters of all types operating from the airport. The terminal is designed for domestic and international flights, however it only works during the day.

Batken international airport, opened in 1984, is a registered airport of the Osh branch of JSC IAM. It is located 600m to the south-east of Batken and 184 km from Osh airport. It was assigned international status in 2014. There is one asphalt concrete runway and one additional unsurfaced runway. The airfield is 1090 m above sea level. The throughput is 50 passengers per hour. Batken airfield accepts Yak-40, An-2, An-26, An-28 aircraft and all types of helicopters. The airport only works during the day.

Within the framework of the NSDS activities for 2013-2017, and in order to improve conditions for passengers, JSC IAM reconstructed the airport. Currently, flights on the route Bishkek to Batken are carried out three times a week by Tez Jet airlines in an AVRO Rj-85 with passenger numbers on the route of 23,023 in 2015 and 22,451 in 2016.

[22] http://caa.kg/ru/mejdunarodnyi-aeroport-issyk-kul-novye-vozmojnosti-dlya-sotrudnichestva/.

There are regular flights to Jalal-Abad, Batken, Isfana, Osh and Manas airports as well as summer season flights to Issyk-Kul airport and winter season flights to Karakol.[23]

Despite the growing trend in passenger air travel, the infrastructure of airports has not been properly developed over the past decade. Infrastructure development has only taken place at the airports of Manas, Osh, Issyk-Kul and Batken. The current situation shows that attention is only paid to the development of airports that provide regular passenger flights, as well as seasonal flights to the airports at Karakol and Issyk-Kul. The other regional airports do not have regular flights.

It should be noted that only five air terminals are in satisfactory condition: Manas, Osh, Issyk-Kul, Batken and Jalal-Abad. The rest need major repairs. The same can be said for infrastructure at other airports. For example, the runways at Talas and Kerben are considered unfit for use. The Agency believes that the support of the state and local authorities is necessary for the development of regional airfields and that it is necessary to purchase regional type aircraft with a capacity of 50-70 passengers capable of flying on domestic routes without operational restrictions at airports.

Given the mountainous conditions and inaccessibility of some regions of the country, a minimal airfield network is maintained in working order. This is due to many factors, primarily geopolitical and social. Basically, airports are located in remote border regions, which are used by local residents in emergency situations, as well as for the air transport of officials.

Airports servicing domestic airlines have been making losses for a considerable period of time due either to the fact that there are no flights to these airports or that the number of flights is insufficient. Many residents of the regions cannot afford air tickets for domestic flights. They prefer cheaper and more affordable land transport. Another reason is the lack of small capacity aircraft suited to domestic routes. Therefore, it is necessary to strengthen state support for the development of regional airports and airlines that carry out domestic flights using local government funding to stimulate growth in this sector.

JSC IAM has the following subsidiaries: Air KG Airlines, Intek, Manas Management Company, Manas Handling Group and Manas Training Centre.

Air KG Airlines operates flights for the transport of official Kygyz delegations by Tu-154M.

The main activity of Intek is to ensure the reception, storage and dispensing of aircraft fuel and special liquids for refueling aircraft.

Manas Management Company is the owner and operator of the air cargo centre and the Catering Centre at Manas international airport. This is the only licensed company that provides ground handling services for aircraft, handling cargoes and providing on-board catering.

[23] https://ru.sputnik.kg/press_video/20180130/1037503866/itogi-godovoj-raboty-aehroportov-kr-obsudili-v-mpc-sputnik-kyrgyzstan.html.

Manas Handling Group was established in 2011 by IAM. The company specializes in providing representative services at Manas, Osh and Tamchi international airports. The main activity is servicing airlines for regular and charter flights, providing a range of services for all parties operating at airports.

Manas Training Centre has been operating since 2007. It provides training for flight crew, namely:

- Aviation training
- Theoretical training and retraining of flight crew
- Training on all types of aircraft
- Theoretical training in Kyrgyz and English
- Testing; and
- Issuance of international standard certificates.

Future projects for IAM include:

- Reconstruction of the elevated approach road at Manas international airport
- Reconstruction of the runway at Manas international airport
- Creation of a cargo logistics centre at Manas international airport
- Stage III of the project for the reconstruction of Issyk-Kul international airport; and
- Reconstruction of the terminal building at Jalal-Abad airport.

5.4. CHARACTERISTICS OF AIRLINES

In 2001, **Air Kyrgyzstan** was created originally as Altyn Air, a subsidiary of the state enterprise Kyrgyzaltyn. Subsequently, in accordance with the Decree of the President of Kyrgyzstan "On the creation of Air Kyrgyzstan" of 14 November 2005 and the Decree of the Government of 11 January 2006 "On the creation of the open joint-stock company Air Kyrgyzstan" Air Kyrgyzstan was established in order to provide urgent state support for the aviation industry, carry out air transport services for the leadership of the country and commercial air transport for passengers on domestic and international routes. The airline cooperates with more than 20 airlines around the world, as well as with a number of international organizations. The partners of the airline include "Sophie", "CJSC Ring", "Tais", "IATVT" and the airports of Manas, Domodedovo, Emelyanovo, Pulkovo, Tolmachevo, Koltsovo, Urumqi, Tashkent, Dushanbe, Khujand and Dubai. Air Kyrgyzstan was the first in the republic to switch to the electronic sale of air tickets and the electronic registration system at destination airports.

In order to comply with international safety standards and service levels, in 2011 the entire fleet of Soviet-made aircraft was decommissioned and Boeing 737-400 and 737-500 aircraft were purchased for regular flights. Negotiations are currently underway for the leasing of additional aircraft. Air Kyrgyzstan is now recognized as the best air carrier in Kyrgyzstan and has been awarded many prestigious prizes.

As of 1 December 2017, Air Kyrgyzstan had two aircraft, a Boeing 737-300, which was leased from a European airline, and a Boeing 737-500, which recently suffered engine failure due to a bird strike. The state airline has currently suspended its activities.

It should be noted that the state-owned Air Kyrgyzstan is included in the list of unprofitable enterprises, so 49% of the airline's shares with a starting price of 188 million Soms have been put up for sale. At the time of publication, discussions were ongoing with China Southern Airlines for the purchase of a 49% stake, which should be accompanied by the delivery of five or six new aircraft, allowing hubs to be built in Osh and Manas.

Air Manas, based at Manas international airport was established in 2006. The airline operates international and charter flights from Bishkek and Osh. In 2012, Pegasus Airlines, a Turkish company, bought a 49% stake in the company. The airline owns two aircraft, a Boeing 737-400 and a Boeing 737-800. Air Manas is one of the fastest growing airlines in Kyrgyzstan, offering low cost air travel. This new strategy, widely practiced in other countries, has been adapted to the market of the Central Asian region. At the base airport the airline has its own certified base for the operational maintenance of aircraft.

The main priority of the airline is its commitment to international quality and safety standards. In 2014, the airline became the first local airline to receive ISO 9001: 2008 certification for its quality management system. It also successfully passed the recertification process for the updated standard ISO 9001: 2015.

In 2018, the airline was included in the register of air carriers that had passed the full procedure of the IATA operational safety audit (IOSA). Since passing the audit, Air Manas is recognised as a safe air carrier that meets international standards bringing also a number of other benefits. Currently, however, the airline remains on the EU's "black list".[24]

Avia Traffic Company was established in 2003 and has bases at Manas and Osh. The airline operates on regional routes with one Airbus A320 and three Boeing 737-300. It started regular flights to Novosibirsk from Bishkek and Osh in 2008 using an An-24 aircraft. In 2010, new, twice weekly flights from Osh to the Russian cities of Barnaul and Ekaterinburg were opened. In 2016, a once weekly flight was launched on the Bishkek to Irkutsk route. In 2017, Avia Traffic Company opened new routes from Bishkek to Istanbul and from Osh to Moscow (Zhukovsky). Flights were initially performed by Boeing 737-300 aircraft twice a week, then three times a week. Also in 2017 a new route from Bishkek to Voronezh was opened. Flights from Manas to Chertovitskoye and back are performed on Saturdays by Boeing 737-300 aircraft. Avia Traffic Company has started regular flights to Moscow from Bishkek and Osh. For the IATA summer 2018 season, there were 8 flights from Bishkek to Moscow and 11 from Osh to Moscow both using Domodedovo airport. At present, Avia Traffic Company has flights on 14 routes from Bishkek and 8 routes from Osh. It is the only Kyrgyz carrier performing international flights from Osh.[25]

[24] http://caa.kg/ru/07032018-2/#.
[25] www.airlines-inform.ru/world_airlines/Avia_Traffic_Company.html.

Tez Jet was established in 2013 and operates out of Manas airport. The fleet consists of too Bae Avro RJ aircraft. The airline operates domestic flights to Batken, Jalal-Abad, Isfana and Osh. According to the terms of the aircraft lease, the airline performs several flights for the Avia Traffic Company.[26]

Sky Bishkek was established in 2012. The base airport is Bishkek Manas. The airline has one aircraft, a Saab 340A turboprop with a capacity of up to 37 passengers which operates on domestic routes. Flights are carried out on a regular basis from Bishkek to Jalal-Abad, Batken, Kerben and Osh.[27]

Air Bishkek (previously known as Kyrgyz Airways) was established in 2007. It operates from Manas airport with one Airbus A320-200. Air Bishkek is a member of the International Civil Aviation Organization (ICAO). In the first years of activity it leased its aircraft to local airlines until, in 2009, the Bishkek to Osh route was opened. The route network and traffic volumes of the airline grew constantly in the years following its opening, operating flights within Kyrgyzstan, to the Russian Federation and to China. In February 2016 the airline closed due to financial difficulties.

Golden Rule airline was established in 2003. It performs charter (passenger and cargo) flights in Central Asia and excursion flights. The aircraft fleet includes three AN-2, one of which is for passengers, one for cargo and one for agricultural purposes. In 2014, Golden Rule developed a project to purchase two airplanes and two small-capacity helicopters for four to six people, in order to provide small-scale aviation services for all categories of search and rescue operations in the mountainous terrain of the country. This project has not been put into operation.[28]

Overall, the airlines of Kyrgyzstan carry out about 30,000 flights a year, transport 3 million passengers and carry 25,000 tons of cargo.[29] A comparative analysis of the efficiency of public and private airlines shows that private ownership is optimal in terms of profitability and attracting investment.

5.5. AIR TRAFFIC CONTROL

The State Enterprise Kyrgyzaeronavigation under the Ministry of Transport and Roads plays an important role in the civil aviation system. It provides air traffic services and control over the use of the airspace of Kyrgyzstan. Kyrgyzaeronavigation has its head office at Manas airport and a branch at Osh airport. Each branch has buildings and equipment, which include the air traffic control centres of the main airports.

Kyrgyzaeronavigation is a member of the "EURASIA" Coordinating Council and the International Aero-navigation Service (IAS) "Vostok". It cooperates with international civil aviation organizations such as ICAO, the International Aviation Committee (IAC), the European Organisation for the Safety of Air Navigation (Eurocontrol) and the International Air Transport Association (IATA).

[26] www.turkaramamotoru.com/ru/Tez-Jet-Airlines-1100717.html.
[27] http://aviakompaniya.info/airlines/sky-bishkek.
[28] http://tourweek.ru/transport/air_company/198389/.
[29] www.kginform.com/ru/news/20170520/27460.html.

According to data for 2016, the enterprise's revenues increased by 37.4% compared to 2015 and the company's expenses increased by 19.8%. Profits have grown three times to 185 million soms.

In 2016, the total volume of civil aircraft serviced, including in transit, increased by 1.67% or 667 flights compared to 2015. 11,691 transit flights were serviced in 2016, an increase of 7.78% or 844 flights.[30]

5.6. FLIGHT DESTINATIONS

Kyrgyzstan has air service agreements with 27 countries and regular flights to the Russian Federation, Kazakhstan, Uzbekistan, Tajikistan, China, Turkey, Mongolia, India and the United Arab Emirates. There are about 20-25 flights from Manas and Osh airports every day. Currently, 37 airlines operate in Kyrgyzstan, including 32 international and 5 domestic. As part of the work to expand the destinations of flights in 2016-2017, Kyrgyz air carriers opened the following new international routes: Bishkek to Chelyabinsk, Bishkek to Abakan, Osh to Abakan, Bishkek to Kashgar, Bishkek to Zhukovsky, Bishkek to Voronezh and Osh to Zhukovsky. Flights have been resumed on the routes: Bishkek to Irkutsk, Bishkek to Tashkent and Bishkek to Jalal-Abad.

Russian airlines have opened new routes from Zhukovsky to Bishkek and Osh and resumed flights from St. Peterburg to Bishkek and Osh. Details on domestic routes have been set out above for each airline.

Regular flights of 17 airlines operate from the international airports of JSC IAM, 4 domestic and 13 foreign owned. The main volume of air transport outside Kyrgyzstan is performed by foreign airlines. The main partners of JSC IAM are the largest Russian and foreign air carriers connecting Kyrgyzstan with cities in CIS countries, Asia and the Middle East.

Figure 5.4: **Flights from JSC IAM airports to international destinations**

Source:
http://rus.gateway.kg/transport-kyrgyzstana/grazhdanskaya-aviaciya-kyrgyzstana/.

[30] http://mtd.gov.kg/ob-itogah-raboty-ministerstva-transporta-i-dorog-kyrgyzskoj-respubliki-za-2016-god-i-o-zadachah-na-2017-god/.

JSC IAM airports serve international flights to Almaty, Astana, Antalya, Voronezh, Grozny, Delhi, Dubai, Dushanbe, Ekaterinburg, Irkutsk, Kazan, Krasnodar, Moscow, Novosibirsk, Samara, St. Petersburg, Istanbul, Krasnoyarsk, Ulaanbaatar, Surgut, Zhukovsky, Tashkent and Urumqi.

On domestic routes, there are passenger flights from JSC IAM airports to Bishkek, Osh, Batken, Jalal-Abad, Isfana, Tamchi (Issyk-Kul) and Karakol.

In order to expand the number of destinations new airlines need to be attracted, both on international and domestic routes. New direct flights would mean passengers spend less time traveling and reduce their costs. In addition, civil aviation plays a special role in the development of tourism. The data of table 5.8 show that in recent years the volume of passenger traffic on air transport tends to increase. Furthermore, the introduction of additional seasonal domestic flights would have a positive effect on domestic tourism.

To service current and potential new international destinations, domestic air carriers would have to acquire modern regional, medium and long-haul aircraft with a capacity of 50 to 250 passengers and a flight range of 2,000 to 6,000 km and higher. The cost of such aircraft is high leading Kyrgyz airlines to acquire older aircraft, with a long service life in order to comply with the requirements of the Air Code of Kyrgyzstan. The acquisition of aircraft using leasing arrangements is the best solution given the financial capabilities of domestic airlines.

5.7. SWOT ANALYSIS OF THE STATE OF CIVIL AVIATION

The implementation of the Civil Aviation Development Programme is faced with risks that may hamper the achievement of the planned results. In this connection, a SWOT analysis has been carried out, examining the strengths and weaknesses of the country in terms of the development of air transport, as well as the country's opportunities and the threats that it may face (table 5.11).

Table 5.11: **SWOT analysis of the state of civil aviation in Kyrgyzstan**

Strengths	
1.	Availability of functioning airport infrastructure throughout the country.
2.	Favourable location of the country as a transit hub for the transport of goods between Europe and China and the countries of South-East Asia, as well as for aircraft maintenance.
3.	Air corridors linking the Western Siberia region of the Russian Federation with Tajikistan, Uzbekistan and Turkmenistan pass through Kyrgyzstan.
4.	The air corridor connecting China with Uzbekistan passes through Kyrgyzstan.
5.	The development of e-commerce in the world and, especially in China, is contributing to the growth of cargo transport by air, including through Kyrgyzstan.
6.	Higher profitability of cargo transport by air in comparison with passenger transport.
7.	The presence of demand for freight by air.

Weaknesses	
1.	Lack of interest of air carriers in cargo traffic.
2.	Low level of forwarding services in air transport.
3.	Lack of own modern cargo fleet.
4.	Obsolescence of Soviet-built aircraft used for cargo transport.
5.	Lack of modern facilities in airports for cargo processing.
6.	Absence of sufficient competition in the field of cargo transport and passenger transport by air.
7.	Low level of organization of customs control of goods, which is unacceptable for air transport.
8.	Kyrgyz airlines are on the EU black list.
9.	Small volumes of goods transported and no regular air cargo flights.
10.	Difficulties in meeting ICAO requirements for air travel.
11.	National legislation not fully in line with ICAO regulations.
12.	Transport and warehousing logistics in air transport are inadequate.
13.	Insufficient number of qualified personnel to work at cargo terminals.
14.	Lack of own source of aviation fuel.
Opportunities	
1.	The complex terrain for roads and an undeveloped, unconnected network of railways creates a potential market share for civil aviation.
2.	Cooperation with the Russian Federation enterprises requires the development of air transport for high value and perishable goods.
3.	Osh and Bishkek airports have the potential to be transit hubs for cargo handling and aircraft maintenance.
4.	A developed network of airports could contribute to the development of domestic cargo traffic.
Threats	
1.	Possible reduction in the growth of the economy and the level of investment activity, including in civil aviation.
2.	Increased need for renewal of the air fleet, coupled with limited financial capacity of the State and the private sector.
3.	Limited opportunities to obtain loans for the development of the air fleet.
4.	Competition from neighbouring States aimed at creating attractive conditions for transit cargo transport by air.
5.	Low level of interest of private business in public-private partnerships for the development of cargo transport by air.

5.8. RECOMMENDATIONS FOR THE DEVELOPMENT OF CIVIL AVIATION

This chapter examined the state of civil aviation and air transport in Kyrgyzstan. Based on the study and the above SWOT analysis, the following recommendations for the development of civil aviation can be made:

- Strengthen state support for the development of regional airports and airlines operating domestic flights, using local government funding
- Improve national legislation in accordance with ICAO regulations
- Ensure state preferences for the creation of a modern air fleet
- Develop and implement an action plan for the withdrawal of Kyrgyz airlines from the EU's black list
- Create cargo terminals at international airports for cargo handling and processing
- Create conditions for the development of competition in the field of passenger and cargo transport
- Improve customs control for air cargo
- Promote intermodal transport involving air transport
- Develop transport and warehouse logistics in air transport
- Regularly raise the level of qualifications of staff working at cargo terminals
- Make efforts to use Osh and Bishkek airports as transit hubs for cargo handling and aircraft maintenance
- Stimulate private business to participate in public-private partnerships in cargo transport by air; and
- Introduce a simplified mechanism for documentary registration of cargoes transported by air, based on standardized shipping documents.

6. LOGISTICS IN KYRGYZSTAN

6.1. GENERAL STATE OF LOGISTICS

In order to promote international trade, the World Bank has developed a logistics performance index (LPI). This index is based on questionnaires sent out to more than a thousand companies involved in logistics, including forwarding companies. The index is a comparative assessment of the level of development of logistics in a country. The survey was carried out in 160 countries in 2007, 2010, 2012, 2014, 2016 and 2018. The results of the survey for Kyrgyzstan are shown in table 6.1.

Table 6.1: **Logistics performance index in Kyrgyzstan**

Index		*2007*	*2010*	*2012*	*2014*	*2016*	*2018*
LPI position		103	91	130	149	146	108
Score		2.25	2.62	2.35	2.21	2.16	2.55
% of the highest score		46.1	53.7	43.3	38.7	35.8	48.3
Effectiveness of customs and border clearance	Value	102	71	84	145	156	55
	Score	2.20	2.44	2.45	2.03	1.80	2.75
Quality of trade and transport infrastructure	Value	112	118	90	147	150	103
	Score	2.06	2.09	2.49	2.05	1.96	2.38
Ease of organizing international transport at competitive prices	Value	106	39	147	127	152	138
	Score	2.35	3.18	2.00	2.43	2.10	2.22
Quality and competence of logistics services	Value	100	107	129	151	151	114
	Score	2.35	2.37	2.25	2.13	1.96	2.36
Tracking the passage of goods	Value	93	132	132	145	115	99
	Score	2.28	2.33	2.31	2.20	2.39	2.64
Domestic prices of logistics services	Value	99	-	-	-	-	-
	Score	2.80	-	-	-	-	-
Timely delivery of goods	Value	109	106	135	155	126	106
	Score	2.27	3.10	2.69	2.36	2.72	2.94

Source: Connecting to Compete. Trade Logistics in the Global Economy -Communications Development Incorporated, Washington, DC., 2007-2018.

For the period 2007-2014 Kyrgyzstan's rank in the LPI worsened significantly, dropping from 103rd place in 2007 to 149th place in 2014 and then recovering to 146th place in 2016.

Within the various categories that make up the LPI there are a number of major fluctuations. For example, the indicator "ease of organizing international transport at competitive prices" in 2007 was 106, in 2010 - 39, in 2012 - 147, in 2014 - 127, in 2016 –152, and in 2018 - 138. This points to a different approach being used when calculating the 2010 value. Similar changes are also seen in the other categories.

Studies of the workings of the logistics processes during these years showed that the country did not observe such significant changes in infrastructure, in the customs and border control, cargo delivery periods or other areas covered by the LPI. Despite the absence of significant changes, respondents indicated a significant decline in the quality of logistics processes in the country.

The results for 2018 were significantly better than the previous survey. The LPI rose 38 points. Improving the position of Kyrgyzstan in the world ranking of 160 countries was due to an increase in the values of all indicators, especially in the area of customs efficiency and quality of infrastructure and logistics services.

These indicators are determined by government structures. This suggests that logistics efficiency has improved due to actions by the public sector, while the private sector has made little contribution. Despite the fact that in 2018 there was an increase in the LPI score, the state of logistics has not changed significantly. However, Kyrgyzstan was on the sidelines of world logistics.

The low performance of the logistics sector reduces the attractiveness of the country for international carriers and forwarders. This increases the cost of transport and creates various obstacles to the movement of goods.

In 2016, the organization responsible for logistics in Kyrgyzstan, as part of the Ministry of Transport and Roads, was the SE Centre for International Postal Exchange and Logistics. However, there is no information about the work of this company and in the latest structure of the ministry, this organization no longer exists.

Documents produced by the Association of International Road Carriers of Kyrgyzstan AIRC KR state that one of the activities of the association is “the improvement of legislation in the field of road transport and customs, including international road transport of goods, passengers and logistics”.

In AIRC KR there are only six organizations, SES Logistics, Bishkek Logistic, SA Logistic, BDA Logistic, Ideal Logistic and Yakamoz Logistic that have anything to do with logistics. However, the websites of these enterprises listed only their addresses. There are no results or even feedback on the work. 85 transport logistics and freight forwarding companies, which provide services of low quality in the field of transport and forwarding, were registered in the AIRC KR association.

This is due to the following reasons:

- Insufficient number of modern vehicles, including those equipped with temperature control
- Insufficient number of storage facilities, including for storage of dangerous and bulky goods, and facilities with temperature control
- Inadequate quantity of loading and unloading equipment
- Small number of logistics services provided; and
- Low level of financial services related to obtaining affordable loans and other reasons.

The main problems of access to financial resources are the following:

- The lending sector is currently underdeveloped, leading to a low level of competition
- Limited financial products adapted to the small and medium-sized enterprises sector
- Lack of access to the resources of foreign export-import banks
- Limited options for leasing fixed assets

- High collateral requirements and interest rates make current instruments and loan options unattractive for borrowers; and
- The adverse investment climate has a negative impact on lending activities in the financial sector.

The creation and development of trade and logistics centres within the framework of Eurasian economic integration would allow Kyrgyzstan to achieve the following:

- Building a developed infrastructure
- Developing regional and international trade
- Creating a market based on supply and demand
- Improving the quality of products
- Increasing the competitiveness of Kyrgyz products
- Stimulating the growth of agricultural production
- Increasing exports of agricultural products
- Optimizing agricultural production
- Reducing losses during transport and storage; and
- Creating a single information system, etc.

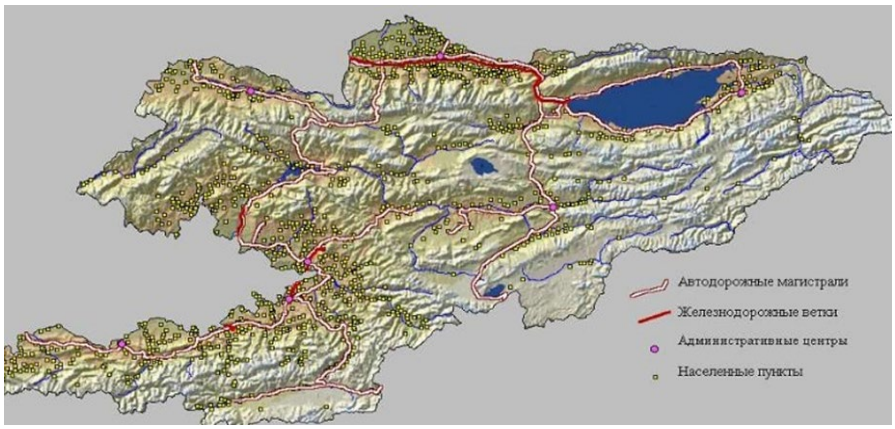
At present, there are some 300,000 agricultural workers in Kyrgyzstan ready to export their products. In 2015, the Government adopted Decree No. 600 "On Approving the Main Directions for the Creation and Development of a System of Trade and Logistics Centres for Agricultural Products in Kyrgyzstan for 2015-2017". To implement the decree, a series of measures was approved.

6.2. LOCATION OF TRANSPORT AND LOGISTICS CENTRES (TLCS)

The creation and development of TLCs requires the joint activities of state bodies, local governments, private companies, cooperatives and international donor organizations.

In accordance with Decree No. 600, a TLC for processing and exporting agricultural products such as vegetables, fruit, berries, legumes, meat and meat products and milk and dairy products is planned. Given the existing transport network in Kyrgyzstan and the concentration of labour and agricultural food resources, it is planned to create a three-level TLC system operating at international, regional and local levels (figure 6.1 and 6.2).

Figure 6.1: **Map of roads and railways in Kyrgyzstan**



Source: http://publikacia.net/archive/uploads/pages/2017_5_1/26.pdf.

Figure 6.2: **Planned location of international and regional TLCs**

Source: Implementation of transport infrastructure projects in Kyrgyzstan. Survey information. Bishkek, 2016.

International TLCs should be located not far from the border, near an airport, road and rail junctions. Deliveries of agricultural products to the international TLC would be carried out by local and regional TLCs. Two international TLCs would be created, in the south and the north of the country. The southern TLC is intended for exports of products to Uzbekistan, Tajikistan, Afghanistan and other southern countries. The northern TLC would handle exports to the countries of the EEU, Europe and China.

The purpose of regional TLCs is to purchase agricultural products from farmers and provide the population of the region, surrounding areas and villages, as well as the supply of products to international TLCs. Regional TLCs would be located in an economically developed city, usually in the regional centre, near the border of the target market, next to a road and/or railway junction. It is planned to create seven regional logistics centres in the country.[31]

The purpose of the local TLCs is the purchase of agricultural products directly from farmers, processing, storing and sending them to the domestic market through a wholesale and retail network, as well as to regional TLCs or directly to international TLCs for export. Local TLCs would be located in the main production areas near roads and railways.

To date, there is one trade and logistics centre, Agroproduct Asia, in the Sokuluk district. It is 2,700 m^2 in size and is designed to store up to 3,000 tons of vegetables and fruit. In the future, it is planned to expand its capacity to 12,000 tons. A trade and logistics centre is being built in the Nooken district of the Jalal-Abad region.

In 2016, several storage facilities with a total volume of at least 20,000 tons were built in the country. In 2017, plans were made for the construction of additional complexes in the Issyk-Kul and Osh regions.[32]

The presence of logistics centres contributes to an increase in the production of agricultural products and a reduction in losses in harvesting and storage. In addition, the construction of a plant for the processing of agricultural products is planned. The products meet the standards and requirements of the Eurasian Economic Union for packaging, labelling, quality and safety.

The main financial and commodity flows in the twenty-first century will be concentrated in the triangle of the United States, Europe and South-East Asia and China. Therefore, Kyrgyzstan needs to develop an international transport service on the Europe – Kyrgyzstan - China highway in order to develop its economic potential among the CIS countries and the EEU. The international transport and logistics sector should have a network of specialized terminals for cotton, construction materials, food and perishable goods, grain, oil products, etc. Such a logistics centre could reduce transport costs for the transport of goods from China to Europe by 7-20%, handling and handling operations by 15-30% and logistics costs by 12-35%.

6.3. CHARACTERISTICS OF FREE ECONOMIC ZONES

In order to develop industry, agriculture and tourism, improve and expand the infrastructure for international transport, and on this basis, create a logistics system in the country, the Government has decided to establish Free Economic Zones (FEZ). Five free economic zones have been created to date.

[31] Implementation of transport infrastructure projects in Kyrgyzstan. Survey information. Bishkek, 2016.

[32] www.mineconom.gov.kg/index.php/ru/question/31.

Figure 6.3: **Free economic zones in Kyrgyzstan**

Source: www.time.kg/otrezok-vremeni/48089-nedovolstvo-deputatov.html.

The Bishkek Free Economic Zone was established in 1995. It is located in the Chui Valley, occupying more than 340 hectares and consists of three sections:

- The National Exhibition Centre on a plot of 43 ha, connected by road with all regions of the country, as well as internationally
- The Ak-Chi zone in the Alamedinsky district of the Chui region, 5 km from Manas international airport on a plot of 203.09 ha; and
- The Kara-Balta zone in the Zhayylsky district of the Chui region, 60 km from Bishkek, on a plot of 100 ha and with access to the railway.

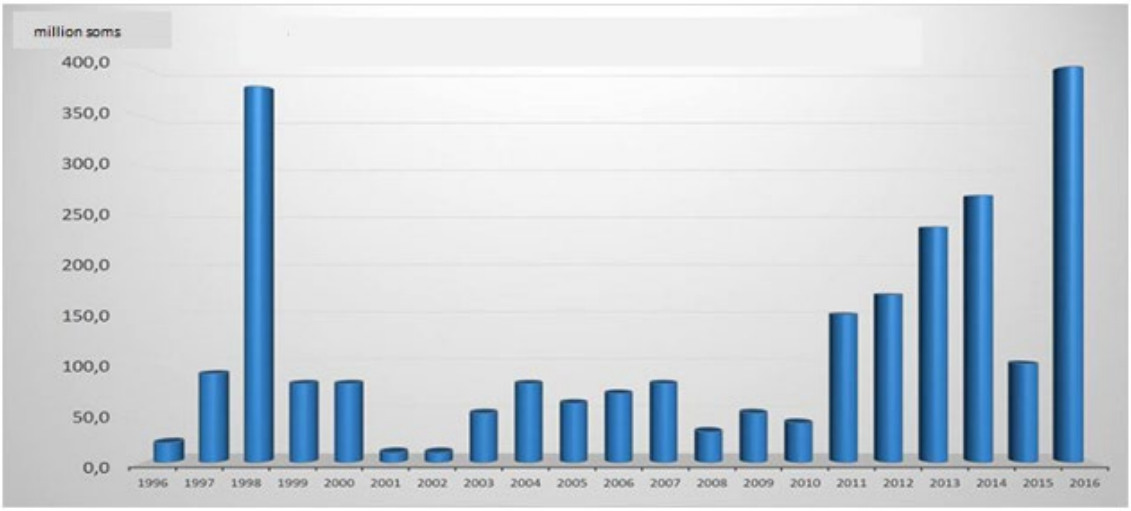
The Bishkek FEZ promotes the introduction of industrial innovations and progressive management systems. Its development is regulated by the Law "On Free Economic Zones in Kyrgyzstan" and the provision "On the Bishkek Free Economic Zone". The FEZ is not financed by the State. About 100 production facilities operate in the Bishkek FEZ, with investors from more than 20 countries including in particular the Russian Federation, Kazakhstan, China, Republic of Korea, Iran, Turkey, India, Saudi Arabia, etc. More then 3,500 people work in this FEZ. About 40% of the products are exported to neighbouring States, the Russian Federation, Kazakhstan, China, Uzbekistan and Tajikistan, but also to Afghanistan, the United States, Turkmenistan, Japan, the United Kingdom and other countries.

In 1998, the Bishkek FEZ became an authorized member of the World Association of Production and Export Zones "WAPEZ". Manas international airport is located five kilometres from the Ak-Chi zone of Bishkek FEZ. It serves regular flights to the CIS countries and major commercial destinations in Europe, China, Turkey, the United Arab Emirates, Pakistan and other countries. The Kara-Balta zone in Bishkek FEZ has direct access to the railway. There is also a well-developed network of roads that connects it with all regions of the country.

At present, Bishkek FEZ is one of the most effective channels for attracting foreign direct investment to the country, thanks to a special regime for the creation and development of diversified businesses. It has attracted direct foreign investments amounting to US$34.6 million. Bishkek FEZ accounts for 11% of total investments in the country and 76.9% of investments in free economic zones. It employs over 3,500 people.

At present, 412 enterprises are registered in the FEZ, of which 195 are operational. Out of the total number of registered entities, 96% are joint ventures or have participation of foreign investors from 25 countries. Performance indicators for the FEZ for the period 1996-2016 are shown in figures 6.4-6.7.

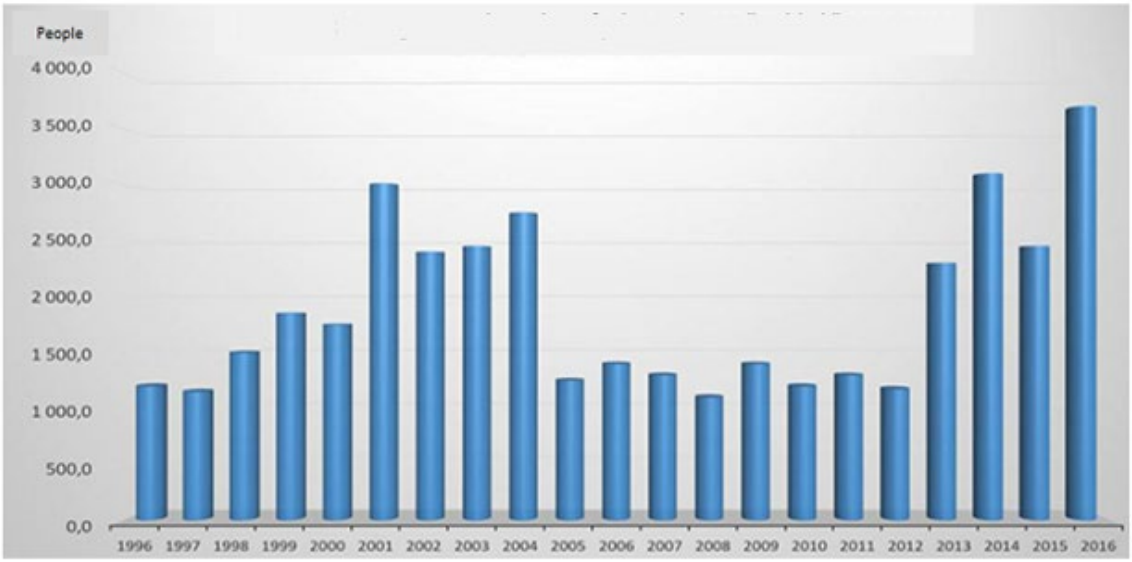
Figure 6.4: **Volume of investments in the Bishkek FEZ**



Source: http://fez.kg/statistics-information/.

Despite the economic crisis, which had a huge negative impact on the economy of all countries in the world, thousands of new jobs have been created thanks to the activity of Bishkek FEZ, which is gaining momentum every year.

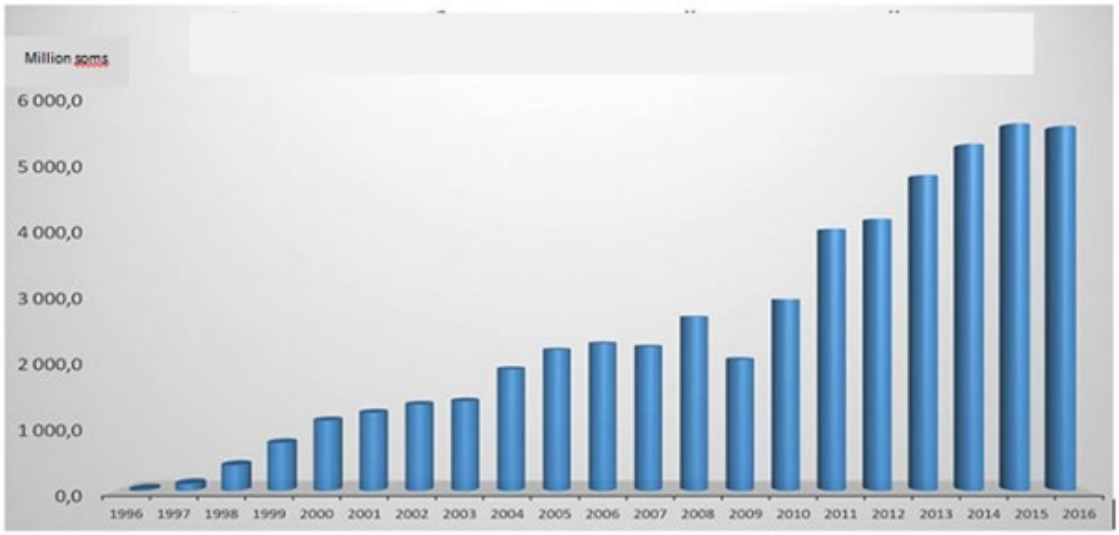
Figure 6.5: **Average annual number of jobs in Bishkek FEZ**



Source: http://fez.kg/statistics-information/.

Year by year, the FEZ has seen increases in volumes of manufactured products, the development of new types of economic activity, increasing production capacities and an expanding range of manufactured goods and services, which has a positive impact on the development of the economy of Kyrgyzstan.

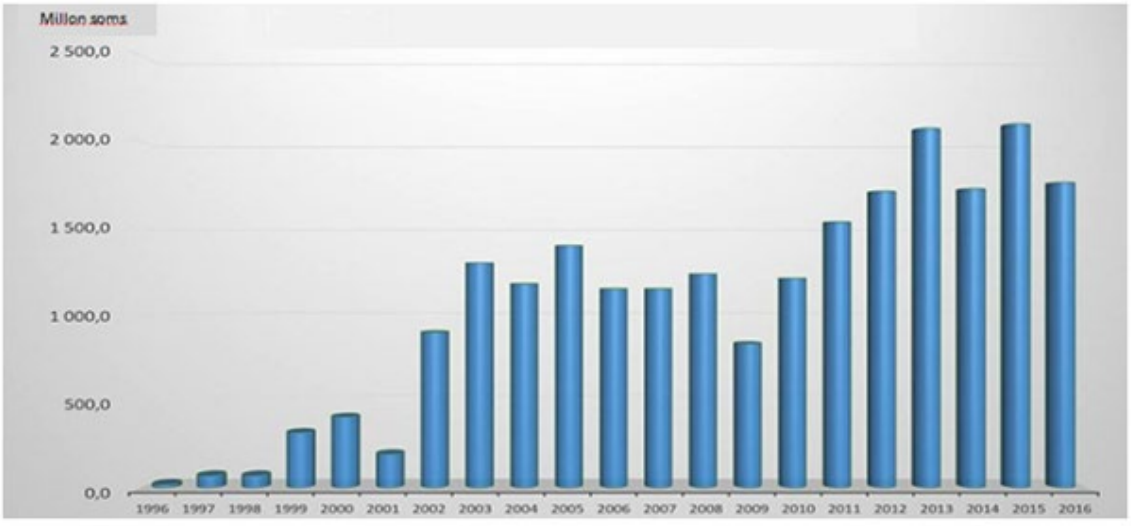
Figure 6.6: **Growth in the volume of sales of Bishkek FEZ**



Source: http://fez.kg/statistics-information/.

The level of development of the companies of Bishkek FEZ, as well as the production capacity and quality of products, allows the delivery of products to the Russian Federation, Belarus, Kazakhstan, China, Tajikistan, Uzbekistan, Poland, Iran, Georgia, Afghanistan, Spain and other countries.

Figure 6.7: **Growth in exports from Bishkek FEZ**



Source: http://fez.kg/statistics-information/.

The data above show that Bishkek FEZ is developing successfully. This creates the prerequisites for the development of logistics in this region and the construction of an international logistics centre.

The Karakol free economic zone has been functioning since 1993. The FEZ is located in the city of Karakol on the shore of Issyk-Kul Lake at the foot of the Tien-Shan Ridge. The FEZ comprises 13 entities, including joint and foreign companies. The largest share belongs to small and medium-sized enterprises, mainly in the form of limited liability companies. Joint stock companies occupy a very small share. The largest number of joint ventures has been established with the Russian Federation, Kazakhstan, the United States, China, Turkey, Venezuela and Ukraine.

Priorities for the development of Karakol FEZ and the region as a whole are tourism infrastructure, fisheries, processing industries, transport networks, agriculture, infrastructure of resort areas, cities and villages, markets for goods and services, private enterprise and new technologies.

The FEZ has established production of food products, fish products, garments, medicinal herbal preparations, medicinal syrups, furniture, wood and metal products, window frames, telephones and computers, etc. The volume of exports of goods amounted to US$100,000. The goods are exported mainly to China and the Russian Federation. The domestic market is supplied with consumer goods, metal waste and other goods. 780 people are employed in the FEZ.

The development of Karakol FEZ has been hampered by the fact that the FEZ registered branches of companies already registered outside the FEZ. In addition, large amounts of revenue have been lost in the form of tax deductions due to a lack of proper control over the movement of goods within the FEZ and imports and exports of goods outside the FEZ. In 2011, the FEZ moved to a new site west of Orknok village and the southern outskirts of Balykchy.

A total of 54 enterprises are registered in the Naryn FEZ. Imports amounted to US$3.6 million, which is four times more than the volume of exports. The main trading partners for imports are China and the Russian Federation. The FEZ has attracted direct investments amounting to US$5.8 million, 60% of them from China. The investments came in the form of equipment for production and maintenance of geological exploration and prospecting.

The FEZ produces flour, meat, canned vegetables, mineral water, polyethylene packaging, confectionery, precious metal concentrates, etc. The exports are cattle skins, wool and canned meat. The goods are exported mainly to China.

A plot of 521 ha has been assigned for the Maimak FEZ, but currently only 159 ha is being used. There are nine economic entities registered in the FEZ. Despite the excellent geographical location (on the border with Kazakhstan, near the railway station) there are no real investors and the necessary infrastructure has not been created. Therefore, at present, production activities have not yet commenced.

The new Leilek FEZ will be created on the basis of the draft law “On the establishment of the Leilek free economic zone”, which is designed to retain the local population, improve living standards, provide employment, increase the number of people in the border areas and strengthen the state border. The projected size of the FEZ is 100 ha in Jany-Jer village.

The proposed activities of the FEZ are industry, agricultural production and processing, construction, handicrafts and other types of production, as well as trade and transport infrastructure. At present, there are no production activities.

As of June 2016, only Bishkek FEZ was functioning normally out of the five FEZs in Kyrgyzstan. The FEZs in Maimak, Karakol and Leilek are not operational. Over the past six months, the FEZs have paid 114 million Soms in taxes, 113 million of which were paid by Bishkek FEZ. Karakol only paid 600 Soms. The status of free economic zones has been received by entire regions that do not have the necessary infrastructure. Their activities have not led to an increase in the activity of entrepreneurs in these regions, or the development of local production and the creation of new industries.

Analysis of the FEZs in Kyrgyzstan shows that they do not meet international requirements. Moreover, despite repeated attempts over the past 20 years to create a functioning FEZ network, they have remained small islands that do not meet expectations for successful business development.

The FEZs have partly turned into “black holes” through which duty-free goods have arrived and significant financial resources have been extracted leaving behind unpaid taxes. Violation of the basic principles of FEZ creation, absence of real investors, remoteness of sales markets and the diversion of financial resources for the creation and development of infrastructure have been the main reasons for the ineffective activity of the FEZs. In order to further develop and improve free economic zones, it is recommended to:

- Form a clear concept for FEZs at the national level, taking into account both national and regional interests
- Develop and adopt appropriate regulatory and legal acts regulating the process of creating and operating FEZs
- Organize FEZs in a limited area, thereby avoiding violation of the principle of a single economic space
- Ensure mutual economic interest of both local and national authorities in creating free zones
- Provide funds to create the infrastructure of FEZs, taking into account the fact that the real effect for the country will only be obtained in the future
- Hire qualified personnel in the field of law and management, who speak foreign languages; and
- Provide foreign investors operating in the FEZ with better conditions for doing business than those they have abroad.

6.4. SWOT ANALYSIS OF THE LOGISTICS SECTOR

The development of the logistics sector in Kyrgyzstan entails risks that may hamper the achievement of the planned results. In this regard, a SWOT analysis has been conducted, examining the strengths and weaknesses of the country in terms of logistics development, as well as the country's potential and the threats it may face in the course of implementing the planned activities (table 6.2).

Table 6.2: **SWOT analysis of the logistics sector**

	Strengths
1.	Moving customs clearance of goods to the external borders of the EAEU contributes to the growth of cargo transportation and the development of transport and warehouse logistics
2.	The interest of China, Kazakhstan, Tajikistan and Uzbekistan in the development of land corridors through Kyrgyzstan.
3.	Availability of free economic zones to develop logistics.
	Weaknesses
1.	Absence of a State programme for the development of the logistics sector.
2.	Lack of financial resources to create a network of transport and logistics centres and terminals.
3.	High interest rates on external loans.
4.	Limited possibilities for obtaining loans in the logistics sector.
5.	High transport costs for the products of the republic when delivered to the domestic and foreign markets.
6.	Low level of transport and logistics services.
7.	Insufficient number of terminal networks, which increases logistics costs for cargo handling.
8.	Absence of a logistics management system.
9.	Insufficient transport links between regions, which increases logistics costs.
10.	Absence of the third party logistics operators in the country.
11.	Business does not participate in the development of public-private partnerships in logistics
	Opportunities
1.	Create conditions for attracting foreign logistics operators.
2.	Introduction of the “Logistics” specialization in universities.
	Threats
1.	Possibility of cargo transport between China and the EU bypassing Kyrgyzstan.
2.	The desire of neighbouring countries to develop their own logistics operations for exports-imports of goods.

6.5. RECOMMENDATIONS FOR THE DEVELOPMENT OF LOGISTICS

This chapter set out the state of logistics in Kyrgyzstan. Based on the study and the SWOT analysis carried out above, the following recommendations for the development of logistics in the country can be highlighted:

- Provide state support for the creation of the infrastructure for the logistics system and its integration into the Eurasian transport and logistics system
- Create a three-level system of logistics centres: international, regional in large cities and local
- Create the conditions for improving the competitiveness of the country's transport and logistics system
- Define a Ministry or organization responsible for the development of logistics
- Determine the reporting indicators for logistics activities
- Oblige entities engaged in logistics activities to submit reports on their activities
- Establish tax and other preferences for entities carrying out logistic activities
- Create transit hubs at Bishkek and Osh airports for refuelling aircraft and transshiping cargo
- Justify the feasibility of creating logistics centers on the experience of Kazakhstan outside the country
- Create the necessary conditions for attracting external freight traffic to the country's transport routes
- Move away from the practice of competition with the transport routes of neighbouring countries to competition in the field of logistics
- Develop the transport and logistics infrastructure in the regions
- Ensure the effective functioning of customs logistics; and
- Introduce specialist courses on “Logistics” in universities.

Furthermore, accession to the UN Inland Transport Conventions and Legal Agreements relating to intermodal transport and logistics, in particular the infrastructure agreements, will facilitate the growth of this sector. This, coupled with the participation in international projects such as the Euro-Asian Transport Linkages along with the adoption of industry standards such as the Code of Practice for the Packing of Cargo Transport Units (CTU Code) will further cement the growth of logistics in the country.

7. LEGISLATION IN THE FIELD OF TRANSPORT

7.1 STUDY OF THE REGULATORY AND LEGAL FRAMEWORK FOR TRANSPORT

A summary of the review study of the legal framework in the field of transport are provided in the Appendix. Much work is being done in the country to improve the legislative and regulatory framework in the field of transport and customs. The legislation of Kyrgyzstan in the field of transport is represented by normative legal acts of various levels. The following laws have been adopted in the field of transport:

- Law of Kyrgyzstan on Transport No.89, dated 8 July 1998 (as amended by Law No. 21 of 15 February 2013)
- Law of Kyrgyzstan on Road Transport No. 154, dated 19 July 2013 (as amended by the Law of 13 April 2016)
- Law of Kyrgyzstan on Roads No. 72, dated 2 June 1998 (as amended by Law No. 66 of 4 July 2018)
- Law on Road Traffic in Kyrgyzstan No. 52 of 20 April 1998 (as amended by Law No. 65 of 30 June 2017)
- Law of Kyrgyzstan on Rail Transport No. 121 dated 18 July 2016
- Law on Public-Private Partnerships in Kyrgyzstan No. 7 dated 22 February 2012 (as amended by the Law of 22 June 2016)
- Law on Customs Regulations in Kyrgyzstan No. 184 dated 31 December 2014 (as amended by Law No. 99 of 6 June 2017).

At the international level, Kyrgyzstan participates in the following organizations:

- TRACECA
- CAREC Programme of the Asian Development Bank (ADB)
- Organization for Cooperation between Railways (OSJD)
- Economic Cooperation Organization (ECO)
- Shanghai Cooperation Organization (SCO)
- Eurasian Economic Commission of the Eurasian Economic Union
- Advisory Committee on Transport and Infrastructure of the Eurasian Economic Commission
- Intergovernmental Council of Road Workers (MSD); and
- Transport Coordination Meeting of the States Parties to the Commonwealth of Independent States (TCM CIS).

Kyrgyzstan has signed the following UN Inland Transport Conventions administered by UNECE:

- Customs Convention on Containers, 1972
- Convention on Road Traffic, 1968
- Convention on Road Signs and Signals, 1968
- Convention on the Contract for the International Carriage of Passengers and Luggage by Road, 1973; and
- The Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention), 1975.

Kyrgyzstan also has well-established bilateral and multilateral relations with the beneficiary countries of TRACECA's Logistics Processes and Motorways of the Sea (LOGMOS) project in the field of road, rail and sea transport, as well as in customs.

The key provisions of a civil law character, which determine the basis for relations for the carriage of goods, passengers and luggage are the relevant provisions of the Civil Code. Chapter 32 on transport is devoted to the transport of goods, passengers and luggage, the legal norms of which determine the general conditions for the conclusion of transport contracts.

Legal relations between the carrier and the client during carriage are based on the contract of carriage. At the same time, given the specificities of the transport sector, the free will of the parties in determining the conditions for carriage may be limited in cases directly provided for by the Civil Code and other legislative acts. This is due to the special importance of transport, the need for a balanced social policy and security considerations.

The basis for the legal regulation of freight forwarding services is enshrined in the Civil Code in Chapter 33. It defines the form of the transport contract, the subject of the contract, and provides for the right of the freight forwarder to involve others in the performance of his duties, while stating that involvement of a third party does not relieve him of responsibility for the performance of the contract.

The main legal act regulating transport activities is the Law of Kyrgyzstan on Transport No. 89 of 8 July 1998 (as amended by Law No. 21 of 15 February 2013). The law regulates the basic principles of economic activity in the transport market and determines the basis for the relationship of all participants in transport in Kyrgyzstan.

The law states that the conditions of transport, the procedure for using vehicles, ensuring traffic safety, observance of labour protection rules, fire safety and sanitary standards are determined by regulatory acts for the different modes of transport which are binding on all participants.

State regulation of the work of transport is carried out through a unified state policy on the development of all types of transport, legal support, licensing, taxation, credit, financing and pricing, implementation of investment, unified social and scientific and technical policy and control over the performance of transport enterprises and carriers:

- The Law of Kyrgyzstan on Railway Transport of 18 July 2016 regulates the relations between carriers, government agencies, passengers, consignors, consignees, other individuals and legal entities in the transport of passengers, luggage, cargo and mail by rail
- The Air Code of Kyrgyzstan No. 218 of 6 August 2015 establishes the legal framework for the use of the airspace of Kyrgyzstan and civil aviation activities in order to meet the needs of the population for safe air transport.

Kyrgyzstan has also adopted legislative acts regulating relations in the road transport industry:

- Law of Kyrgyzstan on Licensing No. 12 of 3 March 1997 (as amended by Low No. 156 of 24 July 2013). Passenger (except passenger cars) and international freight by road, air, sea, rail (except for special, business and technological, as well as to carry out activities that have a license) and bus station activity are subject to licensing
- The Law of Kyrgyzstan on Roads No. 72 of 2 June 1998 (as amended by Law No. 66 of 4 July 2018) defines the economic and legal framework; principles for management of roads, organizations and enterprises providing for the development, repair, maintenance of roads; the legal regime of roads, territories and objects adjacent to roads; rights and duties, as well as the responsibility of owners, departments in charge of roads and users of roads; and regulates relations between the road authority in the field of transport and communications with state authorities and local authorities
- The Law of Kyrgyzstan on Road Transport No. 154 of 19 July 2013 (as amended on 13 April 2016) defines the general conditions for the carriage of goods, passengers and luggage by trucks, buses, cars, including motor vehicles, trailers, semi-trailers, as well as general conditions for providing services to passengers, charterers, consignors, consignees and carriers. The law applies to all individuals and legal entities and commercial activities in the field of road transport, regardless of their ownership
- Law of Kyrgyzstan on Ratification of the Intergovernmental Agreement on the Asian Highway Network dated 26 April 2004
- Law on Road Traffic in Kyrgyzstan No. 52 of 20 April 2998 (as amended by Law No. 65 of 30 June 2018) defines the legal basis for ensuring road safety in Kyrgyzstan
- Law of Kyrgyzstan on the safety of land vehicles No. 178 dated 29 May 2009 (as amended by Law No. 61 of 18 May 2010)
- Law of Kyrgyzstan on the Accession of Kyrgyzstan to the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP), done in Geneva on 1 September 1970, No. 63 of 30 June 2011
- The Code of Kyrgyzstan on Administrative Liability (as amended by Law No. 185 of 4 August 2008) in Article 213 of Chapter 20 on “Administrative offenses that infringe the rules of traffic safety and vehicle operation”, states that violation of rules related to the operation, repair and maintenance of vehicles entails the imposition of an administrative fine.

Compliance with the requirements of legislation in force in Kyrgyzstan in the field of road transport activities is based on the following regulatory acts:

- Decree of the Government of Kyrgyzstan No. 711 of 20 December 1999 (as amended on 9 July 2009) “On approval of the regulation on the procedure for payment and collection of fees for the transport of foreign road carriers through Kyrgyzstan and rates of payments for entry into Kyrgyzstan and work for three days of foreign freight vehicles”
- Decree of the Government of Kyrgyzstan No. 216 of 8 May 2001 “On measures to improve the organization of passenger transport by road in Kyrgyzstan”

- Resolution of the Government of Kyrgyzstan No. 739 of 7 October 2004 on "Regulations on border crossing points of Kyrgyzstan" regulates the procedure for opening, operating and closing checkpoints along the state border. According to the decree, checkpoints are designed to provide international communications with other States where border, customs, sanitary-quarantine, veterinary, phytosanitary and other types of control are carried out in accordance with the legislation of Kyrgyzstan on crossing the state border of persons, goods and other property
- Decree of the Zhogorku Kenesh (Supreme Soviet of the Kyrgyz Republic) No. 1025-III of 2 June 2006 "On approval of the Procedure for collecting and distributing fees for the passage of heavy and large vehicles on public roads"
- Decree of the Government of Kyrgyzstan No. 556 of 19 November 2007 "On measures to streamline the functioning of checkpoints along the state border of Kyrgyzstan, intended for international road, air and rail traffic"
- Decree of the Government of Kyrgyzstan No. 80 of 7 February 2009 on "Rules for the Observance of the Regime at Road, Pedestrian and Railway Border Crossings on the State Border of Kyrgyzstan" was approved in order to comply with the regime at checkpoints across the state border of Kyrgyzstan and coordinate actions of state control bodies involved in the protection of the state border
- Decree of the Government of Kyrgyzstan No. 342 of 30 December 2010 on "Development Strategy of the Customs Service of Kyrgyzstan for 2011-2013". The same resolution approves the Action Plan for the implementation of the Strategy. The document defines the objectives and main priorities for improving the customs administration in the short and medium term, as well as the financial support and mechanisms for implementing the envisaged activities
- Decree of the Government of Kyrgyzstan No. 454 of 9 August 2011 on "List of points for weight control on public roads along the state border of Kyrgyzstan", as well as "List of points for weight control on public roads located within Kyrgyzstan"
- Decree of the Government of Kyrgyzstan No. 466 of 4 July 2012, "On optimization of the transport sector of the Ministry of Transport and Communications of Kyrgyzstan" (as amended by Law No. 68 on 3 February 2017), according to which the functions of regulation and control are entrusted to the State Agency for road and water transport under the Ministry of Transport and Communications
- Decree of the Government of Kyrgyzstan No. 677 of 4 October 2012 "On approval of the Strategy for the Development of Road Transport for 2012-2015". The same Resolution approved the Action Plan for the implementation of this Strategy. The Strategy was developed and approved in order to create conditions for the future development and improvement of the road transport industry, the market for road transport services, improving the level and quality of passenger and freight transport by road, reducing transport costs, as well as supporting domestic road carriers and increasing investments in road transport
- Decree of the Government of Kyrgyzstan No. 519 of 23 September 2103 on "Rules for the organization of passenger transport by road in Kyrgyzstan"

- Decree of the Government of Kyrgyzstan No. 724 of 23 December 2014 "On approval of the Instruction on implementation of state control over compliance with the legislation of Kyrgyzstan in the field of road transport"
- Decree of the Government of Kyrgyzstan No. 311 of 21 May 2015 on "Rules for the organization of freight transport by road in Kyrgyzstan"
- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 49 of 17 May 2001 "On the implementation of the Decree of the Government of Kyrgyzstan of 8 May 2001" and No. 217 "On measures to improve the organization of passenger transport by road in Kyrgyzstan"
- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 204 of 3 July 2001 "On Approval of the Rules for the Organization of Passenger Transport by Road in Kyrgyzstan"
- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 205 of 3 July 2001 "On approval of the Regulations for the organization of open tenders for the provision of passenger services by road"; and
- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 68 of 15 February 2002 "On Approval and Enactment of the "Rules for the Technical Operation of Vehicles in Road Transport".

In addition, in order to implement the Law of Kyrgyzstan "On Labour Protection" with regard to compliance with occupational safety and health at road transport enterprises, the following regulatory legal acts were adopted:

- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 279 of 4 October 1999 "On the Approval of Rules for the Protection of Workers involved in the Construction, Repair and Maintenance of Roads"; and
- Order of the Ministry of Transport and Communications of Kyrgyzstan No. 230 of 19 July 2001 "On approval of the Regulations on labour protection in road transport".

7.2 PROPOSALS FOR HARMONIZATION OF THE LEGISLATIVE FRAMEWORK FOR INTERNATIONAL FREIGHT TRANSPORT

The harmonization of legislation in the field of transport activities is one of the most important conditions for the development of the transport infrastructure of Kyrgyzstan and the CIS as a whole. Harmonization should be considered in the framework of CIS activities, since the decisions of Kyrgyzstan in this sphere are largely due to the policy of the CIS. The challenge of the economic integration of the CIS member States is using the historically accumulated potential and the existing advantages of the division of labour for the realization of the interests of member countries. An efficient transport system is the key to the successful development of the economy of the CIS.

The studies of the regulatory of Kyrgyzstan in the field of transport, carried out in the previous section, made it possible to single out the following systemic problems, which currently have a serious detrimental effect on the development of transport and logistics activities in Kyrgyzstan:

1. Lack of harmonization of the basic legislation in the field of transport activities with neighbouring countries, CIS countries and the ECE region.

   The statutes, codes and laws in the field of transport adopted in the member States of the CIS and the EEU differ from each other. In a number of countries there is no legislation on a whole range of important issues, or regulation sometimes takes place on the basis of old laws that do not meet modern realities.

   There is no regulation on many issues that are currently of high importance, such as payment for the use of infrastructure or transport of special cargoes. All States in the region are interested in creating a new legislative and regulatory framework on a unified basis that meets both the interests of trade and the interests of carriers.

   Furthermore, Kyrgyzstan is not a contracting party to more than 40 UN Inland Transport Conventions and Legal Agreements that have a direct positive impact on the development of transport in the country as well as the facilitation of the movement of goods and passengers across borders. These include all the infrastructure agreements, all the vehicle regulations Conventions and many of the Road traffic and Road safety Conventions.

2. Lack of harmonized technical standards in the field of passenger and cargo transport.

   Work on the harmonization of standards and technical norms is carried out on the basis of international norms through accession to international agreements and conventions, their ratification and harmonization of national legislation and regulations. Analysis of the accession of CIS member States to the basic multilateral documents in the field of road transport has shown that none of the agreements is fully effective throughout the CIS. The level of applicability and adaptation of European standards is also relatively low. Of the total number of UNECE agreements and conventions affecting road transport and border crossing procedures (40 instruments), 11 have not been signed by any of the CIS member States.

   Only the Customs Convention on the International Transport of Goods under the TIR Carnet (1975) has been acceded to by all CIS member States. However, carriers in Kyrgyzstan do not sufficiently use this procedure.

3. Absence of an effective licensing system in the CIS.

   Bilateral agreements concluded between individual countries presuppose different approaches in respect of taxes, road tolls and transit, and in some cases provide for a permit system for carrying out transport. The diverse legal regimes created by the existing bilateral agreements contradict the principles of free trade and the common economic and transport space.

4. Various barriers of a technical, administrative, fiscal and transboundary nature.

   It should be noted that there have been significant changes in this direction lately. For example, at the level of the Ministers of Transport of the CIS, the Declaration on Counteracting Unfair Competition in Road Transport (2004) was adopted. It is necessary to develop a mechanism for implementing the provisions of the declaration, which involve the removal of administrative barriers to transport.

Based on this analysis, the following plan for harmonization of legislative and regulatory activities in the field of transport and logistics can be considered:

1. Analyze the existing basic regulatory and legal acts in Kyrgyzstan, identify inconsistencies with international regulations and develop proposals for their elimination. Develop new legislative acts (on toll roads, on the transport of dangerous goods, on concessions in the road transport industry) based on successful legislation developed and adopted by the Interparliamentary Assembly of the CIS member States.
2. Unify technical norms and standards in transport with the norms of the EU and neighbouring countries to promote Kyrgyzstan's integration into the world transport system. An important aspect of unification is the introduction of the practice of mutual recognition of diplomas, certificates and other documents issued in the CIS member States which officially certify the qualification of freight and passenger transport operator.
3. Ensure an effective system for the implementation of international transport between the States of the Central Asian region by eliminating administrative barriers. To do this, it is necessary to remove barriers such as transit fees, road and other tolls on roads and introduce a permit system for bilateral transport and the delivery of heavy, oversized and dangerous goods that are not attractive for domestic and foreign operators due to the many bureaucratic formalities. The contradictory provisions of numerous existing rules and regulations makes it difficult to interpret and appeal various procedures. As a result, the rates and volumes of cargo deliveries are decreasing, which in turn leads to direct financial losses.
4. Encourage the responsible ministries to work on accession to international agreements and conventions. This concerns, first of all, the organizations of the United Nations and the European Conference of Ministers of Transport (ECMT). The harmonization of the legislation of Kyrgyzstan with the rules in force in the EU, CIS and neighbouring countries has become an urgent task on which the prospects for the development of international goods transport to the countries of Europe and Asia depends.

   Various mechanisms for implementing these changes are possible. First the revision of all existing bilateral agreements and second is the introduction of appropriate amendments and additions to them. The most effective mechanism would be the development and adoption of a multilateral agreement on international transport, which would bring together all the different modes of transport.

8. PROPOSALS FOR THE DEVELOPMENT OF TRANSPORT AND LOGISTICS IN KYRGYZSTAN

8.1 DEVELOPMENT OF TRANSIT AND LOGISTICS IN EURO-ASIAN TRANSPORT

Euro-Asian inland transport routes will continue to struggle to compete with transport by sea in terms of total volume. However, they can be a valuable complement to maritime transport by ensuring high reliability of delivery of expensive and time-sensitive goods.

The inland Euro-Asian transport links are continuing to evolve. State and private carriers and logistics operators carrying out container transport along Eurasian land routes are continuing to prove themselves as an alternative to sea transport.

The competition of transport corridors on the Euro-Asian continent is not a choice between transport routes or modes of transport. It is a competition between logistics solutions based on intermodal transport and logistics services, focused on specific supply chains. The basic requirements for the supply chain are regular services, a high degree of reliability, flexible tariffs and the required speed of delivery for different types of cargo. These requirements are applicable to the logistics of the entire transport chain, rather than to its individual links.

Decision-making in regard to the choice of routes and modes of transport is not usually made by consignors or consignees, but by logistics operators who are able to take into account the interests of numerous market players (carriers, terminal operators, infrastructure owners, etc.), because they possess information on the transport market and can effectively meet the requirements of a particular supply chain.

In this regard, any transport route will attract freight flows only when it is competitive in the context of supply chains. Neither political decisions nor investment projects developed outside this context can be successful from an economic point of view. Therefore, attempts to link cargo flows to certain routes or modes of transport will not be effective.

It is necessary to consider the effectiveness of the functioning of Euro-Asian transport routes over the entire supply chain taking into account the level of development of economies and the state of transport and logistics capabilities of individual regions throughout the supply chain.

Rapidly developing China-European trade, China's economic growth and China's political and economic reorientation towards intra-Asian cooperation is creating opportunities for Central Asian countries to become a transport and trade bridge between the west and the east.

Recent years have also seen rapid growth in the Turkish economy and Iran's growing interest in Asia, as well as the renewal of the Russian Federation's interest in trade and economic integration with a number of Central Asian States and the ever-growing trade relations between the Arabian Peninsula and East Africa on the one hand and the Asia-Pacific region and India on the other hand. These trends can help identify deeper and longer-term geopolitical and geo-economic areas of cooperation on the continent.

Central to these trends is the further integration of national transport and logistics systems into EATL. Despite the high transport costs, which are a decisive barrier to trade and commercial integration, the resumption of continental trade provides an opportunity for the development of the economies of the Central Asian countries.

In the integration process, Kyrgyzstan is an active and successful partner. According to current economic policies, investments in transport infrastructure are a top priority for the development and diversification of the country's economy.

The leadership of Kyrgyzstan is pursuing diverse foreign policy objectives, developing relations with neighbouring countries as well as with the Russian Federation, Germany, Switzerland, Japan, India and other countries. Transport cooperation can become a catalyst bringing together various initiatives, such as the Eurasian Economic Union, the EU, the Silk Road Economic Belt and others.

Eurasian economic development and continuing geopolitical challenges determine the need for Kyrgyzstan to open up new transport routes that will complement the northern corridor through the Russian Federation. Kyrgyzstan should not be afraid of competition on transport corridors.

China has identified three main routes, which will be given priority in the development of the economic belt of the Silk Road project. These are the northern corridor through the Russian Federation and the central and southern corridors. The northern corridor through the Russian Federation and the central corridor are the most direct.

The southern corridors include the countries of India, Kyrgyzstan, Tajikistan, Turkmenistan, Afghanistan, Iran, Turkey and Georgia. The economic interest of Kyrgyzstan in the development of the southern corridor is determined by the shorter route to European markets, as well as the desire of the countries along the southern corridor to develop their transport infrastructure. India is also interested in the development of the southern corridor. In addition, the distance from Bishkek to Beijing is more than 4,300 km while from New Delhi it is only 2,900 km.

The Central Asian countries should understand that the southern corridor may be an important next step in Eurasian transport, economic and cultural integration, despite the high cost, delays and risks along the route.

Businesses and experts are more sceptical about the transit potential across all corridors and point to technical and economic restrictions, including the Eurasian Economic Union itself. The EEU is viewed more as a project for integration within the union than with the rest of the continent. Nevertheless, the Eurasian Economic Union could become a valuable tool for creating an open common transport and transit space.

In spite of the huge problems, transport and trade integration in Eurasia and especially in the Central Eurasian zone will be one of the most challenging but important issues of the twenty-first century.

8.2 DEVELOPMENT OF TRANSIT AND LOGISTICS IN KYRGYZSTAN

The export/import and transit potential of Kyrgyzstan from the point of view of the location of external markets, as well as foreign economic relations in the Eurasian space, should be considered from a regional and transboundary perspective. The regional perspective should focus on cargo transport between Kyrgyzstan and the countries bordering it. The transboundary perspective on transit through Kyrgyzstan.

The determining factors of regional trade flows are the close interconnection and interdependence of the economies of the Central Asian countries, as well as the existing transport and communication infrastructure of the countries of the region.

In the regional perspective, the exports/imports of Kyrgyzstan can be seen as sufficiently high and stable. This is due to the long-term economic ties between the countries of the region and the similar level of development of their economies. However, the volume of cargo transport between the countries is insignificant.

Cross-border transport through Kyrgyzstan is determined, first of all, by China's trade relations with European countries and the Russian Federation, and also by the South-East Asian countries' relations with the Russian Federation. Transit traffic through Kyrgyzstan in the north-south and east-west directions has been decreasing. The main reason for this is that competition has intensified. The main competitors of the Kyrgyz routes are sea carriers, which provide more attractive transport conditions, especially with regard to price, and the road network of the Russian Federation and Kazakhstan.

It is important for Kyrgyzstan to promote its international economic relations and create a modern transport and logistics infrastructure. Since the country does not have access to the sea, the level of transport costs is much higher than in countries that benefit from maritime transport. High transport costs hamper the development of exports, limiting the range of potential export goods and markets where profitable trade is possible. For the same reason, the cost of imports is growing. Therefore, it is difficult for carriers of countries such as Kyrgyzstan to compete with carriers of maritime countries.

The geographical location of Kyrgyzstan at the intersection of transport corridors between east and west creates considerable potential for the country to use existing road transport corridors to increase both domestic and transit traffic. Since rail transport still requires further development, international road transport corridors are the main means of accessing regional markets for goods, services and also in terms of communication between the major economic centres within the country. In this regard, the Road Sector Development Strategy until 2025 provides for an increase in the length of international transport corridors of the highest category to 2,675 km. Currently, international road transport corridors account for 75% of transit and national traffic, public roads account for only about 15% of traffic and local roads for 10%.

A Quadrilateral Agreement on Traffic in Transit (QATT) has been concluded in order to optimize the transit routes between Pakistan, China, Kyrgyzstan and Kazakhstan. In accordance with this agreement, transit along the Karakorum Highway on CAREC corridor 5b has resumed, creating the shortest, least expensive and safest route which will allow the mutual trade of goods between the member countries of the QATT. The QATT is economically profitable for Kyrgyzstan from the point of view of exporting its goods through the seaports of Pakistan (Karachi and Gwadar), to the countries of South-East Asia, the Persian Gulf and in particular the EU.

The new north-south railway corridor would be beneficial for both China and Kyrgyzstan, as well as for other countries in relation to transit traffic and logistics. It would allow Uzbekistan to direct a significant part of its freight flows in the east-west and west-east directions through the Fergana Valley, which would contribute to the socio-economic development of the densely populated and energy-rich region and the economy of Uzbekistan as a whole.

The volumes of freight transport along the Asia – Kyrgyzstan - Europe railway corridor are expected to be divided as follows:

- 35% of freight would be switched from road transport
- 15% of freight would be switched from the railways of other countries of the EEU and the CIS
- 10% of freight would be switched from maritime routes
- 30% would be new freight traffic generated as a result of the construction of the railway line and increased economic activity of neighbouring countries; and
- 10% would be new freight traffic as a result of domestic economic growth in transit countries.

The China – Kyrgyzstan - Uzbekistan railway project does not solve the main problem of Kyrgyzstan, that is the lack of connection of its railway network. The establishment of an alternative railway route along the north-south road corridor is a priority as mentioned above. It would improve communication between the two main regions, Bishkek and Osh, and create an additional transit corridor from Tajikistan to the Russian Federation via Kyrgyzstan and Kazakhstan.

Figure 8.1: **North-South Railway Project**

Source: http://ostkraft.ru/ru/maps/261.

In terms of civil aviation, Kyrgyzstan finds itself in a strategic location on the continent. As such, Kyrgyzstan could be considered as the optimal place for the construction of a modern air cargo transit terminal as a hub for the region and for transit flights. Any future transit airport in Bishkek should not just be a refueling point for aircraft, but also a sorting and transshipment complex for goods transported from east to west and from north to south. Both the distance and the cost of flights could be reduced by:

- Reducing the operating time of aircraft
- Lower fuel consumption
- Lower fees for navigation and use of airspace
- Reducing the number of transit takeoffs and landings; and
- Increasing the weight of cargo payload as a result of needing less fuel, etc.

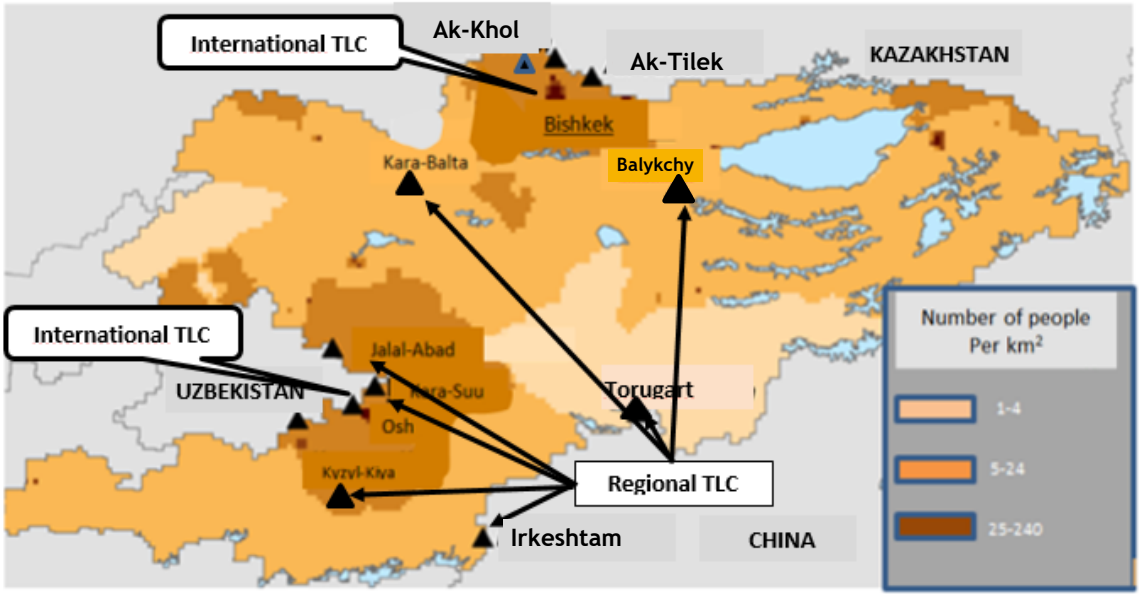
To meet these challenges, the transit landing point would need to be able to offer:

- The possibility of automated processing and sorting of goods
- Compliance with the conditions of storage of cargo in order to avoid damage
- Complete safety and security of cargo
- The possibility of modern high-quality and uninterrupted telecommunications
- High-quality and fast maintenance of aircraft and accommodation for crews; and
- The ability to refuel aircraft with high-quality fuel.

In accordance with the Decree of the President of Kyrgyzstan No. 11 dated 21 January 2013 "On the National Strategy for Sustainable Development of Kyrgyzstan", the project to create an international transcontinental aviation logistics centre has the status of strategic importance for the development of the country's transit potential. According to the Strategy, Manas international airport is to become one of the largest multimodal aviation hubs in the Eurasian zone, connecting air routes from North and South-East Asia to Europe and the Middle East.

The introduction of logistics systems would expand the volume of foreign trade, attract foreign investments and increase the volume of international cargo transport, including transit. Logistics need to be introduced not only in large cities, but also in the regions. Currently, all logistics flows go to Bishkek, and then the goods are sent to other cities. It is necessary to direct logistics flows to the regions to encourage the development of a wide range of entrepreneurs. There are several possible locations for logistics centres.

Figure 8.2: **Planned location of logistics centres**



Source: http://docplayer.ru/64689007-Razvitie-torgovoy-logistiki-v-regione-cares-kyrgyzstan.html.

There is an urgent need to establish a logistics centre in Osh, the key city in southern Kyrgyzstan, located in the fertile Fergana Valley near the borders with Uzbekistan and Tajikistan. In the Fergana Valley (Kyrgyzstan and Uzbekistan) large quantities of agricultural products are grown for export but due to the lack of refrigiration about 30% of the crop is lost. With political support, the logistics centre in Osh could serve agricultural exports throughout the Fergana Valley, including meat products, and change the structure of trade in the region from retail to wholesale. With a container terminal the logistics centre could also serve Chinese and Turkish imports, as well as perform intermodal operations, customs clearance and storage of goods, especially from/to China.

It is also recommended to establish a trade and logistics centre on the border of Kyrgyzstan and Kazakhstan in the city of Kara-Balta. This is due to the fact that at present Kyrgyz traders cannot fully meet the demand of Kazakh and Russian consumers. A new trade and logistics centre would reduce the customs component of the value of the goods. The cost of goods should decrease, as they would arrive in the region in large batches.

Other logistics centres should be located in the cities of: Balykchy, Sary-Tash, Jalal-Abad, Kara-Suu, Kyzyl-Kiya, At-Bashi, Sary-Tash.

The proposed measures would make it possible to realize the export-import and transit potential of Kyrgyzstan through the development of a unified transport and logistics system in the country and its integration into the Euro-Asian transport and logistics system. The development of logistics for national and international cargo flows would lead to the reduction of logistics costs in the process of implementing the export-import and transit potential of Kyrgyzstan.

9. CONCLUSIONS

The creation of a modern transport and logistics infrastructure is extremely important for Kyrgyzstan. Since the country does not have access to the sea, the share of transport costs in the price of goods is much higher than in countries that can benefit from maritime transport. High transport costs hamper the development of exports, limiting the range of potential export goods and markets where profitable trade is possible. For the same reason the cost of imports is high. Kyrgyzstan has enormous natural resources. Its main wealth is in its hydropower resources. In addition, the country possesses significant potential for extraction of various types of natural mineral raw materials. It needs a good transport infrastructure and advanced logistics systems for transporting these raw materials.

Kyrgyzstan is not sufficiently developed in terms of transport. The development of the transport sector is largely dependent on external investments, as the country is having trouble with its own financing. In addition, the development of this sector is difficult because of the complex geographic relief, labour-intensive border procedures and other non-economic factors.

The geographic location of Kyrgyzstan at the intersection of east-west transport corridors creates considerable potential for the country in terms of use of the existing road transport corridors to increase both domestic and transit traffic. Over the past 27 years, the road network has provided an average of over 95% of freight and 99.7% of passenger traffic annually. International transport corridors provide practically the only way for Kyrgyzstan to access regional markets for goods and services and play a significant role in ensuring communication between the main economic centres within the country.

As of the end of 2017, the vehicle fleet of Kyrgyzstan consisted of 1,200,000 cars, more than 97,000 trucks, and more than 30,000 buses and minibuses. The road transport sector comprises 350 companies that provide transport services for passengers and 50 companies involved in the transport of goods which employ more than 20,300 staff. The number of employees in the transport sector is more than 32,000.

There are 85 transport and logistics companies registered in the transport and freight forwarding market. More than 74% of these companies are located in Bishkek and 18% are in the Chui region. There are no large transport companies that could provide high-level transport services and determine the strategy for the development of the transport industry.

Road transport has a dominant role in the transport of goods. In 1990 more than 97% of cargoes were carried by road. In 2000 this indicator amounted to 94%, in 2010 96% and in 2017 93%. In 2017, there was a slight decrease in the share of road transport in the total volume of cargo transport. The carriage of goods in containers is virtually non-existent, which excludes the use of modern intermodal transport.

The railways of Kyrgyzstan are divided into two sections, the northern line with a length of 323.4 km and the 101.2 km southern line, which ensure access to the railway network of the neighbouring States of Kazakhstan and Uzbekistan. The volume of freight transport by rail is small. In 1990, only 2.4% of cargo was transported by rail. In 2017 this indicator amounted to almost 6%.

In 2017, the average distance of freight transport by rail decreased by 1.7 times compared to 2012 and amounted to 493 km. This indicates a significant loss of income by the railways from the transport of goods and shows that the goods are transported mainly to neighbouring countries.

In the opinion of the main shippers, the use of the Trans-Siberian railway and the railway through Eastern Kazakhstan is not always the best solution. The new international route China – Kyrgyzstan - Uzbekistan would bring significant advantages by reducing the transport distance by about 1,500 to 2,000 km. The new railway corridor will be beneficial for both China and Kyrgyzstan, as well as for Uzbekistan, which will be able to channel a significant part of its freight traffic through the Fergana Valley. According to experts, the forecast volume of cargo turnover on the new route would amount to 10 million tonnes per year and Kyrgyzstan's annual income from transit could amount to approximately US$200-280 million.

The creation of an alternative railway route along the North-South road corridor is a priority for the Government, as it would improve communication between the two main regions of Bishkek and Osh and create an additional transit corridor from Tajikistan to the Russian Federation via Kyrgyzstan and Kazakhstan.

Carriage of goods by inland water transport is carried out on Issyk-Kul Lake. The volume of cargo transport by water has been decreasing over time. In 1990, the share of water transport in the total volume of cargo transport was 0.19%; in 2010 the share fell to 0.04%. In 2017, cargo transport on Issyk-Kul Lake was abandoned. However, the resumption of cargo traffic on Issyk-Kul Lake is now possible again after the renovation of the vessel fleet and the rehabilitation of the cargo ports in Balykchy and Karakol and the pier in the village of Kurmenty.

Civil aviation for mountainous Kyrgyzstan, which has a relatively underdeveloped road transport and railway infrastructure, is a priority for the development of transport because the country is located so far from global economic and trade centres. In recent years, there has been rapid growth in the number of flights and passenger traffic by local and foreign airlines. For the period 2008-2017, the total number of flights increased by 1.7 times. This number increased by 2.2 times on international routes and by only 1.2 times on domestic routes. The share of air transport in the total volume of cargo traffic was 0.6% in 2017, while in 2008 it was 2.6%. In terms of turnover, the figures were 0.5% and 2.5% respectively.

In Kyrgyzstan, it is necessary to create logistics operations not only in the large cities, but also in the regions. Currently, all logistical flows go to Bishkek, and then the goods are sent to other cities. Logistics flows should be directed to the regions to encourage the development of a wide range of businesses and entrepreneurs. There are several possible locations for logistics centres. The Ministry of Transport and Roads considers Bishkek and Osh to be the top priorities for the establishment of international logistics centres. In addition, the districts of Balykchy, Kara-Balta, Jalal-Abad, Kara-Suu, Kyzyl-Kiya, Torugart and Irkeshtam are preferred choices.

Kyrgyzstan, as a transit state, must have developed legislation in the field of transport activities, including both national and international legislation. The harmonization of legislation in the field of transport is one of the most important prerequisites for the development of the transport infrastructure of Kyrgyzstan this should be addressed with additional accession to UN inland transport Conventions and Legal Agreements and with participation in UNECE projects such as the Euro-Asian Transport Links.

ANNEX

THE REGULATORY AND LEGAL FRAMEWORK FOR TRANSPORT

Kyrgyzstan, as a transit state, must have developed legislation in the field of transport, which comprises both national and international legislation.

Currently, all the relevant international legal instruments are in the following main groups:

- transport infrastructure;
- road traffic and road signs and signals;
- road vehicles;
- other legal documents in the field of road transport;
- facilitation of transport;
- inland navigation;
- transport of dangerous goods;
- transport of perishable foodstuffs.

1. ***Transport infrastructure:***

- Declaration on the Construction of Main International Traffic Arteries of 16 September 1950;
- European Agreement on Main International Traffic Arteries (AGR) of 15 November 1975;
- European Agreement on Main International Railway Lines (AGC) of 31 May 1985;
- European Agreement on Important International Combined Transport Lines and Related Installations (AGTC) of 1 February 1991

2. ***Road traffic and road signs and signals:***

- Protocol on Road Signs and Signals of 19 November 1949;
- European Agreement on Road Markings of 13 December 1957;
- European Agreement supplementing the Convention on Road Traffic of 1968 of 1 May 1971;
- Convention on Road Traffic of 8 November 1968;
- Convention on Road Signs and Signals of 8 November 1968;
- Agreement on Minimum Requirements for the Issue and Validity of Driving Permits (APC) of 1 April 1975.

3. ***Road vehicles:***

- Agreement concerning the Adoption of Harmonized Technical United Nations Regulations 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 United Nations Regulations dated 20 March 1958.

4. Other legal documents in the field of road transport:

- Convention on the Taxation of Vehicles for Private Use in International Traffic of 18 May 1956;
- Convention on the Contract for the International Carriage of Goods by Road (CMR) of 19 May 1956;
- Convention on the Taxation of Road Vehicles Engaged in International Passenger Transport, of 14 December 1956;
- Convention on the Taxation of Road Vehicles engaged in International Goods Transport of 14 December 1956;
- European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR) of 1 July 1970;
- Convention on the Contract for the International Carriage of Passengers and Luggage by Road (CVR) of 1 March 1973;
- Protocol to the Convention on the Contract for the International Carriage of Goods by Road (CMR) of 5 July 1978.

5. Facilitation of transport:

- International Convention to Facilitate the Crossing of Frontiers for Passengers and Baggage Carried by Railof 10 January 1952;
- International Convention to Facilitate the Crossing of Frontiers for the Carriage of Goods by Rail of 10 January 1952;
- Convention concerning Customs Facilities for Touring of 4 June 1954;
- Customs Convention on the Temporary Importation of Private Road Vehicles of June 4, 1954;
- Customs Convention on the Temporary Importation for Private Use of Aircraft and Pleasure Boats, dated 18 May 1956;
- Customs Convention on Spare Parts Used for Repairing Europ Wagons dated 15 January 1958;
- European Convention on the Customs Regime Applicable to Pallets Used in International Transport of 9 December 1960;
- Customs Convention on Containers of 2 December 1972;
- Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) of 14 November 1975;
- International Convention on the Harmonization of Frontier Controls of Goods of 21 October 1982;
- Convention on Customs Treatment of Pool Containers used in International Transport of 21 January 1994.

6. Inland navigation (private law):

- Convention relating to the unification of certain rules concerning collisions in inland navigation of 15 March 1960;
- Convention on the Registration of Inland Navigation Vessels of 25 January 1965;
- Convention on the Measurement of Inland Navigation Vessels of 15 February 1966;
- Convention on the Contract for the International Carriage of Passengers and Luggage by Inland Waterways (CVN) of 6 February 1976;
- Convention on the Limitation of Liability of Owners of Inland Navigation Vessels (CEP) of 5 July 1978;
- Protocol to the Convention on the Limitation of Liability of Owners of Inland Navigation Vessels (CEP) of 5 July 1978;
- Protocol to the Convention on the Contract for the International Carriage of Passengers and Luggage by Inland Waterways (CVN) of 5 July 1978.

7. Transport of dangerous goods:

- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) of 30 September 1957;
- Convention on Civil Liability for Damage Caused by Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD) of 10 October 1989.

8. Transport of perishable foodstuffs:

- Agreement on the international carriage of perishable foodstuffs and on the special equipment to be used for such carriage (ATP) of 1 September 1970.

The following international agreements and conventions developed within the CIS are in force in Kyrgyzstan:

- Agreement on the principles and conditions of relations in the field of transport of 30 December 1991. The agreement was concluded by the Commonwealth countries to realize the benefits of economic integration and the need for concerted action in the context of a common economic space;
- Agreement on the implementation of a coordinated policy on the definition of transport tariffs of 17 January 1997. It is aimed at developing a set of measures to regulate tariff policy, aimed at ensuring the free movement of goods and passengers. In the field of rail transport, the concept of the establishment of an agreed tariff policy on rail transport by the CIS member States is in force;
- Convention on the International Carriage of Passengers and Luggage by Road of 9 October 1997. The Convention regulates the conditions and rules of transport, the liability of carriers and the procedure for making claims. Transport of passengers and luggage in international traffic can be carried out by private, collective, state or mixed ownership carriers, subject to the availability of an appropriate license.

- Agreement on the principles of the creation of a common transport space and the interaction of the CIS member States in the field of transport policy of 9 October 1997. This Agreement was concluded for a period of 10 years and could be extended for another 10-year period unless the Parties decide otherwise. However, not all the States participants of the Agreement actively fulfil its conditions, as a result of which the effectiveness of this Agreement has declined year by year and transport problems have not been solved.
- Protocol on the international highways of the CIS of 11 September 1998;
- Agreement on compulsory passenger insurance for international road transport dated 13 January 1999;
- Agreement on transit through the territories of CIS member States of 4 June 1999;
- Agreement on the masses and dimensions of vehicles engaged in interstate transport on the roads of the CIS member States of 4 June 1999;
- Agreement of the CIS member States on a mechanism for taxation of rail transport of 10 March 2000. The agreement is aimed at reducing costs for rail transport in international traffic between the CIS countries. It was noted that the Parties should implement measures to harmonize tax collection systems and state fees related to the use and maintenance of railways, and the ownership and use of railway vehicles. The parties agree not to impose a value added tax on railway transport services for the carriage of transit goods in CIS member States, including forwarding, loading, unloading and reloading services.
- Agreement on the use and development of a transport network for economic, military and humanitarian transport needs of the CIS member States of 31 May 2001;
- Agreement of the CIS member States in the field of international road freight transport dated 18 September 2003;
- Declaration on Transport Security in the CIS Member States of 18 September 2003. This document is related to the problems of preventing, detecting, intercepting and investigating criminal acts and terrorist acts that threaten transport security;
- Agreement of the CIS member States in the field of international road freight transport dated 18 September 2003. The Agreement provides for measures to ensure concerted actions in this area, fair competition and equal conditions for carriers and removal of barriers in international road transport;
- Decision of the Council of Heads of State “On the Harmonization of National Air Traffic Management Systems of the member States of the Commonwealth of Independent States” of 19 September 2003. The objectives are harmonization of national air navigation systems; enhancing the safety of civil aviation; increasing the economic and defense effectiveness of the use of CIS airspace; and creation of favourable conditions for the implementation of the strategy of the International Civil Aviation Organization on the integration of European and global air navigation systems;

- Agreement on the introduction of an international weight certificate for trucks in CIS member States of 16 April 2004;
- Concept for a coordinated transport policy of CIS member States of 15 September 2004. The concept reflects an agreed viewpoint on the prospects for the further development of the transport system, the most relevant areas for cooperation in shaping the common transport space of the CIS member States, and approaches to the creation of a market for transport and forwarding services. However, to date, not all goals set in the Concept have been achieved;
- Agreement on Cooperation of CIS Member States on Combating Crime in Transport of 15 September 2004, according to which the Parties agree to cooperate in the prevention, detection, suppression and disclosure of crimes committed in transport;
- Main directions for the development of the market for international road transport services of 29 June 2007;
- Main directions for the development of civil aviation and measures to improve flight safety in the CIS member States of 22 November 2007;
- Priority directions for cooperation of CIS member States in the field of transport for the period until 2020 of 14 November 2008. These include: the creation of a network of transit transport highways of continental importance; Euro-Asian transport corridors; increasing the level of interaction between various modes of transport in international transport; development of a concept for the strategic development of rail transport of the CIS member States; increasing the effectiveness of tariff policies; elimination of the negative impact of fiscal and administrative barriers in the implementation of international road transport; cooperation in the field of air traffic management of CIS member States; creation of conditions for the effective development of air transport; improvement of the legal and regulatory framework for cooperation in the field of transport; and formulating a coherent policy in the field of transport security and environmental protection. The implementation of these measures in the context of building a common transport policy in the CIS should make it possible to optimize financial support for the implementation of these activities and determine the timing and sequence for their implementation.

Analysis of international agreements and conventions developed within the framework of the CIS shows that there are many problems that have a serious detrimental effect on the development of a single transport space in the CIS. These include:

- Lack of harmonized legal norms in many areas of the transport services market;
- Technical and technological requirements in passenger and cargo transport are not standardized;
- Lack of a coordinated approach on many issues of international cooperation and future directions for the development of transport in the CIS; and

Various barriers of a technical, administrative, fiscal and transboundary nature, etc.

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Logistics and Transport Competitiveness in Kyrgyzstan

Improving the competitiveness of Kyrgyzstan as a key transport transit country at the crossroads of Europe and Asia could enable the country to unlock significant untapped benefits of growing cargo flows between the two continents.

This study identifies the transport infrastructure and services available in Kyrgyzstan, reviews the country's recent and future transport investments, and sets out recommendations to ensure its transport network is ready to harness the growth in inland transport from rising key trade flows, particularly in the context of the Belt and Road Initiative, within which Kyrgyzstan's strategic geographical position will be key to regional development.

To further capitalize on Kyrgyzstan's pivotal role in Euro-Asian transport, this study also presents the benefits of adhering to and implementing the full spectrum of UN Transport Conventions and Legal Instruments administered by UNECE, and through its participation in UNECE initiatives such as the Euro-Asian Transport Links project.

The study also highlights strengthening the full implementation of legislation as one of the most important conditions for the development of the transport infrastructure of Kyrgyzstan and the broader region.

Information Service
United Nations Economic Commission for Europe

Palais des Nations
CH - 1211 Geneva 10, Switzerland
Telephone: +41(0)22 917 12 34
E-mail: unece_info@un.org
Website: www.unece.org

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