

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.

The 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

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Table 3. Regional Transport Investment Needs

Description	Nature of Investment			Capital Cost (\$ million)	Regional Impact			Present Traffic Level (0,000) Medium (0000) High	Risk (0) Low (00) Medium (0000) High	Government Support (0) Low (00) Medium (0000) High	Status ¹ (0) Initial (00) Intermediate (0000) Advanced	Regional/ National Interest Win Lose	Priority Short/ Medium/ Long- Term
	Construction	Rehabilitation	Efficiency		Institutional	Domestic	Intra-regional						
Network Rehabilitation and Construction													
R1	Railway upgrading, Samarkand-Guzar-Kurmrgan-Termez, Uzbekistan	■	■	■	400	■	■	■	(0)	(00)	(0000)	WWW	S
R2	Railway upgrading, Lugovoy-Bishkek-Balykchi, Kyrgyz Republic	■	■	■	10-15	■	■	■	(0)	(00)	(000)	WWW	M
R3	Road Rehabilitation, Borovoe-Petropavlovsk, Kazakhstan	■	■	■	90	■	■	■	(00000)	(00000)	(000)	WWW	S
R4	Road Rehabilitation, Atyrau-Aktau, Kazakhstan	■	■	■	225	■	■	■	(00)	(00)	(00000)	WWW	S
R5	Road Rehabilitation, Shymkent-Kordai, Kazakhstan	■	■	■	100	■	■	■	(00000)	(0)	(0)	WWW	M
R6	Road Rehabilitation, Beineu-Akzhigit-Uzbek border, Kazakhstan	■	■	■	12	■	■	■	(00)	(00)	(0)	WWW	M
R7	Road Rehabilitation, Almaty-Horgos, Kazakhstan	■	■	■	135	■	■	■	(00000)	(0)	(0)	WWW	M
R8	Road Rehabilitation, Osh-Irkeshtam, Kyrgyz Republic	■	■	■	59	■	■	■	(00)	(00000)	(00000)	WWW	S
R9	Road Rehabilitation, Bishkek-Torugart-Kashgar, Kyrgyz Republic and the People's Republic of China (PRC)	■	■	■	260	■	■	■	SS	SSS	SS	WWW	M
R10	Road Rehabilitation, Dushanbe-Kyrgyz Border, Tajikistan	■	■	■	40	■	■	■	(00)	(0000)	(00000)	WWW	S
R11	Road Rehabilitation, Shymkent-Tashkent, Kazakhstan and Uzbekistan	■	■	■	72	■	■	■	(00000)	(00)	(0)	WWW	M
R12	Road Rehabilitation, Tashkent-Dushanbe, Tajikistan and Uzbekistan	■	■	■	544	■	■	■	(0)	(0)	(00)	WL	L
Network Development													
D1	Railway Modernisation and Electrification, Bekobod-Kanibadam, Tajikistan	■	■	■	60	■	■	■	(00000)	(00)	(00)	WWW	M
D2	Railway Track Rehabilitation and Electrification, Khavast-Bekobod and Kanibadam-Andijan, Uzbekistan	■	■	■	50	■	■	■	(00000)	(00)	(00)	WWW	M
D3	Strengthening Andijan and Kashgar Multimodal Terminals, the PRC and Uzbekistan	■	■	■	10	■	■	■	(00000)	(00000)	(00000)	WWW	S

Table 3. Regional Transport Investment Needs (continued)

Description	Nature of Investment			Capital Cost (\$ million)	Regional Impact			Present Traffic Level	Risk	Government Support	Status ¹	Regional/National Interest	Priority
	Construction	Rehabilitation	Efficiency		Domestic	Intra-regional	Extra-regional						
D4 Construction of Kashgar-Djalal-Abad Railway, the PRC and Kyrgyz Republic	■			2,000		■	■	Low	Low	Low	Initial	Win	Short/ Medium/ Long- Term
D5 Road and rail border post equipment, all Central Asia Republics		■	■	50		■	■	Medium	Medium	Medium	Intermediate	WWW	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	Low	WW	S
E2 Financing Upgrading of Railway Service and Repair Facilities, Kazakhstan, and Uzbekistan	■	■	■	50-100		■	■	n/a	Low	Low	Low	WWW	S
E3 Modernisation of Railway Telecommunications, All CARs	■	■	■			■	■	n/a	Low	Low	Low	WWW	S

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



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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

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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