



Technical Assistance Report

Project Number: 39256
October 2008

Mongolia: Preparing the Urban Transport Development Project (Financed by the Japan Special Fund)

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 20 October 2008)

Currency Unit	–	togrog (MNT)
MNT1.00	=	\$0.000874
\$1.00	=	MNT1,144.7

ABBREVIATIONS

ADB	–	Asian Development Bank
EA	–	executing agency
EIA	–	environmental impact assessment
MGU	–	municipal government of Ulaanbaatar
PPMS	–	project performance management system
PPP	–	public–private partnership
SEIA	–	summary environmental impact assessment
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Transport and communications
Subsector	–	Multimodal transport and sector development
Theme	–	Sustainable economic growth
Subthemes	–	Fostering physical infrastructure development, developing urban areas

NOTES

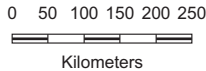
- (i) The fiscal year (FY) of the Government and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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MONGOLIA URBAN TRANSPORT DEVELOPMENT PROJECT



- National Capital
 - Provincial Capital
 - City/Town
 - Main Road
 - Provincial Road
 - Railway
 - River
 - Provincial Boundary
 - International Boundary
- Boundaries are not necessarily authoritative.



I. INTRODUCTION

1. The Asian Development Bank (ADB) has provided support to the Government of Mongolia (the Government) for urban sector development since 1998. The Mongolia country operations business plan 2008–2010 includes the Urban Transport Development Project in the 2009 pipeline.¹ A project preparatory technical assistance (TA) was included in the ADB assistance program for 2008 to help the Government prepare the Project. In May 2008, ADB fielded a fact-finding mission for the TA, which reached agreement with the Government on the impact, outcome, outputs, methodology and key activities, implementation arrangements, cost estimates, financing plan, and outline terms of reference for consulting services of the TA.²

II. ISSUES

2. Over the last decade, Mongolia has experienced rapid and intensive urbanization. As a result of in-migration from rural areas and provincial centers, the population of Mongolia's capital city, Ulaanbaatar, has doubled. Today, more than 1 million people reside in Ulaanbaatar, which is facing serious urban development challenges, including insufficient transport infrastructure and poor quality of public transport services. Investments in urban transport, traffic management, and road safety have significantly lagged behind the pace of urbanization. Coordination among relevant agencies is lacking, and the institutions responsible for regulating public transport service provision are weak.

3. Transport infrastructure and services in Ulaanbaatar are suffering from increasing road congestion, insufficient traffic management, poor safety conditions, and a weak public transport system.³ These factors contribute to economic inefficiency due to increased trip times, excessive fuel use, and poor air quality, which all serve to reduce residents' quality of life and act as a bottleneck to growth. According to estimates of the city's traffic police, about 50,000 vehicles, most of which are secondhand and of poor quality, are added to the city's roads annually, representing an increase of about 25% per year—one of the highest urban private vehicle growth rates in the world. While technical and environmental standards for vehicle safety and emissions have been put in place, they are not sufficiently enforced.

4. The public transport system is struggling with technical, financial, and institutional challenges. Bus tariffs have not been increased since 1999, while fuel costs have increased more than 5 times in the same period. The municipal budget subsidizes about 42% of the bus companies' annual costs, but the mechanism for allocating subsidies lacks transparency and is perceived as inequitable. Bus operators lack financial resources to renew and expand their bus fleet and provide adequate transportation services. Interaction among the different modes of public transport is far from optimal. Instead of feeding higher-capacity bus routes, minibuses tend to compete with the higher-capacity buses, thereby adding to road congestion. Bus and minibus routes are not designed as part of a feeder-and-main-line system, and the system for allocating routes needs updating.

5. The road network is well developed in the central area of Ulaanbaatar, but in outlying residential areas, where many low income families live, ill-maintained primary feeder roads and un-surfaced connector roads are the norm. Budgetary allocations for new roads have increased significantly with help from the Mongolian Development Fund, and investment levels in roads far

¹ ADB. 2007. *Country Operations Business Plan (2008–2010): Mongolia*. Manila.

² The TA first appeared in the business opportunities section of ADB's website on 12 May 2008.

³ Public transport refers to systems and infrastructure used to transport members of the general public at set fares.

outweigh those in public transport.⁴ However, the efficacy of this investment is threatened due to the lack of a systematic road maintenance program and budgeting mechanism. While the municipal government of Ulaanbaatar (MGU) has a road fund that finances construction and maintenance works, allocations for maintenance are ad hoc and insufficient. The following areas of MGU's capacity require considerable improvement: (i) development, implementation, and enforcement of the urban transport policy and strategy; (ii) long-term investment planning, capital budgeting, and financial management; and (iii) design and management of urban transport projects financed by international development partners.

6. Traffic congestion is aggravated by insufficient enforcement of parking control, designated parking spaces, pedestrians, lack of driver discipline, inadequate signaling, and insufficient traffic control. Traffic accidents are common due to poor traffic management and the uncontrolled interaction of pedestrians and vehicles.⁵ Encroachment on roads and sidewalks by parked vehicles worsens the traffic situation. Planning and budgeting for pedestrian and parking infrastructure are lacking.

7. Given the rapid growth in private vehicles, road improvements will only make limited and temporary improvements. Strong institutions with clear mandates are required to implement investments, attract financing, coordinate among stakeholders, and regulate service providers. Multiple institutions at the central and local levels are involved in urban transport services and clarifying their roles and enhancing coordination among them should be prioritized. Without a viable system of public transport, Ulaanbaatar will soon experience serious traffic congestion with negative impacts on economic vitality and quality of life. Improvements in traffic and parking control, driving behavior, and enforcement are also critical for addressing the city's transport needs.

8. The urban poor suffer disproportionately from an inadequate transport system. Underinvestment in public transportation raises the cost of commuting and restricts access to jobs and services. The poor tend to be more exposed to risks associated with externalities in transport. For example, they lack adequate means to avoid exposure to polluted air, face higher commuting distances and costs, and are particularly affected when there is a lack of provisions for pedestrians. The poor stand to benefit significantly from improved transportation services.

9. Development partner engagement in the urban transport sector has been limited, but could soon increase. The Japan International Cooperation Agency is assisting MGU to update the city master plan and expects to produce a midterm report in December 2008. Several proposals related to the transport sector are emerging from this effort, such as flyovers at key junctions and an underground rapid transit system. The European Bank for Reconstruction and Development has offered assistance to one of the municipally-owned bus companies, but this project is currently stalled. The Export-Import Bank of Korea is financing an intelligent transport system project, at an estimated cost of \$17 million, to reduce road congestion with improved traffic signals at 79 intersections that will be integrated and coordinated through a central control center. One of the goals of ADB's ongoing Urban Development Sector Project⁶ is to improve road access of *ger*⁷ areas to the central areas of Ulaanbaatar. ADB is coordinating its activities with other international financial institutions and bilateral agencies to strengthen policy dialogue with the Government on introducing a financially-sustainable and environmentally-friendly

⁴ For 2008, the municipal government of Ulaanbaatar (MGU) earmarked about \$20 million from budget resources, and under ADB's Urban Development Sector Project \$10 million was allocated for *ger* area road improvements (footnote 6).

⁵ WHO estimates that Mongolia has the 18th worst traffic accident incidence in the world.

⁶ ADB. 2006. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Mongolia for the Urban Development Sector Project*. Manila (approved in 2006 for \$28.2 million).

⁷ *Ger* is a traditional Mongolian tent in which city dwellers live compactly in the outskirts of Ulaanbaatar.

transport system to support economic growth of the capital city. The TA aims to assist MGU in formulating an urban transport road map and investment program, and preparing an investment project for potential ADB financing.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The impact of the TA is improved urban transport infrastructure and management in Ulaanbaatar. The outcome of the TA is a project design for an investment project suitable for ADB financing. The TA design and monitoring framework is in Appendix 1.

B. Methodology and Key Activities

11. The TA will (i) analyze the current status of urban transport in Ulaanbaatar and identify the main problems and bottlenecks in the system; (ii) develop a comprehensive road map and investment program to improve urban transport management, infrastructure, and service quality; (iii) develop and prepare an integrated public transport and rapid transit plan and program; and (iv) prepare an investment project for potential ADB financing. Specifically, the TA components will (i) identify and achieve agreement with the Government on priority investment needs; (ii) develop the urban transport road map; (iii) based on the road map, prepare estimated financing requirements and develop an investment program; (iv) prepare pre-feasibility studies and conduct due diligence for a package of physical investments to be supported by an ADB loan and other financing sources; (v) develop a package of technical assistance for institutional coordination and strengthening, behavioral change and enforcement, public awareness and outreach, and project implementation and monitoring; and (vi) provide transaction advice for a public-private partnership (PPP) in the operation of public transport and rapid transit services. The TA will conduct detailed analysis of PPP options—including management contract, leasing, and concession—and advise the most suitable PPP modes for the public transport and rapid transit services.

12. The Ulaanbaatar sustainable urban transport road map and investment plan will set out goals for transport services over the next 10–15 years and establish a plan of investments needed to achieve these goals. An assessment of current conditions will be undertaken and will take into account the country urban transport findings and recommendations from the Japan International Cooperation Agency-assisted Study on City Master Plan and Urban Development Program of Ulaanbaatar City, and the projects and programs of other domestic and international financial institutions. A road map will be developed based on consultations with MGU and other stakeholders. It will establish clear goals for urban transport and mobility, with measurable targets that allow the regular monitoring of progress. Together, the road map and investment plan will prioritize financially- and environmentally-sustainable modes of transport, and address requisite institutional arrangements and policies, including provision of access to public transport services of low-income passengers. The initial poverty and social analysis is in Appendix 2.

13. Preparation of an investment project for public transport and rapid transit development will include a review of the current conditions within the city, identify improvements to public transport that are needed to address these, and prepare a pre-feasibility study for the first rapid transit corridor.⁸ The review of current conditions will examine public transport routes and passenger demand, fare structures, ticketing systems, fleet conditions, subsidies and financial viability, and operational service standards. Following consultations with MGU, the Government,

⁸ “Rapid transit” refers here to high-capacity rail and bus-based technologies.

and other stakeholders, proposals will be made for improvements to public transport including identification of priority rapid transit corridors and appropriate technology, rationalization of bus routes to increase efficiency, regulatory systems and institutional capacity, physical infrastructure investments, and institutional arrangements and capacity development.⁹ The pre-feasibility study of physical and institutional investments required to establish the first corridor of a rapid transit system will comprise concept design, institutional structure and management, operational plans, preliminary financial and economic analysis, options for financing and financial structuring, and safeguard analysis (social, resettlement, and environment). The pre-feasibility study will be used as the basis for investments to be financed under a proposed ADB loan project for urban transport in Ulaanbaatar.

14. Developing a traffic management and road safety program under the Project will include review of the current conditions within the central business district and, in consultation with MGU, development of an investment program for traffic and mobility improvement. The work will begin with the development of an area traffic model using existing traffic and public transport data, augmented by surveys including a screen-line survey of the inner ring road.¹⁰ On this basis, and in consultation with MGU, priority improvements in traffic management, public transport services, and pedestrian services will be identified and developed into an investment program for traffic management and road safety. The program will include a circulation plan for vehicle traffic that takes into account motorized vehicles' interaction with pedestrians and non-motorized vehicles, and considers one-way and pedestrian-only areas. It will also cover institutional arrangements required to coordinate activities and regulate services. This work will be closely coordinated with the ongoing intelligent transport system project being considered by MGU and the Government (para.9).¹¹ The investment program will be used as the basis for investments to be financed under a proposed ADB loan project for urban transport in Ulaanbaatar.

C. Cost and Financing

15. The TA is estimated to cost the equivalent of \$1.4 million. The Government has requested ADB to finance \$1.2 million. The TA will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan. The Government will finance the balance of costs, equivalent to \$200,000, through in-kind contributions of office space, furniture, administrative support services, logistics, and salaries of counterpart staff. Details of the cost estimates and 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

16. MGU will be the Executing Agency (EA) for the TA. The Government will form a steering committee that will be chaired by the mayor of Ulaanbaatar, and will comprise representatives of the Ministry of Finance; Ministry of Road, Transportation and Urban Development; and traffic police. The TA project management unit will be established in, and will report to, the EA.

17. The total consultants' input is estimated at 87 person-months—34 international and 53 national. The consultants will be engaged through a firm and as individuals in accordance with

⁹ The selection of a suitable technology for rapid transit should be based on the economic rate of return of the investment, fiscal implications, and consideration of long-term investment plans and policies concerning allocation of road space to private vehicles. The economic rate of return of rapid transit investments are known to be sensitive to passenger demand and willingness to pay.

¹⁰ Screen lines divide the area into large natural zones (e.g., at both sides of a river or motorway), with few crossing points between them. The data serves to validate and fill in gaps in household surveys.

¹¹ Total project cost is \$17.0 million, of which \$12.8 million will be financed by the Economic Development Cooperation Fund of the Republic of Korea, and \$4.2 million will be financed by the Government of Mongolia.

ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). The consultants will have expertise in public transport engineering and management, financial and economic analysis of investment projects, institutional development, social analysis, poverty impact assessment, and environmental impact analysis. The international consultants will provide expertise in transport planning and policy (7 person-months), institutional reform (5 person-months), rapid transit planning (6 person-months), traffic engineering (6 person-months), financial management and structuring (5 person-months), economic analysis (1 person-month), environmental engineering (2 person-months), and resettlement and social development (2 person-months). The national consultants will provide expertise in transport planning (7 person-months), institutional reform (6 person-months), traffic survey (4 person-months), traffic engineering (6 person-months), civil engineering and cost analysis (4 person-months), financial management and financial structuring (6 person-months), economic analysis (2 person-months), environmental engineering (2 person-months), resettlement and social development (2 person-months), and engineering drafting (14 person-months). The consultants' outline terms of reference are in Appendix 4. For consultants to be engaged through a firm, ADB will select and engage them on the basis of the quality of the proposal (80%) and the cost (20%) of the services to be provided (the standard quality- and cost-based selection method), using simplified technical proposal procedures. The consultants selected as individuals will have expertise in (i) monitoring and evaluation of infrastructure investment projects, and (ii) project financing and capital budgeting to assess and provide advice on PPP opportunities for public transport and rapid transit services. The Government will provide the TA consultants with a suitably-furnished office with utilities, telecommunication access, materials, maps, data, and all related documents required by the TA. The TA equipment will be procured by the consultants in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time) and transferred to MGU upon TA completion.¹²

18. The TA will be implemented over 6 months, from January 2009 to the end of June 2009. The consultants' team will submit to ADB and EA separate inception, interim, draft final, and final reports. All the reports will be submitted in the English and Mongolian languages. The inception report will be submitted to ADB and EA within 1 month from the TA commencement date. The interim report with detailed assessment of the priority investment, capacity-building and institutional-development needs, and policy issues will be submitted to ADB and EA within 3 months of TA commencement. For the purpose of discussing the interim report and providing guidance to the project design, a workshop with participation from representatives of the Government, MGU, and other stakeholders will be held 3 months after TA commencement. A draft final report with a detailed description of the investment project, including the institutional development and capacity-building program, and other relevant recommendations will be submitted within 5 months of TA commencement.

19. The following tripartite meetings will be held during the TA implementation period: (i) a first meeting will immediately follow the stakeholder workshop, and (ii) a second meeting will follow submission of the draft final report. The final report incorporating the comments will be submitted 2 weeks after the second tripartite meeting.

IV. THE PRESIDENT'S DECISION

20. The President, acting under the authority delegated by the Board, has approved the provision of TA not exceeding the equivalent of \$1.2 million on a grant basis to the Government of Mongolia for Preparing the Urban Transport Development Project, and hereby reports this action to the Board.

¹² The TA equipment will include personal computers and printers, and a copier, scanner, and fax machine.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Improved urban transport infrastructure and management in Ulaanbaatar</p>	<p>By 2014:</p> <p>Improved health indicators</p> <p>Improved air quality in the city</p> <p>Reduced incidence of traffic congestion, delays, and accidents by 30%</p> <p>Reduced travel time by 30%</p>	<p>Annual socioeconomic surveys undertaken as part of the PPMS</p> <p>The municipal government of Ulaanbaatar and police records and statistics</p> <p>Air quality data of the Ministry of Health</p>	<p>Assumption</p> <ul style="list-style-type: none"> • Effective traffic enforcement <p>Risk</p> <ul style="list-style-type: none"> • Costs are higher than planned
<p>Outcome Project design, feasibility study, and related project reports completed and agreed upon by the Government and ADB, and suitable for ADB financing</p>	<p>Memorandum of understanding signed by the Government and ADB at final tripartite meeting in June 2009</p>	<p>Memorandum of understanding</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Strong government commitment to develop a sustainable transport system • Acceptance by the Government of proposed solutions and plans • Government's capacity strengthened <p>Risk</p> <ul style="list-style-type: none"> • Lack of effective government support and coordination among agencies
<p>Outputs 1. Analysis of the city master and development plans, financing requirements, and institutional capacity</p>	<p>Analysis of the current urban development situation, existing master plans, and transport and road plans by the end of month 1 of the TA</p> <p>Preparation of technical options to improve urban transport system, including rapid transit system, and consensus with the Government achieved by the end of month 2 of the TA</p>	<p>Inception report and first tripartite review meeting (month 2)</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Preliminary feasibility study, environmental impact assessment, and resettlement plan prepared thoroughly and on time • All concerned government agencies provide full support to the TA • All required

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
2. Technical, financial, economic, and environmental assessment of the project components	<p>Identified and evaluated priority rapid transit corridors and selected priority corridor to be included in the ADB-financed project by month 2</p> <p>Defined performance targets for public transport services, including acceptable and affordable fare structure by month 2</p> <p>Consensus on assessments of the project components in the midterm report reached by month 3</p>	<p>Interim report and second tripartite review meeting (month 3)</p> <p>Review and survey findings</p> <p>Review mission (month 3)</p>	<p>information is available on time</p> <ul style="list-style-type: none"> • Land acquisition and resettlement issues are addressed at an early stage <p>Risks</p> <ul style="list-style-type: none"> • Inadequate support and performance of the Government and stakeholders • Lack of adequate and timely provision of necessary data
3. Project design requirements accomplished	<p>Preliminary feasibility study report, environmental impact assessment, resettlement plan, and results-based monitoring system approved by the Government and ADB by month 6</p> <p>Timely completion of cost estimates, and economic and financial analyses by month 6</p>	<p>Tripartite meetings, and draft final and final reports submitted to the Government and ADB (months 2–6)</p>	<ul style="list-style-type: none"> • Absence of prior experience with ADB-financed projects • Reluctance of the Government to accept the proposed strategic improvement and investment program
4. Strategic urban transport development and investment program, and institutional capacity building and training program	<p>Urban transport investment program (policy packages and corresponding investment and operation and maintenance costs) developed by month 6</p>	<p>Stakeholder workshop minutes, materials, and notes (months 2–6)</p>	<ul style="list-style-type: none"> • Political instability
5. Participatory plan assessment	<p>Three stakeholder workshops to be conducted at inception, midterm, and final tripartite meetings during months 2–6</p>		
6. Training workshops	<p>Training workshops for the experts and officials of the Government and the municipal government of Ulaanbaatar focused on (i) urban transport planning and management; (ii) project management, procurement, and financing; and (iii) PPMS and management information systems during months 2–6</p>		

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
7. KPS on urban transport systems and management	Assessment of key results and information analyzed during the TA, and preparation and dissemination of KPS during months 1–6		

Activities and Milestones	Inputs
<ol style="list-style-type: none"> 1. Review and analyze the city master and road and transport plans (month 1). 2. Discuss and achieve agreement with the Government regarding the main focus of the TA, including rapid transit system, directions, and priority of the transit corridors (month 1). 3. Submit the TA inception and tripartite meeting reports and hold first stakeholder workshop (month 2). 4. Develop strategic and sustainable urban transport solutions (months 2–6) that will include the following steps: <ol style="list-style-type: none"> 4.1. assess the current situation of Ulaanbaatar urban transport, including access to existing traffic data and surveys of public transport operations and structures, institutional arrangements, sample surveys, financial sustainability of infrastructure and operations, and social issues; 4.2. develop a road map for Ulaanbaatar urban transport to define the objectives and future development path for transport within the city; 4.3. outline an urban transport improvement program, focusing on public transport, and where relevant include other urban transport modes (e.g., nonmotorized transport), road space allocation, safety, and social issues; 4.4. develop an urban transport investment program, which provides a focused and time-bound action plan to deliver sustainable urban transport within the city; and 4.5. prepare a report on the strategic requirements for sustainable urban transport in Ulaanbaatar, including all of the items above, and disseminate this through a public relations campaign. 5. Identify and scope rapid transit options and prepare a preliminary feasibility study report for an investment project (months 2–6). The steps will include: <ol style="list-style-type: none"> 5.1. identify priority rapid transit corridors through passenger demand surveys and route plans, and evaluate corridors and select a priority corridor, including a comparison of rapid transit systems; 5.2. undertake an attitudinal survey for public transport services and fares, including integrated ticketing options and fare subsidies; 5.3. prepare a pre-feasibility study for the identified priority corridor, including concept design, institutional structure, operational plans, financial, and economic analysis; 5.4. undertake safeguard analysis for social, resettlement, and environmental impact and prepare necessary safeguard documents; and 5.5. prepare an investment project report on a rapid transit network and priority corridor for potential ADB financing. 	<ul style="list-style-type: none"> • ADB: \$1.2 million, mostly for 34 person-months of international and 53 person-months of national consulting services • Government: \$200,000 for counterpart provision

<p>6. Develop a sustainable transport program (months 2–6). The steps will include:</p> <ul style="list-style-type: none"> 6.1. develop a traffic model and devise a traffic circulation plan for the central business district area; 6.2. develop bus stop locations, service patterns, and a safety program and safety campaign for pedestrian–vehicle interactions; and 6.3. prepare a sustainable transport feasibility report, including cost estimates and outline design for the transport mobility improvement, which will be used as a basis for a loan to be potentially financed by ADB. <p>7. Develop PPMS (months 2–6).</p> <p>8. Conduct the public consultation and training workshops (months 2–6).</p> <p>9. Submit final report and hold final tripartite meeting (month 6).</p> <p>10. Summarize all the TA information and activities into KPS. Disseminate the KPS via the Government and ADB websites and other information channels, including workshops, conferences, etc., (months 1–6 during the TA implementation and after the TA completion).</p>	
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ADB = Asian Development Bank, KPS = knowledge products and services, PPMS = project performance management system, TA = technical assistance.

A. Leung, Director, EASS

K. Gerhaeusser, Director General, EARD

INITIAL POVERTY AND SOCIAL ANALYSIS

Country and Project Title:	Mongolia: Urban Transport Development Project		
Lending or Financing Modality:	Project Loan	Department and Division:	East Asia Department Social Sectors Division

I. POVERTY ISSUES
<p>A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy</p> <p>1. Based on the country poverty assessment, the country partnership strategy and the sector analysis describe how the project would directly or indirectly contribute to poverty reduction and how it is linked to the poverty reduction strategy of the partner country.</p> <p>The project preparatory technical assistance (TA) will develop urban transport strategy, investment and institutional development and capacity building program, and an investment project that will improve urban transport management. The investment project will reduce incidence of accidents, improve air quality, and contribute to the economic development of Ulaanbaatar.</p>
<p>B. Targeting Classification</p> <p>1. Select the targeting classification of the project:</p> <p><input checked="" type="checkbox"/> General Intervention (GI) <input type="checkbox"/> Individual or Household (TI-H); <input type="checkbox"/> Geographic (TI-G); <input type="checkbox"/> Non-Income MDGs (TI-M1, M2, etc.)</p> <p>2. Explain the basis for the targeting classification: The project will improve urban transport management.</p>
<p>C. Poverty Analysis</p> <p>1. If the project is classified as TI-H, or if it is policy-based, what type of poverty impact analysis is needed?</p> <p>2. What resources are allocated in the project preparatory technical assistance (PPTA)/due diligence?</p> <p>3. If GI, is there any opportunity for pro-poor design (e.g., social inclusion subcomponents, cross subsidy, pro-poor governance, and pro-poor growth)?</p> <p>The TA will (i) undertake social and poverty impact assessments and (ii) develop a transparent subsidy system to alleviate the potential impact on low-income population groups. The TA has allocated resources for social impact analysis.</p>
II. SOCIAL DEVELOPMENT ISSUES
<p>A. Initial Social Analysis</p> <p>Based on existing information:</p> <p>1. Who are the potential primary beneficiaries of the project? How do the poor and the socially excluded benefit from the project?</p> <p>2. What are the potential needs of beneficiaries in relation to the proposed project?</p> <p>3. What are the potential constraints in accessing the proposed benefits and services, and how will the project address them?</p> <p>The project targets low-income groups who are the main users of urban transport and suffer most from the inefficiencies of the transport system. The main need of the beneficiaries is an efficient, affordable, and ecologically-clean urban transport system. The main constraint in accessing the proposed benefits and services is the potential lack of affordability of transport services. The project will (i) assess and opt for the most cost-efficient public transport option; (ii) assess affordability of the proposed transport services; and (iii) if necessary, develop an efficient subsidization system for vulnerable groups such as pensioners, the disabled, and students.</p>
<p>B. Consultation and Participation</p> <p>1. Indicate the potential initial stakeholders</p> <p>The potential initial stakeholders are users of public and private urban transport (city dwellers).</p>

<p>2. What type of consultation and participation is required during the PPTA or project processing (e.g., workshops, community mobilization, involvement of nongovernment organizations and community-based organizations, etc.)? A series of workshops and public campaigns will be undertaken during TA implementation and project preparation.</p> <p>3. What level of participation is envisaged for project design? <input checked="" type="checkbox"/> Information sharing <input checked="" type="checkbox"/> Consultation <input checked="" type="checkbox"/> Collaborative decision making <input checked="" type="checkbox"/> Empowerment</p> <p>4. Will a consultation and participation plan be prepared? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Please explain.</p>			
C. Gender and Development			
<p>1. What are the key gender issues in the sector and/or subsector that are likely to be relevant to this project or program? The TA will ensure equal gender access to efficient and affordable urban transport services.</p> <p>2. Does the proposed project or program have the potential to promote gender equality and/or women's empowerment by improving women's access to and use of opportunities, services, resources, assets, and participation in decision making? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Please explain.</p> <p>3. Could the proposed project have an adverse impact on women and/or girls or widen gender inequality? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain</p>			
III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS			
Issue	Nature of Social Issue	Significant/Limited/ No Impact/Not Known	Plan or Other Action Required
Involuntary Resettlement	Involuntary resettlement is expected during the ensuing loan project. The scale of resettlement will be assessed during TA implementation.	Uncertain—to be confirmed during TA implementation	<input type="checkbox"/> Full Plan <input type="checkbox"/> Short Plan <input type="checkbox"/> Resettlement Framework <input type="checkbox"/> No Action <input checked="" type="checkbox"/> Uncertain
Indigenous Peoples	No impact on indigenous peoples is expected.	No impact on indigenous peoples is expected.	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input type="checkbox"/> Indigenous Peoples Framework <input checked="" type="checkbox"/> No Action <input type="checkbox"/> Uncertain
Labor <input checked="" type="checkbox"/> Employment Opportunities <input type="checkbox"/> Labor Retrenchment <input type="checkbox"/> Core Labor Standards	Improved urban transport system and management will create employment opportunities.		<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action <input type="checkbox"/> Uncertain
Affordability		The TA will undertake an affordability analysis and develop a subsidy system.	<input checked="" type="checkbox"/> Action <input type="checkbox"/> No Action <input type="checkbox"/> Uncertain
Other Risks and/or Vulnerabilities <input type="checkbox"/> HIV/AIDS <input type="checkbox"/> Human Trafficking <input type="checkbox"/> Others (conflict, political instability, etc.), please specify			<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action <input type="checkbox"/> Uncertain
IV. PPTA OR DUE DILIGENCE RESOURCE REQUIREMENT			
<p>1. Do the terms of reference (TOR) for the PPTA (or other due diligence) include poverty, social and gender analysis and the relevant specialist(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, please explain why.</p> <p>2. Are resources (consultants, survey budget, and workshop) allocated for conducting poverty, social and/or gender analysis, and consultation and participation during the PPTA or due diligence? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, please explain why.</p>			

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Total Cost
A. Asian Development Bank Financing^a	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	796.0
ii. National Consultants	138.0
b. International and Local Travel	50.0
c. Reports, Translation, and Communication ^b	41.0
2. Equipment ^c	15.0
3. Training, Seminars, and Conferences ^d	40.0
4. Surveys	30.0
5. Representatives for Contract Negotiations ^e	5.0
6. Contingencies	85.0
Subtotal (A)	1,200.0
B. Government Financing	
1. Office Accommodation and Transport ^f	140.0
2. Remuneration of Counterpart Staff	20.0
3. Others ^g	40.0
Subtotal (B)	200.0
Total (A+B)	1,400.0

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

^b Includes office communications, printing and binding of reports, and translation into Mongolian.

^c Includes desktop computers, photocopier, fax machine, and software.

^d Includes tripartite meetings and stakeholder and training workshops.

^e Includes the cost of travel and per diem for government observers invited for contract negotiations.

^f Includes telephone lines (one international) and city-level transport.

^g Includes necessary translation of government documents, such as city planning, infrastructure planning, road planning, government regulations, and statistics.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Overall Scope of Work

1. The objective of the technical assistance (TA) is to formulate a program of urban transport and transportation improvements for Ulaanbaatar and prepare a package of priority project investments suitable for funding by the Asian Development Bank (ADB). The main elements of the TA, listed below, will be carried out simultaneously.

2. **Ulaanbaatar Urban Transport Road Map and Investment Program.** The road map will identify and set out an investment program and associated policy; and an institutional, legislative, regulatory, and enforcement framework, elements of which will be detailed in paras. 7-8 of this scope of work for consulting services. Prior to finalization of the road map and the associated investment program, the Government and other stakeholders will be consulted on the output of this phase of the TA through a workshop.

3. **Integrated Public Transport Improvements and Rapid Transit Development.** The modern public transport and rapid transit plan will be prepared based on the investment program outlined in the road map. The TA will include a review of current conditions within the city, assessment of future urban transportation needs, identification of improvements to public transport needed to address these needs, and preparation of a pre-feasibility study for an initial rapid transit corridor.¹

4. **Traffic Management and Road Safety Component.** The traffic management and road safety component will review all aspects of mobility within the central business district and, in accordance with the sector road map and in consultation with the municipal government of Ulaanbaatar (MGU), develop an investment program for traffic and mobility improvements. The proposals will be based on a traffic model of the central area network under current and future conditions that will be developed using existing traffic and public transport data, and augmented as necessary by traffic surveys, including a screen-line survey and projected travel demand characteristics in 2015.

5. **Institutional and Financial Framework.** The TA will assess the current institutional framework under which public transport, road infrastructure, and services are planned, provided, operated, and maintained, and through which traffic is managed in Ulaanbaatar; identify issues, problems, and constraints; and develop solutions as part of the road map preparation. An institutional and financial reform program will be developed to support the investment program based on (i) the policy, institutional, legislative, regulatory, and enforcement framework developed as part of the sector road map; and (ii) the operational, institutional, and financial structuring proposals made to support the mass transit and traffic management and road safety components. The reform program will identify key roles for the public and private sector in the establishment of viable institutional arrangements necessary to (i) coordinate government inputs to system design and transaction advice, (ii) regulate and operate the eventual rapid transit system, (iii) regulate public buses and bus routes, (iv) enforce traffic management and parking, and (v) set up necessary mechanisms and capacity for road investment planning and programming, and road maintenance actions based on a clearly-defined set of measurable indicators and criteria.

¹ "Rapid transit" refers to high-capacity modes, including technologies based on rail and bus (e.g., bus rapid transit).

6. Output and reporting requirements will include:
- (i) an inception report will be submitted to ADB and the Executing Agency (EA) at the end of month 1;
 - (ii) the draft sector road map and investment program will be produced at the end of month 2, to be followed by a workshop to consider proposals;
 - (iii) an interim report providing concept proposals for the mass transit system and preliminary proposals for traffic management and road safety will be produced at the end of month 3, to be followed by a workshop to consider proposals;
 - (iv) a draft final report, including draft final outputs of tasks 1–4, will be produced at the end of month 5, to be followed by a workshop to consider proposals; and,
 - (v) a final report will be submitted at end of month 6.

B. Consulting Services

7. The consultants will carry out, but will not be limited to, the following tasks:
- 1. Transport Planning and Policy** (international consultant and team leader, 7 person-months; national consultant, 7 person-months)
 - (i) Review all relevant past studies relating to urban transport in Ulaanbaatar to ensure coordination of the project with existing plans; and,
 - (ii) Have prime responsibility for preparation of the draft transport sector road map for discussion with high-level decision makers. This should include broad estimates of future growth in private cars if current policies remain unchanged, indications of likely problems, statement of objectives for MGU concerning urban transport in the coming years, options for development and a recommended option with clear explanation of necessary policies, and sector reforms to ensure achievement of the objectives.
 - 2. Institutional Development, Capacity Building, and Training** (international consultant, 5 person-months; national consultant, 6 person-months)
 - (i) Identify problems and propose institutional and regulatory reforms designed to achieve the policy objectives that will be agreed to by MGU under this project.
 - (ii) Together with inputs from the study economist, review and comment on the institutional procedures for allocation of subsidies. Identify problems and make proposals for an improved approach to targeted subsidy mechanisms.
 - (iii) Review alternative approaches for the supply of bus services and examine options including route and area franchising with either net or gross cost contracts. Approaches that depoliticize the fares adjustment process should be highlighted and a preferred approach identified. Identify any legislative changes required to support the preferred approach.
 - (iv) Work with the rapid transit specialist to recommend a preferred institutional framework for the rapid transit system. A review of approaches taken in other systems around the world should be reviewed and used to support the recommendation. Propose the most optimal public–private partnership (PPP) options for rapid transit system management, including management contract, leasing, and concession.

3. Rapid Transit Design (international consultant, 6 person-months)

- (i) Review the current status and all relevant past studies of public transport operations, road traffic conditions, and public right-of-way issues in Ulaanbaatar.
- (ii) Identify all major transport corridors in Ulaanbaatar and assess their potential for rapid transit corridors. Rapid transit shall include rail-based mass transit systems and light rail systems, and bus transit. For each corridor, this should include assessments of existing and future public transport demand; an indication of the capacity of the system; and alignment and nature of the system (at grade, elevated, and/or in tunnel), station location, land take, and/or required resettlement, if any. Provide cost estimates at a sufficient level of accuracy to enable the evaluation of the corridors and alternative systems.
- (iii) Propose fares and ticketing systems (integrated, open, or closed systems).
- (iv) Develop conceptual designs for all corridors and select one corridor as a preferred corridor and supervise surveys of the selected corridor showing more detailed alignment and station sizes; and specify boarding and alighting surveys, and prepare synthetic stop-to-stop matrices for routes serving all or part of the corridor to enable more detailed demand forecasts to be made.
- (v) Refine conceptual design of the system to enable estimates to be made of any resettlement, land take, or other aspects requiring social safeguards, and prepare indicative capital costs of the system.

4. Traffic Engineering and Bus Priority Aspects (international consultant, 6 person-months; national consultant [traffic engineer], 6 person-months; national consultant [traffic survey], 4 person-months; and national consultants [draftsmen], 14 person-months)

- (i) Review all relevant past studies relating to urban transport in Ulaanbaatar to ensure coordination of the project with existing plans.
- (ii) Work with the public transport planner to identify junctions, stretches of road, or other specific locations where delays to general traffic are occurring, which in turn result in significant delays to buses.
- (iii) Select and cost a package of measures for inclusion in the loan; and work with the rapid transit expert to provide traffic engineering advice and prepare all drawings in relation to the alignment of the system and station locations.
- (iv) Develop a calibrated traffic model of the central area suitable for testing various traffic demand levels, circulation patterns, parking policies, and traffic management policies.
- (v) Specify survey requirements as inputs to the model, and propose a recommended circulation pattern for the central area and cost a package of improvement measures for inclusion in the proposed ADB loan.

5. Financial Management and Structuring Specialists (international, 5 person-months; national, 6 person-months)

- (i) Examine the financial position of the public and private bus and minibus operators and prepare standard pro forma financial statements, and calculate relevant financial ratios.
- (ii) Propose fares assessment procedures and/or subsidy assessment to ensure sustainable future bus operations.

- (iii) Work with the rapid transit specialist to reach recommendations regarding financial structuring of the investments and establish financial performance of the proposed system at specified fare levels, and propose the most optimal PPP options, including management contract, leasing, and concession.
- (iv) Conduct a financial analysis of the project and an analysis of the financial performance of the relevant revenue-generating entities in accordance with ADB's *Financial Management and Analysis of Projects*.²
- (v) Assess the budgetary implications of the financing requirements of the proposed project, review the detailed cost tables, identify contract packages and the financing plan, and summarize project costs using COSTAB or similar software.
- (vi) Assess financial management and review current accounting and administrative capacities, the internal control system employed, current internal audit, external or government audit; and recommend any changes as appropriate.

6. Civil Engineering and Costing (national, 4 person-months)

- (i) Provide costing of infrastructure—including running track, stations, interchange terminals and depots, rolling stock and bus fleet—according to indicative designs and sizes provided by the rapid transit specialist.
- (ii) Provide costing and accounting of minor civil works in association with the bus priority measures specified under the public transport improvement packages, and provide costing and accounting of minor civil works in association with city center traffic and safety improvements.
- (iii) Provide costing of all items required under the Project, which may include land resumption and acquisition, resettlement compensation, relocation of utilities, and traffic signal systems.

7. Environmental Impact Assessment (international, 2 person-months; national, 2 person-months)

8. The consultants will assist MGU to prepare an environmental impact assessment (EIA), its summary EIA (SEIA), and an environmental management plan for the ADB-financed project, following ADB's *Operations Manual* section on environmental considerations in ADB operations,³ and *Public Communications Policy* (2005). Other specific duties include, but will not be limited to, the following tasks:

- (i) identify risks and provide mitigating measures, where appropriate, and provide inputs to the EIAs and relevant sections of the feasibility studies;
- (ii) assist MGU with public consultation and involvement during EIA and SEIA preparation and documentation of these consultations and results in the EIA and SEIA, and disclosure of relevant information;
- (iii) provide the necessary environmental analysis and justification inputs for the financial and economic analyses of each project component;
- (iv) establish environmental baseline indicators and performance targets for the design and monitoring framework; and
- (v) ensure that the SEIA and environmental management plan are prepared in conformity with ADB's guidelines; assess the capacity of MGU for environmental

² ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

³ ADB. 2006. *Operations Manual*. Section F1: Environmental Considerations in ADB Operations. Manila.

assessment, management, and monitoring; and recommend measures for capacity building, if necessary.

8. Economic Analysis (international, 1 person-month; national, 2 person-months)

- (i) Review the economic analysis in the domestic feasibility studies and identify any divergence from ADB's *Guidelines for the Economic Analysis of Projects* and other relevant publications.⁴
- (ii) Review the economic rationale and the economic justification for each project component, and estimate the economic internal rate of return.
- (iii) Review the analysis of options and ensure that the least-cost option is identified.
- (iv) Apply the modern welfare theory to estimate the welfare impact of each project component on the poorest households and conduct a health impact analysis.
- (v) Develop economically-sound indicators of the project's health impacts.
- (vi) Evaluate the project's economic risks.

9. Social Assessment and Resettlement (international, 2 person-months; national, 2 person-months)

- (i) Estimate the number of properties, if any, to be resumed for each component of the proposed Project and estimate, to a level of accuracy sufficient for the pre-feasibility stage, the numbers of households and businesses expected to be displaced.
- (ii) Prepare socioeconomic and poverty profiles for the affected families.
- (iii) Review the initial resettlement plan prepared by the EA and assist the EA with finalizing the resettlement plan so it complies with ADB's *Involuntary Resettlement Policy* (1995).⁵ The resettlement plan must (a) quantify the types and degree of impact on the affected people, including income levels and sources, housing conditions, occupations, expenditure patterns, landholdings, skills base, and assets (production and living); (b) assess the socioeconomic conditions, needs, and priorities of women⁶ and vulnerable groups⁷ affected by land acquisition and resettlement; (c) formulate rehabilitation measures for the affected persons; and (d) prepare plans to retain or rebuild social and community networks in the new resettlement sites.
- (iv) Assess and justify that (a) the compensation standards are based on replacement value, (b) the overall resettlement budget is sufficient to implement the resettlement plan based on the proposed entitlements and rehabilitation plans, (c) relocation sites will be developed in consultation with affected persons, and (d) MGU has adequate plans and a budget for the provision of new urban and village infrastructure.
- (v) Prepare village relocation and economic rehabilitation plans for seriously affected villages and assess and justify that the overall resettlement budget is sufficient to acquire the land and implement the resettlement plan.
- (vi) Review the organizational structure and capacity for resettlement implementation and recommend improvements and actions required before the start of land acquisition.

⁴ ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

⁵ Further guidance is provided in ADB. 1998. *Handbook on Resettlement: A Guide to Good Practice*. Manila.

⁶ Further guidance is provided in ADB. 2003. *Gender Checklist: Resettlement*. Manila.

⁷ Defined as persons who are landless farmers, poor, disabled, elderly, unemployed workers, and/or illiterate.