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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR18.2 MILLION
(US\$25 MILLION EQUIVALENT)

IN CRISIS RESPONSE WINDOW RESOURCES

TO THE

LAO PEOPLE'S DEMOCRATIC REPUBLIC

FOR THE

LAO PDR ROAD SECTOR PROJECT 2

December 2, 2019

Transport Global Practice
East Asia And Pacific Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective October 31, 2019)

Currency Unit = Lao Kip

LAK 8843 = US\$1

US\$ 1.3794 = SDR 1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

AIIB	Asian Infrastructure Investment Bank
AF	Additional Financing
ARAP	Abbreviated Resettlement Action Plan
ASEAN	Association of Southeast Asian Nations
AWPB	Annual Work Plans and Budget
CBA	Cost Benefit Analysis
CERC	Contingent Emergency Response Component
CPF	Country Partnership Framework
CQS	Consultant's Qualification Selection
CRW	Crisis Response Window
DLI	Disbursement Linked Indicator
DoF	Department of Finance
DoI	Department of Inspection
DoR	Department of Roads
DoT	Department of Transport
DPC	Department of Planning and Cooperation
DPWT	Department of Public Works and Transport
EDPD-PTRI	Environmental Research and Disaster Prevention Division of the Public Works and Transport Research Institute
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
EGEF	Ethnic Group Engagement Framework
EGEP	Ethnic Group Engagement Plan
ESF	Environmental and Social Framework
ESHS	Environmental and Social Health and Safety
ESMF	Environmental and Social Management Framework
FM	Financial Management
FMM	Financial Management Manual
GBV	Gender Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas Emissions
GoL	Government of Lao People's Democratic Republic
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
IDA	International Development Association
INDC	Intended Nationally Determined Contribution
IRAM	Integrated Road Asset Management System
Lao PDR	Lao People's Democratic Republic
LRSP2	Lao Road Sector Project 2

M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MoF	Ministry of Finance
MPWT	Ministry of Public Works and Transport
NDF	Nordic Development Fund
NPV	Net Present Value
NR13 N	National Road 13 North
NR13 S	National Road 13 South
NSEDP	National Socio-Economic Development Plan
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
OPBRC	Output and Performance-Based Road Contract
PBC	Performance-based Contracts
PCC	Project Coordination Committee
PDO	Project Development Objective
PDNA	Post-Disaster Needs Assessment
PFM	Procurement and Financial Management
PMU	Project Management Unit
POM	Project Operations Manual
PPSD	Project Procurement Strategy for Development
PROMMS	Provincial Road Maintenance Management System
QCBS	Quality cost-based selection
RAP	Resettlement Action Plan
RFB	Request for Bids
RF	Road Fund
RPF	Resettlement Policy Framework
SBD	Standard Bidding Documents
SCD	Systematic Country Diagnostic
SDG	Sustainable Development Goals
STEP	Systematic Tracking of Exchanges in Procurement
US\$	United States Dollar
UXO	Unexploded Ordnance
VAC	Violence Against Children
VOC	Vehicle Operating Costs

Lao People's Democratic Republic

Lao PDR Road Sector Project 2 – Additional Financing (P170951)

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BASIC INFORMATION – PARENT (Lao Road Sector Project 2 (LRSP2) - P158504)

Country	Product Line	Team Leader(s)		
Lao People's Democratic Republic	IBRD/IDA	Sombath Southivong		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P158504	Investment Project Financing	IEAT1 (9381)	EACMM (8863)	Transport

Implementing Agency: Ministry Of Public Works and Transport

Is this a regionally tagged project?	
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Bank/IFC Collaboration

No

Approval Date	Closing Date	Expected Guarantee Expiration Date	Original Environmental Assessment Category	Current EA Category
13-Dec-2016	31-Aug-2022		Full Assessment (A)	Full Assessment (A)

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Disbursement-Linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	



Development Objective(s)

The Project Development Objective (PDO) is to strengthen maintenance systems to improve reliable road connectivity in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

Ratings (from Parent ISR)

	Implementation				Latest ISR
	28-Apr-2017	03-Dec-2017	18-Jun-2018	21-Dec-2018	21-Jun-2019
Progress towards achievement of PDO	S	S	S	S	S
Overall Implementation Progress (IP)	S	MS	MS	MS	MS
Overall Safeguards Rating	S	S	S	S	S
Overall Risk	S	S	S	S	S

BASIC INFORMATION – ADDITIONAL FINANCING (Lao PDR Road Sector Project 2 – Additional Financing - P170951)

Project ID P170951	Project Name Lao PDR Road Sector Project 2 – Additional Financing	Additional Financing Type Scale Up	Urgent Need or Capacity Constraints Yes
Financing instrument Investment Project Financing	Product line IBRD/IDA	Approval Date 13-Dec-2019	
Projected Date of Full Disbursement 30-Apr-2026	Bank/IFC Collaboration No		
Is this a regionally tagged project?			



No

Financing & Implementation Modalities

<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input checked="" type="checkbox"/> Disbursement-Linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	
<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed	
IBRD					%
IDA	25.00	11.40	13.40		46 %
Grants					%

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Lao PDR Road Sector Project 2 – Additional Financing - P170951)

FINANCING DATA (US\$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	47.40	28.50	75.90
Total Financing	47.40	28.50	75.90
of which IBRD/IDA	25.00	25.00	50.00
Financing Gap	0.00	0.00	0.00



DETAILS - Additional Financing

World Bank Group Financing

International Development Association (IDA)	25.00
IDA Credit	25.00

Non-World Bank Group Financing

Counterpart Funding	3.50
National Government	3.50

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Lao People's Democratic Republic	25.00	0.00	0.00	25.00
Crisis Response Window (CRW)	25.00	0.00	0.00	25.00
Total	25.00	0.00	0.00	25.00

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any other Policy waiver(s)?

Yes No

INSTITUTIONAL DATA

Practice Area (Lead)

Transport

Contributing Practice Areas

Urban, Resilience and Land



Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Sombath Southivong	Team Leader (ADM Responsible)		IEAT1
Chanin Manopiniwes	Team Leader		IEAT1
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Florentina-Alina Burlacu	Team Member		IAFT4



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Waraporn Hirunwatsiri	Environmental Specialist		SEAE2
Extended Team			
Name	Title	Organization	Location



I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

1. This Project Paper seeks the approval of the Board of Executive Directors to provide an additional financing (AF) of SDR18.2 million (US\$25 million equivalent) from the International Development Association (IDA) Crisis Response Window (CRW)¹ to the Lao Road Sector Project 2 (LRSP2; P158204; IDA Credit No. 5920-LA). The CRW funds will support the Government of Lao PDR (GoL) to mitigate the effects of the severe floods of 2018, in line with the request from GoL through a letter from the Ministry of Finance (MoF) to the World Bank, dated June 10, 2019. The project is processed under accelerated procedures.²
2. In addition, the proposed AF includes a restructuring of LRSP2 to:
 - Revise the Project Development Objective (PDO) to include climate resilience;
 - Revise the results framework, monitoring indicators and target values;
 - Remove the Disbursement Linked Indicator (DLI) from Component 1.2;
 - Change the disbursement estimates to account for the additional financing;
 - Change the components and costs;
 - Extend the project closing date by 40 months from August 31, 2022 until December 31, 2025 for the implementation of activities under the AF; and,
 - Change the current Environmental Category A safeguards classification to Category B.
3. Severe flooding during 2018 had a significant impact on physical infrastructure, causing damage to one-fifth of the Lao PDR road network, including sections of the National Road 13 South (NR13 S). As recovery costs exceed available resources, GoL has requested additional financing from the World Bank to strengthen the resilience of infrastructure. This AF, in particular, will provide support to rehabilitate damaged road sections and improve the climate resilience of road infrastructure.
4. The AF will support GoL to scale up LRSP2 to: (i) carry out climate resilient improvements and maintenance of sections of NR13 S using an Output and Performance-Based Road Contract (OPBRC) approach; (ii) provide additional technical and operational assistance for the sector strategy, training and capacity building, contract management, quality assurance, road safety, and environmental and social monitoring; and (iii) provide small boats to communities located in flood-prone areas along NR13 S to be used to rescue villagers during flooding.
5. The restructuring proposed as part of this AF are within the scope of LRSP2. No additional safeguard policies will be triggered. In addition, as part of the AF, no changes are proposed to the implementation and financial management arrangements that are currently in place. The financial management arrangements and key internal controls have been implemented as agreed, and there are no outstanding Interim Unaudited Financial Reports (IFRs). Disbursements are currently at 46 percent (US\$11.4 million) of the original IDA

¹ A technical briefing for the World Bank Board of Directors was held on March 11, 2019 to request the use of the IDA Crisis Response Window resources of US\$50 million for Lao PDR to support disaster recovery following the 2018 extensive floods. US\$25 million is proposed as AF to LRSP2 to support the climate resilient improvement of vulnerable sections of NR13 S in the provinces of Bolikhamxai to Khammouan.

² According to “The IDA18 Resource Allocation Framework: FY20 Updates to Implementation Guidelines”, CRW-financed operations for IDA countries coping with severe crises and emergencies are processed under accelerated procedures.



credit. Procurement of most civil works contracts has been completed and the civil works have made good progress. It is expected that more than 60 percent of the total budget will be disbursed by June 2020.

6. **Project Background.** The World Bank’s engagement in the road sector in Lao PDR, which began in the early 1990s, recognizes the importance of roads as enablers of economic development that also facilitate inclusion and shared prosperity. Initial projects focused on road improvement and maintenance. However, the sector has experienced an increase in climate change impacts, resulting in increased expenditures related to emergency repair and post-disaster recovery. Integrating climate resilience into asset management systems is therefore crucial in optimizing expenditure and sustaining the road network within limited fiscal space.
7. LRSP2 built on the Lao Road Sector Project (LRSP)³, which successfully supported GoL to introduce the building blocks for integrated road asset management and sector governance. LRSP2 was approved on December 13, 2016 with a US\$25 million equivalent IDA credit, and became effective on February 7, 2017. The PDO of LRSP2 is to strengthen maintenance systems to improve reliable road connectivity in Lao PDR and to provide an immediate and effective response in the case of an Eligible Crisis or Emergency. The project has been designed as a program to support the strengthening of maintenance systems that will result in improved connectivity. The project finances climate-resilient road improvement as well as periodic and routine maintenance works of provincial and district roads in six provinces (Phongsaly, Houaphan, Oudomxay, Xiengkhouang, Xayabouly, and Bolikhamxai). LRSP2 included parallel financing from the Nordic Development Fund (NDF) and complementary financing from European Investment Bank (EIB), as well as the Road Fund (RF). LRSP2 supports: (i) institutional development through the preparation of financing and policy frameworks and improved planning and prioritization; (ii) improved governance systems; (iii) technical capacity for better spending and incrementally increase the length of the provincial road network in good and fair condition; and, (iv) improved climate resilience and safety.
8. **Rationale for the Additional financing.** Lao PDR is highly susceptible to natural hazards including floods and landslides. Transport infrastructure is particularly vulnerable to the impacts of extreme weather events and climate change as a result of generally low design and construction standards, lack of adequate maintenance, and technical designs that have not accounted for increased climate variability. The increased impacts of natural disasters and extreme weather events on the road network have resulted in a growing maintenance backlog and increased the need for emergency repair. The importance of increased climate resilience for the road network is therefore recognized as a significant factor in reducing emergency repair expenditures.
9. The AF is necessary to support climate-resilient road works following disaster events that affected Lao PDR from July to September 2018, including Tropical Storm Son-Tinh, the flash flooding caused by a breach in the Xe-Pian-Xe-Nam Noy hydropower saddle dam, and Tropical Storm Bebinca. During July 18-19, 2018, heavy rainfall caused by Tropical Storm Son-Tinh resulted in flooding in 55 districts of 13 provinces across northern, central, and southern Lao PDR. On July 23, 2018, the Xe-Pian Xe-Namnoy saddle dam collapsed, causing an unprecedented flash flood downstream. On July 25, 2018, the Prime Minister of Lao PDR declared Sanamxay District, the site of the dam break, as a National Emergency Disaster Zone.⁴ Furthermore, heavy rainfall from Tropical Storm Bebinca during August 17-18, 2018, led to flooding in northern Lao PDR, with impacts also felt in the south of the country. The floods affected 2,382 villages and 616,145 people in all 17 provinces and Vientiane Capital, with 56 lives lost. 1,779 houses were destroyed, and 102,481 hectares of land damaged.

³ LRSP (P102398) was approved on March 25, 2010.

⁴ Notice No. 1105/PMO, July 24, 2018.



The Post-Disaster Needs Assessment (PDNA) estimated the total value of the impact on the economy at US\$371.5 million. Damaged and losses costs are equivalent to 2.1 percent of Lao PDR's Gross Domestic Product (GDP) for 2018, and 10.2 percent of Lao PDR's annual budget in 2018, making the 2018 floods the most expensive in the past 10 years. Based on the PDNA, the costs of recovery (based on the build-back-better approach) are estimated at US\$520 million.⁵ These events caused widespread damage, destroyed livelihoods, and significantly impacted economic activity and social conditions. Notably, the floods had a significant impact on physical infrastructure, with the transport sector accounting for more than 55 percent of the total damage and losses.⁶ Losses in the transport sector were mainly incurred in the form of higher vehicle operating costs, costs of clearing landslides, and loss of revenue to truck and bus operators while roads were cut off.

10. NR13, a North-South corridor of 1,500 kilometers, is a critical core road in Lao PDR that connects Lao PDR with China in the North and with Cambodia in the South, and links ten of the 17 Lao provinces, playing a vital role in regional connectivity.⁷ The main sections of the road were completed in 1997 and have not been rehabilitated since, receiving only periodic and emergency maintenance. Strong economic growth and trade expansion have been accompanied by a rapid increase in traffic volume and transit traffic on NR13, and the need for improvements to meet the growing demand of road users, as well as to improve the resilience to more frequent and extreme weather events, is becoming more critical. During the 2018 floods, sections of NR13 S were cut off for a week, causing losses to the economy as well as social disruptions. With no alternative routes in the network, NR13 S is vital for traffic and economic flows, and is the backbone road connecting Vientiane Capital (the country's economic hub) to central and southern parts of Lao PDR.
11. **IDA CRW.** To help reduce the financing gap and augment the response effort, IDA CRW is providing US\$50 million to complement other sources of funds. The CRW funds are being allocated equally between the Lao PDR SEA DRM (P160930) and the Lao Road Sector Project II (P158504). The proposed AF will allow Lao PDR to further close the financing gap for the reconstruction after 2018 floods by supporting priority investments based on the results of the PDNA.
12. The AF will build on the emerging lessons from LRSP2, as well as the Lao National Road 13 Improvement and Maintenance Project⁸, including the use of performance-based routine maintenance contracts, as well as the implementation of OPBRC in a section of NR13 North (NR13 N). While the AF will look to enhance the climate resilience of road infrastructure, it will also further expand on the sector-wide approach implemented under LRSP2 to integrate climate resilience into road asset management and further support: (i) institutional development; (ii) improved governance systems; and, (iii) improved technical capacity. Furthermore, the AF highlights the necessity of enhanced collaboration across sectors (including Disaster Risk Management and Green Growth) on addressing climate resilience in a systematic manner at policy and operational levels in Lao PDR.

⁵ Post-Disaster Needs Assessment. 2018 Floods, Lao PDR. Government of the Lao PDR, 2018.

⁶ Post-Disaster Needs Assessment. 2018 Floods, Lao PDR. The Government of the Lao PDR, 2018.

⁷ NR13 comprises of NR13 N (671 kilometers) from Vientiane Capital to Boten on the Chinese border and NR13 S from Vientiane Capital to the Cambodian border (829 kilometers). The ongoing IDA-financed Lao National Road 13 Improvement and Maintenance Project supports reconstruction of sections of NR13 N.

⁸ P163730, approved May 18, 2018.



13. **Parent Project and Performance to Date.** The parent project, LRSP2, has four components:

- (a) *Component 1: Climate Resilient Road Maintenance (Total US\$36.90 million; of which IDA US\$17.20 million; NDF US\$9.70 million; GoL US\$10.00 million of which RF US\$7.00 million and Provinces US\$3.00 million).*⁹ To support the climate-resilient periodic maintenance and routine maintenance works program in Phongsaly, Houaphan, Oudomxay, Xiengkhouang, Xayabouly and Bolikhamxai provinces, including technical assistance for design and supervision of works.
- (b) *Component 2: Institutional Strengthening (US\$8.50 million; of which IDA US\$5.80 million; NDF US\$2.70 million).* To provide technical assistance, goods, training, and operating costs.
- (c) *Component 3: Project Management (Total US\$2.00 million; of which IDA US\$2.00 million).* To provide technical and operational assistance for the day-to-day management, monitoring, and evaluation of the project, and the carrying out of technical and financial audits.
- (d) *Component 4: Contingent Emergency Response (US\$0.00 million).* To enable immediate response through the reallocation of proceeds in the event of an eligible crisis or emergency.

14. Following a request from GoL, the first project restructuring was processed and approved on October 10, 2018 and became effective on November 2, 2018. The restructuring included the following changes: (i) the scope of works was extended to cover emergency repair and disaster recovery of damaged roads caused by tropical Son-Tinh in the targeted provinces and Attapeu; (ii) two additional intermediate indicators were added to the results framework on road safety to measure the impact of the project in improving road safety¹⁰; (iii) the date for submission of technical audit reports was revised to September 30; and (iv) the budget for purchasing of weigh scales was reallocated to allow for conducting an overloading control study.

15. **Progress toward achieving the PDO of LRSP2 is Satisfactory.** The PDO remains highly relevant. The Ministry of Public Works and Transport (MPWT) remains committed to this agenda and is taking concrete steps to improve issues related to coordination among agencies concerned, as well as addressing the lengthy process for internal approval and capacity issues at the provincial level. As part of the AF, the PDO will be revised to incorporate climate resilience.

16. **Implementation progress of LRSP2 is Moderately Satisfactory.** Progress has been made on all project activities; however, there have been some delays associated with the implementation of civil works due to initial delays in procurement. Efforts have been made to further streamline internal approval processes at both central and provincial levels, as well as to accelerate road improvement works to compensate for these initial delays. To date, 77 percent of all procurements have been completed. The progress includes:

- (i) Civil works contracts have been signed and contractors have made progress on the ground. It is anticipated that more than 60 percent of the total project budget will be disbursed by end of June 2020;
- (ii) The climate-resilient transport sector strategy and its vision up to 2030 are being updated and the

⁹ In addition, EIB has also provided complementary financing of EUR 25 million.

¹⁰ (i) Kilometers of roads where road safety audit was performed, and recommendations were considered (kilometers); and, (ii) Updated Road Safety and Action Plan (yes/no).



five-year plan (2021-2026), an input to the ninth five-year National Socio-Economic Development Plan (NSEDPlan), is being prepared and will be ready for submission to the Ministry of Planning and Investment by January 2020;

- (iii) The road safety strategy is being finalized and is expected to be approved by GoL by March 2020;
- (iv) The guidelines for the internal technical and financial audit have been completed and have been approved by the Minister of MPWT, with training on the use of the guidelines currently being implemented across the country;
- (v) Climate resilience has been incorporated into road maintenance procedures that were approved by the Minister of MPWT on December 4, 2018, as a condition for the Green Growth Development Policy Operation;
- (vi) The human resource development strategy has been drafted and is undergoing consultations with stakeholders;
- (vii) A road safety audit manual has been developed and is being disseminated to provinces.
- (viii) Safeguards training and monitoring has been conducted.

17. **Project Oversight.** Project oversight is satisfactory and continues to improve with guidance from the Minister of MPWT and the Project Coordination Committee (PCC). The fourth Project Coordination Meeting was held on May 30, 2019. Participants discussed key issues that have resulted in delays to procurement and implementation of civil works, and proposed solutions forward. For example, a significant amount of time has been spent on bid-evaluation and in the approval process. Although the procurement committee at MPWT was downsized to create efficiencies, further streamlining of internal approval processes at MPWT and DPWTs will help improve the speed at which road works can be processed and implemented.

18. **Disbursements.** Currently, approximately 46 percent (US\$11.4 million) of the original IDA credit has been disbursed. Since the procurement of the civil works contracts has made significant progress and contractors have made progress on the ground, it is expected that more than 60 percent of the total budget will be disbursed by end of June 2020. The financial management arrangements and key internal controls have been implemented as agreed. The IFR covering the period from June to December 2018 has been submitted timely and was found satisfactory to the World Bank.

19. **Legal Covenants.** All legal covenants comply, with two not yet due. There are no overdue audit reports.

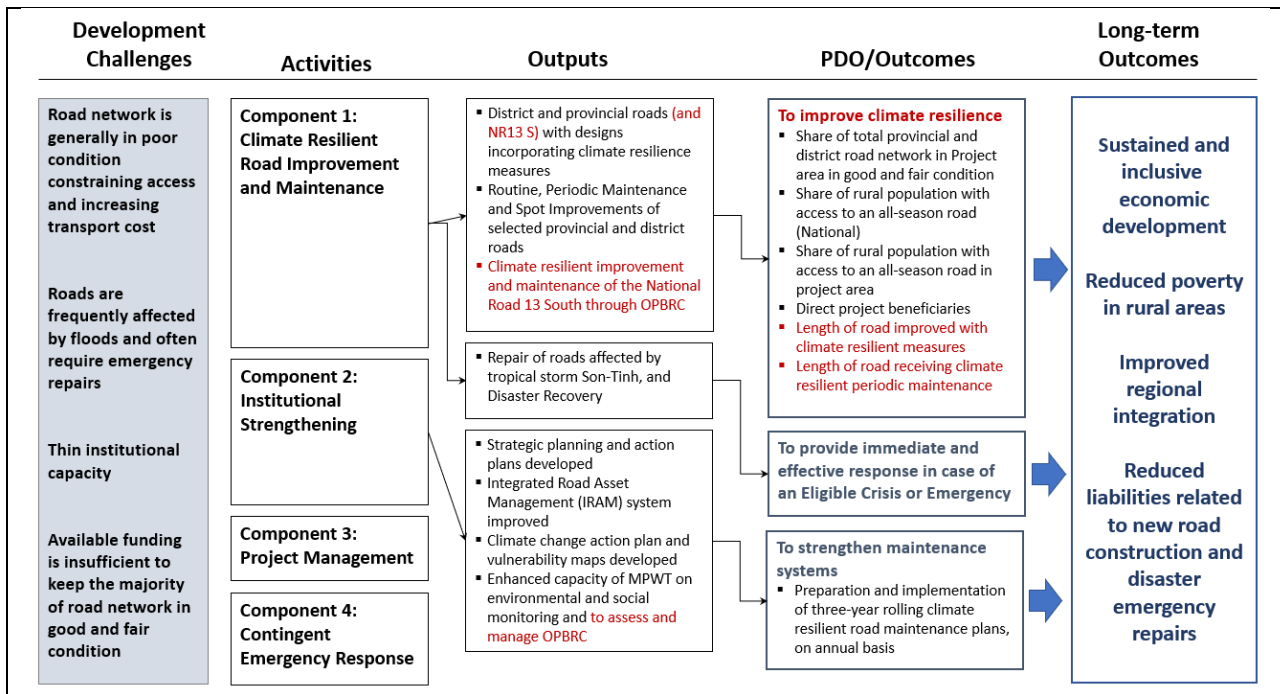
20. **Safeguards.** The project currently complies with the World Bank's safeguard policies, with both environmental and social performance rated satisfactory. The implementation of Environmental and Social Management Framework (ESMF) is on track. The Environmental Research and Disaster Prevention Division of the Public Works and Transport Research Institute (EDPD-PTRI) of MPWT conducted safeguard screening, consultations and prepared documents required for road maintenance subprojects in six target provinces as well as for emergency maintenance of a part of the Road 18A connecting Attapeu and Champasak. EDPD-PTRI has also completed safeguard training for DPWTs and contractors, and initiated discussion on research activities in the two pilot provinces (Oudomxay and Bolikhamxai). Unexploded ordnance (UXO) risk is expected to be low and is being addressed with support of the Provincial Office of Labor and Social Welfare in screening UXOs and providing training to DPWT technical staff on UXO risks and measures. Both DPWTs and contractors are aware of the environmental and social obligations.

II. DESCRIPTION OF ADDITIONAL FINANCING



- 21. **PDO.** As part of the AF, the PDO will change to “Improve climate resilience and strengthen maintenance systems for a reliable road network in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency”.
- 22. **Results Framework.** The AF includes the addition of a new outcome-level indicator: (i) Kilometers of road improved with climate resilient measures and receive maintenance (kilometers). In addition, the following intermediate level indicators have been added: (i) Kilometers of NR13 S transferred to performance-based maintenance phase under OPBRC (kilometers); and (ii) Number of beneficiaries benefitting from the provision of boats during floods (number) (see Section VIII).

Figure 1. Project Results Chain and Theory of Change



- 23. **Link to CPF and higher-level objectives.** The AF is closely aligned with the World Bank Group Country Partnership Framework (CPF) with Lao PDR for FY2017-2021 discussed by the Board of Executive Directors on April 27, 2017.¹¹ The improvement and maintenance of sections of NR13 S will support the CPF *Objective 1.3 – Investing in infrastructure for growth and inclusion*, through strengthening the integration between rural and urban markets, and creating growth opportunities for both rural and urban dwellers. Climate resilience measures in road improvement and maintenance activities will support *CPF Objective 3.2 – Putting in place enhanced disaster risk management and climate and disaster resilience*. By enhancing transport connectivity on a key national corridor, the project will help reinforce regional integration and economic

¹¹ Report No. 110813-LA.



activity, which are key under *CPF Objective 1.2 – Making it easier to do business*. The AF will also contribute to addressing one of the priority areas of the *Country Gender Action Plan (2016)*,¹² which is part of the CPF Focus Area 3, by providing greater opportunities for women to participate in wage jobs.

24. The AF is consistent with the Eighth National Socio-Economic Development Plan (NSED) 2016-2020, which was approved by the Lao National Assembly in December 2015 and supports the NSED goals of achieving sustained and inclusive economic growth while reducing the effects of natural shocks. Furthermore, the AF will support national efforts to achieve SDG-9 to build resilient infrastructure and SDG-13 to address the impacts of climate change. The AF is also aligned with the National Transport Sector Plan to 2020 and Strategy to 2025, in which sustaining the condition of the existing infrastructure is a high priority.
25. The AF supports the World Bank Group’s twin goals of ending extreme poverty and boosting shared prosperity by providing a larger share of the population with more efficient access to markets, jobs, and public services. Significant inequalities are observed in Lao PDR in access to services. As indicated in the Systematic Country Diagnostic (SCD), transport connectivity and proximity to schools and health centers are lower for the bottom 40 percent when compared to others. The project will support better connectivity, access to public services and markets, and directly benefit road users on the country’s main north-south trunk road in Bolikhamxai, Khammouan and Vientiane Capital. Improved access to markets, jobs, and services will benefit a significant share of the population and contribute to inclusive growth.
26. **Changes to Components and Costs.** The AF will scale up the investment of LRSP2 to: (i) carry out climate resilient improvement and maintenance of approximately 58 kilometers of NR13 S¹³ using an OPBRC approach; (ii) provide additional technical and operational assistance for the sector strategy, training and capacity building, contract management, quality assurance, road safety, and environmental and social monitoring; and (iii) provide small boats to communities located in flood-prone areas along the NR13 S to be used to rescue villagers during flooding.
27. **Removal of the DLI.** It is proposed to drop the DLI under Component 1.2, which is defined as “Length of road receiving routine maintenance”. The DLI has not been achieved for 2018 due to delays in the procurement of performance-based contracts (PBC) for routine maintenance. For the 2019 target, 10 PBC contracts have been procured and awarded to the winning bidders. However, due to widespread floods, a large portion of the road network has deteriorated, and thus the target initially envisaged has been reduced from 2,432 kilometers to 1,304 kilometers. Conditions of the roads included in the PBC are not homogenous and some road sections require spot improvement before they can benefit from routine maintenance, for which payment will be based on quantity. Meanwhile, only routine maintenance, for which payment is based on the service level, is eligible for DLI payment. This has resulted in problems in monitoring the DLI and implementing the PBC with a hybrid approach (i.e., combining spot improvement and routine maintenance). Thus, it is proposed to drop the DLI to ensure the implementation of PBC is more effective and efficient. The hybrid PBC contracts will effectively replace the need for a separate DLI target and will not affect the PDO.
28. The Asian Infrastructure Investment Bank (AIIB) and the European Investment Bank (EIB) are considering

¹² Country Gender Action Plan for Lao People’s Democratic Republic for the period FY2017 - FY2021, World Bank.

¹³ MPWT has started preparation of detailed engineering designs which will inform specific sections and locations to be improved as part of the AF. It is estimated that IDA will finance approximately 58 kilometers of NR13 S, with further sections to be financed by EIB and AIIB in parallel.



future complementary financing of US\$30 million and US\$35 million, respectively. Activities to be financed may include the improvement and maintenance of other sections of NR13 S in Bolikhamxai and Khammoune provinces. The safeguards policies of the World Bank will be applied for the implementation of all activities under the project, including those potentially to be financed parallelly by EIB and AIIB. Furthermore, GoL will co-finance 20 percent of the OPBRC contracts and is responsible for the implementation of resettlement, if any. The proposed changes to the scope of project components are presented in Table 1 below.

Table 1. Overview of Proposed Changes to Components

LRSP2 (P158504) Current Components	LRSP2- AF (P170951) Proposed Changes
Component 1: Climate Resilient Road Maintenance (Total US\$36.90 million; of which IDA US\$17.20 million; NDF US\$9.70 million; GoL US\$10.00 million of which RF US\$7.00 million and Provinces US\$3.00 million).	Component 1: Climate Resilient Road Improvement and Maintenance (Total US\$63.05; of which IDA US\$39.85 million; NDF US\$9.70 million; GoL US\$13.50 million).¹⁴
<i>Sub-component 1.1 Periodic Maintenance and Spot Improvements</i>	<i>Sub-component 1.1 Periodic Maintenance and Spot Improvements</i>
Carrying out climate-resilient periodic maintenance and spot improvements of provincial and district roads in the Target Provinces.	No changes proposed.
<i>Sub-component 1.2 Routine Maintenance</i>	<i>Sub-component 1.2: Routine Maintenance</i>
Carrying out routine maintenance of provincial and district roads in the Target Provinces.	This sub-component will be revised to drop the DLI, which has been designed for the routine maintenance component under the parent project. PBC has instead been introduced for this sub-component.
<i>Sub-component 1.3 Design and Supervision</i>	<i>Sub-component 1.3 Design and Supervision</i>
Provision of technical and operational assistance for the design and supervision, procurement, quality assurance, contract management, and other technical management of the works carried out under sub-components 1.1 and 1.2 of the project.	The sub-component will be revised to add more resources to support MPWT to design and supervise the improvement and maintenance of NR13 S works (Sub Component 1.5) through financing the consultancy for supervision of road improvement works during the construction period and supervision of the initial post-construction maintenance and operation until project closure. As part of activities included under this sub-component, the supervision consultant will develop quality assurance mechanisms, as well as provide on-the-job coaching and technical training for MPWT and DPWTs on contract management and quality control related to the improvement and maintenance of NR13 S.
<i>Sub-component 1.4: Tropical Storm Son-Tinh Emergency Repair and Disaster Recovery (This sub-component was added during the first project restructuring approved on October 10, 2019)</i>	<i>Sub-component 1.4: Tropical Storm Son-Tinh Emergency Repair and Disaster Recovery</i>
Carrying out emergency repairs/rehabilitation of road	No changes proposed.

¹⁴ EIB and AIIB financing for NR13 S improvement and NDF financing of US\$9.7 million under parent project not shown.



LRSP2 (P158504) Current Components	LRSP2- AF (P170951) Proposed Changes
infrastructure damaged by typhoons, torrential rains and flash floods, and disaster recovery activities to improve accessibility.	
	<i>Sub-component 1.5: Climate resilient improvement and maintenance of the National Road 13 South (New Sub-component).</i>
	The new sub-component will finance the improvement, enhanced climate resilience and maintenance of NR13 S sections in Bolikhamxai and Khammouan with a total length of approximately 58 kilometers. OPBRC will apply for road improvement and maintenance.
Component 2: Institutional Strengthening (Total US\$8.50 million; of which IDA US\$5.80 million; NDF US\$2.70 million).	Component 2: Institutional Strengthening (Total US\$10.01 million; of which IDA US\$7.31 million; NDF US\$2.70 million).
<i>Sub-component 2.1 Strategic Planning and Financing</i>	<i>Sub-component 2.1 Strategic Planning and Financing</i>
Carrying out of a program of activities to: (a) strengthen the capacity to update and operationalize MPWT’s national sector strategy and action plan; (b) strengthen the capacity to improve transport sector policy and financing frameworks; and (c) strengthen the capacity for strategic management at both MPWT and DPWTs.	This sub-component will be revised to add more resources to support MPWT to further develop and roll out the strategic planning into provincial level.
<i>Sub-component 2.2 Sector Governance</i>	<i>Sub-component 2.2 Sector Governance</i>
Carrying out of a program of activities to: (a) improve the integrated road asset management system (IRAM); (b) upgrade and roll out the road sector information and communication technology system including (i) e-archive, (ii) e-procurement, and (iii) information disclosure and citizen engagement through focus groups and satisfaction surveys; (c) upgrade the accounting system and expenditure tracking tools in the road sector; (d) strengthen the internal control systems of provincial road authorities; and (e) strengthen overloading control through the provision of a weighting station on national road NR13 in Bolikhamxai province.	This sub-component will be revised to add more resources to further support internal control and financial management of MPWT and roll out at provincial level.
<i>Sub-component 2.3 Climate Resilient Road Asset Management</i>	<i>Sub-component 2.3 Climate Resilient Road Asset Management</i>



LRSP2 (P158504) Current Components	LRSP2- AF (P170951) Proposed Changes
<p>Carrying of a program of activities: (a) for financing by NDF to (i) develop MPWT’s climate change action plan; (ii) operationalize hazard maps into practical vulnerability maps for planning of road infrastructure maintenance or investments; (iii) review and update current tools for road management and maintenance planning; (iv) prepare a medium-term climate resilient national road preservation plan; (v) review and update road sector designs, standards and guidelines to incorporate climate-resilience aspects; and (vi) design mechanisms to strengthen emergency road repair management; and (b) for financing by IDA to carry out annual field surveys to include necessary data in the road management information systems for risk-based planning.</p>	<p>This sub-component will be revised to add more resources to further support MPWT in data collection and supervision of climate resilient road works in provinces as well as NR13 S improvement and maintenance.</p> <p>This sub-component will also be revised to include the provision of boats to villages located in flood-prone areas for emergency usage during flooding. The project area is subject to tropical depressions and heavy rainfall and borders the Mekong River, and flooding in the region is therefore common. The provision of boats will help support rescue efforts and emergency needs during flooding events.</p>
<p><i>Sub-component 2.4 Capacity Building</i></p>	<p><i>Sub-component 2.4: Capacity Building</i></p>
<p>Carrying out of a program of activities to: (a) strengthen the operating, fiduciary and human resource systems of MPWT and provincial and district road authorities; (b) strengthen the capacity of MPWT and other relevant government agencies to assess and manage the technical, environmental and social aspects of potential future public-private partnerships (PPP) and PBC modalities in the road sector; (c) develop or update environmental and social management manuals and procedures in the road sector; and, (d) develop and implement traffic safety action plans, audit manuals, training programs and public awareness raising campaigns.</p>	<p>This sub-component will be revised to add more resources to the carry out of a program of activities to: (a) strengthen the operating, fiduciary and human resource systems of MPWT and provincial and district road authorities; (b) strengthen the capacity of MPWT and other relevant government agencies to assess and manage the technical, environmental and social aspects of OPBRC contract implementation; (c) develop or update environmental and social management manuals and procedures in the road sector; (d) develop and implement traffic safety action plans, audit manuals, training programs and public awareness raising campaigns; (e) strengthen the operating, fiduciary and human resource systems of the MPWT as well as provincial and district road authorities; and (f) strengthen the capacity of MPWT and other relevant government agencies in monitoring and supporting the implementation of environmental and social activities related to Part 1.5 of the Project.</p> <p>The technical assistance activity regarding the PPP has been completed and no resources will be allocated under the AF to prepare a PPP.</p>
<p>Component 3: Project Management (Total US\$2.00 million; of which IDA US\$2.00 million).</p>	<p>Component 3: Project Management (Total US\$2.84 million; of which IDA US\$2.84 million).</p>
<p>Provision of technical and operational assistance for the day-to-day management, monitoring and evaluation of the project, and the carrying out of technical and financial audits.</p>	<p>This component will be revised to add more resources for technical and operational assistance for the day-to-day management (including but not limited to training on output and performance-based contracting, financial management, procurement and safeguards training and advisory support), monitoring and evaluation of the project, and for carrying out of technical, procurement,</p>



LRSP2 (P158504) Current Components	LRSP2- AF (P170951) Proposed Changes
	and financial audits. Contingency has been reserved under this sub-component.
Component 4: Contingent Emergency Response: (US\$0 million).	Component 4: Contingent Emergency Response: (US\$0 million).
A CERC with a provisional allocation of zero dollars is included under the project in accordance with Paragraph 12 and 13 of the IPF Policy: Investment Project Financing, regarding “Projects in Situations of Urgent Need of Assistance or Capacity Constraints”. This will allow for the rapid allocation of project proceeds in the event of the Government declaring that a crisis or emergency has occurred and the World Bank agreeing with such determination. This component would finance public and private sector expenditures on a positive list of goods and/or specific works, goods, services and emergency operation costs required for emergency recovery. An Emergency Response Operations Manual will apply to this component, detailing financial management, procurement, safeguards and any other necessary implementation arrangements.	No changes proposed.

29. **Change in environmental safeguards category.** The project is changing from the current Environmental Category A (Full Assessment) to Category B (Partial Assessment) for the AF. Environmental Category A was applied to LRSP2 as it was expected during preparation that the technical assistance activities could lead to the development and implementation of investments in the road sector that meets Category A, and a possible PPP, which were expected to have downstream environmental and social impacts. However, the technical assistance for the preparation of the PPP has been completed and no resources will be allocated under the AF to prepare a PPP. In addition, AF will not finance works that are anticipated to result in high risks and significant impacts (i.e., works classified as Category A) and will instead focus on routine and periodic road maintenance, including spot improvement and road safety of the southern sections of NR13. The proposed works will be mainly carried out on the existing carriageway within the existing right of way and may involve minor adjustments in some spots (still to be confirmed through a survey), to improve road safety and/or strengthen road climate resilience. The potential impacts from these activities are anticipated to be minor, site specific, localized, temporary and manageable. Potential impacts can be mitigated through effective management of contractors and close monitoring by the subproject owner, local authorities, and local communities.
30. **Extension of the Project Closing Date.** The AF project life will be six years; comprising one year for preparation and bidding for road works, three years to implement civil works related to the improvement and enhance climate resilience of NR13 S, followed by two years for the maintenance. As a result, an extension of the project closing date by 40 months from August 31, 2022 to December 31, 2025, is required for the implementation of activities included under the AF.
31. **Change in disbursement estimates.** As part of the project restructuring disbursement estimates are adjusted



to account for the current project implementation progress and the timeline for proposed activities under the AF.

32. The proposed IDA financing for components as part of the AF the and total revised financing for the project are presented in Table 2.

Table 2. Detailed Project Costs by IDA and GoL at the Sub-Component Level (US\$ million)

Components	LRSP2 ¹⁵			LRSP2 Additional Financing			LRSP2 Total Revised Financing ¹⁶		
	IDA	GoL	TOTAL	IDA/CRW	GoL	TOTAL	IDA	GoL	TOTAL
Total	25.00	10.00	35.00	25.00	3.50	28.50	50.00	13.50	63.50
1. Climate Resilient Road Improvement and Maintenance	17.85	10.00	27.85	22.00	3.50	25.50	39.85	13.50	53.35
1.1 Periodic Maintenance and Spot Improvement	13.67	0.00	13.67	0.00	0.00	0.00	13.67	0.00	13.67
1.2 Routine Maintenance	3.00	10.00	13.00	0.00	0.00	0.00	3.00	10.00	13.00
1.3 Design and Supervision	0.65	0.00	0.65	5.00	0.00	5.00	5.65	0.00	5.65
1.4 Tropical Storm Son-Tinh Emergency Repair and Disaster Recovery	0.53	0.00	0.53	0.00	0.00	0.00	0.53	0.00	0.53
1.5 Climate resilient improvement and maintenance of NR13 S (new sub-component)	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	17.00	3.5	20.50	17.00	3.5	20.50
2. Institutional Strengthening	6.01	0.00	6.01	1.30	0.00	1.30	7.31	0.00	7.31
2.1 Strategic Planning and Financing	0.60	0.00	0.60	0.30	0.00	0.30	0.90	0.00	0.90
2.2 Sector Governance	2.20	0.00	2.20	0.30	0.00	0.30	2.50	0.00	2.50
2.3 Climate Resilient Road Asset Management	0.65	0.00	0.65	0.60	0.00	0.60	1.25	0.00	1.25
2.4 Capacity Building	2.56	0.00	2.56	0.10	0.00	0.10	2.66	0.00	2.66
3. Project Management	1.14	0.00	1.14	1.70	0.00	1.70	2.84	0.00	2.84
4. Contingent Emergency Response	-	-	0.00	-	-	0.00	-	-	0.00

¹⁵ Inclusive of fund reallocations under the parent project

¹⁶ NDF, EIB and AIIB financing not shown.



III. KEY RISKS

33. **Overall Risk Rating. The overall implementation risk remains Substantial.** The risk ratings have been identified using the Systematic Operations Risk Rating Tool (SORT). The key risks and mitigation measures are summarized below.
34. **Macroeconomic Risk is High.** The macroeconomic risk has been changed to high because the country's macroeconomic situation is challenging with natural disaster that put pressure on the fiscal position of the country, high fiscal and current account deficits, as well as public debt levels. Limited fiscal space reduces the ability of GoL to fund maintenance of public assets, including infrastructure. Risks are partly mitigated by fiscal consolidation plans expected to be driven by stronger revenue collection and continued controls over spending. Ongoing reforms to strengthen PFM and the recent approval of the public debt management law will help strengthen MoF's role and capacity to improve public finance and debt management. Related to the project, the strong political commitment to the project further mitigates risks. GoL will fund its contributions to the project from the RF, partially alleviating concerns about financing availability. The RF revenue collected in 2018 was Lao Kip 724 billion (US\$82 million), which was increased from US\$70 million in 2016.
35. **Political and Governance Risks are Substantial.** Lao PDR has made some progress in strengthening governance; however, there are still weaknesses related to accountability, control of corruption, and regulatory quality. An Anti-Corruption Law was passed in 2012, including the National Anti-Corruption Action Plan to 2020. In addition, the State Inspection Authority has been empowered to prevent and counter corruption. Nonetheless, the impacts have been limited and governance mechanisms remain weak, and therefore political and governance risks remain substantial. The World Bank is addressing governance risks by designing programs to support GoL in improving governance in sectors of World Bank engagement and support. Governance-related risks will be mitigated through LRSP2 and the AF by providing support for the implementation of the government's Anti-Corruption Action Plan as well as improved systems of budget, accountability, procurement, FM, monitoring and evaluation and transparency. Political commitment to the project is strong and stated in the national and sectoral policy.
36. **Fiduciary Risks are Substantial.** MPWT has experience in implementing IDA-financed projects, and its financial management and procurement capacity has improved over time. The accounting software and financial management procedures and controls have been used by MPWT as well as externally funded projects. Staff at MPWT are familiar with World Bank requirements on financial management, disbursement and procurement procedures. The AF will use the procurement regulations and OPBRC contracting concept for road improvement and maintenance, for which MPWT has experience under NR13 project. However, procurement delays under LRSP2 have highlighted capacity issues coupled with lengthy approval processes. Oversight capacity has improved but there remain risks associated with conflict of interest, fraud and corruption, and collusive practices. As such, fiduciary risk is assessed as Substantial. Risk management includes continued upstream efforts such as technical support and capacity building to strengthen the FM system, procurement and contract management capacity under Components 2 and 3; and downstream measures such as technical audits to check the quality of civil works performed. GoL has also enhanced its procurement information disclosure on the MPWT's website and all staff involved in procurement decisions are required to sign a disclosure of their interest. In addition, efforts have been made to further streamline internal approval processes at both central and provincial levels, as well as to accelerate road improvement works to compensate for initial delays in procurement.



37. **Institutional Capacity for Implementation and Sustainability Risks are Substantial.** MPWT has experience in implementing IDA-financed projects and is familiar with Bank procedures. However, the internal approval process within MPWT for procurement of works and consultant contracts is lengthy, which could delay project implementation and disbursement. In addition, although MPWT has experience in the preparation of OPBRC contract under the Lao National Road 13 Improvement and Maintenance Project, knowledge and experience in managing OPBRC contracts remains limited. There is also little capacity within MPWT to incorporate disaster and climate risks into road designs, construction and maintenance. As such, this risk category is considered Substantial. To mitigate risks, training and hands-on capacity building measures will ensure that MPWT is fully equipped with the necessary tools and knowledge to carry out supervision and monitoring of the operation and maintenance (O&M) works following project closure. Under the AF, resources will be allocated to Component 2.4 to strengthen: (i) the operating, fiduciary and human resource systems of MPWT and provincial and district road authorities; and (ii) the capacity of MPWT and other relevant government agencies to manage the technical, environmental and social aspects of OPBRC contract implementation. Through building capacity and strengthening the climate resilient road asset management systems at central and local levels, the quality of road network and efficiency of maintenance regime is expected to improve, building resilience to extreme events and helping reduce network deterioration over time.
38. **Climate and Disaster Risk Screening.** Climate and disaster risk screening was carried out for the proposed project using the World Bank Climate and Disaster Risk Screening Tool. The main risks identified are those related to extreme precipitation and flooding. Recommendations of the screening will inform the technical approaches and engineering designs on climate resilience and adaptation measures. The design for project roads will address flooding issues by raising the profile of flood-prone sections and improving drainage systems by adding more large culverts, strengthening side ditches, improving small bridges, and strengthening slope protection. Improvement of maintenance through OPBRC will ensure reliable service and enhance the resilience of the road during the maintenance and operation phase.

IV. APPRAISAL SUMMARY

A. Economic and Financial Analysis

39. Three road sections are considered for financing from IDA, with IDA financing Section 1 (58 kilometers), and parallel financing from AIIB and EIB. For each section, and for all three combined, the economic analysis applies cost-benefit analysis (CBA) as a standard methodology for appraisal of road works. The overall economic internal rate of return (EIRR) of 26.1 percent and a Net Present Value (NPV) of US\$105.54 million. The economic evaluation focuses on the overall project road improvement cost over the first three years and operation and maintenance (O&M) costs for 7 years (from year 4 to year 10). The annual O&M cost estimated by the design consultants was included in the assessment. The CBA was conducted to calculate the EIRR and NPV of the project over the 20-year life-cycle period (Years 2020-2039) for asphalt concrete road. The economic analysis of the IDA-supported section (Section 1) shows that the project is economically viable with the EIRR of around 29.6 percent and NPV of US\$29.33 million (Table 3).

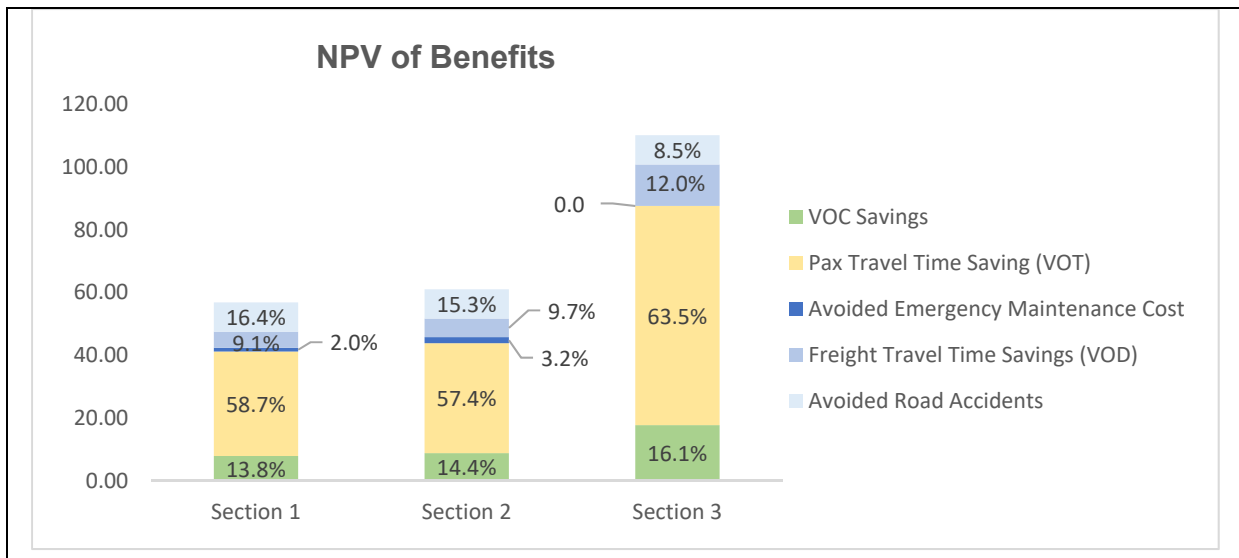


Table 3 EIRR and NPV for the overall project and by road sections

	Total	Section 1	Section 2	Section 3
EIRR (%)	26.1	29.6	20.7	28.3
NPV (US\$ million)	105.54	29.33	21.26	54.95

40. The major economic benefits of the proposed project arise from reduced vehicle operating costs (VOCs) due to improved road condition,¹⁷ travel time savings to passengers and freight,¹⁸ avoided emergency maintenance costs in the case of without-project, and reduction in the road accident rate.¹⁹ The maximum project cost which would occur under the OPBRC without additional concessional financing is assumed with the standard conversion factor of 0.92 for construction and 0.87 for maintenance. The discount rate is assumed to be 12 percent. The distributions of benefits for each road section are illustrated in Figure 2 below.

Figure 2. Annual Average Daily Traffic, 2018 estimates



41. The sensitivity of the EIRR was also tested against three cost variation scenarios, which has confirmed the robustness of economic returns. The results of the sensitivity analysis are illustrated in Table 4.

¹⁷ Road condition improvement from IRI = 5 to IRI = 3.

¹⁸ As the speed improve from 40 km/h to 70 km/h.

¹⁹ Based on actual road fatalities and injuries from provincial records (2017-2019).



Table 4. CBA Results and Sensitivity Analysis

Scenarios	Section 1		Section 2		Section 3	
	EIRR (%)	NPV	EIRR (%)	NPV	EIRR (%)	NPV
Base case	29.56	29.33	20.82	21.26	28.33	54.95
Maintenance cost increases by 20%	29.56	29.33	17.63	13.34	26.05	47.03
Construction cost increases by 20%	26.07	26.55	27.09	28.49	39.75	66.24
Both construction and maintenance costs increase by 20%	26.07	26.55	23.04	20.57	36.45	58.33

42. **Greenhouse gas emissions (GHG).** An analysis of GHG was undertaken based on fuel consumption rates at different speed under with-project and without-project scenarios. Without the project, the road’s deteriorated condition limits vehicle speed and leads to higher fuel consumption per vehicle-km compared to the with-project scenario. With the project, the improved road condition leads to improved speed, and hence lower fuel consumption. Gross GHG emission under the with-project scenario, total net GHG emission, and annual average net GHG emission (over the project period of 20 years) are reported in Table 5 below for each of the road sections. The social benefits from GHG reduction from each section are also included, based on a social cost of emission reduction from The World Bank’s Guidance note on shadow price of carbon in economic analysis.²⁰

Table 5. GHG Analysis

	Total	Section 1	Section 2	Section 3
Gross GHG emission under with-project scenario (tCO2e)	2,766,213	639,989	730,032	1,396,192
Total net GHG emission (tCO2e)	-497,286	-103,028	-126,068	-268,190
Annual average net GHG emission (tCO2e)	-30,512	-5,151	-8,291	-17,069
Social cost of emission reduction (US\$ million)	26.90	5.63	6.89	14.38

B. Technical

43. **OPBRC.** The OPBRC will be used for the improvement and maintenance of NR13 S, for which part of the design, construction, O&M risks are transferred to the contractor. This will help leverage private sector financing to cover a share of road improvement cost, which will be refunded to the contractor by GoL during the post-construction O&M phase. Payments based on performance indicators and results will provide incentives for the contractors to better manage the transferred risks and to provide appropriate services. Therefore, the sector will benefit in the long-term from lower lifecycle cost and increased quality and sustainability of the investment. MPWT already has experience with three-year performance-based routine maintenance contracts as well as the implementation of OPBRC in a section of NR13 N. The main features of OPBRC are summarized below:

- To enable long-term efficiency and sustainability gains, OPBRC will have a 10-year implementation

²⁰ The World Bank’s Guidance note on shadow price of carbon in economic analysis. November 12, 2017.



period, including 3-year road improvement and 7-year O&M phases. The closing date of the project will be extended by 40 months from August 31, 2022 to December 31, 2025 for the implementation of activities included under the AF; however, a part of the O&M phase under OPBRC will continue after the project has closed. This will support the sustainability of the project investment beyond the project life and enhance the efficiency of maintenance activities.

- The proposed improvements to NR13 S are relatively simple from the technical standpoint given the improvement and upgrading works are on the existing road in flat terrain. MPWT also has experience with three-year performance-based routine maintenance contracts as well as the implementation of OPBRC in a section of NR13 N. The OPBRC approach provides incentives to the contractor for a long-term engagement beyond road improvement, at its own risk, during the maintenance period, which in turn helps reduce the risk of poor construction as well as ineffective maintenance. The use of OPBRC also ensures the availability of the budget for road maintenance over the longer term. However, a risk remains that the contractor could seek to extract more during the construction period and would be less interested in receiving performance-based payments over the O&M period. This risk is mitigated by including in the structure of the contract a certain level of the capital investment that the contractor needs to finance, which will be refunded over time in quarterly payments during the O&M period, to ensure a stake in the quality and enable GoL to pay from its revenues generated by the Road Fund. This risk will also be mitigated in the short-term through the support of the supervision consultant and over the medium to longer-term through the capacity development of MPWT.
- Financing from the World Bank will cover the road improvement phase during project implementation, excluding the deferred amount of civil works, which will be financed by the contractor and refunded by GoL during the O&M phase. GoL has formally confirmed its financing through the RF to cover the full cost of the 7-year O&M phase, including the deferred repayments to the contractor. The Financing Agreement will require the Recipient to develop a sustainability plan before the project closure to ensure the sustainability of the project results. Training will be provided for to ensure that MPWT is fully equipped with necessary knowledge and tools to carry out supervision and monitoring of the O&M works after the project closes.
- The payments to the contractors for road improvement work will be based on completed construction milestones as per defined performance criteria. During the O&M phase, the contractors will receive quarterly payments, including deferred amount of civil works based on the achievement of service level performance requirements. The bidding documents will specify the performance milestones for road construction and service level requirements for O&M.
- Bidders will be assessed on their technical and financial proposals. The bidding documents will include a conceptual design for road improvement works and the contractor will be required to prepare the detailed design. Therefore, the proposed OPBRC contract format covers design, build, operation, maintenance and transfer of the road, by enabling greater participation of the private sector in financing of the road investments and efficient allocation of risks between the Government and private sector to achieve higher quality results and services.

44. The AF will finance improvement, operation and maintenance activities on approximately 58 kilometers of the NR13 S. The works will be executed on existing roads and will follow the existing alignment. MPWT is preparing a conceptual design for the project road, which will be used as a minimum technical requirement in the bidding documents. The pavement of the road will be asphalt concrete. The road sections in populated areas will receive an improved surface from bituminous to asphalt concrete with the widening of the shoulder



from 1 to 2.5 meters as a safety lane for motorcycles and bicycles, and a sidewalk, for a total width of 12 meters. The remaining sections will receive an improved surface from bituminous to asphalt concrete with a total width of 9 meters, with no widening of the shoulder.

45. **Climate Resilience.** Road designs under the AF will further strengthen and build on the work being undertaken as part of LRSP2 and will include a strong focus on climate resilience considering the impact of recent floods and future climate projections. The road alignment will be raised in flood-prone sections. Drainage systems will be improved with the construction of additional and larger culverts, appropriate inlet-outlet of culverts, side ditches, small bridges, and canals to drain water out from the side ditches. The design will ensure that water can flow smoothly to the natural reservoirs minimizing the impact to the road and adjacent surroundings. Bio-engineering solutions will be used as much as possible for improved road slope protection, including grasses and tree planting. Clearance of drainage sedimentation and drainage of the pavement are included as part of the service level requirements under OPBRC. Service levels also include attention to profile and pavement strength. The lack of performance-based contracts has led to challenges in ensuring road robustness, including the ability of the network to withstand extreme weather events such as the 2018 floods. In addition, there is currently a lack of effective mobilization of maintenance support for post-disaster response. The implementation of OPBRC for NR13 S will help ensure a reliable service and enhance the standard of the road infrastructure during the maintenance and operation phase and will therefore build road resilience and help to enable efficient disaster response and recovery.
46. **Road safety.** As mentioned in paragraph 14, the first project restructuring included the addition of measures related to road safety, such as the measuring of kilometers of road where a road safety audit was conducted. Under the AF, the road safety audits will continue, and the results will be used to inform the conceptual and detailed design. Road safety measures include road furniture, reflectors, and improvements in driving vision, sidewalks, traffic calming options and street lighting in highly populated areas. Traffic safety aspects will be further strengthened through education and awareness campaigns targeting motorists, public transport and the public, and through road safety enforcement. A road safety audit is being disseminated to provinces. DoT has conducted three road safety trainings and will further provide formal and on-the-job training to provincial areas during September to December 2019. Service level requirements under OPBRC will include attention to road roughness, skid resistance, vegetation control, visibility of road signs and markings, response times to rectify safety-related defects, and attendance to road accidents.
47. **Overloading control.** The project design also includes measures to enhance truck overloading control, which is one of the major challenges affecting the rapid deterioration of road assets in the country. Most of the main roads in Lao PDR, including NR13, were originally designed and built for 8.2-tonne standard axle load, while the actual loads of trucks at present, particularly along the major freight corridors, are significantly higher. The project will include the following measures to enhance axle load control: (i) implementation of measures to strengthen axle load enforcement; and, (ii) assignment of appropriate risks and responsibilities between GoL and contractor for overloading control under OPBRC. These measures will help enhance the sustainability of the road assets improved under Component 2 of the project. The overloading control study, which is being procured under the parent project, will recommend how to balance the efficiency in road transport and overloading control considering Lao PDR's logistics strategy. The results of the overloading control study will be used to inform the implementation of the AF.



C. Gender

48. LRSP2 integrated gender considerations in the design of works and capacity building of government staff and contractors, particularly related to road access and service provision, road safety, and ensuring that men and women benefit equally from project investments. Building on this, and based on the findings of the gender gap analysis and consultation, the gender actions included in the AF will focus on helping to address the following three key areas:

- **Enhancing employment opportunities for women.** Within the transport sector, it has been identified that women have comparatively less access than men to economic opportunities. Although gender-disaggregated job data is not available for the road sector, consultations indicated that there was very little participation of women, if any, in road operation and maintenance activities. The project will enhance employment opportunities for women from local communities in paid jobs under the road contracts. Specifically, for all road contracts there will be provisions requiring a minimum share of 10 percent of the staff contracted to be female. The results framework includes the intermediate indicator “Share of women participating in paid jobs related to implementation of road works contracts (percentage)” to measure the increased participation of women in paid jobs in project roads (see Section VIII).
- **Investigating promotion and leadership opportunities for women.** It has been identified that there is a disproportionately low participation of women in the labor force in the transport and logistics sector, particularly at higher levels. The share of women employed in the sector is only 9.1 percent, with the percentage of women in management positions as well as business owners is about 9.6 percent, compared to around 90 percent for both categories for men. The project will undertake a study to investigate the barriers and limitations for women in achieving promotions and leadership opportunities. Should the study identify that lack of access to training is a key barrier for women, the project will investigate what management and technical knowledge training could be provided to support future leadership roles in the planning and decision-making process in the transport sector.
- **Improving road safety.** Data gathered during project preparation identified that a disproportionate number of men are involved in road accidents, and the number of fatalities associated with road traffic injuries are also higher for men, particularly in the age bracket of 16 – 26. The project will implement targeted traffic safety campaigns and awareness measures, which will include a session that focuses on young men and motorcycle safety, given this is the most common mode of transport for this age bracket.

49. The scale up works could increase risks associated with labor influx and gender-based violence (GBV). The marginal risk associated with the labor influx under the project is considered moderate based on the risk classification defined by the World Bank’s 2016 Guidance Note on managing the risks of labor influx.²¹ Labor camps will be constructed for those workers coming from outside the community and will be regularly monitored by the supervision consultant. The principles and guidelines for contractor Codes of Conduct and management of worker health and safety will be incorporated in the bidding documents and will be regularly monitored by the supervision consultant during the execution of works. Contractors will be required to train

²¹ Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx. World Bank, December 2016.



all workforce on a regular basis on the Workers Code of Conduct to ensure clear definition of obligations of contractors' staff and workers with regard to implementing the project's environmental, social, health and safety (ESHS) and occupational health and safety (OHS) requirements; help prevent, report and address GBV within the work site and in its immediate surrounding communities; and inform workers about national laws that make GBV a punishable offence which is prosecuted.

D. Financial Management

50. DoF of MPWT will remain responsible for overall implementation of financial management and disbursement arrangement of the AF. The same arrangement will be used at the provincial level. Due to increased workload and staff transfers at DoF and in some provinces, an accountant and accounting assistants will be hired under the project to augment the capacity of DoF and provincial offices. The current Financial Management Manual (FMM) will continue to be used. However, the FMM will be enhanced to include more detailed procedures and controls applicable to: (i) advance management and monitoring; and, (ii) payment procedures to ensure timely payments. Budget will be prepared in accordance with the workplan and clearly indicate budget by component/sub-component and sources of financing. The budget and workplan will be reviewed and approved by the World Bank. Funds will flow from IDA credit account to a designated account (DA) that was opened for the original financing. The funds flow arrangement at the provincial level remains unchanged, and bi-annual IFRs will be prepared to include the AF. The IFRs are to be submitted to the World Bank no later than 45 days after the end of each six months. An annual audit, covering the AF and other sources of financing, will be required. Auditors have been appointed under the parent project; however, amendments to the audit contract will be required. Audit report and management letter covering all sources of financing are to be submitted to the World Bank no later than six months after the end of each fiscal year end or other period agreed with the World Bank. The audited financial statements will be subject to public disclosure in accordance with the World Bank's Policy on Access to Information. Implementation support will align with that planned for the original financing.
51. **Disbursement arrangements and eligible expenditures.** Since it is proposed to drop the DLI, the disbursement arrangements under LRSP2 for the DLI will no longer be applicable. The DA opened for the original financing will also be used for the AF. Disbursement methods and minimum application size remain unchanged. Statement of expenditure (SOE) will be used for reporting of expenditure paid from the DA. The minimum application size for Reimbursements and Direct Payments will be equivalent to US\$200,000. Disbursements will be made against goods, works, non-consulting, consulting services, training and workshop, and operating costs. The DLI category, previously Category (2), will be removed; however, disbursement for Component 4: Contingent Emergency Response, will remained unchanged from the original financing. The disbursement table showing categories of expenditure and amounts eligible for financing is below in Table 6.



Table 6. Eligible Expenditures

Category	Amount of the Original Credit (SDR)	Amount of the Additional financing Credit Allocated (SDR)	Percentage pf Expenditures to be financed (inclusive taxes)
(1) Civil Works (except for Component 4 of the Project)	12,400,000	12,400,000	100
(2) Emergency Expenditures under Component 4 of the project			
(3) Goods, Non-consulting services, Consultants’ services, Training and Workshops, and Operating Costs (except for Component 4 of the Project)	5,600,000	5,800,000	100
Total	18,000,000	18,200,000	

E. Procurement

52. The World Bank’s procurement guidelines dated January 2011 and revised July 2014 are being applied under the parent project, whereas the AF, being prepared after July 2016, will follow the Procurement Regulations, dated July 2016, revised November 2017 and August 2018. Procurement under national procurement procedures as agreed with the World Bank will be carried out in accordance with national regulations, including Public Procurement Law No. 30, dated November 2, 2017; Instruction on Implementation of Law on Public Procurement No. 0477 issued by MoF on February 13, 2019, and No. 1995 issued by MoF, dated June 24, 2019 (Additional Instruction to Articles 23 and 31 of Implementation of Law on Public Procurement); and, the Procurement Manual dated May 2009. Conditions for use of such procedures will be stipulated in the procurement plan. The World Bank’s planning and tracking system, Systematic Tracking of Exchanges in Procurement (STEP), will also be used under the AF.

53. **Procurement Capacity and Risk Assessment.** The same team that is implementing the parent project will continue handling the AF as they have experience in conducting procurement in accordance with the World Bank procurement procedures through the implementation of previous IDA-funded projects. MPWT has an adequate organizational structure and relatively qualified staff to manage and implement the project. DoR through the project management unit will carry out procurement activities under the project with support of DoF of MPWT. Key risks that could lead to delays in project implementation and/or non-compliance, if not properly mitigated, include (i) lengthy process for conducting bid/proposal evaluation as well as delay in contract approval process under MPWT; (ii) governance risks associated with conflict of interest, fraud and corruption, and collusive practices; and, (iii) limited capability in contract management. To mitigate these risks and strengthen the procurement capacity of MPWT, the following measures will be undertaken: (i) assigning more qualified staff and continue employing a qualified procurement consultant for the implementation of procurement activities; (ii) providing procurement training for MPWT staff during project preparation and implementation; (iii) signing Disclosure of Interest forms by all members of the tender committee when carrying out their duties; and, (iv) providing technical assistance for supervision and contract management including training to MPWT staff during project implementation.

54. **Procurement Strategy.** The Project Procurement Strategy for Development (PPSD) identified the following



major activities under the AF: (i) works including improvement, enhanced climate resilience and maintenance of 58 kilometers of NR13 S; and (ii) consultant services including supervision consultant for works contracts. The PPSD shows that both works and supervision consulting services are considered of substantial risk because they are of relatively large value, the contractual period is long, and they are critical for the achievement of the project objectives. However, under the ongoing National Road 13 Improvement and Maintenance Project, there have been positive responses from the market to bid for OPBRC and supervision, with a large number of contractors and consulting firms participating in the bidding process. The market analysis demonstrated that MPWT has a good opportunity to select good contractors and consultants to implement OPBRC and perform the supervision consulting services, respectively.

55. Given that the technical nature of road works is not complex and does not require special technology or method to execute, the request for bids (RFB) method will be applied. Standard Procurement Documents (SPD) of the World Bank for OPBRC will be customized for NR13 S improvement under the AF. The international market approach with one stage and two-envelope system (no prequalification) will be used.
56. Regarding the supervision consultant assignment, the consultancy market in Lao PDR is relatively competitive. There are both national and foreign consultants operating in the country and the region. The assignment will be procured using quality cost-based selection (QCBS) with the international market approach. Other small consulting assignments will be procured using QCBS or selection based on consultant's qualification selection (CQS) method with the international or national market approach. There will be also several small packages for procurement of goods under the project. These packages will be procured using the RFB method with the national market approach (for packages equal to or larger than US\$100,000, but not greater than US\$ 600,000) or request for quotations (RFQ) method (for packages smaller than US\$100,000). The full PPSD is available for reference as a separate project document.
57. **Procurement Plan.** Based on the PPSD, the initial procurement plan for the project was prepared by MPWT and agreed by the World Bank at negotiation. The procurement plan will be updated at any time by MPWT to: (i) reflect project implementation; (ii) accommodate changes that should be made; and, (iii) add new packages as needed for the project. Procurement plan and their updates or modifications will be subject to the World Bank's prior review and no-objection in STEP. Details for the procurement arrangements are also provided in the Project Operations Manual (POM). The procurement plan identifies the risk for each activity and prior review of these activities is set based on the performance and risk rating. Contracts not subject to prior review will be subject to post review. The World Bank will carry out procurement post reviews on an annual basis with an initial sampling rate of 10 percent, which will be adjusted periodically during project implementation based on the performance of the project.

F. Social (including Safeguards)

58. An initial assessment and consultations conducted in July 2019 revealed that potential impacts due to land acquisition and resettlement are expected to be insignificant, temporary and manageable. The AF works aim to follow the existing alignment with possible minor changes at sharp curves and/or expansion of road surface (e.g. from 9 meters to 12 meters) to improve road safety and accommodate emergency and temporary stop in selected area. Thus, the World Bank's policy on Involuntary Resettlement (OP/BP 4.12) and policy on Indigenous People (OP/BP 4.10) continue to be triggered under the AF. The existing Resettlement Policy Framework (RPF) effectively applied under the parent project is slightly updated to



accommodate the scope of the AF and address the OP/BP 4.10 requirements. Given that detailed design and locations for expansion are still to be determined after appraisal, a detailed assessment will be conducted after the scope or corridor of impacts are known. An Abbreviated Resettlement Action Plan (ARAP) or Resettlement Action Plan (RAP) will be prepared to address the resettlement and land acquisition issues in line with the updated RPF. The cost for RAP implementation will be part of the subproject cost to be provided by GoL.

59. With regards to Indigenous People, some ethnic groups mixed with majority Lao Tai groups were initially observed along the NR13 S section. A detailed assessment will be conducted to identify ethnic groups, impacts on their livelihood and mitigation measures after the detailed survey and design of the road subproject are finalized. The existing Ethnic Group Engagement Framework (EGEF) has been updated to accommodate the scope of the AF. In the event that an ethnic group is identified to be present with collective attachment to the project area, an Ethnic Group Engagement Plan (EGEP) will be prepared to be implemented under the AF in line with the updated EGEF. The cost for the preparation and implementation of the EGEP will be part of the Environmental and Social Management Framework (ESMF) budget. Both the ARAP and EGEP will outline the process of the Grievance Redress Mechanism (GRM) that will provide access for project-affected people and concerned stakeholders to raise their concerns and provide feedback for the project. The ARAP and EGEP are required to be publicly disclosed and completed prior to commencement of civil works. Gender integration will be implemented under Component 1 and 2.
60. Citizen engagement. Engagement has informed preparation, design, and implementation of the parent project. Engagement has also informed the preparation of this AF. Local communities and interested and affected stakeholders will continue to be engaged throughout the project cycle including ensuring that their feedback is received formally through a feedback and grievance mechanism. The parent project includes intermediate indicators to monitor the percentage of addressed grievances resolved. The engagement is to both ensure stakeholders are adequately informed but also to take into account their views. In undertaking consultations, the needs of beneficiaries, including those of vulnerable groups as well as women, youth, the elderly and ethnic groups, are addressed. The AF will build on the existing citizen engagement arrangements including on issues such as road safety both for awareness and bringing about safe behaviors. During the preparation of the AF, public consultations on the updated ESMF were conducted in Bolikhamxai and Khammouan provinces in August 2019, during which scope of works to be implemented under AF was discussed with local communities.

G. Environment (including Safeguards)

61. The World Bank's policy on Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36) and Physical Cultural Resources (OP/BP 4.11) remain triggered, no new risks and impacts are anticipated from the AF. Implementation of the project will improve drainage and climate resilience of the NR13 S and reduce flooding impacts. Potential negative impacts during construction on NR13 S will be small to moderate, localized, temporary, and can be mitigated through effective management of contractors and close monitoring by the subproject owner, local authorities, and local communities. Implementation of the subproject screening process and the application of the mitigation measures proposed in the ESMF of the parent project is considered adequate. However, some clarification and adjustment will be made to provide clarity on measures related to UXO clearance as required by GoL, and to strengthen measures to prevent possible encroachment to protected areas along both sides of the NR13 S sections and involvement of forest



and wildlife smuggling.

62. It is also important to ensure that the project provides an adequate budget for DPWTs and local authorities to conduct consultations with local communities and ensure effective monitoring of contractor performance. This cost will be incorporated as part of the ESMF implementation. During construction a specific budget for environmental and social safeguards should also be provided in the contract to ensure safety and close communication of the contractor and local authorities and communities. In areas with high UXO risks, the project cost will be allocated to accommodate an UXO technical survey and clearance as required by GoL.

H. Other Safeguard Policies

63. **Environmental and Social Framework (ESF).** The ESF will not be applied to the project as it meets the eligibility criteria for processing an AF under the safeguard policies, as the activities to be supported under the AF would not raise the safeguards category of the original project or trigger any new safeguards policies or risks. The exact location of the new investments will be determined by the Conceptual Design Study which will be completed after appraisal. Therefore, the exact locations of the new investments have not been known by the time of appraisal. For the AF, the existing ESMF, RPF and the Ethnic Groups Engagement/Policy Framework (EGEF/EGPF) have been updated to reflect the proposed additional scope, and publicly disclosed on the World Bank and MPWT's website on September 24, 2019, prior to appraisal.
64. Potential risks and impacts anticipated from the AF include community health and safety, specifically communicable waste and water-borne diseases, Gender-Based Violence (GBV), Violence Against Children (VAC) associated with contractors, their staff and workers camping in the project area and/or in some villages along NR13 S. The existing Environmental, Social, Health and Safety (ESHS) Guidelines of LRSP2 will continue to be applied to prevent and address the risks and impacts.

I. Monitoring and Evaluation (M&E)

65. The Results Framework has been updated, with adjustments to reflect the expanded project activities and a greater focus on climate resilience and gender. The targets of some original indicators, both for PDO and intermediate levels, were revised to capture the AF investment (see Paragraph 22). These indicators will be monitored based on quarterly progress reports submitted by the Implementation Support and Works Supervision Consultant during the implementation of the project. In addition, the mid-term review for LRSP2, which will include a beneficiary assessment, is scheduled for December 2020, when the majority of civil works of the original LRSP2 will have been completed. The timing will be useful for the AF, as it will not only take stock of achievements to date but also provide additional baseline information for the monitoring of the AF.
66. The M&E system in place for LRSP2 will also apply to the AF. MPWT has set up a team for project M&E within the Department of Planning and Cooperation (DPC). DPC has assigned its Cooperation and Investment Division with eight staff to be responsible for the project M&E. Based on a capacity assessment of the division carried out under LRSP2, their capacity on M&E needs to be further strengthened. MPWT is moving towards programmatic approaches and as such is interested in expanding its M&E system to capture the broad economic and social and environmental impacts of the sector. Each department involved in the project implementation has assigned a focal point responsible for collection of data related to project activities under its responsibility and send reports to DPC for verification and compilation. DoR is responsible for verifying



data associated to roads works including road conditions, share of rural population has access to an all-season road collected by DPWTs, and share of women participating in road work contracts.

J. Implementation Arrangement

67. The project will be implemented through the existing government structures. The project will receive overall policy and strategic guidance from a Project Coordination Committee chaired by Director General of DPC of MPWT and comprising Director of Provincial DPWT, representatives from other ministries involved in the implementation of the project and MPWT's Department Directors directly involved in project implementation. The Committee will be supported by a secretariat led by the Deputy Director General of MPWT's Department of Planning and Cooperation and comprising representatives of related departments.
68. **Project Oversight and Coordination.** DPC will be responsible for overseeing the overall project coordination and management. DPC will coordinate with other MPWT departments providing supporting management functions. DoF will have overall responsibility for financial management of the project and will provide procurement support to project activities; the Department of Inspection (DoI) will apply internal controls to project activities, procure independent financial and technical auditors, and oversee the project grievance redress mechanism; the ICT Division of the Cabinet Office will oversee activities related to disclosure of bidding documents, and public information posted in MPWT's website; and, the Environmental Research and Disaster Prevention Division of the Public Works and Transport Research Institute (EDPD-PTRI) will lead all aspects of safeguards preparation, supervision, monitoring, and reporting. MPWT's DoT will lead the activities related to traffic safety and overloading control.
69. **Project Implementation.** MPWT's DoR will be responsible for overseeing the implementation of Component 1 on climate resilient road maintenance including monitoring progress, supervising the procurement process, including prior review, and chairing the Procurement Evaluation Committee, reviewing work plans, and allocating funds to OPBRC contract, routine and periodic maintenance activities.
70. In line with the national decentralization policy, the role of DPWT in each participating Province will be to carry out local road maintenance prioritization using Provincial Road Maintenance and Management System (PROMMS), preparation of the provincial three-year rolling maintenance plan and provincial road sector budget, conduct procurement under the supervision of DoR, contract management, quality control, and reporting. Responsibilities for field data collection are with DPWTs under the supervision of DoR. The design and supervision consultants will provide implementation support to DPWTs for data collection, planning, procurement, contract management, quality control, monitoring, and reporting, as well as building the technical capacities of DPWTs and district OPWTs on a continuous basis. As part of the AF, DPWTs will work with DoR for day-to-day site supervision and quality control, as well as liaison with the local communities.
71. For improvement and maintenance of NR13 S under Component 1.3, DoR is responsible for the overall management and implementation of the road improvement and maintenance works, including monitoring progress, supervising the procurement process and chairing the Procurement Evaluation Committee, reviewing work plans and allocating funds to improvement and O&M activities. A Project Management Unit (PMU) at the Ministry Level, led by a Project Manager under DoR will be responsible for management of day-to-day implementation. The Project Manager will have two deputies representing the provincial departments of DPWT of Bolikhamxai to Khammouan.



72. Various MPWT Departments will implement Component 2 activities as per their official mandates and under the overall coordination of DPC. EDPD-PTRI will lead the safeguard supervision, monitoring, and safeguard training, including implementation of safeguards related activities for all project activities.
73. **Development Partners.** GoL has established an Infrastructure Sector Working Group, led by the Minister of MPWT, as a mechanism to facilitate overall coordination among development partners. The AF will continue to actively strengthen this mechanism for sector dialogue and coordination and includes the collaboration with partners currently engaged in road maintenance activities including ADB, AIIB, EIB, Japan International Cooperation Agency (JICA), KfW (German Development Bank), and NDF.
74. **Procurement Evaluation Committee.** A Procurement Evaluation Committee has been established, chaired by Director General of DoR, and comprising of representatives from DoF, DoT, DPC, Provincial Department of Public Works and Transport (DPWT), and the Project Manager.
75. **POM.** The AF will be implemented in accordance with the updated POM, which contains detailed information on the project implementation arrangements and processes, including procurement, financial management, disbursements, and safeguards.

V. WORLD BANK GRIEVANCE REDRESS

76. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org



VI SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Project's Development Objectives	✓	
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Reallocation between Disbursement Categories	✓	
Disbursements Arrangements	✓	
Safeguard Policies Triggered	✓	
EA category	✓	
Legal Covenants	✓	
Procurement	✓	
Implementing Agency		✓
Cancellations Proposed		✓
Institutional Arrangements		✓
Financial Management		✓
APA Reliance		✓

VII DETAILED CHANGE(S)

PROJECT DEVELOPMENT OBJECTIVE

Current PDO

The Project Development Objective (PDO) is to strengthen maintenance systems to improve reliable road connectivity in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

Proposed New PDO

The Project Development Objective (PDO) is to improve climate resilience and strengthen maintenance systems for



a reliable road network in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Component 1: Climate Resilient Road Maintenance	36.90	Revised	Component 1: Climate Resilient Road Improvement and Maintenance	63.05
Component 2: Institutional Strengthening	8.50	Revised	Component 2: Institutional Strengthening	10.01
Component 3: Project Management	2.00	Revised	Component 3: Project Management	2.84
Component 4: Contingent Emergency Response	0.00		Component 4: Contingent Emergency Response	0.00
TOTAL	47.40			75.90

LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IDA-59200	Effective	31-Aug-2022	31-Aug-2022	31-Dec-2025	30-Apr-2026

REALLOCATION BETWEEN DISBURSEMENT CATEGORIES

Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)	
			Current	Proposed

IDA-59200-001 | Currency: XDR

iLap Category Sequence No: 1	Current Expenditure Category: WORKS P1.1(a) & 1.4			
10,200,000.00	420,039.82	12,400,000.00	100.00	100.00
iLap Category Sequence No: 2	Current Expenditure Category: WORKS P1.2			



2,200,000.00	0.00	0.00	100.00	0.00
iLap Category Sequence No: 3		Current Expenditure Category: G,NCS,CS,TR-WS,OC P2.1-2-3b-4 & 3		
5,600,000.00	1,493,746.76	5,600,000.00	100.00	100.00
iLap Category Sequence No: 4		Current Expenditure Category: Emerg Exp P4		
0.00	0.00	0.00	100.00	100.00
Total	18,000,000.00	1,913,786.58	18,000,000.00	

DISBURSEMENT ARRANGEMENTS

Change in Disbursement Arrangements

Yes

Expected Disbursements (in US\$)

Fiscal Year	Annual	Cumulative
0000	0.00	0.00
2017	2,000,000.00	2,000,000.00
2018	0.00	2,000,000.00
2019	2,125,000.00	4,125,000.00
2020	9,000,000.00	13,125,000.00
2021	9,000,000.00	22,125,000.00
2022	9,000,000.00	31,125,000.00
2023	9,000,000.00	40,125,000.00
2024	4,500,000.00	44,625,000.00
2025	3,000,000.00	47,625,000.00
2026	2,375,000.00	50,000,000.00



SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Substantial	● Substantial
Macroeconomic	● Substantial	● High
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Moderate	● Moderate
Institutional Capacity for Implementation and Sustainability	● Substantial	● Substantial
Fiduciary	● Substantial	● Substantial
Environment and Social	● Moderate	● Moderate
Stakeholders	● Moderate	● Moderate
Other	● Low	● Low
Overall	● Substantial	● Substantial

COMPLIANCE

Change in Safeguard Policies Triggered

Yes

Safeguard Policies Triggered	Current	Proposed
Environmental Assessment OP/BP 4.01	Yes	Yes
Performance Standards for Private Sector Activities OP/BP 4.03	No	No
Natural Habitats OP/BP 4.04	Yes	Yes
Forests OP/BP 4.36	Yes	Yes
Pest Management OP 4.09	No	No
Physical Cultural Resources OP/BP 4.11	Yes	Yes
Indigenous Peoples OP/BP 4.10	Yes	Yes



Involuntary Resettlement OP/BP 4.12	Yes	Yes
Safety of Dams OP/BP 4.37	No	No
Projects on International Waterways OP/BP 7.50	No	No
Projects in Disputed Areas OP/BP 7.60	No	No

Environmental Assessment (EA) Category

Change of EA Category	Original EA Category
Yes	Full Assessment (A)
Current EA Category	Proposed EA Category
Full Assessment (A)	Partial Assessment (B)

LEGAL COVENANTS – Lao Road Sector Project 2 (LRSP2) (P158504)

Loan/Credit/TF	Description	Status	Action
IDA-59200	Finance Agreement :Environment and Social Safeguards (Section I.F, Schedule 2 of FA) Description :Obligation of the Recipient to ensure that (i) the Project is carried out in accordance with the provisions of the ESMF, RPF and EGPF and all site-specific safeguard instruments, and not amend, waive or abrogate any of these instruments provisions unless the Association agrees otherwise in writing, and report on the status of implementation as part of the semi-annual progress reports; and (ii) all terms of reference for any technical assistance or studies and capacity building activities developed under the Project are consistent with, and pay due attention to, the Association’s environmental and social safeguards policies in accordance with the ESMF guidelines. Frequency :CONTINUOUS	Complied with	No Change
IDA-59200	Finance Agreement :Project Operational Manual (Section I.B, Schedule 2 of	Complied with	No Change



	<p>Financing Agreement) Description :Obligation of the Recipient to carry out the Project in accordance with the Project Operational Manual, and not amend, waive or abrogate any provisions of the manual unless the Association agrees otherwise in writing. Frequency :CONTINUOUS</p>		
IDA-59200	<p>Finance Agreement :Contingent Emergency Response (Section I.H, Schedule 2 of Financing Agreement) Description :Obligation of the Recipient to adopt a satisfactory Emergency Response Manual for Component 4 of the Project and, in the event of an Eligible Crisis or Emergency, ensure that the activities under said component are carried out in accordance with such plan and all relevant safeguard requirements. Frequency :CONTINUOUS</p>	Not yet due	Revised
Proposed	<p>Finance Agreement: Contingent Emergency Response (Section I.G, Schedule 2 of Financing Agreement): Obligation of the Recipient to adopt a satisfactory Emergency Response Manual for Component 4 of the Project and, in the event of an Eligible Crisis or Emergency, ensure that the activities under said component are carried out in accordance with such manual and all relevant safeguard requirement.</p>	Not yet due	
IDA-59200	<p>Finance Agreement :Institutional Arrangements (Section I.A, Schedule 2 of Financing Agreement) Description :Obligations of the Recipient to maintain, at all times during the implementation of the Project, Project implementation structures within MPWT, DPWT and OPWT with functions and resources satisfactory to the Association, and with staff in adequate numbers and with qualifications, experience and terms of reference satisfactory to the Association. Frequency :CONTINUOUS</p>	Complied with	No Change



IDA-59200	Finance Agreement :Memoranda of Understanding (Section I.C, Schedule 2 of Financing Agreement) Description :Obligations of the Recipient to enter into an MOU with each Target Province for the purpose of implementing the Project, on terms and conditions satisfactory to the Association. Due Date :01-Jun-2017	Complied with	No Change
IDA-59200	Finance Agreement :Annual Work Plans and Budgets (Section I.D, Schedule 2 of Financing Agreement) Description :Obligations of the Recipient to furnish to the Association an annual work plan and budget for the Project, in form and substance satisfactory to the Association, covering the activities and expenditures proposed for each government fiscal year, including sources of funding, and implement the activities under the Project in accordance with such plan and budget. Frequency :Yearly	Complied with	Revised
Proposed	Finance Agreement :Annual Work Plans and Budgets (AWPB) (Section I.D, Schedule 2 of Financing Agreement) Description :the Recipient shall furnish the Association, not later than June 1 of each fiscal year for the Association’s no-objection, a consolidated AWPB containing all activities and eligible expenditures proposed to be included in the project in following fiscal year. Frequency: Yearly	Complied with	
IDA-59200	The Recipient shall: (i) not later than October 30, 2018, appoint and thereafter maintain independent technical auditor, with terms of reference and qualifications satisfactory to the Association; and (ii) not later than September 30 of each year, commencing September 30, 2019 furnish the reports of the independent technical auditor(s), all in accordance with the verification protocol in the POM.	Expected soon	Revised



Proposed	Section I.E. The Recipient shall:(a) not later than September 30 of each year during the Project implementation period, commencing on September 30, 2020, furnish to the Association the reports of the independent technical and procurement auditor(s);and (b)promptly thereafter take measures, acceptable to the Association, to address the findings and implement the recommendations of each such report.	Not yet due	
IDA-59200	Output and Performance-Based Road Contract (OPBRC) Sustainability Plan (Section I.H, Schedule 2): The Recipient shall adopt, not later than twelve months prior to the Closing Date, a sustainability plan, in form and substance satisfactory to the Association, specifying actions and budget designed to ensure the continued and effective implementation of the OPBRC in the period after the Closing.	Not yet due	New

LEGAL COVENANTS – Lao PDR Road Sector Project 2 – Additional Financing (P170951)

Sections and Description

Output and Performance-Based Road Contract (OPBRC) Sustainability Plan (Section H, Schedule 2): The Recipient shall adopt, not later than twelve (12) months prior to the Closing Date, a sustainability plan, in form and substance satisfactory to the Association, specifying actions and budget designed to ensure the continued and effective implementation of the OPBRC in the period after the Closing.

Conditions

Type
Disbursement

Description

For Emergency Expenditures under Category (2), unless and until the Association is satisfied that all of the following conditions have been met in respect of said expenditures:

- (i) the Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to include said activities in the Emergency Response Part in order to respond to said crisis or emergency, and the Association has agreed with such determination, accepted said request and notified the Recipient thereof;
- (ii) the Recipient has ensured that all safeguards instruments required for said activities have been prepared and disclosed, and the Recipient has ensured



that any actions which are required to be taken under said instruments have been implemented, all in accordance with the provisions of Sections I.G of this Schedule;

(iii) the entities in charge of coordinating and implementing the Emergency Response Part have adequate staff and resources, in accordance with the provisions of Section I.G of this Schedule, for the purposes of said activities; and

(iv) the Recipient has adopted the ERM, in form and substance acceptable to the Association, and the provisions of the ERM remain - or have been updated in accordance with the provisions of Section I.G of this Schedule 2 so as to be - appropriate for the inclusion and implementation of the Emergency Response Part.



VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Lao People's Democratic Republic
Lao PDR Road Sector Project 2 – Additional Financing

Project Development Objective(s)

The Project Development Objective (PDO) is to improve climate resilience and strengthen maintenance systems for a reliable road network in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
To strengthen maintenance systems												
Preparation and implementation of three-year rolling climate resilient road maintenance plans, on annual basis (Yes/No)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Action: This indicator has been Revised</i>												
To improve reliable road connectivity in Lao PDR												
Share of total provincial and	50.00	50.00	55.00	60.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00



Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
district road network in Project area in good and fair condition (Percentage)												
Action: This indicator has been Revised												
Share of rural population with access to an all-season road (National) (Percentage)		56.00	56.00	56.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Action: This indicator has been Revised												
Share of rural population with access to an all-season road in project area (Percentage)		53.00	53.00	55.00	56.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Action: This indicator has been Revised												
Direct project beneficiaries (Number)		0.00	0.00	609,000.00	700,000.00	1,000,000.00	1,600,000.00	1,600,000.00	1,600,000.00	2,134,000.00	2,134,000.00	2,134,000.00
Action: This indicator has been Revised												



Indicator Name	DLI	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
Female beneficiaries (Percentage)		0.00	0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Action: This indicator has been Revised													
To improve climate resilience (Action: This Objective is New)													
Kilometers of road improved with climate resilient measures and receive maintenance (Kilometers)		0.00	0.00	0.00	232.00	290.00	597.00	597.00	655.00	655.00	655.00	655.00	655.00
Action: This indicator is New	Rationale: Measures the length of road that receives periodic maintenance integrating designs and techniques that account for disaster and climate change risk to enhance the climate resilience of the road.												

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
Climate Resilient Road Maintenance													
Length of road receiving climate resilient periodic		0.00	0.00	0.00	232.00	290.00	597.00	597.00	655.00	655.00	655.00	655.00	655.00



Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
maintenance (Cumulative) (Kilometers)												
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension in project closing date											
Length of road receiving routine maintenance (Kilometers)	DLI 1	0.00	0.00	0.00	1,305.00	1,305.00	1,595.00	1,902.00	1,960.00	1,960.00	1,960.00	1,960.00
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension of project closing date.											
Share of women participating in paid jobs related to the implementation of road work contracts (Percentage)		0.00	0.00	5.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Action: This indicator has been Revised												
Grievances registered related to delivery of project benefits addressed (%) (Percentage)		0.00	0.00	75.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension in project closing date											



Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Kilometers of roads where road safety audit was performed and recommendations were considered (Kilometers)		0.00	0.00	0.00	0.00	290.00	348.00	655.00	655.00	555.00	655.00	655.00
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension in project closing date											
Kilometers of NR13 S transferred to performance-based maintenance phase under OPBRC (Kilometers)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.00	58.00	58.00
Action: This indicator is New												
Institutional Strengthening												
Data on road condition and vulnerability to natural hazard collected for preparation of three-year rolling plan (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension in project closing date											



Indicator Name	DLI	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
Updated Road Safety Strategy and Action Plan (Yes/No)		No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	Rationale: This indicator has been revised to account for the extension in project closing date												
Climate Resilient Road Improvement and Maintenance for NR13 South (Action: This Component is New)													
Roads rehabilitated (CRI, Kilometers)		0.00	0.00	0.00	0.00	20.00	30.00	40.00	58.00	58.00	58.00	58.00	58.00
Action: This indicator is New	Rationale: Kilometers of NR13 S improved with climate resilience measures												
Roads rehabilitated - rural (CRI, Kilometers)		0.00	0.00	0.00	0.00	20.00	30.00	40.00	58.00	58.00	58.00	58.00	58.00
Action: This indicator is New	Rationale: Kilometers of NR13 S improved with climate resilience measures												
Roads rehabilitated - non-rural (CRI, Kilometers)		0.00											0.00
Action: This indicator is New													
Number of beneficiaries benefitting from the provision of boats		0.00	0.00	0.00	0.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00



Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
during flooding (Number)												
<i>Action: This indicator is New</i>												

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Preparation and implementation of three-year rolling climate resilient road maintenance plans, on annual basis	This is a measure of the sustainability of the process and outcome of maintenance activities under the Project and their institutionalization in MPWTs systems.	Annual	Project Semi-Annual report	MPWT reporting system	DPWT and DoR
Share of total provincial and district road network in Project area in good and fair condition	Measures the percentage of the total classified road network in the project area that is in good and fair condition depending on the road surface and the level of roughness. Initial value: 2,169 km (50% of the total provincial and district road network in project areas)	Annual	Project Semi-annual report	Field data collected by DPWT	DPWT
Share of rural population with access to an all-season road (National)	Percentage of rural people in the project area who live	Annual	Project Semi-Annual Report	Collection from district authorities	DPWT and DoR



	<p>within 2 kilometers (typically equivalent to a 20-minute walk) of an all-season road. This indicator is also known as Rural Access Index (RAI).</p> <p>An all-season road is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are acceptable, particularly on low volume roads. Please note that this indicator requires supplemental information</p> <p>Supplemental Value: Number of rural people with access to an all-season road</p> <p>The Supplemental Value is the total number of rural people with access to an all-season road. An all-season road is a road that is motorable all year by the prevailing means of rural transport (often a</p>				
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	pick-up or a truck which does not have four-wheel-drive).				
Share of rural population with access to an all-season road in project area	Measures the population in urban area and rural population with 12-month road accessibility (from available data in PROMMS).	Annual	Project Semi-Annual report	Data collected from district authorities	DPWT and DoR
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Annual	Project Semi-Annual Report	Collection from district authorities	DPWT
Female beneficiaries	Based on the assessment and definition of direct	Annual	Project Semi-Annual Report	Collection from District Authorities	DPWT



	project beneficiaries, specify what percentage of the beneficiaries are female.				
Kilometers of road improved with climate resilient measures and receive maintenance	Measures the length of road that receives periodic maintenance integrating designs and techniques that account for disaster and climate change risk to enhance the climate resilience of the road.	Semi-annual	Field data collection	Field data collection	DPWT

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Length of road receiving climate resilient periodic maintenance (Cumulative)	It is the length of provincial, district roads and a section of NR13 S receiving climate resilient road improvement and periodic maintenance.	Semi-annual	Project Semi-Annual Report	Field data collection	DPWT
Length of road receiving routine maintenance	Measures the length of provincial and district roads in the project area that receive routine maintenance.	Annual	Project Semi-Annual Report	Field data collection	DPWT
Share of women participating in paid jobs related to the implementation of road work contracts	The project will promote and measure the increased participation of women in	Annual	Project Semi-Annual Report	Field data collection	DPWT



	paid routine maintenance in project roads.				
Grievances registered related to delivery of project benefits addressed (%)	This indicator measures the transparency and accountability mechanisms established by the project so the target beneficiaries have trust in the process and are willing to participate, and feel that their grievances are attended to promptly. It is understood that local sensitivities and tensions will not allow grievance or redress mechanisms to be established in all projects.	Semi-Annual	Project Semi-Annual report	Data collected Villages, districts, and DPWT.	Districts, DOWT and PTRI
Kilometers of roads where road safety audit was performed and recommendations were considered	Length of roads (km) where road safety audit will be performed and its recommendations will be considered	Annual	Technical Audit Reports	Technical audit	DPWT and DoT
Kilometers of NR13 S transferred to performance-based maintenance phase under OPBRC	Measures the kilometers of NR13 S transferred to performance-based maintenance phase under OPBRC	Semi-annual	Semi-annual progress reports	Field data collection	MPWT
Data on road condition and vulnerability to natural hazard collected for preparation of three-year rolling plan	Condition and natural hazard data to be surveyed on an annual basis and to be input in preparation of annual three-year rolling	Annual	Project Semi-Annual Report	Field data collection	District authorities and DPWT



	plan.				
Updated Road Safety Strategy and Action Plan	Existing road safety strategy and action plan to be updated	Annual	MPWT semi-annual report	DOT report	DoT
Roads rehabilitated		Semi-annual	MPWT report	field data collection	DoR
Roads rehabilitated - rural		Annual	Semi-annual report prepared by MPWT	field data collection	Roads Department
Roads rehabilitated - non-rural					
Number of beneficiaries benefitting from the provision of boats during flooding	Number of beneficiaries living in flood-prone areas along NR13 S received benefit from provision of boats and facilities during flooding.	Annual	Provincial report	Field data collection	DoR/DPWT

Disbursement Linked Indicators Matrix

DLI 1	Length of road receiving routine maintenance			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Output	Yes	Kilometers	1,740,000.00	0.00
Baseline	0.00			



December 30, 2019.	0.00	520,000.00	
December 30, 2020	1,305.00	580,000.00	
December 30, 2021	1,305.00	640,000.00	
Action: This DLI has been Marked for Deletion			

Verification Protocol Table: Disbursement Linked Indicators

DLI 1	Length of road receiving routine maintenance
Description	Measures the length of provincial and district roads in the project area that receive routine maintenance.
Data source/ Agency	DoR's semi-annual reports with input from DPWTs
Verification Entity	Independent technical auditor hired by MPWT will verify the DoR report on an annual basis.
Procedure	Evidence for the compliance of the DLI will stem from the report prepared by MPWT's Road Department with support from the implementation support consultant, which include (i) the list of routine maintenance contracts with their main characteristics including road length and road work activities done during the report period (ii) conditions of road surface and drainage; (iii) a digitized road map, photo/video confirmation of before and after condition, (iv) contract information, maintenance history and (v) expenditure details. IRAM for local roads, which will be developed and operationalized during the first two years of the project implementation, and will be used for the monitoring not later than from year 3 of implementation onwards. The independent technical audit will audit the report.

