



# Technical Assistance Report

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Project Number: 52084-001  
Transaction Technical Assistance Facility (F-TRTA)  
November 2018

## Southeast Asia Transport Project Preparatory Facility

This document is being disclosed to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

## ABBREVIATIONS

ADB	–	Asian Development Bank
COBP	–	Country Operations Business Plan
GMS	–	Greater Mekong Subregion
PDR	–	People’s Democratic Republic
QCBS	–	Quality- and cost-based selection
SERD	–	Southeast Asia Department
SETC	–	Southeast Asia Transport and Communications Division
TA	–	Technical Assistance
TASF	–	Technical Assistance Special Fund

## NOTE

In this report, “\$” refers to United States dollars.

<b>Vice-President</b>	Stephen P. Groff, Operations 2
<b>Director General</b>	Ramesh Subramaniam, Southeast Asia Department (SERD)
<b>Director</b>	Hiroaki Yamaguchi, Transport and Communications Division, SERD
<b>Team leader</b>	Markus Roesner, Principal Transport Specialist, SERD
<b>Team members</b>	Maria Carmela Abadeza, Senior Operations Assistant, SERD Meenakshi P. Ajmera, Principal Safeguards Specialist, SERD Joven Z. Balbosa, Principal Country Specialist, SERD Shunsuke Bando, Senior Country Specialist, SERD Jan Hansen, Senior Country Economist, SERD Oranuch Jetwattana, Senior Project Officer, SERD Shuji Kimura, Transport Specialist, SERD Takako Morita, Senior Counsel, Office of the General Counsel Marites Ortega, Project Analyst, SERD Michiko Suga, Senior Social Development Specialist, SERD Nargiza P. Talipova, Senior Portfolio Management Specialist, SERD Astra Velasquez, Safeguards Specialist (Environment), SERD Franzella Pinky Villanueva, Senior Operations Assistant, SERD

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## TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 52084-001
<b>Project Name</b>	Southeast Asia Transport Project Preparatory Facility	<b>Department/Division</b> SERD/SETC
<b>Nature of Activity</b>	Project Preparation, Capacity Development Facility	<b>Executing Agency</b> Asian Development Bank
<b>Modality</b>	Facility	
<b>Country</b>	CAM, LAO, PHI, THA	
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>
✓ Transport	Air transport	1.00
	Road transport (non-urban)	3.00
	Urban public transport	1.00
	<b>Total</b>	<b>5.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project Low
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>
Governance and capacity development (GCD)	Institutional development Organizational development	Some gender elements (SGE) ✓
<b>5. Poverty and SDG Targeting</b>		<b>Location Impact</b>
Geographic Targeting	No	Regional High
Household Targeting	No	
SDG Targeting	Yes	
SDG Goals	SDG9	
<b>6. Risk Categorization</b>	Complex	
<b>7. Safeguard Categorization</b>	Safeguard Policy Statement does not apply	
<b>8. Financing</b>		
<b>Modality and Sources</b>	<b>Amount (\$ million)</b>	
<b>ADB</b>	<b>5.00</b>	
Transaction technical assistance: Technical Assistance Special Fund	5.00	
<b>Cofinancing</b>	<b>0.00</b>	
None	0.00	
<b>Counterpart</b>	<b>0.00</b>	
None	0.00	
<b>Total</b>	<b>5.00</b>	
<b>Currency of ADB Financing: USD</b>		

## I. THE TECHNICAL ASSISTANCE FACILITY

### A. Justification

1. The regional transaction technical assistance (TA) facility will provide project preparation support and capacity building to a series of ensuing transport sector projects in Southeast Asian countries, initially comprising (i) Integrated Road Network Improvement Project (Cambodia); (ii) Additional Financing to Second Northern Greater Mekong Subregion (GMS) Transport Network Improvement Project (Lao People's Democratic Republic); (iii) Bataan–Cavite Bridge Project (Philippines); (iv) Laguna Lakeside Road Project (Philippines); (v) Manila Mass Rapid Transit Line 4 (Philippines); (vi) Bangkok Urban Transport Development - West Orange Line (Thailand); (vii) Regional Airports Improvement Project (Thailand); and (viii) Tak–Mae Sot Road Tunnel Project (Thailand). The TA facility and all ensuing projects are included in the draft Country Operations Business Plans (COBP) 2019–2021 for Cambodia, Lao People's Democratic Republic, Thailand and the Philippines.

2. To address needs of developing member countries for a higher number of larger, innovative and more technical complex projects, the transport sector pipeline for 2019–2021 includes 27 new loan and periodic financing request approvals for the years 2019–2021 with an estimated loan amount of \$7.2 billion and over \$12 billion on a facility basis. This is a significant increase of the portfolio from the existing 55 loans and grants with a cumulative effective loan amount of \$5.3 billion. The pipeline is on one side expanding into new subsectors such as railways, road tunnels and air transport in Thailand and large bridges and railway infrastructure investments in the Philippines. On the other hand, more traditional road projects in Cambodia and Lao PDR shall increase in size for better relevance of ADB's investment and reduced transaction cost. Therefore, these projects are proposed to be financed as larger investment programs through multitranche financing facilities (MFF) adopting the time-slicing approach. While these MFF are more complex to prepare and implement, they will ensure a long-term relationship with the government and help accelerate disbursement.

3. This significant increase in portfolio size will come together with a reduction of the number of projects financed, hence the individual projects will increase in size and complexity. Therefore, efforts to increase project readiness of these more complex and larger projects must be taken to avoid start-up delays caused by delays in procurement or safeguards implementation of newly approved projects. This will ensure relevant and sustainable interventions and will help to improve portfolio performance.

4. Lack of project readiness to meet ADB requirements governing procurement, selection of consultants, safeguards implementation especially for resettlement and land acquisition, and other thematic areas such as governance and gender have led to significant implementation delays. Furthermore, weak project implementation and management capacity of executing and implementing agencies has been a continuous challenge to improve portfolio performance. Specific issues have included (i) lack of government capacity to address complex project implementation challenges, particularly when a project needs restructuring; (ii) slow recruitment of consultants and procurement of works contracts; (iii) lack of attention to safeguards monitoring and reporting; (iv) poor contract management and construction supervision resulting in poor contractor and consultant performance and low quality works; and (v) lack of knowledge sharing on best practices and innovations across countries. Government unfamiliarity with ADB processes and poor communication with ADB project teams also contributed to poor project performance.

5. The TA facility will help to provide (i) stronger, better and faster project delivery through expanded use of regional approaches and faster delivery mechanisms, and (ii) improved generation and sharing of knowledge. The TA facility approach is therefore suitable as it will (i) enhance project preparation efficiency and improve readiness for transport sector projects; (ii) benefit from synergies by working with the same pool of consultants in different countries facing similar implementation challenges and policy issues, reduce lengthy consultant recruitment processes and improve knowledge transfer; and (iii) strengthen coordination. Overall, this TA will reduce transaction costs by minimizing the need for stand-alone transaction TAs, under which several consultant teams will be engaged. The TA will also provide capacity building support to ongoing projects, where required, especially in the transitional phase between project processing and project implementation around the time of loan approval and loan effectiveness. The ongoing projects are suffering from weak project implementation capacity and require similar technical specialist support for procurement, safeguards implementation and institutional strengthening.

6. The TA facility is aligned with the Asian Development Bank's (ADB) Strategy 2030 Vision for a prosperous, inclusive, resilient, and sustainable Asia and the Pacific. The TA will support Strategy 2030 operational priorities such as (i) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; (ii) making cities more livable; (iii) strengthening governance and institutional capacity; and (iv) fostering regional cooperation and integration by supporting project preparation and strengthening the capacity of executing and implementing agencies for effective project implementation.

## **B. Outputs and Activities**

7. **Output 1: Feasibility studies on ensuing projects prepared.** Support will be provided to prepare investment projects for potential ADB financing. This will include due diligence, assessment of technical feasibility and suitability of the proposed solution, economic, financial and social viability, institutional, financial management and procurement capacity, environmental and social safeguards assessments, and identify measures to strengthen project implementation capacity for ensuing investment projects. Deliverables will include, when required: (i) feasibility studies required for processing the ensuing investment projects; (ii) economic analysis; (iii) financial management assessment, financial evaluation and financial analyses; (iv) procurement capacity assessment, contract packaging and preparation of procurement plans, preparation of bid documents; (v) gender analysis, collection of baseline data and gender action plans; (vi) risk assessment and management plans; (vii) safeguards documents on environment, involuntary resettlement and indigenous peoples; and (viii) transport sector assessment. Activities under Output 1 will include capacity building on ADB procedures and modalities, especially on additional requirements for MFF in countries, where projects will be financed by MFF for the first time. Outputs prepared under the TA, such as feasibility studies and linked documents will be disseminated digitally and published on ADB's website.

8. **Output 2: Initial project implementation activities supported.** To avoid delays in the transition between project processing and project implementation, the consultants will provide support to the executing and implementing agencies especially in the areas of procurement and safeguards implementation. The support will be demand-driven and shall include support in preparing and carrying out the bidding process, including responding to questions during bidding, issuing addendum/corrigendum to bid documents, bid opening and bid evaluation and awarding the contract. With respect to land acquisition and resettlement, the executing and implementing agencies will be advised in carrying out the process in line with ADB procedures and prepare the necessary reports to be submitted to ADB for compliance.

9. **Output 3: Project management capacity of the executing agencies improved.** The experts working under outputs 1 and 2 will provide – in addition to the on-the-job training through their daily work with counterparts – additional training on ADB’s policies and procedures as well as international best practice in project design and implementation as well as on specialized issues as identified during TA implementation.

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

10. The TA facility is estimated to cost \$5,000,000, which will be financed on a grant basis by ADB’s Technical Assistance Special Fund (\$1,500,000 from TASF 6 and \$3,500,000 from TASF-other sources).<sup>1</sup> The key expenditure items are listed in Appendix 1. The governments will provide counterpart support in the form of counterpart staff, access to existing reports and data, and other in-kind contributions. The TA may be replenished from time to time as funds are required and identified or cofinancing from trust-funds becomes available. The governments will be informed that approval of the TA facility does not commit ADB to finance any ensuing projects.

### **D. Implementation Arrangements**

11. The TA activities for the ensuing projects will start only after ADB achieved an agreement with the concerned country to commence the activities. ADB will administer the TA. The TA scope is expected to cover other additional activities, consistent with the TA’s outputs and outcome. Requests for additional or other projects shall be made by the governments and the ensuing projects shall be included in the next COBP of the country.

12. The TA is categorized as complex based on the expected categorization of most of the ensuing projects as complex. A table indicating the expected project risk categorization of the ensuing projects and the funds allocated under the TA is in Appendix 2.

13. The Transport and Communications Division of the Southeast Asia Department (SETC) will select, administer, and evaluate consultants. SETC will supervise the consultants’ outputs to be delivered for the respective ensuing projects. Consultants services for each ensuing project, especially consulting works in the individual country, will only start after an agreement on the scope of works, terms of reference for the consultants, implementation arrangements and schedule, etc. has been confirmed.<sup>2</sup>

14. The TA facility will be implemented over 36 months, commencing in December 2018. The implementation arrangements are summarized in the table.

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<sup>1</sup> Country eligibility for ADB’s Technical Assistance Special Fund: Cambodia and Lao PDR for TASF 6; Cambodia, Laos PDR, the Philippines and Thailand for TASF-other sources.

<sup>2</sup> The confirmation by the government may be either in the form of signing of a TA-letter or by signing a Memorandum of Understanding or by confirmation of an Aide Memoire.

**Table: Implementation Arrangements**

Aspects	Arrangements																					
Indicative implementation period	December 2018–December 2021																					
Executing agency	ADB																					
Consultants	To be selected and engaged by ADB																					
	<table border="1"> <tbody> <tr> <td>Firm: QCBS (90:10)</td> <td>Road project preparation (CAM)</td> <td>\$1,000,000</td> </tr> <tr> <td>Firm: QCBS (90:10)</td> <td>Road project preparation (LAO)</td> <td>\$500,000</td> </tr> <tr> <td>Firm: QCBS (90:10)</td> <td>Regional airport development (THA)</td> <td>\$750,000</td> </tr> <tr> <td>Firm: QCBS (90:10)</td> <td>Metro project preparation (THA)</td> <td>\$250,000</td> </tr> <tr> <td>Firm: QCBS (90:10)</td> <td>Road tunnel study (THA)</td> <td>\$500,000</td> </tr> <tr> <td>Individual: Framework agreement</td> <td>International expertise (20 person-months)</td> <td>\$450,000</td> </tr> <tr> <td>Individual: Individual selection</td> <td>National expertise (45 person-months)</td> <td>\$450,000</td> </tr> </tbody> </table>	Firm: QCBS (90:10)	Road project preparation (CAM)	\$1,000,000	Firm: QCBS (90:10)	Road project preparation (LAO)	\$500,000	Firm: QCBS (90:10)	Regional airport development (THA)	\$750,000	Firm: QCBS (90:10)	Metro project preparation (THA)	\$250,000	Firm: QCBS (90:10)	Road tunnel study (THA)	\$500,000	Individual: Framework agreement	International expertise (20 person-months)	\$450,000	Individual: Individual selection	National expertise (45 person-months)	\$450,000
Firm: QCBS (90:10)	Road project preparation (CAM)	\$1,000,000																				
Firm: QCBS (90:10)	Road project preparation (LAO)	\$500,000																				
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Firm: QCBS (90:10)	Road tunnel study (THA)	\$500,000																				
Individual: Framework agreement	International expertise (20 person-months)	\$450,000																				
Individual: Individual selection	National expertise (45 person-months)	\$450,000																				
Advance contracting	Consulting contracts are proposed for advance contracting.																					
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).																					
Asset turnover or disposal arrangement upon TA completion	Procurement of assets is not planned under this TA.																					

ADB = Asian Development Bank; CAM = Cambodia; LAO = Lao People's Democratic Republic; QCBS = quality- and cost-based selection; TA = Technical Assistance; THA = Thailand.

Source: Asian Development Bank's estimates.

15. **Consulting services.** ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. Consulting firms will be engaged following either the quality- and cost-based selection method, with a quality-cost ratio of 90:10 due to the complexity of the ensuing projects and the requirement for specialized consulting firms. Terms of Reference for consulting services supported by the TA Facility are in Appendix 3. Individual international consultants and consultant firms, to the extent possible, will be engaged to support the preparation of more than one project. The consultants will consist of transport specialists as primary experts, including engineers, economic, financial, procurement, social, environmental, gender expertise, and other experts as required. The experts will have experience in their respective fields and demonstrate sound technical knowledge of road, rail and air transport sector. Disbursements under the TA facility will be made in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

## E. Governance

16. Since ADB is the executing agency, the financial management, procurement and integrity risks during TA implementation are assessed to be low. However, thorough risk assessments for financial management, procurement, and integrity for ensuing investment projects implemented in any of the target countries will be conducted under the TA.



## II. THE PRESIDENT'S DECISION

17. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$5,000,000 on a grant basis for the Southeast Asia Transport Project Preparatory Facility, and hereby reports this action to the Board.

Takehiko Nakao  
President

16 November 2018

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

Item	Amount
<b>A. Asian Development Bank<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	2,550.0
ii. National consultants	1,210.0
b. Out-of-pocket expenditures	
i. International and local travel	250.0
ii. Training, seminars, and workshops	80.0
iii. Reports and communications	80.0
iv. Miscellaneous administration and support costs <sup>b</sup>	80.0
2. Surveys	250.0
3. Knowledge Product <sup>c</sup>	10.0
4. Contingencies	490.0
<b>Total</b>	<b>5,000.0</b>

Note: The technical assistance (TA) is estimated to cost \$5,000,000, of which contributions from the Asian Development Bank are presented in the table above. The governments will provide counterpart support in the form of counterpart staff, office accommodation, existing data, reports and studies, and other in-kind contributions.

<sup>a</sup> Financed by the Asian Development Bank's Technical Assistance Special Fund (\$1.5 million for TASF 6 and \$3.5 million for TASF-other sources).

<sup>b</sup> Miscellaneous administration and support costs may include e.g. secretarial support, local transport, communication cost as required for the individual project preparation.

<sup>c</sup> To support preparation of a knowledge brief for at least one project prepared under the TRTA Facility.

Source: Asian Development Bank estimates.

**Table A2.1: Indicative Technical Assistance Budget Allocation**

<b>Item</b>	<b>Country</b>	<b>Indicative risk category</b>	<b>Budget Allocation (\$'000)</b>
Project 1: Integrated Road Network Improvement Project	Cambodia	complex	1,000.0
Project 2: Additional Financing to Second Northern GMS Transport Network Improvement Project	Lao PDR	low risk	500.0
Project 3: Bataan–Cavite Bridge	Philippines	complex	350.0
Project 4: Laguna Lakeside Road	Philippines	complex	350.0
Project 5: Manila Mass Rapid Transit Line 4	Philippines	complex	300.0
Project 6: Bangkok Urban Transport Development – West Orange Line	Thailand	complex	500.0
Project 7: Regional Airports Improvement	Thailand	complex	1,000.0
Project 8: Tak–Mae Sot Road Tunnel	Thailand	complex	1,000.0
<b>Total (TRTA-Facility)</b>		<b>complex</b>	<b>5,000.0</b>

PDR = People's Democratic Republic.  
Source: Asian Development Bank estimates.

**Table A2.2: Indicative Consultants' Input Allocation**  
(person-month)

Item	Total	Project 1 Complex	Project 2 Low Risk	Project 3 Complex	Project 4 Complex	Project 5 Complex	Project 6 Complex	Project 7 Complex	Project 8 Complex
<b>International Experts</b>									
Roads Engineer	14.0	3.0	2.0					3.0	6.0
Metro Engineer	2.0						2.0		
Transport Planner	9.0						2.0	4.0	3.0
Airport Engineer	4.0							4.0	
Tunnel and Geological Engineer	6.0								6.0
Transport Economist	18.0	3.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0
Procurement Expert	9.0	3.0	2.0				2.0	1.0	1.0
Financial Management Expert	5.0	2.0	1.0	0.5	0.5		1.0		
Environment and climate change Expert	13.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Social safeguards and resettlement Expert	13.0	3.0	2.0	1.0	1.0	2.0	2.0	1.0	1.0
Gender Expert	7.0	2.0	2.0	0.5	0.5		1.0	0.5	0.5
<b>Total (A): International Experts</b>	<b>100.0</b>	<b>19.0</b>	<b>13.0</b>	<b>6.0</b>	<b>6.0</b>	<b>5.0</b>	<b>13.0</b>	<b>17.5</b>	<b>20.5</b>
<b>National Experts</b>									
Transport Planner	20.0	4.0	4.0					6.0	6.0
Procurement Expert	13.0	4.0	4.0					3.0	2.0
Environment and climate change Expert	33.0	3.0	3.0	6.0	6.0	2.0	2.0	5.0	6.0
Social safeguards and resettlement Expert	35.0	6.0	6.0	2.0	2.0	6.0	5.0	4.0	4.0
Gender Expert	19.0	3.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
<b>Total (B): National Expert</b>	<b>120.0</b>	<b>20.0</b>	<b>20.0</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	<b>20.0</b>	<b>20.0</b>

Project 1: Integrated Road Network Improvement Project (Cambodia); Project 2: Additional Financing to Second Northern GMS Transport Network Improvement Project (Lao People's Democratic Republic); Project 3: Bataan–Cavite Bridget Project (Philippines); Project 4: Laguna Lakeside Road Project (Philippines); Project 5: Manila Mass Rapid Transit Line 4 (Philippines); Project 6: Bangkok Urban Transport Development - West Orange Line (Thailand); Project 7: Regional Airports Improvement Project (Thailand); Project 8: Tak–Mae Sot Road Tunnel Project (Thailand).

Source: Asian Development Bank estimates.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/LinkedDocs/?id=52084-001-TARreport>

1. Terms of Reference for Consultants



## TERMS OF REFERENCE FOR CONSULTANTS

### A. Indicative Consulting Services

1. Firms and individual consultants will be recruited based on the requirements of each technical assistance (TA) project under the facility. Consulting firms will be engaged following either the quality- and cost-based selection method, with a quality-cost ratio of 90:10 due to the complexity of the ensuing projects and the requirement for specialized consulting firms, using simplified or biodata technical proposal procedures; or consultant's qualification selection, as appropriate. Individual consultants will be selected using the individual consultant's selection method and will be engaged to provide specialized technical and administrative inputs to fulfill Asian Development Bank (ADB) due diligence requirements and enhance project readiness. Recruitment of all consultants under the TA will be carried out in accordance with ADB's Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and staff instructions. Lump-sum or output-based contracts will be considered where possible for consulting services by firms under the TA.

2. A range of consultant inputs will be needed for the preparation of each project. The consulting services presented here are indicative. The projects will require the services of project specific technical specialists as well as recurring specialist positions. Consultants services for each ensuing project, especially consulting works in the individual country, will only start after an agreement on the scope of works, terms of reference for the consultants, implementation arrangements and schedule, etc. has been confirmed. Indicative consultant requirements are listed in Table 1. Consulting services will be finalized during the preparation of individual TA project terms of reference. These outlines for terms of reference for recurring positions are described in paras. 3-13.

**Table 1: Summary of potentially required expertise of consultants**

Expertise	Origin
Roads Engineer	International
Metro Engineer	International
Transport Planner	International and national
Airport Engineer	International
Tunnel and Geological Engineer	International
Transport Economist	International
Procurement Expert	International and national
Financial Management Expert	International
Environment and climate change Expert	International and national
Social safeguards and resettlement Expert	International and national
Gender Expert	International and national

Source: Asian Development Bank.

### B. Terms of Reference

3. **Roads Engineer** (international). The expert will (i) review existing Road Sector Master Plans including the recommendations for priority road improvements and/or construction of new roads or bypasses to avoid bottlenecks in the road network, recommend areas for updating and further study/verification; (ii) review the design parameter for the proposed road sections based on the traffic forecast, modal split for road users and habits of road users; (iii) review and supplement, where required, the road safety assessment for the road sections identified for ensuing projects; (iv) review and update the design for the road sections to be included in the

ensuing loan, review and update the cost estimate, construction schedule, contract packaging and procurement plan; (v) review and supplement the technical specifications for pavements, earthworks, culverts, bridges etc. to be included in the bid documents; (vi) assess the capacity and implementation arrangements for road asset management, operation and maintenance and suggest strengthening, where required; (vii) recommend areas for training and capacity building in the executing and implementing agency.

4. **Metro Engineer** (international). The expert will (i) review the design of the proposed metro line including main line, stations, depots and multimodal facilities based on the technical design, demand forecast, existing transport master plans and city development plans, traffic forecasts etc. and recommend adjustments of the design and/or areas for additional study, if required; (ii) review and update, where required, design criteria of the metro system; (iii) review and suggest improvements of multimodal facilities to achieve maximum integration of the metro line with other modes of transport including non-motorized transport and integration with other modes of public urban transport; (iv) review, based on the demand forecast and emergency scenarios, the station design, access, dimensions of stairs etc. and recommend improvements, if required; (v) review the station layout with respect to accessibility for elderly and disabled persons; review the cost estimates, bid documents, contract packaging and procurement plans for ensuing projects; (vi) assess the capacity and implementation arrangements for asset management, operation and maintenance and suggest strengthening, where required; (vii) recommend areas for training and capacity building in the executing and implementing agency.

5. **Transport Planner** (international and national). The expert will (i) review existing master plans, studies and traffic forecasts for the ensuing road, metro, airport and tunnel projects and recommend areas for additional studies and surveys, if required; (ii) review the proposed design with respect to the demand forecast and assumed growth scenarios; (iii) review the prioritization of projects and recommend adjustments, if necessary, to ensure viability and sustainability of the ensuing loans; (iv) in cooperation with other technical expert, the transport economist and safeguards experts, suggest adjustments in the design criteria, implementation schedules, project alignment and/or multimodal integration of the projects and their components.

6. **Airport Engineer** (international). The expert will: (i) review Department of Airports (DOA) of the Government of Thailand's Master Plan, with special attention to prioritized projects, and select those projects most suitable for inclusion in the ensuing loan; (ii) validate and update the recommendations of existing infrastructure development plans relating to the physical development of airports inclusive of terminals, runways, taxiways, aprons, air cargo, flight catering, aviation fuel, operational and airline facilities, airport road system, car parking, and commercial space, and possible hotel, convention or real estate development on airport lands; (iii) review the design of pavements, buildings and other infrastructure components, including electrical, mechanical and lighting, installations, as well as fire and rescue vehicles, equipment, supply and personnel, for improvement of operational safety and security, and the current status of safety and standards; (iv) recommend any changes to design necessary to account for safety, security, and environmental factors; changes will include outline designs and technical specifications, with reference to engineering design practices of DOA, and ICAO Standards and Recommended Practices, and international best practices; (v) prepare detailed lists of materials, facilities, equipment and work, making revisions as necessary, and cost estimates (including training and capacity development), broken into foreign exchange and local currency cost components, and taxes; (vi) review DOA's procurement arrangement and technical specifications, prepare a procurement plan and recommendations to improve technical standards based on international best practice.



7. **Tunnel and Geological Engineer** (international). The expert will (i) review existing studies, technical specifications and designs for the proposed tunnel including the construction method and geological situation; (ii) review the construction method based on available information and international best practice, study alternative construction methods including benefits and risks and recommend adjustments of the technical project design; (iii) recommend areas, where additional surveys or investigations may be required, if applicable; review and update the cost estimate, construction timeline, specifications, method statements, safety plans for construction and operation of the tunnel; and (iv) recommend arrangements to ensure safety and necessary inspections during operation and maintenance of the tunnel, including training requirements for operation and maintenance staff as well as for user of the tunnel and rescuers, who might be involved in operations in the tunnel during incidents and emergencies.

8. **Transport Economist** (international). The expert will conduct economic analyses of each project following ADB's Guidelines for the Economic Analysis of Projects (1997), Key Areas of Economic Analysis of Investment Projects: An Overview (2013), Cost-Benefit Analysis for the Development - Practical Guide (2013) and ADB's Financial Management and Analysis of Projects (2005). The expert will: (i) assess the macroeconomic and the sector contexts; (ii) assess demand and supply of goods produced with support of the project, including examining opportunities to access the broader regional markets for agricultural products; (iii) identify and establish economic rationale of the public sector involvement; (iv) analyze least-cost investment options to achieve the project objective; (v) undertake economic cost-benefit analysis of each project; (vi) assess financial and institutional sustainability; (vii) undertake a distribution analysis to quantify which project main beneficiary and stakeholder groups will gain benefits and bear costs and what extent; (viii) undertake sensitivity analysis on key risks affecting the economic viability of the projects, and propose for measures of risks; (ix) prepare an economic and financial analysis reports; (x) provide other necessary inputs relevant to cost estimates and financing plan; and (xi) prepare the climate change financing estimates for projects, where applicable.

9. **Procurement expert** (international and national). The expert will: (i) conduct procurement risk assessments and procurement capacity assessments of the executing and implementing agencies to undertake procurement and consultant recruitments envisaged under the ensuing projects; (ii) prepare a procurement plan, including: (a) contract packages indicating the procurement method for each contract and the source of financing; and (b) indicative procurement schedule and implementation schedule indicating the tasks on the critical path; (iii) assess the capacity of the executing and implementing agencies for project implementation, and prepare training proposals to be included in the project; (iv) provide necessary training on project management, procurement, and consulting services; and (v) assist in developing the DMF and performance targets.

10. **Financial Management Expert** (international). The expert will: (i) conduct a financial management assessment of the executing and implementing agencies, including (a) assessing whether previous financial management assessments have been conducted by ADB or other agencies and, if so, reviewing the results and ascertaining whether these can be used as input, (b) assessing capacity for planning and budgeting, management and financial accounting, reporting, auditing, internal controls, and information systems (c) reviewing proposed disbursement and funds-flow arrangements, and (d) concluding on the financial management risk rating and identifying and confirming measures for addressing identified deficiencies; (ii) support the preparation and agreement of cost estimates and a financing plan, which are based on verifiable data and are sufficient to support project implementation; (iii) prepare financial projections and conducting financial analyses of the executing and implementing agencies, and incremental recurrent costs, to determine financial sustainability, and reviewing proposed cost-

recovery and tariff policies, including affordability; (iv) conduct financial evaluations (financial cost-benefit analyses) including sensitivity analyses of project components that have a cost-recovery objective; (v) where significant risks are identified to project financial sustainability or viability, proposing relevant financial performance indicators to be incorporated in financial covenants; and (vi) assess and reach agreement on financial reporting, auditing and public disclosure arrangements for the project, and, as appropriate, identifying and agreeing arrangements for receiving financial statements from executing and/or implementing agency.

11. **Environment and climate change expert** (international and national). The expert will: (i) assess possible environmental impacts of each project and propose the categorization of the project and prepare and finalize REA checklists; (ii) define the project's area of influence; (iii) identify and assess the impacts of associated facilities that are not funded by the project, and whose viability and existence depend exclusively on the project and whose goods and services are essential for successful operation of the project; (iv) identify and assess potential transboundary issues; (v) assess community and occupational health and safety issues. (vi) prepare, based on the categorization, an environmental assessment and review framework (EARF), environmental impact assessment (EIA) or initial environmental examination (IEE) as applicable, and prepare comprehensive environmental assessment including EMP which complies with ADB requirements and ADB's Safeguard Policy Statement (2009). The environmental assessment will identify potential direct, indirect, cumulative and induced impacts and risks to physical, biological, socioeconomic including health and safety and physical cultural resources in the context of project's area of influence, provide description of habitats and biodiversity values, general characterization of the project area in relation to regional environmental resources and values, project boundary and zone of influence, potential environmental benefits and impacts, public consultations, an environmental management plan (EMP) comprising mitigation measures, monitoring program and cost estimates, institutional arrangements, implementation schedule, and grievance redress mechanism; (vii) develop a monitoring program for integration within the project performance monitoring system to be prepared by the team leader; and (viii) provide necessary inputs to the draft report and recommendation of the President. With respect to climate change, the expert will: (i) collect data for project sites; (ii) identify climate hazards and threats and their impact on the project areas, including projected climate change impacts, spatial distribution of environmental disaster risks, as well as loss and damage from such impacts; (iii) review current land use management practices and identify practices that increase or decrease climate hazards and risks; (iv) make recommendations in regard to climate change adaptation and mitigation options; (v) contribute to consultations and workshops to inform and jointly review TA results with project stakeholders; and (vi) prepare the climate risk and vulnerability report, as well as other, provide inputs for other reports required by ADB.

12. **Social development and resettlement expert** (international and national). The expert will: (i) document the socioeconomic conditions of project affected persons, including ethnic minorities, permanent and seasonal workers, types of positions/occupation held, and work conditions; (ii) conduct census survey and prepare inventory of losses (ii) document data on land use and whether the project will cause any physical and/or economic displacement, and prepare a due diligence report on land use; (iii) assist the executing agency in preparing a resettlement framework (RF), indigenous peoples planning framework (IPPF), resettlement plan and indigenous people's development plan, if required in accordance with ADB's SPS; (iv) conduct a poverty, social, and gender analysis; (v) prepare a consultation and participation plan; (vi) prepare a poverty and social assessment, gender action plan and a social action plan; (vii) conduct a labor analysis; (viii) identify project opportunities to strengthen project benefits for local stakeholders, including ethnic minorities and/or vulnerable and marginalized communities; (ix) propose the

categorization of the project for resettlement and indigenous people; (x) collect data on land use for the project activities and conduct due diligence to ascertain whether it triggers safeguard requirements on involuntary resettlement of ADB's Safeguard Policy Statement (2009); and (xi) prepare resettlement plans and indigenous people plans, if required.

13. **Gender Expert** (international and national). The expert will carry out due diligence of the proposed projects in line with (i) ADB documents on the requirements for gender mainstreaming, including the Policy on Gender and Development (1998), Operations Manual C2 on Gender and Development in ADB Operations (2010), Guidelines for Gender Mainstreaming Categories (2011), Gender Tipsheet No.1 on Understanding and Applying Gender Mainstreaming Categories (2013), and Gender Tipsheet No. 2 on Preparing a Project Gender Action Plan (2013); (ii) conduct a detailed gender analysis related to the proposed project and prepare the draft and final reports (max. 25 pages excluding annexes), guided by ADB's Gender and Transport Toolkit (2013); (iii) based on the gender analysis, recommend to integrate gender design features in the project Design and Monitoring Framework (DMF), and develop a Gender Action Plan (GAP) that mirror the DMF outputs and includes gender-inclusive design features, gender targets and indicators, time lines, assigned responsibilities, implementation arrangements, and cost estimates for implementation; (iv) prepare the Summary Poverty Reduction and Social Strategy; provide gender inputs in all relevant project documents (RRP, Sector Assessment, Project Administration Manual, Loan Agreements, Environmental Assessment and Review Framework, and Resettlement Framework); and prepare the TOR for the Social Development and Gender Specialist for GAP implementation support; and (v) provide technical guidance to TRTA due diligence team, ADB and government, as needed, and perform other tasks reasonably related to the above-tasks as requested by the Project Officer.

### C. Knowledge Product

14. **Preparation of a knowledge brief.** The following activities shall be included in the detailed terms of reference for at least one of the projects prepared under the TA. The activities shall include, but not be limited to the following: (i) based on the criteria agreed upon by ADB – and where appropriate the executing agency (EA) or implementing agency (IA) – identify the key practices targeted for capture, indicating their potential for replication/scaling-up; (ii) prepare summaries of these practices, providing evidence on their value addition for future projects. This should include “how to” steps for replication or scaling up; (iii) in consultation with supervising ADB staff, plan and conduct a lessons learned session to serve as venue for project partners to (a) reflect and agree on both positive experiences and challenges, and the lessons learned from the project; (b) decide on the replicable and actionable practices to be promoted; and (c) finalize the content, form, and delivery dates of the knowledge product (KP) to be produced to disseminate lessons learned and best practices; (iv) based on these consultations, prepare summaries of lessons learned; (v) draft the KP and share with the project team before finalization; (vi) ensure that the KP (if it is to be shared externally) accords with ADB publishing guidelines, or for posting on ADB's knowledge webpage, [development.asia](http://development.asia); and (vi) recommend other activities to support widespread project knowledge sharing and dissemination, including short videos, multimedia, or other e-content for online platforms.