

ADB

# CONNECTING CENTRAL ASIA

A Road Map for Regional Cooperation

An aerial photograph showing a winding asphalt road that curves through a rugged, mountainous landscape. The terrain is arid, with sparse vegetation and exposed rock faces in shades of brown, tan, and grey. The road has white lane markings and a small white marker on the shoulder. The perspective is from above, looking down at the road as it snakes through the valley.

Asian Development Bank

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A Road Map for Regional Cooperation

Manmohan Parkash

Asian Development Bank





A Section of ADB-financed Bishkek-Osh Road

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# Abbreviations and Acronyms

AETR	- European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport
ADB	- Asian Development Bank
CAR	- Central Asian republic
CAREC	- Central Asia Regional Economic Cooperation
CIS	- Commonwealth of Independent States
EAEC	- Euro-Asian Economic Community
EBRD	- European Bank for Reconstruction and Development
ECO	- Economic Cooperation Organisation
ESCAP	- Economic and Social Commission for Asia and the Pacific of the United Nations
EU	- European Union
IPT	- International Passengers Transportation
IRU	- International Road Union
IsDB	- Islamic Development Bank
JBIC	- Japan Bank for International Cooperation
km	- kilometer
MTT	- International Railway Tariff
PRC	- People's Republic of China
RCSP	- regional cooperation strategy and program
SCO	- Shanghai Cooperation Organization
SPECA	- Special Programme for the Economies in Central Asia
TAR	- Trans-Asian Railway
TIR	- Transport International Routier
TRACECA	- Transport Corridor Europe Caucasus Asia
TSCC	- Transport Sector Coordinating Committee Meeting
USAID	- United States Agency for International Development
UTT	- Unified Transit Tariff

## NOTE

In this report, "\$" refers to the US dollar

# Acknowledgment

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The report has benefited from the guidance provided by H. Satish Rao, Director General, East and Central Asia Department (ECRD), and Xianbin Yao, Deputy Director General, ECRD.

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TRANSPORT SECTOR COORDINATION COMMITTEE MEETING

ЗАСЕДАНИЕ  
КООРДИНАЦИОННОГО КОМИТЕТА  
ПО ТРАНСПОРТНОМУ СЕКТОРУ  
ALMATY, KAZAKHSTAN  
30 JUNE TO 1 JULY 2004



Inaugural Transport Sector Coordinating Committee Meeting  
Almaty, Kazakhstan  
30 June - 1 July 2004

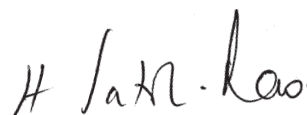
# Foreword

Central Asia, a historical land bridge between East Asia and Europe, as well as between South Asia/Persian Gulf and Russia, has the potential to become an important transit route between Asia and Europe. The four Central Asian republics (CARs), Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan have close geographical links and strong economic complementarities. They are well endowed with energy, nonmetallic ores, and agricultural resources. More importantly, they have as their neighbors the People's Republic of China (PRC), a fast growing economy with huge demand for energy, and expanding trade; and the Russian Federation, a country with huge oil and natural reserves. All this provides the CARs with a huge opportunity for international trade, both within the region and beyond.

The “go-west” strategy of the PRC, which focuses on development in its western and remote regions and seeks active economic cooperation with neighboring countries, and the reconstruction of Afghanistan, has opened up new opportunities for economic cooperation and for reestablishing historical ties and potential economic links both within and beyond the region. To benefit from these opportunities, there is a need for an efficient and well developed regional and international transit transport. However, the regional transport networks are inadequate, a large proportion of regional transport infrastructure and facilities are in poor condition, funding for maintenance is insufficient, and nonphysical barriers are becoming major impediments to cross-border and transit traffic. Addressing these issues is critical to develop an efficient and sustainable regional transport in the region, which is the motivation for this report.

Being landlocked, the two most dominant modes of transport in the CARs are road and rail. This report documents the current status of the road and rail transport in the region, discusses the key regional transport issues, and explores possible options to resolve these issues. An action plan with investment needs is presented in this report to reflect on the urgent priorities requiring attention in the region. The report concludes with an overview of ADB's role and a road map supported by ADB to develop an efficient and sustainable regional transport in Central Asia.

We hope that this report will generate interest among numerous stakeholders and provide a better understanding of the key issues. We also hope that transport planners, policy makers, government officials, donors, the private sector, and the civil society will find it useful. Finally, we hope this report will help in some way in facilitating transport cooperation among the Central Asian countries to achieve sustainable and economic development in the region.



**H. SATISH RAO**

Director General, Asian Development Bank





ADB-financed rehabilitated Uzbekistan Railway



The rehabilitated Almaty-Bishkek Road

Regional Cooperation is critical to achieve efficient systems and to integrate with international markets.





# Introductions

The interdependence of the CARs is unusually high as they inherited a regionally integrated transport system from the former Soviet Union, they are physically isolated from global markets (all are landlocked), and they have relatively small domestic markets.

The four Central Asian republics (CARs) — Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan — form a historical land bridge between the People's Republic of China (PRC) and Europe as well as between the Indian Ocean and the Persian Gulf and the Russian Federation (Russia) and the Baltic States. The interdependence of the CARs is unusually high as they inherited a regionally integrated transport system from the former Soviet Union, they are physically isolated from global markets (all are landlocked), and they have relatively small domestic markets. Trade flows are now reorienting with implications for investment in transport infrastructure. Regional cooperation

is critical to achieve efficient systems and to integrate with international markets.

After several years of economic decline, recovery is now well under way. In terms of value, foreign trade has grown at 19–20% per year since 1999 with strong growth in the trade of hydrocarbon products. As a result, recent forecasts suggest future short-term annual growth on the regional transport network will typically be 5–6% for rail freight traffic and about 6–8% for road traffic. The higher rates for roads reflect growing car ownership and the increasing role of trucking as the demand for higher quality door-to-door services increases, though road traffic will remain predominately domestic rather than international.





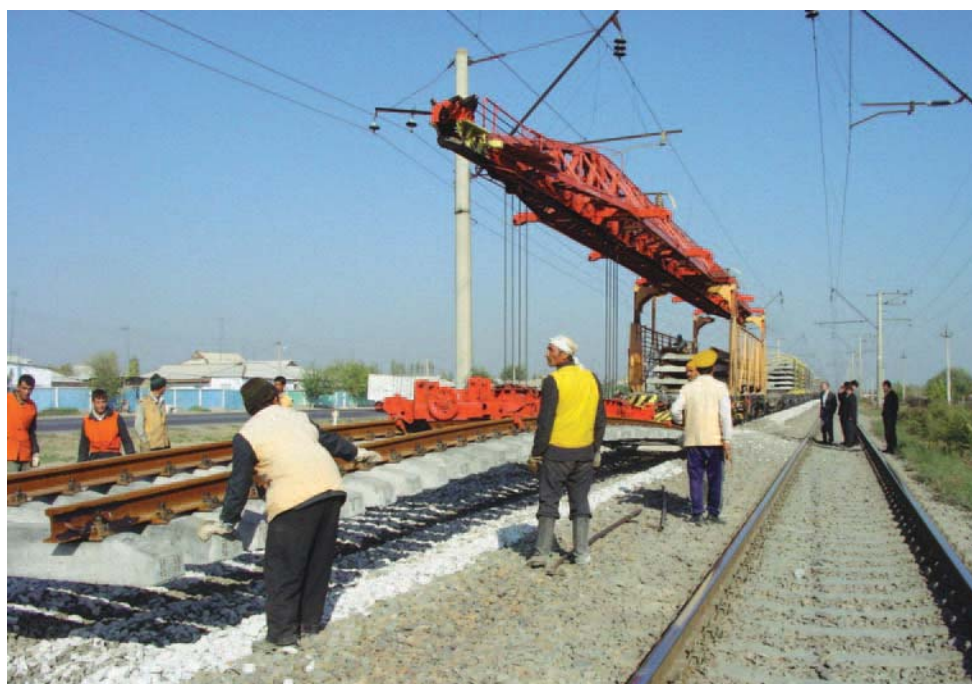


Given the dramatic fall in traffic on the regional networks in the 1990s, there is undoubtedly abundant spare capacity on virtually the entire transport network. Nevertheless, reflecting the reorientation of trade patterns away from Russia, bottlenecks are expected to occur over the short term at certain border stations on the rail network such as Druzhba on the PRC border and Serakhs on the Iranian frontier where traffic is already growing at over 20% per year. Increased traffic is also expected to be handled by the Caspian Sea ports (mainly oil). If current obstacles to regional transport can be removed, particularly high traffic growth rates can be expected driven by the demand in the region for consumer goods manufactured in the PRC or imported through the Persian Gulf.

Also, numerous events have occurred that offer fresh opportunities and pose new challenges for cooperation:

- the reconstruction of Afghanistan, which has opened up new opportunities for economic cooperation and for reestablishing historical ties and potential economic links between Central and South Asia;
- a reversal of economic trends in the region; and
- the “go west” strategy of the PRC, which focuses on

Trade flows are now reorienting with implications for investment in transport infrastructure.







development in its western and remote regions and seeks active economic cooperation with neighboring countries.

Given this background and developments, this report looks at

the following about road and rail transport in Central Asia: (i) the current status of regional transport and how it is expected to change in the future, (ii) the appropriate objectives for developing regional transport, (iii) key regional transport

issues, and (iv) possible options to resolve these issues. An action plan with investment needs is presented in this report to reflect on the urgent priorities requiring attention in the region. The report concludes with an overview of ADB's role and a road map supported by ADB to develop an efficient and sustainable regional transport in Central Asia.





Future prospects are for stronger economic growth as Central Asia embarks on export-led growth and as the PRC implements its go-west policy.



# The Status of Regional Trade and Transport

## Trade

**R**ussia is still the largest trading partner of the CARs and accounts for the major part of the export flows and import flows from the region (see tables 1 and 2). Europe also is a major source of exports and imports, and significant trade also takes place with the PRC, Iran, Turkey, and the Middle East. In contrast, trade among the CARs themselves is rather small and is

mainly between Kazakhstan and Uzbekistan and the Kyrgyz Republic and Tajikistan. Even trade carried by roads is mainly oriented to Russia, although there is some traffic between the Uzbekistan and the Kyrgyz Republic and between CARs and the PRC.

In most CARs, despite new trading opportunities created by independence, economic recovery has not always been accompanied by increased foreign trade. This can partly be attributed to development



**Table 1. Foreign Trade in Central Asian Republics**

(\$ Million)

1999				2004			
Group	Exports	Imports	Total Trade	Group	Exports	Imports	Total Trade
CARs	740.5	792.8	1,533.3	CARs	1,067.4	1,260.0	2,327.4
Rest of CIS	2,148.8	2,333.4	4,482.2	Rest of CIS	4,709.8	7,750.0	12,459.8
EU-15	2,399.3	1,915.4	4,314.7	EU-15	7,401.0	3,747.4	11,148.4
East Asia	685.6	923.6	1,609.2	East Asia	2,378.7	2,225.8	4,604.5
South Asia	58.0	67.3	125.3	South Asia	349.0	131.0	480.0
Others	3,909.8	1,726.4	5,636.2	Others	10,103.4	3,375.1	13,478.5
<b>Total</b>	<b>9,941.9</b>	<b>7,758.9</b>	<b>17,700.8</b>	<b>Total</b>	<b>26,009.3</b>	<b>18,489.3</b>	<b>44,498.6</b>

CAR = Central Asian republic, CIS = Commonwealth of Independent States, EU = European Union.

Source: National Statistics of respective countries 2005.

**Table 2. Trade by Volume and Mode to Main Trading Partners or Regions in 2003**

(excluding transport by pipeline and by air; in million tons)

	Kazakhstan		Kyrgyz Republic		Tajikistan		Uzbekistan		All Four	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
Russia	3.6	5.7	0.2	0.7	0.2	0.7	0.7	1.6	4.7	8.7
Other CIS	0.8	1.5	0.1	0.6	0.1	0.7	0.6	0.9	1.6	3.7
China	2.6	1.1	0.1	0.1	0	0	0.1	0.3	2.8	1.5
Other S and E Asia	2.2	0.6	0.2	0.3	0.1	0.2	1.1	0.3	3.6	1.4
MENA + Iran	0.7	0.2	0.1	0.1	0.1	0.1	0.2	0.2	1.1	0.6
SE Europe and Turkey	0.7	0.5	0.1	0.1	0.4	0.1	0.3	0.4	1.5	1.1
W Europe	5.1	3.5	0.2	0.1	0.3	0.2	1	0.4	6.6	4.2
Rest of the World	3.1	1.7	0.3	0.1	0.2	0.5	0.8	0.3	4.4	2.6
Rail and road total	18.8	14.8	1.2	2.2	1.4	2.6	4.9	4.5	26.3	24.1
Of which by rail	88%	81%	86%	84%	92%	87%	89%	82%	89%	81%

CIS = Commonwealth of Independent States, Exp. = Export, Imp. = Import, MENA = Middle East and North Africa, SE Europe = South East Europe.

Source: World Bank. 2005. Inter-regional Trade and Transport Facilitation in Europe and Central Asia South Asia Region and East and Pacific Region.

and trade policies based on self-sufficiency and import substitution rather than promotion of exports; to the imposition of ad hoc import controls; and to stricter, more complicated border controls. These policies contrast with the “go west” policy adopted in late 2000 by the PRC that has encouraged increased trade between the Xinjiang and Inner Mongolia autonomous regions and their neighbors including the CARs and Mongolia. Kazakhstan and to a lesser extent the Kyrgyz Republic are the main CAR trading

partners of Xinjiang, which is expected to become increasingly dependent on agricultural products produced in the Fergana Valley.

The short- and medium-term prospects for increased foreign trade in the region are encouraging. The total value of foreign trade of CARs rose from United States dollars (\$) 17.7 billion in 1999 to \$44.5 billion in 2004, though most of this was attributable to exports of oil products (mostly from Kazakhstan). Trade among CARs has tended to fall. Uncertainties

**The short- and medium-term prospects for increased foreign trade in the region are encouraging.**

Peace and stability in Afghanistan should lead eventually to new export possibilities for the region's oil and gas reserves, and new market opportunities involving trade with the Middle East are expected to increase demand for transport.

over investment levels remain, and due to high levels of external debt, Kyrgyz Republic, Tajikistan, and Uzbekistan have limited capacity for increasing imports. The main potential areas for growth in the medium term seem to be the following:

- Kazakhstan's trade especially with its principal trading partners in Europe, the PRC, and Russia;
- CARs trade with the PRC;
- CARs trade with Turkmenistan, Iran, and other trading partners to the south; and
- trade with Afghanistan in the short term (relief supplies originating from outside the region) and in the medium term (imported goods for reconstructing the country, offering prospects for increased trade with Tajikistan and Uzbekistan).

Future prospects are for stronger economic growth as the oil-rich economies of Russia and Central Asia increasingly embark on export-led growth and as the PRC implements its go-west policy. Peace and stability in Afghanistan should lead eventually to new export possibilities for the region's oil and gas reserves, and new market opportunities involving trade with the Middle East are expected to increase demand for transport. Future export flows of raw materials and unfinished products from Kazakhstan to Russia will depend on the extent to which traditional cross-border industrial and producer relationships continue.

Oil exports will continue to be the major activity of the Caspian

Sea port of Aktau, and traffic that involves Iranian ports would be expected to continue to expand. There may, however, be significant traffic diversion to railway if border-crossing procedures are sufficiently simplified to make carrying goods more attractive between Iran and southern Kazakhstan through Turkmenistan and Uzbekistan.

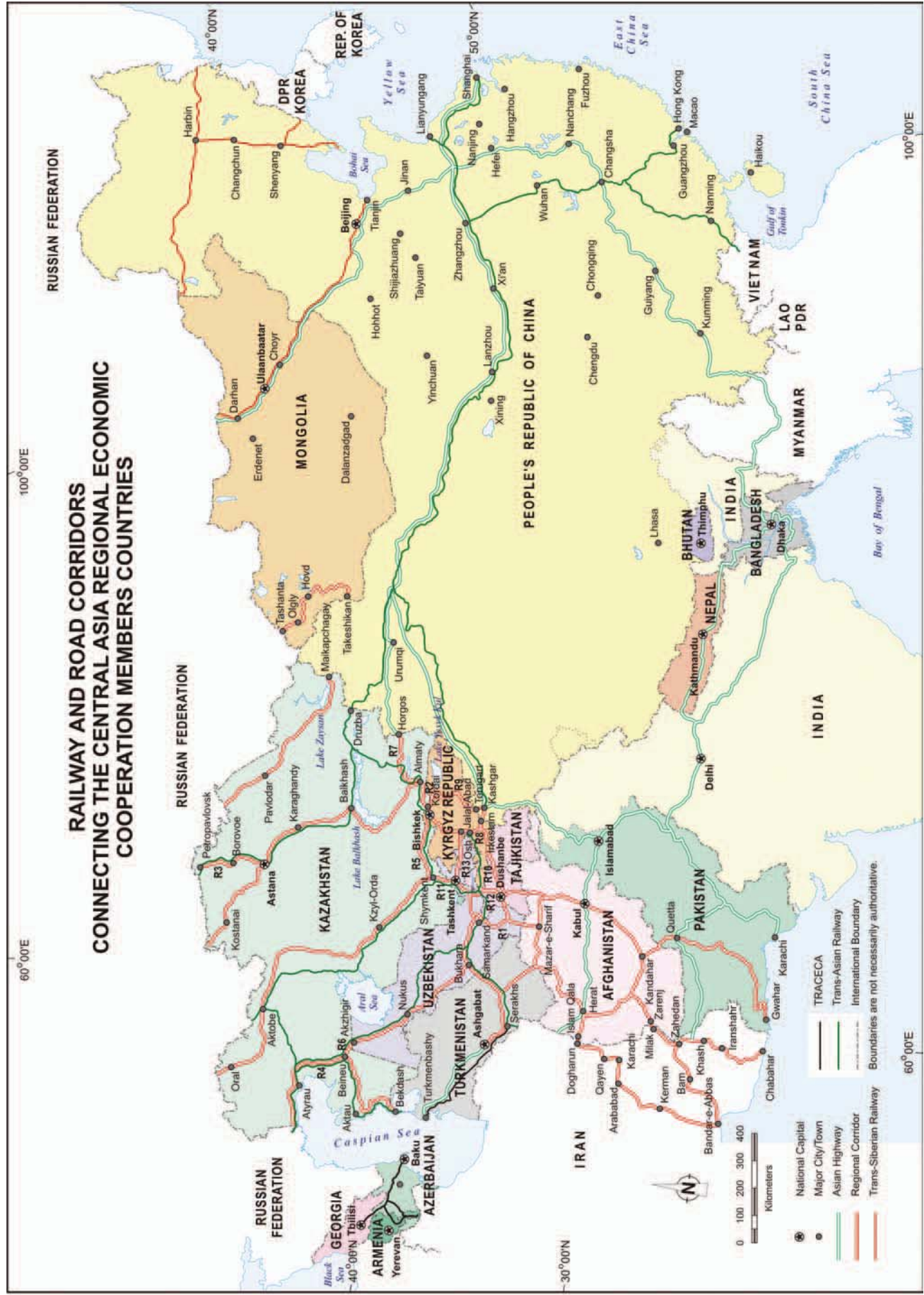
## Transport

Regional traffic in Central Asia is overwhelmingly carried by rail (see Table 2 and the map below). Even for trade within CARs, road carries only 22%.

Of particular importance for inter-regional movements are the following routes.

- The railway connecting Kazakhstan, Uzbekistan, and Turkmenistan with links to the Kyrgyz Republic and Tajikistan provides connections between much of Central Asia and seaports on the Persian Gulf, the Mediterranean Sea, the Black Sea and potentially transit between East Asia (via the Druzhba border post) and Southern/Central Europe. The parts of the parallel road are also used for some regional transport services to provide connections to southern seaports.
- The railways connecting the main industrial centers in northern Kazakhstan with the northern border with Russia provide the main connections between northern Kazakhstan and European Russia and Europe and transit services between East Asia (via Druzhba) and Northern and Central Europe along the northern Trans-Asian railway (TAR). The roads play a similar





## Regional traffic in Central Asia is overwhelmingly carried by rail

role but on a more modest scale especially as part of the main road link between the Kyrgyz Republic, Uzbekistan, and southern Kazakhstan and Russia and Europe.

- The Kazak railway via Kzyl-Orda and Aralsk has traditionally provided the main connection between Uzbekistan and the Kyrgyz Republic and between European Russia and Northern Europe and now provides a route to the Caspian Sea port of Aktau. The parallel road has been partially constructed and is also used for regional transport to a limited extent.
- The railway in Uzbekistan via Navoi and Nukus and then through Makat in Kazakhstan provides a link between southern Uzbekistan, Turkmenistan, and Tajikistan to western Siberia. It could potentially provide a transit route between western Siberia and eastern Iran and Afghanistan. It also provides an alternative east-west link to the Kzyl-Orda-Aralsk route via Aktau. The partially constructed parallel road is also used for traffic between Uzbekistan and Russia and Europe via the Beineu-Aktyubinsk road in Kazakhstan.
- The north-south road through eastern Kazakhstan via Almaty and Aktogay provides an important link between the Kyrgyz Republic (and Uzbekistan to a lesser extent) and eastern Siberia.
- The north-south road through Kyrgyz Republic and Tajikistan, which links Kazakhstan and Xinjiang to Afghanistan and ports in Iran and Pakistan.

## Railways

The total length of the rail network in the four CARs is about 19,600 kilometers (km) but size varies by country. Kazakhstan has about 14,600 km of main line of which 37% are double-track and 28% are electrified. Uzbekistan has about 4,000 km including the 400 km of new line constructed in the last 2-3 years. About 150 km are double track and about 10% are electrified. In the other CARs, most lines are single track and not electrified. In 2004, main lines consisted of 426 km in the Kyrgyz Republic mostly in the north, and 533 km in Tajikistan including 106 km in the north.

The network was designed with the needs of the former Soviet Union in mind. This means that in Central Asia it is mainly oriented north-south and that present borders were ignored. As a result, virtually all freight movements from the CARs to Russia cross Kazakhstan as do a large proportion of exchanges with Europe and even some between Uzbekistan and Turkmenistan and East Asia. Uzbekistan also has significant transit traffic. Often, there were no convenient routes to go from one place in a country to another, so there are several cases where rail lines linking two regions of a country must cross borders that are now international:

- between the Fergana Valley and other parts of Uzbekistan through Tajikistan;
- between northern and southern Kyrgyz Republic through Uzbekistan, Tajikistan, and Kazakhstan;
- between northern and southern Tajikistan through Uzbekistan and even between two



- neighboring regions of southwestern Tajikistan; and
- between several regions of northern Kazakhstan through Russia.

The effects of this can be significant. For example, in the Kyrgyz Republic transport costs may represent almost 50% of the price of nationally produced goods. The gate price of heating oil is \$50 per ton at the refinery in the south of the country. Bringing it to the north by rail, however, may cost as much as \$27-30 because it must pass through Uzbekistan, Tajikistan, and Kazakhstan. That means oil will sell for about \$90 in the north. For coal, the share of transport costs in the final price is even higher (ADB 2004).

To ensure national autonomy, the CARs have constructed new lines to avoid the necessity of crossing borders to travel nationally, a move that ignores regional cooperation; such new construction was generally financed from state funds. Other lines have been proposed to provide more direct links within a country such as the Zhezkazgan-Kzyl-Orda and Kamenogorsk-Zhangiztobe lines in Kazakhstan. These would, however, mainly serve national interests rather than improve regional transit. More such lines are planned in future years although it is recognized that due to financial constraints most are long-term prospects.

International rail connections take place through four interfaces:

- the 3,000-km border between Kazakhstan and Russia;
- the Caspian Sea ports of Aktau in Kazakhstan and Turkmenbashi in Turkmenistan with regular



- services to Baku and Iranian ports and occasional services to Russian and even Baltic ports through the Volga River network;
- the Serakhs station that links the Russian gauge Turkmen network to the standard gauge Iranian network opened in 1996 for transit to either Iran or Turkey; and
- the Druzhba-Alashankou station between Kazakhstan and the PRC.

The traffic at the Druzhba-Alashankou exchange has steadily developed over the years, which is not really surprising since the economies of Kazakhstan and the PRC are largely complementary. Kazakhstan has many of the natural resources that the PRC economy needs to keep growing at an annual rate of over 8%. Some traffic will be diverted from the railway on the completion of the proposed PRC-Kazakhstan oil pipeline. There is a good chance, however, that rail

Often, there were no convenient routes to go from one place in a country to another, so there are several cases where rail lines linking two regions of a country must cross borders that are now international:

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traffic will at least double and most probably more than triple in the coming decade. Since the PRC will continue to import bulk commodities and export lighter manufactured goods that may be better shipped by road or air, the large current imbalance between rail exports and imports will probably continue.

The role of the Iranian port of Bandar-Abbas as a major interface between the Central Asian economies and world markets, particularly Asian ones, seems bound to expand with the resulting increase in traffic between the CARs and Iran. At the same time, the development of the TAR will result in traffic increases between the PRC and Southern Europe through Turkey.

### Road Networks

The total road length under central government management (national highway) in the CARs is 59,430 km, almost all of which is paved. Although the network gives broad coverage to the region, major difficulties arise in some areas from the imposition of new border

controls. Most of the international road traffic is carried on a core network of 19,600 km of roads most with two lanes<sup>1</sup> designed for 100 km/hour and an average daily traffic flow of 1,000–3,000 vehicles. Current flows are well below capacity: 56% of the core network has a flow of less than 1,000 vehicles per day and only 20% has a flow above 3,000. The average annual daily traffic flow on the main regional roads is about 1,700 vehicles. The pattern of heavy truck flows is similar to that of total traffic. There are significant seasonal variations due to the production of fresh agricultural products that are almost entirely carried by road transport from south to north mainly during the summer.

Road transport is also used for consumer goods not only from Europe and other markets that quickly developed after 1990 but also from the PRC and dealers in the United Arab Emirates through the Iranian port of Bandar-Abbas. About 300–500 transit trucks currently cross the Iranian border each month with imports for Central Asia, and this traffic is expected to grow. Road transport of imports from the PRC is also expected to grow. Increasingly, exports of agricultural products are likely to become important depending on the extent to which the PRC has to supplement its own production and the extent to which roads are improved to provide reliable transport. This has important implications for developing corridors such as that between Osh and Irkeshtam and between Dushanbe and Irkeshtam



<sup>1</sup> 3.5meter per lane plus 0.5meter shoulder.

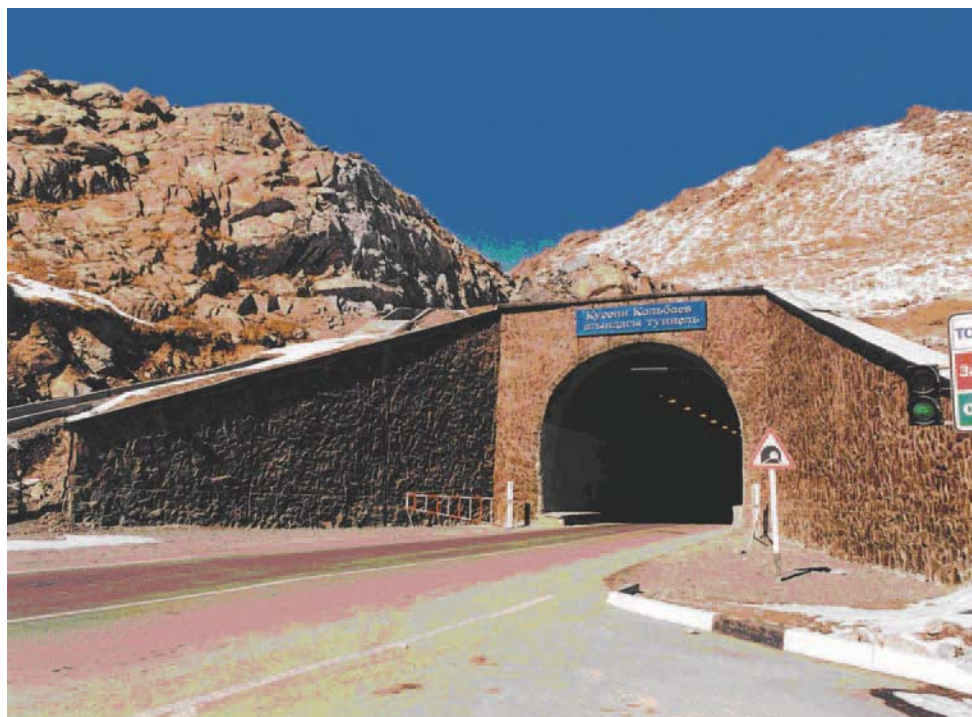


where potential growth rates could be much higher than other roads.

The condition of the network is often poor. The roads in Kazakhstan and Tajikistan require either rehabilitation or major repairs. In Uzbekistan the roads are better, but the pavement is often severely distressed and needs rehabilitation. The main causes of the poor road conditions is overloading of vehicles, and lack of preventive maintenance due to funding constraints. This has led to a growing backlog of maintenance work. There is also a need to take account of the higher axle loads of modern trucks when designing maintenance programs and rehabilitation projects.

Regional road freight transport services are usually provided by heavy trucks with three or more axles. Intraregional traffic is generally carried by trucks manufactured in the Commonwealth of Independent States (CIS)—specially the Kamaz and Maz multi-axle types—while more modern designs are used for interregional transport. Only modern trucks meeting the latest European technical standards for emissions are able to operate in Europe. Under current competitive conditions, foreign transporters have been able to gain a majority market share on interregional routes because they have substantial trucking experience and know-how; modern, more efficient vehicles; and convenient access to shippers handling imports into the region.

Trends in vehicle registrations suggest that the number of trucks used in the region has fallen by about 50% in the last 10 years while there has been a significant increase



in car ownership in most countries. Consequently, it is likely that while overall traffic flows may have remained fairly stable, the composition has significantly changed. On regional roads, most international traffic is carried by foreign trucks designed to carry heavier loads. This tends to increase pavement damage. International traffic, however, makes up only a small proportion of the total flow on the core network—less than 20–30% of all trucks—corresponding to less than 10% of all vehicles. On the main transit routes through Kazakhstan, the proportion of trucks making international journeys is as high as 30% representing about 10% of all vehicles including cars and buses. The proportion of international trucks on nontransit routes is much smaller. Cross-border flows are correspondingly small. Typical border posts on the main regional routes handle between 5,000 and 10,000 trucks per year (about 20



The main causes of the poor road conditions is overloading of vehicles, and lack of preventive maintenance due to funding constraints. This has led to a growing backlog of maintenance work.

trucks per day). The number of vehicles has fallen significantly in the last few years, reflecting the fall in regional trade and the greater restrictions on movement.

As a result of privatization programs,<sup>2</sup> many new private transport companies and small-scale operators are engaging in international transport. They all face substantial competition from foreign transporters on interregional routes. New companies have been formed with modern trucking fleets that are either state owned as in Uzbekistan or privately owned as in Kazakhstan. Despite the falls in the registered truck fleet and the presence of foreign competition, there has been significant

investment in international road transport in the CARs, and most of the international fleet is less than 10 years old though the fleet constitutes only a small proportion of total registered trucks (of the order of 1%).

Freight tariffs vary according to market conditions. On interregional routes from Europe to Kazakhstan the rate is about \$1.0 per km for a normal 20-ton consignment carried by a modern tractor trailer, whereas the rate falls to \$0.6 on the return leg. Rates are higher for interregional routes to the south (\$1.3–1.5 per km); this is partly attributable to transit fees and border controls. Tariffs on intraregional routes are even higher (\$1.6 per km).

<sup>2</sup> In countries such as Kazakhstan, these have already resulted in most transporters being in the private sector. In Tajikistan, most are still in the state sector but the proportion of private operators is increasing.



While the CARs give high priority to the transport sector, they all face significant constraints in developing infrastructure and services.



# Transport Policies and Plans



**T**he transport policies adopted by each of the CARs reflect that they are landlocked; that their geographical situation offers opportunities to exploit transit traffic; that they need to reorient traffic away from the Soviet pattern; and that they need secure, reliable national links that do not require transit through neighboring countries. While the CARs give high

priority to the transport sector, they all face significant constraints in developing infrastructure and services. Their relatively small populations and large land areas (especially in Kazakhstan and Uzbekistan) and difficult mountainous terrain increase infrastructure costs (especially in the Kyrgyz Republic and Tajikistan). Furthermore, they have to weigh in the competing



requirements of domestic transport, especially the need to support key industries, to provide access to rural populations to distribute the benefits of economic growth, and to provide direct links between the population centers of a country. While it is true that many main routes used for regional traffic also carry significant levels of domestic traffic, this is not always the case.

Nationally, the transport sector is managed by a single ministry that is responsible for all modes of transport except in Uzbekistan where separate government organizations report to the transport department of the cabinet of ministers for different functions within the sector. At the subsector level, the degree to which state management and commercial responsibilities have been divided varies considerably from country to country. Generally, the economic basis of transport planning is weak, and this prevents effective prioritization of investments and policies in the sector.

Internationally there are several important regional organizations that seek to promote cooperation in transport between countries in Central Asia. These include the Economic Commission for Europe, the Economic and Social Commission for Asia and the Pacific (ESCAP), and the United Nations Conference on Trade and Development. Special regional organizations within these international bodies have been set up to provide multilateral frameworks for tackling those problems specific to Central Asia. The most important are the Special Programme for the Economies in Central Asia (SPECA) under ESCAP

and the Economic Cooperation Organisation (ECO).

The CIS has achieved broad success in establishing multilateral agreements on a range of issues concerning technical standards for transport. These include standards for road design, vehicle size and weight, and policies for charging oversized or overweight vehicles. Not all the CARs have, however, signed up, and fewer still have implemented them in domestic laws and regulations. The European Union (EU)'s basic multilateral agreement on international transport for the development of the Transport Corridor Europe Caucasus Asia (TRACECA) signed on 8 September 1998 is a major achievement in defining the basis for cooperation in transport; however, much work remains to be done in implementing its detailed annexes.

All CARs are members of the International Road Union (IRU), which assists with implementation of international road transport agreements. For railway transport in

Generally, the economic basis of transport planning is weak, and this prevents effective prioritization of investments and policies in the sector.



Though much has been achieved in the last 10 years in establishing the legal framework for regional transport, both in terms of international conventions and domestic legislation, much still remains to be done.

Even if the CARs have signed international conventions, they are often not implemented completely due to delays in incorporating the provisions in domestic legislation or to administrative difficulties.

the CIS, an inter-governmental agreement was signed as early as 14 February 1992. This organization coordinates the operations and development of the railways and has facilitated several important agreements on tariffs.

In general, the PRC does not participate in these broad multilateral agreements; however, it has made smaller-scale agreements. Most notable among those are the Transit Transport Agreement (PRC, Kazakhstan, Kyrgyz Republic, and Pakistan on March 9, 1995) and the Agreement on International Road Transport (PRC, Kyrgyz Republic, and Uzbekistan on 19 February 1998). The PRC also participates in general regional economic cooperation forums such as the Central-Asian Economic Union, the Euro-Asian Economic Community, and the Shanghai Cooperation Organization. For railways, the PRC is not a party to CIS agreements, but it participates in the Agreement on International Passengers Transportation, in the agreement on International Cargo Transportation, and in the Unified Transit Tariff (UTT) and Agreement for International Passenger Tariff (IPT) tariff agreements.

Though much has been achieved in the last 10 years in establishing the legal framework for regional transport, both in terms of international conventions and domestic legislation, much still remains to be done. ESCAP identified seven transport conventions as the minimum all countries should aim to ratify. Of these, only two have been signed by all the CARs and the PRC and only one country in the region, Uzbekistan, has signed all seven. Of particular importance is the Transport International Routier (TIR) convention that permits efficient movement of international trucks with minimum delay due to customs controls. The need to reduce such delays is particularly great for landlocked countries.

Even if the CARs have signed international conventions, they are often not implemented completely due to delays in incorporating the provisions in domestic legislation or to administrative difficulties. In the case of domestic legislation, although there is usually a clear legal basis for defining overall national transport responsibilities, the framework for defining the legal basis is often incomplete.







The CARs have a unique opportunity to become pioneers in regional integration. The main issue is not who owns the infrastructure but how it is used. What is needed is seamless integration of regional operations.

# Main Regional Transport Issues and Options

Much of the rail industry is, however, a natural monopoly with significant economies of scale and high entry costs, particularly for infrastructure.

Existing and emerging issues in regional transport are analyzed in the main causes of inadequate and costly services: infrastructure problems that may require rehabilitation or improvement and non-infrastructure problems requiring operational, policy, and institutional solutions. At present, the private sector plays only a minor role in regional transport by providing road and air transport services and support functions such as freight forwarding and road vehicle maintenance. However current plans to reorganize the railway and road sector to increase competition would increase the potential role of the private sector.

There is scope in the short term not only for increasing private sector participation in existing areas but also for promoting participation in new ones. This requires the following government actions:

- controlling possible monopolistic abuses by incumbent operators;
- divestiture of noncore functions such as maintaining rolling stock, cleaning, and catering as a prelude to privatization as independent regional service providers;
- completing the road transport privatization programs under way in all CARs;
- contracting road maintenance services; and
- introducing contracts for roadworks.

## Medium-Term Plans and Priorities for Railways

The potential short-term benefits of increased private sector involvement in railways include better efficiency from use of private managers to mobilizing private investment, especially for the purchase of wagons and equipment/facilities for their maintenance. Much of the rail industry is, however, a natural monopoly with significant economies of scale and high entry costs, particularly for infrastructure. Under these circumstances competition between railway operators is unlikely to occur unless a regulatory framework is put in place to ensure fair access to

- an enabling regulatory environment for private provision of rail services such as wagon and locomotive operation and eventually regional train operations;
- track access agreements between countries;





infrastructure. This makes it difficult to increase private sector involvement.

At the time of the breakup, 4 of the 32 companies of the Soviet railways were located in Central Asia. Three were in Kazakhstan with one covering the northern part of the Kyrgyz Republic. Another was headquartered in Tashkent and covered the southern part of the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. After independence, all countries progressively created their own railways. Kazakhstan's three companies were merged into a single one in 1997.

The new railways faced huge problems.

- The Kyrgyz Republic and Tajikistan started national railways from scratch as they were left with only branches of Soviet companies.
- The railways changed from a command economy in which the only client was the state to a market economy with many clients, each with its own requirements and free to choose another, more suitable transport mode.
- Networks were not designed with a national economy in mind and were poorly connected often necessitating crossing borders to travel between regions of a country.
- There was a sharp fall in traffic volume, which has started picking up since 1999.

The railways have responded in varying degrees by improving marketing, reducing costs, and reforming pricing policies. However, progress in marketing regional services is hampered in some cases



by pricing policies that impose higher rates on international freight traffic in general and on transit traffic in particular, possibly to help finance less profitable domestic freight and passenger services. The restructuring of railway organizations into core and noncore units with a view to creating competition between the noncore units has also begun, most notably in Kazakhstan.

With the fall in traffic, revenues dramatically decreased while many expenses remained unchanged. One unsustainable way of dealing with the situation was to defer maintenance. Postponing maintenance in the Kyrgyz Republic and Tajikistan, for example, has allowed them to show a profit. A restructuring study financed by the TRACECA program confirmed what was well known: revenues should be increased by improving marketing; expenses should be reduced by eliminating redundancy; and pricing

The railways have responded in varying degrees by improving marketing, reducing costs, and reforming pricing policies.

Problems in rail transport stem from three fundamental causes: dislocations caused by the break up of railways into national units, monolithic organization and aging equipment, and noncompetitive marketing and tariff setting.

should be based on both real costs and on market conditions.

Restructuring was recommended along the following lines.

- Railways should be separated from the state, and their relations should be clearly defined by a performance agreement leaving them free to manage activities according to market constraints.
- Wherever the state or regional administration imposes noncommercial obligations on the railways such as running passenger services at a loss, they should compensate the railways.
- Freight activities should be separated from passenger activities.
- Infrastructure and operations should be separate units.
- Surplus staff, rolling stock, and infrastructure should be eliminated as quickly as possible.
- Marketing should be reinforced with increased responsibility in defining commercial policies.
- Unprofitable business should be abandoned.
- Privatization of as many components as possible should be the long-term goal, but it should be undertaken only when conditions are appropriate.

Actually, restructuring railways should progress at the same pace as the transition to a market economy, which may explain why Kazakhstan leads the way. Uzbekistan has also made progress in recent years. The slow pace of restructuring in the Kyrgyz Republic and Tajikistan may have something to do with that it would not by itself solve their

dependence on the railways of other countries.

By reorganizing the railways as currently envisaged, core functions such as providing infrastructure would remain with the state while opportunities for private sector involvement would be created in train services and maintenance of rolling stock, construction, and other support functions. Initially this would involve private wagon ownership and operation that could later extend to locomotives and other rolling stock. This calls for government action in the following areas:

- establishing an enabling legal framework to define activities in the reorganized railways including fair terms for access to track irrespective of ownership and clear rights of private operators to control the use of their assets with specific provisions for foreign operators;
- incorporating provisions in track-access agreements that enable private operation of trains and rolling stock, especially the operation of seamless services between countries by regional operators;
- monitoring competition to ensure that incumbent operators do not abuse their powerful positions.

Problems in rail transport stem from three fundamental causes: dislocations caused by the break up of railways into national units, monolithic organization and aging equipment, and noncompetitive marketing and tariff setting. For the time being, it does not appear that the railways significantly hinder



regional trade in Central Asia as wagons are moving rather easily throughout the region. There are certainly shippers who would prefer shorter hauling times or more precise delivery dates, but as a whole they appear to have adjusted to present levels of service. Nevertheless these underlying problems cause inconvenience and unnecessary costs, and in the future there could be serious problems in providing regional rail services unless countermeasures are taken.

A key objective is more regional integration through (i) effective interrailway agreements that allow increased efficiency and seamless customer services, (ii) better cooperation in planning investment so it benefits the region as a whole rather than just particular countries, and (iii) reducing operational obstacles caused by border controls. Possible short-term measures include introducing track-sharing agreements, developing more joint services, and joint planning exercises.

## Dislocations

Numerous underlying cross-border problems are at the root of the difficulties of regional rail transport. A lack of track-sharing agreements means that efficient operation by a single operator through two or more countries is not possible. This causes time-consuming and costly border operations to change locomotives and crews. For many origin-destination pairs, low traffic volumes result in repeated wagon sorting on the way that increases hauling time as well as cost and makes delivery time less predictable. For instance, a wagon sent from Bishkek to Moscow can

take 5-20 days to reach its destination.

There is no system of sealing wagons to avoid the need for customs inspections at borders or within transit countries. Depending on the equipment available and the level of service provided by border officials, processing times at border posts can vary considerably. There is also a lack of regional uniform customs and other border controls that comply with international best practices, which makes documentation delays much more likely. A particular problem arises with quarantine procedures for agricultural goods. In addition, special permits are required for hazardous goods that sometimes have to be issued by the cabinet of ministers. Cargo documentation is often complicated with separate weigh bills for each country traversed; any documentation problem can result in the wagon being detained for several days at least. Related fines may represent a significant share of revenues for the forwarders involved. Furthermore, every time that transit cargo enters a country, a guarantee has to be



The aging of the locomotive fleet does not imply a shortage in the shortterm; the problem is rather obsolescence.

paid. It is normally returned when the cargo leaves, but the procedure is an additional inconvenience and it ties up capital. This may be less of a problem for large companies that have a permanent deposit at customs.

Although many of these problems stem from the breakup of the Soviet Union, it is certainly out of the question to return to the previous system. Merging the national companies cannot be envisaged for the time being and may not be desirable. The CAR railways have a unique opportunity to become pioneers in regional integration. The main issue is not who owns the infrastructure but how it is used. What is needed is seamless integration of regional operations.

The development of regional services with guaranteed delivery times is one opportunity that requires increased cooperation between railways. In the long term, such services could be provided by new international multimodal operators though at present there is no legal framework for specific needs of multimodal transport in the region. In the short term, such services can be developed by agreements between national railways such as the one that accompanied the introduction of the Tashkent-Bandar-Abbas service.

### **Monolithic Organization and Aging Equipment**

The monolithic and monopolistic nature of the railway organizations does not encourage competition and efficiency; the poor quality of technology is an additional constraint. Successful reforms in this area may take many years. Short-term measures are needed to

(i) provide an enabling environment for attracting new private operators, (ii) separate core and noncore functions of the railway into separately managed units, (iii) divest service units as independent entities, (iv) remove technological constraints on developing improved management systems, and (v) ensure suitable sources of commercial finance are available for private investment.

During Soviet times, locomotives and wagons were regularly supplied on the basis of estimated needs. When the Soviet Union broke up, shares of the Soviet wagon fleet were allocated to the various republics; the smaller ones did not get the better deals. Sudden, sharp decrease in traffic led to a period of large surpluses when only the best wagons were used. Many of the worst were either scrapped or cannibalized to maintain the others. At the time of independence, the number of freight wagons in Kazakhstan was estimated to be 128,000. In 2001, the number was down to 78,000. Of those, at least 30% and probably more were out of service. About 43% of the remaining wagons were over 20 years old. Now that growth in demand has resumed, shortages of wagons are being reported and investments are being made in new locomotives and wagons (especially for specialized designs such as tank wagons).

The aging of the locomotive fleet does not imply a shortage in the shortterm; the problem is rather obsolescence. Replacing old power pack (engine) of locomotives with more modern ones not only extends their lives but also increases their availability; however, at one point it becomes more economical to purchase new locomotives because







A fundamental problem facing railway reform in every country is how to establish a clear commercial basis for railway management with appropriate efficiency incentives and with clear responsibilities and obligations to government.

they perform better. The situation in each country varies according to which locomotives were received from the Soviet fleet and how the traffic has changed in recent years.

### **Noncompetitive Marketing and Tariff Setting**

In Soviet times, marketing was not a concern for railways since their clients were for the most part assigned to them by a central planning agency. To increase revenues after independence, railways had either to find more clients or to increase tariffs. Though the CARs created marketing divisions, the precise knowledge of costs that is an essential tool of profit-minded marketing was often lacking. Increasing tariffs has its limitations as higher prices tend to reduce demand. Furthermore, government committees that set tariffs often strongly resist pressure from railway monopolies to increase them in a region where large amounts of bulky commodities are carried over long distances and where harsh winter weather disadvantages road transport.

To avoid serious disruptions in international transport, the railways of the CIS countries came to an agreement on common international

tariffs in 1993. Rail transport across those countries is regulated by two tariffs: the International Railway Tariff (MTT) and the Unified Transit Tariff (UTT). Both are expressed in Swiss francs and set maximum rates that are updated regularly. A railway company can give discounts and apply lower tariffs, and requests for increases can be made up to twice a year.

A fundamental problem facing railway reform in every country is how to establish a clear commercial basis for railway management with appropriate efficiency incentives and with clear responsibilities and obligations to government. Implementing reforms requires the railways to acquire new tools that give management the information it needs to run the business. Improved telecommunication systems have an important role to play in improving railway efficiency. A key objective for tackling such problems in regional rail transport is focused restructuring and modernization involving measures designed to achieve maximum benefit with minimum investment and effort.

A key initial step is to provide a legal framework that allows regional operators to provide services on the national network initially through

A radical change in the presentation of tariffs is needed to create independent operators to develop competition. Presently tariffs are generally all-inclusive. Revised tariffs should separate movement and terminal charges.

operating fleets of wagons and later through operating complete train services. One of the first steps in reorganization is to separate core functions such as infrastructure management from noncore functions such as rolling stock maintenance. Plans can then be prepared for divesting and eventually privatizing noncore functions that can then be provided on a competitive basis.

A lack of a well-developed marketing orientation means that railways find it difficult to respond to opportunities created by changing patterns of regional trade. Marketing and setting tariffs based on competition is important to attract traffic onto regional transport routes. This requires cooperation between countries with a common interest in developing particular corridors and requires measures such as development of costing and pricing systems and joint marketing projects.

Excessive international tariffs often have their origins in the MTT system that did much to prevent a free-for-all escalation in transit tariffs after the breakup of the Soviet Union; however, it failed as a negotiating basis for settling disputes between neighboring countries. Kazakhstan, for instance, could not negotiate a profitable rate with Russia to use 500 km of Russian lines rather than make detours of up to 3,500 km on the Kazak network until a new line is completed. MTT-based pricing is also at the root of the conflict between Tajikistan and Uzbekistan over transit on the Bekobod-Kanibadam Tajik line that links the Uzbek part of the Fergana Valley with the rest of the country. Another characteristic of the MTT is

that it penalizes short hauls. For instance, the Uzbeks pay much more per km for the 106 km transit through Tajikistan than the Tajiks pay for their nearly 1,000 km through Uzbekistan.

The main problems with the present tariffs are the following.

- Movement and terminal charges are combined.
- They are not service specific.
- They are a function only of distance not of time, so there is no extra revenue to be gained from faster transit.
- They use a very high taper of 2,500 km.
- The taper applies from border to border rather than from origin to destination; this leads to higher transit tariffs.
- The basis for discounting is not clear.

A radical change in the presentation of tariffs is needed to create independent operators to develop competition. Presently tariffs are generally all-inclusive. Revised tariffs should separate movement and terminal charges. Movement charges should distinguish components such as wagon use, traction, and infrastructure charge. Costs for different kinds of passenger and freight services can then be identified, and unjustifiable cross-subsidies can be removed.

There will always be the problem inherent in railways that marginal costs are lower than average costs, hence the tendency to push tariffs down to levels lower than full cost recovery. The railways should be sensible enough to abandon business that is not profitable. The problem of course becomes more



complicated on a multinational route when several railway companies are involved. In this respect the present experience of TRACECA with the Unified Policy on Transit Fees and Tariffs project is interesting and can be followed even by those railways that do not have a major stake in TRACECA.

Domestic tariffs have also an impact on regional transport. In some countries they are at a level that does not make it profitable to buy and operate new wagons. This hinders the renewal of the wagon fleet and has consequences for regional transport.

At a broader level, insufficient attention is given to other marketing aspects of regional services such as methods of billing and giving customers information about locations of consignments and expected delivery times. At present, haulage has to be paid in advance separately for each country. This means good business for forwarders who sell wagons by kilometers, but it makes the shipper's work more complicated and increases transport costs. There is a danger that lack of attention to such matters will result in the failure to exploit the market possibilities of particular regional transport routes and transit corridors.

### **Medium-Term Plans and Priorities for Road Networks**

Road transport services are not a natural monopoly, so provided that a simple regulatory regime is in place allowing free entry and competition subject to meeting minimum safety and environmental standards, private entrepreneurship



can be relied upon to provide efficient service. This has already been achieved in most of the CARs although many state operators remain. Privatization has already increased competition and enabled the mobilization of substantial amounts of private investment in modern road vehicles.

Building roads is, however, a natural monopoly unsuited for privatization except for specialized roads such as expressways. Private involvement is easiest when revenue can be generated from tolls, but unless traffic flows are very great, the cost of collecting the tolls becomes too high. International experience suggests that a flow of at least 15,000 vehicles per day is required to recover the full costs of a new toll road. That is about 10 times the general level on the Central Asian regional network. Under these circumstances, the involvement of the private sector is limited to providing road maintenance, roadside services, and similar types of support.

The benefit of private sector involvement is mainly increased

**Privatization has already increased competition and enabled the mobilization of substantial amounts of private investment in modern road vehicles.**

Freight customers usually have a wide choice of transporters, but few of them are able to guarantee reliable service using modern vehicles

efficiency rather than mobilization of investment, since roads would continue to be funded by the state. Private sector involvement can be increased in the short term by reorganizing road management to allow private contractors to provide road maintenance and construction services. The first step is to introduce a system for awarding contracts which has already been done in the CARs. This requires the road authority to define the nature and scope of work and to organize a system for awarding and monitoring the contracts. Government actions are needed in the following areas:

- completely separating management and contractor functions;
- strengthening agencies to enable them to plan and manage roadworks;
- privatizing agencies whose functions can be managed under contract;
- providing an enabling legal framework that defines the basis for road sector activities including contracting terms that do not discriminate by form of ownership and that encourage efficiency.

The availability, level of service, and cost of regional road transport services varies considerably in the region. Freight customers usually have a wide choice of transporters, but few of them are able to guarantee reliable service using modern vehicles. The overall price of freight is highly uncertain because of incidental expenses (official and unofficial) that are incurred on international journeys for both transport-related services

such as transit fees and for goods-related services such as customs. Delivery times are also uncertain because of unpredictable delays caused by enforcement officials. Restrictions on movements of trucks across borders sometimes mean that goods must be unloaded and reloaded. Truckers would have to include significant margins in their tariffs to cover such additional inconvenience and expense, so in practice the shipper often has to bear the risk.

The three main reasons for inadequate and costly road transport services are regulations that do not promote efficiency and safety, inadequate border controls, and the poor and deteriorating condition of the roads themselves. International transport is done under bilateral agreements that usually have permit restrictions and discriminatory transit fees that are often much higher than the costs of transit services provided and which are often not clear. In some countries, many of the international transport operations are still state owned and may not be as efficient as privately owned operations.

## Regulations

Establishing a harmonized regulatory framework that promotes safe and efficient regional road transport requires the following government actions:

- ratification of the key international conventions and agreements that unify rules and procedures;
- completion of domestic legal frameworks incorporating key international conventions allowing free competition subject to minimum safety standards;

- decreasing or even removing the quotas of road transport permits issued under bilateral agreements;
- implementing unified transit fee policies based on the principles of cost, nondiscrimination, and transparency supported by road user charges that are based on costs of road use;
- improving the enforcement of road transport regulations so activities focus on safety rather than revenue collection;
- completion of privatization programs and adoption of other measures to promote crucial private sector activities in regional transport such as freight forwarding.

## Border Controls

Border controls are not yet based on international best practices and conventions. Documentation is excessive, customs procedures at the origin and destination points are lengthy, there is a lack of understanding between traders and the controlling authorities, there is corruption frequently requiring unauthorized payments, and banking services are underdeveloped. In practice, customs officials have considerable discretion over the charges that are imposed. Contrary to the TIR convention which the four CARs have signed, there are some cases when some customs officials impose additional inspections on road transporters even breaking customs seals because they do not trust the service of neighboring countries, and sometimes impose additional charges for convoy service.

Visas for drivers are also becoming an increasing problem because Central Asian countries are

imposing stricter immigration procedures partly in response to perceived security threats. Procedures for issuing commercial drivers' visas should be streamlined to reduce processing time and to enable flexible entry, exit, and transit through a country in accordance with the needs of customers. Furthermore, in some countries, visas are checked not only at frontiers but also internally at local authority borders. The effectiveness of the currently strict security checks should be consistently reviewed to avoid unnecessarily burdensome checks in future.

Apart from the need to ratify the core conventions, trade facilitation provisions need to be implemented properly, including measures aimed at institutional reform and training to improve the customs-trader-transporter interface and to develop customs officers as trade facilitators. This would include

Apart from the need to ratify the core conventions, trade facilitation provisions need to be implemented properly, including measures aimed at institutional reform and training to improve the customs-trader-transporter interface and to develop customs officers as trade facilitators.





Improving the financing and management of roads in order to achieve sustainable development of the network requires government action in the following areas:

simplifying and computerizing documentation and procedures, separating the link between vehicle and cargo documentation to reduce vehicle delays, introducing risk assessment methods of customs clearance, one-stop processing of controls for all border agencies, and combining processing procedures of neighboring countries.

Because of recent falls in traffic levels, there is now generally adequate physical capacity at road border posts, and large-scale investment in facilities is not generally required. Where problems of congestion still occur, this is mainly due to inefficient processing. Nevertheless investment in improving basic facilities and processing equipment is necessary to improve efficiency.<sup>3</sup>

## Deteriorating Road Conditions

From the regional perspective, the main development priority is clearly rehabilitation of the main road network rather than construction of missing links. International agreements on planning and maintaining infrastructure would allow rehabilitation and improvement plans to be coordinated and road standards to be defined and monitored so that problems due to inadequate maintenance could be identified and addressed. In addition, common policies on fuel and vehicle taxation would help to increase cost recovery in the region

with minimal risks of distortions due to fuel smuggling.

The deterioration of the roads is due to the high costs of maintaining extensive networks compounded by the historic burden of excessively high design standards in terms of width and alignment but low standards of construction and pavement strength, inadequate maintenance systems, overloading of vehicles, and inadequate financing. As a result, much of the regional road network is now unsatisfactory and requires rehabilitation especially in Kazakhstan, Kyrgyz Republic, and Tajikistan. Improving the financing and management of roads in order to achieve sustainable development of the network requires government action in the following areas:

- basing rehabilitation programs and construction schemes on economic analysis of alternative projects and taking account of realistic financial constraints;
- basing maintenance programs on economic analysis of optimal types of interventions, on pavement management systems, and on private sector contracting mechanisms;
- allocating only those funds that are actually required; and
- increasing funds collected from road users by reforming fuel and vehicle taxes and possibly instituting other forms of user charges.

<sup>3</sup> The projected requirement for all border posts in the region amounts to about \$50 million according to estimates of the ADB project on customs modernization in the Kyrgyz Republic and Tajikistan.



In general, cooperation in regional transport can be pursued through multilateral agreements or bilateral agreements. These two approaches can be and frequently are complementary

# Short-Term Action Plan

Highest consideration should therefore be given to actions requiring only small steps that could have potentially large impacts.

Since a large proportion of transport within the region is domestic, even on regional transport routes, regional transport strategies cannot be seen in isolation from national transport planning. It is therefore important when considering resource allocation to ensure that regional transport developments are consistent with the national priorities. Actions have to be taken within the framework of existing physical and institutional constraints. In the case of rail transport, a major physical constraint is the difference in track gauges between the former Soviet Union countries and the other countries of the region including the PRC, Iran, and Mongolia.

The main constraint for roads in the next 5 years is removing nonphysical barriers to regional transport by harmonizing the legal framework, improving border controls, and improving the financing and maintenance of roads. Although road transport currently plays a relatively minor role, it can, however, be expected to increase, especially for transport within the region. While there is substantial scope for reducing nonphysical barriers, implementing improvements raises extremely

difficult, often seemingly intractable issues. Highest consideration should therefore be given to actions requiring only small steps that could have potentially large impacts.

In general, cooperation in regional transport can be pursued through multilateral agreements or bilateral agreements. These two approaches can be and frequently are complementary. With strong national interests at stake, it is often difficult to obtain broad support for establishing, modifying, or implementing multilateral agreements. Even so, significant success has been achieved in agreeing common technical standards for transport in the region. However, as demonstrated by the implementation of the Kazakhstan-Kyrgyz Republic cross-border agreement, bilateral (or even trilateral) agreements allow parties with common interests to cooperate even further. Provided this is done within the broad framework of existing multilateral agreements, such bilateral agreements can be extended to other countries.

There are several existing regional transport agreements involving several CAR members that could provide a framework for cooperation. These include the Economic Cooperation Transit





Framework Agreement (1998), the Agreement on International Transport for Development of Europe-Caucasus-Asia Corridor (TRACECA, 1998), the CIS agreements, and the United Nations Economic Commission for Europe's agreements and conventions relating to the international road transport. However, neither the PRC nor the Russian Federation is a member of the Economic Cooperation Transit Framework Agreement. The PRC is also not a party to the relevant agreements of the CIS or the United Nations Economic Commission for Europe's agreements and concerned conventions.

ADB is supporting a technical assistance to help the Shanghai Cooperation Organization (SCO) countries (i.e., the PRC, Kazakhstan, Kyrgyz Republic, Russian Federation, Tajikistan, and Uzbekistan) formulate an agreement on facilitation of international road transport, together with support from the United Nations Economic and Social Commission for Asia and the Pacific. Another agreement that could be useful to provide a

framework is the Tripartite Agreement on International Road Traffic between the PRC, Kyrgyz Republic, and Uzbekistan which does not include Tajikistan, although it attends meetings.

### **Regional Rail Integration**

A good place to start establishing track-sharing agreements is where they are essential for establishing a basis for future development of core regional routes. The place where this perhaps applies most strongly is the Bekobod-Kanibadam line in northern Tajikistan. This line is along a highly trafficked route that connects the Fergana Valley of Uzbekistan with the rest of that country. It also provides east-west links between Kazakhstan and the rest of Central Asia and, in future, could form part of a central TAR between the Far East and Europe. One of the main issues over the use of this Tajik railway by Uzbekistan concerns the level of transit tariffs charged by Tajikistan. The Tajik position is that they use the MTT tariff that has been approved by Uzbekistan. They want to stick to it because it is very profitable for

There are several existing regional transport agreements involving several CAR members that could provide a framework for cooperation.

To prevent a shift to other transport modes, radical improvements are needed in services with guaranteed delivery times.

them. Tajiks dismiss the idea of Uzbeks carrying crude oil by trucks and the proclaimed Uzbek intention of building a new line across the Kamchik pass in Uzbek territory, but if the Tajiks do not show flexibility, this could become a reality.

An ADB-funded feasibility study showed that rehabilitation and electrification of the 106 km Bekobod-Kanibadam line is economically justified. If the traffic is kept at least at the present level, electrification could be envisaged. The problem is in undertaking a loan without a sufficient guarantee that the revenues generated would not be enough to pay the loan back. Without a long-term agreement between Tajikistan and Uzbekistan, the risks would be unacceptably high for the two countries and also for the bank providing the loan. The agreement should specify under which regime the line should be operated. The Uzbeks seem to have a preference for running their own locomotives across the Tajik stretch. This makes sense, but it assumes that the contiguous Uzbek sections are also electrified. Actually a number of options could be envisaged ranging from the status quo that seems to be favored by the Tajiks, to a full concession, or to an intermediate arrangement involving the operation of the line by a Tajik-Uzbek joint venture company. Ideally, the electrification of the whole Khavast-Kokand line including the Tajik section would have to be treated as a single undertaking. Reaching such an agreement on track sharing might be a major breakthrough because it could be used as a basis for similar arrangements in other parts of the region.

To prevent a shift to other transport modes, radical improvements are needed in services with guaranteed delivery times. There are already some cases of guaranteed or nearly guaranteed delivery services. Passenger trains run on schedule and generally on time and include baggage vans that can take limited amounts of freight. Freight trains carrying mostly containers reportedly already operate between Tashkent-Akaltyn and Bandar-Abbas on the Persian Gulf and between Uzbekistan and Istanbul. They run according to a predetermined schedule and reach Bandar-Abbas in 5 days.

Such services require regional cooperation. Where they can be provided through multimodal transport operations there is a need to develop the legal framework that would recognize the position in law of the multimodal transport operator. It should also make provision for a combined bill of lading and enable multimodal transport to take place under a single contract rather than a series of contracts for each mode (allowing liabilities to be clearly defined in a uniform way instead of differing for each mode of transport).

## **Restructuring and Modernizing the Railways**

A way to improve regional services is to foster competition between operators freely using the infrastructure owned and maintained by national railways. The fact that railway people in the CARs have a common past history and a common language make this objective easier to achieve. Nevertheless, the obstacles are many and it may take time to overcome them.

The first step is the creation of independent operators in a single country. The Kazak experience shows, however, that it is not that easy to accomplish. Dividing the national company is not enough to generate viable companies, and new private operators tend to prefer market niches. In the first stage, the new operators would own and operate wagons, but they may later also feel the need for procuring locomotives.

The second step is to develop ties between operators in countries whose railways exchange a great deal of traffic. The most favorable case seems to be traffic between Kazakhstan and Russia. Russia already has a large number of private operators that could soon control half of the national market, and it is already implementing tariffs that separate wagon use, traction, and infrastructure charges. Furthermore, the same pricing codes are recognized on both sides of the border. At a later stage, it should be

possible to extend the experience to other countries that have already opened their markets to national independent operators, for instance Uzbekistan. The existence of different gauges will of course make it more difficult to apply the principles to neighboring railways, but associations between operators could be arranged.

Success in developing operators with regional coverage is dependent on a number of conditions that can be addressed both by governments and by the professional associations created by the operators.

- National laws and regulations should make it possible for national and foreign operators to use the national network.
- Free access to track on a fair basis should be guaranteed to independent operators.
- Operators need to be able to track their rolling stock with precision round the clock. Within the CIS this is technically

A way to improve regional services is to foster competition between operators freely using the infrastructure owned and maintained by national railways. The fact that railway people in the CARs have a common past history and a common language make this objective easier to achieve.





Potential support for the development of regional corridors exists in several cases including the following:

- possible by using a computer center in Moscow, but in practice there are many limitations.
- If wagons are used in third countries, the operator should have a way to retrieve them and prevent unauthorized use.
- Rental charges should be settled swiftly. This is even more important for new, private operators than it is for established, state-owned companies.
- A cargo information system should be established to facilitate the search for back loads.
- Fledgling operators should be protected against the risk of existing operators temporarily lowering tariffs in a specific market to kill competition.
- There should be a mechanism to prevent operators from forming cartels.
- There should be sources of financing enabling potential operators to buy new wagons or to rehabilitate existing ones.

Since there is a significant economy of scale in maintaining and repairing rolling stock, it would make sense for the CARs to pool their facilities. It is all the more justified because they all use similar equipment of mostly Russian and Ukrainian origin. Pooling already happens to some extent, e.g., Tajik railways send their locomotives to Tashkent for repair, but the present trend is rather for each railway to become more self-sufficient. Actually, the railways are under intense pressure from national and local authorities to keep or create as many jobs as possible. Some railway facilities are at the core of the local economy. Closing such facilities could be a disaster for the area and

could generate serious social disruptions. In any case, the trend is for more private repair enterprises that are likely to look for clients beyond the traditional ones. The Tashkent locomotive workshop, for instance, has the capacity to do twice as much as it does now. As long as Central Asian railways keep their nationalist outlooks, a true regional market for rolling stock may not develop.

Potential support for the development of regional corridors exists in several cases including the following:

- the central TAR which provides transit opportunities between Europe and Asia, access between the southern CARs and the PRC, and between the CARs and Europe via Iran and Turkey (development of a road link between the railheads of Kashgar in the PRC and Andijan in Uzbekistan would promote this new potential east-west link over the short term);
- the northern TAR through Kazakhstan along which Kazakhstan wishes to attract more traffic and which is important for the PRC;
- the north-south corridor east of the Caspian Sea which could be developed in future to allow access between Russia and the Persian Gulf via Kazakhstan and Turkmenistan;
- the north-south corridor between South Asia and Russia via Kazakhstan, Uzbekistan, and Afghanistan.

The most promising areas for development are the central and northern TARs because there are excellent prospects for growth in

trade along these lines (transit and regional transport), the infrastructure is already in place<sup>4</sup> although it needs rehabilitation, and there is strong political support within the PRC, Kyrgyz Republic, and Uzbekistan for the central TAR and within the PRC and Kazakhstan for the northern TAR. To help plan and market these corridors, it is recommended that assistance be given in marketing/planning/modeling studies which would determine the potential hinterland of the corridors in the PRC and assess the extent to which strong development centers such as Sichuan (and especially Chongqing) influence traffic.

## Regional Road Integration

The key areas where improvement in regulation of regional road transport can be made are the following:

- (i) *Vehicle Size and Weight Regulations:* Most CARs have signed the CIS Minsk Agreement (1999) which defines detailed maximum limits on road vehicle size and weight; however, in most countries the provisions of this agreement have yet to be incorporated into domestic legislation. This is an area in which many organizations are actively trying to harmonize regulations within the CARs including the Euro-Asian Economic Committee (EAEC), CIS, ESCAP and TRACECA, but these organizations lack leverage in implementing international agreements. Apart

from giving them general support, ADB could complement their efforts by focusing on harmonizing size and weight limits for traffic between the PRC and Central Asia.

- (ii) *Regulations of Drivers' Hours:* Only Kazakhstan and Uzbekistan have signed the European convention (the AETR) that governs the conditions for driving in international traffic, sets limits on working hours in order to reduce the risk of accidents due to fatigue, and defines measures such as tachographs to enforce the limits. Although this is not one of the seven core conventions identified by SPECA, its requirements will increasingly become obstacles to nonsignatories. In the short term, therefore, all Central Asian countries should start to develop plans to enable their international operators to meet these requirements.

- (iii) *International Operator Licensing:* Most TRACECA countries are planning to introduce the latest international certificate of professional competence that

It is unrealistic to expect complete removal of existing permit controls in the short term; however, much can be done to allow road transport to take place more smoothly without the serious constraints imposed by permit quotas and restrictive permit conditions.



<sup>4</sup> Although, in the case of the central TAR, this requires transshipment between road and rail at Kashgar in the PRC and Andijan in Uzbekistan/Kyrgyz Republic. In the longer term a new rail connection could be provided.



has been introduced in the EU. This provides a sound basis for defining a common minimum standard for good repute, financial standing, and professional competence in the road haulage industry. Implementing these provisions requires training and better enforcement.

It is unrealistic to expect complete removal of existing permit controls in the short term; however, much can be done to allow road transport to take place more smoothly without the serious constraints imposed by permit quotas and restrictive permit conditions. A first practical step is to improve monitoring of the system by the joint committees set up on a bilateral basis to manage road transport agreements. Efforts can also be made to remove financial and regulatory obstacles in the regional market to encourage

competition and to reduce political pressure to protect national industries. Privatizing the remaining regional road transport operators would help in this regard.

International organizations are actively trying to reduce permit controls in parts of the region, and is giving assistance to help develop the road transport industries of Central Asia in order that they can compete on more equal terms with foreign operations. ADB is also providing assistance to encourage competition initially through setting up monitoring systems under cross-border agreements and ensuring that the views of road users are adequately represented to the joint committees. In the case of transport between the PRC and the CARs, ADB is working with ESCAP and SCO in developing cross-border agreements by helping to define overall policies on road transport permits to ensure that the benefits of road investment are not unduly restricted by permit controls.

None of the CARs has yet implemented a system of road-user charges that relates them to the costs incurred. Consequently many road users, including most heavy vehicles, do not pay their fair shares of road-use costs. This is partly due to concerns about the effects of raising fuel and vehicle taxes on the costs of transport and on inflation. Although this is an issue that has to be addressed at the national rather than regional level, based on the costs of road provision in each country, cooperation between countries to develop a common approach can help to promote a level playing-field between national operators on international routes by unifying as far as possible the basis of road vehicle taxation and



unifying fuel taxation to minimize the risk of smuggling.

Regional discussions will not be easy since there is no common approach to setting road-user charges. Therefore, only limited progress towards regional harmonization is expected in the next 5 years. The first step is to promote debate within each country involving all the major players—key government organizations and representatives of road users—in order to build support for reform. The implications of specific proposals can then be debated regionally, aimed initially at reaching agreement on the aim and scope of policies on charges for road use leaving issues about the structure and level of charges for later discussion.

ADB and other international financing agencies could assist in two ways. First, it could help the CARs to develop rational systems of road-use charges (mainly fuel and vehicle charges but also tolls and transit fees) to tackle the fundamental problem of lack of sustainable financing for road maintenance and development. Second, it can promote discussion about alternative options during the preparation of cross-border projects in order to reduce major differences in charges paid by regional operators from different countries and to raise financing from road users to pay for regional road maintenance and improvements.

Foreign transporters are easy targets for enforcement officers, and regional road transport is particularly badly affected by problems such as excessive numbers of roadside checks and the lack of clear rules and

regulations which allows discretion in enforcement. In the short term, unjustified roadside check points can be removed (possibly replacing them with mobile patrols), the number of agencies involved in enforcement activities can be reduced, better enforcement equipment like proper scales can be provided, and programs that focus enforcement more on road safety can be developed. ADB and other agencies can assist by developing cross-border agreements that include enforcement strategies and by financing equipment. Assistance can also be given in developing road safety programs based on international best practice.

A well-functioning TIR system is a vital condition for efficient long haul regional road transport. The system works well under normal circumstances and much has been done to establish it in Central Asia. Apart from extending the system to cover the PRC, short-term priorities include implementing the provisions of the convention in accordance with international law, improving monitoring for example through the SafeTIR computer system, identifying where problems may be occurring, and developing appropriate measures to tackle practical problems. This is an area where both road transport operators (through their national associations under the IRU) and customs organizations have a responsibility to abide strictly by TIR conventions. Development agencies can give support through training and by acting as honest brokers when problems arise.

ADB and other agencies can also assist with the short term priority of identifying internal checks

ADB and other agencies can assist by developing cross-border agreements that include enforcement strategies and by financing equipment. Assistance can also be given in developing road safety programs based on international best practice.

There is an underlying need when considering future road rehabilitation projects to strengthen the economic planning capability of the CAR highway authorities so that investment priorities can be assessed more meaningfully.

carried out at local authority borders that are not consistent with international practice and agreements and can incorporate an appropriate strategy for removing all such unjustifiable checks in bilateral and cross-border agreements. ADB and other financing agencies can work with SPECA and other agencies by acting as honest brokers in developing such agreements. ADB can also assist SPECA by helping to define appropriate policies to remove time-consuming procedures for issuing visas to drivers as part of its assistance to develop efficient regional transport routes.

The rules and procedures for convoys vary between countries and are often not clear to transporters. They are not applied in a uniform way and sometimes charges are levied even though no convoy service is provided. Since this creates a significant and unpredictable cost to regional road transport, there is a need in the short term to introduce new rules and procedures based on international best practices, to base convoy charges on the costs of the services rendered by the customs service, and to improve monitoring of convoy services to identify areas for further improvement. Assistance can be given through appropriate trade and transport facilitation projects, especially through preparation of cross-border agreements that define improvements in customs controls.

The deteriorating condition of regional roads calls for urgent action in the next 5 years. The need for such actions was identified several years ago and much effort has been spent on improving the financing and maintenance of not only

regional roads but also other main roads and important secondary, urban, or rural roads. ADB and other development agencies have supported such efforts.

Roads in Central Asia are mainly used for domestic rather than international traffic, and it is appropriate for overall strategies for sustainable road development to be set at the national level based on national priorities. Nevertheless there are cooperative actions that can be taken between countries to meet the needs of regional transport. All the Central Asian countries need to increase cost recovery from road users. The proposals described earlier for cooperating in implementing unified road-user charges could be supported in the medium and long term through multilateral or bilateral agreements on increasing charges, especially fuel and annual vehicle taxes. ADB can offer technical assistance on cross-border projects aimed at studying alternative financing options for roads used significantly by international traffic.

There is an underlying need when considering future road rehabilitation projects to strengthen the economic planning capability of the CAR highway authorities so that investment priorities can be assessed more meaningfully. This requires better planning tools such as the Highway Design and Maintenance model used in conjunction with more reliable road asset management databases. This would allow alternative options to be compared in terms of economic costs and benefits and would also allow the types and timing of interventions to be assessed more rationally.

All the identified investments have support from governments and have potentially significant domestic impacts, but some are not without risks.





# Investment Needs

Intervention can promote efficient resource mobilization and institutional reform because the interventions readily lend themselves to inclusion in projects that link investment with assistance in support activities such as infrastructure planning, regulation, maintenance, and finance.

**T**he investments in Table 3 were identified through discussions with governments about projects for international financing and through a review of past studies. All investments were suggested by the governments for possible ADB support.

## Roads

Interventions may involve some new construction where the infrastructure is in particularly poor condition. They often also include improvements to the design standard in order to meet the needs for modern vehicle specifications, including heavier axle loads. They can promote efficient resource mobilization and institutional reform because the interventions

readily lend themselves to inclusion in projects that link investment with assistance in support activities such as infrastructure planning, regulation, maintenance, and finance. National priorities have to be set in order to make the best use of resources. The strategic nature of the route is also an important consideration to governments. Generally this results in the highest priority being given to the most heavily trafficked routes—including most of the core regional network—where the greatest economic benefit can be achieved. The Borovoe-Petropavlovsk road is an example where average daily traffic is similar to the average for the core regional road network (about 1,700 vehicles per day).



The following road sections on regional routes are given high priority by governments:

- various sections of the six main road corridors totalling 2,546 km used by international traffic in Kazakhstan, especially those serving the rapidly developing area in the west;
- several links totalling 924 km between the Kyrgyz Republic and the other CARs, plus 800 km for the links with the PRC via Irkeshtam and Torugart;
- about 800 km of important links between Tajikistan and the other CARs, Afghanistan and the PRC (via both Kulma pass and Irkeshtam, in the Kyrgyz Republic); and
- the proposed international route between Kungrad and Andijan (2,400 km including access roads) in Uzbekistan.

Precise priorities can be determined by conducting prefeasibility studies based on analysis of costs and benefits. Some of the regional road links carry little traffic, so their justification would be based mainly on the potential for future traffic. Justifiable investment opportunities in network development are more likely in those parts with potential growth for regional traffic and trade, in those with opportunities for increasing efficiency and reducing costs of transport for the region as a whole, and in already existing transport infrastructure that can be exploited to minimize new construction.

All the identified investments have support from governments and have potentially significant domestic impacts, but some are not without

risk. In particular, the rehabilitation of road links between Central Asia and the PRC involve considerable lengths of road works through sometimes difficult terrain. There is often little traffic currently using these roads, so benefits are dependent on significant increases in regional traffic. To minimize risk, the appropriate strategy would be to implement such interventions step by step starting in the short term with the minimum needed to provide basic safe access along the route linked to measures to ensure that international transport agreements and border controls do not inhibit growth in traffic.



In Kazakhstan, the government plans to continue the rehabilitation program of its international transit roads focusing in the short-term on further improvements to the main north-south route through Astana and the roads in western Kazakhstan. These include Atyrau-Aktau and Borovoe-Kokshetau-Petropavlovsk, which are under implementation.

The Government of the Kyrgyz Republic is well aware of the need for cooperation in planning its

Precise priorities can be determined by conducting prefeasibility studies based on analysis of costs and benefits.

Table 3. Regional Transport Investment Needs

Description	Nature of Investment				Capital Cost (\$ million)	Regional Impact			Present Traffic Level	Risk	Government Support	Status <sup>1</sup>	Regional/ National Interest	Priority
	Construction	Rehabilitation	Efficiency	Institutional		Domestic	Intra-regional	Extra-regional						
<b>Network Rehabilitation and Construction</b>														
R1 Railway upgrading, Samarkand-Guzar-Kumkurgan-Termez, Uzbekistan	■	■	■	■	400	■	■	■	0	000	000	0000	WW	S
R2 Railway upgrading, Lugovoy-Bishkek-Balykchi, Kyrgyz Republic	■	■	■		10-15	■	■	■	0	000	000	000	WW	M
R3 Road Rehabilitation, Borovoe-Petropavlovsk, Kazakhstan	■	■	■	■	90	■		■	0000	0000	0000	000	WW	S
R4 Road Rehabilitation, Atyrau-Aktau, Kazakhstan	■	■	■	■	225	■	■	■	000	000	000	0000	WW	S
R5 Road Rehabilitation, Shymkent-Kordai, Kazakhstan	■	■	■	■	100	■		■	0000	0000	0	0	WW	M
R6 Road Rehabilitation, Beineu-Akzhigit-Uzbek border, Kazakhstan	■	■	■	■	12	■	■	■	000	000	000	0	WW	M
R7 Road Rehabilitation, Almaty-Horgos, Kazakhstan	■	■	■	■	135	■	■	■	0000	0000	0	0	WW	M
R8 Road Rehabilitation, Osh-Irkeshtam, Kyrgyz Republic	■	■	■	■	59	■	■	■	000	000	0000	0000	WW	S
R9 Road Rehabilitation, Bishkek-Torugart-Kashgar, Kyrgyz Republic and the People's Republic of China (PRC)	■	■	■	■	260	■	■	■	SS	SS	SSS	SS	WW	M
R10 Road Rehabilitation, Dushanbe-Kyrgyz Border, Tajikistan	■	■	■	■	40	■	■	■	000	0000	000	0000	WW	S
R11 Road Rehabilitation, Shymkent-Tashkent, Kazakhstan and Uzbekistan	■	■	■	■	72	■	■	■	0000	000	000	0	WW	M
R12 Road Rehabilitation, Tashkent-Dushanbe, Tajikistan and Uzbekistan	■	■	■	■	544	■	■	■	0	0	0	000	WL	L
<b>Network Development</b>														
D1 Railway Modernisation and Electrification, Bekabad-Kanibadam, Tajikistan	■	■	■	■	60	■	■	■	0000	000	000	000	WW	M
D2 Railway Track Rehabilitation and Electrification, Khavast-Bekobod and Kanibadam-Andijan, Uzbekistan	■	■	■		50	■	■	■	0000	000	000	000	WW	M
D3 Strengthening Andijan and Kashgar Multimodal Terminals, the PRC and Uzbekistan	■				10		■	■	0000	000	0000	0000	WW	S



Table 3. Regional Transport Investment Needs (continued)													
	Description	Nature of Investment		Capital Cost (\$ million)	Regional Impact			Present Traffic Level	Risk	Government Support	Status <sup>1</sup>	Regional/ National Interest	Priority
		Construction	Rehabilitation		Efficiency	Institutional	Domestic						
D4	Construction of Kashgar-Djalal-Abad Railway, the PRC and Kyrgyz Republic	■					■	■	Low	Low	Initial	W	L
D5	Road and rail border post equipment, all Central Asia Republics		■	50			■	■	Low	Low	Initial	WW	S
Investments to Enhance Operational Efficiency and Service Levels													
E1	Financing Purchase of Rolling Stock by Independent Operators, Kazakhstan and other CARs		■	100-500		■	■	n/a	Low	Low	Initial	WW	S
E2	Financing Upgrading of Railway Service and Repair Facilities, Kazakhstan, and Uzbekistan	■	■	50-100		■	■	n/a	Low	Low	Initial	WW	S
E3	Modernisation of Railway Telecommunications, All CARs	■	■			■	■	n/a	Low	Low	Initial	WW	S

<sup>1</sup> Advanced = implementation started, Initial = Feasibility Study Design prepared, Intermediate = funding arranged, tbd = to be decided. Source: ADB staff estimates.



Carefully targeted short-term investments are needed to enhance operational efficiency and the quality of regional services.

regional road network and has embarked on a major collaborative project with the PRC and Uzbekistan. ADB is financing the Osh-Sarytash-Irkeshtam road and ways to remove nonphysical obstacles to the development of this route between the PRC and Central Asia.

The main foreign-assisted regional road project that is currently being implemented in Tajikistan is Dushanbe-Kyrgyz Border project financed by ADB and the Kulma Pass project financed by IsDB. The Kulma Pass Project provides an alternative route between the PRC and Central Asia to that offered by the Irkeshtam border post between the PRC and the Kyrgyz Republic. Dushanbe-Darband-Karamyk and Bishkek-Torugrat road project have also been proposed for possible ADB funding.

The Uzbek road network is strategically important for its neighbors in providing transit routes for inter-regional and intra-regional transport. It also provides year-round access between the north and south of Tajikistan. From Shymkent to Tashkent would be a medium-term, cross-border project with Kazakhstan. Rehabilitating the road from Tashkent to Dushanbe involves substantial new tunnel construction in Tajikistan. Tajikistan has received support from Iran to construct this tunnel. Uzbekistan is supporting rehabilitation work along suitable parts of the proposed limited-access road across the country between Kungrad and Andijan, a major long-term project. It would connect most of the major population centers except some in the south and would have an important role for regional transport. Cooperation in planning

this road and its links to neighboring countries would help to identify its future role in meeting the needs of regional transport.

## Railways

There is a substantial need for rehabilitating rail infrastructure. Carefully targeted short-term investments are needed to enhance operational efficiency and the quality of regional services. These include the following:

- rehabilitation or acquisition of new wagons, as proposed for Kazakhstan;
- facilities and equipment for the development of independent, regionally based rolling stock maintenance operators in Kazakhstan and possibly in Uzbekistan;
- equipment for modernization of telecommunications (depending on the results of an ongoing feasibility study).

The following sections on regional rail routes are given high priority by governments:

- many sections of Kazakhstan's network used for regional transit traffic such as Makat-Beineu (300 km), Beineu-Mangyshkak (403 km), and Sayak-Mointy (340 km);
- various sections of the core Uzbekistan network such as between Samarkand-Karshi (139 km), Guzar-Baisun-Kumkurgan (254 km);
- the main lines in northern Kyrgyz Republic (322 km between Lugovoy-Bishkek-Balykchi), and northern Tajikistan (106 km between Bekabad-Kanibadam which could require electrification).

In Uzbekistan, ADB is supporting the preparation of a feasibility study for rail rehabilitation (Samarkand-Karshi) through project preparatory technical assistance. Another rail rehabilitation project which currently has government support for international financing is Lugovoy-Bishkek-Balykchi.

The proposed Djalal-Abad-Kashgar new railway line between Kashgar, the PRC and Andijan, Uzbekistan which could potentially carry 1-2 million tons of traffic annually in the next few years, is the largest potential investment proposed and was the subject of a TRACECA feasibility study. The present short-term action plan assumes that this project will not be implemented for many years on account of low traffic volumes and financial viability.

Possible short-term, regional network investment projects are the development of east-west corridors and the prevention of bottlenecks along other corridors. The former involves (i) increasing capacity of the border station at Druzhba on the PRC side where traffic along the northern TAR has grown significantly and (ii) the development of the central TAR. As for the latter, as traffic levels are much lower than they were at their peaks at the end of the Soviet period and as they are expected to grow only slowly if at all, there is little risk of serious bottlenecks elsewhere apart from Serakhs on the Turkmenistan-Iran border.

Many other rail and road border posts need a variety of improvements that require modest levels of intervention mainly to provide basic services, computers, and customs equipment for efficient border control systems.



Implementing the proposed strategy for regional transport has to be coordinated with the strategy for trade facilitation that is being developed by ADB and involves improvement of these border controls.

In the medium term, consideration is being given to rail electrification; however, where new rail construction could provide missing regional links, the cost is likely to prove prohibitive. For example, the proposed east-west rail connection between Kashgar, the PRC and Andijan, Uzbekistan is expected to cost over \$2 billion.

There is an urgent need not only to rehabilitate but also to modernize railway telecommunication systems. What makes the problem particularly complicated is that part of the role played by copper cables can be taken over by fiber optic cables that have a much higher capacity and a lower cost per channel. Railways will not always have a use for the extra capacity and will therefore be interested in sharing it with other users. Moreover, railway lines provide right-of-ways in which it is relatively easy to lay new cables. As a consequence the temptation is strong for railway companies to



The world of telecommunications is changing very rapidly; it is necessary for the railways and their potential partners to make timely decisions on investment so that there will be smooth integration of the various components.



become major players in the telecommunication business. In some countries such as Kazakhstan, there are legal limitations to such ambitions, but laws can be modified. The world of telecommunications is changing very rapidly; it is necessary for the railways and their potential partners to make timely decisions on investment so that there will be smooth integration of the various

components. It is all the more urgent in countries such as Tajikistan where the telecommunication system is weak and obsolete and where a major thrust is under way to modernize it. In any case there is a need for close coordination not only within countries but also between countries. International agencies could certainly have a major role in facilitating such coordination.



Regional Cooperation in transport is essential to achieve sustainable and inclusive economic development in the four CARs. ADB has played a key role in facilitating this cooperation and good progress has been achieved

# ADB Sector Strategy and Road Map

ADB has a broad geographic scope and long-standing connections with the PRC and has furthermore achieved success with cross-border projects where financial assistance and policy actions in more than one country are necessary to achieve the full benefits of improvements, especially where the countries involved find it difficult to reach consensus on policy.

ADB is in a strong position to assist in the regional transport sector in Central Asia with financing for rehabilitating infrastructure, maintenance assistance for institutional reforms, cross-border agreements, harmonization of regulations, and promoting the private sector to assist in the transition from centrally planned to market economies. Its particular interest in the use of project-based working groups to develop practical solutions to problems and in regional economic cooperation is highly appropriate since increased cooperation is required for many of the proposed improvements described in the action plan. ADB has a broad geographic scope and long-standing connections with the PRC and has furthermore achieved success with cross-border projects where financial assistance and policy actions in more than one country are necessary to achieve the full benefits of improvements, especially where the countries involved find it difficult to reach consensus on policy. Of particular interest to ADB are areas of assistance where new ideas can be tried out initially on a limited scale

for possible replication on a broader scale elsewhere.

The need for action by ADB is particularly clear in circumstances when investment risks can be reduced through international agreements. In many cases ADB can work effectively with other international agencies to cofinance projects and to coordinate with nonlending agencies that can assist with planning studies, harmonization of international agreements and laws, project preparation, policy development, and implementation. Cofinancing arrangements are particularly effective where the other lender has complementary interests. When working with nonlending agencies, ADB can add much-needed leverage to their efforts to increase regional cooperation.

ADB's strategic priorities for the regional transport focus on (i) development of regional east-west and north-south transport corridors by using existing infrastructure to link the state capitals, local production centres, markets, and granaries to the ports, regional and international markets, (ii) regional integration to promote safety, improve the framework of international agreements required



for integrated operations, and development of high quality regional services, (iii) harmonization of the regulatory framework to unify laws/regulations and the way they are enforced, to remove legal obstacles and promote efficiency, (iv) improving border controls to reduce delays and transport costs caused by Customs, visa and other services, (v) focused restructuring and modernization to promote competition in supply of transport and support services, (vi) marketing and tariff setting based on competition to exploit the existing regional potential of the transport services more fully, and (vii) improving financing and management to improve systems for financing maintenance and for improving efficiency and effectiveness of management.

ADB has provided the CARs with lending and nonlending support for roads and railways since 1996 to develop intra-regional, extra-regional, and transit transport. ADB has provided loans for rehabilitating a number of regional transport corridors, and technical assistance to prepare investment projects, assess the prefeasibility of developing regional corridors, as well as undertake studies to harmonize transport regulations and simplify cross-border road/rail transport procedures in CARs. The regional transport corridors improved or being improved with ADB assistance include the Almaty–Astana road, Almaty–Bishkek road, Bishkek–Osh road, PRC–Kyrgyz Republic–Uzbekistan transport corridor (Osh–Sary Tash–Irkeshtam road), Dushanbe–Kyrgyz border road, and Chengeldy–Khodjadavlet railway line in Uzbekistan.



Since 1997, ADB has been promoting the Central Asia Regional Economic Cooperation (CAREC) Program,<sup>5</sup> of which the PRC and the four CARs are the members, together with the European Bank for Reconstruction and Development (EBRD), International Monetary Fund, the Islamic Development Bank (IsDB), United Nations Development Programme, and the World Bank. The CAREC program's objectives are to increase trade and integration with large markets, reduce transport costs and facilitate transit, improve supplies of energy, and tackle negative externalities. ADB's Regional Cooperation Strategy and Program (RCSP) for CAREC member countries identify transport as a priority sector for ADB assistance. ADB is the lead agency in coordinating transport cooperation activities under CAREC and a

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<sup>5</sup> The members of the Central Asian Regional Economic Cooperation Program are Azerbaijan, the PRC, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan.



ADB serves as the TSCC secretariat, and is providing support for the functioning of TSCC as an effective mechanism for planning, coordinating, and monitoring transport cooperation activities among CAREC countries.

Transport Sector Coordinating Committee (TSCC) has been set up (June 2004) under the CAREC program to develop transport services in the member countries and improve their transport links with each other and the rest of the world. ADB serves as the TSCC secretariat, and is providing support for the functioning of TSCC as an effective mechanism for planning, coordinating, and monitoring transport cooperation activities among CAREC countries.

ADB is also supporting the Central and South Asia Transport and Trade Forum, which involves Afghanistan, Iran, Pakistan, Tajikistan, Turkmenistan and Uzbekistan, and seeks to facilitate movements of goods and vehicles along two road corridors connecting Tajikistan, Turkmenistan and Uzbekistan with seaports in the Arabian Sea and the Persian Gulf via Afghanistan.

ADB has facilitated the CAREC member countries reach agreement on a Regional Transport Sector Roadmap (2005), which seeks to develop an integrated and efficient transport system that will improve transport links of the CAREC member countries, enhance their access to outside large markets, reduce transport costs, improve transport services, and facilitate cross-border and transit traffic in the region. The Roadmap identifies five strategic priorities, which are:

- (i) Harmonization and simplification of cross-border transport procedures and documentation among CAREC member countries to facilitate the movement of passengers and freight across borders;
- (ii) Harmonization of transport regulations among the CAREC member countries to create a level playing field for transport

- operators and promote efficiency and better services;
- (iii) Development and improvement of regional and international transport corridors to link production centers and markets within the CAREC member countries, and to enhance CAREC member countries' access to neighboring regions and markets;
- (iv) Restructuring and modernization of railways to provide quality and efficient services through private sector participation and improved corporate governance; and
- (v) Improvement of sector funding and management to ensure that the regional transport network is developed, and maintained properly.

The Roadmap addresses most of the more serious deficiencies of the transport sector in Central Asia discussed above. It is, therefore, important that the Roadmap be fully implemented. ADB together with other multilateral institutions is assisting the CAREC member countries to develop and carry out a detailed time-bound action plan, including adequate technical and financial assistance for them to be able to implement the Roadmap.

Six projects totaling \$150 million are proposed for ADB-financing in the road, and railway sector in Kyrgyzstan, Tajikistan, and Uzbekistan in the 2006-2008 pipelines. The proposed investments were selected because they (i) have significant potential impact on regional transport, (ii) have adequate traffic potential and risk profiles, (iii) have the likely support of governments, (iv) are in a suitable state of preparation to be

short-term, and (v) will benefit the region as a whole and not just one country. The projects are sequenced to allow a realistic time for preparing any policy decisions or international agreements required to avoid constraints to implementation.

The major projects likely to be supported by ADB in the road sector are the Dushanbe-Kyrgyz Corridor Project, Phase III; Regional Transport Corridors Road Maintenance and Safety Project, Regional Road Project in Uzbekistan; and Bishkek-Torugart road rehabilitation project (Kyrgyz Republic). In the railway sector, a Regional Railway Development Project (Uzbekistan-Afghanistan railway link) and a Regional Traffic Enhancement Project are included. ADB is also providing technical assistance for prefeasibility studies of developing and improving three regional transport corridors (i.e., Bishkek-Torugart-Kashi road, Oybek-Pungan road, and Angren-Gulistan road) to strengthen transport and economic links among CAREC countries. If the prefeasibility studies show positive results, ADB will consider providing further assistance to prepare and finance investment projects.

Nine technical assistance totaling \$5.55 million are proposed during the same period for developing regional studies for road and railway transport, policy and institutional issues, road maintenance and road safety, capacity building of the executing agency, and harmonization of cross border issues. These include studies on (i) regional road funding and management in CAREC countries, (ii) harmonization of cross border initiatives for transport in Central

ADB together with other multilateral institutions is assisting the CAREC member countries to develop and carry out a detailed time-bound action plan, including adequate technical and financial assistance for them to be able to implement the Roadmap.



Working together with the governments, development partners, and other stakeholders, ADB looks forward to playing an even more important role in assisting the countries to address these challenges.

Asia, (iii) regional road development, and (iv) regional railway development. ADB is supporting a technical assistance to help the SCO countries formulate an agreement on facilitation of international road transport, together with support from ESCAP. The expected outputs are (i) negotiated Framework Agreement and protocols by SCO member governments, and (ii) strengthened capacity of government officials and other stakeholders in SCO members for implementing the Agreement.

Other multilateral institutions like the World Bank, EBRD, the Japanese Bank for International Cooperation (JBIC), the United States Agency for International Development (USAID), and IsDB have also provided support for roads, railways, airlines, and ports. EBRD, IsDB and JBIC are the main donors that offer finance for transport infrastructure development in the region. The EU plays a major role, through its Technical Assistance for the Commonwealth of Independent States and TRACECA programs in

carrying out studies and technical assistance. The World Bank is active mainly in trade and transport facilitation, although it is also involved in other areas of transport (e.g., urban and rural). The Aga Khan Foundation plays an important role in financing improvements in regional transport routes in the more remote areas. ADB has collaborated closely with the other donors to augment the resources and maximize the development impacts.

Regional cooperation in transport is essential to achieve sustainable and inclusive economic development in the four CARs. ADB has played a key role in facilitating this cooperation and good progress has been achieved. A number of key interventions and numerous programs and studies have been supported. However, many challenges still remain. Working together with the governments, development partners, and other stakeholders, ADB looks forward to playing an even more important role in assisting the countries to address these challenges.



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## Connecting Central Asia—A Road Map for Regional Cooperation

Asian Development Bank (ADB) is assisting the development of regional transport sector in Central Asia since 1996, by providing lending and non-lending support for roads and railways to develop intra-regional, extra-regional, and transit transport. Considerable progress has been achieved since then. However, many challenges still remain. This report documents the current status of the road and rail transport in the region, discusses the key regional transport issues, and possible options to resolve these issues. Based on extensive consultations with numerous stakeholders, and review of the previous ADB reports, an action plan with investment needs is presented to reflect the urgent priorities in the region. The report concludes with an overview of ADB's role and a roadmap supported by ADB to develop an efficient, and sustainable regional transport in Central Asia.

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Its mission is to help its developing member countries reduce poverty and improve the quality of life of their citizens.

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