



Technical Assistance Report

Project Number: 39089
March 2006

Technical Assistance Maintenance of Regional Road Transport Corridors Project (Financed by the Japan Special Fund)

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
CAR	–	Central Asian republic
CAREC	–	Central Asia Regional Economic Cooperation
FMA	–	financial management assessment
FSU	–	former Soviet Union
IEE	–	initial environmental examination
MOTC	–	Ministry of Transport and Communications
PRC	–	People's Republic of China
RRP	–	Report and Recommendation of the President to the Board of Directors
TA	–	technical assistance
TRACECA	–	Transport Corridor Europe, the Caucasus, Asia

TECHNICAL ASSISTANCE CLASSIFICATION

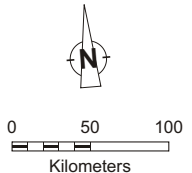
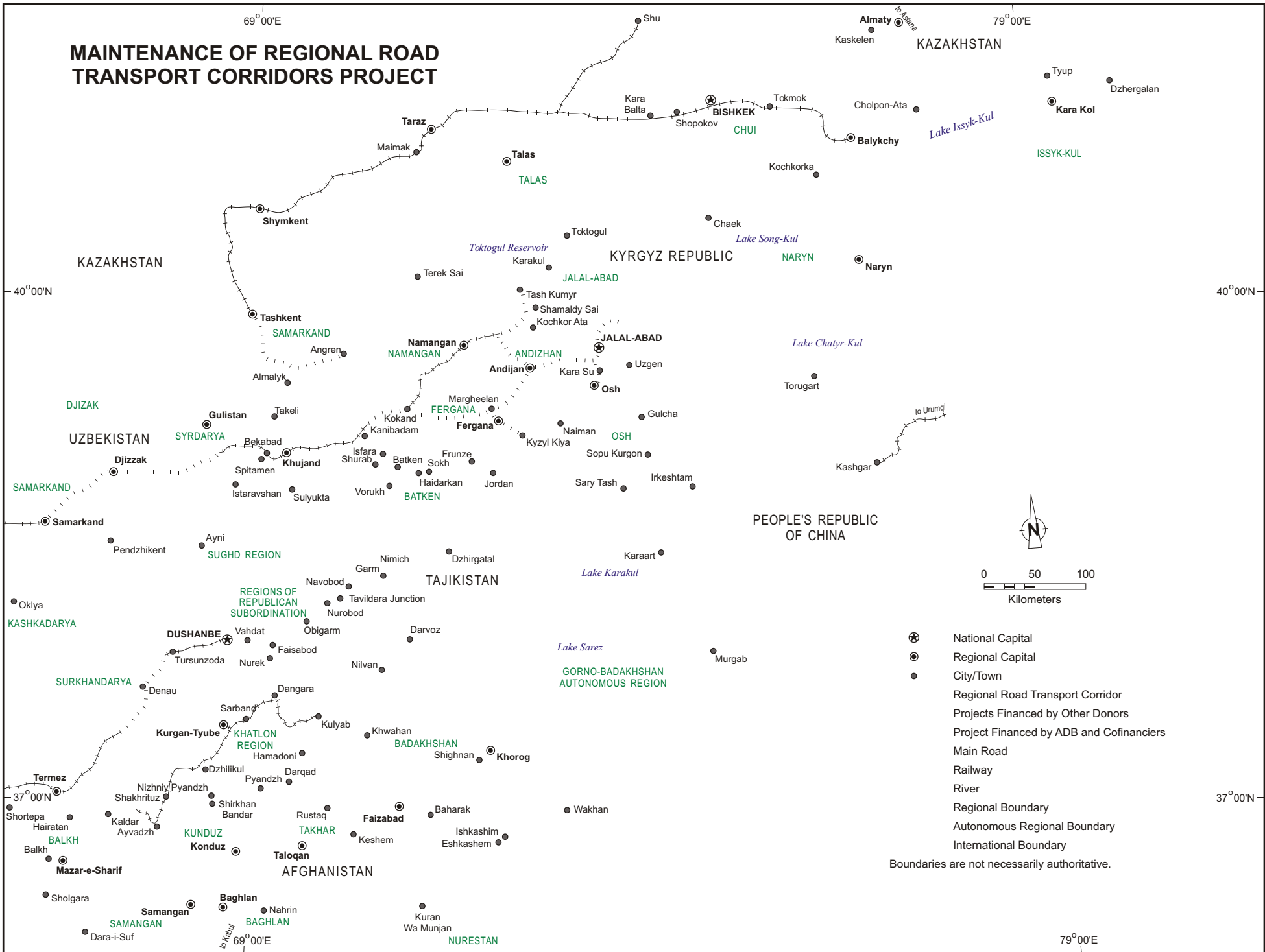
Targeting Classification	–	General intervention
Sector	–	Transport and communications
Subsector	–	Roads and highways
Themes	–	Regional cooperation, sustainable economic growth
Subtheme	–	Fostering physical infrastructure development

NOTE

In this report, "\$" refers to US dollars.

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MAINTENANCE OF REGIONAL ROAD TRANSPORT CORRIDORS PROJECT



- ⊛ National Capital
- ⊙ Regional Capital
- City/Town
- Regional Road Transport Corridor
- Projects Financed by Other Donors
- Project Financed by ADB and Cofinanciers
- Main Road
- Railway
- River
- Regional Boundary
- Autonomous Regional Boundary
- International Boundary

Boundaries are not necessarily authoritative.

I. INTRODUCTION

1. The Central Asia Regional Cooperation Strategy and Program Update (2006–2008) includes regional technical assistance (TA) for the Maintenance of Regional Road Transport Corridors Project.¹ The governments of Kyrgyz Republic and Tajikistan were consulted during the preparation of the TA, and an understanding was reached on the objectives, scope, costs, terms of reference, and implementation arrangements for the TA.² In addition, an Asian Development Bank (ADB) Fact-Finding Mission visited Kyrgyz Republic in March 2005, carried out an initial poverty and social assessment, and discussed project-related issues with government officials. The design and monitoring framework is in Appendix 1.

II. ISSUES

2. Increasing trade is a key to accelerating economic growth and reducing poverty in Central Asia, particularly in Kyrgyz Republic and Tajikistan, with their small populations and limited natural resources (except for hydropower). Even in the Central Asian republics (CARs) with more natural resources, the contribution of trade to increased economic growth is constrained by their landlocked status and distances to ocean ports. Improvement of the regional road network is therefore essential to increase economic growth. Three core problems constrain the development of regional road transport in the CARs: (i) lack of a unified regulatory framework that encourages competition, (ii) delays and excessive charges at borders, and (iii) physical deterioration of the network.³ ADB is involved in solving all these problems. The Transport Sector Coordinating Committee's work under the CAREC⁴ program is addressing the development of a unified regulatory framework. Regional cooperation in improving customs processing is being promoted under ADB-financed regional projects.⁵ The deterioration of the road network is being addressed through a two-pronged approach. First, ADB is continuing its assistance program to improve roads within the regional network. Second, implementation of these projects includes policy dialogue to increase financing for road maintenance and to carry out institutional reforms to improve the efficiency of the maintenance system.

3. The regional road network in Central Asia directly links Kazakhstan, Kyrgyz Republic, People's Republic of China (PRC), Uzbekistan, Tajikistan, and Afghanistan. Key sections of this network are located in Kyrgyz Republic, including the Bishkek–Osh, Osh–Sary Tash-Irkeshtam, Sary Tash–Karamik (Tajikistan border), and other roads. More broadly, this network is part of a larger network providing links to the ocean ports of Pakistan and Iran to the south, and to the Russian Federation to the north. When the Soviet Union was in existence, the regional road network existed only as part of an internal network, with no links to Afghanistan or PRC. Following the breakup of the Soviet Union, the condition of the national roads comprising the network deteriorated substantially because of decreased financing for road maintenance in most countries (due to budget constraints) and civil conflict in Afghanistan and Tajikistan. However, the situation has been improving over the last several years because financing for maintenance has generally been increasing and the civil conflicts have ended. Many of the most deteriorated sections of the regional road network are being rehabilitated with the help of ADB and other international and bilateral agencies. ADB-financed projects, many of which have been

¹ Formerly entitled Regional Transport Corridors Road Maintenance and Safety Project.

² The TA first appeared in *ADB Business Opportunities* (internet edition) on 19 May 2005.

³ ADB. 2002. *Technical Assistance for Reassessment of the Regional Transport Sector Strategy*. Manila.

⁴ Central Asia Regional Economic Cooperation.

⁵ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on Proposed Loans and Technical Assistance Grants to the Kyrgyz Republic and the Republic of Tajikistan for the Regional Customs Modernization and Infrastructure Development Project*. Manila.

completed, are improving sections of the network in Kyrgyz Republic, Tajikistan, and other CARs. However, ADB's TA on Institutional Support in the Transport Sector,⁶ has found that remaining sections of the regional network and other roads in Kyrgyz Republic will also need rehabilitation, if periodic maintenance is not carried out in the near future. The road network in Tajikistan is in a similar deteriorated state due to inadequate maintenance. Other international institutions, including the World Bank, European Union, and the Islamic Development Bank, are preparing road rehabilitation or maintenance projects in these countries, and the TA consultants will coordinate with them to maximize results.

4. Kyrgyz Republic and Tajikistan are mountainous, landlocked countries. They are among the poorest countries of the former Soviet Union (FSU), with per capita gross domestic products of \$430 and \$310, respectively, in 2004. About 39% of the population of Kyrgyz Republic⁷ and 64% of the population of Tajikistan⁸ were estimated to be living in poverty in 2004 and 2003, respectively. The initial poverty and social analysis is in Appendix 2. Economic growth resumed in the mid-1990s, although it has been uneven due to events such as the Russian financial crisis of 1998. Among the factors responsible for the continuing high levels of poverty is the difficulty of developing external and domestic markets for domestic products. This results not only from the landlocked nature of the countries, but also barriers to trade and transit, limited natural resources, and the small size of the domestic markets. Achievement of sustainable economic growth depends upon enhancing access to regional markets and diversifying exports. The National Poverty Reduction Strategy of Kyrgyz Republic emphasizes the importance of promoting regional cooperation and improving transport links to increase exports.

5. Road transport dominates the countries' transport systems. About 18,900 kilometers (km) of roads are under the jurisdiction of the Kyrgyz Republic Ministry of Transport and Communications (MOTC), including 9,900 km of national roads. The Tajikistan Ministry of Transport (MOT) has jurisdiction over 13,800 km, including 4,800 km of national roads. In both countries, there are more than 12,000 km of roads outside the ministries' jurisdiction, mainly rural and farm roads. As with most other republics of the FSU, the economic crisis stemming from the breakup resulted in a decline in economic activity and disrupted customary trading patterns. The demand for transport has fallen dramatically since independence, and reached its lowest level in the mid-1990s. Although demand for passenger and freight transport has been growing since the mid-1990s, except for the setback from the 1998 financial crisis in the Russian Federation, the coverage of the road networks is generally adequate for the countries' development needs. Consequently, the primary concern is proper maintenance and rehabilitation to preserve the existing networks, which suffer from widespread deterioration. MOTC and MOT are responsible for policy making as well as regulating, planning, and developing transport and communications in Kyrgyz Republic and Tajikistan, respectively, including roads, railways, and aviation. Both ministries have roads departments that are responsible for managing the road subsector and regional road maintenance agencies that are responsible for maintaining the roads under the ministries' jurisdiction. The regional agencies are composed of local road maintenance units that carry out maintenance works.

6. The state budget allocations for road rehabilitation and maintenance in both countries vary from year to year according to the governments' priorities and fiscal constraints. Due to general fiscal constraints and allocations to projects of strategic importance, expenditures on

⁶ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Kyrgyz Republic for the Third Road Rehabilitation Project*. Manila.

⁷ ADB. 2005. *Country Strategy and Program Update (2006–2008)*: Kyrgyz Republic. Manila.

⁸ ADB. 2005. *Tajikistan: Country Strategy and Program Update (2006–2008)*. Manila.

road maintenance and rehabilitation have been much lower than what was needed to maintain the road networks at an acceptable level. ADB has been addressing the inadequate financing for road maintenance through policy dialogue and TA. ADB's initial strategy in Kyrgyz Republic was to assist the Government in establishing a road fund to finance road maintenance and other sector expenditures. Through policy dialogue and with the assistance of ADB-financed TA, the Government passed the Road Fund Act in 1998 and made it operational, e.g., by establishing the revenue sources for the fund and maintaining the separate road fund account. Prior to 2000, Tajikistan's road subsector expenditures were financed from the road fund, the state budget, and development agencies. In practice, however, only half of the road fund collection was allocated to road rehabilitation and maintenance; the other half was used to fund new construction. The separate budget accounts for the road funds were either terminated or never established, as part of consolidation of the national budgets, to address the countries' severe fiscal problems and in accordance with International Monetary Fund recommendations.⁹ The taxes and receipts formerly contributing to the road funds are still collected, but now are paid directly to the national treasuries. Road maintenance and construction are funded now from the general state budget. ADB therefore modified its strategy to focus on providing maintenance funds through the governments' standard budget procedures. The strategy emphasizes the provision of (i) sufficient financing for the roads rehabilitated under projects financed by ADB and cofinanciers, thus ensuring the sustainability of the governments' investments; and (ii) increased levels of financing for maintaining all other roads under MOTC and MOT jurisdiction, to the extent possible given the countries' fiscal constraints. Ongoing ADB road subsector projects in both countries include loan covenants on road maintenance financing to ensure that these goals are met. The covenants require annual increases in allocations for maintenance, and specified levels of expenditures on roads rehabilitated under ADB-financed projects.

7. ADB is also assisting in the improvement of maintenance through policy dialogue and TA. The Government of Kyrgyz Republic and ADB agreed on an action plan for developing and implementing a new strategy to ensure adequate road maintenance. The strategy consists of (i) developing new approaches to provide and allocate funding for road maintenance, (ii) continuing compliance with the maintenance-financing covenant for recently rehabilitated roads, and (iii) using border-crossing fees to finance maintenance of the Osh-Irkeshtam road and other MOTC roads. Also, the advisory TA for Improving Road Maintenance and Strengthening the Transport Corridor Management Department¹⁰ in Kyrgyz Republic, will develop a new system to prioritize the road network, estimate maintenance costs for the road categories, develop a methodology for allocating maintenance expenditures, and develop alternative means for maintenance (such as community-based maintenance) that do not rely substantially on the national budget. In Tajikistan, the Strengthening Implementation of Road Maintenance TA¹¹ will develop a road maintenance strategy and program through road network definition and prioritization, preparation of maintenance strategies and budgets, and preparing reforms and institutional arrangements for road maintenance.

8. The regional TA will support the strategies of ADB and the governments. The Government of Kyrgyz Republic's policy objectives for transport include adequately maintaining

⁹ These were first-generation funds that did not have features such as administration by an independent board found in second-generation funds. (ADB. 2003. *Road Funds and Road Maintenance: An Asian Perspective*. Manila.)

¹⁰ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Kyrgyz Republic for the Southern Transport Corridor Road Rehabilitation Project*. Manila.

¹¹ ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Republic of Tajikistan for the Dushanbe–Kyrgyz Border Road Rehabilitation Project (Phase I)*. Manila.

transport infrastructure to support economic reform, and increasing cost recovery from transport infrastructure users. To achieve the sector objectives, the Government's strategy aims to (i) increase the financial provision for rehabilitating and maintaining the road network, and (ii) promote private sector participation in road maintenance. The Government of Tajikistan's strategy for the road subsector is to rehabilitate and maintain road infrastructure and to develop an efficient road transport industry, including developing international road corridors to facilitate international trade. The TA will assist the governments in implementing their strategies for the road subsector by addressing road maintenance and improving international corridors. The TA will directly support ADB's Regional Cooperation Strategy and Program, in particular, improving economic cooperation to reduce transport costs and to facilitate trade.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The impact of the regional TA will be to make transport on the regional and national road networks more efficient. The outcomes of the TA will be preparation of (i) a project, suitable for ADB financing, to promote regional cooperation by carrying out periodic road maintenance and implementing measures to improve safety on roads in Kyrgyz Republic comprising parts of key regional transport corridors in Central Asia; and (ii) a maintenance program for regional transport corridors in Kyrgyz Republic and Tajikistan, based on lessons learned from other ADB-financed TAs and pilot approaches. The maintenance program will be designed for use in other CARs that have similar topographic and climatic conditions. The project to be prepared under the TA is included in ADB's Central Asia Regional Cooperation Strategy and Program Update (2006–2008) as a firm project for 2007.

B. Methodology and Key Activities

10. To prepare the ensuing project, the TA will include (i) an update of the transport sector profile for Kyrgyz Republic, including financial status, road safety, road maintenance, and traffic management; (ii) a review of the status of institutional development and policy reforms in the road subsector initiated under previous projects; (iii) selection of a preliminary list and determination of a prioritized final list of roads comprising key regional transport corridors and other important national roads to be included in the project; (iv) cost estimates and the technical, economic, and financial feasibility study for the roads comprising the project; (v) preparation of a program for maintaining key regional transport corridors in Kyrgyz Republic and Tajikistan, including the project roads, including an evaluation of tendering maintenance and the use of local labor; (vi) an environmental impact assessment; (vii) a poverty and social impact analysis; and (viii) analysis of the need for further advisory TA for the road subsector. The outline terms of reference for the consulting services are in Appendix 3.

C. Cost and Financing

11. The total cost of the TA is estimated at \$650,000 equivalent, consisting of \$283,000 in foreign exchange cost and \$367,000 equivalent in local currency cost. ADB will provide \$500,000 equivalent to cover the entire foreign exchange cost and \$217,000 equivalent of the local currency cost. The TA will be financed by ADB on a grant basis from the Japan Special Fund, funded by the Government of Japan. The Government of Kyrgyz Republic will finance the balance of the local currency cost equivalent of \$150,000 by providing required office accommodation and services, local communications, remuneration and per diem for counterpart staff, and other items, mostly in kind. The Government has been advised that approval of the TA

does not commit ADB to finance any ensuing project. The cost estimates for the TA are shown in Appendix 4.

D. Implementation Arrangements

12. The governments have agreed that the Executing Agency for the TA will be MOTC in Kyrgyz Republic, the location of the roads to be studied for the ensuing project. MOTC will designate one of its project implementation units for ADB-financed projects and appoint a project coordinator to be responsible for the TA's day-to-day implementation and to provide administrative and technical support to the consultants. MOTC's existing project steering committee will monitor the TA's implementation.

13. An international consulting firm in association with domestic consultants will be selected and engaged by ADB, using the quality and cost-based selection method. The consultants will be engaged by ADB in accordance with the *Guidelines on the Use of Consultants*¹² and other arrangements satisfactory to ADB for the engagement of domestic consultants. The simplified technical proposal procedure will be used to select the consultants. A total of about 10 person-months of international and 30 person-months of domestic consulting services will be required. In addition, there will be a lump-sum input of \$120,000 to cover local consulting services for engineering and traffic surveys, as well as for preparing the preliminary design for the periodic maintenance works. The consultants will have extensive experience in (i) transport economics, including related financial management; (ii) technical and financial aspects of road maintenance and road safety; (iii) economic evaluation of road projects; (iv) highway engineering, including mountainous topography, bridges, and drainage structures; and (v) environmental, social, and poverty impact assessments. To facilitate the work and ensure that MOTC gains technical expertise and knowledge, the consultant team will work closely with counterpart technical experts from MOTC. MOTC has agreed to provide the counterpart technical staff, who will assist with the necessary surveys and fieldwork in a timely manner.

14. The TA will be implemented over about 7 months beginning in June 2006. The consultants will submit (i) an inception report, including a proposed list of roads for further analysis, within 1 month of the commencement of their services; (ii) an interim report within 3 months; (iii) a draft final report within 6 months, including the environmental, social, and poverty impact assessment reports and the maintenance program as separate documents; and (iv) a final report within 3 weeks after the receipt of comments from the governments and ADB. The Executing Agency, ADB, and the consultants will meet in Bishkek to review and endorse the inception, interim, and draft final reports. The consultants will conduct seminars for MOTC staff and any other interested government organizations concerning the techniques, analysis, and findings of the TA. Equipment to be provided under the TA will be procured in accordance with ADB's *Guidelines for Procurement*.¹³

IV. THE PRESIDENT'S DECISION

15. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$500,000 on a grant basis for the Maintenance of Regional Road Transport Corridors Project, and hereby reports this action to the Board.

¹² ADB. 2005. *Guidelines on the Use of Consultants by ADB and Its Borrowers*. Manila.

¹³ ADB. 2004. *Guidelines for Procurement under Asian Development Bank Loans*. Manila.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets ^a	Data Sources/ Reporting Mechanisms	Assumptions and Risks
<p>Impact Transport on the regional and national road networks becomes more efficient.</p>	<ul style="list-style-type: none"> • International and domestic traffic on the project roads increases. • Traffic accident growth rate on the project roads is lower than growth rate of total traffic. • Travel time decreases. • Roads are kept open continuously except for emergency maintenance operations. • Annual road maintenance plans are prepared and fully implemented. 	<ul style="list-style-type: none"> • MOTC surveys • MOTC statistics • MOTC surveys • MOT and MOTC statistics • Project administration missions and progress reports 	<p>Assumptions</p> <ul style="list-style-type: none"> • Other road improvement projects on the networks are implemented as planned. • The Ministry of Internal Affairs (traffic police) works in cooperation with MOTC. • There is continued MOTC emphasis on improving road safety. • Roads are maintained adequately after project completion.
<p>Outcome</p> <ul style="list-style-type: none"> • Project design and feasibility study, prepared to a level suitable for ADB financing and agreed upon by the Government^b and ADB. • Program for improved road maintenance on regional transport corridors. 	<ul style="list-style-type: none"> • Memorandum of understanding signed by the Government and ADB during appraisal mission. • Road maintenance program for improved roads. 	<ul style="list-style-type: none"> • Memorandum of understanding • Project administration missions 	<p>Assumptions</p> <ul style="list-style-type: none"> • The Government obtains necessary sources of funding. • The Government is willing to undertake required institutional and policy reform.
<p>Outputs</p> <p>1. Technical assessments completed.</p> <p>2. Project design requirements</p>	<ul style="list-style-type: none"> • Inception report and interim report, respectively, submitted to the governments of Kyrgyz Republic and Tajikistan and ADB by July 2006 and September 2006. • Summary IEE, poverty and social 	<ul style="list-style-type: none"> • ADB document registration • Government document registration • TA review meetings to report findings of the 	<p>Assumption</p> <ul style="list-style-type: none"> • Effective stakeholder participation and ownership are developed.

Design Summary	Performance Targets ^a	Data Sources/ Reporting Mechanisms	Assumptions and Risks																	
accomplished.	<p>analysis, and results-based monitoring system submitted to the governments and ADB by December 2006.</p> <ul style="list-style-type: none"> • Draft final report and final report, respectively, submitted to the governments and ADB by December 2006 and January 2007. 	consultants at inception, interim, and draft final report stages																		
<p>Activities with Milestones</p> <p>1.1 Update the transport sector profile, including status of road safety (September 2006)</p> <p>1.2 Review and update previous analyses of the status of road maintenance (September 2006)</p> <p>1.3 Review and update the financial status of the road subsector and financing for road maintenance (September 2006)</p> <p>1.4 Review institutional strengthening and policy reform progress under ongoing projects and define the scope of future ADB assistance (December 2006)</p> <p>1.5 Conduct a financial management assessment of MOTC (December 2006)</p> <p>2.1 Conduct prescreening and prepare preliminary list of roads for potential inclusion in the Project (September 2006)</p> <p>2.2 Conduct analysis and prepare preliminary design and a prioritized list of recommended roads for inclusion in the Project (December 2006)</p> <p>2.3 Conduct economic, financial, and distribution analysis (December 2006)</p> <p>2.4 Complete summary initial environmental examination (December 2006)</p> <p>2.5 Finalize project design, monitoring framework, results-based monitoring system including performance indicators, and maintenance program (December 2006)</p> <p>2.6 Carry out consultations with stakeholders, including government officials, project beneficiaries, and affected people, including women and the poor (December 2006)</p>		<p>Inputs</p> <ul style="list-style-type: none"> • 10 person-months of international and 30 person-months of domestic consulting services • ADB: \$500,000 <table data-bbox="1154 961 1451 1297"> <tr> <td>Consultants and surveys</td> <td>\$408</td> </tr> <tr> <td>Equipment</td> <td>15</td> </tr> <tr> <td>Training, seminars, and conference</td> <td>8</td> </tr> <tr> <td>Administrative and support costs</td> <td>7</td> </tr> <tr> <td>Representative for contract negotiations</td> <td>12</td> </tr> <tr> <td>Other</td> <td>50</td> </tr> </table> • Government: \$150,000 <table data-bbox="1154 1360 1451 1507"> <tr> <td>Office accommodation and services</td> <td>\$70</td> </tr> <tr> <td>Local communications</td> <td>30</td> </tr> <tr> <td>Counterpart staff</td> <td>50</td> </tr> </table> 	Consultants and surveys	\$408	Equipment	15	Training, seminars, and conference	8	Administrative and support costs	7	Representative for contract negotiations	12	Other	50	Office accommodation and services	\$70	Local communications	30	Counterpart staff	50
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ADB=Asian Development Bank, IEE=initial environmental examination, MOT=Tajikistan Ministry of Transport, MOTC=Kyrgyz Republic Ministry of Transport and Communications, TA=technical assistance.

^a The indicators are not time bound and quantifiable at this stage, and will emerge as a result of the technical assistance.

^b Government refers to the Government of Kyrgyz Republic unless otherwise indicated.

E. Social Safeguards and other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	All activities for the ensuing project will take place within the existing rights-of-way or on unutilized land owned by the state. This will be confirmed during the TA.	<input type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No tolls are expected to be charged on the project roads. Transport costs will be lowered as a result of the improved roads.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Use of local labor will be encouraged in executing the contracts for the ensuing project.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	Ethnic minorities will not be adversely or significantly affected.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

A. Transport Sector Review and Policy Agenda

1. Review and update the transport sector profile included in the Asian Development Bank (ADB) Report and Recommendation of the President to the Board of Directors (RRP) for Loan 2106-KGZ(SF).¹ Update lists of past and ongoing investments in transport and roads included in the RRP. Based on the outputs from TA 3757-KGZ: Institutional Support in the Transport Sector,² review and update the financial situation of the road subsector, emphasizing the achievement of sustainable financing of the subsector. Examine road subsector expenditures within the medium-term framework for public sector expenditures and sources of financing. Update data on the structure and composition of subsector revenues, identify potential sources of additional revenue, and assess the amounts of revenue that these sources might generate.
2. Review other studies on road maintenance in Kyrgyz Republic—including those financed by ADB; the European Union's TRACECA³ Program; the World Bank; and other development institutions. Assess and report the extent of implementation, including lessons learned from any failures. Review and update previous analysis of the organizational arrangements for road maintenance, including assessments of the standard of maintenance operations, condition of workshops, workshop equipment, and road maintenance equipment. Assess the minimum financial requirements needed annually to maintain the road network. Identify requirements for investment and training.
3. Conduct a financial management assessment (FMA) of the Ministry of Transport and Communications (MOTC), including completion of ADB's FMA questionnaire. The FMA will include a review of MOTC's systems for financial and management accounting, reporting, auditing and internal controls, and for disbursement and cash flow management arrangements. Prepare financial projections for recurring costs (operating costs, maintenance costs, salaries, supplies, etc.) for the project-financed assets. Review the budget position of the borrower and executing agency to determine the potential impact of recurring costs on the overall financial position. Identify issues or risks associated with the financial management systems and determine the most appropriate risk-mitigation measures to be adopted as part of project design and implementation arrangements.
4. Review institutional strengthening and policy reform progress under ongoing projects and define the scope of ADB assistance, including specific policy and institutional measures needed to continue these processes. Prepare a detailed program of policy dialogue for the proposed project, including measures to ensure that project benefits reach the poor; and identify areas requiring advisory technical assistance (TA) or detailed follow-up studies. Prepare the rationale and terms of reference for a possible advisory TA for strengthening MOTC.
5. Review the status of road safety in Kyrgyz Republic and update road safety statistics. Recommend measures to improve road safety nationally and on the project roads. Examine the need for detailed studies and/or TAs, and prepare the terms of reference.

¹ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Kyrgyz Republic for the Southern Transport Corridor Road Rehabilitation Project*. Manila.

² ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Kyrgyz Republic for the Third Road Rehabilitation Project*. Manila.

³ Transport Corridor Europe, the Caucasus, Asia.

B. Prescreening, Feasibility Study, and Preliminary Design

6. In consultation with MOTC and based on the outputs from TA 3757-KGZ (footnote 2) and other TAs, identify road sections of regional transport corridors in Kyrgyz Republic and other important national roads included in the principal road network for further study for possible inclusion in the proposed project of periodic maintenance and/or road safety improvements. The periodic maintenance works may include patching, surface treatment, overlays, and repairs of bridges and road structures. The works will not include rehabilitation, reconstruction, or new construction, and will not require any resettlement or have any resettlement impacts. The selection will be based on regional importance and linkage to other regional corridors, traffic volumes, and other quantifiable criteria which will be listed in the inception report. The roads proposed for detailed analysis will be listed in the interim report.

7. Analyze and prioritize the prescreened road sections agreed on by the Government and ADB. The analysis will include traffic counts and projections, economic analysis, environmental impact, and social and poverty impact, as described below. The final set of roads analyzed under the TA should comprise a project totaling about \$30 million.

8. Conduct traffic counts at appropriate locations; conduct origin-destination and axle-load surveys to establish the pattern and volume of vehicle, passenger, and cargo movements, including details on passenger characteristics and types of freight being shipped. Assess the possibilities of passenger and freight traffic diversion from other routes. Prepare traffic forecasts by representative vehicle type, taking into account economic and population growth, production increase, economic activity, and income in the hinterland of the project road. Identify and forecast international traffic and transnational transit traffic separately.

9. Carry out topographic surveys, as required, and prepare alignment plans, longitudinal sections, cross-sections, and drainage surveys. Review pavement condition and strength through visual inspection, roughness measurement, deflection measurements, and other tests as required. Based on the investigation results, determine the most cost-effective means of periodic maintenance to accommodate the forecast traffic and meet national and international standards. Undertake necessary preliminary engineering design, including appropriate maintenance measures in the forms of patching, crack sealing, surface treatments and overlays, shoulder re-graveling or re-graveling of unsealed gravel roads; cleaning of drainage structures and river training facilities; providing preventive measures against slope instability, cleaning and strengthening of existing retaining walls, gabions and other structures; as well as providing, improving, and restoring traffic safety features. Estimate and prepare a bill of quantities and engineering estimate for each road based on the analysis of current international and local contracts and current market prices in Kyrgyz Republic for major inputs in terms of labor, equipment and materials; and provide recommendations on packaging the projects and implementation arrangements for contracting out under ADB's local competitive bidding procedure. Confirm the suitability of locally available construction materials, and identify quarries and borrow pits. If warranted by social surveys, include in the preliminary design possible locations for "roadside stations" (for provision of roadside services, sale of local goods, etc.).

10. Prepare cost estimates for the road sections, indicating a breakdown of foreign and local costs and tax and duty components. Also, prepare cost estimates for maintenance of the project road following project completion based on country- and site-specific factors. Assess the financial sustainability of the proposed project, including: (i) projecting the forward incremental recurrent costs associated with the project, (ii) assessing forward debt service obligation, (iii) comparing

total forward cash outlay requirements against current MOTC budget, and (iv) presenting a conclusion with respect to the sustainability of the project.

11. Calculate economic vehicle operating costs for each homogenous road section, with and without the proposed improvements, based on estimated changes in road surface roughness, and quantify the benefits (using shadow prices) for each project road section and for each improvement option. These benefits (or savings) should include those generated from reduced travel distance, road maintenance savings, reduction in road accident costs, etc.

12. Undertake an economic evaluation of all project components, according to ADB's *Guidelines for the Economic Analysis of Projects* (1997), by comparing the with- and without-project cases. Calculate the economic internal rate of return and net present value for the individual project components and the overall project. Benefits from increased agricultural and other production as well as increased trade should also be examined and quantified, if relevant. Estimate separately the benefits arising from international traffic. Also, examine nonquantifiable impacts such as regional and national economic development, improved road safety, etc. Considering the economic evaluation, least-cost analysis, social benefits, and environmental impact, recommend the most suitable periodic maintenance options and rank them by priority. Undertake sensitivity tests on the recommended improvements by appropriately varying benefits, project costs, implementation period, expected overall future volume of traffic, traffic dimension, inadequate maintenance following project completion, and a combination of these factors. Carry out quantitative risk analysis by considering the possible values for key variables and the probability that they may occur. Recommend ways by which project risks may be reduced. Provide training and/or seminars on aspects of conducting feasibility studies, or other road subsector topics related to the TA, as requested by MOTC, and approved by ADB.

13. Estimate the expected distribution of project net benefits first among countries in the region, and second among users of freight and passenger transport, vehicle owners, labor, the Government, the economy in general, and, where appropriate, lenders.

14. Formulate, in a participatory manner, a detailed project design and monitoring framework and performance management system for monitoring and evaluating project impact, outcome, outputs, and activities during implementation and for post-evaluation, including poverty reduction objectives. Collect preliminary baseline data for the indicators and targets, including mitigation measures. Emphasize indicators for which data can be collected by the executing agency during and after implementation. Prepare appropriate formats, schedules, and cost estimates for collecting baseline data for benefit monitoring and evaluation following project completion.

15. Study developments in the road construction industry and assess the capacity of local contractors involved in road construction and maintenance in terms of financial, technical, and human resources. Provide recommendations on contracting out road maintenance works under the project through ADB's local competitive bidding procedure.

C. Maintenance Program

16. Prepare a program for maintenance of key regional transport corridors in Kyrgyz Republic and Tajikistan, including the project roads. Preparation should (i) incorporate findings of other ADB-financed TAs; (ii) include consultations with the transport and finance ministries in both countries, other concerned agencies, and local road construction contractors; (iii) take into account analyses from previous road maintenance studies and pilot cases of tendering

maintenance under other ADB-financed projects; (iv) evaluate tendering some or all maintenance activities, and provide recommendations for institutionalizing commercial practices; (v) evaluate procurement of maintenance equipment and the use of local labor; and (vi) include a plan for monitoring and addressing impacts of such natural events as landslides and floods. The maintenance program will be designed for use in other Central Asian republics with similar topographic and climatic conditions.

D. Social and Poverty Impact Assessment

17. Undertake a social analysis in accordance with ADB's *Guidelines for Incorporation of Social Dimensions in Bank Operations*, *Handbook of Social and Poverty Analysis*, *Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects*, *Guidelines for the Economic Analysis of Projects*, and *Handbook of Social and Poverty Analysis*. The analysis will (i) identify the affected population and potential beneficiaries; (ii) assess various population groups' stages of development, and prepare socioeconomic profiles based on indicators; (iii) assess the project's gender impact and potential impact on HIV/AIDS; (iv) assess the needs of the affected population and their expectations about the project; and (v) assess the affected population's absorptive capacity to benefit from the project, and potential to participate in implementing the project, e.g., from using "roadside stations." Based on findings of the social analysis, recommend mitigation measures for incorporation into the project design and implementation, including components for the monitoring and evaluation program. Prepare a social action plan recommending features for the project design and actions the Government can take to (i) increase poor people's use of the road, (ii) improve poor people's involvement in the project, and (iii) extend project benefits and participation opportunities specifically to women in order to maximize the project's positive impact on the poor.

18. Ensure that the project will involve no relocation or resettlement of affected people (in accordance with ADB's *Handbook on Resettlement*), especially the poor, women, and ethnic minorities, including impact on land within the right-of-way that is being used by local residents. If resettlement impacts or a potential for such impacts is unavoidable, assist the Government in preparing a time-bound resettlement framework or resettlement plan for land acquisition and resettlement to ensure compliance with ADB policy and Government laws. Provide recommendations to the Government on developing policies or enforcement measures for right-of-way management, including clearance of structures in a socially acceptable manner. Review and assess the project's impacts on ethnic minorities, if any, in accordance with ADB's *Policy on Indigenous Peoples*, including adverse impacts and distribution of benefits.

19. Assist MOTC and local governments (if appropriate) in conducting stakeholder consultations on social, environmental, poverty, and other project impacts. The consultations should be conducted with different socioeconomic groups and documented in accordance with ADB practice (including dates, places, participants, and issues discussed). Prepare a program of follow-up consultations during and after project implementation. Prepare a detailed outline of the poverty assessment, including the evaluation method and survey design, with the sampling and timing of the baseline and follow-up surveys. Organize and conduct surveys in the project area to collect data for poverty impact analysis, including, if relevant, (i) costs of agricultural inputs, including proportions attributable to transport costs; (ii) prices received for and production levels of agricultural produce, including the proportions of prices going to transport costs and received by producers, in primary markets accessible to project beneficiaries; (iii) similar information for other products currently and potentially produced in the project area; (iv) income levels, unemployment levels, number of poor, and proportion of women, poor, and other vulnerable people among road users (i.e., vehicle owners, passengers, freight shippers),

and those who do not use the road themselves but indirectly benefit from the project; and (v) use of the road (frequency and purpose). Analyze the survey data and interviews.

20. Provide an overview of the objectives of the national policy for poverty reduction and of the poverty-reduction activities of other funding agencies, including a list and brief description of other projects under implementation in the project area. Describe how the project relates to the overall context of and strategy for poverty reduction in Kyrgyz Republic. Prepare poverty impact analysis in accordance with ADB guidelines. Analyze the survey data to assess (i) the adequacy of and competitiveness within the transport services market; (ii) how fares and charges are determined; (iii) to what extent cost savings for vehicle owners will be passed on to final users; (iv) the extent to which enhanced capacity and reduced costs may lead to additional economic activities; (v) the extent to which the poor, very poor, women, and other vulnerable people use the road and associated transport services; and (vi) opportunities to enhance project benefits for the poor and participation of women. Estimate the number of poor and extremely poor people who will benefit from the project, based on the distribution analysis and in accordance with ADB guidelines. Identify constraints to poor people's direct or indirect use of the project road (i.e., availability and affordability of transport services, vehicle ownership, etc.), taking into account aspects related to gender and vulnerable people. Assess and quantify the likely involvement and employment of poor local people during the construction.

E. Initial Environmental Examination

21. In accordance with ADB's *Environmental Policy* (2002) and *Environmental Assessment Guidelines* (2003), prepare an initial environmental examination (IEE) and a summary IEE for the project roads. This activity should include profiles of the environment and the required mitigation measures in the design, construction, and maintenance of the roads. Ensure that the consultation process satisfactorily addresses environmental issues. If the IEE indicates that adverse impacts are likely, prepare a detailed environmental impact assessment report covering mitigation measures for the project roads, and draft any proposed mitigation measures that will be required for inclusion in the general conditions of contract. Mitigation measures to be considered during design include, but are not limited to, alignment, slope stability, slope erosion, flooding, and pedestrian safety. Mitigation measures to be considered during the construction and maintenance phases should cover natural surroundings, air pollution, water pollution, noise pollution, quarry operations and borrow pits, and solid and human wastes. Draft and incorporate into the project components all necessary mitigation measures identified by the environmental assessments.

F. Reporting Requirements

22. The consultants are required to submit (i) an inception report 1 month after commencement of services; (ii) an interim report (including results of the technical, environmental, and social surveys) 3 months after commencement of services; (iii) a draft final report (including safeguard checklists), draft IEE and summary IEE, draft social and poverty impact assessment, and maintenance program as separate documents 6 months after commencement of the services; and (iv) a final report 3 weeks after receiving comments from ADB and the Government. The draft final and final reports should be prepared in a format following ADB's RRP, including core and supplementary appendixes.

COST ESTIMATE AND FINANCING PLAN
(\$' 000)

Item	Foreign Exchange	Local Currency	Total
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	190.0	0.0	190.0
ii. Domestic Consultants (social, envt, and policy)	0.0	60.0	60.0
b. International and Local Travel	20.0	10.0	30.0
c. Reports and Communications	8.0	0.0	8.0
d. Engineering and Traffic Surveys and Prelim Design	0.0	120.0	120.0
2. Equipment ^b	15.0	0.0	15.0
3. Training, Seminars, and Conferences	4.0	4.0	8.0
4. Miscellaneous Administrative and Support Costs	4.0	3.0	7.0
5. Representatives for Contract Negotiations ^c	12.0	0.0	12.0
6. Contingencies	30.0	20.0	50.0
Subtotal (A)	283.0	217.0	500.0
B. Government of Kyrgyz Republic Financing			
1. Office Accommodation and Services	0.0	70.0	70.0
2. Local Communications	0.0	30.0	30.0
3. Remuneration and Per Diem for Counterpart Staff including the PIU	0.0	50.0	50.0
4. Other	0.0	0.0	0.0
Subtotal (B)	0.0	150.0	150.0
Total	283.0	367.0	650.0

envt = environment, PIU = project implementation unit, prelim = preliminary, TA = technical assistance.

^a Financed by the Japan Special Fund, funded by the Government of Japan.

^b Office equipment such as computers, copiers, printers, telephones, and facsimile machine will be purchased by the consultants and ownership will be transferred to the Government upon completion of the study.

^c Provision for Government officials to attend contract negotiations and discuss policy matters at Asian Development Bank headquarters.

Source: Asian Development Bank estimates.