



Technical Assistance Report

Project Number: 46305
Policy and Advisory Technical Assistance (PATA)
September 2013

Mongolia: Connectivity for Future Growth

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 1 September 2013)

Currency unit	–	togrog (MNT)
MNT1.00	=	\$0.000626
\$1.00	=	MNT1,596.50

ABBREVIATIONS

ADB	–	Asian Development Bank
km	–	kilometer
km ²	–	square kilometer
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Type	–	Policy and advisory technical assistance (PATA)
Targeting classification	–	General intervention
Sector (subsectors)	–	Transport, and information and communication technology (road transport, air transport, rail transport)
Themes (subthemes)	–	Economic growth (promoting economic efficiency and enabling business environment, widening access to markets and economic opportunities), regional cooperation and integration (crossborder infrastructure), capacity development (institutional development)
Location (impact)	–	Rural (medium), national (high), regional (medium)

NOTE

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

Vice-President	S. Groff, Operations 2
Director General	A. Konishi, East Asia Department (EARD)
Director	T. Duncan, Transport Division, EARD
Team leader	V. Tian, Transport Specialist, EARD
Team members	D. Fay, Transport Specialist, EARD
	G. Galang, Senior Legal Officer, Office of the General Counsel
	S. Lewis-Workman, Senior Transport Economist, EARD
	R. Mamatkulov, Senior Transport Specialist, EARD
	S. Saxena, Senior Transport Specialist, EARD
	A. Veron-Okamoto, Transport Economist, EARD

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.

CONTENTS

	Page
I. INTRODUCTION	1
II. ISSUES	1
III. THE TECHNICAL ASSISTANCE	2
A. Impact and Outcome	2
B. Methodology and Key Activities	2
C. Cost and Financing	4
D. Implementation Arrangements	4
IV. THE PRESIDENT'S DECISION	4
APPENDIXES	
1. Design and Monitoring Framework	5
2. Cost Estimates and Financing Plan	8
3. Outline Terms of Reference for Consultants	9

I. INTRODUCTION

1. Mongolia is a large, sparsely populated country located between the People's Republic of China to the south and the Russian Federation to the north. As a result of rapid growth in mining, it has become one of Asia's fastest-growing economies. However, mining is capital intensive and creates only limited employment opportunities, so poverty levels remain high. In 2011, about 29.8% of the population lived below the poverty line, with a high degree of inequality between rural and urban areas. To reduce poverty the government will need to transform resource-driven economic growth into a more broad-based development. This will require development of productive non-mining sectors and expansion of people's access to economic opportunities and services in order to make growth more inclusive.

2. With a population of 3.2 million people and a land area of 1.6 million square kilometers (km²), Mongolia's average population density is only 2 persons per km². Since more than 1.2 million people now live in the capital city of Ulaanbaatar, the population density of the rest of the country is close to 1 person per km². To improve economic competitiveness, expand access to economic opportunities and services, and enable economic development in the different regions, the government attaches high priority to improving the country's transport infrastructure. This includes improving connectivity between Mongolia and neighboring countries, between the capital and provincial centers, and between provincial centers and surrounding regions.

3. The Government of Mongolia has asked the Asian Development Bank (ADB) for policy and advisory technical assistance (TA) to help it refine its transport sector policies, strategy, and investment plans. Following initial discussions on 15–27 April 2013, this TA report is based on an understanding reached with the government during the TA fact-finding mission on 8–9 July 2013 and through further discussions on 12–23 August 2013. It reflects the consensus reached on the impact, outcome, outputs, implementation arrangements, cost, financing arrangements, and terms of reference for consulting services for the TA.¹ The design and monitoring framework is in Appendix 1.

II. ISSUES

4. The Mongolian transport sector covers the air, road, and rail transport modes.² Despite the large territory, there are only 49,300 kilometers (km) of main roads, of which only 2,950 km are paved. With an average of 31 meters per km², road density is similar to other scarcely populated countries such as Australia, Canada, and Kazakhstan. The reliance on unpaved roads imposes high transportation costs. The country's air transportation system includes 23 airports, of which Chinggis Khaan Airport in Ulaanbaatar serves as the country's international and domestic hub. Only four domestic airports have paved runways and are equipped with basic navigation aids. The Mongolian rail network comprises 1,815 km of broad-gauge track, of which 1,110 km are on the main line linking the Russian Federation to the People's Republic of China, 238 km are on a separate network in eastern Mongolia that also links to the Russian railway, and the remaining 477 km are branches off the main line.

5. Freight transport grew at an average annual rate of 13% from 2000 to 2012, reaching 16.6 billion ton-km. In 2012, nearly 73% of total freight was transported by rail, most of the remainder by road transport, and a small portion by air. Rail is the dominant transport mode for commercial cargo and mineral exports. Between 2000 and 2012, passenger transport increased

¹ The TA first appeared in the business opportunities section of ADB's website on 28 August 2013.

² Inland water transportation is insignificant.

from 1.94 billion passenger-km to 4.97 billion passenger-km, equivalent to an average annual growth rate of 7%. In 2012, road transport accounted for 45% of total passenger transport, rail for 30%, and air for 25%. The fastest-growing transport mode was road transport, which grew at an average annual rate of 18%; air transport grew at 9% and rail transport at 4%.

6. International transport connections are crucial for integrating Mongolia's comparatively small and isolated economy into the large and growing regional markets. Efficient domestic transport connectivity is necessary for providing the rural population with access to markets, employment opportunities, and social and health-care services. Yet the country's size, geography, climate, and low population density present special challenges for transport network development due to the very high cost of creating and maintaining transport infrastructure and the limited traffic volumes to be served. The transport systems in countries with similar geographic and/or climatic challenges—i.e., Australia, Canada, Kazakhstan, and the United States (particularly Alaska)—may provide lessons on how to meet these challenges. The increasing concentration of population in Ulaanbaatar also requires a radical improvement of the city's transport system.

7. If the government seeks transport service levels that are too high, this may lead to an inefficient use of resources and may burden the country with high costs for operation and maintenance of overdeveloped infrastructure. The government needs to establish sound principles for planning and prioritizing transport network development, and ensure that transport investments will be financially and economically viable.

III. THE TECHNICAL ASSISTANCE

8. The TA will assist the government in refining its vision for transport sector development during 2016–2025, and will also identify the scope for partnership with ADB in developing the sector during 2016–2018. This will include reviewing the government's transport sector strategies, policies, and investment plans; assessing transport sector issues and opportunities; and drawing upon comparisons with transport systems in countries that have faced similar geographic and demographic challenges. The TA is in line with the Mongolia country partnership strategy, 2012–2016³ and National Development Strategy,⁴ which both place high priority on transport sector development. TA scope is in line with the ADB's Sustainable Transport Initiative.⁵

A. Impact and Outcome

9. The impact of the TA will be improved national and international transport connectivity for Mongolia. The expected outcome is a refined transport sector investment program for 2016–2018.

B. Methodology and Key Activities

10. The TA will have three outputs: (i) a situation analysis of the transport system in Mongolia, including a comparison with similar countries; (ii) an analytical review of proposed transport sector investments for 2016–2025 (roads, rail, aviation); and (iii) transport project proposals for ADB financing in 2016–2018.

³ ADB. 2012. *Country Partnership Strategy: Mongolia, 2012–2016*. Manila.

⁴ Government of Mongolia. 2007. *Millennium Development Goals-Based Comprehensive National Development Strategy of Mongolia*. Ulaanbaatar.

⁵ ADB. 2010. *Sustainable Transport Initiative—Operational Plan*. Manila.

11. Output 1: Situation analysis of the transport system in Mongolia, including comparison with similar countries. This includes:

- (i) An updated profile of the Mongolia transport sector by collecting, analyzing, and verifying data on the road, rail, and aviation subsectors. The update will include legal, institutional, and regulatory frameworks, financing systems, and a budget expenditure review.
- (ii) A summary overview of the existing transport sector strategy documents of the government, ADB, and other donors. The review will particularly elaborate on opportunities for public–private partnership in each subsector.
- (iii) A policy note on principles for planning and prioritizing transport network development, drawing on a comparative analysis of transport systems in areas with similar demographic and geographic challenges (especially harsh climatic conditions, remoteness, and low population density such as in Alaska, western Australia, and northwest Canada).
- (iv) A policy note on accessibility of rural communities to social, education, and health services at *aimag*, *soum*, and *bag* level, along with a set of indicators that could serve for policy formulation.⁶ The study will analyze the implications of demographic trends and the national development targets, including those set for education and health-care, on transport system development in rural areas, and will be complemented by case studies of access of remote communities in two remote regions of Mongolia (i.e., Sukhbaatar and Umnu Gobi).
- (v) A workshop to discuss findings applicable to the overall transportation system in Mongolia, and to the road, railway, and air transportation subsectors.

12. Output 2: Analytical review of proposed transport investments in 2016–2025. This includes:

- (i) An analytical discussion paper on the future transport investment program, including principles to be followed in planning the program, and proposals regarding prioritization. The paper will draw on the government's investment programs for the transport sector and the road, railway, and aviation subsectors during 2016–2025 as well as output 1, and includes (a) defining the investment costs, timeframe, and potential funding sources; (b) preliminary economic, financial, and technical viability assessments; (c) the resulting operation and maintenance requirements; and (d) associated sector policy and institutional aspects.
- (ii) Development of criteria for prioritizing individual investment and TA projects for ADB financing in 2016–2018.
- (iii) Two transport sector development workshops that will include individual brainstorming sub-sessions on prioritizing the road, rail, and air transportation development projects.
- (iv) Based on the above analysis and prioritization, an updated analytical discussion paper and a short list of investment and TA projects found suitable for ADB financing, including their social and environmental safeguard aspects, for presentation and discussion with the government and ADB at the final workshop.

⁶ Mongolia's administrative units are *aimag* (province), *soum* (county), and *bag* (village).

13. **Output 3: Transport project proposals for ADB financing in 2016–2018.** This includes:

- (i) A short list of potential projects and TA for ADB financing in 2016–2018 in close consultation with the government and ADB.
- (ii) Individual project proposals for short-listed investment and TA projects, including (a) rationale, description, and scope; (b) preliminary economic, financial, and technical viability analysis; (c) sector policy, institutional, and budgetary aspects; and (d) social and environmental safeguard requirements.

C. Cost and Financing

14. The TA is estimated to cost \$600,000, of which \$500,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The government will provide counterpart support in the form of counterpart staff, suitably furnished office space with utilities and telecommunication access (including broadband internet connection), materials, maps, data and documents (including copies of all reports prepared under previous TA projects funded by ADB and other donors) as required for the TA, and cover the cost of utilities for the consultants, and other in-kind contributions.

D. Implementation Arrangements

15. The Ministry of Roads and Transportation of Mongolia will be the executing agency. The ministry's Strategic Policy and Planning Department will be the implementing agency. The executing agency will designate a TA focal point and establish a working group comprising the executing agency staff responsible for formulating the road, aviation, and railway subsector development strategies, and defining the investment programs. The working group will include representatives of the Ministry of Economic Development and other stakeholders, as necessary.

16. The TA will be implemented over 24 months from 1 January 2014 to 31 December 2015. It requires 41 person-months of consulting services (4 international consultants totaling 12 person-months and 2 national consultants totaling 29 person-months). ADB will engage individual international and national consultants in accordance with its Guidelines on the Use of Consultants (2013, as amended from time to time). All procurement under the TA will be carried out in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). The proceeds of the TA will be disbursed in accordance with the *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). The consultants will have expertise in (i) transport sector policies and strategy, (ii) road sector, (iii) aviation, and (iv) railways. The consultants will be responsible for (i) aiding the executing agency's working group on sector strategies and investment programs, and preparing policy notes and knowledge products; and (ii) producing the TA outputs and deliverables effectively and in a timely manner. The TA consultants will organize and facilitate discussions during the working group sessions and incorporate the suggestions of the working group into the TA deliverables. The final TA report and workshop will present the TA project's key recommendations to national decision makers and stakeholders.

IV. THE PRESIDENT'S DECISION

17. 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 to the Government of Mongolia for Connectivity for Future Growth, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved national and international transport connectivity	Annual growth in freight turnover is maintained at 5%, from 16,647million ton-km in 2012 Annual growth in passenger transportation is maintained at 5%, from 5 million person-km in 2012	Mongolia Statistical Yearbook	Assumption Mongolia maintains high economic growth.
Outcome Refined transport sector investment program for 2016-2018	Updated transport investment plans for 2016-2018 At least two proposed instances of PPTA for transport projects incorporated in ADB's Mongolia country program At least two projects included in the government's investment program for financing under ADB's Mongolia country program	Ministry of Roads and Transport TA completion report 2015 Country programming mission MOU COBP for 2016–2018	Assumption Transport sector development remains a priority for the government. Risks Political factors cause problems for the process of defining the sector investment programs and prioritizing projects for ADB financing. Insufficient focus of the government on economic efficiency of the proposed investments, and their institutional and sector policy aspects Insufficient government ownership and involvement in TA management and implementation
Outputs 1. A situation analysis of the transport system in Mongolia, including comparison with similar countries	A summary overview of the existing transport sector strategy documents prepared by the government, ADB, and other donors A policy note on principles for planning and prioritizing transport network development in Mongolia, based on a comparative analysis of transport	ADB's review mission reports Consultant's reports	Risk Insufficient government ownership and involvement in TA management and implementation

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>systems in countries with similar demographic and geographic challenges</p> <p>A policy note and recommendations for improving accessibility of rural communities to social, education, and health services</p>		
2. An analytical review of proposed transport investments in 2016–2025 (roads, rail, aviation)	A working paper prepared on the national investment programs in the transport sector		
3. Transport project proposals for ADB financing in 2016–2018	2–3 project proposals and 2–3 TA projects suitable for ADB financing developed		
Activities with Milestones		Inputs	
<ol style="list-style-type: none"> 1. A situation analysis of the transport system in Mongolia, including comparison with similar countries <ol style="list-style-type: none"> 1.1. Conduct an inception workshop to discuss and agree on the study methodology by 1 February 2014 1.2. Update the profile of the Mongolia transport sector by 28 February 2014 1.3. Prepare summary overview of the existing transport sector strategy documents prepared by the government, ADB, and other donors by 28 February 2014 1.4. Prepare a policy note on principles for planning and prioritizing transport network development, based on a comparative analysis of transport systems in countries with similar demographic and geographic challenges, focusing on remote and sparsely populated areas by 30 June 2014 1.5. Prepare a policy note on accessibility of rural communities to social, education, and health services at <i>aimag</i>, <i>soum</i>, and <i>bag</i> level in Sukhbaatar and Umnugobi by 30 June 2014 		ADB: \$500,000	
		Item	Amount (\$'000)
		Consultants	430.8
		Equipment and miscellaneous	4.5
		Workshops, seminars, and conferences	15.0
		Surveys	6.0
		Contingencies	43.7
		<p>Note: The government will provide counterpart support in the form of counterpart staff, suitably furnished office space with utilities and telecommunication access (including broadband internet connection), materials, maps, data and documents (including copies of all reports prepared under previous TA projects funded by ADB and other donors), cost of utilities for the consultants, and other in-kind contributions.</p>	

Activities with Milestones	Inputs
<ul style="list-style-type: none"> 1.6. Conduct an output 1 workshop by 30 June 2014 2. An analytical review of proposed transport investments in 2016–2025 <ul style="list-style-type: none"> 2.1. Prepare an analytical discussion paper on the proposed investment programs by 31 October 2014 2.2. Develop criteria for prioritizing individual investment and TA projects for ADB financing in 2016–2018 by 31 October 2014 2.3. Organize two transport sector development workshops that will include individual brainstorming sub-sessions on prioritizing the road, rail, and air transportation development projects by 31 October 2014 and 28 February 2015 3. Transport project proposals for ADB financing in 2016–2018 <ul style="list-style-type: none"> 3.1. Prepare a short list of potential projects for ADB financing in 2016–2018 by 28 February 2015 3.2. Develop project proposals for short-listed investment and TA projects by 28 February 2015. 	

ADB = Asian Development Bank, *aimag* = province, *bag* = village, COBP = country operations business plan, km = kilometer, MOU = memorandum of understanding, PPTA = project preparatory technical assistance, *soum* = county, TA = technical assistance.

Sources: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount (\$'000)
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	276.0
ii. National consultants	78.3
b. International and local travel	76.5
2. Equipment ^b	4.5
3. Training, seminars, and conferences	15.0
4. Surveys	6.0
5. Contingencies	43.7
Total	500.0

Note: The technical assistance (TA) is estimated to cost \$600,000, of which contributions from the Asian Development Bank (ADB) are presented in the table above. The government will provide counterpart support in the form of counterpart staff, suitably furnished office space with utilities and telecommunication access (including broadband internet connection), materials, maps, data and documents (including all copies of reports prepared under previous TA projects funded by ADB and other donors), cost of utilities for the consultants, and other in-kind contributions. The value of government contribution is estimated to account for 16.7% of the total TA cost.

^a Financed by ADB's Technical Assistance Special Fund (TASF-V). The TA has been included in ADB's country partnership strategy, 2012–2016 and country operations business plan, 2013–2015 for Mongolia and no external financing is available.

^b The equipment includes a desktop computer, laptop computer, external hard drive, printer and copy machine and scanner, Wi-Fi router, office phone, and extension cords. Upon TA completion, the equipment will be turned over to the executing agency.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Objective

1. The objective of this technical assistance (TA) assignment is to assist the government in improving the national and international transport connectivity of Mongolia.

B. Scope

2. **Output 1: Situation analysis of transport system in Mongolia, including comparison with similar countries.** Prepare an updated profile of the Mongolia transport sector by collecting, analyzing, and verifying data on the road, rail, and aviation subsectors. The update will include legal, institutional, regulatory frameworks, financing systems, and budget expenditure review. The activities will involve provision of inputs for development of a database by the executing agency for the existing strategy and policy documents by 28 February 2014.

3. Review and summarize the existing transport sector strategy documents, prepared by the government, the Asian Development Bank (ADB), and other donors. The review will particularly elaborate on opportunities for public–private partnership in each subsector by 28 February 2014.

4. Prepare a policy note on principles for planning and prioritizing transport network development, based on a comparative analysis of transport systems in areas with similar demographic and geographic challenges, focusing on remote and sparsely populated areas (e.g., Alaska, western Australia, northwest Canada, and Mongolia) by 30 June 2014.

5. Prepare a policy note on accessibility of rural communities to social, education and health-care services at *aimag* (province), *soum* (county), and *bag* (village) level, along with a set of indicators that could serve for policy formulation. The study will pinpoint the impediments for improving these services, which relate to poor transport connectivity, and propose measures to remove them. The study will elaborate on the implications of demographic trends and the national development targets set for education and health care for the prospects and imperatives of transport system development in rural areas over the long term. It will be complemented by a detailed survey of access of remote communities in two remote regions of Mongolia (i.e., Sukhbaatar and Umnu Gobi) to social and health-care services and regional markets by 30 June 2014.

6. Conduct an output 1 workshop to discuss findings applicable for the overall transportation system in Mongolia, and for road, railway, and air transportation subsectors by 30 June 2014.

7. **Output 2: Analytical review of the transport investment needs for 2016–2025 (roads, rail, and aviation) and prioritization of investment projects and TA for ADB financing in 2016–2018.** Drawing on the government's investment program for the transport sector and the road, railway, and aviation subsectors during 2016–2025 as well as output 1, prepare an analytical discussion paper. The analysis of the proposed investment programs will include (i) defining the investment costs, timeframe, and potential funding sources; (ii) preliminary economic, financial, and technical viability assessments; (iii) the resulting operation and maintenance requirements; (iv) associated sector policy and institutional aspects; and (v) integrating the recommendations developed under output 1 by 31 October 2014.

8. Develop criteria for prioritizing individual investment and TA projects for ADB financing in 2016–2018 consistently with ADB's Sustainable Transport Initiative⁷ by 31 October 2014.

9. Organize two transport sector development workshops that will include individual brainstorming sub-sessions on prioritizing road, rail, and air transportation development projects by 31 October 2014 and 28 February 2015.

10. **Output 3: Formulation of specific project proposals for ADB financing in 2016–2018.** In close consultation with the government and ADB, prepare a short list of potential projects for ADB financing in 2016–2018 by 28 February 2015.

11. Develop individual project proposals for short-listed investment and TA projects, including the (i) rationale, description, and scope; (ii) preliminary economic, financial, and technical viability analysis; (iii) sector policy, institutional, and budgetary aspects; and (iv) social and environmental safeguards requirements by 28 February 2015.

C. Reporting Requirements

12. The team of consultants will work on an intermittent basis from 1 January 2014 to 31 December 2015 and produce the following reports:

- (i) Inception report by 1 February 2014.
- (ii) Mongolia transport sector profile update by 28 February 2014.
- (iii) Summary overview of the existing sector strategy documents by 28 February 2014.
- (iv) A policy note on principles for planning and prioritizing transport network development, based on a comparative analysis of transport systems in countries with similar demographic and geographic challenges, focusing on remote and sparsely populated areas by 30 June 2014.
- (v) A policy note on accessibility of rural communities to social, education, and health services at *aimag*, *soum*, and *bag* level by 30 June 2014.
- (vi) Analytical discussion paper on the government transport investment programs for 2016–2025 by 31 October 2014.
- (vii) A policy note on criteria for prioritization of investment and TA projects for ADB financing in 2016–2018 by 31 October 2014.
- (viii) A short list for potential projects and TA for ADB financing, and draft project proposals for short-listed investment and TA projects by 28 February 2015.
- (ix) Draft final report (focusing on outputs 1 and 2) by October 2014.
- (x) Final report by 28 February 2015.

D. Staffing Requirements

13. The TA will require a total of 12 person-months from four international consultants and 29 person-months from two national consultants. ADB will engage individual international and national consultants in accordance with its Guidelines on the Use of Consultants (2013, as amended from time to time). The international team will comprise (i) one team leader and transport planner (6 person-months), (ii) one road sector specialist (2 person-months), (iii) one aviation specialist (2 person-months), and (iv) one railway specialist (2 person-months).

⁷ ADB. 2010. *Sustainable Transport Initiative—Operational Plan*. Manila.

14. The national team will comprise one deputy team leader and transport specialist (24 person-months) and one social development specialist (5 person-months).

E. Team Leader and Transport Planner (international consultant)

15. The team leader will be a transport planner with strong background in national integrated transport system planning and economic analysis. He or she must possess a graduate degree in relevant fields and at least 10 years of professional work experience on similar assignments in developing countries, particularly in transport sector strategy formulation, transport system planning, and national investment program analysis and prioritization. He or she must be familiar with the transportation systems in countries with similar demographic and geographic challenges as Mongolia (particularly in sparsely populated rural areas), including their technical, financial, social, and economic aspects—e.g., Australia (western part), Canada (northwest), and United States (Alaska). Work experience with ADB and prior experience in Mongolia or similar developing countries will be an advantage.

16. The team leader will be ultimately responsible for preparing and submitting all final products listed above in Section C: Reporting Requirements, coordinating the entire consulting team, providing guidance on methodology and formats of inputs by subsector specialists, organizing the proposed surveys, and organizing and facilitating the working group sessions, workshops, and seminars. The team leader should demonstrate strong communication skills as relates to facilitating the discussions within government working groups on transport sector strategies, policy, and sector investment prioritization and planning; and also possess strong analytical skills as relates to preparation of sector strategy papers and analytical reports. The team leader will provide methodological guidance and oversight for the proposed detailed survey of access of remote communities to social, education, and health-care services and markets in two remote regions of Mongolia.

17. As part of the assignment related to preparation of project proposals, the team leader will prepare preliminary financial and economic analysis for the short-listed projects. The team leader will also coordinate with transport sector working groups and national environmental authorities on preparing inputs for project proposals related to environmental safeguards requirements.

F. Road, Aviation, and Railway Specialists (international consultants)

18. The subsector specialists will possess graduate degrees in relevant fields and at least 10 years of work experience on similar assignments in developing countries. They must be familiar with transportation systems in countries facing similar demographic and geographic challenges as Mongolia—e.g., Australia (western part), Canada (northwest), and United States (Alaska). Work experience with ADB and prior experience in Mongolia or similar developing countries will be an advantage. The subsector specialists will be responsible for facilitating the respective subsector working groups' sessions, and providing analytical inputs for the reports listed above in Section C in accordance with their respective area of expertise. This includes the inputs for the study note on accessibility of Mongolian rural communities to social, education, and health-care services, and preparation of proposals for the short-listed projects in their respective subsectors.

G. Deputy Team Leader (national consultant)

19. The national deputy team leader will be a transport specialist or transport economist, possess a graduate degree in relevant fields, and have at least 10 years of work experience on relevant assignments. He or she must demonstrate a comprehensive knowledge of Mongolia's transport sector, possess strong English language skills, and strong presentation and analytical research skills, preferably demonstrated with research papers on transport sector issues. Work experience with ADB or other international donor organizations, and demonstrated familiarity with transport systems in developed countries (particularly Canada) will be an advantage.

20. The deputy team leader will be responsible for all aspects of TA implementation in the absence of the team leader. He or she will provide inputs for analysis of existing national sector strategies and investment programs, ensure close interaction with transport sector working groups, assist in organizing and facilitating the working groups' sessions, retrieve the necessary data from domestic sources, provide logistical and administrative support, and carry out other tasks as assigned by the team leader.

H. Social Development Specialist (national consultant)

21. The national social development specialist will have a graduate degree in relevant fields and a minimum 10 years of work experience on relevant assignments. He or she must be familiar with Mongolian health, and/or education, and/or social service systems in general, and in rural areas in particular; possess strong English language skills, and strong presentation and analytical research skills. Work experience with ADB or other international donor organizations and familiarity with ADB social and/or environmental safeguards will be an advantage. He or she will provide inputs related to analysis of the existing demographic trends and the national development targets set for education and health-care systems in rural areas. With guidance from the team leader and advice and inputs from other team members, he or she will be responsible for the proposed detailed survey of access of remote communities to social, education, and health-care services and markets in two remote regions of Mongolia. He or she will also be responsible for preparing the necessary inputs for short-listed project proposals related to social safeguards requirements.