

PROJECT PREPARATORY TECHNICAL ASSISTANCE

A. Justification

1. The project preparatory technical assistance (PPTA) is required to help the government of Mongolia design the Regional Road Development and Maintenance Project suitable for Asian Development Bank (ADB) financing. The PPTA will: (i) review and update the road sector roadmap, investment program, a medium-term road periodic maintenance and rehabilitation investment plan; (ii) help undertake feasibility studies of the proposed project; (iii) based on the feasibility study results, help define the scope, design, financing and implementation plans of the proposed project; (iii) help develop annual road maintenance works and an operational manual for subsequent periodic maintenance and rehabilitation component; (iv) help the EA prepare cost estimates and financing plan; (v) develop institutional development program, including the road asset management, financial management and procurement; and (vi) ensure that the executing agency (EA) and implementing agencies (IAs) adhere to ADB's Safeguard Policy Statement (2009) covering resettlement, environment, social and gender policies during the project design and implementation.

B. Major Outputs and Activities

2. The major outputs and activities are summarized in Table 3.1:

Table 3.1: Summary of Major Outputs and Activities

Major Activities	Major Outputs	Expected Completion Date
Assessment and update of the road sector roadmap and investment program	Updated sector roadmap and investment program	Jun 2015
Due diligence on project feasibility studies including technical, financial, economic, social and cost analysis	Completed feasibility study reports. Agreed project scope, costs, financing and procurement plans, poverty and social analysis, social development action plan	Jul 2015
Financial, economic and safeguards analysis of the project	Economic and financial analysis; financial management and procurement assessment; project cost estimates, financing plan, financial evaluation, financial management assessment, financial analysis (financial statement analysis of entities, incremental recurrent cost analysis); biodiversity protection program, EIA, EMP; RP	Aug 2015
Help EA develop medium-term road maintenance strategy, and investment, financing, and procurement plans	Medium-term road maintenance strategy, and investment and financing plan	Aug 2015

Major Activities	Major Outputs	Expected Completion Date
Develop (i) technical guidelines for the preparation of the road maintenance component; (ii) contractual documents and TOR for the supervision and design of the works; and (iii) targets and indicators for the road asset management program	Operational manual Results framework Draft contracts and TOR for design and supervision of works	Oct 2015
External Relations and Communication	Develop and implement an efficient external relations and communication program, including press-tours, interviews, video, articles and social media presentations	Jan 2016
Help EA prepare bidding documents for procurement of civil works, equipment and construction supervision consulting services	Bidding documents for procurement of civil works, equipment and construction supervision consulting services	Jan 2016

EIA=environmental impact assessment, EMP = environmental management plan, PSA = poverty and social analysis, RP = resettlement plan, SDAP = social development action plan, TOR = terms of reference
Source: Asian Development Bank.

C. Cost Estimate and Proposed Financing Arrangement

3. The PPTA is estimated to cost \$1.0 million equivalent which will be financed on a grant basis by ADB's technical assistance special fund (TASF-V and TASF-other sources). The government will provide counterpart support in the form of materials, maps, data and documents required for the PPTA, counterpart professional staff, and other in-kind contribution. The government was advised that approval of the PPTA does not commit ADB to financing any ensuing project. The proceeds of the PPTA will be disbursed according to ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). The detailed cost estimates are presented in Table A3.2.

Table 3.2: Cost Estimates and Financing Plan
(\$'000)

Item	Total Cost
ADB Financing^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (20.0 person-months)	544.0
ii. National consultants (61.0 person-months)	179.5
b. International and local travel	57.0
c. Reports and communications	10.0
2. Equipment ^b	8.0
3. Workshops, training, seminars, and conferences ^c	12.0
4. Surveys	38.5
5. Office rent	12.0
6. External relations and communication ^d	18.0
7. Translation cost	10.0
8. Contingencies	111.0
Total:	1,000.0

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-V and TASF-other sources).

^b Equipment

Type	Quantity	Cost
Copier / scanner / printer / fax	1	\$3,000
Desks	15	\$2,000
Desktop	2	\$1,000
Other office equipment	TBD	\$4,000

Equipment will be turned-over to the EA upon physical completion of the PPTA. It will be procured according to ADB's Procurement Guidelines (2013, as amended from time to time) using the shopping method.

^c Workshops, training, seminars, and conferences

Purpose	Venue
PPTA review and training workshops (6)	Tbd
Road asset management training	On-site

^d External relations and communication program

Purpose	Venue
External relations press-tours, interviews, video, workshops	Tbd

Source: Asian Development Bank estimates.

D. Consulting Services

4. The PPTA will be implemented using individual consultants and a consulting firm. The consultants will be recruited as follows: the international consultants and national External Relations, Biodiversity and Resettlement Specialists will be recruited individually and the rest of national consulting services will be recruited as a firm. The firm will be recruited using ADB's quality- and cost-based selection (QCBS) and simplified technical proposal with a quality-to-cost ratio of 90:10. All consultants will be engaged in accordance with ADB's Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers (2013, as amended from time to time). The following consultants will be required.

Table 3.3: Consultant Team Composition

International Consultants	p-m	National Consultants	p-m
Road Engineer/Team Leader	6	Road Engineer/Deputy Team Leader	6
Road Asset Management Specialist	5	Road Maintenance Engineer	6
Economist / Traffic Planner	3	Civil Engineer	3
Environment Specialist	3	Road Materials Engineer	3
Procurement Specialist	3	Transport Economist/Traffic Forecasting	4
		Financial Analyst	4
		Procurement Specialist	4
		Environment Specialist	5
		Biodiversity Specialist	8
		Social Development Specialist	4
		Resettlement Specialist	4
		External Relations Specialist	3
		Office Manager / Translator	7
Total	20	Total:	61

p-m = person-months.
 Source: Asian Development Bank estimates.

5. The outline terms of reference (TOR) for the PPTA consultants are described below.

6. **Road Engineer** (international, 6.0 person-months; national, 6.0 person-months).The international road engineer, serving as team leader, will work closely with the PPTA coordinator in the MRT and coordinate with all consultants to complete the consulting services in accordance with the terms of reference. The consultant will carry out, but will not be limited to, the following tasks: (i) review the current road design and carry out topographic surveys; (ii) carry out pavement design; (iii) prepare pavement maintenance plan; (iv) review geological and hydrological conditions; (v) prepare horizontal and vertical alignments, drainage and flood structures, and pavement design; (vi) identify locations of bridges, culverts, grade-crossing, and underpasses; (vii) prepare bill of quantities, unit prices, overall project cost estimates, and cost estimates for civil works for road development; (viii) together with the procurement specialist, conduct a procurement capacity assessment and prepare a procurement plan; (ix) assess the capacity of the implementing agency (IA) and recommend suitable project implementation arrangements; (x) lead public consultation with various stakeholders; (xi) assess the capacity of local construction companies; (xii) prepare road maintenance plan for the Eastern Regional Road Corridor (ERRC); and (xiii) undertake road safety audit of the ERRC.

7. **Road Maintenance Engineer** (international, 5.0 person-months; national, 6.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) assess the effectiveness and cost-efficiency of EA’s maintenance operations; (ii) prepare a baseline assessment report on road maintenance; (iii) evaluate the likely changes in the demand for maintenance works in the coming 10 years; (iv) identify impacts on the types of works undertaken and on the organization of maintenance and propose alternative evolution paths to EA’s organization of maintenance; (v) propose targets for EA’s performance indicators; (vi) define the location, methodology and studies needed to prepare the road maintenance program and sub-projects, (vii) prepare a road rehabilitation and periodic maintenance action plan, including annual programs of works and cost estimates; and (viii) contribute to the PPTA reports in all areas of expertise, coordinate work of the PPTA team, and (ix) oversee the preparation and control the quality of the PPTA’s outputs.

8. **Civil Engineer** (national, 3.0 person-months). The consultant will work together with the transport and road maintenance engineers, transport economist, financial analyst and procurement specialist. The consultant will carry out, but will not be limited to, the following

tasks: (i) analyze design of the existing cross-border facilities in Mongolia; (ii) review the civil engineering aspects of the feasibility studies and designs developed for the project components and ensure that they are technically sound, meet all the relevant technical standards and safeguard requirements, and are suitable for ADB financing support; (iii) together with the PPTA team and after detailed consultations with the National Customs Service of Mongolia, develop conceptual design of the cross-border facilities in Bichigt; and (v) based on international and national best practices, make recommendations for improving technical designs of each project component.

9. **Road Materials Engineer** (national, 3.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) Maintenance Material. Prepare a report containing (a) complete list of material and construction technique, (b) composition and mechanical performance of material, and (c) description of observed performance in relation to traffic volume and other variables; and (ii) Innovative Materials/Techniques: (i) advise in the definition of a possible innovative material and/or process, and (ii) support the definition of terms of reference for a construction contract using innovative materials/techniques.

10. **Procurement** (international, 3.0 person-months; national, 4.0 person-months). The consultants will carry out, but will not be limited to, the following tasks: (i) assess the capacity of the local road industry to undertake civil works under the project; (ii) recommend on contract packaging, eligibility of local maintenance units for competitive procurement, and the private sector participation in the road maintenance; (iii) assist in the identification and definition of the performance-based maintenance contract pilots; (iv) prepare full contractual documentation for the selected pilot project and ensure its applicability after consultations with stakeholders; (v) prepare a standard national competitive bidding document for periodic maintenance and rehabilitation works and international competitive bidding document for road construction under the project; (vi) assist in the preparation of the bidding documents for project contract packages; (vii) review EA's procurement, financial management and internal control capacity and develop a strengthening plan according to recommendations of the ADB PPRR (main text, para. 11); (viii) review and identify contract packages and the financing plan, analyze and summarize project costs as required for the Project Administration Manual (PAM),¹ and complete the draft procurement plan and implementation schedule; (ix) provide training to the PIU and EA on filing, storing and managing the procurement related documentation according to recommendations of the ADB PPRR (main text, para.11); (x) develop an action plan for the EA to improve efficiency, transparency and accuracy of bid preparation, opening and evaluation, data presentation and contract awards according to recommendations of the ADB PPRR (main text, para.12); (xi) check the government requirements on contractors' accessing to construction site near the border and reflect necessary clauses in the bidding documents if necessary; and (xii) prepare and conduct training workshops on the ADB procurement guidelines, requirements, standard bidding documents, bid evaluation and recommendations developed according to the PPRR (main text para. 11).

11. **Transport Economics and Traffic Forecasting** (international, 3.0 person-months; national, 4.0 person-months). The consultants will carry out, but will not be limited to, the following tasks: (i) prepare and conduct traffic counts and origin-destination surveys on the ERRC, collecting information on the present pattern of freight and passengers by vehicle type and origin-destination in the project area; (ii) forecast normal, generated, and diverted traffic for the proposed road by vehicle type and by domestic, cross-border and international transit traffic; (iii) assess the project's effects on vehicle operating costs, travel time, accidents, and

¹ If the projects are to be financed using the multi-tranche financing facility, the project team will prepare a Facility Administration Manual (FAM).

accessibility to markets, jobs, and social services; (iv) prepare the project cost estimate, including physical and price contingencies, taxes and duties; the cost analysis shall be carefully conducted taking into account experience of previous ADB-financed projects in Mongolia and recommendations of the PPRR (main text, para. 11); (v) undertake economic evaluation of the project in accordance with ADB's Guidelines for Economic Analysis of Projects, resulting in the economic internal rate of return and net present value for the project, including a sensitivity analysis; (vi) identify and evaluate risks in accordance with ADB's Handbook for Integrating Risk Analysis in the Economic Analysis of Projects (2002); (vii) quantify the distribution of project benefits among Mongolia and the PRC and among various stakeholders within Mongolia; and (viii) review the need to collect transit fees on the ERRC and, if needed, propose appropriate transit fees by vehicle type, taking into account the projected costs of road maintenance and services. Together with the Financial Analyst, the experts shall undertake a financial analysis of the road maintenance program, carrying out the following tasks: (i) review road revenues and expenditures in Mongolia during 2009–2014 and projections for 2015–2020; (ii) in cooperation with the road engineer and road maintenance engineer and making use of information from the ADB CDTAs (main text, footnotes 5 and 6) prepare road maintenance expenditure projections and investment program for 2015–2020; and (iii) identify constraints and define options to improve the sustainability of the road network in the country. The economic analysis will include the following elements reflected in the ADB Operational Manual (Section G1): (i) review of macroeconomic context; (ii) review of sector context; (iii) demand analysis; (iv) identification of project rationale; (v) identification of project alternatives; (vi) identification and comparison of project costs and benefits; (vii) assessment of project sustainability; (viii) distribution of project effects; (ix) sensitivity and risk analysis; and (x) identification of indicators for project performance monitoring system.

12. **Financial Analysis** (national, 4.0 person-months). The consultant will work together with the PPTA team, including the Transport Economists / Traffic Planners. The consultant will carry out, but will not be limited to, the following tasks: (i) together with the transport economists, prepare the project cost estimate, including physical and price contingencies, taxes and duties; the cost analysis shall be carefully conducted taking into account experience of previous ADB-financed projects in Mongolia and recommendations of the PPRR (main text, para. 11); (ii) help identify and evaluate financial risks in accordance with ADB's Handbook for Integrating Risk Analysis in the Economic Analysis of Projects (2002); (iii) help review the need to collect transit fees on the ERRC and, if needed, propose appropriate transit fees by vehicle type, taking into account the projected costs of road maintenance and services; (iv) help the experts shall undertake a financial analysis of the road maintenance program, carrying out the following tasks: (a) review road revenues and expenditures in Mongolia during 2009–2014 and projections for 2015–2020; (b) prepare road maintenance expenditure projections and investment program for 2015–2020 (in cooperation with the road maintenance engineer and making use of information from the ADB Capacity Development TA); and (c) identify constraints and define options to improve the sustainability of the road network in the country; (v) design the project funds flow and disbursement mechanisms; (vi) undertake financial management assessment (FMA) of the EA and IAs, and (vii) together with other PPTA team members, prepare capacity building program focusing on financial management and ADB's disbursement procedures based on the FMA and PPRR results.

13. **Social, Poverty, and Gender** (national, 4.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) prepare the social and poverty analysis report including socioeconomic and poverty profiles for the project area, previous experience on projects and social development action plans (SDAPs); (ii) conduct survey on households and villages to assess social impacts and mitigation requirements; (iv) consult local governments to identify development initiatives that could complement the project, particularly those targeted at

the poor; (v) assess how the project will improve people's incomes and livelihoods, including gender assessment; (vi) estimate direct and indirect project impacts on the poor and women; (viii) assess the potential degree of adverse social impacts caused by construction and operation of the road and other project components; if any adverse social impacts are likely to occur, include them in the EIA and EMP; (vii) confirm that the indigenous peoples policy is not triggered; (viii) help the government establish consultation and participatory processes during project design and implementation; (ix) identify stakeholders and consult their representatives to incorporate their needs into the project; (x) prepare a SDAP which will include measures to make the project more inclusive and beneficial for the poor, women and vulnerable groups (including monitoring requirements); (xi) prepare stakeholder participation and consultation plan for implementation; (xii) discuss road safety and cross-border environmental and social issues (e.g. HIV/AIDS, protected species trade, etc.); and (xiii) prepare a road safety awareness program.

14. **Environment** (international, 3.0 person-months; national, 5.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) the consultants will help the EA to carry out further investigations and analysis, as required, to prepare the (a) Environment Impact Assessment; (b) Environmental Management Plan; and (c) Environmental Assessment and Review Framework, in accordance with the guidance in ADB's Safeguard Policy Statement (2009) as well as the requirements of the Government of Mongolia. The consultants will co-ordinate with other PPTA consultants to optimize the alignment, design, construction, operation and maintenance proposals to minimize environmental impacts, and address induced impacts and cross-border issues among other items.

15. **Biodiversity** (national, 8.0 person-months). The consultant's assignment will aim to achieve the following objectives: (i) undertake detailed biodiversity assessment of key habitats and species associated with the Eastern Regional Road project area of influence; (ii) advise on potential impacts of the project on critical and natural habitats and associated species; (iii) provide recommendations on mitigation and monitoring measures to minimize impacts of the project; and (iv) develop a program to enhance habitat and species protection and management in line with ADB Safeguard Policy Statement (2009) requirements. The consultant will carry out, but will not be limited to, the following tasks: (i) undertake desk review of available studies on Mongolian steppe habitats and species associated with the project area of influence; (ii) undertake consultation with key biodiversity stakeholders and experts (government, non-government, academic, reserve managers, local communities); (iii) carry out a survey of road corridor and project area of influence during key seasons (e.g. gazelle rutting and calving periods) to identify presence of critical habitats and natural habitats and migratory routes with high biodiversity value; (iv) consult and co-ordinate with PPTA, government and project stakeholders to agree on appropriate mitigation, monitoring and enhancement measures; (v) prepare a biodiversity report including baseline, project impacts, mitigation and monitoring measures for design, construction and operation phases and program for enhancing habitats and species protection and management in line with ADB Safeguard Policy Statement (2009); and (vi) assess the ERRC alignment and advise on biodiversity impacts and mitigation measures.

16. **Resettlement** (national, 4.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) screen the project area for involuntary land acquisition and resettlement impacts; and (ii) assist the government to prepare a resettlement plan as required by ADB's Safeguard Policy Statement (2009) - these documents should be finalized and endorsed by MRT and disclosed to the affected persons prior to ADB approval.

17. **External Relations** (national, 3.0 person-months). The consultant will carry out, but will not be limited to, the following tasks: (i) develop and implement an external relations program that will include a video, mass-media and social media interviews, articles, press-tours and information campaigns to disseminate information about the ADB investments in the road sector of Mongolia, the current project, and future investment and technical assistance program in the country; (ii) the program will aim to mobilize support of the project stakeholders, including the government, parliament, politicians and general public.

E. Reporting

18. The consultants will submit, in a format satisfactory to MRT and ADB, (i) an inception report within 3 weeks after services start; (ii) an interim report, including the PSA, within 2 months after services start; (iii) a draft final report, draft EIA, resettlement plan and framework (if required), and draft environmental management development plan and draft SDAP within 4 months after services start; (iv) a final report, 2 weeks after receiving comments from the government and ADB. Four copies of each report will be submitted to MRT in English and Mongolian, and three copies each to ADB in English. An electronic copy of the draft final report and the final report and the executive summary will be submitted to MRT in English and Mongolian languages, and to ADB in English, at the same time.

F. Implementation Arrangements

19. The executing agency (EA) will be MRT. The EA will: (i) make necessary information and data available to ADB and consultants (including road condition data, traffic data, financial data and accident data); (ii) arrange consultant's meetings with other related agencies; and (iv) provide counterpart staff to the consultants. The proposed PPTA processing and implementation schedule is listed in Table 3.4.

Table 3.4: Proposed Technical Assistance Processing and Implementation Schedule

Major Milestones	Expected Completion Date
Project Concept (and PPTA) Approval	II Dec 2014
Consultants' Mobilization	I Feb 2015
PPTA Inception Report	IV Feb 2015
PPTA Inception Mission	I Mar 2015
PPTA Interim Report	IV Apr 2015
PPTA Draft Final Report	IV Jun 2015
Loan fact-finding	I Aug 2015
PPTA Final Report	IV Aug 2015
Management Review Meeting	IV Oct 2015
Loan negotiations	II Nov 2015
ADB Approval of Bidding Documents for Procurement under the Project	IV Dec 2015
Board consideration	I Feb 2016
Loan effectiveness	I Apr 2016

Source: Asian Development Bank estimates.