Technical Assistance Report

Project Number: 39265
May 2006

Mongolia: Preparing the Western Regional Road Development Project

Asian Development Bank
CURRENCY EQUIVALENTS
(as of 10 March 2006)

Currency Unit – togrog (MNT)
MNT1.00 = $0.0008
$1.00 = MNT1,180

ABBREVIATIONS
ADB – Asian Development Bank
CAREC – Central Asia Regional Economic Cooperation
CSP – country strategy and program
EIA – environmental impact assessment
EIRR – economic internal rate of return
MORTT – Ministry of Road, Transport and Tourism
PRC – People’s Republic of China
TA – technical assistance
Xinjiang – Xinjiang Uygur Autonomous Region

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification – General intervention
Sector – Transport and communications
Subsector – Roads and highways
Themes – Sustainable economic growth, regional cooperation
Subthemes – Promoting economic efficiency and enabling markets, fostering physical infrastructure development

NOTE

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

<table>
<thead>
<tr>
<th>Vice President</th>
<th>C. Lawrence Greenwood, Jr., Operations Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director General</td>
<td>H. Rao, East Asia Department (EARD)</td>
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<tr>
<td>Director</td>
<td>N. Rayner, Transport Division, EARD</td>
</tr>
<tr>
<td>Team leader</td>
<td>H. Wang, Principal Project Economist, CWRD</td>
</tr>
<tr>
<td>Team members</td>
<td>S. Ferguson, Senior Resettlement Specialist, EARD</td>
</tr>
<tr>
<td></td>
<td>A. Maxwell, Environment Specialist, EARD</td>
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</table>
I. INTRODUCTION

1. During the 2005 country programming mission, the Government of Mongolia requested technical assistance (TA) from the Asian Development Bank (ADB) in preparing the Western Regional Road Development Project (the project). In response, the TA has been included in ADB’s 2006 assistance program for Mongolia. The Fact-Finding Mission visited Mongolia on 6–10 March 2006 to prepare the TA proposal. The Mission held discussions with government officials and carried out an initial poverty and social analysis and a rapid environmental assessment. This report is based on (i) the agreement reached with the Government on the impact, outcome, outputs, cost, financing and implementation arrangements, and consultants’ terms of reference for the TA; and (ii) the Mission’s findings. The TA’s design and monitoring framework is in Appendix 1.

II. ISSUES

2. Mongolia’s landlocked location between the People’s Republic of China (PRC) and the Russian Federation and remoteness from developed markets are major constraints to development. Adequate transport links to neighboring countries, in combination with sound cross-border arrangements, are vital to sustained growth. Mongolia thus supports regional cooperation and is participating in the ADB-initiated Central Asia Regional Economic Cooperation (CAREC) Program, which aims to strengthen economic links among Afghanistan, Azerbaijan, PRC, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan. With financial assistance from ADB, PRC, and Republic of Korea, Mongolia is developing a central north–south highway through Ulaanbaatar, linking roads in the PRC and the Russian Federation. The proposed western road is an additional transport corridor that will be connected to the PRC’s road to Urumqi and the Russian Federation’s road to Novosibirsk so as to enhance Mongolia’s access to regional markets for agricultural and mineral products.

3. Given its geographic location, Mongolia can serve as a corridor for transit traffic between Asia and Europe. Despite their proximity, Xinjiang Uygur Autonomous Region (Xinjiang) in the PRC and the Russian Federation do not have direct land transport links; bilateral trade is mainly carried by railways through Kazakhstan. The proposed western road can serve as an alternative and short transit route between Xinjiang and Siberia in the Russian Federation, reducing transport costs and facilitating bilateral trade, tourism, and other economic activities. In the long run, this road, together with the roads in Xinjiang, may become a transit route between Central and South Asia and Siberia, thus promoting regional cooperation and integration. The road will also provide Mongolia with a source of foreign exchange earnings, generated through transit fees and business opportunities in providing roadside transport services.

4. Although secondary to railways, roads are an important mode of transport, accounting for 25% of passenger volume and 3% of freight volume in 2004. Despite increased investments during the past years, the road network remains inadequate for the reviving economy. In 2005, Mongolia’s road network was about 49,250 kilometers (km), comprising 11,219 km of state roads and 38,031 km of local roads. About 92% of these roads are earthen tracks; paved and gravel roads each account for 3.9% (1,900 km) of the total. Road density (3.1 km per 100 km²) and the share of paved roads are lower than international norms. Roads are particularly important for western Mongolia because it has few alternative transport modes (para. 7).

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1 The TA first appeared in ADB Business Opportunities on 23 February 2006.
The Government attaches importance to developing the road network and places priority on constructing the western road, but requires external assistance to develop road infrastructure, as a result of the large funding requirements and continued fiscal constraints.

5. Development of regional road infrastructure needs to be accompanied by improvements in border facilities and cross-border agreements between Mongolia and neighboring countries. Despite the approval of the governments of Mongolia and the PRC, however, inadequate border facilities at the border crossing at Yarant (Mongolia)/Takeshiken (PRC) has resulted in the border crossing not being operational throughout the year, and not being open to third-country transport.\(^3\) Delays at the border crossing are common because of complicated cross-border procedures that have not been harmonized. Mongolia signed cross-border road transport agreements with the PRC in 1991 and with the Russian Federation in 1996, but Mongolian vehicles can travel only as far as Takeshiken, the PRC town 15 km from the border. Few vehicles from the PRC and the Russian Federation travel in Mongolia because of poor road conditions. In an important step to overcome the nonphysical barriers and facilitate the cross-border movement of freight and passengers, Mongolia, PRC, and Russian Federation concluded negotiations over the draft transit traffic framework agreement in November 2005.

6. Development is slow in the western region, which includes the aimags (provinces) of Bayan-Olgiy, Hovd, andUvs, because it is isolated and far from the capital.\(^4\) The western region's per capita gross domestic product in 2004 was MNT352,600, or 49% of the national average (MNT717,300). The poverty incidence in 2004 was 51%, higher than the national average of 36%. Inadequate transport infrastructure is an important contributor to poverty in the western region, as it limits local residents' access to markets, jobs, and social services (e.g., health and education). No railway lines connect with the region, roads linking it with Ulaanbaatar are poor,\(^5\) and flights to the region are limited. Because of the western region's proximity to the PRC\(^6\) and the Russian Federation, residents meet their needs for energy, food, construction materials, and other consumer goods mainly through imports from these countries. However, the lack of paved roads results in high transport costs and long travel times. The Government recently formulated the Western Regional Economic Development Program. The program includes developing the western road, which will enable the poorest, isolated western region to access the booming economies in the PRC and the Russian Federation, thus increasing opportunities for development.

7. The proposed western regional road will run for about 750 km from the border with the PRC at Yarant, through Hovd and Olgiy, to the border with the Russian Federation at Tsagaannuur. The northern segment of the road (the section between Hovd and Tsagaannuur) is also part of Mongolia's main east–west road corridor. About 680 km of the road are earthen track. The proposed alignment is likely to pass through the ecologically sensitive area of the Khar-Us Lake National Park, as well as an area that has some ethnic minorities, including Kazakhs and Zahchin.\(^7\) The PRC and the Russian Federation have built paved roads to Mongolian borders,\(^8\) but both roads need to be upgraded if traffic volumes are to increase significantly.

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3 The Yarant–Takeshiken border point opens from the 15th to the 30th of each month, during April–December.
4 The distance between Hovd and Ulaanbaatar is about 1,500 km.
5 The World Bank has helped Mongolia improve the road connecting the western region to Ulaanbaatar.
6 Yarant is 380 km from Altay city and 570 km from Urumqi in the PRC.
7 Kazakhs account for 89% of the population in Bayan-Olgiy Aimag, while Zahchin account for 25% of the population in Hovd Aimag.
8 The PRC built a two-lane paved road from Takeshiken to the border with Mongolia in 1994, with a 5.0-meter (m) wide pavement and 0.5 m shoulders.
8. Mongolia, PRC, and Russian Federation have supported developing the western road. The Russian Federation conducted a study of the routes during 1999–2000. Officials from Mongolia and Xinjiang jointly examined the alignment and made preliminary economic, environmental, and social assessments in 2003. Mongolia has started developing the road through government funding. Eight concrete bridges were constructed, a new customs facility at Tsagaannuur became operational in August 2005, and a 64 km paved road section between Yarant and Bulgan was opened to the public in November 2005. Construction of a 30 km paved road section in the north of Olgii is expected to be completed in 2006.

9. An ADB-funded pre-feasibility study of the project was carried out in 2005. The study examined alternative routes for the proposed road and concluded that the Yarant–Hovd–Olgii–Tsagaannuur route would be the most suitable and technically viable. The economic internal rate of return (EIRR) of the project was estimated at 8–10%, which the study concluded was sufficiently high to justify undertaking a full feasibility study, taking into account the project’s expected social benefits for western Mongolia. Trade flows are the key to assessing the economic viability of the project. However, because of time and resource constraints, the pre-feasibility study did not include a detailed analysis of trade between Xinjiang and Siberia using the western road. This may have resulted in lower traffic projections for the western road and underestimated project benefits, leading to a lower EIRR for the project. The potential for significant trade between Xinjiang and Siberia using the western road strongly justifies proceeding with the TA, by undertaking a detailed analysis of future trade between western Mongolia and neighboring countries, and including the analysis results in the project’s economic analysis.

10. Two specific issues relating to the project need to be highlighted. First, the proposed road is anticipated to benefit both Mongolia and its neighboring countries. An analysis of the distribution of project benefits among the three major beneficiaries (Mongolia, PRC, and Russian Federation) is crucial to the TA and project designs, including preparation of a financing plan for the project. Second, because this is a large investment project with benefits accruing beyond Mongolia, cofinancing is important. The TA will address these issues.

11. The TA is consistent with ADB’s country strategy and program (CSP) for Mongolia and regional cooperation strategy and program for CAREC. The CSP for Mongolia and the regional cooperation strategy and program update for CAREC reconfirm transport as a strategically important sector for ADB assistance. The CSP identifies the underdeveloped road network and inefficient cross-border road transport as major transport sector issues. Transport sector performance indicators contained within the CSP include expanding the length of the road network and increasing traffic volumes. The TA will tackle the sector issues and help achieve the sector performance indicators in the CSP.

12. As of the end of 2005, ADB had approved five loans totaling $147.1 million, and 11 TA projects totaling $6.0 million for the transport sector. ADB assistance helped (i) develop

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9 ADB approved the small-scale TA amounting to $150,000 to Mongolia for undertaking the pre-feasibility study of the western regional road corridor development in September 2005.
10 The alternative routes include the (i) route from Olgii to the border with the PRC near Gantsmod, (ii) route from Hovd to the border with the PRC at Burgastay, and (iii) route from Hovd to the border with the Russian Federation at Norshoo via Ulaangom.
Mongolia’s central north–south road and air transport infrastructure, (ii) facilitate sector policy reforms, (iii) formulate the sector strategy and road master plan, and (iv) strengthen the institutional capacity of sector agencies. ADB’s sector portfolio performance in Mongolia is generally satisfactory. The 2002 evaluation of the country assistance program\textsuperscript{14} concluded that ADB-assisted transport projects helped (i) increase traffic counts, (ii) advance sector reforms, (iii) expand economic activities in the project areas, and (iv) improve regional links. Lessons learned from ongoing and completed ADB projects will be incorporated into the TA and project design.

\textbf{III. THE TECHNICAL ASSISTANCE}

\textbf{A. Impact and Outcome}

13. The TA’s impact will be strengthened transport links between western Mongolia and the PRC and the Russian Federation. The TA will help the Government prepare a feasibility study and preliminary design for the Western Regional Road Development Project in a manner that is compatible with ADB financing requirements. The TA outcome is the agreed design of the resulting project.

\textbf{B. Methodology and Key Activities}

14. The TA will be implemented in two phases. Phase I will (i) assess the economic viability of the project; (ii) analyze the distribution of the project benefits among Mongolia, PRC, and Russian Federation; (iii) assess the suitability of ADB financing of the project; and (iv) discuss cofinancing issues with PRC, Russian Federation, and possibly Kazakhstan and others, and obtain some cofinancing commitments. A review at the end of phase I will assess the outputs. Subject to the satisfactory outcome of phase I, phase II will be implemented to complete the preliminary design of a loan project suitable for ADB financing.

15. The TA is designed, and will be implemented, in line with ADB’s CSP for Mongolia and the regional cooperation strategy and program for CAREC, as well as the Government’s Socioeconomic Guidelines for 2006–2008 and the Western Regional Economic Development Program. International consultants, with support from domestic consultants, will be engaged to implement the TA. The initial poverty and social analysis (Appendix 2) and rapid environmental assessment for the project, carried out during the TA Fact-Finding Mission, (i) examined poverty status, ethnic minority and gender issues, resettlement effects, and environmental conditions in the project area; and (ii) identified the social and environmental issues that need to be further examined and addressed during the TA. The consultants will help prepare a technically and economically feasible investment project. The consultants will also help the Government prepare an environmental impact assessment, an ethnic minority development plan, and, if necessary, a short resettlement plan in accordance with ADB’s policies on the environment, indigenous peoples, and involuntary resettlement\textsuperscript{15} to maximize project benefits and mitigate negative impacts. The TA will develop a results-based project framework, including monitoring indicators for development impacts and baseline data.

16. Key TA activities will include (i) field surveys; (ii) document reviews; (iii) data analysis; (iv) desk studies; and (v) consultation with various stakeholders, including government officials.


in Mongolia, PRC, and Russian Federation; local communities; project beneficiaries; affected people; and external aid agencies.

C. Cost and Financing

17. The total cost of the TA is estimated at $765,000. The Government has requested that ADB provide $650,000 to cover the most of the TA cost. The TA will be financed on a grant basis by ADB’s TA funding program. The Government will finance $115,000 in kind by providing counterpart staff, office space and facilities, and support services. The detailed cost estimates and a financing plan are in Appendix 3. The Government has been informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

18. The Ministry of Road, Transport and Tourism (MORTT) will be the Executing Agency and the Road Supervision and Research Center under MORTT will be the Implementing Agency. MORTT will appoint a TA coordinator to (i) supervise TA activities; (ii) resolve any issues that may arise during implementation; and (iii) facilitate coordination among the consultants, government agencies, and other stakeholders. MORTT will ensure coordination among the Ministry of Finance; Ministry of Nature and Environment; Customs General Administration; Agency for Administration of Land Affairs, Geodesy and Cartography; and local governments in the western region. MORTT will provide the consultant with the documents, data, maps, and other information needed to implement the TA.

19. The TA will require about 62 person-months of consultant inputs (20 international and 42 domestic), comprising 30 person-months in phase I and 32 person-months in phase II. The international consultants’ team will comprise (i) a road engineer and team leader, (ii) a transport economist, (iii) a trade and customs specialist, (iv) a road transport and logistic services specialist, (v) a financial specialist, (vi) an environment specialist, and (vii) a social development specialist. The international consultants will be supported by domestic consultants with expertise in road engineering, transport economics, trade and customs, financial analysis, road safety, road transport and logistic services, environmental assessment, and social and poverty analysis. The terms of reference for consultants are in Appendix 4. An international consulting firm in association with domestic consultants will be recruited by ADB in accordance with the Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers and other arrangements satisfactory to ADB for the recruitment of domestic consultants. The consulting firm will be recruited using the quality- and cost-based selection method and simplified technical proposal procedures. The consultants will purchase office equipment in accordance with ADB’s Procurement Guidelines. The consultants are expected to start services in June or July 2006 and the TA is expected to be completed by 31 March 2007. Stakeholder workshops will be held to review the consultants’ reports. The consultant’s reports will be posted on ADB’s website upon TA completion.

IV. THE PRESIDENT’S DECISION

20. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of $650,000 on a grant basis to the Government of Mongolia for preparing the Western Regional Road Development Project, and hereby reports this action to the Board.
## DESIGN AND MONITORING FRAMEWORK

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets/Indicators</th>
<th>Data Sources/Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
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</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
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</table>
| Strengthened transport links between western Mongolia and neighboring countries | VOC reduced by 40% between Yarant and Tsagaannuur after project completion | ADB project completion report | Assumptions  
Continued economic growth and political stability in Mongolia  
Effective implementation of the Government’s Socioeconomic Guidelines for 2006–2008 and Western Regional Economic Development Program  
Continued commitment of the governments of Mongolia, PRC, and Russian Federation to regional cooperation | Risk  
Inadequate funding to maintain the project road after project completion |
|               | Travel time reduced by 50% between Yarant and Tsagaannuur after project completion | Direct measurements of VOC and travel time by MORTT |                       |
|               | Average daily traffic on the western road increased from 120 vehicles in 2005 to about 800 in 2027 | Traffic counts by MORTT |                       |
| **Outcome**   | Memorandum of understanding between the Government and ADB on the preliminary design of the project, signed upon completion of the technical assistance (TA) | TA final review mission | Assumptions  
Timely approval of the project’s preliminary design by the Government  
Timely allocation of counterpart funding and obtainment of cofinancing commitment for the project |
| Agreed design of the resulting project | | | |
| **Outputs**   | Phase I report prepared by September 2006 | Consultants’ phase I report  
ADB TA review missions | Assumptions  
Continued support from the governments of the PRC and the Russian Federation for the project  
Close coordination among relevant government agencies during TA implementation  
Strong support and active participation from local governments and communities, and border authorities  
Timely approval of the EIA and EMDP by the Government |
| Economic viability of the project, including the distribution of project benefits among Mongolia, PRC, and Russian Federation assessed | | | |
| Phase II      | The preliminary design of the project completed by December 2006 | Consultants’ phase II report  
EIA and the summary EIA  
EMDP | |
| Subject to satisfactory outcome of phase I, preliminary design of the project and project documents completed in conformity of ADB requirements | An EIA circulated to ADB’s Board of Directors by December 2006  
An EMDP prepared in accordance with ADB guidelines by December 2006  
A poverty and social analysis and a results-based monitoring system prepared by December 2006 | ADB TA review missions | |
### Appendix 1

#### Design Summary Performance Targets/Indicators Data Sources/Reporting Mechanisms Assumptions and Risks

<table>
<thead>
<tr>
<th>Activities with Milestones</th>
<th>Phase I</th>
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<tbody>
<tr>
<td>1.1 Carry out field surveys and traffic counts (by September 2006).</td>
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<tr>
<td>1.2 Analyze trade between Mongolia’s western region and neighboring countries (the PRC and the Russian Federation), as well as between the PRC and the Russian Federation (by September 2006).</td>
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<tr>
<td>1.3 Undertake an economic analysis, including a distribution analysis (by September 2006).</td>
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<tr>
<td>1.4 Analyze cross-border issues (by September 2006).</td>
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<tr>
<td>1.5 Undertake a social and poverty analysis in the project area (by September 2006).</td>
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<td>1.6 Consult stakeholders (by September 2006).</td>
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**Phase II (subject to satisfactory outcome of phase I)**

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<tr>
<td>1.7 Assess road transport and logistic services in the project area (by December 2006).</td>
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<tr>
<td>1.8 Deepen the social and poverty analysis in the project area (by December 2006).</td>
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<tr>
<td>1.9 Prepare an EIA, summary EIA, and an EMDP (by December 2006).</td>
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<tr>
<td>1.10 Undertake a policy and institutional analysis of Mongolia’s road subsector (by December 2006).</td>
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<tr>
<td>1.11 Prepare the preliminary design (by December 2006).</td>
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<tr>
<td>1.12 Prepare the project’s design and monitoring framework (by December 2006).</td>
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</table>

2.1 Commence consulting services (by June 2006).
2.2 Submit an inception report by the consultants (by July 2006).
2.3 Submit the phase-I report by the consultants (by September 2006).
2.4 Submit the draft phase-II report by the consultants, subject to satisfactory outcome of phase I (by December 2006).
2.5 Final tripartite meeting (by December 2006).
2.6 Submit the final phase II report by the consultants (by January 2007).

#### Inputs

- **ADB: $650,000 (grant)**
  - Consultants: $544,000 (international, 20 person-months; and domestic, 42 person-months)
  - Surveys: 30,000
  - Office equipment: $10,000
  - Miscellaneous support: $8,000
  - Government representatives for contract negotiations: $6,000
  - Contingencies: $52,000

- **Government: $115,000 (in kind)**
  - Office space: $30,000
  - Counterpart staff: $70,000
  - Miscellaneous support: 15,000

**ADB = Asian Development Bank, EIA = environmental impact assessment, EMDP = ethnic minority development plan, MORTT = Ministry of Road, Transport and Tourism, PRC = People’s Republic of China, TA = technical assistance, VOC = vehicle operating costs.**
INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td>Is the sector identified as a national priority in country poverty analysis?</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Is the sector identified as a national priority in country poverty partnership agreement?</td>
<td>✔</td>
<td></td>
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</tbody>
</table>

Contribution of the sector or subsector to reduce poverty in Mongolia:
The transport sector helps reduce poverty (i) directly by (a) improving access to markets, (b) creating jobs, and (c) easing delivery of social services; and (ii) indirectly by facilitating economic development. The project area is far from Ulaanbaatar but could improve economic links with the People's Republic of China (PRC) and the Russian Federation. However, existing roads cannot handle future traffic and seriously constrain economic development. The project will develop the road between Yarant on the border with the PRC and Tsagaannuur on the border with the Russian Federation, via Hovd and Olgiy. The project road will reduce travel time and cost, and road accidents, thereby helping (i) speed up economic development (e.g., mineral development and tourism); (ii) creating jobs; and (iii) improve access to social services.

B. Poverty Analysis

Targeting Classification: General intervention

What type of poverty analysis is needed?
The Project will directly help reduce poverty by (i) creating construction jobs in the short term; and (ii) improving access to markets for agricultural products, including specialty cash crops such as vegetables and flours. The project will substantially improve transport infrastructure to facilitate economic development in western Mongolia, which will create jobs and income for local people.

The project will improve access to social services in the three aimags in western Mongolia, with a population of about 270,000. The poverty incidence in Bayan-Olgii, Hovd, and Uvs was 51% in 2004, higher than the national average of 36%. Much of the poverty stems from unemployment, insufficient livestock, absence of local markets, and lack of education. These aimags import most of their energy needs, so road improvements will reduce costs and benefit local residents.

A detailed poverty analysis will assess poverty incidence in the project area and demonstrate how the project will help reduce poverty by incorporating specific measures in the project scope. The analysis will be based on the Asian Development Bank (ADB)'s Handbook on Poverty and Social Analysis (2001) and Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects (2001).

C. Participation Process

Is there a stakeholder analysis? ✔ Yes □ No

Major stakeholders include the Ministry of Road, Transport and Tourism (MORTT), local governments, transport companies, local businesses, and residents. Consultation began during the preparation of the pre-feasibility study, which focused on the alternatives for the regional road. Further consultation will be carried out for (i) environmental impact assessment (EIA), and (ii) poverty and social analysis.

Is there a participation strategy? ✔ Yes □ No

Local people will be consulted during the implementation of the technical assistance (TA) and preliminary design to (i) fix the road alignment, (ii) help formulate enhancement measures for local business development, and (iii) be hired to construct and maintain the project road.

D. Gender Development

Strategy to maximize impacts on women:
The TA will investigate opportunities to enhance the benefits to women (e.g., through improved transport services and local roads, which lead to better access to education, health care and markets). Measures will be developed to mitigate any possible adverse impacts and improve conditions for women.

Has an output been prepared? □ Yes ✔ No

This will be prepared during the TA.
### E. Social Safeguards and Other Social Risks

<table>
<thead>
<tr>
<th>Item</th>
<th>Significant/ Not Significant/ None</th>
<th>Strategy to Address Issues</th>
<th>Plan Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resettlement</strong></td>
<td>□ Significant  ☒ Not significant  ☐ None</td>
<td>The project road will be developed on state-owned vacant lands and will not involve removal of any structures or affect private landowners. The resettlement impacts will be further investigated during the TA and, if needed, a short resettlement plan will be prepared in accordance with the Government’s laws and regulations and ADB’s policy on involuntary resettlement(^a) and <em>Operations Manual F2 on Involuntary Resettlement</em>.(^b)</td>
<td>☐ Full  ☒ Short  ☐ None</td>
</tr>
<tr>
<td><strong>Affordability</strong></td>
<td>□ Significant  ☐ Not significant  ☐ None</td>
<td>The project will reduce the costs of transport and goods purchased from outside.</td>
<td>☒ Yes  ☐ No</td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td>□ Significant  ☐ Not significant  ☐ None</td>
<td>The project will create jobs during construction and will not have any adverse impact on labor.</td>
<td>☐ Yes  ☒ No</td>
</tr>
<tr>
<td><strong>Indigenous Peoples</strong></td>
<td>☒ Significant  ☐ Not significant  ☐ None</td>
<td>The project area has many ethnic minorities, including Kazakhs (89% in Bayan-Olgii) and Zahchin (25% in Hovd). An ethnic minority development plan will be prepared in accordance with the Government’s laws and regulations and ADB’s policy on indigenous peoples(^c) to ensure they benefit from the project.</td>
<td>☒ Yes  ☐ No</td>
</tr>
<tr>
<td><strong>Other Risks and/or Vulnerabilities</strong></td>
<td>□ Significant  ☐ Not significant  ☐ None</td>
<td>The risks of HIV/AIDS, sexually transmitted infections, and human tracking are low in Mongolia and the project area, but may rise because of improved roads. The risks will be assessed during the TA. Preventative measures will be developed to mitigate potential risks, based on the lessons learned from the ongoing TA for Awareness and Prevention of HIV/AIDS and Human Trafficking in Mongolia (TA 4364-MON).(^d)</td>
<td>☐ Yes  ☒ No</td>
</tr>
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</table>

## COST ESTIMATES AND FINANCING PLAN
($'000)

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Asian Development Bank (ADB) Financing</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>1. Consultants</td>
<td></td>
</tr>
<tr>
<td>a. Remuneration and Per Diem</td>
<td></td>
</tr>
<tr>
<td>i. International Consultants</td>
<td>400.0</td>
</tr>
<tr>
<td>ii. Domestic Consultants</td>
<td>84.0</td>
</tr>
<tr>
<td>b. International and Local Travel</td>
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</tr>
<tr>
<td>c. Reports and Communications</td>
<td>10.0</td>
</tr>
<tr>
<td>2. Office Equipment&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10.0</td>
</tr>
<tr>
<td>3. Surveys</td>
<td>30.0</td>
</tr>
<tr>
<td>4. Miscellaneous Administration and Translation Costs</td>
<td>8.0</td>
</tr>
<tr>
<td>5. Government Representatives for Contract Negotiations</td>
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</tr>
<tr>
<td>6. Contingencies</td>
<td>52.0</td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td><strong>650.0</strong></td>
</tr>
<tr>
<td><strong>B. Government Financing</strong></td>
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</tr>
<tr>
<td>1. Office Accommodation</td>
<td>30.0</td>
</tr>
<tr>
<td>2. Remuneration and Per Diem of Counterpart Staff</td>
<td>70.0</td>
</tr>
<tr>
<td>3. Miscellaneous Support Services</td>
<td>15.0</td>
</tr>
<tr>
<td><strong>Subtotal (B)</strong></td>
<td><strong>115.0</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>765.0</strong></td>
</tr>
</tbody>
</table>

<sup>a</sup> Financed by ADB's technical assistance (TA) funding program.

<sup>b</sup> Including computer hardware and software, photocopier, fax machine, and other office equipment to be procured under the consultant’s contract in accordance with ADB’s *Procurement Guidelines*. Ownership of office equipment will be transferred to the Government upon TA completion.

Source: ADB estimates.
TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The consultants will undertake a feasibility study and preliminary design for the Western Regional Road Development Project (the project). The proposed western road will run from the border crossing between Mongolia (Yarant) and the People’s Republic of China (PRC) (Takeshiken), through Hovd and Olgiy, to the border crossing between Mongolia (Tsagaannuur) and the Russian Federation (Tashanta). International consultants, with support from domestic consultants, will be engaged. The TA will be implemented in two phases. Consulting services will include, but will not be limited to, the following:

B. Detailed Terms of Reference in Phase I

1. Road Engineering (international, 3 person-months; and domestic, 6 person-months)

2. The international road engineer, serving as team leader, will work closely with the TA coordinator in the Ministry of Road, Transport and Tourism (MORTT) and coordinate with all consultants to complete the consulting services in accordance with the terms of reference.

3. Carry out topographic surveys, including (i) longitudinal sections and cross-sections; (ii) subsurface investigation; (iii) availability and quality of local construction materials; (iv) locations of quarries and borrow pits; (v) drainage facilities; (vi) siting and configuration of interchanges, toll stations (if any), and service areas; and (vii) road safety features. Review geological and hydrological conditions and recommend appropriate soil treatment and slope protection measures. Prepare (i) horizontal and vertical alignments, (ii) drainage and flood protection structures, and (iii) pavement design. Identify locations of bridges, culverts, grade-crossing, and underpasses.

4. Prepare bill of quantities, unit prices, overall project cost estimates, and cost estimates for (i) civil works for road development (taking into account the actual costs of recently awarded contracts of a similar nature), (ii) equipment and other facilities to be procured under the project, and (iii) routine and periodic maintenance for the project road during its economic life.

5. Lead public consultation with various stakeholders including government officials, local communities, project beneficiaries, project-affected people, and external aid agencies. Incorporate their views and suggestions in the project design.

6. Propose the draft terms of reference for follow-up actions in phase II to complete the preliminary design of the project.

2. Transport Economics (international, 3 person-months; and domestic, 6 person-months)

7. Review the status and plan for road development in Mongolia and the project area. Identify the role of the project in supporting (i) the Government’s Socioeconomic Development Guidelines and the Western Regional Economic Development Program, and (ii) regional cooperation.

9. Conduct traffic counts and origin–destination surveys on the western road, and collect information on the present pattern of freight and passengers by vehicle type and mode in the project area. Traffic forecast should take into account the effect of the introduction of transit fees. Assess the capacity of current road conditions and the effects of capacity constraints on vehicle operating costs, travel time, accidents, and accessibility to markets, jobs, and social services. Forecast normal, generated, and diverted traffic for the western road by vehicle type and by type of domestic, cross-border, and international transit traffic.

10. Undertake economic evaluation of the project in accordance with ADB’s Guidelines for Economic Analysis of Projects. Quantify construction, operation, and maintenance (O&M) costs, vehicle operating costs, travel time savings, accident savings, and other quantifiable project benefits. Use a standard conversion factor or a shadow exchange rate factor. Calculate the economic internal rate of return and net present value for the project. Undertake alternative analysis, by comparing the western road project with the option for Xinjiang and Siberia to continue using the railway via Kazakhstan for trade, to assess whether the western road project is the least-cost option. Undertake sensitivity analysis by varying project benefits, costs, traffic, transit fees, implementation period, and a combination of these factors, and calculate switching values. Present the results of the sensitivity analysis graphically. Analyze risks in accordance with ADB’s Handbook for Integrating Risk Analysis in the Economic Analysis of Projects (2002). Recommend ways to reduce project risks.

11. In coordination with the social development specialist and trade specialist, analyze and quantify distribution of project benefits (i) among Mongolia, PRC, and Russian Federation; and (ii) among various stakeholders within Mongolia in accordance with ADB’s Guidelines for Economic Analysis of Projects.

3. Trade and Cross-Border Facilitation (international, 3 person-months; and domestic, 5 person-months)

12. Analyze potential trade between Mongolia’s western region and neighboring regions in the PRC and the Russian Federation. Review the volume, composition, and direction of such trade in 2000–2005. Identify the constraints on trade expansion, and forecast future trade growth with and without the project. Quantify the benefits from trade.

13. Analyze trade potential between Xinjiang Uygur Autonomous Region in the PRC and Siberia in the Russian Federation using the western road in Mongolia. Estimate the effects of such trade on transit traffic via the western road. Specify how such trade development between two countries and the resulting transit traffic will benefit Mongolia. Provide findings to the transport economists to be included in the economic evaluation and distribution analysis of the project.

14. Analyze infrastructure and services at the border crossings at Yarant (Mongolia)–Takeshiken (PRC) and Tsagaannuur (Mongolia)–Tashanta (Russian Federation), in terms of (i) frequency and number of freight and passenger transports, (ii) freight and passenger volumes, (iii) distance of vehicle access into neighboring countries, (iv) time and costs spent on border crossing, and (v) customs and immigration procedures. Identify physical, administrative, and logistical barriers to cross-border movements and propose short- and long-term actions for improvement. Prepare a component to dismantle these barriers and facilitate cross-border traffic and trade.
4. **Financial Analysis** (international and domestic, 1 person-month each)

15. Prepare an entire project cost estimate, including physical and price contingencies, taxes and duties, interest during construction, and other charges. Prepare a financing plan for the project, including proposed ADB lending, prospective cofinancing, and appropriate counterpart funds.

16. In coordination with the road engineers and transport economists, review the need to collect tolls or transit fees on the western road and, if needed, propose appropriate toll rates or transit fees by vehicle type, taking into account the costs of road maintenance and services. Propose a system for toll or transit fee collection.

17. Assess the financial sustainability of the project by (i) projecting the incremental recurrent costs required to maintain the project roads, together with Mongolia’s debt service obligation; and (ii) comparing this with the budget of the executing agency and implementing agency.

18. In accordance with the *Guidelines for the Financial Governance and Management of Investment Projects Finance by the Asian Development Bank* (2001), review, and update if necessary, the earlier assessments by ADB or other multilateral institutions of financial management capabilities of the Executing Agency and Implementing Agency, using ADB’s *Financial Management Assessment Questionnaire*. The assessment should include (i) budgetary planning and control, (ii) financial management, and (iii) accounting and audit systems. Recommend ways to strengthen financial management, with a time-bound implementation plan.

5. **Social and Poverty Analysis** (domestic, 2 person-months)

19. Review the social and poverty analysis report prepared under the pre-feasibility study, which included socioeconomic and poverty profiles for the project area. Survey households and villages to (i) assess social impacts and mitigation requirements, (ii) develop a profile of transport services and costs available in the project area, and (iii) assess ability of low-income groups to pay. Review the Government’s policy, strategy, and programs for poverty reduction and western regional economic development, and analyze how the project will complement the Government’s development programs. Consult local governments to identify development initiatives that could complement the project, particularly those targeted at the poor and ethnic minorities.

20. Assess how the project road will improve people’s incomes and livelihoods. Estimate direct and indirect project impacts on the poor, women, and ethnic minorities. Examine how the project will help develop small businesses in the area. Include these results in the economic benefits of the project.

21. Assess the potential degree of adverse social impacts caused by construction and operation of the project road and other project components, including (i) land acquisition and resettlement impacts, (ii) restriction on common property resources and activities such as livestock grazing and nomadic culture, (iii) socially transmitted infections, and (iv) human and drug trafficking.

22. Help the Government establish consultation and participatory processes during project preparation that will continue throughout project design, construction, and operation. Identify stakeholders and consult their representatives to incorporate their needs into the project or parallel initiatives. Prepare a stakeholder participation and consultation plan to be implemented in phase II.
23. Propose the draft terms reference in phase II for (i) follow-up social and poverty analysis; and (ii) preparation of an ethnic minorities development plan, including gender development, and a resettlement plan, if necessary.

C. Outline Terms of Reference in Phase II

24. Subject to the satisfactory outcome of phase I, the terms of reference in phase II will be refined and the consultants will complete the preliminary design of the project and project documents (preparation of an environmental impact assessment, an ethnic minority development plan and, if necessary, a short resettlement plan) so that the project is suitable for ADB financing. The tentative composition and duration of consulting services in phase II are given below.

Table A4: Tentative Composition of Consulting Services in Phase II

<table>
<thead>
<tr>
<th>Composition</th>
<th>International (person-month)</th>
<th>Domestic (person-month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Engineer and Team Leader</td>
<td>3.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Road Transport and Logistical Service Specialist</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Road Safety Specialist</td>
<td>0.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Environment Specialist</td>
<td>3.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Social Development and Resettlement Specialist</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10.0</strong></td>
<td><strong>22.0</strong></td>
</tr>
</tbody>
</table>

Source: ADB estimates.

D. Reporting Requirements

25. The consultants will submit, in a format satisfactory to MORTT and ADB, (i) an inception report within 2 weeks after services start; (ii) a draft phase-I report within 10 weeks after services start; and (iii) a final phase-I report, 2 weeks after receiving comments from the Government and ADB. Four copies of each report will be submitted to MORTT in English and Mongolian, and three copies each to ADB in English. An electronic copy of the draft phase-I report and the final phase-I report (in Word and on compact disc) and the executive summary (in Word and PowerPoint) will be submitted to MORTT in English and Mongolian languages, and to ADB in English, at the same time.

26. The reporting requirements for phase II will be refined, subject to the satisfactory outcome of phase I.