



# Technical Assistance Report

---

Project Number: 42533  
Policy and Advisory Technical Assistance (PATA)  
March 2009

## Islamic Republic of Afghanistan: Railway Development Study

## CURRENCY EQUIVALENTS

(as of 18 March 2009)

Currency Unit	–	Afghani/s (AF)
AF1.00	=	\$0.0195
\$1.00	=	AF51.22

## ABBREVIATIONS

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
MPW	–	Ministry of Public Works
TA	–	technical assistance

## TECHNICAL ASSISTANCE CLASSIFICATION

<b>Type</b>	–	Policy and advisory technical assistance (PATA)
<b>Targeting Classification</b>	–	General intervention
<b>Sector (subsector)</b>	–	Transport and ICT (Rail transport)
<b>Themes (subthemes)</b>	–	Economic growth (widening access to markets and economic opportunities), regional cooperation and integration (cross-border infrastructure), capacity development (institutional development)
<b>Location Impact</b>		National and regional (medium impact)

## NOTE

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

<b>Vice-President</b>	X. Zhao, Operations 1
<b>Director General</b>	J. Miranda, Central and West Asia Department (CWRD)
<b>Director</b>	H. Wang, Transport and Communications Division, CWRD
<b>Team leader</b>	M. Rehman, Senior Transport Specialist, CWRD
<b>Team member</b>	B. Bathula, Transport Specialist, CWRD

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

# AFGHANISTAN RAILWAY DEVELOPMENT STUDY



- ★ National Capital
  - Provincial Capital
  - City/Town
  - Railway Project - Corridor 1A
  - Railway Project - Corridor 1B
  - Railway Project - Corridor 1C
  - River
  - Provincial Boundary
  - International Boundary
- Boundaries are not necessarily authoritative.

TRANS-AFGHAN TRANSPORT CORRIDOR Total Length 2,067 km		
Corridor Number	Start and End Point	Length (km)
1A	Shirkhan Bandar--Herat	1,246 km
1B	Mazar-e-Sharif--Kabul--Logar Copper Mine--Torkham	718 km
1C	Spin Boldak--Kandahar	103 km

km = kilometer

## I. INTRODUCTION

1. The Government of Afghanistan has requested assistance from the Asian Development Bank (ADB) to undertake a study on railway development in the northern part of the country. The technical assistance (TA)<sup>1</sup> is included in the ADB 2009 pipeline for nonlending products and services for Afghanistan.<sup>2</sup> ADB signed a memorandum of understanding on support for railway development with the governments of Afghanistan and Uzbekistan during the 7th Ministerial Conference on Central Asia Regional Economic Cooperation (CAREC) in Baku, Azerbaijan on 20 November 2008. The TA concept paper was approved by ADB Management on 10 December 2008 and endorsed by the Government on 22 December 2008. This report is based on discussions during missions, including one in October 2008 and the understanding reached with the Government on the impact, outcome, outputs, cost, financing and implementation arrangements, and consultants' terms of reference for the TA. The TA design and monitoring framework is in Appendix 1.

## II. ISSUES

2. Afghanistan is a country with a strategic location in the region. It is estimated that the transcontinental corridor through Afghanistan has the potential to transport 20 million–30 million tons of cargo each year. The CAREC transport corridors 3 and 6, identified in the *CAREC Transport and Trade Facilitation Strategy*,<sup>3</sup> pass through the northern part of the country. The strategy highlights the great potential of Afghanistan to serve as a transit route for traffic and trade among Central Asia, South Asia, and the Middle East. Although Afghanistan's road network is being improved with external assistance, it cannot meet such transport demands. Developing adequate and efficient transport infrastructure in Afghanistan will significantly contribute to regional connectivity, cooperation, and integration. The TA offers an opportunity for Afghanistan to be integrated more closely with the rest of the region.

3. Afghanistan has significant mineral, industrial, and agricultural potential, which requires a reliable and cost-effective transport system if it is to be realized. The road network, which carries the majority of the country's freight and passenger traffic, is being improved, but the transport system remains inadequate, inefficient, and unsafe. Only half of the roads that connect 24 provinces of the country are serviceable throughout the year, greatly restricting job creation and economic growth. A railway network would complement Afghanistan's roads and (i) offer an affordable means of mass transport for sustained growth and poverty reduction, (ii) form part of an integrated multimodal transport system to enable seamless connectivity from origin to destination for goods and passengers, and (iii) link this landlocked country to nearby seaports and trade centers. The TA will carry out a study on railway development in the northern part of Afghanistan and provide advice and recommendations to the Government.

4. Afghanistan has a few kilometers of railway lines near its borders with Turkmenistan and Uzbekistan. All imports and transit goods from these countries are brought to the borders by rail, and then transshipped onto the trucks for movement within Afghanistan or across the borders. Compared with roads, railways offer a cheaper and quicker mode of transport, especially for bulk commodities such as fuel and minerals. Moreover, the extraction of natural resources from major mines in Afghanistan (e.g., the Logar copper mines, Hajigak iron mine, and Cola mine) require a sustainable and safe mode of transport. A railway network would reduce transport costs, increase

---

<sup>1</sup> The TA first appeared in the business opportunities section of ADB's website on 25 December 2008.

<sup>2</sup> ADB. 2009. *Country Partnership Strategy: Afghanistan, 2009–2013*. Manila.

<sup>3</sup> ADB. 2007. *CAREC Transport and Trade Facilitation Strategy*. Manila.

trade, and create jobs, thus contributing to economic growth and poverty reduction. The competition between different modes of transport will also improve efficiency and benefit the public at large.

5. The Government plans to formulate a comprehensive railway development program to link towns and commercial centers within Afghanistan to neighboring countries. Three major routes have been identified with a total length of about 2,000 km (see the map): (i) route 1a in the north, from Hairatan at the border with Uzbekistan to Herat in the west via Mazar-e-Sharif, and from Shrikhan Bandar at the border with Tajikistan to Kunduz and Naiabad joining Mazar-e-Sharif to Herat; (ii) route 1b from Mazar-e-Sharif to Kabul and on to Torkham at the border with Pakistan; and (iii) route 1c in the south, from Spin Boldak in Kandahar to Chaman at the border with Pakistan. The route 1a also forms part of the CAREC transport corridors 3 and 6.

6. The TA is closely linked to ADB's *Country Partnership Strategy: Afghanistan, 2009–2013* (footnote 2), which identifies the rehabilitation and construction of national roads and railways, including links to neighboring countries, as a priority for ADB assistance. The TA is also consistent with *the CAREC Transport and Trade Facilitation Strategy* (footnote 3).

7. Since 2002, ADB has approved more than \$600 million for the development of the transport and communication sector in Afghanistan, largely for road infrastructure. This amounts to more than 40% of ADB's overall assistance to Afghanistan and some 25% of total donor financing for roads. ADB has also provided assistance for nonphysical aspects of Afghanistan's transport sector, including extensive capacity development and training assistance to both the Ministry of Public Works (MPW) and the Ministry of Transportation and Communications.

8. Key lessons learned from ADB assistance include (i) MPW's weak capacity hampers efficient management of transport assets; (ii) uncertainty about availability of funding restricts efficient planning and programming of projects; and (iii) insecurity in many parts of the country makes it difficult to find contractors and consultants willing to work in Afghanistan, and hampers the timely and cost-effective implementation of transport investment projects. These lessons have been incorporated into the TA design.

### **III. THE TECHNICAL ASSISTANCE**

#### **A. Impact and Outcome**

9. The impact of the TA will be a contribution to sustainable economic growth and poverty reduction in Afghanistan, as well as to regional cooperation and integration by facilitating intra- and interregional trade along the CAREC transport corridors 3 and 6. It will enhance Afghanistan's economic competitiveness and provide all-year accessibility to its neighbors. The outcome of the TA will be the development of an affordable, safe, environmentally friendly, energy efficient and reliable transport system. The TA output will be a study on railway development in the northern part of Afghanistan, advice and recommendations for the Government's consideration.

#### **B. Methodology and Key Activities**

10. International consultants, in partnership with the national consultants, will implement the TA. The study will focus on the northern part of Afghanistan and will assess the long-term traffic demand and the sector's capacity, review available options, and develop recommendations for the Government. The TA will carry out technical, social, environmental, financial, and economic assessments for two major routes: (i) from Hairatan at the border with Uzbekistan to Herat in the

west via Mazar-e-Sharif, and (ii) from Shirkhan Bendar at the border with Tajikistan via Kunduz to Naibabad joining Mazar-e-Sharif to Herat.

11. For the TA outcome and outputs to be achieved, a participatory approach, including consultations with stakeholders (e.g., local governments, freight and forwarding associations, nongovernment organizations, and potential affected persons) and policy dialogue with the Government, will be adopted during the implementation of the TA. Given its regional cooperation impact, the TA will be implemented in coordination with the governments of Tajikistan and Uzbekistan. Relevant studies previously carried out by the Government and other development partners, including those for adjoining countries, and the Government's plans for railway development will be carefully studied during TA implementation.

### **C. Cost and Financing**

12. The total cost of the TA is estimated at \$1,260,000 equivalent. ADB will provide \$1,200,000 financed on a grant basis by ADB's TA funding program. The Government will finance the remaining \$60,000 equivalent in kind by providing furnished office space, office equipment (e.g., printer, fax machine, and photocopier), counterpart staff, transport logistics, and support services. The detailed cost estimates and financing plan are in Appendix 2.

### **D. Implementation Arrangements**

13. MPW will be the Executing Agency responsible for implementing the TA. MPW will appoint a coordinator to (i) supervise TA activities; (ii) solve any issues that may arise during implementation; and (iii) facilitate coordination among the consultants, relevant government agencies, and other stakeholders. MPW will provide the consultants with appropriately furnished offices; logistics support, vehicles and necessary transport, information, data, and maps needed for the study; counterpart staff; and administrative support.

14. The TA will require about 66 person-months of consultant inputs (22 international and 44 national). An international consulting firm in association with national consultants will be recruited to provide the services. The consultants will have expertise and experience in the fields of railway transport planning, engineering, economics, finance, social, and environmental safeguards, and institutional development. The outline terms of reference for consultants is in Appendix 3. ADB will select and engage the consultants in accordance with its *Guidelines on the Use of Consultants* (2007, as amended from time to time), using the quality- and cost-based selection (QCBS) method and simplified technical proposal procedures. Any procurement of equipment will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). The TA is expected to begin around mid-June 2009 and be completed by April 2010.

15. Tripartite meetings (MPW, consultants, and ADB) will be held periodically to review the implementation progress of the TA. The local governments, media, and other stakeholders will be kept abreast of the TA's progress through briefings. The consultants' final report will be publicly disclosed through ADB's website upon completion of the TA.

## **IV. THE PRESIDENT'S DECISION**

16. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,200,000 on a grant basis to the Government of Afghanistan for the Railway Development Study, and hereby reports this action to the Board.

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Contribution to sustainable economic growth and poverty reduction in Afghanistan as well as regional cooperation and integration</p>	<p>Increased trade volume</p> <p>Higher wages</p> <p>More land development activities</p>	<p>Periodic economic reporting by local and international sources</p> <p>Government statistics office at national and provincial levels</p>	<p><b>Assumption</b> Government's willingness to undertake necessary institutional reforms</p> <p><b>Risk</b> Weak collaboration among government agencies</p>
<p><b>Outcome</b> Development of an affordable, safe, efficient, and sustainable railway system in the northern part of Afghanistan</p>	<p>Reduced transport costs and travel time</p> <p>Greater mobility</p> <p>Efficient transport services</p> <p>More accessibility to inland and neighboring countries</p> <p>Higher traffic volume</p>	<p>Government's development plans and statistics reports</p> <p>ADB's TA review missions</p> <p>Evaluation surveys</p>	<p><b>Assumptions</b> Improved security situation so businesses can operate reasonably freely</p> <p>Private sector participation facilitated</p> <p><b>Risks</b> Tariff structure not affordable to users</p> <p>Limited capacity of government agencies</p>
<p><b>Outputs</b> Study on railway development in the northern part of Afghanistan undertaken</p>	<p>The study will be completed by April 2010. It will include:</p> <p>(i) Technical, economic, financial, social, environmental, and institutional capacity assessments for two priority routes: (a) from Hairatan at the border with Uzbekistan to Herat in the west via Mazar-e-Sharif, and (b) from Shirkhan Bendar at the border with Tajikistan via Kunduz to Naibabad joining Mazar-e-Sharif to Herat</p> <p>(ii) Recommendations</p> <p>Consultation with stakeholders held</p>	<p>Consultants' progress and final reports</p> <p>ADB TA review missions</p>	<p><b>Assumptions</b> Consultants mobilized as planned</p> <p>Timely provision of counterpart support by the Government for the TA</p> <p><b>Risk</b> Deteriorating security situation in the northern part of Afghanistan</p>

<b>Activities with Milestones</b>	<b>Inputs</b>
<ol style="list-style-type: none"> <li>1. Consultant services begin in June 2009.</li> <li>2. Consultants' inception report submitted by beginning of August 2009.</li> <li>3. Government plans for railway development in the northern part of Afghanistan reviewed by September 2009.</li> <li>4. Recent studies by the Government or its development partners, including those for the adjoining countries, reviewed by September 2009.</li> <li>5. Consultants' interim report submitted by October 2009.</li> <li>6. Consultation with stakeholders on the draft final report held early February 2010.</li> <li>7. Consultants' draft final report (study on railway development in the northern part of Afghanistan, including technical, economic, financial, social, environmental, and institutional capacity assessments) submitted by end-February 2010.</li> <li>8. Consultant's final report submitted by end March 2010.</li> <li>9. Information disseminated to the stakeholders by April 2010.</li> </ol>	<p>ADB: \$1.2 million (grant to the Government):  22 person-months of inputs from international consultants and 44 person-months of inputs from national consultants</p> <p>Government's counterpart contribution: \$60,000 (in kind):  logistical support, vehicles, office space, office equipment</p> <p>Beneficiaries: Public</p>

ADB = Asian Development Bank, TA = technical assistance.

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

Item	Total Cost
<b>A. Asian Development Bank Financing<sup>a</sup></b>	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	700.0
ii. National Consultants	120.0
b. International and Local Travel	95.0
c. Reports and Communications	15.0
2. Workshops, Training, Seminars, and Conferences <sup>b</sup>	
a. Facilitators	15.0
3. Equipment Provision for Armored Vehicles <sup>c</sup>	50.0
4. Surveys	45.0
5. Miscellaneous Administration and Support Costs	10.0
6. Miscellaneous Office Equipment	10.0
7. Contingencies	140.0
<b>Subtotal (A)</b>	<b>1,200.0</b>
<b>B. Government Financing</b>	
1. Office Accommodation, Office Equipment, <sup>d</sup> and Transport	30.0
2. Remuneration and Per Diem of Counterpart Staff	20.0
3. Others	10.0
<b>Subtotal (B)</b>	<b>60.0</b>
<b>Total</b>	<b>1,260.0</b>

<sup>a</sup> Financed by the Asian Development Bank technical assistance funding program.

<sup>b</sup> For capacity and social assessments and dissemination purposes.

<sup>c</sup> For security purposes—to equip the vehicles with anti-explosives.

<sup>d</sup> Including printer, fax machine, photocopier, etc.

Source: Asian Development Bank estimates.

## OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

### A. Introduction

1. At the request of the Government of Afghanistan, the Asian Development Bank (ADB) will provide technical assistance (TA) to finance a study on railway development in the northern part of Afghanistan. The TA will focus on two routes: (i) from Hairatan at the border with Uzbekistan to Herat in the west via Mazar-e-Sharif, and (ii) from Shirkhan Bendar at the border with Tajikistan via Kunduz to Naibabad joining Mazar-e-Sharif to Herat. A team of experts will be recruited to undertake the study. The TA will be implemented over a 10-month period and the consultants' final report will include findings, analyses, and recommendations.

### B. Scope

2. The TA will require a total of 66 person-months of consultants' inputs (22 person-months international and 44 person-months national). The consultants will be recruited and engaged in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) using the quality- and cost-based selection (QCBS) method and simplified technical proposal procedures. The consultants should have expertise and experience in the following areas: (i) railway engineering; (ii) economic and financial assessment of railway investments; (iii) environmental assessment; (iv) social, land acquisition, and resettlement assessment; (v) railway operation and maintenance; and (vi) institutional capacity assessment (including in the private sector). The consultants will review studies, collect data, carry out field surveys, consult with stakeholders, make assessments, and propose appropriate advice and recommendations. The consultants' detailed tasks are described below.

### C. Expertise and Inputs Required

#### 1. International Consultants

3. **Railway Operations Engineer (Team Leader).** An international consultant with expertise in signaling, electrical engineering, and communications and 15 years of relevant experience will be recruited for 4 person-months. He or she will also serve as the team leader with the overall responsibility for the TA study. He or she will monitor the work carried out by other consultants and ensure close collaboration between the consultant team and relevant Government agencies. The consultant will review the Government's plan for developing the transport network and other infrastructure in the project area, including developing a complementary road network, and constructing access roads to the hinterland. He or she will coordinate and prepare overall cost estimates for a possible project in the northern part of the country.

4. **Railway Civil Engineers.** Two international engineers, each with expertise in tracks and surveying and 10 years of relevant experience, will be recruited for 3 person-months each on an intermittent basis. Experience of working in similar geographical areas will be required. Working closely with the team leader, they will carry out topographic surveys, review geological and hydrological conditions, and make a technical evaluation of the proposed railway development in the northern part of Afghanistan. Prepare a preliminary design; produce cost estimates; review other technical aspects, including safety aspects; propose implementation arrangements; and prepare an implementation schedule.

5. **Institutional Specialist** (including private sector participation and governance). An international institutional specialist with 10 years of experience in the railway sector and in a similar geographic area will be recruited for 3 person-months. He or she will carry out a study on the prevailing rules, regulations, and practices, identify weaknesses and constraints, and make recommendations for improvements. The consultant will submit findings and recommendations to the team leader.

6. **Financial, Operations, and Maintenance Specialist.** An international consultant with 10 years of relevant experience in the railway sector will be recruited for 2 person-months. He or she will assess the adequacy of the tariff rates to ensure sustained financial viability, compare the tariff rates with those offered by road transport, examine the development plans for (i) road and railway networks in the project area, (ii) intermodal and multimodal facilities, and (iii) logistical infrastructure and facilitation measures. He or she will assess the financial viability of any envisaged railway project for the studied routes, and collaborate with the transport economist to ensure consistency of approach and assumptions between financial and economic analyses.

7. **Transport Economist.** An international transport economist with 15 years of relevant expertise in the railway sector will be recruited for 3 person-months. He or she will project long-term traffic (domestic, cross-border, and transit) in the northern part of Afghanistan and undertake an economic analysis of the proposed railway development project in accordance with ADB's *Guidelines for Economic Analysis of Projects*.<sup>1</sup> The economist will estimate economic internal rate of return and net present value of any envisaged project for the studied routes. He or she will also undertake an alternative analysis to assess whether railway development is the least-cost option and undertake a sensitivity analysis and a risk analysis.

8. **Environment Specialist.** An international environment specialist with 10 years of relevant experience will be recruited for 2 person-months. He or she will prepare a preliminary environmental impact assessment for the proposed railway development project in accordance with ADB's *Environment Policy (2002)* and *Environmental Assessment Guidelines (2003)*. The environmental impact assessment should include the benefits of proposed environmental enhancement measures that include the construction of sewer mains, trees and other green space within the right-of-way of the studied routes. The consultant will estimate the cost of any mitigation and enhancement measures in the envisaged project area.

9. **Social, Land Acquisition and Resettlement Specialist.** An international consultant with 10 years of relevant experience will be recruited for 2 person-months. He or she will (i) make surveys and assessments of land to be acquired and the resettlement impacts involved, number of affected persons and properties, cost estimates, and time required for implementation; (ii) prepare socioeconomic and poverty profiles for the areas to be served by the proposed railway network in the northern area. Data will be collected through statistical records; field surveys and key informant interviews (e.g., with local government officials, nongovernment organizations, business associations, and community groups); and participatory community appraisal techniques. The information should include population, income levels, occupations, unemployment, education levels, health conditions, and other relevant socioeconomic data. Data should be disaggregated by gender where applicable. These data and profiles should be sufficient to serve as the baseline for socioeconomic benefit monitoring.

---

<sup>1</sup> ADB. 1997. *Guidelines for Economic Analysis of Projects*. Manila.

## 2. National Consultants

10. The following national consultants will be engaged under the TA. They will receive directions from, and work with, the international consultants.

- (i) **Railway civil engineers.** Four national surveyors and/or engineers each with the expertise and experience in railway engineering or similar fields will be engaged for 4 person-months each on an intermittent basis.
- (ii) **Railway engineers.** Two national consultants with expertise in signaling, electrical and communications or similar fields will be recruited for 4 person-months each.
- (iii) **Railway operations and maintenance expert.** A national consultant with relevant expertise and experience will be recruited for 3 person-months intermittently.
- (iv) **Transport economist.** A national transport economist with relevant expertise preferably in the railway sector will be recruited for 3 person-months intermittently.
- (v) **Environment specialist.** A national environment specialist with relevant expertise and experience will be recruited for 2 person-months.
- (vi) **Social, land acquisition and resettlement specialists.** Two national consultants with relevant expertise and experience will be recruited for 3 person-months each.
- (vii) **Institutional specialist.** A national specialist with relevant expertise and experience will be recruited for 4 person-months.
- (viii) **Private sector specialist.** A national consultant with expertise and experience in private sector operations will be recruited for 2 person-months.

## 3. Counterpart Support

11. The Ministry of Public Works (MPW) will be the Executing Agency for the TA. MPW will (i) appoint a coordinator to work with the consultant team; (ii) assign counterpart staff to facilitate the consultants' work; (iii) provide suitable and furnished office accommodation, office equipment (e.g., printers and photocopiers), and communication facilities (e.g., telephone, fax machine) to the consultants; (iv) provide necessary transport (vehicles) and logistical support, especially for field trips by consultants and for consultations with stakeholders; and (v) provide consultants with the government reports, materials, data, and maps needed to implement the TA, including those from the neighboring countries.

## 4. Reporting

12. The consultants will be required to submit the following reports in the English language to MPW and ADB (three copies each):

- (i) inception report, due after the mobilization of the consultant team at the end of week 6 (at the beginning of August 2009);
- (ii) interim report by October 2009;
- (iii) brief monthly progress reports, to describe the progress of the consultants' work, staffing, problems encountered, actions needed to be taken;
- (iv) consultation with the stakeholders by mid-February 2010;
- (v) draft final report, due by the end of February 2010; and
- (vi) final report, due after incorporation of stakeholders' comments on the draft final report by end of March 2010.