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Report No: PAD2752

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR76.5 MILLION
(US$110 MILLION EQUIVALENT)

TO THE

KINGDOM OF CAMBODIA

FOR A

ROAD ASSET MANAGEMENT PROJECT II

May 31, 2018

Transport & Digital Development Global Practice
East Asia And Pacific Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2018)

| | | |
|---|---|---|
| Currency Unit | = | Cambodian Riel (KHR) |
| KHR 4,020.42 | = | US$1 |
| US$1.43806 | = | SDR 1 |

FISCAL YEAR
January 1 - December 31

ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AC | Asphalt Concrete |
| AF | Additional Financing |
| ARAP | Abbreviated Resettlement Action Plan |
| CBA | Cost Benefit Analysis |
| CEN | Country Engagement Note |
| CERC | Contingent Emergency Response Component |
| CPF | Country Partnership Framework |
| CRPF | Compensation and Resettlement Policy Framework |
| DA | Designated Account |
| DOF | Department of Finance |
| EA | Environmental Assessment |
| EIRR | Economic Internal Rate of Return |
| EMP | Environmental Management Plan |
| ERM | Emergency Response Manual |
| ESHS | Environmental, Social, Health and Safety |
| ESMF | Environmental and Social Management Framework |
| ESO | Environment and Social Office |
| ESSF | Environmental and Social Safeguard Framework |
| FM | Financial Management |
| FWD | Falling Weight Deflectometer |
| GBV | Gender-based Violence |
| GDAF | General Department of Administration and Finance |
| GDPP | General Department of Planning and Policy |
| GDPW | General Department of Public Works |
| GDT | General Department of Transport |
| GDTA | General Department of Technical Affairs |
| GHG | Greenhouse Gas Emissions |
| GMAG | Gender Mainstreaming Action Group |

| | |
|---|---|
| GRM | Grievance Response Mechanism |
| GRS | Grievance Redress Service |
| HDM4 | Highway Design Model Version 4 |
| HIMS | HDM4 Implementation Management System |
| IAD | Internal Audit Department |
| IPDF | Indigenous People Development Framework |
| IPF | Investment Project Financing |
| IRI | International Roughness Index |
| ISWS | Implementation Support and Works Supervision |
| MDG | Millennium Development Goal |
| MEF | Ministry of Economy and Finance |
| MPWT | Ministry of Public Works and Transport |
| NPV | Net Present Value |
| NR | National Road |
| NSDP | National Strategic Development Plan |
| OHS | Occupational Health and Safety |
| OPBRC | Output and Performance-Based Road Contracts |
| PAH | Project Affected Household |
| PBC | Performance Based Contracting |
| PDO | Project Development Objective |
| POM | Project Operation Manual |
| PPSD | Project Procurement Strategy for Development |
| RAMO | Road Asset Management Office |
| RAMP | Road Asset Management Project |
| RAMS | Road Asset Management System |
| RDCMU | Road Data Collection and Management Unit |
| RFP | Request for Proposal |
| RGC | Royal Government of Cambodia |
| RMDS | Road Management Decision Support |
| ROW | Right of Way |
| SEA | Sexual Exploitation and Abuse |
| SDG | Sustainable Development Goal |
| SOP | Standard Operating Procedure |
| STEP | Systematic Tracking of Exchanges in Procurement |
| TOR | Terms of Reference |
| VAC | Violence Against Children |
| VOC | Vehicle Operating Cost |

| | |
|---|---|
| Regional Vice President: | Victoria Kwakwa |
| Country Director: | Ellen A. Goldstein |
| Senior Global Practice Director: | Jose Luis Irigoyen |
| Practice Manager: | Almud Weitz |
| Task Team Leader: | Veasna Bun |

## BASIC INFORMATION – PARENT (KH - Road Asset Management Project II - P150572)

| Country | Product Line | Team Leader(s) | | |
|---|---|---|---|---|
| Cambodia | IBRD/IDA | Veasna Bun | | |
| Project ID | Financing Instrument | Resp CC | Req CC | Practice Area (Lead) |
| P150572 | Investment Project Financing | GTD02 (9381) | EACMM (8863) | Transport & Digital Development |

Implementing Agency: Ministry of Public Works and Transport

| Is this a regionally tagged project? |
|---|
| No |

| Bank/IFC Collaboration |
|---|
| No |

| Approval Date | Closing Date | | Original Environmental Assessment Category | Current EA Category |
|---|---|---|---|---|
| 19-May-2016 | 31-Dec-2022 | | Partial Assessment (B) | Partial Assessment (B) |

| | |
|---|---|
| [ ] Situations of Urgent Need or Capacity Constraints | [ ] Financial Intermediaries (FI) |
| [ ] Series of Projects (SOP) | [ ] Project-Based Guarantees |

### Development Objective(s)

The PDO is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia.

The project will achieve this objective through (i) the systematic introduction of designs that include climate proofing and road safety measures and the use of performance based contracts; and (ii) by enhancing MPWT's capacity to carry out road maintenance planning, contracting and management.

### Ratings (from Parent ISR)

| | Implementation | | | |
|---|---|---|---|---|
| | 18-Aug-2016 | 01-Dec-2016 | 29-May-2017 | 25-Dec-2017 |
| Progress towards achievement of PDO | S | S | S | S |
| Overall Implementation Progress (IP) | S | S | MS | MS |
| Overall Safeguards Rating | S | S | S | S |
| Overall Risk | S | S | S | S |

**BASIC INFORMATION – ADDITIONAL FINANCING (Road Asset Management Project II Additional Financing - P165249)**

| | | | |
|---|---|---|---|
| Project ID<br>P165249 | Project Name<br>Road Asset Management Project II Additional Financing | Additional Financing Type<br>Scale Up | Urgent Need or Capacity Constraints<br>No |
| Financing instrument<br>Investment Project Financing | Product line<br>IBRD/IDA | Approval Date<br>21-Jun-2018 | |
| Projected Date of Full Disbursement<br>31-Dec-2026 | Bank/IFC Collaboration<br>No | | |
| Is this a regionally tagged project?<br>No | | | |
| [ ] Situations of Urgent Need or Capacity Constraints | | [ ] Financial Intermediaries (FI) | |
| [ ] Series of Projects (SOP) | | [ ] Project-Based Guarantees | |
| [ ] Disbursement-linked Indicators (DLIs) | | [ ] Contingent Emergency Response Component (CERC) | |

[ ] Alternative Procurement Arrangements (APA)

### Disbursement Summary (from Parent ISR)

| Source of Funds | Net Commitments | Total Disbursed | Remaining Balance | Disbursed |
|---|---|---|---|---|
| IBRD | | | | % |
| IDA | 60.00 | 2.79 | 58.95 | 4.5 % |
| Grants | | | | % |

## PROJECT FINANCING DATA – ADDITIONAL FINANCING (Road Asset Management Project II Additional Financing - P165249)

### FINANCING DATA (US$, Millions)

#### SUMMARY

| | |
|---|---|
| **Total Project Cost** | 113.00 |
| **Total Financing** | 113.00 |
| **of which IBRD/IDA** | 110.00 |
| **Financing Gap** | 0.00 |

#### DETAILS

**World Bank Group Financing**

| | |
|---|---|
| International Development Association (IDA) | 110.00 |
| IDA Credit | 110.00 |

**Non-World Bank Group Financing**

| | |
|---|---|
| Counterpart Funding | 3.00 |
| Borrower | 3.00 |

## 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 & Digital Development

### Contributing Practice Areas

### 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 |
|---|---|---|---|
| Veasna Bun | Team Leader (ADM Responsible) | | GTD02 |
| Latharo Lor | Procurement Specialist (ADM Responsible) | Procurement Specialist | GGOPP |
| Sophear Khiev | Financial Management Specialist | Financial Management | GGOEP |
| Bunlong Leng | Team Member | Env. Safeguards | GEN2B |
| Chanin Manopiniwes | Team Member | Economist | GTD02 |
| Da Lin | Team Member | Administrative and System support | EACSF |
| Ian Douglas Greenwood | Team Member | Consultant | GTD10 |
| Imogene B. Jensen | Team Member | Transport Specialist | GTD02 |
| Makathy Tep | Environmental Safeguards Specialist | Env. Safaguards | GED02 |
| Manush A. Hristov | Counsel | Senior Counsel | LEGES |
| Maria Luisa G. Juico | Team Member | Administrative and System support | GTD02 |
| Phyrum Kov | Team Member | Operations | GWA09 |
| Samnang Hir | Team Member | Roads Engineer | GTD02 |
| Sombath Southivong | Team Member | Infrastructure Specialist | GTD02 |
| Sybounheung Phandanouvong | Social Safeguards Specialist | Social Safeguards | GSU02 |
| Thu Ha Le | Team Member | Legal | LEGES |

### Extended Team

| Name | Title | Organization | Location |
|---|---|---|---|

**CAMBODIA**

**ROAD ASSET MANAGEMENT PROJECT II ADDITIONAL FINANCING**

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## I. INTRODUCTION

1. This Project Paper seeks the approval of the Board of Executive Directors to provide an additional financing of SDR76.5 million (US$110 million equivalent) to the ongoing Cambodia Road Asset Management Project II (RAMPII, P150572, IDA Credit No. 5789-KH). The proposed Additional Financing (AF) Credit will scale up impacts of RAMPII and will support the following: (a) Periodic maintenance and strengthening of an additional road, National Road 4 (NR4) plus introduction of overloading control and a range of road safety interventions; (b) additional support to incorporate climate resilience aspects and operationalize the road asset management system, which is in the process of being upgraded and simplified under RAMPII; and (c) extend the Contingent Emergency Response facility with focus on project-specific interventions in the event of an emergency.

2. This proposed AF is in response to a request from the Ministry of Economy and Finance (MEF) of the Kingdom of Cambodia dated October 12, 2017.

## II. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

3. ***Project Background and Status***. The Bank's sustained engagement in the road sector in Cambodia, which began in the early 1990s, has recognized the importance of roads as enablers of economic development and later, in line with the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), as facilitators of inclusion and shared prosperity accompanied by a decrease in inequality. The initial projects focused on reconstruction and provision of basic access. However, the high cost of reconstruction and repair made it increasingly apparent that an integrated asset management approach was needed to optimize expenditure and thereby sustain the network in as good condition as possible within the resources available. Accordingly, road asset management became the focus of the original Road Asset Management Project (P106603; May 2008-September 2017), which in addition to expanding and strengthening maintenance activities assisted in developing the institutional and technical capacity of Ministry of Public Works and Transport (MPWT) for road maintenance planning, budgeting and operations. *The Project Development Objective (PDO) of the original RAMP was to ensure the continued effective use of the rehabilitated national and provincial road network in support of economic development in Cambodia. It would do so by improving the institutional and technical capacity of MPWT for road maintenance planning, budgeting and operations, and by expanding and strengthening maintenance activities*.

4. ***Parent Project and Performance to Date***. The Road Asset Management Project II (RAMPII) was approved on May 19, 2016 with the financing amount of US$60 million, and became effective on August 8, 2016. *The PDO of RAMPII is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia. The project will achieve this objective through (i) the systematic introduction of designs that include climate proofing and road safety measures and the use of performance based contracts; and (ii) by enhancing the Ministry of Public Works and Transport's capacity to carry out road maintenance planning, contracting and management*. RAMPII was designed to build on and reinforce the gains from RAMP by: (a) improving the climate resilience of road designs, (b) developing skills to outsource and oversee road maintenance activities, including testing the utility of Performance Based Contracting (PBC) for road maintenance, and (c) strengthening MPWT's capacity to plan and manage the network through, among others, the development of three-year rolling road maintenance plans.

5. The parent project, RAMPII, comprises three components:

<u>Component A - Road Asset Management</u> to support preservation of MPWT's road network and provides implementation support for the design and supervision of works. Component A-1 includes periodic

maintenance, followed by routine maintenance in the form of PBCs for three years of 218 km of two national roads, including some 54 km of the National Road 3 (NR3) located in the southern part of Cambodia from Kampot municipality to Veal Rinh district, about 164 km of NR7 and some 90 km of drainage along the two national roads. These works are divided into four packages, one on NR3 and three on NR7. Component A-2 includes implementation support for the civil works under the project and related technical capacity-building activities.

Component B – System Upgrading and Capacity Development to support: (i) system upgrading and technical capacity development for road asset management within MPWT through support of the Road Data Collection and Management Unit (RDCMU) under the Road Asset Management Office (RAMO) and effective implementation of the Road Management Decision Support system; (ii) road safety awareness and road safety audits of project roads; (iii) enhanced financial management and internal audit capacity of MPWT; (iv) technical and financial audits of the project; (v) procurement support; and (vi) technical assistance as required.

Component C – Contingent Emergency Response to enable immediate response through the reallocation of proceeds in the event of an eligible crisis or emergency.

6. **Progress towards achieving the PDO of RAMPII is Satisfactory**. MPWT remains committed to and is taking concrete steps to (a) strengthen its institutional and management structures, including its Monitoring & Evaluation Unit and RDCMU to move towards improving the condition, safety and climate resilience of selected national road corridors; and (b) test the PBC approach in the Cambodian context, mobilizing interest among the stakeholders including the private sector.

7. **Implementation progress is Moderately Satisfactory**. The project finances civil works up to 92 percent of the total project cost. Performance Based Contracting (PBC) introduced in this project is a new contracting modality in Cambodia. Both government counterparts and private contractors were not familiar with this modality requiring better understanding before the tendering process can start. It has taken more time than conventional contracting method. As a result, the disbursement rate currently stands at about five percent. To date, procurement of all major contracts of civil works, supervision consultant and goods are completed. Civil works, including asphalt concrete mixing plant installation began in March 2018. The supervision consultant services commenced in May 2018. Based on the awarded contracts and per the revised disbursement plan, the rate is expected to increase significantly to 24 percent by 2019 (US$14.3 million out of US$60 million) and 43 percent by 2020 (US$25.83 million).

8. The RAMPII financial management (FM) arrangements are adequate and functioning. FM staff are in place, including a National Finance Consultant, to provide support to the FM team working of the project. The updated FM manual been completed and submitted to the WB for review. Interim unaudited financial reports have been submitted to the Bank on time.

9. Progress has also been made on the road asset management system upgrading and capacity development, particularly with respect to data collection. As of December 2017, the RDCMU had collected road condition data for about 5,500 km and international roughness index (IRI) data for about 2,514 km of the paved road network. It is MPWT's strong desire to reconfigure the current Road Asset Management System (RAMS), which loosely links the HDM-4 Implementation Management System (HIMS) to Highway Design Model Version 4 (HDM-4), to enable the system to produce reports on road characteristics, conditions, and evaluate maintenance priorities under various budget scenarios. To inform the system redesign and upgrade, MPWT proposes to learn from the successful road asset management systems in operation around the region and adapt them to the Cambodian context.

10. Regarding Environmental, Social, Health and Safety (ESHS), all bidding documents have been updated to include mandated enhanced requirements to prevent and manage possible risks and impacts

based on experience from similar projects in other regions. The bidding documents thus include an annex with guidance on how contractors should prepare Codes of Conduct and Action Plans to prevent Gender Based Violence (GBV) and Violence Against Children (VAC), along with allocated budgets for implementation. The introduction of these Codes into project documentation addresses a gap in institutionalized attention to the risks of GBV and VAC in road sector projects. With support from the Bank, the project is planning to provide specialized training on the relevant instruments and prevention of sexual harassment and GBV to the MPWT, the supervision consultant and construction crews. The aim is to complete this training before construction begins. This training, together with signed Codes of Conduct, will build a base for ongoing attention to these important social issues, as well as the capacity to monitor contractor performance and take corrective action if needed. With the support of the project's safeguards consultants and the Bank's safeguards specialists, the Environment and Social Office (ESO) staff are being trained to handle the safeguards implementation (including monitoring and reporting).

11. All legal covenants are in compliance, with one not yet due. There is no overdue audit report.

12. ***Rationale for Additional Financing***. Although the option of a new project was considered, AF was selected for its ability to make use of and build on the capacity developed and systems established under RAMP and RAMPII. With support of RAMPII, MPWT started conducting roughness (IRI) and deflection surveys in 2016 for national roads, including NR4. These surveys revealed that while NR4 was fairly below 6.0 in terms of the roughness index, which is the minimum level of fair condition of roads, the index could increase above 6.0 rapidly if no maintenance action is taken in 2-3 years, i.e., 2018-19. The AF will finance NR4 rehabilitation and maintenance, with civil works scheduled to start in 2019, and thus address the survey results at an appropriate time. The AF will help to reinforce and deepen Cambodia's capacity to plan and manage the national road network while broadening participation of the private sector. The AF will also strengthen assistance to government to (a) apply global best practice to integrate climate resilience approaches, and (b) introduce enhanced road safety measures into the periodic maintenance works of selected roads, as well as into the broader road maintenance decision-making and management systems, drawing on the differentiated views and roles of men and women to the extent possible. The use of PBCs for road maintenance is a major innovation introduced in the parent project, with potential for increasing the efficiency and effectiveness of the road maintenance regime while supporting a shift in sector policy towards greater private sector participation. Noting the impact of RAMPII on the PBC approach as a feasible long-term option for maintenance, MEF and MPWT agreed to extend the PBC contract period from 5 to 7 years (including civil works) and expect RAMPII and RAMPII-AF to complete within a 10-year of the project life, by 2026. The government has indicated its intention to mainstream the use of PBCs for road maintenance, pending the results and refinements introduced in the pilots being carried out under the project.

13. The AF will scale up the investments of RAMPII to include the rehabilitation, enhanced climate resilience and maintenance of National Road 4 (NR4), an existing road of about 206 km that links Phnom Penh to Cambodia's only deep-sea port, Preah Sihanouk province. The parent project, RAMPII, includes similar interventions along NR3, which provides a less direct link (of some 30 km more) between Phnom Penh and the port, while traversing rich agricultural areas including some large-scale farms. However, NR4 is the most direct and heavily trafficked road corridor linking Phnom Penh to the port. Average daily traffic was 20,732 in 2016, with motorbikes being the dominant mode of transport (about 48 percent), followed by vehicles and vans (31 percent) and trucks (15 percent). The road is often cut off during the rainy season as heavy rainfall produces flash floods that overflow NR4 for periods of a few hours to 2-3 days. NR4 also presents challenges related to traffic mix (from walking, tractors, motorbike-carts to 6-axle trucks) and safety, as well as opportunities for improved traffic management and maintenance modalities. As the port is currently being upgraded with financial assistance from JICA (to construct more wharfs and expand the port to be multi-purpose), the proposed investment in NR4 is timely.

14. ***Alignment with CPF and Twin Goals***. The AF is consistent with the World Bank Group's Country Engagement Note (CEN) FY2016-FY2017 (Report No. 104843) discussed on May 19, 2016, which sought to rebuild our partnership following a hiatus in IDA lending. While the new Country Partnership Framework (CPF) is currently under preparation, the AF is aligned with the recently completed Systematic Country Diagnostic (Report No. 115189-KH) which identifies infrastructure gaps as a significant barrier to competitiveness and private sector development. It also supports the Royal Government of Cambodia (RGC)'s National Strategic Development Plan (NSDP) 2014-2018, particularly the objectives of deepening regional integration, increasing private sector participation in the development of transportation infrastructure, and mainstreaming disaster risk reduction at all levels. The project supports the achievement of SDG9 on building resilient infrastructure and SDG 13 on adapting to the impacts of climate change.

15. The AF supports the achievement of the World Bank's twin goals to end extreme poverty and promote shared prosperity through its emphasis on cost-effective road asset management that incorporates disaster resilience measures and enhanced road safety. Both aspects are important because although the poverty incidence in Cambodia has greatly declined, data from 2012 indicate that the majority of households that rose above the poverty line did so by a small margin. Such households remain at risk and especially vulnerable to adverse weather events and financial shocks. The AF addresses aspects of both types of risk, the former by helping to embed climate resilience into road asset management modalities, and the latter by taking steps to reduce road accidents and attendant injuries and fatalities.

16. ***Gender.*** Significant gender gaps, e.g., in education, earnings and job quality, serve to increase the vulnerability of women and female-headed households. Although the female labor force was as high as 79 percent in 2014, the Cambodia Socio-Economic Survey (2014) identified a gender earnings gap of about 30 percent among those with low education (but which drops to seven percent among college graduates). The data indicate that more than half of the business establishments in Cambodia are owned by women, but that these establishments are generally smaller, less profitable and less likely to be registered than those owned by men. Female-headed households, which comprise about 17.5 percent of all households, are also more likely to rely on remittances, save less and be more vulnerable to natural and health shocks. Such shocks can include destruction of property and loss of access due to flooding and road closures associated with frequent extreme weather events. The project seeks to reduce these risks along the NR4 corridor through strengthened pavement, raised embankments, installation of drains in populated and flood prone areas, and improved maintenance modalities. While these improvements will benefit all, their impact on the continued viability of small women-owned businesses and of female-headed households near the poverty line could be especially significant.

17. The RAMPII-AF will address gender concerns consistent with RAMPII's ongoing commitment to mitigate ESHS risks and encourage participation of women in road works (rehabilitation and maintenance). To this end, all bidding documents and Request for Proposals (RFP)/Terms of References (TORs) will explicitly request applications from qualified women and men applicants, and describe updated requirements for (i) non-discrimination in the recruitment of qualified applicants; (ii) equal pay for equal work at all levels; and (iii) protection from harassment in the work place. As noted, all bidding documents and contracts will require a code of conduct and budget for training and implanting measures to prevent violence against women and children. The Bank will support MPWT to train its own staff as well as the supervising contractor and construction teams, and establish a rigorous monitoring and reporting system that will aim to institutionalize attention to gender-based violence and violence against children. To ensure that gender issues are properly monitored and addressed, MPWT's Gender Mainstreaming Action Group (GMAG) will become more active in the project to monitor progress and address emerging issues.

18. Most of the documented road-related economic opportunities for women in Cambodia have involved labor-based and/or non-technical work on provincial and rural roads. A review of 3.5 years of

data collected for a provincial roads project financed by ADB[1] identified a significant gap between male and female employment, with only about 30 percent of workers female. The AF seeks to promote the equitable participation of women in skilled and non-skilled positions and be instrumental in helping to determine the potential for the participation of women in rehabilitation and maintenance works. As the levels of unskilled labor are expected to be lower on asphalt concrete roads than on lower standard provincial roads, opportunities for female employment will likely be limited. As such, a target of 15 percent female employment on NR4 has been added as a new intermediate output indicator. This target will not be included as an employment quota for women explicitly defined in the bidding documents, but contractors will be encouraged to make employment opportunities available for women and report on the nature and levels of women employment achieved.

19. Road safety also plays a critical role in the health and welfare of households. Data from the Road Crashes and Casualties in the Cambodia Annual Report of 2016 show that males are disproportionately involved in road accidents resulting in death or serious injuries.[2] The socioeconomic cost of road deaths, injuries and disabilities represents a serious impediment to poverty alleviation, as the associated costs of crashes can send already struggling families into poverty. Surveys conducted during preparation of the parent project indicated that, in addition to flooding, women in particular cited road safety as a primary concern. Both the parent project and AF will carry out road safety audits and incorporate measures to reduce speeds in populated areas, address black spots, raise awareness and improve data collection and reporting. Awareness raising activities for NR4 will be differentiated by age group and gender, the former towards school children and the latter towards men in the high risk group. An intermediate output indicator will be added to track awareness training and percentage of men trained.

## III. DESCRIPTION OF ADDITIONAL FINANCING

20. **PDO of RAMPII-AF**. The PDO of the parent project remains relevant. However, in order to ease implementation in the event of an emergency, additional wording is proposed for the AF, shown in italics as follows: "The PDO is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia *and to provide immediate and effective response in case of an Eligible Crisis or Emergency*".

21. The project will achieve this objective through (i) the systematic introduction of designs that include climate proofing and road safety measures and the use of performance based contracts; and (ii) by enhancing MPWT's capacity to carry out road maintenance planning, contracting and management.

22. **Results Indicators**. As with RAMPII, achievement towards the PDO will be tracked through Outcome Level Indicators. Although the specification of the outcome indicators is the same as in RAMPII, the targets have been revised to account for the additional activities under the AF.

- Roads in good and fair condition as a share of total classified paved roads (percentage) – (Core);
- Roads rehabilitated, Non-rural (km), with disaster resilience measures (km); and
- Length of road sections of which road safety measures are implemented.

23. **Overview**. As indicated above, the AF will scale up the investments of RAMPII to (i) include rehabilitation, enhanced climate resilience and maintenance of about 206 km of NR4; and (ii) provide additional targeted support for incorporating climate resilience, road safety and other refinements into

[1] Provincial Road Improvement Project Progress Report on Compliance with Gender Action Plan, DMF, and Grant Covenants as of 28 February 2018, Asian Development Bank.
[2] In 2016 country-wide, males accounted for 84% of 140 reported fatalities; 78% of 225 reported severe injuries; and 78% of 195 reported slight injuries.

the road asset management system. The rehabilitation works on NR4 will include replacement and overlay of Asphalt Concrete (AC), installation of side drains and outlets, curb side strengthening, overlay of AC on laterite shoulders, and road furniture. All works will be carried out on the existing carriage way within the right of way (ROW), and the proposed works will not involve major widening or installation of heavy structures. The original Environmental Category B will remain unchanged.

24. The AF project life will be 8.5 years, comprising 1.5 year for preparation and bidding, 2 years to carry out civil works related to the rehabilitation and enhanced climate resilience of NR4, followed by 5-year PBCs. The AF will extend the project closing date to December 31, 2026[3]. Within this period, IDA will finance the PBC contracts until May 31, 2026, and RGC will finance the PBC contracts using government funds for the remaining period. This use of government funds is consistent with RGC's commitment to scale up its use of the PBC approach for maintenance as part of its medium and long-term strategy. The IDA financing of all other activities will continue up to the project closing date, December 31, 2026.

25. **Detailed Description**. The AF follows the structure of RAMPII and comprises three components: Component A: Road Improvement and Maintenance; Component B: Operationalization of Road Asset Management; and Component C: Contingent Emergency Response. Table 1 below presents activities of RAMPII and additional activities of RAMPII-AF, while Table 2 presents AF project investment by category.

*Table 1: RAMPII and RAMPII-AF Component Activities and Costs*

| RAMPII (P150572) | | | | RAMPII-AF (P165249) | | | | RAMPII+RAMPII-AF | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Current Component Name** | **(US$ mill.)** | | | **Proposed Component Name** | **(US$ mill.)** | | | **(US$ mill.)** | | |
| | **IDA** | **RGC** | **TOTAL** | | **IDA** | **RGC** | **TOTAL** | **IDA** | **RGC** | **TOTAL** |
| **Component A: Road Asset Management** | 56.97 | 4.30 | 61.27 | **Component A: Road Improvement and Maintenance** | 106.46 | 3.00 | 109.46 | 163.43 | 7.30 | 170.73 |
| A1: Periodic maintenance and strengthening | 52.67 | 4.30 | 56.97 | A1: Periodic maintenance and strengthening | 95.35 | 3.00 | 98.35 | 148.02 | 7.30 | 155.32 |
| A2: Implementation support | 4.30 | 0.00 | 4.30 | A2: Implementation support | 6.95 | 0.00 | 6.95 | 11.25 | 0.00 | 11.25 |
| | | | | A3: Overloading Control (additional activity) | 1.57 | 0.00 | 1.57 | 1.57 | 0.00 | 1.57 |
| | | | | A4: Speed-limit Zoning, Safety Corridors and Feeder Road Intersection Improvement (additional activity) | 2.59 | 0.00 | 2.59 | 2.59 | 0.00 | 2.59 |
| **Component B: Capacity Development and System Upgrading** | 3.03 | 0.50 | 3.53 | **Component B: Operationalization of Road Asset Management System** | 3.54 | 0.00 | 3.54 | 6.57 | 0.50 | 7.07 |
| B1: System upgrading and capacity development | 1.35 | 0.00 | 1.35 | B1: Institutional and Technical Capacity Development of RAMO | 1.20 | 0.00 | 1.20 | 2.55 | 0.00 | 2.55 |
| B2: Road safety awareness and audits | 0.30 | 0.00 | 0.30 | B2: Community-based Road Safety Campaigns and Road Safety Audits on Project Roads | 0.50 | 0.00 | 0.50 | 0.80 | 0.00 | 0.80 |
| B3: Financial Management and Internal Audit | 0.10 | 0.00 | 0.10 | (B3 under RAMPII - dropped) | | | | 0.10 | 0.00 | 0.10 |
| B4: Technical and Financial Audits | 0.08 | 0.00 | 0.08 | B3: External Financial Audits | 0.08 | 0.00 | 0.08 | 0.16 | 0.00 | 0.16 |
| B5: Procurement Support | 0.20 | 0.00 | 0.20 | B4: Procurement Support | 0.22 | 0.00 | 0.22 | 0.42 | 0.00 | 0.42 |
| B6: Incremental Operating Cost | 1.00 | 0.50 | 1.50 | B5: Incremental Operating Cost | 1.54 | 0.00 | 1.54 | 2.54 | 0.50 | 3.04 |
| **Component C: Contingent Emergency Response** | 0.00 | 0.00 | 0.00 | **Component C: Contingent Emergency Response** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL RAMPII** | 60.00 | 4.80 | 64.80 | TOTAL RAMPII-AF | 110.00 | 3.00 | 113.00 | 170.00 | 7.80 | 177.80 |

[3] The total implementation period of parent project RAMPII is 10 years

*Table 2: RAMPII- AF Investment by Category*

| Category | Cost (US$) | Percentage |
|---|---|---|
| Works | 100,940,000 | 89.33% |
| Goods | 1,570,000 | 1.39% |
| Services | 8,950,000 | 7.92% |
| Incremental Operating Cost | 1,540,000 | 1.36% |
| **TOTAL** | 113,000,000 | |

26. **Component A: Road Improvement and Maintenance (US$109.46m, IDA: US$106.46m, RGC: US$3.0m)** to support the preservation of MPWT's road network and provide implementation support for the design and supervision of works.

27. *Sub-component A.1: Periodic maintenance and strengthening (US$98.35m, IDA: US$95.35m, RGC:*

| Sub-component A.1: Periodic maintenance and strengthening | Length | Cost (USD) |
|---|---|---|
| ***Package 1: CW1 (PK19+700 to PK60+000, Length=40.3Km ):*** Base course improvement, AC overlay, Replacement of laterite shoulder with AC shoulder, Concrete side-drain (17km), Open side drain (10km), Outlets (5km) | 40.30km | 16,210,000 |
| ***Package 2: CW2 (PK60+000 to PK101+000, Length=41Km):*** Base course improvement, AC overlay, Replacement of laterite shoulder with AC shoulder, Concrete side-drain (0km), Open side drain (0km), Outlet (0km) | 41.00km | 12,230,000 |
| ***Package 3: CW1 (PK101+000 to PK143+000, Length=42Km):*** Base course improvement, AC overlay, Replacement of laterite shoulder with AC shoulder, Concrete side-drain (9km), Open side drain (0km), Outlet (3km) | 42.00km | 12,790,000 |
| ***Package 4: CW4 (PK143+000 to PK186+000, Length=43Km):*** Base course improvement, AC overlay, Replacement of laterite shoulder with AC shoulder, Concrete side-drain (8km), Open side drain (0km), Outlet (2km) | 43.00km | 12,980,000 |
| ***Package 5: CW5 (PK186+000 to PK226+000, Length=40Km):*** Base course improvement, AC overlay, Replacement of laterite shoulder with AC shoulder, Concrete side-drain (7km), Open side drain (0km), Outlet (2km) | 40.00km | 21,950,000 |
| ***Package 6: CW6 (Structure from PK19+700 to PK226+000):*** Construction of (4) box-culverts; two (2) pipe-culverts; and three (3) bridges | 9 structures | 22,190,000 |
| TOTAL | 206.30km | 98,350,000 |

*US$3.00m).* As scale up of RAMPII investment, the component will finance the rehabilitation, enhanced climate resilience and maintenance of NR4, including about 206 km of existing bitumen-sealed road with an overlay of asphalt concrete, replacement of about 198 km of laterite shoulders with asphalt concrete surfacing, and replacement of current pavement with concrete pavement at flood prone areas, including strengthening and replacement, as necessary, of sub-base and road base-course, using unbound materials or stabilized materials for the road pavement. The civil works will include installation of about 53 km of new drains on both sides of the road, as well as construction of bridges and cross drainages. The periodic maintenance works will be divided into six (6) contract packages, including one contract comprising construction of four (4) box-culverts, two (2) pipe-culverts, and rehabilitation of three (3) bridges along the road. The periodic maintenance will be followed by the application of performance-based road maintenance for a period of five years. The PBC maintenance will comprise five (5) packages. The

counterpart funds of US$3m will be used to pay for the remainder of the PBCs after IDA financing ends for that component on May 31, 2026, so as to complete full-length contracts of 7 years (2 years rehabilitation, 5 years PBC).

28. *Sub-component A.2: Implementation support (US$6.95m, IDA: US$6.95m, RGC: US$0).* Despite support given under RAMPII, MPWT's preparation, implementation and supervision capacity is still inadequate. The AF will continue to finance consultancy services to undertake: (a) development and implementation of technical options and solutions, cost estimation, contract management and safeguard activities for the civil works; (b) supervision of the civil works and the road maintenance performance-based contracts for the civil works; and (c) development of technical capacities of MPWT staff on good practices and internationally accepted procedures, systems and standards for road construction, project management, contract management, outsourcing, performance-based contracting, social and environmental management (including gender equitable opportunities and responsiveness), and monitoring and evaluation (including community feedback mechanisms).

29. *Sub-component A.3: (Additional Activity) - Overloading Control (US$1.57m, IDA: US$1.57m, RGC: US$0)* will provide tools and capacity for MPWT to chase the overloading offences by upgrading the existing weighing stations along the key road corridors and installing weighing stations on selected national road sections. These will help MPWT to appropriately share risks to road durability caused by overloading with PBC contractors. The component will finance the purchase of 8 sets of weighing stations, which will be installed on the NR3, NR4, NR7 at key intersection areas.

30. *Sub-component A.4: (Additional activity) - Speed-limit Zoning, Safety Corridors and Feeder Road Improvement (US$2.59m, IDA: US$2.59m, RGC: US$0)* will improve speed-limit zoning, including: (a) the installation of guide-signs approaching in speed-limit zones, (b) installation of solar-powered lights and surveillance cameras for speeding offences record, (c) setting up other road safety facilities recommended by road safety audits; development of safety corridors; and improvement of feeder road intersections. Speed-limit zoning will be established in accident-prone areas (black spots); in major urban areas along the RAMPII and RAMPII-AF roads; and in areas approaching schools and markets.

31. **Component B: Operationalization of Road Asset Management (US$3.54m, IDA: US$3.54m, RGC: US$0)** will finance program of activities to strengthen the institutional, organizational and technical capacity of MPWT to perform its road asset management functions through:

32. *Sub-component B.1: System Upgrading and Technical Capacity Development (US$1.20, IDA: US$1.20m, RGC: US$0).* The AF will continue supporting road asset management improvement within MPWT including: (a) upgrading and operation of the road data collection and management system of MPWT's road asset management office through (i) improving the operation of the Road Data Collection and Management Unit (RDCMU) under RAMO and the effective implementation of the Road Management Decision Support (RMDS) system, (ii) strengthening of the data collection methodology including climate resilient data collection, (iii) reviewing of the current modeling system, and developing simplified models for three-year rolling maintenance plans, and (iv) development of a useful reporting format for the results of model simulation and training; (b) upgrading of the RAMS software; (c) preparation of short-term and medium-term road improvement and maintenance program/projects maximizing financing for sector development; (d) upgrading and calibrating in-use models periodically through the appointment of a RAMS expert; (e) minor maintenance and upgrading of IRI survey equipment and falling weight deflectometer; (f) hydrological survey on the project roads; and (g) safeguards training for staff of the Social and Environmental Office of the MPWT.

33. *Sub-component B.2: Community-based Road Safety Campaigns and Road Safety Audit (US$0.50m,*

*IDA: US$0.50m, RGC: US$0).* As the AF covers an additional road, it will finance (i) road safety awareness raising for road users living within the road corridors and along NR4, with differentiated messages and engagement for men and women, as needed, and (ii) road safety audits of project roads, including active community engagement and feedback. Recommendations from the safety audits will be used to inform the road designs and also as inputs for Sub-component A.4 Speed-limit Zoning, Safety Corridors and Feeder Road Improvement.

34. *Sub-component B.3[4]: External Financial Audit (US$0.08m, IDA: US$0.08m, RGC: US$0)* will cover the service of external financial audit for the AF secured by MEF in bundling with other projects. The audit will be carried out annually over the project's life (7 years), the cost of which will be paid by the AF.

35. *Sub-component B.4: Procurement Support (US$0.22m, IDA: US$0.22m, RGC: US$0)* will finance services of international and national procurement experts. The service of an international expert is expected for about 12 person/months, while the services of a national expert is for about 24 months.

36. *Sub-component B.5: Incremental Operating Costs (US$1.54m, IDA: US$1.54m, RGC: US$0)* will provide operational support for day-to-day management of the AF.

37. **Component C: Contingent Emergency Response (US$0)** will, if triggered, enable immediate response through the reallocation of project proceeds to activities within the scope of the project in the event of an eligible crisis or emergency[5].

38. Narrative descriptions of RAMPII and RAMPII-AF are given below

| RAMPII (P150572) | RAMPII-AF (P165249) |
|---|---|
| **Current component name** | **Proposed component name** |
| **Component A. Road Asset Management (US$61.27m, IDA: US$56.97m, RGC: US$4.30m)** | **Component A. Road Improvement and Maintenance (US$109.46m, IDA: US$106.46m, RGC: US$3.00m)** |
| *Sub-component A1. Periodic Maintenance and Strengthening (US$56.97m, IDA: US$52.67m, RGC: US$4.30m)* | *Sub-component A1. Periodic Maintenance and Strengthening (US$98.35m, IDA: US$95.35m, RGC: US$3.00m)* |
| Finances periodic maintenance and strengthening of about 218 km of existing bitumen sealed roads with an overlay of asphalt concrete, replacement of current pavement with concrete pavement at flood prone areas, including strengthening and replacement, as necessary, of sub-base and road base course, using unbound materials or stabilized materials for the road pavement. The civil works include about 90 km of repair, replacement and installation of new drains, as well as repair and replacement of existing cross-drainage and the placement of some new culverts. The works will be followed by the application of performance-based road maintenance for a period of three years. | As scale up of RAMPII investment, finances the rehabilitation, enhanced climate resilience and maintenance of about 206 km of NR4, which links Phnom Penh to Cambodia's only deep-sea port, Preah Sihanouk Province. The rehabilitation works on NR4 will include overlay of Asphalt Concrete (AC), replacement of about 198 km of laterite shoulders with AC Surfacing, replacement of current pavement with concrete pavement at flood prone areas, including strengthening and replacement, as necessary, of sub-base and road base-course, using unbound materials or stabilized materials for the road pavement. The civil works will also include |

[4] Formerly Activity B3 in RAMPII will cease with the AF, as the financial management capacity of MPWT has been substantially enhanced and does not require further support from the AF. Moreover, the internal audit will be undertaken by the Client, with close oversight by MEF.

[5] In the event of an eligible crisis or emergency, as per the CERC Guidance Note a restructuring would still be necessary within 3 months after activation of the CERC to reflect the reallocation and any potential impact on the regular components of the project.

| RAMPII (P150572) | RAMPII-AF (P165249) |
|---|---|
| | installation of about 53 km of new drains on both sides of the road, construction of bridges and cross drainages. Periodic maintenance will be followed by the application of PBCs for maintenance for a period of 5 years. The counterpart funds of US$3m will be used to pay for the PBCs after IDA financing ends and thereby complete full-length contracts of 7 years (2 years rehabilitation, 5 years PBC). |
| *Sub-component A2. Implementation support for supervision of works and related technical capacity building activities (US$4.30m, IDA: US$4.30m, RGC: US$0m)* | *Sub-component A2. Implementation Support (US$6.95m, IDA: US$6.95m, RGC: US$0m)* |
| It supports: (a) advice to MPWT on technical options and solutions, cost estimation, contract management and safeguard activities for the civil works on 218 km of NR3 and NR7 under Component A.1 (b) construction supervision of the civil works on 218 km of NR3 and NR7; (c) supervision of performance based contracts for the civil works on NR3 and NR7 under the project; and (d) hands-on development of technical capacities of MPWT staff on good practices and internationally accepted procedures, systems and standards for road construction, road safety, project management, contract management, outsourcing, PBC, social and environmental management, monitoring and evaluation, and financial and technical auditing. | Despite support given under RAMPII, MPWT's preparation, implementation and supervision capacity is still inadequate. The AF will continue to finance consultancy services to undertake (a) preparation of detailed design and advice to MPWT on technical options and solutions, cost estimation; contract management for the civil works on NR4 under Component A.1; (b) supervision of construction and of PBCs for maintenance of NR4; and (c) hands-on skills and supervision know-how for MPWT staff on best practices and internationally accepted procedures, road safety, project management, contract management, outsourcing, PBC, social and environmental management (including gender equitable opportunities and responsiveness), and monitoring and evaluation (including community feedback mechanisms). |
| | *Sub-component A3. Overloading Control (Additional Activity), (US$1.57m, IDA: US$1.57m, RGC: US$0m)* |
| | The AF will provide tools and capacity for MPWT to chase overloading offences by upgrading the existing weighing stations along the key road corridors and installing weighing stations on selected national road sections. These interventions will help MPWT to appropriately share risks to road durability caused by overloading with PBC contractors. The sub-component will finance the purchase of 8 sets of weighing stations, which will be installed on the NR3, NR4, NR7 at key intersection areas. |
| | *Sub-component A4. Speed-limit Zoning, Safety Corridors and Feeder Road Improvement (Additional Activity), (US$2.59m, IDA: US$2.59m, RGC: US$0m)* |
| | The AF will support the setting of speed-limit zones by installing (a) guide-signs approaching and at each end of speed-limit zones instructing drivers to reduce speeds in the zones; (b) solar-powered lights and surveillance cameras to record speeding offences; and (c) other road furniture recommended by road |

| RAMPII (P150572) | RAMPII-AF (P165249) |
|---|---|
| | safety audits. Speed-limit zoning will be established in the accident-prone areas (black spots); in major urban areas along the RAMPII and RAMPII-AF roads; and in areas approaching to schools and markets. The activity also supports safety corridor development and improvement of major feeder road intersections. |
| **Component B. Capacity Development and System Upgrading (US$3.53m, IDA: US$3.03m, RGC: US$0.50m)** | **Component B. Operationalization of Road Asset Management (US$3.54m, IDA: US$3.54m, RGC: US$0m)** |
| *Sub-component B1. System upgrading and technical capacity development, (US$1.35m, IDA: US$1.35m, RGC: US$0m)* | *Sub-component B1. System Upgrading and Technical Capacity Development, (US$1.2m, IDA: US$1.2m, RGC: US$0m)* |
| (i) Support for operation of Road Data Collection and Management under RAMO and for the effective implementation of the Road Management Decision Support System (RMDS). This includes the purchase of two survey vehicles, survey equipment, two sets of Falling Weight Deflectometers (FWD) and four pickup trucks.<br><br>(ii) Strengthen data collection methodology, review and provide simplified models for development of three-year rolling maintenance plans.<br><br>(iii) Develop reporting format on results of model simulation and provide training on the use of updated reporting format. | The AF will continue supporting road asset management improvement within MPWT including:<br>(a) upgrading and operation of the road data collection and management system of MPWT's road asset management office through:<br>(i) improving the operation of the RDCMU under RAMO and the effective implementation of the RMDS system,<br>(ii) strengthening of the data collection methodology including climate resilient data collection,<br>(iii) reviewing of the current modeling system, and developing simplified models for three-year rolling maintenance plans, and<br>(iv) development of a useful reporting format for the results of model simulation and training<br>(b) upgrading of the RAMS software;<br>(c) preparation of short-term and medium-term road improvement and maintenance program/projects maximizing financing for sector development;<br>(d) upgrading and calibrating in-use models periodically through the appointment of a RAMS expert;<br>(e) minor maintenance and upgrading of IRI survey equipment and falling weight deflectometer;<br>(f) hydrological survey on the project roads; and<br>(g) safeguards training for staff of the Social and Environmental Office of the MPWT. |
| *Sub-component B2. Road safety awareness and audits, (US$0.30m, IDA: US$0.30m, RGC: US$0m)* | *Sub-component B2. Community-based Road Safety Campaigns and Road Safety Audit, (US$0.50m, IDA: US$0.50m, RGC: US$0m)* |
| It covers audits of project roads of 218km and community based awareness on road safety (awareness raising in communities along project roads). | As AF covers new road, it will (i) finance the road safety awareness raising for road users living within the road corridors and along the RN4, with differentiated messages and engagement for men and women, as needed, and (ii) finance road safety |

| RAMPII (P150572) | RAMPII-AF (P165249) |
|---|---|
| | audit of project roads, including active community engagement and feedback. Recommendations of safety audits will be used both as inputs to the road design and for sub-component A.4 Speed-limit Zoning, Safety Corridors and Feeder Road Improvement. |
| *Sub-component B3. Financial management (FM) and internal audits, (US$0.10m, IDA: US$0.10m, RGC: US$0m)* | *Sub-component B3[6]. External Financial Audit, (US$0.08m, IDA: US$0.08m, RGC: US$0m)* |
| A local FM consultant will be appointed to work closely with the Project Manager as a core project member, and with the Internal Audit Department (IAD) to enhance capacity of MPWT finance staff in the areas of FM systems, FM of projects, and in carrying out internal audit work of the project and MPWT. | An additional US$0.08m will be needed to cover the cost of services for carrying out the annual external financial audit of the AF, which will be secured by MEF in bundling with other projects. The AF audit will be done annually over the project's life (7 years), the cost of which will be paid by the AF. |
| *Sub-component B4. Technical and financial audits, (US$0.08m, IDA: US$0.08m, RGC: US$0m)* | *Sub-component B4. Procurement Support, (US$0.22m, IDA: US$0.22m, RGC: US$0m)* |
| An independent Technical Auditor will be appointed to carry out a technical implementation/performance audit annually throughout the life of the project. Emphasis will be placed on assessment of proper use and accountability of funds in terms of quality and quantity of the works, physical implementation of the project, social and environmental monitoring. An independent external auditing firm will be engaged to carry out an audit of the financial statements annually. The external auditor will express an audit opinion on the financial statements and issue a management letter detailing control weaknesses/non-compliance and recommendations for improving the system and performance in financial management. The management of MPWT will be responsible for developing time bound action plans, acceptable to IDA, to address weaknesses documented in the audits. | An additional US$0.22m is required to continue financing the services of international and national procurement experts under AF. The services of the international expert is expected for about 12 person/months, while the services of a national expert is for about 24 months. |
| *Sub-component B5. Procurement support, (US$0.20m, IDA: US$0.20m, RGC: US$0m)* | *Sub-component B5. Incremental Operating Costs, (US$1.54m, IDA: US$1.54m, RGC: US$0m)* |
| One international and one local procurement specialist will be engaged to provide direct assistance to MPWT. The consultants will work closely with the project and provide regular on the job training and hands-on procurement training for RAMPII project staff. The objective is to enhance capacity of the procurement staff of MPWT, and to ensure that the procurement of the project will be carried out smoothly with fiduciary compliance. | will provide operational support for day-to-day management of the AF. |
| *Sub-component B6. Incremental operating costs, (US$1.50m, IDA: US$1.00m, RGC: US$0.50m)* | |
| Costs of eligible expenses associated with the project | |

[6] Activity B3 under RAMP II will cease as the financial management capacity of MPWT has been enhanced substantially and will not require further support from the Project. Moreover, the internal audit will also be undertaken by the Client with close oversight of MEF.

| RAMPII (P150572) | RAMPII-AF (P165249) |
|---|---|
| implementation and management, monitoring and evaluation of RAMPII/RAMO staff. | |
| **Component C. Contingent Emergency Response, (US$0m)** | **Component C. Contingent Emergency Response, (US$0m)** |
| The objective of this component would be to improve the response capacity of the Government in case of an emergency. This component would facilitate rapid utilization of Credit proceeds in accordance with the rapid response procedures. If Component 3 is triggered, then the Standard Immediate Response Mechanism - Contingent Emergency Response Component (IRM CERC)-specific objective of "provide immediate and effective response to an Eligible Crisis or Emergency" will be incorporated and the results framework revised through formal restructuring. | It will enable immediate response through the reallocation of project proceeds within the project in the event of an eligible crisis or emergency. As the CERC was added to the PDO and the change incorporated into the AF, project restructuring will be processed no later than three months from the date of CERC activation (i.e. the fulfilment of CERC disbursement conditions). |

39. The combined financing plan for RAMPII and RAMPII-AF is as follows[7]:

Financing Plan for RAMPII & RAMPII-AF (US$ million)

| Projects | Sources | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | Total at closing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RAMPII | IDA | 0.04 | 0.55 | 13.10 | 23.91 | 13.81 | 4.30 | 4.30 | | | | | 60.00 |
| | RGC | 0.00 | 0.03 | 1.20 | 1.92 | 0.95 | 0.35 | 0.35 | | | | | 4.80 |
| | *Sub-Total* | *0.04* | *0.58* | *14.30* | *25.83* | *14.76* | *4.65* | *4.65* | | | | | *64.80* |
| RAMPII-AF | IDA | | | | 31.88 | 42.71 | 19.07 | 4.38 | 4.00 | 3.64 | 3.63 | 0.69 | 110.00 |
| | RGC | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 |
| | *Sub-Total* | *0.00* | *0.00* | *0.00* | *31.88* | *42.71* | *19.07* | *4.38* | *4.00* | *3.64* | *3.63* | *3.69* | *113.00* |
| RAMPII+RAMPII-AF | | 0.04 | 0.58 | 14.30 | 57.71 | 57.47 | 23.72 | 9.03 | 4.00 | 3.64 | 3.63 | 3.69 | 177.80 |
| **Accum. Amount (IDA+RGC)** | | **0.04** | **0.61** | **14.91** | **72.62** | **130.08** | **153.80** | **162.84** | **166.84** | **170.48** | **174.11** | **177.80** | |
| **Accum. Amount (IDA only)** | | **0.04** | **0.58** | **13.68** | **69.47** | **125.98** | **149.35** | **158.03** | **162.03** | **165.67** | **169.31** | **170.00** | |

## IV. KEY RISKS

40. Most risks identified in RAMPII remain valid, and the overall risk to achieving the PDO remains "substantial".

41. **Political and Governance.** The country will hold national elections in July 2018, which might increase political tensions in the short-term. However, the likelihood of election results affecting overall project implementation is insignificant since the development of the transport infrastructure is one of Cambodia's development priorities and has strong political support. The formation of the new government may take time, which might affect the initial project activities.

42. **Macroeconomic.** Despite macroeconomic risk rating being "substantial", the macroeconomic situation has been stable and Cambodia has experienced robust growth in recent years, which is projected

[7] Due to portal constraints, only 10 years of disbursement projections are currently allowed in the downloaded Project Paper (shown in page 34)

to continue in the medium-term.

43. **Sector strategies and policies.** The risk of inadequate participation of the private sector in Output and Performance Based Road Contracts (OPRC) has not proved to be a problem as the procurement process resulted in a large number of responsive bids. Despite increased budget allocation for road maintenance, it remains insufficient and periodic maintenance, in particular, lacks coherent programmatic approach. This risk will be mitigated by supporting system Upgrading and Technical Capacity Development, which will provide financing for upgrading MPWT's road asset management system and strengthening MPWT's capacity to plan and manage the network.

44. **Institutional capacity for implementation and sustainability.** The MPWT has established three-year rolling maintenance plans, to help with a medium-term planning of road network maintenance. However, the data required to monitor and properly implement these plans are not collected on a regular basis. The project activities will reduce this risk by financing minor maintenance and upgrading of IRI survey equipment; upgrading of RAMS software; assigning additional MPWT staff and provide advanced training on RAMS; and by earmarking operating cost of RDCMU for data collection and processing in MPWT's three-year rolling road maintenance plans.

45. **Fiduciary risks.** MPWT has gained considerable experience in financial management and procurement of works under RAMP II. The project will continue to strengthen fiduciary systems and capacity of the implementing agencies. The increasing scope of project activities will require close implementation support to be provided by the transport specialist team in the country office.

46. **Stakeholder risks.** The Bank team will place an increased emphasis on engaging various stakeholders to ensure that all implementing parties have solid understanding of project development impact and how it contributes to the strategic priorities of Cambodia's transport sector.

## V. APPRAISAL SUMMARY

### A. Economic Analysis

47. ***Economic Analysis*.** The economic analysis focuses on Component A – Road Asset Management, with a cost of US$102.638 million. The analysis was performed based on the estimated work plan of two-year periodic maintenance and strengthening plus five-year performance based maintenance. The total length of road is estimated at about 206 km. The Cost-Benefit Analysis (CBA) was conducted to calculate the economic internal rate of return (EIRR) and net present value (NPV) of the project.

48. The major economic benefits of the project arise mainly from reduced vehicle operating costs (VOCs) due to improved road condition. To be conservative, no generated or diverted traffic was considered in the economic analysis. The economic analysis covers the period of 10 years (2019-2028). With the standard conversion faction of 0.90, EIRR is calculated to be 43.4 percent and NPV US$215.74 million with 5 percent discount rate. The sensitivity analysis on various assumptions is illustrated below.

*Table 3: Summary of Economic and Sensitivity Analysis*

| | EIRR | NPV |
|---|---|---|
| Base Case | 43.4% | 215.74 |
| (a) Project cost increases by 20% | 36.6% | 199.09 |
| (b) Traffic grows at 2% (vs 5% in Base Case) | 37.6% | 164.42 |
| (c) Both (a) and (b) | 31.0% | 147.78 |
| (d) Divert 10% of traffic from NR3 | 41.2% | 196.33 |

49. ***Greenhouse gas emissions*.** An analysis of greenhouse gas emissions (GHG) was undertaken based on fuel consumption rates for different road conditions under with-project and without-project scenarios. Without the project, the road's deteriorated condition limits vehicle performance and leads to higher fuel consumption per vehicle-km compared to the with-project scenario. With the project, improved road condition leads to improved performance, and hence lower fuel consumption. Gross GHG Emission under the with-project scenario is estimated to be 3,117,901 tCO2e. Total Net GHG Emission is estimated to be -50,714 tCO2e, a net reduction over the evaluation period (10 years). The Annual Average Net GHG Emission is -5,071 tCO2e/year. The social benefit from GHG reduction is estimated to be US$1.52 million, based on social cost of emission reduction at US$30 per tCO2e.

## B. Technical

50. The strengthening and periodic maintenance works of NR4 were defined using the RMDS/HDM4 system. Falling weight deflection and roughness index surveys were conducted along NR4 by MPWT in late 2016, which reconfirmed the need for sub-base and base-course strengthening and resurfacing. Along NR4, prolonged heavy downpours and periods of rainfall, which could be week-long or more, could cut traffic flow for about 3-4 days per time and cause damage to existing culverts, bridges and erode surfaces due to over-embankment flow. The major risk hazards identified by climate and risk screening were extreme precipitation and flooding, while sea level rise, strong wind and storm surge would not affect the project roads. Rainfall projections indicate that the road location's exposure to heavy downpours and sustained periods of rainfall is likely to increase over time.

51. Mitigation measures embedded in the design of NR4 comply with the government's policy of a 15-year return period for highways, 25-100 year for drainage and culverts, and 200 years for bridges. For the AF, mitigation measures will include (i) raising the road embankment; (ii) strengthening and replacement of sub-base and base-course; (iii) using unbound materials or stabilized materials for the road pavement; (iv) replacement of current asphalt concrete pavement with concrete pavement at flood prone areas; (v) installation of drains on both sides of the road; and (vi) installation of water passages (bridges and box-culverts) along the road. MPWT, which is the national focal point on "Sustainable Infrastructure" to ASEAN, are developing skills and capacity to cope with climate change and consistently requests climate resilient measures to be included in road rehabilitation and maintenance projects, especially those with external financing.

52. As confirmed by road safety audits, the designs of some road sections will be adjusted to reduce road accidents and fatalities. Such adjustments include speed-limit zoning, safety corridors and feeder road intersection improvements. These structural measures will be complemented by non-structural measures such as community-based road safety awareness campaigns. Complementary to the project, enforcement of existing road traffic laws pertaining to over-limit speeding, drunk-driving and other human accidents remain an essential part of any strategy to reduce injuries and fatalities. Concerns voiced particularly by women during a household survey conducted for preparation of RAMPII, which also apply to the AF, were the dangers associated with traffic speeds and flooding of road surfaces and adjacent property. These aspects are explicitly addressed in the project design, through speed and traffic calming options, as well as technical options (side drainage).

## C. Financial Management

53. An additional assessment was carried out in February 2018 to update the previous FM capacity assessment of 2016 for RAMPII. The implementing agency has a good record of managing externally funded projects, including World Bank projects. Its Department of Finance (DOF) in the General Department of Administration and Finance (GDAF) is responsible for financial management of RAMPII. The MPWT maintains adequate project's financial management systems according to the Guidelines of the WB's Investment Project Financing and met IDA requirements as per OP/BP10.00. The existing project

financial management systems are adequate including budgeting, accounting, funds flow, internal controls, financial reporting and auditing. The existing financial management arrangements under the current operation will be applied to the AF operation.

54. The additional assessment confirmed that accounting software including the Chart of Accounts following the Government's chart of accounts has been installed and implemented. The supplementary Project FM manual has been updated by MPWT with support of the FM consultant. MPWT will retain the experienced FM staff currently supporting RAMPII to work for the AF. Services from a FM consultant will not be required for the AF.

55. The overall FM risk remains substantial. With the AF it is expected that the volume of civil works contracts will increase the challenges and the main FM risks. The proposed mitigating measures include: (i) assignment of one or two government staff as Finance Assistants to help with processing contract payments, maintaining contract registers to monitor payments, and posting transactions into the accounting software; (ii) completion of FM training, to be carried out by the current FM consultant in April/May 2018, on the updated FM manuals for FM staff and the internal auditors; and (iii) on-going implementation of the updated FM manual and the accounting software. The residual FM risk after implementing these measures is considered moderate.

56. The semi-annual interim unaudited financial reports (IFRs) were submitted to the Bank on time, there were no outstanding IFRs under RAMP-II.

57. There were no overdue audit reports under RAMP-II. The KPMG (Cambodia) has been appointed as the external auditor by MEF for the project through bundled audit exercise managed by MEF. The audit field work for 2017 audit has just started in April 2018. The final audit report (the audit for the first year of the project) for FY 2017 audit will be submitted to the Bank by June 30, 2018. The annual audited financial statements will be subjected to public disclosure in the Ministry website in accordance with the World Bank's policy on Access to Information. Pertaining to AF, an annual project financial audit, covering both RAMP-II and AF, will be required. The annual project audited financial statement and the audited management letter will be submitted to the Bank no later than six months after the end of each fiscal year.

## D. Disbursement

58. The existing Designated Account (DA) will be used for the AF, so there will be only one designated account held at the National Bank of Cambodia. It is expected that the authorized allocation for the existing DA of US$800,000 (per RAMPII Disbursement Letter) will result in a shortfall based on the cash flow projection due to increased volume of civil works under the AF. The DA ceiling, thus, will initially be increased from US$800,000 to US$1.5 million. This amount will then be monitored for some six months and, if deemed justifiable, raised to US$2 million. This will help facilitate smooth implementation. Other disbursement arrangements will remain unchanged.

*Table 4: Disbursement Categories, RAMPII and RAMPII-AF*

| Category | RAMPII (US$ million) | Share of expenditure financed by IDA | RAMPII-AF (US$ million) | Share of expenditure financed by IDA through May 31, 2026 | Share of expenditure financed by IDA June 1-December 31, 2026 |
|---|---|---|---|---|---|
| (1) Works under Part A.1 of the | 52.67 | 92% | 95.35 | 100%* | 0 |

| | | | | | |
|---|---|---|---|---|---|
| Project | | | | | |
| (2) Goods, non-consulting services, consulting services, Training and Operating Costs under Parts A.2, A.3, A.4 and B of the Project | 7.33 | 100% | 14.65 | 100% | 100% |
| (3) Emergency Expenditures under Part C of the Project | 0.00 | 100% | 0.00 | 100% | 100% |
| **Total** | **60.00** | | **110.000** | | |

**IDA will finance 100% of Part A.1 up to May 31, 2026; counterpart funds will finance the remainder of the PBC contracts thereafter.*

## E. Loan Effectiveness Conditions; Withdrawal Conditions

59. The AF will be disbursed when the Financing Agreement becomes effective. The Conditions of Effectiveness include (a) a standard condition requiring the Recipient to furnish to a satisfactory legal opinion to the Association and (b) an additional condition requiring that the Recipient, through MPWT, has awarded at least one contract under the Procurement Plan.

60. A withdrawal condition is required to fulfill for disbursement for emergency expenditures under Part C of the Project, which include that (a) an Eligible Emergency or Crisis has occurred, (b) all related safeguards instruments and requirements have been completed, (c) the emergency response implementing entities have adequate staff and resources, and (d) the Recipient has adopted the Emergency Response Manual, acceptable to the Association.

## F. Procurement

61. Procurement under RAMP II-AF will be carried out in accordance with World Bank Procurement Regulations for Borrowers under Investment Project Financing (IPF) dated July 1, 2016, revised November 2017. Procurement under the original project has been carried out in accordance with Procurement and Consultant Guidelines dated January 2011, revised July 2014. For simplicity in implementation, the remaining procurement activities under the original project will also be undertaken under the new Procurement Regulations. Approaches to national markets (National Procurement and Request for Quotations) will be carried out in accordance with the Kingdom of Cambodia's Updated Standard Operating Procedures and Procurement Manual for All Externally Financed Projects/Programs ("Procurement Manual"), promulgated through the Sub-decree 74 dated May 22, 2012, which was issued pursuant to Article 3 of the Kingdom of Cambodia's Law on Public Procurement dated January 14, 2012, subject to the additional provisions included in the National Competitive Bidding (NCB) annex in the Procurement Plan and the provisions stipulated in the Financing Agreement. MPWT remains the implementing agency for RAMPII-AF. The procurement activities will be undertaken by the procurement unit of MPWT with support from existing international and local procurement consultants under RAMPII.

62. MPWT has prepared a Project Procurement Strategy for Development (PPSD) with the support from the Bank team, and the document has been agreed with the Bank before negotiation. The PPSD presents how major procurement activities under the project will support the development objective of the project and deliver the best value for money under a risk based approach. In addition, the PPSD includes the rationales for procurement decisions including the selection of the approach to market and procurement methods. The PPSD and the procurement plan of the project shall be regularly updated as appropriate during the project implementation.

63. A Procurement Capacity and Risk Assessment for MPWT was conducted during project preparation. The assessment found that MPWT has certain experience in conducting procurement in accordance with the SOP and Procurement Manual for All Externally Financed Projects/Programs and in

implementing externally funded projects, including projects financed by the World Bank and ADB. The Procurement Unit of MPWT has an adequate number of staff to carry out the procurement work for RAMPII-AF. However, the procurement risk is assessed as substantial as the assessment revealed a number of risks that could adversely affect project implementation if not mitigated. The identified risks include: (a) MPWT's limited knowledge and experience with the World Bank's Procurement Regulations, which may cause instances of non-compliance and project implementation delays; (b) possible delays in procurement start-up due to slow technical inputs from concerned departments; (c) governance risks associated with conflict of interest and/or fraud and corruption that may adversely affect the efficiency and effectiveness of project implementation; (d) inadequate contract management capacity with respect to performance-based contracting, causing implementation delays and/or leading to contractual disputes; (e) non-Technical Evaluation Committee Members involved in evaluating bids/proposals; and (f) limited experience with long term maintenance contracts.

64. In order to mitigate the above risks and strengthen the procurement capacity of MPWT, the following measures have been established and agreed with MPWT to be implemented during project implementation: (i) procurement training for Procurement Unit staff, including initial training during project preparation and in-depth procurement training during implementation; (ii) careful procurement planning and scheduling, with procurement advanced as much as possible; (iii) procurement monitoring using Systematic Tracking of Exchanges in Procurement (STEP); (iv) close coordination among implementing departments, and follow up to ensure technical inputs are timely; (v) enhanced disclosure of procurement information, including publication of the Annual Procurement Plan and a quarterly summary of the contract award information for all procurement packages on MPWT's website and in newspapers; (vi) establishment of a procurement complaint handling mechanism consistent with the Government Procurement Rules & Regulations of MEF and World Bank; (vii) requiring staff and bidders involved in procurement to declare their interest and sign a declaration form Ethics Statement; (viii) requiring contractors and consultants to disclose beneficial owners of their companies (ix) conduct workshops on PBC management for MEF and MPWT staff and share experience, problems, issues and lessons learned; (x) where engineering issues in bids need to be technically evaluated, especially for works and supervision services, appointment by MEF and MPWT of knowledgeable technical staff to conduct bid/proposal evaluations and report thereon to the Procurement Review Committee ; and (xi) training to local contractors on long term road maintenance contracts.

65. The PPSD identified the following major activities: (i) large works including the rehabilitation and periodic maintenance works of five (5) contract packages, and installation of about 53 km of new drains on both sides of the road, as well as construction of bridges and cross drainages with the cost estimated for all contract packages ranging from US$12.23 million to US$22.19 million, and (ii) the Consultant Services for the Implementation Support and Works Supervision (ISWS) with a cost estimate of US$6.95 million.

66. The PPSD shows that the civil works are considered of substantial risk because they are critical to the project, of relatively large value, and the contractual period is long term. MPWT does not have previous experience in implementing such large activity with an implementation period of over 7 years.

67. The output and performance-based approach introduced under the parent project will be continued under the AF. The market of the construction industry in Cambodia is considered relatively competitive as thousands of contractors are operating in this industry, including both national/local contractors and foreign contractors from China and the region. The experience from the parent project shows that there was some level of participation of national contractors as members of joint ventures; however, most of them could not meet the qualification requirements. The qualification requirements may need to be reviewed so as to be more realistic on the capacities of the national contractors, thus offering more sub-contracting or joint-venture opportunities. The bidding for civil works under the parent project was very attractive to the market, and a similar level of competition is expected under the AF.

68. Regarding supervision consulting services, the consultant contract under RAMPII will be extended to continue assisting MPWT in managing the works contracts and to ensure that the works will be executed in accordance with the agreed schedule, meeting the required standards within the contractual cost. The supervision consultant therefore has a significant role to ensure the success of the works and consequently the success of the project. However, given scope of works, length of road to be supervised and the large value of works, additional consultant(s) will be hired under the AF. Performance of the consultant recruited under the parent project is not yet sufficiently tested and hiring additional consultants would mitigate performance failure risk. However, priority sections prone to flooding will be included under the current consultant services as an addendum to the contract. Regarding other consulting services, most of these consulting contracts required under the AF were already procured under the parent project and will extended to continue to work under the AF.

69. Based on the project requirements, operational context, economic aspects, technical solutions and market analysis, the PPSD, including the initial procurement plan for RAMPII-AF, has been prepared by MPWT with support from the Bank. In the event that Component C may finance goods, works, and/or consultant services required for an eligible crisis or emergency, the applicable procurement methods and procedures under the relevant provisions of the World Bank Procurement Framework 2016, Regulations for Borrowers would be further detailed in the Emergency Response Manual (ERM).

## G. Social (including Safeguards)

70. The World Bank's policies on Involuntary Resettlement (OP/BP 4.12) and Indigenous People (OP/BP 4.10) continue to be triggered with the AF. An impact screening conducted along NR4 (about 206 km) reveals that no major social impacts and concerns are envisaged because the proposed road rehabilitation will be mainly carried out on the existing road alignments and within the ROW. Communities in the project area could be potentially affected by short term disturbances to their livelihoods and daily business activities, and by possible labor influx. About 466 project-affected households (PAHs) were identified as potentially affected by the project activities. None of the PAHs are expected to lose more than 10 percent of their total productive assets. During the screening, MPWT also carried out free, prior and informed consultation to establish broad community support for the project.

71. The existing Environmental and Social Safeguard Framework (ESSF), which covers the Compensation and Resettlement Policy Framework (CRPF) and a generic Environmental Management Plan (EMP) applied under RAMPII, has been updated for the AF and was disclosed on March 16, 2018 and re-disclosed on May 8, 2018. Although the screening process identified no ethnic or indigenous people with collective attachment to the project area, the Indigenous People Development Framework (IPDF) has been updated to be applied under RAMPII-AF as part of the Environmental and Social Safeguards Framework (ESSF) as a precaution. These policy frameworks guide the detailed impact assessment and preparation of Abbreviated Resettlement Action Plans (ARAPs) and site specific EMPs to be applied under the AF to address and mitigate the risks and impacts.

72. ***Labor Influx.*** A risk assessment conducted based on the risk classification defined by the World Bank's 2016 Labor Influx Guidance Note indicates that the marginal risk associated with the labor influx under the project is considered low. The size of the potential influx of laborers and workers is expected to be limited relative to the absorptive capacity of the local communities. The POM specifies responsibilities of the implementing agency, RAMO and ESO, its contractors and supervision engineer to mitigate and monitor the negative impacts of labor influx, and the potential risks related to sexual exploitation and abuse (SEA) and GBV.

73. Guidelines of enhanced ESHS requirements, including contractor Codes of Conduct and management of Occupational Health and Safety (OHS), will be incorporated in the bidding documents and will be regularly monitored and reported on by the supervision consultant during the execution of works.

Contractors will be required to train all workers and staff on a regular basis on the Code of Conduct to ensure clear definition of obligations of contractors' staff and workers with regard to implementing the project's ESHS and OHS requirements, and help prevent, report and address GBV and VAC issues within the work site and in its immediate surrounding communities. Contractors will also inform workers about national laws that make GBV a punishable offence that is prosecuted. Labor camps will be constructed for those workers coming from outside the community and will be regularly monitored by the ESO and its supervision consultant. The ARAP and EGEP provide details on a grievance redress mechanism that will also be used to manage grievance redress related to worker conduct, including monitoring timely resolution of grievances received from women.

## H. Environment (including Safeguards)

74. The project remains Category B, and Environmental Assessment (OP/BP 4.01) continues to be triggered. The environmental screening report, prepared in March 2018, reveals that insignificant environmental impacts are anticipated. These impacts are manageable, site specific and temporary in nature. The detailed description of impacts and consultations are fully elaborated in the EA assessment report submitted by MPWT in March 2018. Site-specific EMPs were developed to address and mitigate the impacts on businesses, livelihoods and the surrounding environment in the specific urban communities where some small structures will be installed (side drains, pavement, etc.). In February and March 2018, MPWT conducted an impact assessment along NR4 in line with the ESSF updated for RAMPII-AF to identify potential risks and impacts. As discussed above, a free, prior and informed consultation was carried out to establish community support for the project. The findings reveal that no major environmental impacts are envisaged because the proposed road rehabilitation will be carried out on the existing road alignments and within the ROW. However, the consultation with environment departments in the area confirmed that a few elephants have been crossing the area (between PK 107-109) twice per year (May and late October). Consequently, the site specific EMP has provided mitigation measures, including the need to install road signs and speed control to inform drivers of the potential impacts to animals.

75. The NR4 was previously improved under a concession contract from 2003-2014. During that period, several residential communities and commercial activities, bus stops, gas stations, farms, etc. were established along the corridor. As such, no changes in safeguards policies are triggered by RAMPII-AF. The area potentially affected by the project is not considered a natural habitat as per the OP4.04 definitions. The updated ESSF was disclosed on MPWT's website and the Bank external website on March 16, 2018. These instruments were re-disclosed on MPWT's website and in localities on April 11 and 24, 2018, respectively, and in the Bank's External Website on April 24, 2018. The package of ESSF, ARAP and EMP for NR4 under RAMPII-AF and that of ESSF, EMPs and ARAPs for NR3 and NR7 applied under RAMPII were further revised to incorporate labor influx management requirements and re-disclosed on May 8, 2018.

76. Lessons learned from RAMP and RAMPII implementation were drawn upon, elaborated in the revised ESMF and used to inform the design of RAMPII-AF. Thus more attention is given to (a) strengthening the role of the Environmental and Social Office (ESO) and contractors/sub-contractors in monitoring and reporting on EMP implementation; (b) developing a workable GRM with specific consideration for GBV complaints; and (c) incorporating the enhanced ESHS requirements and GBV and VAC prevention measures in the bidding and contract documents. The ESO staff of MPWT will continue to receive technical support and capacity development from the Bank and MPWT's consultants, primarily via on-the-job-training.

## I. Other Safeguard Policies (if applicable)

77. No safeguard policies are triggered other than OP/BP 4.01; OP/BP 4.12 and OP/BP 4.10.

## J. Monitoring and Evaluation (M&E)

78. The Results Framework and Monitoring is updated, with adjustments to reflect the expanded project activities and greater focus on climate resilience, road safety and gender (see Section VIII). Targets of some original indicators, both for PDO and intermediate levels, were revised to capture the AF investment. Eight additional intermediate indicators are included as follows: (i) availability of report on vehicles exceeding speed limits; (ii) overloading trucks with load exceeding five percent of allowable limit; (iii) personnel trained in Gender Based Violence (GBV) and Violence Against Children (VAC); (iv) annual road fatalities, severe and minor injuries; (v) annual road fatalities, severe and minor injuries (of which men); (vi) employment of women by contractors on NR4; (vii) road safety awareness training provided to residents along NR4 (% men); and (viii) road safety audits are used to inform the design and construction of roads financed under the project. Moreover, an existing intermediate indicator of "Timely preparation and submission of annual maintenance work plans and budgets using Road Management" is revised to streamline climate resilience into MPWT's planning process. The indicator now reads "Timely preparation and submission of annual maintenance work plans and budgets using Road Management including climate resilience".

79. These indicators will be monitored based on quarterly progress reports submitted by the Implementation Support and Works Supervision Consultant during implementation of the project. In addition, the mid-term review for RAMPII, which will include a beneficiary assessment, is scheduled for December 2020, when the major civil works of RAMPII will have been completed. The timing will be useful for RAMPII-AF, as it will not only take stock of achievements to date but also provide additional baseline information for the monitoring of the AF.

80. The M&E system in place for RAMPII will also apply to RAMPII-AF. MPWT has set up a team for project M&E within the General Department of Planning and Policy (GDPP). The GDPP has assigned four staff to work as the project M&E unit. Based on a capacity assessment of the M&E team carried out under RAMPII, their capacity and experience on M&E needs to be strengthened. The team will develop a capacity building plan and training will be provided accordingly. In addition, the Supervision Consultant will provide on-the-job training related to activities under Sub-component A2. However, the team will require additional support to monitor the technical aspects of system upgrading under Sub-component B1. Furthermore, 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.

## K. Implementation Arrangements

81. The project will be implemented using the existing RGC organizational structure and institutional arrangements, particularly within MPWT. As in RAMPII, a separate Project Implementation Unit will not be used. The MEF is the formal point of contact between RGC and IDA on all financial and legal matters for the Credit and represents RGC in discussions on these matters. MPWT is responsible for overall technical supervision, execution and management of the AF. The General Department of Public Works (GDPW) will be responsible for the day-to-day implementation, supervision and operation of the AF, including contracting and direction of all consultants, and will be the employer for all civil works contracts. The General Department of Administration and Finance (GDAF) will be responsible for the financial, procurement, capacity development, training and public disclosure matters of the project. The general Department of Planning and Policy is responsible for safeguards, M&E, climate resilience. The General Department of Transport (GDT) will be responsible for road safety aspects and overloading. The General Department Technical Affairs will be responsible for producing annual road maintenance and three-year rolling plans.

# VI. WORLD BANK GRIEVANCE REDRESS

82. 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.*

## VII. SUMMARY TABLE OF CHANGES

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

## VIII. DETAILED CHANGE(S)

### PROJECT DEVELOPMENT OBJECTIVE

#### Current PDO

The PDO is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia.

The project will achieve this objective through (i) the systematic introduction of designs that include climate proofing and road safety measures and the use of performance based contracts; and (ii) by enhancing MPWT's capacity to carry out road maintenance planning, contracting and management.

**Proposed New PDO**

The PDO is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

## RESULTS FRAMEWORK

### Project Development Objective Indicators

Roads in good and fair condition as a share of total classified paved roads
Unit of Measure: Percentage
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 76.00 | 76.00 | 76.00 | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

Size of the total classified network (National, Provincial, paved and un-paved)
Unit of Measure: Kilometers
Indicator Type: Custom Supplement

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 10,907.00 | 10,907.00 | 16,000.00 | Revised |

Roads rehabilitated, Non-rural (Km), with disaster resilience measures (Km)
Unit of Measure: Text
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | 0.00 | 414 (143) | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

Length of road sections (Km) on which Road Safety Measures are implemented
Unit of Measure: Kilometers
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | 0.00 | 414.00 | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

### Intermediate Indicators

Timely preparation and submission of annual maintenance work plans and budgets using Road Management Decision Support (RMDS), including climate resilience
Unit of Measure: Text
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | Maintenance budget delayed in preparation | Cumulative length of 5,500 km on IRI and 2,514 km on deflection were surveyed to date. Road asset management system re-figuration will be done in coming months to allow MPWT produce reports on road characteristics, condition, and maintenance needs with economic returns under various budget scenarios | Annual work program and budget by June | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

Length and share of roads maintained under performance-based maintenance contracts (Km and Percentage)
Unit of Measure: Text
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | 0.00 | 414 km (7%) | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

Beneficiaries satisfied with road condition, safety, and climate resilience of rehabilitated and maintained roads (percentage), disaggregated by sex
Unit of Measure: Text
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | 0.00 | 60.00 | Revised |
| Date | 29-Dec-2015 | 01-Dec-2017 | 31-Dec-2026 | |

Availability of report on vehicle exceeding speed limits
Unit of Measure: Yes/No
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | No | | Yes | New |
| Date | 31-Dec-2017 | | 31-Dec-2026 | |

Overloading trucks with load exceeding 5% of allowable limit
Unit of Measure: Number
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 31.00 | | 5.00 | New |
| Date | 31-Dec-2017 | | 31-Dec-2026 | |

Personnel trainied in Gender Based Violence (GBV) and Violence Against Children (VAC)
Unit of Measure: Percentage
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | | 100.00 | New |
| Date | 31-Dec-2017 | | 31-Dec-2026 | |

Annual road fatalities, severe and minor injuries
Unit of Measure: Number
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 559.00 | | 500.00 | New |
| Date | 31-Dec-2016 | | 31-Dec-2026 | |

Annual road fatalities, severe and minor injuries (of which men)
Unit of Measure: Number
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 395.00 | | 350.00 | New |
| Date | 31-Dec-2016 | | 31-Dec-2026 | |

Employment of women by contractors on NR4, (percentage)
Unit of Measure: Percentage
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | | 15.00 | New |
| Date | 31-Dec-2016 | | 31-Dec-2026 | |

Road safety awareness training provided to residents along NR4 (% men)
Unit of Measure: Percentage
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | 0.00 | 0.00 | 30.00 | New |
| Date | 31-Dec-2017 | | 31-Dec-2026 | |

Road safety audits are used to inform the design and construction of roads financed under the project
Unit of Measure: Text
Indicator Type: Custom

| | Baseline | Actual (Current) | End Target | Action |
|---|---|---|---|---|
| Value | No | | Yes | New |
| Date | 31-Dec-2017 | | 31-Dec-2026 | |

## COMPONENTS

| Current Component Name | Current Cost (US$, millions) | Action | Proposed Component Name | Proposed Cost (US$, millions) |
|---|---|---|---|---|
| Component A - Road Asset Management | 61.27 | Revised | Component A - Road Improvement and Maintenance | 170.73 |
| Component B - System Upgrading and Capacity Development | 3.53 | Revised | Component B - Operationalization of Road Asset Management | 7.07 |
| Component C - Contingent Emergency Response | 0.00 | | Component C - Contingent Emergency Response | 0.00 |
| **TOTAL** | **64.80** | | | **177.80** |

## LOAN CLOSING DATE(S)

| Ln/Cr/Tf | Status | Original Closing | Current Closing(s) | Proposed Closing | Proposed Deadline for Withdrawal Applications |
|---|---|---|---|---|---|
| IDA-57890 | Effective | 31-Dec-2022 | 31-Dec-2022 | 31-Dec-2026 | 30-Apr-2027 |

## Expected Disbursements (in US$, millions)

| Fiscal Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|---|---|---|---|
| Annual | 0.04 | 0.55 | 13.10 | 55.79 | 56.52 | 23.37 | 8.68 | 4.00 | 3.64 | 3.63 |
| Cumulative | 0.04 | 0.59 | 13.69 | 69.48 | 126.00 | 149.37 | 158.05 | 162.05 | 165.69 | 169.32 |

## SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

| Risk Category | Latest ISR Rating | Current Rating |
|---|---|---|
| Political and Governance | Substantial | Substantial |
| Macroeconomic | Substantial | Substantial |
| Sector Strategies and Policies | Substantial | Substantial |
| 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 | Substantial | Substantial |
| Other | | |
| Overall | Substantial | Substantial |

## LEGAL COVENANTS – Road Asset Management Project II Additional Financing (P165249)

| Sections and Description |
|---|
| Institutional Arrangements<br>Financing Agreement: Schedule 2, Section I.A.1-4<br>Recurrent, Continuous<br>Obligation of the Recipient to maintain, throughout the Project implementation period, the ICRRM, Technical Committee, GDPW, GDTA, GDAF and MPWT Project management team, all with functions, staffing and resources |

satisfactory to the Association.

Project Operations Manual
Financing Agreement: Schedule 2, Section I.B
Recurrent, Continuous
Obligation of the Recipient to carry out the Project in accordance with the Project Operation Manual, and not amend, waive or abrogate any provisions of the manual unless the Association agrees otherwise in writing.

Environmental and Social Safeguards
Financing Agreement: Schedule 2, Section I.C
Recurrent, Continuous
Obligation of the Recipient to ensure that the Project is carried out in accordance with the provisions of the Environmental and Social Safeguards Framework and the site-specific Safeguard Plans, not amend, abrogate or waive any of their provisions unless the Association agrees otherwise, and report on their status of implementation as part of the semi-annual progress reports.

Contingent Emergency Response
Financing Agreement: Schedule 2, Section I.D
In case of an Eligible Crisis or Emergency
Obligation of the Recipient to adopt a satisfactory Emergency Response Manual for Part C of the Project and, in the event of an eligible crisis or emergency, ensure that the activities under said part are carried out in accordance with such manual and all relevant safeguard requirements.

**Conditions**

| Type | Description |
|---|---|
| Effectiveness | Financing Agreement: Article IV, Section 4.01<br>The Recipient, through MPWT, has awarded at least one contract under the Procurement Plan. |
| Disbursement | Financing Agreement: Schedule 2, Section III.A<br>The Recipient may not withdraw the proceeds of the Financing as may be allocated to Part C unless an Eligible Crisis or Emergency has occurred, all related safeguards instruments and requirements have been completed,the emergency response implementing entities have adequate staff and resources, and the Recipient has adopted the Emergency Response Manual, acceptable to the Association. |

## IX. RESULTS FRAMEWORK AND MONITORING

**Results Framework**
**COUNTRY: Cambodia**
**Road Asset Management Project II Additional Financing**

### Project Development Objectives

The PDO is to improve the condition, safety and climate resilience of selected national road corridors in Cambodia and to provide immediate and effective response in case of an Eligible Crisis or Emergency.

### Project Development Objective Indicators

| Action | Indicator Name | Core | Unit of Measure | Baseline | End Target | Frequency | Data Source / Methodology | Responsibility for Data Collection |
|---|---|---|---|---|---|---|---|---|
| Revised | Name: Roads in good and fair condition as a share of total classified paved roads | | Percentage | 76.00 | 76.00 | Annual | MPWT Records | MPWT |
| Revised | Name: Size of the total classified network (National, Provincial, paved and un-paved) | | Kilometers | 10,907.00 | 16,000.00 | Annually | MPWT Annual Report | MPWT |

Description: 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. Classified roads are the roads that have been included in the roads legislation as public roads. Please note that this indicator requires supplemental information Supplemental Value: Total classified network in the project area (KM) The Supplemental value is the total classified network in the project area. Classified roads are the roads that have been included in the roads legislation as public roads.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Revised | Name: Roads rehabilitated, Non-rural (Km), with disaster resilience measures (Km) | | Text | 0.00 | 414 (143) | Annual | Contractor reports and consultant supervision | MPWT and Consultant |
| Description: This indicator will measure kilometers of all non-rural roads reopened to motorized traffic, rehabilitated, or upgraded under the project. This double indicator will also measure the length of roads rehabilitated on which disaster resilience measures have been included. | | | | | | | | |
| Revised | Name: Length of road sections (Km) on which Road Safety Measures are implemented | | Kilometers | 0.00 | 414.00 | Annual | Contractor reports and consultant supervision | Contractor reports and consultant supervision |
| Description: This indicator measures integration of the road safety dimension into road designs. | | | | | | | | |

### Intermediate Results Indicators

| Action | Indicator Name | Core | Unit of Measure | Baseline | End Target | Frequency | Data Source / Methodology | Responsibility for Data Collection |
|---|---|---|---|---|---|---|---|---|
| Revised | Name: Timely preparation and submission of annual maintenance work plans and budgets using Road Management Decision Support (RMDS), including climate | | Text | Maintenance budget delayed in preparation | Annual work program and budget by June | Annual Y2-Y6 | Program and budget documents | MPWT |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | resilience | | | | | | | |
| Description: Annual works plans and budget requests should be submitted to MEF by June. Annual plans to be based on a medium-term maintenance program. Program is for 'periodic' maintenance not 'emergency' and 'routine' maintenance. | | | | | | | | |
| Revised | **Name:** Length and share of roads maintained under performance-based maintenance contracts (Km and Percentage) | | Text | 0.00 | 414 km (7%) | Annual Y4-Y6 | MPWT Records | MPWT |
| Description: This indicator will measure the application of PBCs to maintenance contracts in terms of km covered as well as share of total maintenance contracts. | | | | | | | | |
| Revised | **Name:** Beneficiaries satisfied with road condition, safety, and climate resilience of rehabilitated and maintained roads (percentage), disaggregated by sex | | Text | 0.00 | 60.00 | Annual Y4-Y6 | MPWT Records | MPWT |
| Description: This indicator will measure direct beneficiary satisfaction with the condition, safety, climate resilience of the road and the data will be disaggregated to identify if the project is addressing the differentiated needs of men and women, potential gaps to be addressed during the remaining of the project. | | | | | | | | |
| New | **Name:** Availability of report on vehicle exceeding speed limits | | Yes/No | No | Yes | Semi-annual Y5-Y10 | MPWT Records | MPWT |
| Description: There is currently no available data or report on vehicle exceeding speed limit on the selected National Road (NR) sections. Although major traffic mode on the selected NR sections is motorbike, the 'vehicle' refers to cars, vans and trucks. | | | | | | | | |
| New | **Name:** Overloading trucks with load | | Number | 31.00 | 5.00 | Semi-annual Y5- | MPWT Records | MPWT |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | exceeding 5% of allowable limit | | | | | Y10 | | |
| Description: This indicator will measure the number monthly of overloading trucks travelling on NR3, NR4 & NR7 exceeding 5% allowable limit | | | | | | | | |
| New | **Name:** Personnel trainied in Gender Based Violence (GBV) and Violence Against Children (VAC) | | Percentage | 0.00 | 100.00 | Semi-annual Y4-Y10 | MPWT Records | MPWT. |
| Description: Percentage of Road contractor and contract supervision personnel trained in ways to prevent gender-based violence and violence against children. | | | | | | | | |
| New | **Name:** Annual road fatalities, severe and minor injuries | | Number | 559.00 | 500.00 | | Road crash victim information system (RCVIS) | National Road Safety Committee |
| Description: The indicator will measure numbers of fatalities and injuries caused by road traffic accidents on NR4 | | | | | | | | |
| New | **Name:** Annual road fatalities, severe and minor injuries (of which men) | | Number | 395.00 | 350.00 | Semi-Annual Y5-Y10 | Road crash victim information system (RCVIS) | National Road Safety Committee |
| Description: The indicator will measure numbers of fatalities and injuries (of which men) caused by road traffic accidents on NR4. | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| New | **Name:** Employment of women by contractors on NR4, (percentage) | | Percentage | 0.00 | 15.00 | Semi-Annual<br><br>Y5-Y10 | MPWT Records | MPWT |
| Description: The indicator will measure number and percentage of women employed by the project/contractor | | | | | | | | |
| New | **Name:** Road safety awareness training provided to residents along NR4 (% men) | | Percentage | 0.00 | 30.00 | Semi-annual (Y4-Y10) | MPWT Records | MPWT |
| Description: This indicator will measure percentage of male residents living along NR4 received road safety awareness training. | | | | | | | | |
| New | **Name:** Road safety audits are used to inform the design and construction of roads financed under the project | | Text | No | Yes | Semi-annual (Y5-Y10) | MPWT Records | RAMO and MPWT |
| Description: This indicator will monitor minimum requirements of road safety audit recommendation included in the road design. " Yes" - minimum requirements are met. | | | | | | | | |

Target Values

### Project Development Objective Indicators

| Action | Indicator Name | Baseline | YR1 | YR2 | YR3 | YR4 | YR5 | YR6 | YR7 | YR8 | YR9 | End Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revised | Roads in good and fair condition as a share of total classified paved roads | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 | 76.00 |
| Revised | Size of the total classified network (National, Provincial, paved and un-paved) | 10,907.00 | 10,907.00 | 10,907.00 | 10,907.00 | 16,000.00 | 16,000.00 | 16,000.00 | 16,000.00 | 16,000.00 | 16,000.00 | 16,000.00 |
| Revised | Roads rehabilitated, Non-rural (Km), with disaster resilience measures (Km) | 0.00 | 0.00 | 0.00 | 0.00 | 218(90) | 218(90) | 414(143) | 414(143) | 414(143) | 414(143) | 414(143) |
| Revised | Length of road sections (Km) on which Road Safety Measures are implemented | 0.00 | 0.00 | 0.00 | 17.00 | 120.00 | 218.00 | 218.00 | 320.00 | 370.00 | 414.00 | 414.00 |

### Intermediate Results Indicators

| Action | Indicator Name | Baseline | YR1 | YR2 | YR3 | YR4 | YR5 | YR6 | YR7 | YR8 | YR9 | End Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revised | Timely preparation and submission of annual maintenance work plans and budgets using Road Management Decision Support (RMDS), including climate resilience | Maintenance budget delayed in preparation | | | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June | Annual work program and budget by June |
| Revised | Length and share of roads maintained under performance-based maintenance contracts (Km and Percentage) | 0.00 | 0.00 | 0.00 | 0.00 | 218(3.8%) | 218(3.8%) | 414(7%) | 414(7%) | 414(7%) | 414(7%) | 414 km (7%) |
| Revised | Beneficiaries satisfied with road condition, safety, and climate resilience of rehabilitated and maintained roads (percentage), disaggregated by sex | 0.00 | 0.00 | 0.00 | 0.00 | 35.00 | 50.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 |
| New | Availability of report on vehicle exceeding speed | No | N | N | N | N | Y | Y | Y | Y | Y | Y |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | limits | | | | | | | | | | | |
| New | Overloading trucks with load exceeding 5% of allowable limit | 31.00 | 31.00 | 31.00 | 31.00 | 25.00 | 20.00 | 15.00 | 10.00 | 5.00 | 5.00 | 5.00 |
| New | Personnel trainied in Gender Based Violence (GBV) and Violence Against Children (VAC) | 0.00 | 0.00 | 20.00 | 40.00 | 60.00 | 80.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| New | Annual road fatalities, severe and minor injuries | 559.00 | 559.00 | 559.00 | 559.00 | 559.00 | 550.00 | 540.00 | 530.00 | 520.00 | 510.00 | 500.00 |
| New | Annual road fatalities, severe and minor injuries (of which men) | 395.00 | 359.00 | 259.00 | 359.00 | 359.00 | 359.00 | 358.00 | 356.00 | 354.00 | 352.00 | 350.00 |
| New | Employment of women by contractors on NR4, (percentage) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| New | Road safety awareness training provided to residents along NR4 (% men) | 0.00 | 0.00 | 0.00 | 0.00 | 20.00 | 25.00 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| New | Road safety audits are used to inform the design and construction of | No | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | roads financed under the project | | | | | | | | | | | |