



GEF-6 REQUEST FOR ONE-STEP MEDIUM-SIZED PROJECT APPROVAL

TYPE OF TRUST FUND: GEF Trust Fund

For more information about GEF, visit TheGEF.org

PART I: PROJECT IDENTIFICATION

Project Title:	Vientiane Sustainable Urban Transport Project		
Country(ies):	Lao PDR	GEF Project ID: ¹	9146
GEF Agency(ies):	ADB (select) (select)	GEF Agency Project ID:	45041
Other Executing Partner(s):	Lao PDR Ministry of Public Works and Transport	Submission Date:	08 Dec 2015
GEF Focal Area(s):	Climate Change	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		
Name of Parent Program:	[if applicable]	Agency Fee (\$)	165,600

A. FOCAL AREA STRATEGY FRAMEWORK AND PROGRAM²:

Focal Area Objectives/programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
(select) CCM-1 Program 1 (select)	Promote the timely development, demonstration, and financing of lowcarbon technologies and mitigation options	GEFTF	1,460,000	58,300,000
(select) CCM-2 Program 3 (select)	Promote integrated low-carbon urban systems	GEFTF	380,000	18,150,000
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
Total project costs			1,840,000	76,450,000

B. PROJECT FRAMEWORK

Project Objective:						
Project Components/ Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
1. Improvements to pedestrian accessibility to BRT stations – Infrastructure	Inv	1. Pedestrian-friendly environment created for walking trips and accessing the BRT 2. Pedestrian-friendly infrastructure successfully demonstrated 3. Increase in walking as an alternative to	1. Improved Pedestrian facilities provided around and connecting to BRT stations (including improved footpath connectivity and surface quality; crossings; landscaping; way-finding	GEFTF	1,000,000	62,450,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

		private car/motorcycle and tuk-tuk 4. GHG emissions avoided (1.0-1.4 million tonnes)	signage; and protection of pedestrian paths from parked vehicles)			
2a. Modern Pedicab System – Planning & Capacity Building	TA	1. Sustainability of a modern pedicab system successfully demonstrated 2. Increase in public transport service quality and attractiveness of travel by pedicab as an alternative to private car/motorcycle and tuk-tuk	1. Sustainable operations, business and fare plans developed for pedicab system 2. Drivers trained in pedicab operation, customer service, and business principles	GEFTF	380,000	1,460,000
2b. Modern Pedicab System – Vehicles and Infrastructure	Inv	1. Increased investment in low carbon pedicab technology and existing tuk-tuks scrapped 2. Technology successfully demonstrated 3. Increase in public transport service quality and attractiveness of travel by pedicab as an alternative to private car and tuk-tuk	1. Modern pedicab vehicles introduced into operation in Vientiane (around 120 vehicles) 2. Facilities for integration of Pedicabs provided at around 20 locations in the BRT corridor	GEFTF	460,000	8,000,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					1,840,000	71,910,000
Project Management Cost (PMC) ⁴				GEFTF	0	4,540,000
Total GEF Project Financing					1,840,000	76,450,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include confirmed co-financing letters for the project with this form.

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	Asian Development Bank	Loans	35,000,000
Donor Agency	European Investment Bank	Loans	20,000,000
Donor Agency	European Union Asian Investment Facility	Grants	6,900,000
Recipient Government	Government of Lao PDR	Equity	14,550,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing			76,450,000

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES), FOCAL AREA AND PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b)	Total (c)=a+b
ADB	GEF TF	Lao PDR	Climate Change	(select as applicable)	1,840,000	165,600	2,005,600
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total Grant Resources					1,840,000	165,600	2,005,600

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards	750 million tons of CO _{2e} mitigated (include	<i>1,610,000 metric</i>

⁵ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

a low-emission and resilient development path	both direct and indirect)	<i>tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If [non-grant instruments](#) are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund) in Annex B.

G. PROJECT PREPARATION GRANT (PPG)⁶

Is Project Preparation Grant requested? Yes No If no, skip item G.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS*

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁷ (b)	Total c = a + b
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total PPG Amount					0	0	0

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: a) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; b) the baseline scenario or any associated baseline projects, c) the proposed alternative scenario, GEF focal area⁸ strategies, with a brief description of expected outcomes and components of the project, d) [incremental/ additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF/SCCF and [co-financing](#); e) [global environmental benefits](#) (GEFTF), and [adaptation benefits](#) (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

1) THE GLOBAL ENVIRONMENTAL PROBLEMS, ROOT CAUSES AND BARRIERS THAT NEED TO BE ADDRESSED

Vientiane Capital City has an estimated population of about 750,000, with around 500,000 concentrated in the urbanized areas. By 2030, the population is expected to reach around 1.5 million inhabitants. The rapidly increasing population along with economic challenges has meant that Vientiane’s infrastructure capacity has become increasingly strained.

⁶ PPG of up to \$50,000 is reimbursable to the country upon approval of the MSP.

⁷ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁸ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

Traffic conditions in Vientiane are deteriorating due to increases in population and the number of vehicles. The city is experiencing increasing congestion and related problems of fatalities and injuries from road crashes (especially pedestrians), deteriorating air quality, and surging greenhouse gas emissions due to the rapid growth of private motorized vehicle use. The city has experienced an 11% average annual increase in private vehicles over the last decade, and the total number of vehicles registered in Vientiane has doubled over the last five years. Walking in Vientiane has become difficult as most footpaths have been taken over by undisciplined car and motorcycle parking. With congestion and associated concerns about local air quality, travel times, road safety, and a deteriorating urban environment, the rapid increases in private motorized transport are placing Vientiane on an unsustainable transport development path.

2) THE BASELINE SCENARIO OR ANY ASSOCIATED BASELINE PROJECTS

The baseline Vientiane Sustainable Urban Transport Project (VSUTP) will focus on the historical central core area of Vientiane. This core area is a relatively narrow strip about 2.5 km in length and 1.6 square km in total area lying along the northern banks of the Mekong River. The central core area has a rich mixture of governmental, educational, religious, commercial, financial, and residential development. An important feature of the central part of Vientiane is the Conservation Zone, also referred to as the historical zone or the heritage zone. This area is the tourist center of the city, containing many of the hotels, restaurants, and tourist areas, including five historical Buddhist temples. Almost all of the core area lies within the Conservation Zone. The VSUTP seeks to enhance the Conservation Zone and the wider Vientiane district by transforming mobility and access for both residents and tourism.

Previous studies have identified the need for addressing urban transport conditions in Vientiane. Two recently produced master plans have provided a vision for Vientiane's future development. These publications are (a) Master Plan on Comprehensive Urban Transport in Vientiane Capital (JICA 2008); and (b) Urban Development Master Plan Study in Vientiane Capital (JICA 2011). Together, these documents provide a detailed analysis of the existing problems along with tangible solutions for implementation. Amongst the areas identified in the master plans are improvements to public space and the walking environment, cultural heritage preservation, and the introduction of an efficient public transport system in the form of bus rapid transit (BRT). Building on these studies, ADB supported a sustainable transport prefeasibility study during 2010-2011 to examine the possibility of developing a sustainable urban transport project in Lao PDR to address rapidly increasing congestion in the core area of Vientiane. This prefeasibility study developed the scope for the VSUTP and has received widespread support from relevant Government decision makers. ADB has provided further technical assistance support to design the project and to carry out the required due diligence.

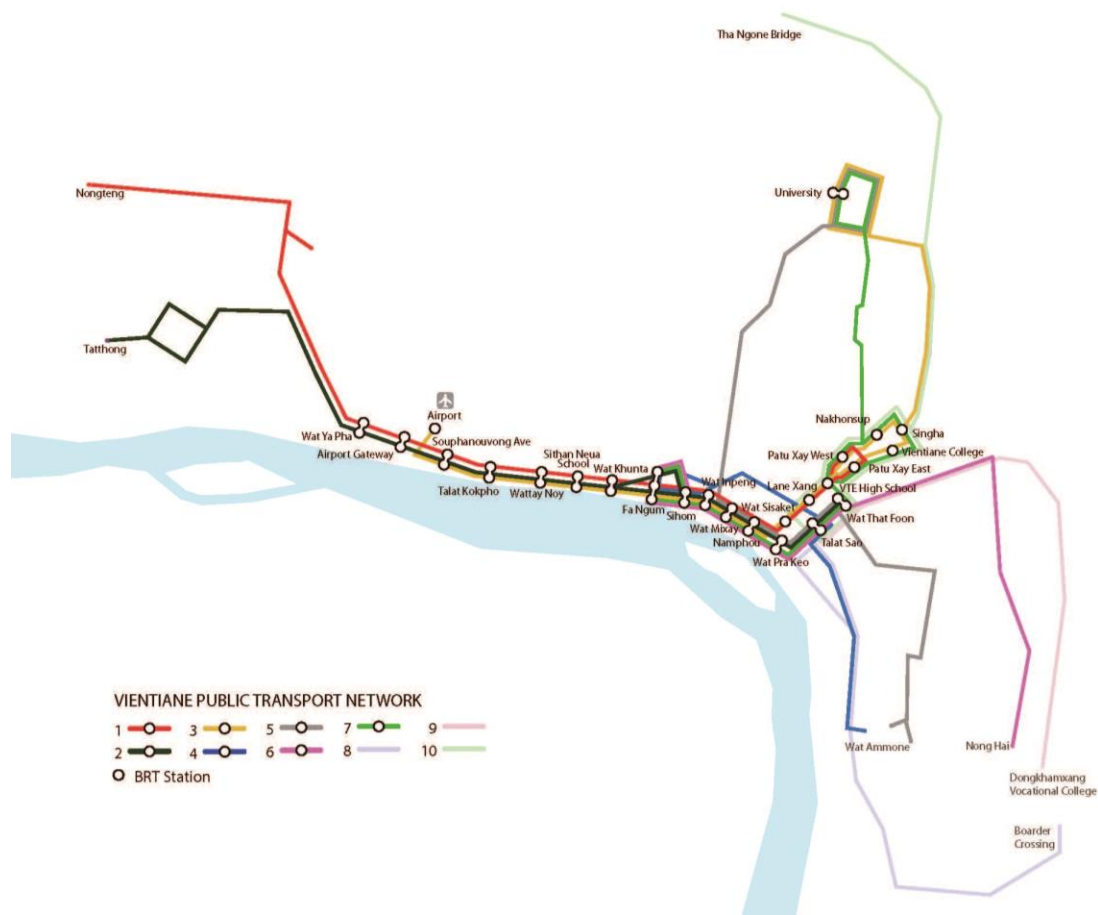
The VSUTP will deliver a package of mobility components that will help transform Vientiane's public transport system. With an estimated investment of around \$97.9 million, the project will deliver the following outputs:

- a high-quality public transport system;
- an effective parking management and enforcement system – using modern information and enforcement technologies, the on-street parking system will provide efficient parking options and is expected to generate sustainable system revenues;
- a comprehensive traffic management system with efficient intersection signaling; and
- institutional capacity to manage the sustainable urban transport system, including establishment of a new Government agency (Sustainable Urban Transport Management Agency – SUTMA) responsible for managing the urban transport system and mainstreaming sustainability into the transport system.

VSUTP is being led by the Ministry of Public Works and Transport (MPWT) as executing agency, in close cooperation the Vientiane city administration. Financing will include \$35.0 million from ADB; \$20.0 million for the European Investment Bank; \$6.9 million from the European Union Asian Investment Facility; and \$14.6 million from Government. The balance of financing is expected in the form of a \$15.0 million grant from the OPEC Fund for International Development (OFID); and around \$6.4 million in investment from the private sector in the form of a public-private partnership for improved parking management and enforcement and a computerized vehicle registration system. At this stage, financing inputs from OFID and the private

sector have not been included in the project co-financing (Tables A, B, C), but may be added later when these amounts are confirmed.

The centerpiece of VSUTP is a new public transport system along with the related traffic management upgrades that will serve a comprehensive route network of 84 kilometers bringing benefits to virtually all residents of the city (Figure 5). This includes around 96 new buses and 11.5 kilometers of dedicated busways along with 24 median stations providing Bus Rapid Transport (BRT) operation along the key central spine of the network, as shown in the following map. The network will significantly upgrade current public transport conditions, and provide improved connectivity to much of Vientiane for the city’s residents. It will integrate with operations of the existing bus company including new buses recently provided to it by the Government of Japan. The system is expected to increase peak bus ridership by over ten times from 1,000 boardings per hour to over 11,000 boardings per hour.



3) THE PROPOSED ALTERNATIVE SCENARIO, WITH A BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT

As described above, the baseline project will deliver a modern public transport system for Vientiane. This will generate substantial GHG savings from a combination of improved bus technology, more efficient bus operations, and resulting mode shift (and retention). However without easy, convenient and safe access to the BRT, passenger demand for the new public transport system will be diminished. There is an opportunity to build on and strengthen this baseline by ensuring effective accessibility to the BRT system, especially in terms of “last kilometer” connectivity to the BRT stations.

The proposed GEF funded activity in Vientiane comprises two components with a focus on low carbon modes

for access to the BRT and other short trips:

Component 1: Improvements to pedestrian accessibility to BRT stations (\$1,000,000)

Component 2: Modern pedicab system (a mix of pedal and pedal-electric hybrid vehicles) to replace existing high-emission three-wheelers (tuk-tuks) for short trips and as a feeder mode for the BRT (\$840,000)

These components will directly reduce trip emissions and encourage shifts to lower carbon modes. The investments will be centered on Vientiane's historic core, which is the area facing the most severe congestion levels and impacts on resident and tourist ambiance. Upgrades to the urban walking environment and public space and introduction of a low-carbon, low impact pedicab system will provide the final connectivity to destinations as well as enhance the overall ambiance of the historical core.

Component 1: Improved Pedestrian Facilities (\$1,000,000)

As noted above, walking in Vientiane has become increasingly difficult. Footpaths are generally in poor condition and most have been taken over by undisciplined car and motorcycle parking. As part of project preparation technical assistance (TA), a conceptual model for improving conditions for walking and cycling (Non-Motorized Transport - NMT) in central Vientiane was developed and preliminary designs were prepared. The design concepts are tailored to each location, but include a combination of:

- protection of pedestrian path from parked private vehicles
- drop curbs for universal accessibility at intersections and station entrances
- landscaping additions and other forms of providing pedestrian shade
- way-finding signage and street priority markings
- improvement of footpath surface quality

These treatments will work in combination with enhanced parking management and enforcement to be implemented under the baseline project to help create a pedestrian-friendly environment in central Vientiane. In particular, the BRT stations in the baseline project will be designed and constructed to facilitate NMT access. However the baseline project does not include investments to more broadly improve pedestrian facilities in central Vientiane to facilitate access to the BRT and encourage walking as a preferred mode for short trips.

This GEF-funded component involves investment in construction of improved pedestrian facilities at around 20 locations in central Vientiane to provide this broader walking connectivity. The incremental impact of the GEF funding will be to extend improved pedestrian facilities to streets with an important role in terms of connectivity to the BRT and general connectivity for short trips around central Vientiane. The specific locations of the GEF-funded improvements will be selected to be consistent with the design concepts described above and to leverage network effects. Creating a network of improved pedestrian facilities is expected to have a substantially greater impact than unconnected improvements at isolated locations. The process of designing the pedestrian network will be undertaken during baseline project's detailed design phase in close collaboration with relevant local and national government agencies to enhance local ownership and knowledge transfer.

This component will also link with a regional TA project currently being implemented by ADB. This TA entitled "Implementation of Sustainable Transport in Asia and the Pacific", includes a component "Promoting Socially Sustainable Transport through Improving Non-motorized Transport". The aim of this component is to mainstream NMT within ADB's investment portfolio. In particular, it will support the creation of technical guidance tools (such as planning guidelines for pedestrian facilities); provide training and capacity building on planning and design of pedestrian facilities; and create a regional knowledge sharing network in NMT. For more details, see sections on Sustainability and Coordination below.

In summary, this component will (a) build on the planning concepts and the baseline project's design work and investment; (b) deliver incremental impact in terms of extending improved pedestrian facilities more broadly

to improve connectivity to the BRT and general connectivity for short trips around central Vientiane; and (c) offer sustainability via its linkage with the ADB NMT TA. The resultant greenhouse gas emission reductions will stem from two sources: (a) an increase in modal share for walking, especially for short trips; and (b) an increase in ridership to the BRT system due to improved accessibility. Although the focus will initially be on improved pedestrian facilities in Vientiane’s historic central core, there is strong potential for replication elsewhere in Vientiane and other cities in Lao, which are all facing similar growth and motorization pressures.

Component 2: Modern Pedicab System (\$840,000)

Modernized pedicab vehicles (pedal or pedal-electric hybrid) are well-suited to providing “last kilometer” connectivity in cities of Asia. Cities such as Vientiane have a history of small three- and four-wheel vehicles that provide these taxi services, but the current services frequently utilize inefficient and high-polluting technologies, such as two-stroke engines, that also contribute to heightened greenhouse gas emissions. By contrast, modernized pedicab vehicles are low- and often zero-carbon alternatives that also produce zero local pollution and address noise and road safety problems.

ADB is separately developing the design and pilot demonstration of a modernized pedicab vehicle tailored to the needs of cities in both South East and South Asia. This technical assistance (TA) work is being conducted under a regional ADB TA program. In particular, ADB has targeted the realization of a low-cost vehicle that achieves a sophisticated and modern design. An international design workshop was conducted in April 2013 at ADB to determine the characteristics of a high-quality, low-cost modernized pedicab. The design options include both purely pedal-driven vehicles as well as hybrid vehicles utilizing lithium-ion battery technology providing electric-assisted drive in addition to human-powered drive. An example of a modern hybrid pedicab is shown in the following photo. These vehicles can also substantial benefits in terms of driver well-being and comfort to passengers. Modernized pedicab technology can provide effective “last kilometer” connectivity for customers to the BRT system and for other short trips in Vientiane while also improving conditions for drivers and operators.



This component will build on preliminary work already undertaken by ADB in developing low or zero emissions modern pedicabs for use in Asian cities. It will have two linked activities:

- a. a technical assistance component that will (a) work with local government and operator representatives to design the key operational parameters of the pedicab service (routes, hours of operation, service levels, etc); (b) develop sustainable business and fare plan for pedicab system; and (c) provide driver training programs and related initiatives to raise the levels of customer service and professionalism of the pedicab operation.
- b. an investment component that will procure around 120 modern pedicabs and develop facilities for formal pedicab integration at BRT stations and other key locations in Vientiane Conservation Zone (up to 20 locations). The pedicab design and fleet composition will be determined during the detailed design phase, but is expected to include both hybrid pedal-electric technology and pedal-only pedicabs for comparison and to demonstrate both technologies. The pedicab facilities will mirror those of a conventional taxi stand, including

signs with fare information and service area maps; queuing lane for pedicabs; and waiting area for passengers. A temporary version of this type of facility is shown in the following photo.



In summary, the purpose of this component is to demonstrate the benefits for users, operators and the local and global environment of modern pedicabs as an alternative to high-emission modes, and to catalyze replication in Vientiane and elsewhere in Laos, as described below. The expected GHG reductions would stem from two sources: (a) direct offsetting of emissions from the gasoline-powered tuk-tuks being currently operated; and, (b) increase in ridership to the BRT system in Vientiane due to improved accessibility. In the case of hybrid pedicabs, the potential GHG savings are heightened by access to renewable energy from Lao hydro-electric sources.

Proposed GEF funding for these activities is \$1.84 million (including project management costs), with implementation taking place in parallel with the baseline project. The baseline project including associated reforms and works will be implemented over the period from mid-2015 to mid-2020, with the BRT scheduled to commence operation by late 2019. Timing for the implementation of the GEF-funded activities is influenced by two factors. The GEF-financed activities are designed to further enhance accessibility in central Vientiane and complement the BRT so should preferably be in place early, but at the same time, they rely on baseline reforms in parking, traffic management and the regulatory/enforcement environment to maximize their impact. Taking these factors into consideration, implementation of the pedicab system is planned to commence by mid-2017 with delivery of all vehicles complete by early 2018; and all pedestrian and NMT facilities are planned to be completed before mid-2019. Implementation milestones for the baseline project and GEF-funded activities are listed in the Project Results Framework in Annex A.

Summary of Project Outcomes

The project provides an innovative and integrated solution to address increasing congestion and reduce GHG emissions in central Vientiane by developing sustainable transport applications, while also helping to preserve the cultural heritage and ensure the environmental sustainability of the core area of Vientiane. In summary, the key outcomes of the GEF-funded activities are expected to be:

- non-motorized transport (walking, cycling, pedicabs) established as a viable and attractive alternative to private vehicles, and an increase in the mode share for walking;
- increased awareness and application of low-carbon urban planning concepts, the importance of NMT in the transport system, and the integration between transport, access and land use;
- accelerated deployment and diffusion of modern pedicab technology in rapidly growing cities of Laos;
- preserve the cultural heritage and ensure the environmental sustainability of the core area of Vientiane,

with benefits for tourism development;

- substantial safety, health and economic co-benefits, especially for the poorer residents of Vientiane (as described below);
- large catalytic impact on the replication of low carbon development of urban and transport systems in other cities in Laos; and
- an estimated 1.1-1.6 million tonnes of direct and indirect GHG savings over the project life.

4) INCREMENTAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE, GEFTF, AND CO-FINANCING

The baseline Vientiane Sustainable Urban Transport Project and GEF-funded activities will work together to facilitate transition to a low carbon urban transport system in Vientiane. As described above, the baseline project will target the overall planning framework and motorized vehicle aspects of this transition (BRT, traffic management, parking management), but its scope does not extend to wider issues of access to the BRT, short trips and “last kilometer” connectivity. The incremental effect of the GEF-funded activities will be to extend the low carbon concept to cover sustainable door-to-door connectivity. Improved pedestrian facilities and a modern pedicab service will provide for short trips and BRT access and complete the low-carbon trip chain. This will not only avoid GHG emissions from using motorized vehicles for short trips, but will also heighten the attractiveness of the BRT as an alternative to private vehicles by providing an integrated travel solution.

5) GLOBAL ENVIRONMENTAL BENEFITS

The overall impact of the baseline project in combination with the GEF funded activities will be the development of the core area of Vientiane in an environmentally sustainable and pedestrian-friendly manner. This will deliver global environmental benefits in terms of GHG emissions avoided and a range of socio-economic co-benefits, as described below (Section 5).

An estimate of total and incremental benefits has been calculated for the baseline project and GEF-funded incremental activities in term of GHG emissions avoided. The calculation used the ASIF (Activity x Share x Intensity x Fuel) approach, and methods and parameters consistent with the GEF Manual for Calculating Greenhouse Gas benefits for GEF Transportation Projects and Transport Emissions Evaluation Models for Projects (TEEMP). The TEEMP Pedestrian Improvements module has been used to model the GHG impact of improved pedestrian facilities (Component 1). Project lifetime is assumed to be 20 years for built infrastructure and 12 years for other interventions. Note that the impact of improved pedestrian facilities and pedicab services on increasing BRT ridership has not been included in the GHG saving calculation, because it is difficult to reliably disentangle this effect from others impacting on mode shift and avoid double-counting. In particular, some of the GHG savings from improved access to the BRT would already be counted in the Baseline project Lifetime Direct Savings.

Total GHG emissions avoided (direct and indirect) are estimated to be some 1.3-2.0 million tonnes for the GEF-funded activities over the project lifetime, or around 2.1-2.8 million tonnes including the baseline BRT project. The results are shown in more detail in the following Table and the calculation methodology is explained in more detail in Annex C.

Indicator (million tonnes avoided)	Baseline Project	GEF Incremental Impact	TOTAL
Lifetime Direct	0.80	0.41	1.21
Lifetime Direct Post-Project	-	-	-
Lifetime Indirect – Bottom-up	-	0.92	0.92
Lifetime Indirect – Top-down	-	1.57	1.57

6) INNOVATIVENESS, SUSTAINABILITY AND POTENTIAL FOR SCALING UP

As described above, the Vientiane transport and urban system is currently developing in a largely unplanned, unregulated and car/motorcycle-oriented way, with little regard for long-term sustainability. Many of the recognized features of a sustainable urban transport system (including modern public transport, facilities for pedestrians and NMT, and parking management) are largely absent from Vientiane and other cities in Lao PDR. The baseline project and GEF-funded activities will be innovative in introducing these key features together in an integrated way in a Least Developed Country, and facilitating transition to a low carbon urban transport system.

To support these innovations, sustainability is integrated into the operational design of both the baseline project and GEF-funded components. As noted above, the baseline project includes TA to support the establishment and institutional capacity building of a new Government agency (Sustainable Urban Transport Management Agency – SUTMA) responsible for managing the urban transport system and mainstreaming sustainability into the transport system. SUTMA will be a focus for a new approach to planning and managing the Vientiane transport system in an environmentally sustainable and people-centered way. Improved pedestrian facilities, modern pedicabs, the BRT and improved parking management are key features of this new approach. In addition, the GEF-funded activities include technical assistance for development of operational and business plans and training for pedicab operators to support the long-term sustainability and organic expansion of pedicab operations. This TA will also assess potential for local manufacturing of modern pedicabs to further strengthen sustainability. In addition, Vientiane will be linked with ADB’s regional NMT TA (as described above) which will provide support in terms of technical guidance tools, training and capacity building on planning and design of NMT facilities; and participation in a regional knowledge sharing network on NMT.

There is also strong potential for replication and scaling-up of the impacts of the GEF-funded activities. In addition to Vientiane, many other cities in Lao PDR are facing similar growth and motorization challenges. This includes larger cities (Pakse, Savannakhet, Thakhek) and medium/smaller cities (Luang Prabang, Xam Neua, Muang Phonsavan, Vang Vieng). Petrol driven tuk-tuks operate in all of these cities, and except for the World Heritage precinct in Luang Prabang, pedestrian facilities are generally of poor standard. There are more than 2,000 tuk-tuks in Vientiane alone, out of a total national fleet estimated at more than 6,000. By demonstrating the potential cost and emissions savings from modern pedicabs and urban ambiance gains from pedestrian improvements and low carbon urban planning concepts, it is expected that the GEF-funded activity in Vientiane will be a significant factor towards catalyzing additional investment in pedestrian facilities and pedicabs in Vientiane and replication in other cities. In particular, demonstrating the success of these innovations in the capital city Vientiane is expected have a strong replication effect in other cities in Lao PDR that would not happen otherwise.

2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact.

NOT APPLICABLE. Not a Child Project

3. *Stakeholders.* Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes /no) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation:

Extensive consultation and information sharing was undertaken with Government, the community and other key stakeholders during preparation of the ADB baseline project and GEF-funded activities. In particular, key stakeholders engaged in this project design process include the Lao PDR Ministry of Public Works and Transport and other relevant Government agencies; the Vientiane State Bus Company; and the Vientiane city administration. ADB is also engaging with the Tuk-tuk Owners Association in Vientiane and the community to ensure broad acceptance and smooth implementation of the project; and with the private sector regarding involvement in aspects of BRT system operation and parking management. In addition, a Social Development Action Plan, Resettlement Plan, and Gender Action Plan have been prepared to address specific community and gender-related concerns. These participation and coordination activities will continue during project implementation; and progress will be monitored and reported to ADB on a quarterly basis.

4. *Gender Consideration.* Are [gender considerations](#) taken into account? (yes /no). If yes, briefly describe how gender considerations will be mainstreamed into project preparation and implementation, taken into account the differences, needs, roles and priorities of men and women.

Under ADB project preparation requirements, a Gender Action Plan (GAP) has been prepared for the baseline project, including the GEF-funded activities. The GAP provides a systematic framework for ensuring that women participate in and benefit from development programs and projects. It also provides a framework for monitoring gender-specific aspects of the impact of the project and benefits realization during the implementation phase. In addition, the Vientiane Sustainable Urban Transport Project has been assessed under ADB policies and was rated as an Effective Gender Mainstreaming project. This confirms that gender considerations have been mainstreamed into project preparation, and project outputs are designed to directly improve women's access to social services and economic opportunities. The socio-economic benefits expected to result from mainstreaming gender consideration into the project design are described in the next section.

5. *Benefits.* Describe the socioeconomic benefits to be delivered by the project at the national and local levels. Do any of these benefits support the achievement of global environment benefits (GEF Trust Fund) and/or adaptation to climate change?

Socio-economic co-benefits are a feature of transport and urban development projects. For this project, the co-benefits will flow from improved transport and pedestrian access in the core area of Vientiane; reduced reliance on private cars; and the development of institutions to manage and support sustainable transport in Vientiane. This will generate global environment benefits by reducing GHG emissions from private vehicles, and at the same time, deliver socio-economic co-benefits by

- reducing congestion and travel times;
- providing a safer and more secure travel environment, especially for pedestrians;
- improving local air quality and reducing related health impacts;
- helping to alleviate poverty by providing more affordable public transport in Vientiane and improving access to employment and social opportunities; and
- contributing to improved urban ambiance, increased tourism and related economic activity.

Tourism has increased rapidly in Vientiane over recent years, and this has created many job opportunities for lower-income people, directly through jobs at hotels and restaurants, and indirectly, for merchants and vendors selling Lao goods and souvenirs. However chaotic traffic conditions, uncontrolled parking and increasing congestion in the urban core of Vientiane, which contains many of the city's temples and other tourist attractions, is detracting from the area's attractiveness. Through a combination of improving pedestrian facilities, providing sustainable transport options (modern pedicabs, BRT) and introducing traffic and parking management in the urban core area, the project will help to reverse this trend and facilitate the continued increase in tourism and associated economic benefits and employment opportunities.

The project will also deliver benefits broadly to lower income residents, women and vulnerable groups (such as the disabled and elderly that have special needs for transport), because they comprise the majority of pedestrians, street-side vendors, public transport users, and users of non-motorized transport in Vientiane. The urban poor suffer disproportionately from an inadequate transport system. Underinvestment in public transportation raises the cost of commuting and restricts access to jobs and services. The poor tend to be more exposed to risks associated with externalities in transport: they lack adequate means to avoid exposure to polluted air, face higher commuting distances and costs, and are particularly affected when there is a lack of access for pedestrians. The poor stand to benefit significantly from the improved transportation services delivered by this project. Measures have also been included in the project design to improve bus conditions to enhance security for female passengers and other vulnerable users. This includes improved lighting and safety measures in the upgraded pedestrian areas; and installed at all BRT stops and in all vehicles. In addition, training will be provided to pedicab drivers and BRT staff on the safety needs of female passengers and other vulnerable users.

As well as the local impact on individuals, the adverse effects of congestion have an impact on the local and national economy. Reliable estimates of the scale of this impact are not available specifically for Vientiane, but Asian regional studies suggest that the economic cost of road congestion is around 2%–5% of GDP every year due to lost time and increased transport costs. In addition, air pollution including that from transport imposes an economic cost of up to 2%–4% of GDP; and the total national cost of road accidents is estimated at

1-2% of GDP annually. On a local level, addressing congestion, pollution and diminished ambience in the historic core of Vientiane will also deliver economic benefits from increased tourism and related economic activity. Overall, this means that initiatives aimed at improving the sustainability of urban transport also deliver significant dividends in terms of economic efficiency and activity.

6. *Risks*. Indicate risks, including climate change, potential social and environmental future risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks:

The main risks to achieving the project objectives are institutional/social. These risks and mitigation measures are:

- resistance to modernization of the Vientiane bus system by the Vientiane Capital State Bus Company (VCSBC). The baseline BRT will constitute a major change in bus system operations and the expected level of customer service. Potential resistance by the VCSBC and individual drivers will be mitigated by involving the VCSBC and drivers at all stages of project design and implementation and through a change management and capacity building process funded under the baseline project; and
- resistance to introduction of modern pedicabs by tuk-tuk owners/drivers. Modern pedicabs could be seen as competition to existing tuk-tuks operators so there is a potential risk of resistance to their introduction by tuk-tuk owners/drivers. This risk has been and will continue to be mitigated by engaging with the Tuk-tuk Owners Association and drivers at all stages of project design and implementation, and through a GEF-funded program of training and technical support for tuk-tuk drivers/operators to transition to pedicabs, as described above.

From a climate change perspective, the major risk is flooding. The core area of Vientiane is on the banks of the Mekong and is at risk of short term inundation during extreme flood peaks. The baseline BRT works and GEF-funded pedestrian facilities will be designed taking into account predicted changes in flood and rainfall intensity.

7. *Cost Effectiveness*. Explain how [cost-effectiveness](#) is reflected in the project design:

The project presents the opportunity to develop a cost-effective approach for reducing GHG emissions while creating a safe, efficient and sustainable urban transport system in Vientiane. The design of the baseline project and GEF-funded activities draws on the recommendations of the JICA-financed “Master Plan on Comprehensive Urban Transport in Vientiane Capital” and “Urban Development Master Plan Study in Vientiane Capital”, and the findings of a detailed design and feasibility process funded by ADB under a Project Preparatory Technical Assistance (PPTA) grant. The PPTA involved detailed investigation and evaluation of options for BRT corridors; integration of the BRT into the existing Vientiane bus network; and supporting traffic and parking management measures. The design of the GEF-funded activities also draws on separate work underway by ADB aimed at developing pilot demonstrations of a modernized pedicab vehicle, as described above; and on a regional program underway by the Institute for Transportation and Development Policy (ITDP) in Lao PDR, Indonesia and the Philippines to raise awareness and build capacity in non-motorized transport. Based on this depth of analysis, it is considered that the baseline project and its extension with GEF funding represent a cost-effective approach towards providing a sustainable low-carbon transport system for the central core area of Vientiane; and instilling low carbon principles into transport and urban planning in Vientiane.

The cost-effectiveness of the GEF co-financed activities can also be gauged in terms of the unit cost of GHG savings (\$/CO₂e tonne avoided) produced by the investment. The following table shows the incremental impact of GEF-funded activities, including both direct and indirect impacts and separately for inclusion of the Bottom-up or Top-down indirect impacts.

Indicator (\$/CO ₂ e tonne avoided)	GEF Incremental Impact
Lifetime Direct + Direct Post-Project + Indirect (Bottom-up)	\$1.50
Lifetime Direct + Direct Post-Project + Indirect (Top-down)	\$1.01

The cost of around \$1.00-1.50 per CO₂e tonne avoided indicates good value for money. It is of similar order to the average cost per tonne required to achieve the GEF-6 Corporate Level Outcome Target and to recent Certified Emission Reduction (CER) prices under the CDM; and less than 10% of the benchmark figure of around \$25 per tonne that has emerged from many studies (WB, UN, US, etc) and been adopted by several countries. Overall, this indicates a cost-effective investment.

8. *Coordination.* Outline the coordination with other relevant GEF-financed projects and other initiatives [not mentioned in 1]:

Initiatives are currently underway in several countries in Southeast and East Asia to modernize non-motorized public transport modes (rickshaws and equivalent); develop comfortable and efficient modern pedicabs; and promote walking and cycling. ADB is already involved in these initiatives through its Sustainable Transport Initiative and will coordinate its activities with this project and with related initiatives by ITDP, GIZ and others. In particular, ADB is currently implementing a regional TA project entitled “Implementation of Sustainable Transport in Asia and the Pacific”, which includes a component “Promoting Socially Sustainable Transport through Improving Non-motorized Transport”. The aim of this component is to develop demonstrations of quality NMT facilities in strategic locations, and encourage replication as a way to both mainstream NMT within ADB’s investment portfolio and to deliver more NMT support across the Asia and Pacific region. This TA will also support the creation of technical guidance tools that will help capture the lessons learned from the NMT demonstrations.

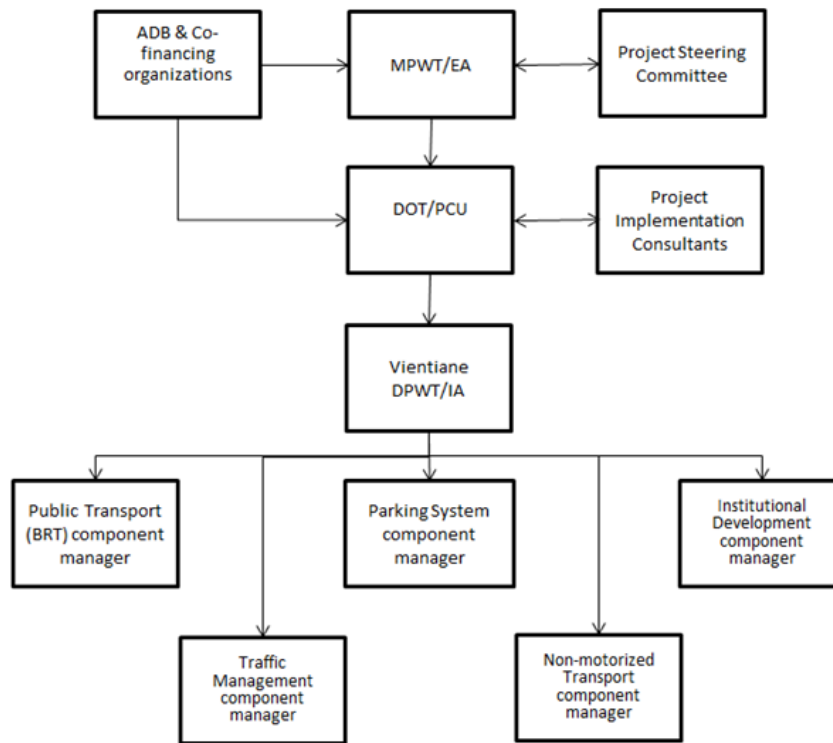
In terms of GEF-financed projects, ADB is currently implementing the Asian Sustainable Transport and Urban Development Program (ASTUD - GEF Project ID 4638). ASTUD has components in Bangladesh, Mongolia and PRC that also involve BRT integrated with pedestrian and other NMT modes; and includes a regional knowledge sharing component that provides a mechanism for broader sharing of the project outcomes. The intention is to use these mechanisms already in place to provide an efficient focus for coordination between this project, ASTUD and other relevant GEF-financed projects.

9. *Institutional Arrangement.* Describe the institutional arrangement for project implementation:

Key features of the institutional arrangements for the baseline project and GEF-funded components are:

- the Executing Agency for the project will be the Lao PDR Ministry of Public Works and Transport (MPWT); the Project Coordination Unit (PCU) under the Department of Transport (DOT – a department of MPWT) will oversee project implementation; and the Vientiane Department of Public Works and Transport (DPWT) will be the Implementing Agency;
- overall guidance will be provided by a project Steering Committee that will be chaired by a vice minister of the MPWT and comprise officials from the MPWT, Vientiane mayor’s office, Ministry of Finance (MOF), Ministry of Natural Resources and Environment (MONRE), and Ministry of Planning and Investment (MPI);
- a PCU established in DOT will oversee implementation of the project. The PCU Director will be from DOT, supported by staff seconded from DOT and Vientiane’s mayor’s office and with international advisers provided under the baseline project. This PCU was formally established in May 2014 by Ministerial Decision; and
- within the PCU, there will be component managers responsible for each of the project outputs. This includes a Non-Motorized Transport component manager who will oversee implementation of the GEF-funded activities.

These arrangements are summarized in the following diagram.



10. *Knowledge Management.* Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

As mentioned above, this project will be coordinated with and draw on the lessons of other related initiatives aimed at promoting and modernizing non-motorized transport modes. This includes initiatives underway by ADB through its Sustainable Transport Initiative (STI) and the GEF-funded ASTUD program, and by ITDP, GIZ and others. In particular, ADB is currently implementing a regional TA project entitled “Promoting Socially Sustainable Transport through Improving Non-motorized Transport”, as described above. In addition, these programs (ADB STI, ASTUD, GIZ, ITDP, etc) already have established mechanisms for knowledge sharing regionally and globally. The intention is to leverage these existing programs and knowledge sharing platforms as an efficient way of packaging and sharing the experience and lessons arising from the Vientiane SUTP.

11. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, NBSAPs, ASGM NAPs, MIAs, NCs, TNAs, NCSA, NIPs, PRSPs, NPFE, BURs, etc.

The project is consistent with the Lao PDR 2nd IPCC Communication (2013) and the Lao PDR National Rio+20 Report, and also aligns with the Government’s Draft National Strategy and Action Plan on Environmentally Sustainable Transport. Lao PDR does not currently have a registered NAMA, but is currently in the process of developing a transport sector NAMA, with assistance from the Government of Japan.

In particular, the project aligns strongly with the Lao PDR 2nd IPCC Communication, which identifies promotion of fuel-free commuting (including the use of bicycles and walking paths, especially in tourist-attractive towns), and expansion of public transport (by improving infrastructure and facilities that support the mass transit system) as two of its mitigation options for the transport sector. Likewise the Rio+20 Report highlights the Lao PDR Sustainable Transport Strategy and Action Plan to 2020 as providing a framework for developing the transport system in a more sustainable way. This Strategy includes targets to (a) promote travel without the use of engine vehicles (walking, cycling) reaching 25% of total transport by 2015 and 30%

by 2020; (b) promote public transport in urban areas reaching 15% of the total transport by 2015 and 30% by 2020; and (c) promote BRT in Vientiane.

12. M & E Plan. Describe the budgeted monitoring and evaluation plan.

Monitoring and evaluation (M&E) of project performance will be integrated with ADB monitoring of the baseline project. All costs associated with M&E will be absorbed into ADB’s project management and monitoring program.

At a project level, ADB has well-proven frameworks and arrangements for M&E. ADB tracks progress and evaluates each project against its Design and Monitoring Framework (DMF) approved by the ADB Board. A copy of the DMF for the baseline project is provided in Annex A. Under these arrangements, ADB will work with the project implementing agencies to establish systematic project performance monitoring and analysis throughout the life of the project in accordance with ADB’s Project Performance Management Systems and Guidelines for Preparing a Design and Monitoring Framework (2007). This includes establishing a high level Project Steering Committee (PSC) and a Project Coordination Unit (PCU), as described above.

The PCU will be central to the monitoring and evaluation of the project. The role of the PCU will be to coordinate and supervise the project, and monitor and evaluate progress including (a) conducting a series of studies/surveys to establish benchmarks for monitoring of project outputs and outcomes; (b) organization of the monitoring and evaluation of project activities as specified in the DMF; (c) preparing the necessary progress reports for submission to the PSC and ADB; and (d) maintaining proper accounting for all project expenditures for auditing. As well as quarterly status reports on project progress, comprehensive evaluation reports will be prepared at Mid-Term and Project Completion milestones. These reports will form the basis of M&E reporting to GEF.

Technical assistance for the PCU will be provided in the baseline project to assist with project management and M&E. In particular, the baseline project includes budget for a Quality Control (QC) consultant. The main role of the QC consultants is to develop and implement an M&E framework for the BRT and parking components of the baseline project, but this expertise will also be available to advise the PCU on M&E of the GEF-funded activities.

In summary, the key components of the M&E plan and estimated costs are listed in the following Table.

Type of M&E Activity	Responsible Parties	Budget (excluding Project Team Staff Time)		Timeframe
		Baseline Project	GEF	
Inception Workshop	<ul style="list-style-type: none"> ▪ PCU, ADB ▪ Consultants 	\$5,000	\$0	Within 3 months of project start
Surveys of baseline values of performance indicators	<ul style="list-style-type: none"> ▪ PCU ▪ Consultants 	\$10,000	\$0	Within 6 months of project start
Measurement of project results and delivery of outputs as planned in the project DMF	<ul style="list-style-type: none"> ▪ PCU ▪ Consultants 	\$5,000	\$0	Annual
Mid-term Evaluation	<ul style="list-style-type: none"> ▪ ADB, PCU ▪ Consultants 	\$10,000	\$0	Mid-point of project implementation
Periodic Status Reports (including GEF Project Implementation Report)	<ul style="list-style-type: none"> ▪ ADB, PCU, IAs 	\$5,000	\$0	Quarterly and Annual

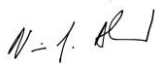
Final Evaluation (including requirements for GEF Terminal Evaluations Report)	<ul style="list-style-type: none"> ▪ ADB ▪ Consultants 	\$10,000	\$0	At least 3 months before the end of project implementation
Project Completion Report/ GEF Terminal Evaluations Report	<ul style="list-style-type: none"> ▪ ADB 	\$15,000	\$0	Within one year of end of project
Audit	<ul style="list-style-type: none"> ▪ ADB, PCU 	\$5,000	\$0	Annual

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. Record of Endorsement⁹ of GEF Operational Focal Point (S) on Behalf of the Government(S): (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Khampadith KHAMMOUNHEUANG	Director General, Environment Department	Science Technology and Environment Agency	02/11/2015

B. GEF Agency(ies) Certification

This request has been prepared in accordance with GEF policies¹⁰ and procedures and meets the GEF criteria for a medium-sized project approval under GEF-6.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Nessim Ahmad Deputy Director General, Sustainable Development and Climate Change Department concurrently Chief Compliance Officer, Asian Development Bank		12/08/2015	Jeffrey Miller, Principal Transport Specialist, Southeast Asia Regional Department	+632-632-6826	jmiller@adb.org

⁹ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

¹⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (*Applicable only to newly accredited GEF Project Agencies*)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to this project template.

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

DESIGN SUMMARY	PERFORMANCE TARGETS AND INDICATORS WITH BASELINES	DATA SOURCES AND REPORTING MECHANISMS	ASSUMPTIONS AND RISKS
Impact			
An environmentally sustainable and pedestrian-friendly transport system developed in Vientiane	<p>By 2025 Increase in modal share of public transport to 6.0% (2013 baseline: 0.6%) Reduction in emissions of greenhouse gases (carbon dioxide, methane, nitrous oxide, and certain halocarbons) of 25,000 metric tons per year from 2020 onwards.</p>	<p>Government statistics and project-developed monitoring mechanisms</p> <p>Air quality data from monitoring stations</p>	<p>Assumption Government establishes a monitoring system of transport-related emissions and accidents in support of the national environmentally sustainable transport strategy</p> <p>Risk Insufficient capacity of SUTMA to ensure sustainability of project operations</p>
Outcome			
Improved urban transport operations and capacity in Vientiane	<p>By 2020 120 public buses operating a 137 km total network in Vientiane^a Ridership of public bus services reaches 48,000 per day (2013 baseline: 4,000)</p>	<p>Reports from SUTMA</p> <p>Reports from bus service provider</p>	<p>Assumption Effective cooperation among national and local government units</p>
Outputs			
1. A SUTMA for Vientiane established	<p>Agency organizational arrangements approved by 2017 Agency established and staff working, with 30% of staff being female by 2018</p>	<p>Implementation and monitoring consultants' reports</p>	<p>Risk Unavailability of personnel with appropriate qualifications</p>
2. High-quality bus services and BRT established and operating in Vientiane	<p>96 buses procured and delivered by 2019</p> <p>11.5 km of dedicated BRT bus route infrastructure, including 24 BRT stations, operational by 2019</p> <p>Control center and fare system operating by 2019</p> <p>Women comprise 30% of BRT operations and maintenance staff by 2019</p> <p>Bus maintenance facility operational by 2019</p>	<p>Vientiane DPWT reports</p>	<p>Assumption Government and existing public transport entities will support pilot public transport project</p> <p>Risk Objections to new public transport services from existing service provider</p>
3. Traffic management in the core area of Vientiane improved	<p>7 new traffic signals at key intersections in core area operational and existing signals at 14 intersections upgraded by 2019</p> <p>Road markings and signs installed by 2019</p>	<p>Vientiane DPWT reports</p>	<p>Assumption Government is committed to enforcing traffic regulations</p>

<p>4. Paid parking system and national vehicle registration system established</p>	<p>On-street paid parking scheme, using electronic meter technology, operational in core area of Vientiane by 2019 Parking spaces allocated to pregnant women and people with disabilities by 2019</p> <p>National electronic vehicle registration system operational by 2016</p>	<p>SUTMA reports</p>	<p>Assumptions Government is committed to enforcing parking regulations</p> <p>Sufficient interest from private sector firms</p>
<p>5. Accessibility for pedestrians and other NMT in the core area of Vientiane improved</p>	<p>Pedestrian access at 24 BRT stations upgraded by 2019</p> <p>Universal access for wheelchair-bound and visually impaired people provided at 24 BRT stations by 2019</p>	<p>SUTMA reports</p>	
<p>Activities with Milestones</p>		<p>Inputs</p>	
<p>1. A SUTMA for Vientiane established</p> <p>1.1 Mobilize the first international urban transport advisor by June 2015 and the second by November 2017</p> <p>1.2 Government approves organizational arrangements of the new SUTMA by December 2017</p> <p>1.3 Government recruits and appoints staff to SUTMA by September 2018</p> <p>1.4 Award quality control contract by March 2019</p> <p>2. High-quality bus services and BRT established and operating in Vientiane</p> <p>2.1 Mobilize detailed design and project supervision consultants by June 2015</p> <p>2.2 Complete detailed design by June 2016</p> <p>2.3 Complete land acquisition and resettlement by December 2016</p> <p>2.4 Award civil works contracts by March 2017 and complete BRT civil works by May 2019</p> <p>2.5 Award BRT vehicles supply and maintenance contract by December 2017 and complete delivery by May 2019</p> <p>2.6 Award fare system and control center contract by December 2017 and complete delivery by March 2019</p> <p>2.7 Conduct training on BRT operations and maintenance by during September 2018–June 2019</p> <p>2.8 BRT services begins operating by October 2019</p> <p>3. Traffic management in the core area of Vientiane improved</p> <p>3.1 Complete installation of new traffic signals by March 2019</p> <p>3.2 Complete installation of new traffic signs and road markings by May 2019</p> <p>4. Paid parking system and national vehicle registration system established</p> <p>4.1 Award private sector contract for electronic vehicle registration system by June 2016</p> <p>4.2 Government approves new parking regulations by June 2017</p> <p>4.3 Award private sector contract for parking system by June 2018</p> <p>4.4 Full system testing of parking system by July 2019</p>		<p>Loan ADB: \$35 million OFID: \$15 million EIB: \$20 million</p> <p>Grant AIF: \$6.9 million GEF: \$1.84 million</p> <p>Private Sector: \$6.41 million Government: \$14.55 million</p>	

- | | |
|--|--|
| <p>5. Accessibility for pedestrians and other NMT in the core area of Vientiane improved</p> <p>5.1 Award NMT vehicles contract by April 2017 and complete delivery by March 2018</p> <p>5.2 Complete pedestrian facilities and NMT infrastructure by May 2019</p> | |
|--|--|

ADB = Asian Development Bank, BRT = bus rapid transit, DPWT = Department of Public Works and Transport, EIB = European Investment Bank, AIF = Asian Investment Facility, GEF = Global Environment Facility, km = kilometer, NMT = nonmotorized transport, OFID = OPEC Fund for International Development, SUTMA = sustainable urban transport management agency.
Source: Asian Development Bank.

^a Of the total 120 buses projected for the network, 96 of these buses will be financed by the project. The remaining 24 buses will be provided by the existing bus company

ANNEX B: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)

NOT APPLICABLE

ANNEX C: CALCULATION OF ESTIMATED GHG SAVINGS

See attached spreadsheet.