

**PROGRAM-FOR-RESULTS INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

Report No.: PIDC0107227

Program Name	Second Bridges Improvement and Maintenance Program
Region	South Asia
Country	Nepal
Sector	Transport and ICT
Lending Instrument	PforR and IPF
Program ID	P161929
Parent Program ID	N/A
Borrower(s)	Nepal
Implementing Agency	Department of Roads
Date PID Prepared	6/15/2017
Estimated Date of Appraisal Completion	10/15/2017
Estimated Date of Board Approval	03/30/2018
Concept Review Decision	{ <i>Insert the following</i> } Following the review of the concept, the decision was taken to proceed with the preparation of the operation.
Other Decision	<i>Teams can add more if they wish or delete this row if no other decisions are added</i>

I. INTRODUCTION AND CONTEXT

A. Country Context

1. Nepal remains one of the poorest countries in the world with an average per capita GDP of US\$ 743 in 2015. Nepal is also in the midst of a major political transition with the promulgation of a new Constitution as of September 2015. The new constitution has specified a federal model of government. However, the delineation of provincial boundaries and the detailed roles of provincial institutions within the envisaged federation have remained challenging political questions since the new Constitution came into effect. Nepal has subsequently seen civil unrest and, in some cases, violence which has impacted on the pace of development. It is important to note that Nepal's transition has and will likely remain a political process with the administrative restructuring of government functions reacting to changes in the political landscape. The most recent step in this process took place in May of 2017 with the first local elections in 20 years that have begun to prepare for provincial level democratic institutions. The Government of Nepal previously dissolved District Development Committees (DDCs) in March of 2017. DDCs had previously discharged the functions of local government, albeit without local democratic mandates. Public institutions face inherent challenges amidst these significant changes. The political nature of Nepal's transition creates uncertainty which combined with the inherent complexity of dividing government functions across new administrative boundaries will test the strength of institutions that are already capacity constrained. There is a need for the international community to support the Government of Nepal and its institutions to achieve development aims

during and after this momentous transition.

B. Sectoral and Institutional Context of the Program

2. The cornerstone of Nepal's surface transportation network is the Strategic Roads Network (SRN) which consists of approximately 12,142 km of roads and 1,674 bridges. The SRN carries the vast majority of passenger and goods transport throughout Nepal. It also provides critical connections to India which is Nepal's largest trading partner and primary conduit for third country trade. Nepal's Department of Roads (DOR) within the Ministry of Physical Infrastructure and Transport (MoPIT) develops and manages roads and bridges along the SRN. Historically, the SRN and its management has been a national concern with resources allocated from Nepal's Consolidated Fund via the national budget. While SRN roads and bridges often traverse urban areas (including Kathmandu), field level implementation of SRN works has been managed by 25 Divisional Road Offices that are accountable to the national government alone. It is currently unknown whether the SRN will remain intact as a federal concern or whether it may be divided into national and provincial networks as seen in other federations.

3. The geographical configuration of the SRN is significant. Nepal's busiest highway traverses east to west along the relatively flat "Tarai" districts and provides a transportation link that runs in parallel to Nepal's border with India. North-south feeder roads branch off from this backbone and provide access to the difficult topography of Nepal's hill and mountain districts. SRN roads and bridges provide the physical linkages that integrate Nepal as a single country. The new federal model of government envisaged by Nepal's September 2015 constitution is also likely to make specific SRN corridors particularly relevant to the economic prospects of individual provinces based on proposals for provincial boundaries as submitted by the three largest political parties in August 2015.

4. It is important to note that the SRN remains both incomplete and inadequate with respect to the transportation services that Nepal requires for poverty reduction and increasing shared prosperity. For example, only about 54% of SRN roads feature some form of bituminous surface. Similarly, there are 361 identified gaps on SRN roads that lack bridges as required for providing year-round access along existing roads. These shortcomings often isolate communities during Nepal's annual rainy season. It is also envisaged that Himalayan regions like Nepal will also experience significant changes in weather patterns due to the effects of climate change which may pose additional challenges. The International Panel on Climate Change (IPCC), states that "there is high confidence that changes in heat waves, glacial retreat, and/or permafrost degradation will affect high-mountain phenomena such as slope instabilities, landslides, and glacial lake outburst floods. There is also high confidence that changes in heavy precipitation will affect landslides in some regions." Strengthening the resilience of Nepal's road and bridge network, particularly through improved maintenance of assets and greater consideration for resilient engineering designs will be important for adapting to whatever eventualities climate change will bring for Nepal.

5. SRN roads and bridges also suffer from insufficient road safety features and the rate of road transport related fatalities in Nepal is amongst the highest in the world. In part, this reflects a historical focus on prioritizing expansion of connectivity ahead of the quality and safety of that connectivity. In rural areas, SRN roads often lack crash barriers, proper markings, shoulders, and additional lanes for safe overtaking. In urban and semi-urban areas there has been inadequate

attention for fully including pedestrians and other forms of non-transport that often comprise the largest modal shares – especially for low income segments of the population. The design and construction of bridges for inclusive and safe access has been particularly challenging. Nepal has seen a rapid increase in two wheeled vehicles that are able to invade pedestrian spaces such as footpaths. Where bridge designs have not included vehicle access control and modal segregation measures, pedestrian access and safety has been compromised. Historically, the SRN's development with safety features has been constrained by GON's fiscal capacity and the inherent technical challenges of Himalayan geology. Increasingly, however the SRN's development is constrained by governance related issues and the limited ability of GON's programs to deliver their intended results to international standards of safety, quality, and efficiency. Sourcing the overall quantum of investment needed for improving SRN road and bridge infrastructure will remain a formidable challenge. However, the foremost obstacle to addressing it will be improving results from the money that will be spent along the way. Supporting the GON to advance its SRN related programs accordingly is the key development challenge in Nepal's transport sector.

C. Relationship to Country Assistance Strategy (CAS)

6. IDA's support to the Program aligns with the Nepal current 2014-2018 Country Partnership Strategy (CPS). The CPS identifies two strategic pillars: (i) increasing economic growth and competitiveness; and (ii) increasing inclusive growth and opportunities for shared prosperity. The proposed operation will contribute to both pillars, and the first in particular, through: (i) the increase of transportation connectivity in the country and with India; (ii) the improvement of maintenance, safety and quality of the infrastructure; and (iii) through the capacity building of key institutions in the transport sector.

7. The Association has been continuously engaged with road and bridge infrastructure in Nepal since late 1970 (roughly 46 years) and is currently supporting 4 ongoing initiatives involving the Department of Roads. Throughout this engagement, various projects supported by the Association have helped to develop many of the DOR's internal systems that apply to bridge investments, including the Bridge Management System (BMS) which has enabled Nepal's DOR to prioritize and plan SRN bridge related maintenance and new construction initiatives in line with the CPS goals.

D. Rationale for Bank Engagement and Choice of Financing Instrument

8. The Program's overall risk rating is "substantial" and the Government systems that underpin its performance are complex, inconsistently applied, and imperfect in their ability to achieve consistently positive results. These facts, combined with the Program's strategic relevance to Nepal's development contributes to a strong rationale for the Association's engagement. The choice of instruments for the proposed operation reflects learnings from BIMP-I and the Association's prior engagements with DOR.

9. The proposed operation is designed as a "hybrid" which includes both a Program-for-Results (PforR) component and Investment Project Finance (IPF) component. PforR components will support bridge maintenance and new construction works for activities that are unlikely to have to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people. The Association's policy for the PforR instrument explicitly excludes such activities under Bank Policy OPCS5.04-POL.01 and Bank Directive

OPCS5.04-DIR.01. The proposed IPF component will support bridge works that deploy advanced technologies and inclusive design concepts well as other technical and institutional development initiatives that align with the IPF instrument's advantages. Most notably, this may include engineering preparations for the Nepal "Fast Track" highway's high / long bridges, viaducts, and major structures that pose formidable technical challenges.

II. PROGRAM DEVELOPMENT OBJECTIVE(S)

10. The Program Development Objective is to provide safe, reliable and cost effective bridges on Nepal's Strategic Roads Network. This is also the stated objective of the GON's Bridge Policy and Strategy.

III. PROGRAM DESCRIPTION

11. The Association's proposed support to the Program would consist of a US\$ 182.6 million (equivalent) "hybrid" operation using both the PforR and IPF instruments. This approach builds on the first Bridges Improvement and Maintenance Program (BIMP-I) which was one of the first two PforR operations to be approved by the Association's Board of Directors following the introduction of the PforR instrument. BIMP-I is expected to complete on July 15, 2017 and has achieved positive and noteworthy results. Physical results include completion of 16,139 meters of major bridge maintenance, 6,618 meters of new bridge construction, and 10,730 meters of minor bridges maintenance. BIMP-I's institutional accomplishments have been similarly encouraging. Specifically, BIMP-I operationalized the Bridge Management System (BMS) which underpins DOR's ability to manage bridge assets. In addition, BIMP-I also supported a step change in the DOR's ability to diagnose maintenance needs and prescribe remedies for Nepal's stock of aging bridges. This has included the use of carbon fiber and composite remedies to strengthen structural members as well as chemical grouting techniques that have been used to address cracking. Prior to BIMP-I, DOR had only maintained bridges in response to failures. Developing the engineering expertise and implementation experience needed for preventative maintenance measures represents a considerable accomplishment achieved under BIMP-I.

12. BIMP-I's implementation was also not without challenges. Foremost lessons learned relate to: (i) improving the quality and consistency of design and construction; (ii) needs for enhancement to worker health and safety; (iii) opportunities for deploying new technologies and inclusive design concepts; (iv) supporting the Program's human capacity development; (v) improving the consistency and quality of field supervision; and (vi) enhancing the effectiveness of fiduciary systems to both facilitate the Program's function while also ensuring appropriate control of Government funds.

IV. INITIAL ENVIRONMENTAL AND SOCIAL SCREENING

13. The Association's Team is conducting an initial Environmental and Social Systems Assessment (ESSA) and reviewing lessons learned. Preliminary findings have identified that BIMP-I managed the application of DOR's Environmental and Social Management Framework (ESMF) in a satisfactory manner overall. Particularly encouraging achievements of BIMP-I include: (i) strengthening Geo-Environmental and Social Unit (GESU) with dedicated budget, additional human resources, and a greater role within the Program; (ii) establishment of social and environmental screening approaches for bridges with a documentation system to capture

assessments and actions within a “Bridge Dossier” for verification purposes; (iii) enhanced implementation supervision and monitoring of worksites; (iv) integration of dedicated budget for environmental and social risk mitigations in the Bill of Quantities (BoQ) for works contracts; (v) improved Occupational Health and Safety (OHS) practices; (vi) establishment and mobilization of an electronic Grievance Redressal Mechanism (GRM); and (vii) inclusion of ESMF compliance within verification activities.

14. DOR’s ESMF provides a comprehensive framework for the assessment of different risks, development of safeguards instruments, and overall management of impacts. Nevertheless, there are important improvements that are needed to the ESMF in response to lessons learned under BIMP-I. Most notably, there is a need to upgrade the ESMF’s provisions relating to health and safety in response to a construction site fatality under BIMP-I that occurred following a false work collapse. Other areas where the ESMF and its application can improve further include: (i) improved focus on vulnerable community development during implementation; (ii) improved provisions of assistance to squatters; (iii) improvement in the approach to land donation / acquisition; and (iv) enhanced focus on capturing the beneficial impacts of bridge works beyond vehicular transportation access alone. The Team’s ongoing experience in Nepal has also identified the need for additional work on ensuring compliance with Nepal’s labor related laws on key issues such as prohibition of child labor and workers’ rights. The strategy for advancing Program performance in this regard will entail a collaboration with the International Labor Organization in Nepal under IPF Component 1.

15. Typical environmental impacts of proposed Program interventions that are likely to be encountered during implementation include: (i) vegetation loss and reduced slope stability along bridge approaches; (ii) degradation of river / stream water quality; (iii) impacts on river / stream hydrology; and (iv) construction period disturbances including noise, dust pollution, and spoil disposal. Proper engineering of approaches, abutments, and river training works is essential for impact mitigation. Similarly, proper disposal of excavated materials, location of drain outlets, drainage management, and management of quarrying operations will be important. BIMP-I successfully deployed screening methodologies to guide the development of EMAPS or IEEs as appropriate for specific site conditions. This approach will continue under BIMP-II as a means for determining which provisions of the ESMF should apply to Program works.

16. The Program is anticipating limited adverse social impacts which are most likely to occur in the vicinity of bridge works. Based on past experiences, social impacts can include, temporary land leasing for contractor operations, permanent land acquisition around bridge abutments or approaches, labor camp issues, and health and safety of workers. The Program will include new bridge construction which may require land acquisition for constructing or realigning bridge approaches. The ESMF includes provisions for voluntary land donation and land acquisition and also includes provisions for livelihood restoration of non-title holders who occupy lands informally. These latter provisions are particularly important in indigenous communities which are among the targeted beneficiaries of the Program. The Association’s team is also working with DOR to review and update labor camp and child labor related provisions of the ESMF based on an ongoing independent assessment of labor risks across IDA-supported worksites in Nepal’s transport sector.

17. A key learning regarding the Program’s environmental and social systems under BIMP-I

concerned the timing of assessments and the integration between technical, social, and environmental work streams. There were instances during BIMP-I when social and environmental work was not optimally phased relative to parallel engineering work. Specifically, the Association’s supervision identified examples of designs advancing and proceeding to tender prior to social and environmental assessments completing and providing inputs relating to mitigations for inclusion in contract terms. This often resulted in costly contract variations or sub-optimal mitigations being adopted in an ex-post manner. In part, this reflected instances of poor communication between Bridge Branch and GESU that occasionally arose during particularly busy periods. It also reflected an unstructured approach to managing the preparation of bridge investments from concept to readiness for tender. The Program Action Plan will seek to mitigate the likelihood of recurrence by adopting a codified system of stages and Gate Reviews for the development of Program works packages. Gate Reviews will aim at preventing works packages to advance without required technical, social, and environmental preparations occurring in proper sequence.

18. The IPF Component 1 will include both designs for Category B bridges under the Program as well as the preparation of feasibility studies and technical designs relating to major SRN road and bridge projects that are likely to entail Category A designations. Bridge Branch is coordinating social and environmental screenings of bridges as the basis for determining the specific safeguards instruments that will require preparation for each site. For environmental risk management, OP/BP 4.01 Environmental Assessment, OP/BP 4.04 Natural Habitats, OP/BP 4.36 Forests, and OP/BP 4.11 Physical Cultural Resources are triggered for this component on account of the presence of bridge works in national parks and the nature of feasibility studies and technical designs that would be required for preparing major projects on the SRN.

19. For social impacts under the proposed IPF components, OP/BP 4.10 (Indigenous Peoples), OP/BP 4.12 (Involuntary Resettlement) is triggered. Voluntary Community Development Framework (VCDF) that includes indigenous peoples’ issues will be developed where required based on site screenings. Similarly, an Involuntary Resettlement Framework (IRF) will be prepared to guide the development of site specific management instruments where required based on the technical scope of sub-projects once they are fully identified. For analytical and engineering work relating to the preparation of major SRN road and bridges projects, Environmental Impact Assessments and Social Impact Assessments will be prepared in parallel with engineering work in accordance with applicable laws and regulations of Nepal and the DOR’s ESMF which is in alignment with the social and environmental policies of major multilateral development agencies.

V. TENTATIVE FINANCING

Source:	(\$m.)
Borrower/Recipient	36.7
IBRD	0
IDA	144.6
Others (TBD)	1.3
Total	182.6

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