



DELIBERASAUN N. 78/VI/CAFI/2025

Conselho de Administração do Fundo das Infraestruturas – CAFI, bazeia ba artigo 10º (1) e (3) DL Nº. 25/2024, de 22 de maio, Primeira Alteração ao DL Nº.13/2016, 18 de Maio, realiza reuniaun Extraordinária iha loron Segunda-feira, 16 de junho de 2025, e halo deliberasaun ba assunto tuir mai ne'e:

Asuntu: Pedidu Aprovasaun no autorizasaun despesas nune'e mos Konfirma Finansiamantu iha FI 2025 ba projetu “*Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport*”.

Proponente: Ministério dos Transportes e Comunicações - MTC

Notas/justifikasi saun:

- Asuntu refere apresenta no aprova ona iha reuniaun extraordinaria CAFI iha loron Segunda-feira, 16 de junho de 2025, iha agenda iha parte III diversus ne'ebe apresenta husi Projetu nain/MTC;
- Bazeia ba karta pedidu ne'ebe SGP simu husi Ministério dos Transportes e Comunicações ho karta no. Ref.; 187/IX-GOV/G-MTC//VI/2025, data 17 de junho de 2025 ho assuntu Pedido atu emite deliberasaun CAFI kona ba “*Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport*”;
- Bazeia ba karta ho no.ref.: 212/GMPIE/VI/2025, data 16 de junho de 20025, husi Ministro do Planeamento e Investimento Estratégico, hato'o ba Ministro dos Transportes e Comunicações ho asuntu: Encaminhamento de documentos resultado de verificação do “*ToR Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport*”;
- Bazeia ba resultadu verifikasaun ADN, I.P. nian ho karta no. Ref.: 0363/UAP/ADN, I.P./III/2025, data 7 de marsu de 2025, ho asuntu Entrega resultadu verifikasaun – ToR “*Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport*”, ho montante verifikadu \$ 413,975.00;
- Desizaun kona ba abertura ka inisiasaun prosesu aprovisionamentu bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
- DL Nº. 25/2024, de 22 de maio, Primeira Alteração ao DL Nº.13/2016, 18 de Maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento projetu FI nian sei lao tuir Regime Juridiku Aprovizionamento em vigor. Modalidade aprovisionamento sei lao tuir Regime Juridiku Aprovizionamento em vigor;
- Aloksaun orsamentu iha FI 2025: \$ 0, Programa 502: Transportes, kodigu atividade 5020337: DED for Public Transport;

DELIBERASAUN N.º78/VI/CAFI/2025



IX GOVERNO CONSTITUCIONAL
MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



Conselho de
Administração

- Projetu nain sei assume responsabilidade hodi assegura orsamentu ba Ezekusaun no Implementasaun projetu;
- Projetu nain konfirma katak sei assume responsabilidade ba monitorizasaun e akompanhamentu ba ezekusaun projetu ne'e no sei garante kualidade servisu nian tuir padraun no espesifikasaun ne'ebe aprova ona;

Lista Proposta:

Naran projetu	Kustu estimativa verifikasiadu husi ADN,IP/ referensia	Alokasaun orsamentu FI 2025
Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport	\$ 413,975.00; no. Ref.: 0363/UAP/ADN, I.P./III/2025, data 7 de marsu de 2025	<ul style="list-style-type: none">• Alokasaun orsamentu iha FI 2025: \$ 0,• Programa 502: Transportes,;• Kodigu atividade 5020337: DED for Public Transport.

Rekomendasaun:

- 1) CAFI atu aprova no autoriza despeza no kustu total ba projetu nune'e mos konfirma finansiamentu iha FI 2025 ba projetu "**Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport**" ho kustu estimativa ADN, I.P. \$ 413,975.00
- 2) Desizaun kona ba abertura ka inisiasaun prosesu aprovisionamento bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
- 3) CAFI nudar orgão competente ba aprovasaun no autorizasaun despezas bazeia ba DL no. 23/2022, de 19 de maio;
- 4) DL N°. 25/2024, de 22 de maio, Primeira Alteração ao DL N°.13/2016, 18 de Maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento projetu FI nian sei lao tuir Regime Juridiku Aprovizionamento em vigor. Modalidade aprovisionamento sei lao tuir Regime Juridiku Aprovizionamento em vigor;
- 5) Decreto-Lei N.º 1/2025 de 8 de Janeiro, Código do Aprovisionamento e dos Contratos Públicos;
- 6) Projetu nain sei assume responsabilidade hodi assegura orsamentu ba Ezekusaun no Implementasaun projetu;
- 7) Projetu nain sei assume responsabilidade ba koordenasau entre entidade relevantes ba implementasaun projetu ne'e, e ba supervizaun, monitorizasaun e akompanhamentu ba projetu ne'e iha faze implementasaun, e sei garante kualidade servisu nian tuir espesifikasaun nebe aprova ona;

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Desizaun:

1. CAFI aprova no autoriza despeza no kustu total ba projetu nune'e mos konfirma finansiamentu iha FI 2025 bazeia ba pedidu husi projeto nain MTC;
2. Desizaun kona ba abertura ka inisiasaun prosesu aprovisionamentu bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
3. CAFI nudar orgão competente ba aprovasaun no autorizasaun despezas bazeia ba DL no. 23/2022, de 19 de maio;
4. DL Nº. 25/2024, de 22 de maio, Primeira Alteração ao DL Nº.13/2016, 18 de Maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento projetu FI nian sei lao tuir Regime Juridiku Aprovizionamento em vigor. Modalidade aprovizionamento sei lao tuir Regime Juridiku Aprovizionamento em vigor;
5. Decreto-Lei N.º 1/2025 de 8 de Janeiro, Código do Aprovisionamento e dos Contratos Públicos;
6. Projetu nain sei assume responsabilidade hodi assegura orsamentu ba Ezekusaun no Implementasaun projetu;
7. Projetu nain sei assume responsabilidade ba koordenasaun entre entidade relevantes ba implementasaun projetu ne'e, e ba supervizaun, monitorizasaun e akompanhamentu ba projetu ne'e iha faze implementasaun, e sei garante kualidade servisu nian tuir espesifikasiada nebe aprova ona;
8. Lista aprovasaun CAFI:

Naran projetu	Kustu estimativa verifikadu husi ADN,IP	Alokasaun orsamentu FI	Orgaun Kompetênti - DL No. 23/2022, 19 de Maio
Consultancy Service for the Detail Engineering Design (DED) of the New Construction for Public Transport	\$ 413,975.00; no. Ref.: 0363/UAP/ADN , I.P./III/2025, data 7 de marsu de 2025	<ul style="list-style-type: none">• Alokasaun orsamentu iha FI 2025: \$ 0,• Programa 502: Transportes,;• Kodigu atividade 5020337: DED for Public Transport.	<ul style="list-style-type: none">• CAFI : Konfirmasasaun Finansiamentu;• CAFI: alinea 1 (b) Artigo Artigo 5.º Competência para a autorização da despesa.

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IX GOVERNO CONSTITUCIONAL
MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



Conselho de
Administração

Aprovado husi CAFI iha loron 16 de Junho de 2025.

O Conselho de Administração do Fundo das Infraestruturas

O presidente,



Gastão Francisco de Sousa

Ministro do Planeamento e Investimento Estratégico



Santina José Rodrigues Ferreira Viegas Cardoso

Ministra das Finanças



Miguel Marques Gonçalves Manetelu

Ministro dos Transportes e Comunicações

Samuel Marçal

Ministro das Obras Públicas

DELIBERAÇAUN N.º78/VI/CAFI/2025

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IX GOVERNO CONSTITUCIONAL
MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



**Conselho de
Administração**

Annexo:



REPÚBLICA DEMOCRÁTICA DE TIMOR-LESTE
Ministério do Planeamento e Investimento Estratégico
Fundo das Infraestruturas

NOTA DE DESPAICHO

1. ORIGEM DO DOCUMENTO

No Ref;187/ IX-GOV/G-MTC/VI /2025

Data do Documento : 17 / 06 /2025

Proveniência do Documento

MTC

2. DETALHES DO DOCUMENTO

Data Entrada do Documento: 17 / 06/2025

Enviado ao:

1. Sr/ Mauricio Borges

2. Sr/a _____

3. Sr/a _____

4. Assessores Nacionais / Internacionais

Assunto:

Pedidu atu emite deliberaсаun CAFI kona-ba " Consultancy Service" ba Detail Engineering Design & DED) ba Konstrusaun Transportes PúBLIKU iha Timor-Leste

3. INSTRUÇÃO DO DIRETOR DO SGP

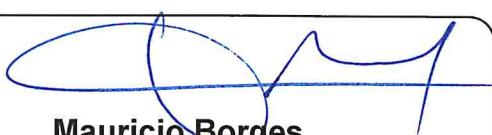
Data do Despacho: 17 / 06 /2025

Para Sr/a

1. Sr/a Maria Farke
2. Sr/a Maria Viana
3. Sr/a Ingrêcio de Jesus

Despacho:

Assinatura :


Mauricio Borges



MINISTÉRIO DOS TRANSPORTES E COMUNICAÇÕES
GABINETE DO MINISTRO

Avenida Presidente Francisco Xavier do Amaral – Caicoli, Díli, Timor-Leste
(+670 77364453 / 77756383)



Dili, 17 de junho de 2025

No.: 107/IX-GOV/G-MTC/VI/2025

Hato' o ba: Ex cia Senhor Maurício Borges
Diretor do Secretariado dos Grandes Projetos do Fundo das Infraestruturas SGP-FI

Asuntu: Pedidu atu emite deliberasaun CAFI kona-ba "Consultancy Service" ba *Detail Engineering Design (DED)* ba Konstrusaun Transportes Públiku iha Timor-Leste

Exelénsia,

Haktuir ba Desizaun CAFI iha Iorom 16 fulan Juñu 2025, ne'ebé autoriza ba aprovizionamentu ba *Consultant Service* ba *Detail Engineering Design (DED)* ba transportes públikus nian, mak hau solisita ba Secretariado Grande Projeto (SGP) atu emite deliberasaun CAFI nian ba asuntu refere hodi procede ba etapa tuir mai.

Konsidera ba nesesidades atu loke prosesu aprovizionamentu iha CNA ho urjente, maibe kompriende katak, prosesu refere sei depende ba deliberasaun CAFI, nune'e, mak ami sei apresia se deliberasaun ida ne'e emite no envia ba MTC ho karater urjente.

Ba ita boot nia atensaun no servisu hamutuk, hato' o obrigadu wain.

Kordialmente,



Asesór Polítika, Planeamentu, Relasauun Pública, Kooperasaun no Parseria



**MINISTÉRIO DO PLANEAMENTO
E INVESTIMENTO ESTRATÉGICO
IX GOVERNO CONSTITUCIONAL
GABINETE DO MINISTRO**



Díli, 16 de junho de 2025

N.º Ref. : 210/GMPIE/VI/2025

Para : Sua Excelência

Ministro dos Transportes e Comunicações,

Senhor Miguel Marques Manetelu

Assunto : Encaminhamento de documentos resultado de verificação do "TOR Consultancy Services for the details Engineering Design of the New Constration for Public Transport"

Excelência,

Antes de mais aceite, Excelência, os meus melhores cumprimentos.

Em referência ao assunto em epígrafe, venho, pelo presente remeter a Vossa Excelência o "TOR Consultancy Services for the details Engeneering Design of the New Constration for Public Transport" enviados pela ADN, em anexo.

Sem outro assunto de momento, subscrevo-me apresentando a Vossa Excelência os protestos da minha mais elevada estima e distinta consideração.


Gastão Francisco de Sousa
Ministro do Planeamento e Investimento Estratégico

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16 06 25 17 30
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MINISTÉRIO DO PLANEAMENTO
E INVESTIMENTO ESTRATÉGICO
IX GOVERNO CONSTITUCIONAL
GABINETE DO MINISTRO

Encaminhar f/ MTC



Data : 16 de Junho de 2025
Nú. Ref : 913 /CG-GMPIE/VI/2025
Bodik ba : Exc^{mo} Sr. Gastão Francisco de Sousa
Ministro do Planeamento e Investimento Estratégico

Assunto : Apresentar o resultado verificação, sobre TOR Consultancy Services for the detail Engineering Design of the New Construction for Public Transport.

Excelencia Senhor Ministro,

Informa ba Excelencia Ministro, resultado verificação, nebe ADN finalisa ona konaba, Term of Reference (TOR) Consultancy Services for the detail Engineering Design of the New Construction for Public Transport.

Chefe Gabinete presisa klarifikasi ba Excelencia Ministro, tamaba saida mak, dokumento husi ADN apresenta iha fulan Março 2025, e agora fulan Junho (iu fulan tolu nia laran) foim mak apresenta atu hetan despacho.

Rasaun tarde ne'e tamba dalaruma tarde tamba, Excelencia nian atividades nebe barak, nune mos bainaka, nebe lakonsege hasai despacho ba tekniku sira.

Ho ida ne'e, ohin Chefe Gabinete apresenta hikas fali, ba Excelencia Ministro karik bele hasai Despacho ba Agencia tecniko sira atu bele sira implementa, baseia ba rekomendasaun nebe iha.

Informa ba Excelencia katak, Chefe Gabinete, klarifikasi ona ba Gabinte Ministro MTC, konaba atraso ne.

Resultado ferifikasi iha anexo.

Mak n'e deit ba atensaun e obrigado,

Tomás de Fátima da Silva
Chefe Gabinete



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 07 de Março de 2025

Ref : 0363 /UAP/ADN, I.P./III/2025

Hato' o ba : Sr. Tomás de Fatima da Silva
Chefe de Gabinete do MPIE

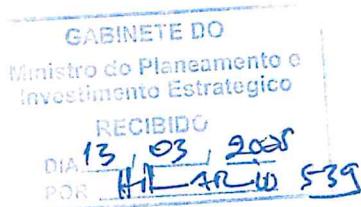
Assunto : Entrega Rezultado Verifikasioun – Terms of Reference (ToR) Consultancy Services for the Detail Engineering Design (DED) of the New Construction for Public Transport

Ho Respeito,

Bazeia ba asuntu ne'ebe mensiona iha leten, ekipa verifikasioun Unidade Avaliação do Projetos – ADN, I.P. hala'o ona verifikasioun documentos *ba Projeto Terms of Reference (ToR) Consultancy Services for the Detail Engineering Design (DED) of the New Construction for Public Transport* ho rezultado verifikasioun iha (*aneksu*), tanba ne'e ami relata ba senhor Diretor Executivo atu hare ba prosesu kontinuasaun.

Ba ita bo'ot nia atensau ami hato'o agradecimento wain no subkreve ho konsiderasaun a'as tebes.

Rui Lourenço da Costa
Diretor Executivo - ADN, I.P.



Bedik-Hun, Fatuhada
Dili – Timor-Leste
info@mpie.gov.tl
+670 3310 289



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 07 de Março de 2025

Ref : 123/UAP/ADN, I.P./III/2025

Hato'o ba : Sr. Rui Lourenço da Costa
Diretor Executivo - ADN, I.P.

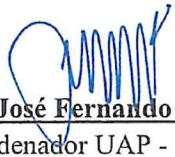
Cc : Sr. Tomás de Fatima da Silva
Chefe de Gabinete do MPIE

Assunto : Entrega Rezultado Verifikasioun – Terms of Reference (ToR) Consultancy Services for the Detail Engineering Design (DED) of the New Construction for Public Transport

Ho Respeito,

Bazeia ba asuntu ne'ebé mensiona iha leten, ekipa verifikasioun Unidade Avaliação do Projetos – ADN, I.P. hala'o ona verifikasioun documentos *ba Projeto Terms of Reference (ToR) Consultancy Services for the Detail Engineering Design (DED) of the New Construction for Public Transport*. ho rezultado verifikasioun iha (*aneksu*), tanba ne'e ami relata ba senhor Diretor Executivo atu hare ba prosesu kontinuasaun.

Ba ita bo'ot nia atensaun ami hato'o agradecimento wain no subkreve ho konsiderasaun a'as tebes.


Arch. José Fernando Liu Soares
Koordenador UAP - ADN, I.P.



ok

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AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

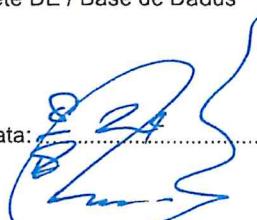
FORMULARIO DESPACHO

Data de Entrada Documentos: 08 / Aug / 2024

Data do Documento: 08 / Aug / 2024

Husí: MINISTERIO DO PLANEAMENTO INVESTIMENTO ESTRATEGICO

No Ref : 1439/CG-GMPIE/VIII/2024

FORMULARIO DESPACHO	
Data de Entrada Documentos: 08 / Aug / 2024	Data do Documentos: 08 / Aug / 2024
Husi: MINISTERIO DO PLANEAMENTO INVESTIMENTO ESTRATEGICO	
No Ref : 1439/CG-GMPIE/VIII/2024	
Projetu :	Quantidade Documentos : 1
-	Anexo :
Assuntos :	
Encaminha Despacho Ministro, MPIE (Pedidu Verifikasiadu husi ADN ba termus Refêrensia (TOR) ba DED Transporte Públicos).	
No. Tlf : 3310320	
Companhia : -	
Despacho :	
<input type="radio"/> Unidade de Gestão Administrativa <input checked="" type="checkbox"/> Unidade de Avaliação de Projectos <input type="radio"/> Unidade de Controlo e Validação de Qualidade <input checked="" type="checkbox"/> Unidade de Estudo e Desenvolvimento de Competências	
<input type="radio"/> Adjunto <input type="radio"/> Assessor/a <input type="radio"/> Gabinete DE / Base de Dadus <input type="radio"/> Other	
 Data: Rui Lourenço da Costa Director Executivo ADN	



**MINISTÉRIO DO PLANEAMENTO
E INVESTIMENTO ESTRATÉGICO**
IX GOVERNO CONSTITUCIONAL
GABINETE DO MINISTRO



Dili, 08 de Agosto de 2024

Nu. Ref : 1439/CG-GMPIE/VIII/2024

Hato' o ba : Directur Executivo ADN. IP
Sr. Rui Lourenço da Costa

Asunto : Encaminha Despacho Ministro, MPIE

Ho Respeito

Liu husi oficio ida ne'e hakarak encaminha despacho Ministro MPIE kona ba karta husi Sua Excelência Ministro dos Transportes e Comunicações Senhor Miguel Marques Gonçalves Manetelu ho assunto Pedidu verifikasi saun husi ADN ba termus Referensia (TOR) ba DED Transportes Públicos, no despacho Ministro iha anexo.

Despacho Ministro : Para ADN- MPIE

Verificar c/ urgência

Data despaçho : 08.08.2024

Mak ne'e deit ba atensaun, lahaluha hato'o obrigado wain.

Hau nia melhores cumprimentos

Tomás de Fatima da Silva
Chefe de Gabinete do MPIE



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

COST ESTIMATE

CONSULTANT SERVICES OF DETAILED ENGINEERING DESIGN (DED) FOR PUBLIC TRANSPORT

No	Description	Unit	Qty	Duration	Unit Price	Amount (Us)
A	International Key Experts					
1	Team Leader / Civil Engineer	Month	1	5	\$ 14,825.00	\$ 74,125.00
2	Transport Planner	Month	1	3	\$ 7,425.00	\$ 22,275.00
3	Traffic & Parking Specialist	Month	1	3	\$ 7,425.00	\$ 22,275.00
4	Road Safety Engineer	Month	1	3	\$ 7,425.00	\$ 22,275.00
5	Landscape Architect	Month	1	3	\$ 7,425.00	\$ 22,275.00
6	Urban Planner	Month	1	2	\$ 7,425.00	\$ 14,850.00
7	Geotechnical Engineer	Month	1	3	\$ 7,425.00	\$ 22,275.00
8	Intelligent Transport System (ITS)	Month	1	2	\$ 7,425.00	\$ 14,850.00
			8	24	Sub-Total	\$ 215,200.00
B	National Key Experts					
1	Architect	Month	1	5	\$ 3,325.00	\$ 16,625.00
2	Structural Engineer	Month	1	3	\$ 3,325.00	\$ 9,975.00
3	Quantity and Cost Engineer	Month	1	5	\$ 3,325.00	\$ 16,625.00
4	Water Supply and Sanitation Engineer	Month	1	3	\$ 3,325.00	\$ 9,975.00
5	Mechanical, Electrical Engineer & Plumbing	Month	1	4	\$ 3,325.00	\$ 13,300.00
6	Environmental Specialist	Month	1	2	\$ 3,325.00	\$ 6,650.00
7	Geodetic Engineer	Month	1	3	\$ 3,325.00	\$ 9,975.00
8	Information Technology Engineer	Month	1	2	\$ 3,325.00	\$ 6,650.00
			8	27	Sub-Total	\$ 89,775.00
C	Supporting Personnel					
1	Office Manager	Month	1	5	\$ 750.00	\$ 3,750.00
2	Office Boy	Month	1	5	\$ 300.00	\$ 1,500.00
3	Driver	Month	1	5	\$ 300.00	\$ 1,500.00
			3	15	Sub Total	\$ 6,750.00
D	Reimbursables					
1	International Transportation	R. Trip	2	8	\$ 1,500.00	\$ 24,000.00
2	Local Transportation (Vehicle Rent & Fuel)	Month	1	5	\$ 1,600.00	\$ 8,000.00
3	Communication Cost	Month	16	5	\$ 50.00	\$ 4,000.00
4	Local Perdiem	Ls			\$ 60.00	\$ 4,800.00
					Sub Total	\$ 36,000.00



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

COST ESTIMATE

CONSULTANT SERVICES OF DETAILED ENGINEERING DESIGN (DED) FOR PUBLIC TRANSPORT

No	Description	Unit	Qty	Duration	Unit Price	Amount (Us)
E	Site Investigations					
1	Topographical Survey	Ls		1	\$ 15,000.00	\$ 15,000.00
2	Soil Investigation (Bore Drilling)	Ls		1	\$ 20,000.00	\$ 20,000.00
3	Material Testing	Ls		1	\$ 3,500.00	\$ 3,500.00
					Sub Total	\$ 38,500.00
F	Reporting					
1	Inception Report (6 bundles)	Ls			\$ 1,500.00	\$ 1,500.00
2	Monthly Process Report (6 bundles)	Ls			\$ 1,500.00	\$ 1,500.00
3	Draft Final Report (6 bundles)	Ls			\$ 1,500.00	\$ 1,500.00
4	Final Report (6 bundles)	Ls			\$ 1,500.00	\$ 1,500.00
					Sub-Total	\$ 6,000.00
G	Facilities					
1	Office Establishment	Month		5	\$ 2,000.00	\$ 10,000.00
2	Office Equipment & Furniture	Ls			\$ 10,000.00	\$ 10,000.00
3	Office Operations (Office Supplies, Software, Toner,etc)	Month		5	\$ 350.00	\$ 1,750.00
					Sub Total	\$ 21,750.00
					Grand Total	\$ 413,975.00

Verified by :

Antonia de F. Moraes Soares
Engineer - ADN, IP

Verified by :

Melenia da C. Barros
National Adviser- ADN,IP

Checked by :

Jolarmes Hornay
Chefe Dep EPMETIC-UAP ADN, I.P

Certified by:

Jose Fernando L. M. Soares
Coordenador UAP- ADN,IP

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I. INTRODUCTION

1. Definitions

a. Name of Project

Consultancy Services for The Detailed Engineering Design (DED) of Public Transport Facilities: Public Transport Terminals and Interchanges.

b. The Project Owner

The Project Owner is the Ministry of Transport and Communications (MOTC).

c. Management of Activities

The overall Management of activities will be held by a Project Manager appointed by MOTC in cooperation with the relevant public Institutions.

d. Procurement Process

The Procurement process will be carried out by the National Procurement Commission (NPC). NPC will arrange pre-bid meeting, receive the proposals, evaluate the proposals and propose the winner

e. The Consultant

The Consultant is the design consulting company which has been determined the winner of the procurement process and who will sign the contract together with the Owner.

2. Background

Timor-Leste's land covering around 15,000 km² with a population of about 1.34 million (2022 Census). The population has grown at 1.8% annually since 2015, projected to reach 1.59 million by 2030. Dili, the capital, has a population of 324,000 and is growing faster than the national average, projected to reach 833,000 by 2030. Dili has a population density of 1,425 residents/km², while rural areas have much lower densities. As the population grows, especially in Dili city, public transport becomes essential to manage increasing congestion, reduce environmental impact, and ensure mobility. More people on the roads lead to traffic jams and longer commute times, while public transport helps reduce the number of cars, easing congestion.

Timor-Leste's public transport system is diverse, including microlets (small vans), regional buses, and anggunas (informal transport). Microlets serve urban areas like Dili with fixed routes but no set schedules. Regional buses connect Dili with other municipalities, and anggunas provide informal transport for short distances. However, the system lacks regulation and fixed schedules, limiting service quality and efficiency.

The transport system is centered around four major bus terminals: three in Dili (the capital) and one in Baucau (the second-largest city). These terminals are crucial transport hubs for both inner-city and inter-city travel. In Dili, the Tasitolu, Taibessi, and Becora terminals are busy points where buses from different districts converge, facilitating movement within the city and to other regions. Microlet routes also serve these terminals, allowing for easy transfers between regional buses and microlets. The Baucau Terminal serves as an important link for the eastern part of the country, connecting the eastern and western regions along the northern coast.

Public transport facilities face several challenges such as **Lack of Central Hubs**: Many municipalities, including Dili, lack formal public transport hubs, with some terminals located on vacant land or the periphery of urban areas. These facilities are not well-integrated with key destinations, limiting their appeal and efficiency. **Poor Infrastructure**: Existing facilities are underdeveloped, with minimal provisions for economic activity or coordination. They lack clear operational plans, and many are poorly maintained, leading to deteriorating infrastructure and unclean environments. **Inefficient Operation**: Multiple vehicle types (e.g., anggunas and buses) use the same facilities, creating congestion and safety concerns. Some terminals have limited parking and no designated drop-off areas, and there's no clear concept of operations. **Limited Passenger Amenities**: Facilities often lack basic amenities like lighting, paved walkways, and accessible features for disabled passengers. There is also a lack of seating, overhead shelters, and rubbish bins, which reduces passenger comfort and safety. **Safety and Accessibility Concerns**: Passengers feel unsafe at some terminals, particularly due to poor lighting and poorly designed pedestrian access points that mix with vehicle traffic, increasing risks for vulnerable use.

The proposed TLPTP will support the government of Timor-Leste's planned public transport reforms to provide: (i) a high-quality and sustainable public transport system that meets the needs of users for safety, comfort, security, convenience, affordability, accessibility and availability; and (ii) a transparent and stable regulatory environment that encourages on-going private sector investment and operations. The project is planned to reform interurban land transport and strengthen the position of Dili as the transport hub by integrating bus routes and providing convenient and comfortable bus terminals.

The 10-priority list terminal sites identified in the Public Transport Master Plan and recommended for further feasibility are namely Dili Convention Center, Becora Terminal, Tibar Terminal, Manleuana Terminal, Hera Terminal, Aldeia Samalakuliba Terminal, Maliana Market On-Street Interchange, Suai Market On-Street Interchange, Lospalos Bemoris On-Street Interchange, and Viqueque City Center On-Street Interchange. The Feasibility Study report, which was completed on January 10, 2025 the termina on site assessment, facility schemes/design, cost estimates, financial analysis, economic analysis, and environmental/social safeguards (including gender elements) – with the project overall is considered "**Feasible**" with mitigation measures, safeguard processes, and government support (financially and private sector development).

- **Detailed Engineering Design of Selected Bus Terminals** – Undertake additional works to the detailed engineering design level for selected terminals in Dili and other locations, including traffic analysis, detailed engineering surveys and investigations, detailed designs, drawings, and cost estimates.

3. Objectives

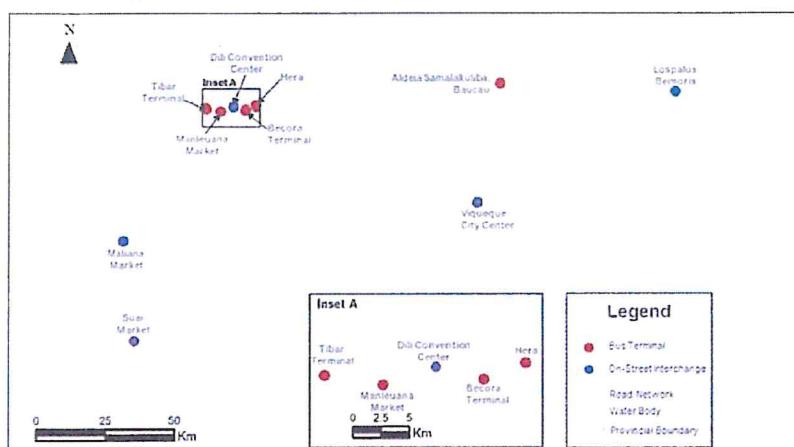
The main objective of the Assignment is to support the formulation of DED and cost estimates for the terminal enhancements proposed as part of the TLPTP to prepare these for procurement and implementation as part of the government's overall medium-term public transport scheme. The key specific objectives of this Assignment are as follows:

- Prepare the DED for the TLPTP by appraising the Feasibility Study and related concept/preliminary designs, further augmenting information and investigations needed, preparation of the detailed engineering and tender design, as well as the related loan processing documents, the financial and economical assessments, and the project/loan safeguard documents.

4. Project Locations

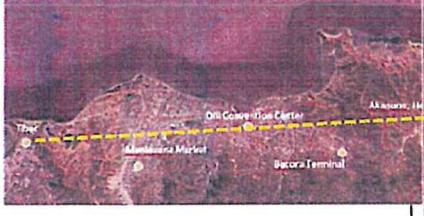
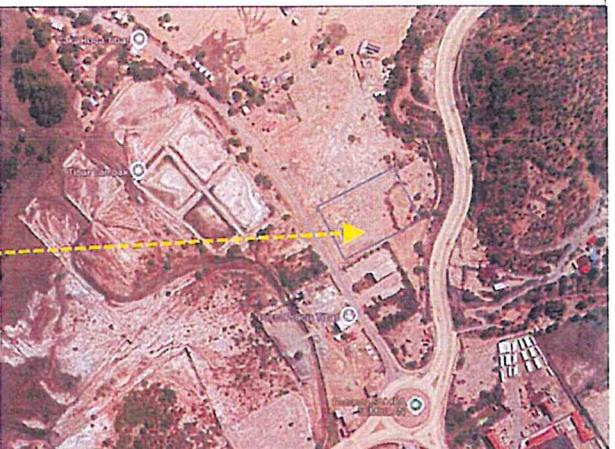
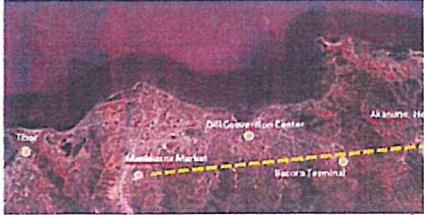
This section provides a detailed view of the various sites located in Dili city and across multiple municipalities. The maps below highlight the geographic distribution of these sites, offering a clear and comprehensive visualization of their locations. Each map is carefully designed to present accurate information, enabling to navigate seamlessly across the different municipalities. We present three types of maps. First is national level map, second is municipal level map with project location identification, and third is Detailed sites with Facility Types including with coordinates.

a. National Level Maps

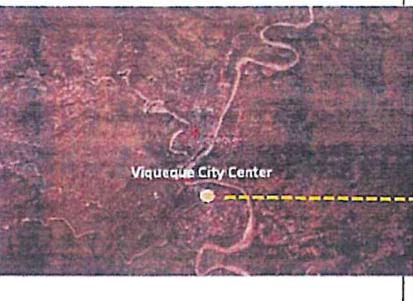


b. Municipal Level Maps

#	Site Name	Municipal Context Map	Location Map
1	Dili Convention Center		

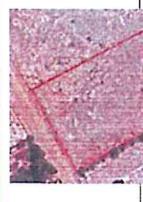
#	Site Name	Municipal Context Map	Location Map
2	Becora Terminal		
3	Tibar Terminal		
4	Manleuana Market		

#	Site Name	Municipal Context Map	Location Map
5	Hera Terminal		
6	Aldeia Samalakuli ba (Baucau)		
7	Maliana		

#	Site Name	Municipal Context Map	Location Map
8	Suai	 <p>Suai Market</p>	 <p>PLAZA SUAI</p>
9	Lospalos	 <p>Lospalos Market</p>	
10	Viqueque	 <p>Viqueque City Center</p>	

C. Details of Facility Types and Locations

Table 2
List of Facility types and Maps (Bus Terminal & On-Street Interchange)

#	Site Name	Location	Context	Proposed Facility Type	Existing or New	Indicative Sizing (m ²)	Land Status ^A	Affected Household ^B	Site Map with Boundary
1	Dili Convention Center	Dili City Center	The Dili Convention Center is strategically positioned at the city center, surrounded by key generators, making it an ideal interchange location with an extensive microlet network that covers the entire Dili City. Nestled beside the convention center, this site optimizes its limited available space by utilizing vacant land and capitalizes on its proximity to a local road, rendering it suitable as an on-street interchange.	On-Street Interchange	Existing	~2,200	Assumed as public land	No impact assumed on surrounding household	
2	Becora Terminal	Dili East	The Becora Terminal is an existing terminal strategically located in the eastern part of Dili serving as the gateway to the municipalities in the east. Major operational issues (i.e., safety, maintenance, no defined bays) and facility issues (i.e., lack of passenger amenities, access-for-all facilities) are identified. The facility is proposed to be redeveloped with enhanced passenger amenities and climate change facilities accommodating microlet and shuttle services between Becora and Hera.	Bus Terminal	Existing	~3,600	Assumed as public land	Potential impact on adjacent developments	
3	Tibar Terminal	Dili West	The Tibar Terminal serves as the Dili west gateway terminal connecting Dili with municipalities in the west as well as hubs for international trips to/from Indonesia. The proposed location is a vacant open area with the potential to develop into a bus terminal	Bus Terminal	New	~8,000	Assumed as public land	No impact assumed on surrounding household	

#	Site Name	Location	Context	Proposed Facility Type	Existing or New	Indicative Sizing (m ²)	Land Status ^A	Affected Household ^B	Site Map with Boundary
			integrated with growth opportunities and development potentials expected in the area.						
4	Manle uana Marke t	Dili South	The Manleuana Market lies to the south of Dili and presents an opportunity for an integrated bus terminal with surrounding markets (with the preference of this site over the existing Taibessi Terminal strengthened since improved roads connecting to municipalities in south). Currently road space inside the market is used for loading/unloading activities with provision of minimal passenger facilities.	Bus Terminal	New	~9,600	Assumed as public land	Potential impact on residents (i.e., access road)	
5	Hera Terminal	Dili East	The Hera site is in the eastern end of Dili (about 6km from Becora Terminal). This site was initially proposed as an on-street interchange in the 2024 PTMP. However, based on the findings and discussions during the ADB Mission in April 2024, the MOTC requested to consider Hera as a strategic bus terminal and include it in the feasibility study. Following another ADB Mission in October 2024, ADB/MOTC concluded that an existing government site (currently used for driver testing only) can be repurposed for a bus terminal connecting to municipalities in the east, while the Becora terminal focuses on serving the connectivity needs of Dili and act as a central link between Dili and Hera. This site would accommodate regional buses to/from municipalities in the east as well as shuttle services between Becora and Hera.	Bus Terminal	New	~10,000	Assumed as public land	No impact assumed on surrounding household	

#	Site Name	Location	Context	Proposed Facility Type	Existing or New	Indicative Sizing (m ²)	Land Status ^A	Affected Household ^B	Site Map with Boundary
6	Aldeia Samalakulibba	Baucau	Baucau is the second biggest municipality in the country and this location is proposed at about 1.5km to the west of city center. There is an opportunity to integrate a public transport terminal with the new market development in this area. The development of a municipal public transport hub would serve regional buses connecting to the eastern municipalities, as well as microlet services connecting into the urban area of Baucau. The existing Baucau Central Terminal site is being redeveloped into a sports venue by the local government and bus terminal functions will be transferred to this new location.	Bus Terminal	New	~11,600	Assumed as public land	No impact assumed on surrounding household	
7	Maliana	Maliana	Maliana is in the Bobonaro Municipality located in the western part of Timor-Leste (about 60km from Dili) and shares the border with Indonesia. This location is located next to the local market and also serves as a transit hub for international trips due to its proximity to Indonesia's land border. Maliana receives public transport passengers from six other administrative posts (Atabae, Balibo, Bobonaro, Cailaco, Lolotoe and Maliana).	On-Street Interchange	Existing but no facility provided	~680	Assumed as public land (road side space)	No impact assumed on surrounding household	
8	Suai Market	Suai	Suai is located to the southwest of Timor-Leste (about 90km from Dili) and shares the border with Indonesia. This location is located next to the local market and also serves as a transit hub for international trips due to its proximity to Indonesia's land border. Suai receives public transport passengers from seven other administrative posts (Fatululic, Fatumean,	On-Street Interchange	Existing but no facility provided	~210	Assumed as public land (road side space)	No impact assumed on surrounding household	

#	Site Name	Location	Context	Proposed Facility Type	Existing or New	Indicative Sizing (m ²)	Land Status ^A	Affected Household ^B	Site Map with Boundary
			Fohorem, Maucatar, Suai, Tilomar and Zumalai).						
9	Lospalos Bemoris	Lospalos	Lautem municipality is in the eastern end of Timor-Leste (about 160km from Dili) and serves a destination with various landmarks/tourist spots (such as the largest national park, Nino Konis Santana). Lospalos receives public transport passengers from six other administrative posts (Iliomar, Lautém, Lospalos, Luro, Lore and Tutuala).	On-Street Interchange	Existing but no facility provided	~680	Assumed as public land (road side space)	No impact assumed on surrounding household	
10	Viqueque City Center	Viqueque	Viqueque is located to the southeast of Timor-Leste (about 100km from Dili) and serves a destination with various industrial centers for coconut oil, fishing, etc. Viqueque receives public transport passengers from five other administrative posts (Lacluta, Ossu, Uatucarbau, Viqueque and Watulari).	On-Street Interchange	Existing but no facility provided	~190	Assumed as public land (road side space)	No impact assumed on surrounding household	

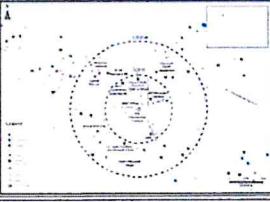
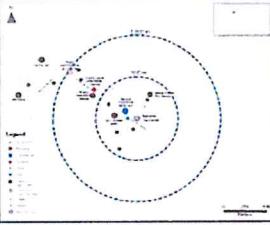
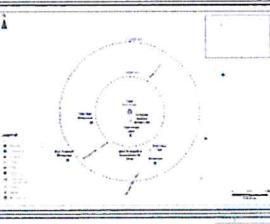
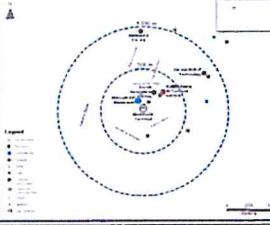
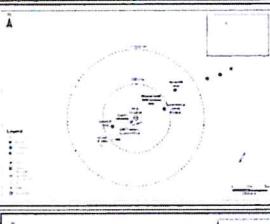
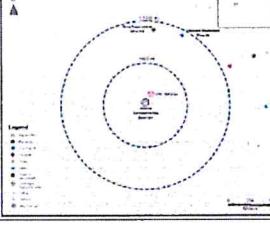
Source: Timor-Leste Public Transport Facilities Feasibility Study Report 2024

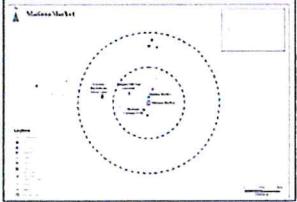
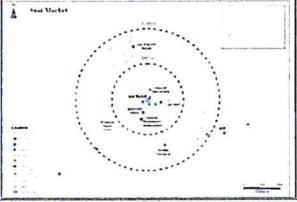
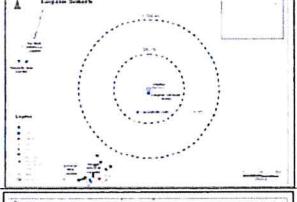
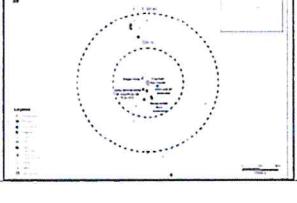
Note:

^AThe selected sites are assumed to be owned by government during the preparation of the feasibility study. The official and latest status of each land and property needs to be confirmed with relevant agencies such as General Directorate of Land and Property (Direção Geral das Terras e Propriedades).

^BFurther information on affected household will be collected during due diligence activities.

Table 3
List of Locations Bus Terminal & On-Street Interchange Site with Coordinates

#	Site Name	Location	Coordinates	Location Map
1	Dili Convention Center	Dili City Center	8°33'34.15"S 125°34'44.20"E	
2	Becora Terminal	Dili East	8°34'9.68"S 125°37'1.15"E	
3	Tibar Terminal	Dili West	8°33'58.63"S 125°29'24.05"E	
4	Manleuana Market	Dili South	8°34'25.15"S 125°32'11.81"E	
5	Hera Terminal	Dili East	8°33'21.82"S 125°39'0.83"E	
6	Aldeia Samalakuliba	Baucau	8°29'1.87"S 126°26'20.01"E	

#	Site Name	Location	Coordinates	Location Map
7	Maliana	Maliana	8°59'24.62"S 125°13'13.86"E	
8	Suai Market	Suai	9°18'52.51"S 125°15'19.42"E	
9	Lospalos Bemoris	Lospalos	8°30'39.37"S 127° 0'14.19"E	
10	Viqueque City Center	Viqueque	8°52'1.47"S 126°21'55.30"E	

II. SCOPE OF WORK

2.1 Facility Sizing Requirement

Scaling the sizing requirements for each facility is based on a combination of variable bay sizing and type of passenger amenities defined by facility typology. For example, the number of bays is closely tied to peak hour trips by route and vehicle circulating area is increased relative to the number of bays. Similarly, concrete curb and gutters are scaled based on the total curb length required to support the total number of bays. Passenger amenities, such as the waiting area and roof are scaled based on the number of potential passengers resulting from the peak hour vehicles serving the facility. Key assumptions to estimate the size of bus terminals / on-street interchange is summarized as follows:

Table 4
List of Facility Requirement

Element	Value	Unit	Assumption
Concrete Bus Bay + Bus Circulating Area			
Microlet Bay	15	m ²	Based on microlet size
Microlet Bay with Circulating Area	22.5	m ²	Assumed buffer space with 1.5 multiplier factor (based on 3000 sqm with 23 conventional bus bays in TCW)
Regional Bay	30	m ²	Based on regional bus size
Regional Bay with Circulating Area	45	m ²	Based on circulating area factor
Concrete Curb and Gutters			
Passenger bay	36	m/bay	Subject to final design - Estimate for initial costing purposes based on professional judgement
Layover bay	72	m/bay	Subject to final design - Estimate for initial costing purposes based on professional judgement
Drop Off Area (Off-Street)			
Minimum drop off area	126	m ²	Subject to final design - Estimate for initial costing purposes based on professional judgement (3 pick/up drop off bays and queuing area)
Additional area for every 3 additional bays	13	m ²	Assumption for initial costing purposes: one additional pick/up drop off bay per three passenger bays assume full microlet (14 passengers) with 20% of passengers being dropped off by private vehicle with 10 sec drop off rate per passenger.
Waiting and Queuing Area			
Area per person	1.2	m ²	Transit Capacity and Quality of Service Manual, 2014
Area per passenger bay	16	m ²	Bus Terminal Planning and Design Guidelines for India, 2014 (2m x 8 m)
Growth factor	25%	%	Preserve space upon the total waiting area
Terminal Facility Roof			

Element	Value	Unit	Assumption
Facility Roof Factor	25%	%	25% more space added to the roof based on the build/waiting areas (to undercover elements combined)
Wayfinding and Signage			
Bus Terminal	10	number	Assume 4 possible entry/exit directions of interchange (two each - 8 wayfinding) + 2 inside passenger waiting area
On-Street Interchange	2	number	Assume 2 wayfinding info per location
Ticket & Fare Collection Point			
Bus Terminal	16	m ²	Assume 4m x 4m space for ticket/fare collection
Tactile Paving			
Long length of passenger bays	13	m	N/A (Conservative estimate for costing purposes taken as long length of largest bay)
Other			
Operator Office	25	m ²	Subject to final design - Estimate for initial costing purposes based on professional judgement
Administration Office	25	m ²	Subject to final design - Estimate for initial costing purposes based on professional judgement
Booth (Regional)	9	m ²	Assume 3m x 3m space for multi-function booth at regional on-street interchange.
Security Office	4	m ²	Assume 2m x 2m space for security office
External works	100	m ²	Assume 50m ² of pedestrian improvements either side of facility entrance
Retention Pond	3%	%	Assume 3% of the site area based on similar bus projects in the region
Solar Pannel Roof (Terminal)	50%	%	Assume 50% of passenger waiting areas (on building roof)
Solar Pannel Roof (On-Street Interchange)	11	m ²	Assume solar panel on roof of a bus shelter (area of bus shelter roof is 6m x 1.8m)

Source: 2024 PTMP and Facility Design Guidelines

2.2 Tasks

The scope of the services to be provided by the consultants will include the following tasks:

2.2.1. Task 1 Appraisal of Feasibility Study for Bus Terminals

During the appraisal process, the Consultant shall review the Feasibility Study, complement the information and investigation studies needed, and assess and incorporate external parameters to ensure the overall project objectives and to develop the further design stage. Key tasks include the following:

- Assess the Feasibility Study report, including reviewing background information, studies undertaken, input data used, and key parameters considered for the preparation of the existing Feasibility Study, so to ensure that the study reflects the most appropriate and optimized proposal and options to further develop the project to be ready for investment and implementation.

- Collect all necessary information for existing, on-going, and future planned public transport and transport infrastructure development works of the government, as well as private sector development in around the terminals.
- Review all related documents available and identify information gaps or requirements for further or detailed studies and/or investigations.
- Examine all existing public and private spaces, public road space usage/sharing, infrastructure, buildings, structures, and facilities around the sites and in direct/close vicinity of the foreseen sites.
- Identify all relevant and concerned agencies/stakeholders and support the client in conducting continuous coordination and consultations with all relevant stakeholders.
- Complement the existing Feasibility Study in relation to required studies and investigations, which may be missing, to be updated, or to be extended for a thorough appraisal of the Feasibility Study. This shall also embrace potential or required options of proposed deviations of the foreseen alignment and/or options for alternative station locations.

2.2.2. Task 2 Detailed Engineering Design for Bus Terminals

For each of the project's physical components, the Consultant will prepare the DED that will form the basis for the subsequent construction specifications under the construction tender document. The DED will encompass detailed component descriptions, detailed drawings, and the associated detailed technical specifications. The DED will incorporate the agreed upon comments and modifications provided from the presentation of the appraisal of the Feasibility Study.

The design will include a coherent and complete set of documents, properly consolidated and indexed, and will fully describe the proposed works. The design shall provide sufficient detail to procure the works and equipment and to estimate accurately cost investment and bill of quantities.

This DED report will include, but not be limited to, the following:

1. Task 2-1 Transport & Planning Investigations

Transport and planning investigations will include, but not be limited to, the following:

- **Traffic Study and Demand Analysis** - The Consultant shall:
 - Conduct surveys to collect the following information to inform traffic design and site access: (i) traffic surveys of volume, ridership, type, and direction; (ii) inventory of traffic lanes and signal

system; (iii) assessment of accidents including location and root cause within the catchment; and (iv) Origin-Destination (O-D) survey to understand predominant paths taken by potential passengers and visitors.

- Review existing transport networks and public transport services that will serve the selected bus terminals. A critical assessment of existing conditions, potential opportunities and constraints should be identified, and a list of recommended transport infrastructure and networks should be highlighted to optimize location for bus terminals and interchange opportunities.
 - Estimate present and future traffic in and around the selected bus terminals with specific reference to proposed driveways and leading to/from the terminal sites.
 - Review the operating plan and service network proposed in the 2024 PTMP and make refinement (if warranted) to create a more optimal public transport network and to ensure facilities are sized appropriately for future years (assessment years to be Opening Year, 5 Years, and 10 Years in the future).
-
- **Facility Design and Circulation Plan** – The Consultant shall:
 - Review public transport service plan to confirm number of bays and sizing of key components at the terminals including loading/unloading bays, layover/staging bays, as well as passenger waiting facility sizing/amenities, staff/visitor parking (if any), and external loading/unloading curbs and ensure safe, efficient, and effective operations.
 - Develop terminal design brief including, but not limited to, design criteria and standards for bus terminal including those for bus bay sizing, staging/parking space sizing, passenger facility elements including waiting and loading areas, circulation paths and sidewalks, access-for-all considerations, operator management areas, etc.
 - Develop the DED and drawings for the terminals including but not limited to all public and back-of-house areas for the terminals, bus circulation, bus loading/unloading, bus parking, passenger waiting, passenger circulation, structures, access roads/driveway, sidewalk, curbs, private parking, etc.
 - Develop an internal vehicle and passenger circulation plan and identify relevant design standards for the facility, parking, and circulation area, etc. including that for horizontal and

vertical signage to ensure safe vehicle and passenger operation throughout and leading into/out of the facility (plans shall minimize backup operations to the extent possible).

- Develop a curb design and management to including loading and unloading curbs (for Kiss-and-Ride), as well as parking areas for pickup and dropoff, as warranted.
- Develop and design goods and livestock storage facilities and transportation arrangements for such logistics handling.
- **Urban Design and Streetscape** – The Consultant shall:
 - Conduct baseline review and identify challenges and opportunities to promote development (commercial, retail, etc.) adjacent to the terminal sites as well as wider surrounding areas.
 - Integrate sustainable urban design and local characteristics into the principles and designs for the facility and enhanced streetscape for sidewalks and corridors leading into and out of the facility.
 - Estimate sizing of facilities, amenities and spaces proposed for urban development.
 - Prepare urban design drawings and briefs for public engagement.
- **External Non-Motorized Transport (NMT) Plan** – The Consultant shall:
 - Review the NMT plan for safe, direct, and efficient access to/from the facility.
 - Conduct a detailed assessment of the existing pedestrian infrastructure around the terminal, including sidewalks, crosswalks, and pedestrian bridges or underpasses.
 - Identify any barriers or obstacles that hinder pedestrian movement, such as uneven surfaces, insufficient lighting, or inadequate signage.
 - Evaluate the accessibility of pedestrian infrastructure for individuals with disabilities, including the presence of ramps, tactile paving, and audible signals.
 - Design pedestrian-friendly infrastructure, such as wider sidewalks, dedicated pedestrian paths, and pedestrian plazas, to improve walkability around the terminal.
 - Ensure safe and convenient pedestrian crossings at key intersections and access points, including the provision of clearly marked crosswalks, pedestrian signals, and refuge islands.
 - Establish a network of well-connected pedestrian routes that link the terminal to surrounding residential areas, commercial centers, public transportation stops, and other key destinations.



- Propose adequate lighting along pedestrian routes to enhance safety and visibility, particularly during nighttime hours.
- Consider first/last mile connectivity options such as bike facilities as needed (including bike parking, shared bicycle facilities, etc.)
- Consider traffic calming near the terminals to slow vehicular traffic and facilitate safe NMT crossing and travel.
- **External Traffic Management Plan** – The Consultant shall:
 - Review/refine signal and road flow/circulation improvement plan to ensure safe and efficient vehicular connections to/from the facility.
 - Develop an external traffic management proposal for the construction and post-construction periods for connecting roads linking the terminals to nearby public roads, which shall include, but not be limited to the following:
 - Traffic design brief highlighting design criteria and standards for public roads and signage aligning with local and national standards for the proposed Temporary Traffic Management (TTM), Pedestrian Management Schemes and Permanent Traffic Arrangement (PTA).
 - Proposed TTM schemes during construction at site ingress/ egress points, including delineation of works area, and traffic diversion schemes for each construction stage.
 - Proposed temporary pedestrian management schemes during construction and provision of temporary pedestrian paths, as necessary for each construction stage.
 - Overnight closure plans and related vehicle and pedestrian diversion schemes, if necessary.
 - Proposed PTA configurations and related traffic and pedestrian performance at ingress/ egress points of site to/ from the public road.
 - Plan for additional traffic surveys (if any) for the use of traffic assessment during each construction stage and after implementation stage.
- **Intelligent Transport System (ITS)** – The Consultant shall develop the ITS design to complement the facility and enhanced corridors for operational and convenience benefits. This detailed design and technical/operational specifics for systems including, but not limited, to the following:
 - Passenger information systems with the following objectives:

- Provide real-time vehicle arrival and schedule information to passengers.
 - Provide updates on system situation and contingencies.
- Closed-circuit television systems with the following objectives:
 - Allow for continuous monitoring of passenger facilities for safety and security purposes.
 - Allow for faster incident response.
- Traffic and pedestrian signal systems with the following objectives:
 - Allow for actuated and safer pedestrian crossings near the facility.
 - Improve traffic flow and traffic safety.
 - Allow for eventual synchronization with the wider traffic signal network for more efficient network traffic flow and minimized delay, including Adaptive Signal Control (ASC) with the government's traffic management office.
 - Design piloting of an automated number plate recognition (ANPR) scheme for monitoring traffic violations and/or operating outside of approved/defined corridors/routings.
- Administrative systems
 - Design public transportation administration systems such as ticketing systems, inventory management systems, and financial / human resources management systems.

2. Task 2-2 Engineering Studies

Engineering studies will include, but not be limited to, the following:

- **Civil and Structural Design** – Consultant shall submit an outline civil and structural design proposal, which shall include narrative on the design standards, criteria, and methodologies, taking into consideration construction sequence for all civil and structural design elements including but not limited to the following:
 - Site formation and retaining wall works.
 - Roadwork, signages and road furniture.
 - Pavement design.
 - Stormwater management system.

- Rainwater harvesting systems in identified terminals and bus stop locations.
- Underground water storage facilities to temporarily mitigate flooding at identified bus terminal and surrounding areas due to heavy rains, as well as use of water either to percolate to the ground or used for terminal maintenance or converting it to potable water for passenger usage.
- Water supply system.
- Sewage and graywater treatment plant and system.
- Various buildings including but not limited to the passenger waiting facility with good air circulation and ventilation as well as systems to provide support to relieve/minimize urban heat related hazards, administrative/management offices/buildings, logistics management facilities, women care facilities such as lactation rooms, toilets, etc.

Consultants shall also include the following drawings / sketches in the design proposal to demonstrate that the design for the components mentioned above comply with the design requirements as specified in Section 6 Employer's Requirements:

- General arrangement plans and sections.
- Typical details.
- For major buildings including sewage and graywater treatment plant and bridges.
- Typical structural framing plans with schedules of members sizes for building structures.
- Typical steel connection details for building structures, where applicable.

Consultants shall also consider integration of climate resilience features to enhance resilience of bus terminals against climate change and disaster hazard impacts (based on the findings from climate change and resilience assessment in Task 4). Such features include but not limited to:

- Climate resilient design of terminals including solar rooftop facilities to power the terminals, as well as solar lighting at bus stops and other passenger boarding / alighting areas.
- Flood control infrastructure through innovative stormwater drainage schemes, water harvesting system, and underground storage of flood water (where elevated bus terminals are not possible due to building height limitations).
- Possibility of creating green space in the terminals.

- Use of permeable materials, heat resilient designs (for instance with green roof shading), and reflective materials to reduce the heat island effect.
 - Earthquake resilient terminals.
 - Carbon accounting system to register and monitor the use of fuel consumption.
- **Mechanical and Electrical** - Consultant shall submit an outline Mechanical and Electrical proposal for the interior of the buildings (as warranted), specifically for passenger terminal and operator buildings/structures in the Dili terminals.
 - Systems may include Heating, Ventilation, and Air Conditioning (HVAC), power (including use of renewable energy sources), gas, etc.
- **Geotechnical Investigation and Study (including Liquefaction Assessment)** - As a part of the scope, Consultant shall submit an outline geotechnical design proposal, which shall include narrative on the design standards, criteria, and methodologies, taking into consideration construction sequence for all geotechnical design elements including but not limited to:
 - Ground investigation works.
 - Foundation works and testing requirements.
 - Geotechnical instrumentation and monitoring works.
 - Consultant shall also include the following drawings / sketches in the DED report to demonstrate the geotechnical design.
 - Layout plans of the ground investigation works.
 - Layout plans of the geotechnical instrumentation and monitoring works.
 - Layout plans of all types of foundation works.
 - Typical details of all geotechnical elements, including instrumentation and monitoring works, and all types of foundation works.
- **Topographic Survey and Mapping** - The Consultant shall:
 - Undertake the acquisition of airborne Light Detection and Ranging (LiDAR) survey and aerial orthophotos, pre-processing and post-processing for the areas of interest.



- The LiDAR survey shall produce outputs and deliverables identical to that of detailed topographical survey to show all natural and man-made features.
- The surveyor is responsible for site clearance to ensure inter-visibility between horizontal control stations and to obtain all relevant permits, permission from lots and liaison with relevant government agencies for temporary traffic diversion arrangement before performing the survey.
- The surveyor shall prepare method statement methodology and works involved including but not limited to how to establish benchmarks, survey flight lines, work schedule, forecast weather and communication plans to perform the authorized land surveyor (ALS) works.
- **Utility Investigation Survey and Exploration** – The Consultant shall:
 - Review existing utility records, including maps, as-builts, and documentation from relevant utility companies.
 - Conduct interviews with utility providers to gather information about the location and depth of existing utilities.
 - Identify potential utility conflicts or overlaps based on available data.
 - Perform a visual inspection of the project site to identify visible utility features or markers.
 - Create an accurate utility map indicating the location, depth, and type of utilities found.
 - Develop a comprehensive utility record keeping system to document findings, including photographs, measurements, and descriptions.
 - Generate utility profiles or cross-sections to visualize the vertical arrangement of utilities.
 - Prepare utility conflict reports, if any, highlighting areas where utility relocations or adjustments are necessary.
 - Provide recommendations for avoiding or mitigating utility conflicts during the project design and construction phases.
- **Hydrological / Meteorological Study and Flood Mapping** – The Consultant shall:
 - Conduct a comprehensive assessment of the chosen location's water resources, including surface water bodies, groundwater, and water availability and analyze water quality parameters.



- Assess the potential for flooding and conduct flood risk mapping to identify flood-prone areas.
- Develop strategies for sustainable water management, conservation, and infrastructure development.
- Collect and analyze historical meteorological data, including temperature, rainfall, wind speed, and humidity, from weather stations across the project location.
- Study the climatic patterns and trends in the region, including the monsoon seasons and variations in temperature and rainfall.
- Assess the microclimatic conditions and variations in different areas of Timor-Leste.
- Evaluate the potential for extreme weather events, such as tropical storms, cyclones, or droughts.
- Analyze the impact of climate change on the local weather patterns and potential implications for the bus project.
- Determine the optimal design considerations for the bus project in relation to meteorological factors, such as shading, ventilation, and thermal comfort.
- **Seismological Study and Fault Mapping** - The Consultant shall:
 - Collect historical seismic data from local and regional seismic monitoring networks and conduct a geological survey to identify and locate active faults in the study area.
 - Identify and analyze seismic events in the study area, including their magnitude, depth, and epicenter.
 - Map the fault lines and determine their dimensions, orientation, and slip rates.
 - Study the seismic wave propagation characteristics to understand the behavior of seismic waves in the region.
 - Assess the potential for seismic hazards, such as earthquakes, aftershocks, and ground shaking.
 - Analyze the geological and tectonic conditions that contribute to seismic activity in the area.
 - Evaluate the vulnerability of the project to seismic events and recommend mitigation measures.
 - Provide recommendations for construction practices that account for fault-related hazards.
- **Design Reports and Other Documents** – Design reports and other documents will include in particular:



- Explanatory note.
- Structural and other necessary design calculation, with safety margin being adequate and not too excessive.
- Codes and standards to be adopted.
- Detailed engineering execution methods and phasing, diagrams and graphic.
- Technical specifications and volumes of works.
- Construction organization program and time schedule, including required equipment.
- Project detailed resume.
- The Consultant will prepare the final detailed engineer's cost estimate for each of the components to be tendered. Both a price contingency and physical contingency shall be calculated for the project, based on the contingency calculation procedures of the EA/IA.

3. Task 2-3 Costs and Construction Schedule

- **Costs and Construction Schedule** – Cost estimates developed in the Feasibility Stage will be leveraged to develop costs to the typical DED level to provide the Government with a satisfactory cost estimate for the funding of the project, as well as to enable contractors to proceed into construction drawings quickly and easily, etc. Likewise, a detailed construction schedule will be developed (to the DED level) including land acquisition, site formation, construction, and handover timeline for operations.

2.2.3. Task 3 Climate Change Risk Assessment

- **Climate Change Risk Assessment**
 - Collate relevant data and information on: (i) climate change and variability and its impacts on the project; and (ii) Greenhouse Gases (GHG) reductions in close consultation with project and other Consultant team members.
 - Conduct a Climate Risk and Vulnerability Assessment (CRVA) using internationally accepted methodology and latest climate projection models and as aligned with local official studies.
 - Identify and/or adopt appropriate and internationally accepted measuring, reporting, and Monitoring, Reporting and Verification (MRV) plan.

- Recommend array of climate change adaptation measures (e.g., engineering, non-engineering, management (e.g., safety measures via use of Multi-Hazard Early Warning Systems) and mitigation opportunities based on collective inputs from the other Consultant team members (to be integrated into the designs in Task 3.2)

III. OUTPUT OF DESIGN ACTIVITIES

The output by the design Consultant shall consist of the following:

1. Inception report

The stage of design concept/technical design will consist of the following:

- The concept design approach should be based on analysis of existing site plan conditions by considering the surrounding environment.
- The concept of technical design including concept of facilities, number and qualification of team members, methodology of implementation and responsibilities.
- The concept of schematic technical design including facilities, number of facilities and organization of facilities connection.
- Report of the existing site data and information including soil investigations, information from the user regarding the need of rooms and scope of work, facilities required, capacity of rooms, total number of user and other purposes needed.

These documents should be submitted in one (1) original and six (6) electronic copies in USB and/or other forms of electronic copies.

This design concept should be discussed with PSC and approved by the owner in the first month of assignment, before continuing to the stage of preliminary design.

2. Interim Report

a. The stage of preliminary design that will consist of the following :

- Preliminary design drawings of buildings in the aspect of architecture, structure, building utilities and environment.
- Preliminary Cost Estimates

- Outlines of work plan and specifications
- Initial Environmental Impact Assessment
- Result Consultations With the Owner

This document should be submitted in one (1) Original and six (6) electronic copies in CD and/or other forms of electronic copies.

This preliminary design should be discussed with PSC and approved by the owner in the third month of assignment, before continuing to the stage of design development.

b. The stage of design development that will consist of the following :

- Drawings of design development of architecture, structure and supporting utilities based on the preliminary design that is already approved.
- Description of design concept and its calculation needed.
- Draft cost estimates
- Draft work schedule and specification

These documents should be submitted in one (1) original and six (6) electronic copies in CD and/or other forms of electronic copies.

This development design should be approved by the owner in 5 week of assignment, before continuing to the stage of detailed design.

3. Draft Final Report

The stage of detailed design will consist of the following:

- a. Detailed engineering design drawings (**Size A1**) of building for construction works.
- b. Technical Specifications.
- c. Bill of Quantities.
- d. List of Price of Labours and Materials
- e. Unit Price Analysis
- f. Cost Estimates
- g. Construction Schedule and “S” Curve
- h. Design report of architecture, structure, utilities, mechanical/electrical, and other calculation needed.
- i. Terms of Reference for the Consultant Supervision Service for the Construction of this project.

The draft final report should be presented with 3D presentation, showing a scaled building models building layout exterior and interior building and its surrounding area. These

documents should be submitted in one (1) original and six (6) electronic copies in USB and/or other forms of electronic copies.

This draft final report should be submitted to the owner in the fifth month of assignment.

4. Final Report

This final report should be submitted to the owner in the five month of assignment as the result of Draft Final Report that has already been discussed and approved by the owner.

The final report should be submitted in one (1) original and six (6) electronic copies in USB and/or other forms of electronic copies.

The final Report should be presented with a scaled building model and lay out.

IV. DESIGN CRITERIA

The design consultant should take notice of the general criteria of the building to conform to its functionality and complexity, and are as follows;

a. Conditions of allotment and intensity;

- 1) To ensure that the building is constructed based on the regulation of spatial plan and building plan determined by the local authority.
- 2) To ensure that the building will be used to conform to its functions.
- 3) To ensure the safety of the user, community and environment.
- 4) To conform to the state budget principles;
 - a. Economical, no Luxurious, efficient and conforms to the technical proposed specified.
 - b. To be focused and controlled to conform to the plan, program, and its functions.
 - c. To utilize local product and resources as must as possible to promote national prosperity.

b. Conditions of architecture and Environment;

- 1) To ensure that the building is constructed based on the environment characteristics, determination of the nature of building and local culture, in order to obtain balance, harmony and compatibility with the environment.

- 2) To Ensure the creation of green spaced that is balanced and in harmony with the environment.
- 3) To ensure that the building is constructed and utilized with no negative impacts to the environments.

c. Conditions of building structures

- 1) To ensure the structural stability of the building to support the rising loads as the result of its utilization to conform to its functions, and as the result of the natural and human behaviour.
- 2) To ensure the building has been designed as earthquake resistant.
- 3) To ensure the Safety of the people from possible accidents or injury due to the failure of the building structure.
- 4) To Ensure the welfare of the people from losses or damages of their properties due to the failure of the building structure.
- 5) To ensure the protection for the other properties from physical damages due to the failure of the building structure.

d. Conditions of Water Supply

- 1) To ensure that the construction of the building is provided with water supply facilities.
- 2) Fulfil the quality standard, sufficient discharge of 100 litres /person/day.
- 3) Fulfil the requirement for fire protection adequate for minimum 45 minutes operation of fire tackling.

e. Conditions of sanitation Facilities

- 1) To Ensure the provision of adequate sanitation facilities adequately to support the activities inside the buildings to conform to its functions.
- 2) To ensure the creation of a clean, hygienic, and comfortable environment for the dwellers of the building and surrounding area..
- 3) To ensure that the sanitation facilities are in good running conditions during testing and commissioning.

f. Conditions of waste water

- 1) To ensure that the construction of the building is equipped with facilities for discharging the waste water from the bathrooms and washroom to the city drainage canals.



- 2) The discharge of waste water from the bathrooms, and washroom should use pipes to conform to the specifications.
- 3) The discharge of the waste water should use treatment plan.

g. Conditions of solid waste

- 1) To ensure the availability of trash bins and temporary solid waste collection point for 3 litres/person/day.
- 2) The temporary solid waste collection points should be made of watertight materials and enclosures.

h. Conditions of drainage

- 1) To ensure the provision of drainage canals could retain the rain water before discharging to the city drainage canals.
- 2) To ensure the provision of drainage canals could manage the flood.
- 3) The rain water could be used as recycled water for plan and green areas.

i. Conditions of electricals installations, lighting rod, and communications facilities

- 1) To ensure that the installation of electrical facilities adequately and safely support the activities inside the building to conform to its functions.
- 2) To ensure the safety of the buildings and its dwellers from the danger of lighting
- 3) To ensure that the provision of communications facilities adequately support the activities inside the building to conform to its functions.

j. Conditions of Lighting

- 1) To ensure that lighting – whether natural or artificial – is adequate to support activities inside the building in accordance with its functions.
- 2) To ensure that the lighting facilities are in good running condition during testing and commissioning.

k. Conditions of Ventilation and air conditions

- 1) To ensure that adequate air supply, whether natural or man-made, is provided to support the activities inside the building to conform to its functions.
- 2) To ensure the air condition facilities are in good running condition during testing and commissioning.
- 3) To ensure adequate conditions equipment's within Data Centre area.

l. Conditions of noise and tremble

- 1) To ensure the creation of comfortable situation from unexpected noise and trembles disturbance.

- 2) To adopt environmental pollution mitigation measures resulting from construction activities, Cost of such measures should be included in the detailed construction cost estimates.

m. Conditions of transport facilities inside the building

- 1) To ensure the creation of proper, safe and comfortable transport facilities inside the buildings.
- 2) To ensure the provision of transport facilities for the disable.

n. Conditions of access entry and exit ways

- 1) To ensure save, proper and comfortable access to entry and exit ways to the building and its facilities, as well as to services areas inside the buildings.
- 2) To ensure the creation of efforts to protect the dwellers form pains and injuries during evacuation in emergency situations.
- 3) To ensure provision of easy access for the disabled.

o. Conditions of fire-fighting System

To ensure that the building will be stable in case of fire;

- 1) Sufficient time for the dwellers to evacuate safety.
- 2) Allow sufficient time for firefighters to arrive at the location to extinguish the fire.
- 3) To prevent damage to surrounding properties.

p. Conditions of emergency situation, exit sign and early warning system of danger;

- 1) To ensure the provision of an early warning system in the event of an emergency.
- 2) To ensure the occupants can evacuate easily and safely in emergency situations.

q. Conditions of Landscaping

- 1) To ensure are suited to Timor – Leste climate and weather.
- 2) Buffer zones and operational controls to handle noise, odour and dust, as well as to meet aesthetic needs compatible with the surrounding environmental.

r. The design should ensure easy access for disabled people

s. Functionality : The design must meet the operational needs of Public Transport.

t. Efficiency : The design must optimize the use of resources and minimize waste.

u. Safety : The design must prioritize the safety of users and comply with all applicable regulations.

v. Sustainability : The design must minimize environmental impact and promote the use of sustainable materials and practices.

- w. Durability : The design must ensure the longevity of the building and facilitate maintenance.
- x. Accessibility : The design must be inclusive, ensuring accessibility for all users.
- y. The design should account for a planning period of 15 to 20 years, ensuring that the building will meet the future needs of Parliament without the need for significant renovations.
- z. The table provides a clear and structured framework for determining which design elements should be prioritized in the development of public transport passenger facilities, tailored to the unique characteristics and needs of each typology. Note that this framework represents a conceptual design framework and inclusion of key elements at each site will be further refined during this DED study.

Table 5
List of Design Criteria

Focus Area	#	Elements	Description	On-Street Interchange	Bus Terminal
Orderly / Organized	1-1	Separation of People and Vehicles	Separate passenger and vehicle areas	✓	✓
	1-2	Separation by Vehicle Types	Separate areas for buses, PUV, private vehicles, and other vehicles	✓	✓
	1-3	Separation by Functions	Separate loading/unloading, layover, and circulation areas	✓	✓
	1-4	One-Way Operation	One-way internal circulation (excluding backup maneuvers)	✓	✓
	1-5	Paved Surfacing	Concrete paved loading/unloading, layover, and circulation areas	✓	✓
	1-6	Operation / Administration Office	Formal fully-equipped offices for operators and administrators		✓
	1-7	Signage	Directional and safety markings / signage		✓
	1-8	Facility Lighting	Well-lit vehicle areas	✓	✓

	1-9	Signalization ^B	Traffic signals at key junctions and mid-block areas outside of terminal	✓	✓
	1-10	Street Redesign ^B	Improved external access such as road/junction improvements, widening, etc.	✓	✓
	1-11	Curb Management ^B	Restricted parking, etc. outside of terminal	✓	✓
Convenient / Comfortable	2-1	Pick-Up & Drop-Off Curb ^C	Pick-up and drop-off curb for private vehicles		✓
	2-2	Interchange Zone ^C	Bus stop for loading/unloading and motorbike pick-up / drop-off		✓
	2-3	Covered Passenger Areas	Provision of covered passenger waiting and circulation areas	✓	✓
	2-4	Benches	Provision of benches in passenger waiting areas (especially for women, elderly, and PWD)	✓	✓
	2-5	Retail / Kiosk	Provision of retail and kiosk spaces for local businesses		✓
	2-6	Ticket & Information Center	Provision of ticketing & information center		✓
	2-7	Toilet	Provision of toilets		✓
	2-8	Wayfinding Signage ^C	Provision of wayfinding signage	✓	✓
	2-9	Convenient Walk Network ^C	Enhanced walk catchment network and linkages (such as expanded sidewalks)	✓	✓
	3-1	Accessibility Ramps ^C	Provision of accessibility ramps at crosswalks	✓	✓
Inclusive	3-2	Wheelchair Access ^C	Provision of wheelchair inclines	✓	✓
	3-3	Tactile Pavement ^C	Provision of tactile pavement	✓	✓
	3-4	Sensitive Design	Adoption of Crime Prevention Through Environmental Design (CEPTED) ^A	✓	✓
	4-1	CCTV	Provision of CCTV for enhanced security		✓
Secure	4-2	Pedestrian-Scale Lighting ^C	Well-lit facilities and walk areas to reduce harassment, etc.	✓	✓
	4-3	Guard Post	Provision of guard rooms		✓
	5-1	Protected Sidewalk ^C	Curbed sidewalks, railings, etc.	✓	✓
Safe	5-2	Crosswalks ^C	Provision of crosswalks	✓	✓

Climate Resilient	5-3	Pedestrian Signals ^B	Pedestrian push buttons and countdown signs	✓	✓
	6-1	Landscaping (trees, etc.)	Landscaping areas such as trees to provide green environment for users/visitors	✓	✓
	6-2	Climate Resilient Design	Future proofing of facilities from climate change impact		✓

Note:

^A CEPTED is a design approach to manipulate the built environment to create a safer waiting area. This includes designing to eliminate blind spots, increasing visibility of waiting areas, etc. to deter crime and harassment, and minimize fear of crime.

^B These elements can be considered for external access improvements outside of terminal / on-street interchange

^C These elements can be considered for both facility improvements within terminal and external access improvements

V. DESIGN PROCESS

1. In the process of design services to produce the outputs required, the design consultant should prepare a schedule of periodic meeting with the owner.
2. In the periodic meetings, it should be determined which inception product, intermediate products shall be provided by the design consultant to conform to output plan determined in the TOR.
3. In the implementations of the tasks, the Design consultant should always consider that the works time schedule is fixed.
4. The works time schedule is Four (5) months after notice proceeded from the owner's instructions to begin the services.

VI. DESIGN INPUTS

1. Personnel

The design consultant should provide personnel who fulfil the requirements to implement the services based on the scope of work or the level of complexity of the works. The personnel required for this design activities should consist of the following :

a. International Key Expert

#	Position	Location	Qualifications & Requirements
1	Team Leader/ Civil Engineer	International	<ul style="list-style-type: none"> • At least a Bachelor's degree in transport/ civil engineering, or a related field. • A minimum of 15 years of relevant experience in implementing relevant projects. • At least 10 years of experience in leadership positions managing large-scale transport projects as Team Leader. • Certificate of expertise issued by and institution recognized by the Timor-Leste Government, previous works experience in Timor-Leste and Proficiency in Tetum, Indonesian, English or Portuguese will be an added advantage. <p>The tasks of Team Leader are the following:</p> <ol style="list-style-type: none"> To plan, coordinate and control all activities and personnel involved in this work, to ensure the satisfactory and timely completion of the services. To prepare implementation guidance in the stage of data collection, processing, and final presentation of the whole services. To plan and implement all activities covering design of structures and give input to the other experts related to the design services.
2	Transport Planner	International	<ul style="list-style-type: none"> • At least a bachelor's degree in transport planning or a related field. • A minimum of 10 years of relevant experience with at least 3 projects undertaking bus planning and operations, as well as bus terminal planning and design.
3	Traffic & Parking Specialist	International	<ul style="list-style-type: none"> • At least a bachelor's degree in transport planning, civil engineering or a related field. • A minimum of 10 years of relevant experience with at least 3 projects undertaking traffic and parking assessment along urban corridors, developing intersection and circulation improvement measures, and/or improving junction and corridor safety.

4	Road Safety Engineer	International	<ul style="list-style-type: none"> At least a bachelor's degree in transport/traffic engineer, civil engineering, or a related field. A minimum of 10 years of relevant experience with at least 3 projects assessing road safety and developing road safety improvements/measures in urban corridors.
5	Landscape Architect	International	<ul style="list-style-type: none"> At least a bachelor's degree in architecture, engineering, or a related field. A minimum of 15 years of relevant experience with at least 3 projects in designing public transport bus terminals.
6	Urban Planner	International	<ul style="list-style-type: none"> At least a bachelor's degree in urban planning or a related field. A minimum of 10 years of relevant experience with at least 3 urban design projects focusing on integration of public transport terminals and surrounding areas and urban realm enhancements.
7	Geotechnical Engineer	International	<ul style="list-style-type: none"> At least a bachelor's degree in Geotechnical , engineering, or a related field. A minimum of 10 years of relevant experience with at least 3 public transport (bus) projects where they undertook planning/design of ITS for public transport.
8	ITS Specialist	International	<ul style="list-style-type: none"> At least a bachelor's degree in transport, engineering, or a related field. A minimum of 10 years of relevant experience with at least 3 public transport (bus) projects where they undertook planning/design of ITS for public transport.

b. National Key Expert

(It is mandatory for the following local counterpart staff to be citizens of Timor-Leste or Local Timorese).

1) Architect

Education: Bachelor in Civil Engineering

Experience: Minimum 5 Years

2) Structural Engineer

Education: Bachelor in Architecture

Experience: Minimum 5 Years

3) Quantity Surveyor & Cost Estimator

Education: Bachelor in Civil Engineering

Experience: Minimum 5 Years

- 4) **Water Supply and Sanitation Engineer**
Education: Bachelor in Relevant area
Experience: Minimum 5 Years
- 5) **Mechanical, Electrical Engineer & Plumbing Engineer**
Education: Bachelor in Mechanical Engineering
Experience: Minimum 5 Years
- 6) **Environmental Specialist**
Education: Bachelor in Environmental
Experience: Minimum 5 Years
- 7) **Geodetic Engineer**
Education: Bachelor in Geodetic Engineering
Experience: Minimum 5 Years
- 8) **ITC Engineer**
Education: Bachelor in ITC Engineering
Experience: Minimum 5 Years

c. Additional Technical and Administrative Support Staff

The design consultant is responsible for ensuring adequate technical support and administrative staff.

2. Persons Month Requirement

It is estimated that 66 person-month of key experts, local counterpart staff services, and additional technical and administrative support staff will be required, as tabulated below:

Table 7
List of Personnel Month

No	Description	Unit	Qty	Duration
A	International Key Experts			
1	Team Leader / Civil Engineer	Month	1	5
2	Transport Planner	Month	1	3
3	Traffic & Parking Specialist	Month	1	3
4	Road Safety Engineer	Month	1	3
5	Landscape Architect	Month	1	3
6	Urban Planner	Month	1	2
7	Geotechnical Engineer	Month	1	3
8	Intelligent Transport System (ITS)	Month	1	2
			8	24
B	National Key Experts			
1	Architect	Month	1	5
2	Structural Engineer	Month	1	3
3	Quantity and Cost Engineer	Month	1	5
4	Water Supply and Sanitation Engineer	Month	1	3
5	Mechanical, Electrical Engineer & Plumbing	Month	1	4
6	Environmental Specialist	Month	1	2
7	Geodetic Engineer	Month	1	3
8	Information Technology Engineer	Month	1	2
			8	27
C	Supporting Personnel			
1	Office Manager	Month	1	5
2	Office Boy	Month	1	5
3	Driver	Month	1	5
			3	15

3. Facilities Provided by the Government of Timor-Leste.

The government will provide the following:

- a. Counterpart staff according to availability for assistance with surveys and progress monitoring
- b. Assistance and advice on the processing of visas and work permits for consultant staff as requested.

4. Facilities Provided by The Consultant

The Consultant will provide the following:

- c. Office accommodation near project location and all furnishings and office equipment.
- d. All survey equipment as required.
- e. Computing, drafting, and mapping equipment and software
- f. Local Transportation
- g. Travel costs to and from Timor-Leste.

VII. DESIGN COST, PAYMENT AND RETENTION

1. The consulting services shall be a fixed lump sum cost contract based on the winning consultant's Financial Proposal and finalized in negotiation with the Owner.
2. Upon signing of contract, no additional cost will be allowed, unless as subsequently agreed between the Design Consultant and the Owner through, and incorporated in, a written contract amendment.
3. The payment of this design activities will be scheduled as follows:
 - a. The first payment equivalent to 15% of the contract price will be paid to the design consultant after the inception report was discussed and approved by the owner.
 - b. The second payment equivalent to 15% of the contract price will be paid to the design consultant after the preliminary design is discussed and approved by the owner.
 - c. The third payment equivalent to 20% of the contract price will be paid to the design consultant after the Development design is discussed and approved by the owner.

- d. The fourth payment equivalent to 50% of the contract price will be paid to the design consultant after the Final report has been reviewed, approved and submitted to the owner.
- e. The employer shall retain 5% from each progress payment as Performance and Quality Guarantee for satisfactory performance of the Contract. The 5% of retention money will be paid to the Consultant until the finalization of the procurement process.

VIII. WORK PROGRAM

The Design Consultant should arrange work program that at minimum should cover the following:

- a. Work schedule in detail
- b. Manning schedule
- c. Allocation of experts and their discipline and expertise. The curriculum vitae and a letter of availability to work of the proposed experts should be attached.
- d. Concept of design work method.

The work program should be approved by the owner after presentation by the design consultant and input provided from the owner.



Terms of Reference
For
Consultant Services of Detail Engineering Design for
Public Transport

March 2025



MINISTÉRIO DOS TRANSPORTES E COMUNICAÇÕES



Avenida de Xavier do Amaral, Caicoll, Dili, Timor Leste

Project Name Project Fasilitade "transporte Públiku (Terminal 10), Melhoramentu Sistema Transporte Públiku.
 project owner Ministry Public and transport Communication (MTC)

SUMMARY							
No.	Description	Unit	Quantity	Duration	Unit Price	Amount (US \$)	
I. Remuneration							
A. International Key Experts							
1	Team Leader / Civil Engineer	Man/Month	1	5.0	\$ 17,600	\$ 88,000	
2	Transport Planner	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
3	Traffic & Parking Specialist	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
4	Road Safety Engineer	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
5	Architect & Infrastructure Designer	Man/Month	1	4.0	\$ 17,600	\$ 70,400	
6	Urban Planner	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
7	ITS Specialist	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
8	Institutional Specialist	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
9	Financial / Loan Specialist	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
10	Economist	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
11	Environmental Specialist	Man/Month	1	3.0	\$ 17,600	\$ 52,800	
12	Social & Gender Specialist	Man/Month	1	3.0	\$ 17,600	\$ 52,800	
13	Climate Change Expert	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
14	Communications Specialist	Man/Month	1	2.0	\$ 17,600	\$ 35,200	
15	Procurement Specialist	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
16	Capacity Building Specialist	Man/Month	1	1.0	\$ 17,600	\$ 17,600	
			16	33.0	Sub total	\$ 580,800	
B. National Key Experts							
1	Deputy Team Leader / Civil Engineer	Man/Month	1	6.0	\$ 5,500	\$ 33,000	
2	Transport/Traffic Expert	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
3	Urban Planner	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
4	Mechanical Engineer	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
5	Geotechnical Engineer	Man/Month	1	4.0	\$ 5,500	\$ 22,000	
6	Financial & Economic Expert	Man/Month	1	3.0	\$ 5,500	\$ 16,500	
7	Environmental Expert	Man/Month	1	4.0	\$ 5,500	\$ 22,000	
8	Social & Gender Expert	Man/Month	1	4.0	\$ 5,500	\$ 22,000	
9	Communications Expert	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
10	Legal Expert	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
11	Institutional Expert	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
12	Capacity Building Expert	Man/Month	1	2.0	\$ 5,500	\$ 11,000	
13	Procurement Expert	Man/Month	1	4.0	\$ 5,500	\$ 22,000	
14	CAD Technician	Man/Month	1	6.0	\$ 5,500	\$ 33,000	
15	Cost Engineer	Man/Month	1	4.0	\$ 5,500	\$ 22,000	
			15	49.0	Sub total	\$ 269,500	
II. Expenses							
C. Air Travel							
1	International flights (anywhere to Dili - Return)	R.Trip	14.00		\$ 1,500	\$ 21,000	
					Sub total	\$ 21,000	
D. Per Diem							
1	Accommodation	Fixed Rate/day	68.00		\$ 100	\$ 6,800	
2	Per diem (Based on total days in field per trip)	Fixed Rate/day	78.00		\$ 50	\$ 3,900	
					Sub total	\$ 10,700	
E. Land Travel							
1	Local transport cost (inclusive of all fees)	Fixed Rate/day	78.00		\$ 25	\$ 1,950	
					Sub total	\$ 1,950	
F. Communication							
1	Local communication	Fixed Rate/Month	33.00		\$ 50	\$ 1,650	
					Sub total	\$ 1,650	
G. Meeting, Workshop, and Translation							
1	Meeting/workshop/translation	Set	6.00		\$ 500	\$ 3,000	
					Sub total	\$ 3,000	
H. Surveys							
1	Surveys	Lumpsum	1.00		\$ 200,000	\$ 200,000	
					Sub total	\$ 200,000	
I. Reporting							
1	Inception Report	Set	1.00		\$ 500	\$ 500	
2	Interim Report	Set	1.00		\$ 500	\$ 500	
3	Draft Final Report	Set	1.00		\$ 500	\$ 500	
4	Final Report	Set	1.00		\$ 500	\$ 500	
					Sub total	\$ 2,000	
							\$ 1,090,600
III. Contingency							
1	Contingency (2%)	Fixed %	2%		\$	21,812	
					Sub total	\$ 21,812	
							Grand Total \$ 1,112,412

Data,...../01/2025

Prepared by:
 Eng. Afonso Henrique Lopes
 Technical Staff-MTC



Certified by:
 Maria Antonia Vitor da Costa
 Director DNNT



Approved by:
 Constantino Ferreira Soares
 DGTC-MTC



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

FORMULARIO DE DESPACHO

Data de Entrada Documentos : 04 - 02 - 2024 Data do Documentos : 30 - 01 - 25

Husi : MTC - DGTC

No. Ref : 032 / Gab - DGTC /MTC /I /2025

Projecto : Fasilitade Transporte publico
(Terminal 10) melhoramento sistema
Transporte publico.

Quantidade Documentos 2

Anexo :

* TOR : !
* LISB : !

Assuntos :

Pedido Verifikasiacun TOR

No.Tlf : -

Companhia : -

Despacho :

- Unidade de Gestão Administrativa
- Unidade de Avaliação de Projectos
- Unidade de Controlo e Validação de Qualidade
- Unidade de Estudos e Desenvolvimento de Competências

- Soluções CEF para etande
- informaçao pt nos

UEPC .

- Adjunto
- Assessor/a
- Gabinete DE / Base de Dados
- Other

Data : 30-01-25

Rui Lourenço da Costa
Director Executivo ADN



MINISTÉRIO DOS TRANSPORTES E COMUNICAÇÕES
GABINETE DE DIREÇÃO GERAL DE TRANSPORTES E COMUNICAÇÕES
Avenida de Xavier do Amaral, Caicoli – Díli, Timor-Leste



Dili, 30 de Janeiro de 2025.

Nº. Ofício : 072/Gab-DGTC/MTC/I/2025.

Excelentíssimo Sr. Rui Lourenço da Costa
Diretor Executivo da ADN, I.P.

Assunto : **Pedidu Verifikasiun TOR Detailed Engineering Design (DED)
Projetu Fasilitade Transporte Públiku (Terminal 10),
Melhoramentu Sistema Transporte Públiku.**

Ho respeitu,

Ministério dos Transportes e Comunicações (MTC) hahú husi fulan Novembru 2022, hetan asistensia téknika husi *Asian Development Bank (ADB)* hodi inisia Projetu Transporte Públiku. Projetu refere iha atividades importante tolù hanesan, estudu ba Planu Mestre Transporte Públiku (PMTP) nebé lansa iha loron 23 de Maiu 2024 no Estudu Viabilidade ba fasilitade terminal transporte públiku nebé lansa ona iha loron 10 de Janeiru 2025. Etapa tuir mai mak estudu ba DED ba fasilitade terminal hamutuk sanulu (10) nebé identifikadu viável atu hala'o. Nune'e, liu husi biban ida ne'e, ami envia TOR ba konsultor DED no mos Kustu Estimativa atu nune'e bele hetan verifikasiun husi ekipa ADN, I.P. no aprovasaun husi ita boot.

Projeto ne'e raisik iha F.I 2025 ba Programa Transporte, Sub Programa Trasporte Terrestre, Kodigo Actividade : 5020209

Karik iha perguntas kona-bá asuntu koordenasaun projetu refere, bele kontaktu Sr. Nelson Sequeira Martins (Chefe Dep. Secretariado de Apoio Técnico e Administrativo a DNTT), telf: 77282238 ou Sr. Agustinus Bruno Halle (Vise-Koordenador Ekipa Servisu Projetu Transporte Públiku DNTT) email bruno_atta@yahoo.com telf: 78181811. Bele mos kontaktu Sr. Profírio Fernandes Xavier, *ADB TA Consultant for Public Transport Project*, email: konumalai@gmail.com tlf: 77608587.

Maka ne'e deit ami nia karta, ami agradese ba Sr. Diretór nia tempu.



*30
01
2025*

Constantino Ferreira Soares

Diretor Geral de Transportes e Comunicações

Cc :

1. Excelência Ministro dos Transportes e Comunicações,
Eng. Miguel Marques Gonçalves Manetelu.
2. Excelência Diretor Gerál da Administração e Finanças – MTC,
Sr. Aniceto Leto Soro
3. Excelência Chefe Gabineti de Planeamento, Política e Cooperação
Sr. Fernando da Cruz
4. Excelência Diretora Direção Nacional de Transportes Terrestres,
Sra. Maria Antonia Vitor da Costa.



Ministry of Transportation and Communication (MTC)

Timor-Leste Public Transport Project

Terms of Reference for Bus Terminal Detailed Engineering Design

Reference:

| January 24, 2025

Terms of Reference for Bus Terminal Detailed Engineering Design

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1. Introduction

1.1 Project Background

The Government of Timor-Leste has requested the Asian Development Bank (ADB) to utilize a transaction technical assistance facility (F-TRTA), Southeast Asia Transport Project Preparatory Facility, Phase 2, to provide project preparation support for the proposed Timor-Leste Public Transport Project (TLPTP). The Technical Assistance (TA) aims to provide project preparation support and capacity building to the governments of five Southeast Asian developing member countries (Indonesia, Myanmar, the Philippines, Timor-Leste, and Viet Nam) for a series of ensuing transport sector projects. The TA has three outputs: (i) a feasibility study for ensuing projects preparation; (ii) support for project implementation activities; and (iii) enhancement of the technical and project management capacity of the executing agencies (EAs) and implementing agencies (IAs).

The proposed TLPTP will support the government of Timor-Leste's planned public transport reforms to provide: (i) a high-quality and sustainable public transport system that meets the needs of users for safety, comfort, security, convenience, affordability, accessibility and availability; and (ii) a transparent and stable regulatory environment that encourages on-going private sector investment and operations. The project is planned to reform interurban land transport and strengthen the position of Dili as the transport hub by integrating bus routes and providing convenient and comfortable bus terminals.

The ADB conducted a consultation mission (the Mission) for the preparation of the TLPTP in April 2024 and finalized the 2024 Public Transport Master Plan (PTMP) with support from the Ministry of Transport and Communication (MTC). In the 2024 PTMP, selected bus terminals, interchanges, and stops were identified for improvement and development with gender equitable and socially inclusive designs. The same PTMP also formulated a list of priority terminal sites (i.e., ten sites as summarized in **Section 7**) in the medium-term investment plan (2026-2030) for later Detailed Engineering Design (DED) activities. **Figure 1-1** indicates the bus facilities proposed for improvement and development during DED.

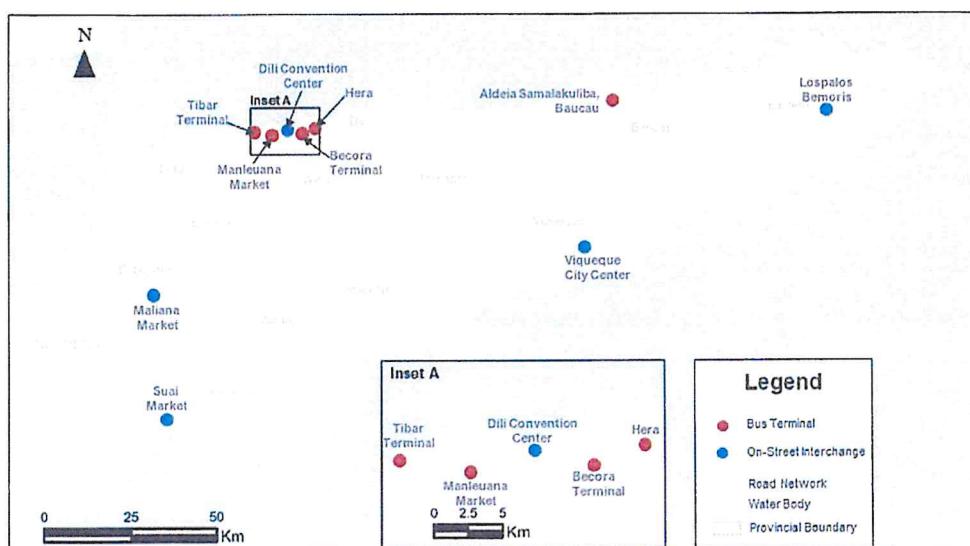
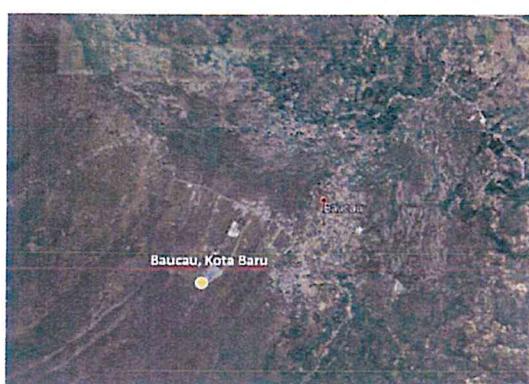


Figure 1-1: Location of Terminal Sites for DED





Against this background, the ADB requires a consulting firm (the “Consultant”) to undertake various services (i.e., the “Assignment”). This Assignment will support preparation of the TLPTP, ensuring all analysis is undertaken and documents prepared to explore the prospective ensuing loan, and permit the project to be submitted to ADB’s Board of Directors for approval. The key output of the Assignment is as follows with details provided in the Scope of Services in Section 3:

- **Detailed Engineering Design of Selected Bus Terminals** – Undertake additional works to the detailed engineering design level for selected terminals in Dili and other locations, including traffic analysis, detailed engineering surveys and investigations, detailed designs, drawings, and cost estimates.

1.2 Implementation Arrangements

CAFI (Conselho de Administração do Fundo Infraestrutura (Council for the Administration of the Infrastructure Fund)) will serve as the Executing Agency, and MOTC will serve as the Implementing Agency.

1.3 Indicative Project Preparation and Implementation Schedule

The indicative implementation schedule, which assumes that DED budget can be secured by the end of 2024, is presented in **Table 1-1**. Currently, the loan is scheduled for 2025 approval.

Table 1-1: Indicative Implementation Schedule of TLPTP

	2022	2023	2024	2025	2026	2027	2028	2029	2030	...
Master plan				19 mon						
Feasibility study				4 mon						
Detailed engineering design		Gov's finance		DED Recruitment Procurement support		26 mon (gov appropriation 5 mon, recruitment 6 mon, DED 6 mon, procurement support of 10 mon)				
Due diligence				10mon						
Loan process					Fact-finding	6 mon (to align with the DED process; Loan approval in 2025/26)				
Land acquisition and resettlement						12 mon (after DED completion)				
Civil works					Gov's finance		34 mon (procurement 10 mon, civil works 24 mon)			
Equipment					Procurement	Works	28 mon (procurement 10 mon, installation 18 mon)			
Institutional support	If advance action is impossible, these procurements start after loan approval. These packages can be combined.				Procurement	Installation		39 mon (recruitment 9 mon, support 30 mon)		
Project management support					Recruitment			39 mon (recruitment 9 mon, support 30 mon)		
Operation and management						Project completion in 2028				
						O&M support may continue after 2028 if necessary				

The Assignment of this Project shall be completed within 12 months from the date of issuance of the Notice to Proceed under the Contract, with the major deliverables to be finalized within 12 months. It is expected that the Consultant will commence its services in mid-2025, and the international and national specialists will undertake field missions appropriate to the requirements of the Terms of Reference.

2. Objectives of the Assignment

The main objective of the Assignment is to support the formulation of DED and cost estimates for the terminal enhancements proposed as part of the TLPTP to prepare these for procurement and implementation as part of the government's overall medium-term public transport scheme. The key specific objectives of this Assignment are as follows:

- Prepare the DED for the TLPTP by appraising the Feasibility Study and related concept/preliminary designs, further augmenting information and investigations needed, preparation of the detailed engineering and tender design, as well as the related loan processing documents, the financial and economical assessments, and the project/loan safeguard documents.

3. Scope of Services

The scope of the services to be provided by the consultants will include the following tasks:

3.1 Task 1 Preparation of Inception Report

The Inception Report shall include the approach and methodology for the services, the Consultant's expert mobilization and staffing plan, the project schedule for all main tasks.

For the project coordination, the Inception Report shall include a detailed task and deliverables schedule, including internal or sub-consultant's studies and investigations, all draft/final Interim Reports, design deliverables, bid document deliverables, and support tasks, and including all external approvals.

3.2 Task 2 Appraisal of Feasibility Study for Bus Terminals

During the appraisal process, the Consultant shall review the Feasibility Study, complement the information and investigation studies needed, and assess and incorporate external parameters to ensure the overall project objectives and to develop the further design stage. Key tasks include the following:

- Assess the Feasibility Study report, including reviewing background information, studies undertaken, input data used, and key parameters considered for the preparation of the existing Feasibility Study, so to ensure that the study reflects the most appropriate and optimized proposal and options to further develop the project to be ready for investment and implementation.
- Collect all necessary information for existing, on-going, and future planned public transport and transport infrastructure development works of the government, as well as private sector development in around the terminals.
- Review all related documents available and identify information gaps or requirements for further or detailed studies and/or investigations.

- Examine all existing public and private spaces, public road space usage/sharing, infrastructure, buildings, structures, and facilities around the sites and in direct/close vicinity of the foreseen sites.
- Identify all relevant and concerned agencies/stakeholders and support the client in conducting continuous coordination and consultations with all relevant stakeholders.
- Complement the existing Feasibility Study in relation to required studies and investigations, which may be missing, to be updated, or to be extended for a thorough appraisal of the Feasibility Study. This shall also embrace potential or required options of proposed deviations of the foreseen alignment and/or options for alternative station locations.

3.3 Task 3 Detailed Engineering Design for Bus Terminals

For each of the project's physical components, the Consultant will prepare the DED that will form the basis for the subsequent construction specifications under the construction tender document. The DED will encompass detailed component descriptions, detailed drawings, and the associated detailed technical specifications. The DED will incorporate the agreed upon comments and modifications provided from the presentation of the appraisal of the Feasibility Study.

The design will include a coherent and complete set of documents, properly consolidated and indexed, and will fully describe the proposed works. The design shall provide sufficient detail to procure the works and equipment and to estimate accurately cost investment and bill of quantities.

This DED report will include, but not be limited to, the following:

3.3.1 Task 3-1 Transport & Planning Investigations

Transport and planning investigations will include, but not be limited to, the following:

- **Traffic Study and Demand Analysis** - The Consultant shall:
 - Conduct surveys to collect the following information to inform traffic design and site access: (i) traffic surveys of volume, ridership, type, and direction; (ii) inventory of traffic lanes and signal system; (iii) assessment of accidents including location and root cause within the catchment; and (iv) Origin-Destination (O-D) survey to understand predominant paths taken by potential passengers and visitors.
 - Review existing transport networks and public transport services that will serve the selected bus terminals. A critical assessment of existing conditions, potential opportunities and constraints should be identified, and a list of recommended transport infrastructure and networks should be highlighted to optimize location for bus terminals and interchange opportunities.
 - Estimate present and future traffic in and around the selected bus terminals with specific reference to proposed driveways and leading to/from the terminal sites.
 - Review the operating plan and service network proposed in the 2024 PTMP and make refinement (if warranted) to create a more optimal public transport network and to ensure facilities are sized appropriately for future years (assessment years to be Opening Year, 5 Years, and 10 Years in the future).
- **Facility Design and Circulation Plan** – The Consultant shall:
 - Review public transport service plan to confirm number of bays and sizing of key components at the terminals including loading/unloading bays, layover/staging bays, as well as passenger waiting facility sizing/amenities, staff/visitor parking (if any), and external loading/unloading curbs and ensure safe, efficient, and effective operations.

- Develop terminal design brief including, but not limited to, design criteria and standards for bus terminal including those for bus bay sizing, staging/parking space sizing, passenger facility elements including waiting and loading areas, circulation paths and sidewalks, access-for-all considerations, operator management areas, etc.
- Develop the DED and drawings for the terminals including but not limited to all public and back-of-house areas for the terminals, bus circulation, bus loading/unloading, bus parking, passenger waiting, passenger circulation, structures, access roads/driveway, sidewalk, curbs, private parking, etc.
- Develop an internal vehicle and passenger circulation plan and identify relevant design standards for the facility, parking, and circulation area, etc. including that for horizontal and vertical signage to ensure safe vehicle and passenger operation throughout and leading into/out of the facility (plans shall minimize backup operations to the extent possible).
- Develop a curb design and management to including loading and unloading curbs (for Kiss-and-Ride), as well as parking areas for pickup and dropoff, as warranted.
- Develop and design goods and livestock storage facilities and transportation arrangements for such logistics handling.
- **Urban Design and Streetscape** – The Consultant shall:
 - Conduct baseline review and identify challenges and opportunities to promote development (commercial, retail, etc.) adjacent to the terminal sites as well as wider surrounding areas.
 - Integrate sustainable urban design and local characteristics into the principles and designs for the facility and enhanced streetscape for sidewalks and corridors leading into and out of the facility.
 - Estimate sizing of facilities, amenities and spaces proposed for urban development.
 - Prepare urban design drawings and briefs for public engagement.
- **External Non-Motorized Transport (NMT) Plan** – The Consultant shall:
 - Review the NMT plan for safe, direct, and efficient access to/from the facility.
 - Conduct a detailed assessment of the existing pedestrian infrastructure around the terminal, including sidewalks, crosswalks, and pedestrian bridges or underpasses.
 - Identify any barriers or obstacles that hinder pedestrian movement, such as uneven surfaces, insufficient lighting, or inadequate signage.
 - Evaluate the accessibility of pedestrian infrastructure for individuals with disabilities, including the presence of ramps, tactile paving, and audible signals.
 - Design pedestrian-friendly infrastructure, such as wider sidewalks, dedicated pedestrian paths, and pedestrian plazas, to improve walkability around the terminal.
 - Ensure safe and convenient pedestrian crossings at key intersections and access points, including the provision of clearly marked crosswalks, pedestrian signals, and refuge islands.
 - Establish a network of well-connected pedestrian routes that link the terminal to surrounding residential areas, commercial centers, public transportation stops, and other key destinations.

W -

- Propose adequate lighting along pedestrian routes to enhance safety and visibility, particularly during nighttime hours.
- Consider first/last mile connectivity options such as bike facilities as needed (including bike parking, shared bicycle facilities, etc.)
- Consider traffic calming near the terminals to slow vehicular traffic and facilitate safe NMT crossing and travel.
- **External Traffic Management Plan** – The Consultant shall:
 - Review/refine signal and road flow/circulation improvement plan to ensure safe and efficient vehicular connections to/from the facility.
 - Develop an external traffic management proposal for the construction and post-construction periods for connecting roads linking the terminals to nearby public roads, which shall include, but not be limited to the following:
 - Traffic design brief highlighting design criteria and standards for public roads and signage aligning with local and national standards for the proposed Temporary Traffic Management (TTM), Pedestrian Management Schemes and Permanent Traffic Arrangement (PTA).
 - Proposed TTM schemes during construction at site ingress/ egress points, including delineation of works area, and traffic diversion schemes for each construction stage.
 - Proposed temporary pedestrian management schemes during construction and provision of temporary pedestrian paths, as necessary for each construction stage.
 - Overnight closure plans and related vehicle and pedestrian diversion schemes, if necessary.
 - Proposed PTA configurations and related traffic and pedestrian performance at ingress/ egress points of site to/ from the public road.
 - Plan for additional traffic surveys (if any) for the use of traffic assessment during each construction stage and after implementation stage.
- **Intelligent Transport System (ITS)** – The Consultant shall develop the ITS design to complement the facility and enhanced corridors for operational and convenience benefits. This detailed design and technical/operational specifics for systems including, but not limited, to the following:
 - Passenger information systems with the following objectives:
 - Provide real-time vehicle arrival and schedule information to passengers.
 - Provide updates on system situation and contingencies.
 - Closed-circuit television systems with the following objectives:
 - Allow for continuous monitoring of passenger facilities for safety and security purposes.
 - Allow for faster incident response.
 - Traffic and pedestrian signal systems with the following objectives:
 - Allow for actuated and safer pedestrian crossings near the facility.
 - Improve traffic flow and traffic safety.

- Allow for eventual synchronization with the wider traffic signal network for more efficient network traffic flow and minimized delay, including Adaptive Signal Control (ASC) with the government's traffic management office.
- Design piloting of an automated number plate recognition (ANPR) scheme for monitoring traffic violations and/or operating outside of approved/defined corridors/routings.
- Administrative systems
 - Design public transportation administration systems such as ticketing systems, inventory management systems, and financial / human resources management systems.

3.3.2 Task 3-2 Engineering Studies

Engineering studies will include, but not be limited to, the following:

- **Civil and Structural Design** – Consultant shall submit an outline civil and structural design proposal, which shall include narrative on the design standards, criteria, and methodologies, taking into consideration construction sequence for all civil and structural design elements including but not limited to the following:
 - Site formation and retaining wall works.
 - Roadwork, signages and road furniture.
 - Pavement design.
 - Stormwater management system.
 - Rainwater harvesting systems in identified terminals and bus stop locations.
 - Underground water storage facilities to temporarily mitigate flooding at identified bus terminal and surrounding areas due to heavy rains, as well as use of water either to percolate to the ground or used for terminal maintenance or converting it to potable water for passenger usage.
 - Water supply system.
 - Sewage and graywater treatment plant and system.
 - Various buildings including but not limited to the passenger waiting facility with good air circulation and ventilation as well as systems to provide support to relieve/minimize urban heat related hazards, administrative/management offices/buildings, logistics management facilities, women care facilities such as lactation rooms, toilets, etc.

Consultants shall also include the following drawings / sketches in the design proposal to demonstrate that the design for the components mentioned above comply with the design requirements as specified in Section 6 Employer's Requirements:

- General arrangement plans and sections.
- Typical details.
- For major buildings including sewage and graywater treatment plant and bridges.
- Typical structural framing plans with schedules of members sizes for building structures.
- Typical steel connection details for building structures, where applicable.



Consultants shall also consider integration of climate resilience features to enhance resilience of bus terminals against climate change and disaster hazard impacts (based on the findings from climate change and resilience assessment in Task 4). Such features include but not limited to:

- Climate resilient design of terminals including solar rooftop facilities to power the terminals, as well as solar lighting at bus stops and other passenger boarding / alighting areas.
- Flood control infrastructure through innovative stormwater drainage schemes, water harvesting system, and underground storage of flood water (where elevated bus terminals are not possible due to building height limitations).
- Possibility of creating green space in the terminals.
- Use of permeable materials, heat resilient designs (for instance with green roof shading), and reflective materials to reduce the heat island effect.
- Earthquake resilient terminals.
- Carbon accounting system to register and monitor the use of fuel consumption.
- **Mechanical and Electrical** - Consultant shall submit an outline Mechanical and Electrical proposal for the interior of the buildings (as warranted), specifically for passenger terminal and operator buildings/structures in the Dili terminals.
 - Systems may include Heating, Ventilation, and Air Conditioning (HVAC), power (including use of renewable energy sources), gas, etc.
- **Geotechnical Investigation and Study (including Liquefaction Assessment)** - As a part of the scope, Consultant shall submit an outline geotechnical design proposal, which shall include narrative on the design standards, criteria, and methodologies, taking into consideration construction sequence for all geotechnical design elements including but not limited to:
 - Ground investigation works.
 - Foundation works and testing requirements.
 - Geotechnical instrumentation and monitoring works.
 - Consultant shall also include the following drawings / sketches in the DED report to demonstrate the geotechnical design.
 - Layout plans of the ground investigation works.
 - Layout plans of the geotechnical instrumentation and monitoring works.
 - Layout plans of all types of foundation works.
 - Typical details of all geotechnical elements, including instrumentation and monitoring works, and all types of foundation works.
- **Topographic Survey and Mapping** - The Consultant shall:
 - Undertake the acquisition of airborne Light Detection and Ranging (LiDAR) survey and aerial orthophotos, pre-processing and post-processing for the areas of interest. SD
 - The LiDAR survey shall produce outputs and deliverables identical to that of detailed topographical survey to show all natural and man-made features.

- The surveyor is responsible for site clearance to ensure inter-visibility between horizontal control stations and to obtain all relevant permits, permission from lots and liaison with relevant government agencies for temporary traffic diversion arrangement before performing the survey.
- The surveyor shall prepare method statement methodology and works involved including but not limited to how to establish benchmarks, survey flight lines, work schedule, forecast weather and communication plans to perform the authorized land surveyor (ALS) works.
- **Utility Investigation Survey and Exploration** – The Consultant shall:
 - Review existing utility records, including maps, as-built, and documentation from relevant utility companies.
 - Conduct interviews with utility providers to gather information about the location and depth of existing utilities.
 - Identify potential utility conflicts or overlaps based on available data.
 - Perform a visual inspection of the project site to identify visible utility features or markers.
 - Create an accurate utility map indicating the location, depth, and type of utilities found.
 - Develop a comprehensive utility record keeping system to document findings, including photographs, measurements, and descriptions.
 - Generate utility profiles or cross-sections to visualize the vertical arrangement of utilities.
 - Prepare utility conflict reports, if any, highlighting areas where utility relocations or adjustments are necessary.
 - Provide recommendations for avoiding or mitigating utility conflicts during the project design and construction phases.
- **Hydrological / Meteorological Study and Flood Mapping** – The Consultant shall:
 - Conduct a comprehensive assessment of the chosen location's water resources, including surface water bodies, groundwater, and water availability and analyze water quality parameters.
 - Assess the potential for flooding and conduct flood risk mapping to identify flood-prone areas.
 - Develop strategies for sustainable water management, conservation, and infrastructure development.
 - Collect and analyze historical meteorological data, including temperature, rainfall, wind speed, and humidity, from weather stations across the project location.
 - Study the climatic patterns and trends in the region, including the monsoon seasons and variations in temperature and rainfall.
 - Assess the microclimatic conditions and variations in different areas of Timor-Leste.
 - Evaluate the potential for extreme weather events, such as tropical storms, cyclones, or droughts.
 - Analyze the impact of climate change on the local weather patterns and potential implications for the bus project.

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- Determine the optimal design considerations for the bus project in relation to meteorological factors, such as shading, ventilation, and thermal comfort.
- **Seismological Study and Fault Mapping** - The Consultant shall:
 - Collect historical seismic data from local and regional seismic monitoring networks and conduct a geological survey to identify and locate active faults in the study area.
 - Identify and analyze seismic events in the study area, including their magnitude, depth, and epicenter.
 - Map the fault lines and determine their dimensions, orientation, and slip rates.
 - Study the seismic wave propagation characteristics to understand the behavior of seismic waves in the region.
 - Assess the potential for seismic hazards, such as earthquakes, aftershocks, and ground shaking.
 - Analyze the geological and tectonic conditions that contribute to seismic activity in the area.
 - Evaluate the vulnerability of the project to seismic events and recommend mitigation measures.
 - Provide recommendations for construction practices that account for fault-related hazards.
- **Design Reports and Other Documents** – Design reports and other documents will include in particular:
 - Explanatory note.
 - Structural and other necessary design calculation, with safety margin being adequate and not too excessive.
 - Codes and standards to be adopted.
 - Detailed engineering execution methods and phasing, diagrams and graphic.
 - Technical specifications and volumes of works.
 - Construction organization program and time schedule, including required equipment.
 - Project detailed resume.
 - The Consultant will prepare the final detailed engineer's cost estimate for each of the components to be tendered. Both a price contingency and physical contingency shall be calculated for the project, based on the contingency calculation procedures of the EA/IA.

3.3.3 Task 3-3 Costs and Construction Schedule

- **Costs and Construction Schedule** – Cost estimates developed in the Feasibility Stage will be leveraged to develop costs to the typical DED level to provide the Government with a satisfactory cost estimate for the funding of the project, as well as to enable contractors to proceed into construction drawings quickly and easily, etc. Likewise, a detailed construction schedule will be developed (to the DED level) including land acquisition, site formation, construction, and handover timeline for operations.

3.4 Task 4 Climate Change Risk Assessment

- **Climate Change Risk Assessment**

- Collate relevant data and information on: (i) climate change and variability and its impacts on the project; and (ii) Greenhouse Gases (GHG) reductions in close consultation with project and other Consultant team members.
- Conduct a Climate Risk and Vulnerability Assessment (CRVA) using internationally accepted methodology and latest climate projection models and as aligned with local official studies.
- Identify and/or adopt appropriate and internationally accepted measuring, reporting, and Monitoring, Reporting and Verification (MRV) plan.
- Recommend array of climate change adaptation measures (e.g., engineering, non-engineering, management (e.g., safety measures via use of Multi-Hazard Early Warning Systems) and mitigation opportunities based on collective inputs from the other Consultant team members (to be integrated into the designs in Task 3.2)
- Prepare the CRVA report and provide inputs for other reports required by ADB.

3.5 Task 5 Safeguard Documents

- **Social, Poverty, and Gender Assessment**

- Prepare the following aligned with the ADB's Handbook on Poverty and Social Analysis: A Working Document (2012), Guidelines for Gender Mainstreaming Categories of ADB Projects (2012), and Strengthening Participation for Development Results: An ADB Guide to Participation (2012) and relevant Timor-Leste regulations/policies: (i) a poverty and social assessment (PSA); (ii) a consultation and participation plan (CPP); and (iii) a summary poverty reduction and social strategy (SPRSS).

- **Land Acquisition & Resettlement Planning**

- During the feasibility study appraisal phase and the preliminary design stage, the Consultant shall conduct a screening of involuntary resettlement and indigenous peoples' impact in accordance with the Safeguard Policy Statement (SPS). Identify whether the project is likely to trigger Involuntary Resettlement Safeguards or Indigenous Peoples safeguards policy requirements. Estimate the scope, nature, and types of impacts sufficient to assess the likely safeguards categories of the identified project. Prepare the checklist for involuntary resettlement and indigenous people screening using the ADB provided template.
- The screening exercise will also include a due diligence of past social impacts, vis-a-vis, if land acquisition or land clearing has been accomplished in anticipation of the project.
- If determined that land has been acquired or cleared in anticipation of ADB financing, then develop and finalize the resettlement plan (final documents shall be in compliance with standards and principles set out in the SPS. This might require additional studies and due diligences depending on information already available and will require coordination with the IA to ensure that measures proposed in the final resettlement plan are implementable).

- **Environmental Impact Assessment (EIA) (including Noise and Vibration Study)**

- Conduct an EIA and prepare an EIA report in accordance with ADB's SPS, and the government's environmental regulations and policies.