



Report and Recommendation of the President to the Board of Directors

Project Number: 48337-002
October 2016

Proposed Loan Nepal: South Asia Subregional Economic Cooperation Roads Improvement Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 3 October 2016)

Currency unit	–	Nepalese rupee/s (NRe/NRs)
NRe1.00	=	\$0.009387
\$1.00	=	NRs106.5280

ABBREVIATIONS

ADB	–	Asian Development Bank
CSC	–	construction supervision consultant
DOR	–	Department of Roads
GESI	–	gender equality and social inclusion
km	–	kilometer
MOPIT	–	Ministry of Physical Infrastructure and Transport
PAM	–	project administration manual
PIU	–	project implementation unit
UNESCO	–	United Nations Educational, Scientific and Cultural Organization

NOTES

- (i) The fiscal year (FY) of the Government of Nepal ends on 15 July. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2016 ends on 15 July 2016.
- (ii) In this report, “\$” refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 48337-002	
Project Name	South Asia Subregional Economic Cooperation Roads Improvement Project	Department /Division	SARD/SATC
Country Borrower	Nepal Nepal	Executing Agency	Ministry of Physical Infrastructure and Transport
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Transport	Road transport (non-urban)		186.80
		Total	186.80
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	66.50
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	High
Regional integration (RCI)	Pillar 2: Trade and investment		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Organizational development	Effective gender mainstreaming (EGM)	✓
Partnerships (PAR)	International finance institutions (IFI)		
	Official cofinancing		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty and SDG Targeting		Location Impact	
Project directly targets poverty and SDGs	No	Regional	High
6. Risk Categorization:	Complex		
7. Safeguard Categorization	Environment: A Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		186.80	
Sovereign Project loan: Asian Development Fund		186.80	
Cofinancing		0.00	
None		0.00	
Counterpart		69.70	
Government		69.70	
Total		256.50	
9. Effective Development Cooperation			
Use of country procurement systems		No	
Use of country public financial management systems		Yes	

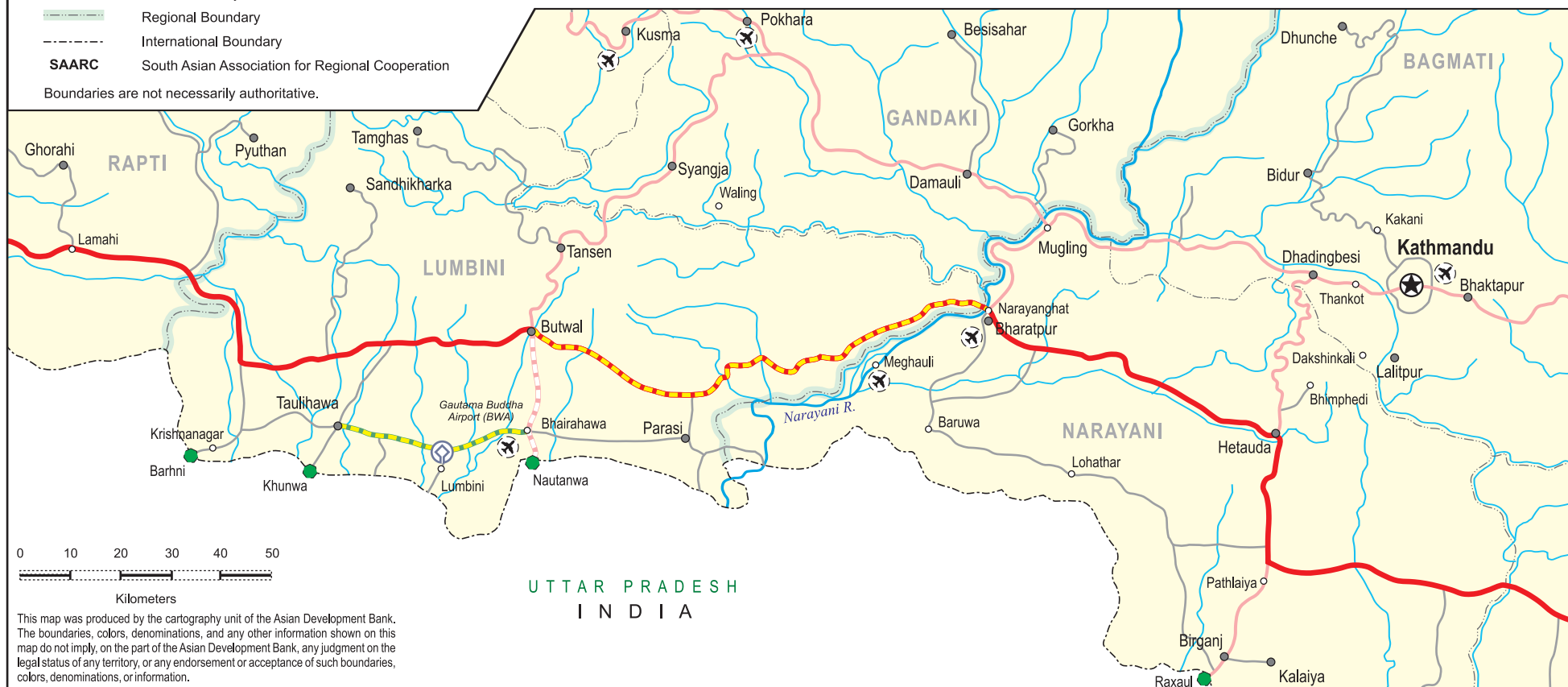
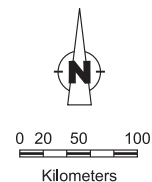
NEPAL

SOUTH ASIA SUBREGIONAL ECONOMIC COOPERATION ROADS IMPROVEMENT PROJECT

-  Project Road 1: Narayanghat–Butwal Road (115 km)
-  Project Road 2: Bhairahawa–Lumbini–Taulihawa Road (45 km)
-  SAARC Road Corridor 10 (Being Improved By The Government of Nepal)
-  Nepal East–West Highway/SAARC Road Corridor/Asian Highway

-  National Capital
-  District Headquarters
-  Town/Market Center
-  Land Customs Station
-  Airport
-  UNESCO World Heritage Site
-  National Highway
-  Feeder/District Road
-  River
-  Zonal Boundary
-  Regional Boundary
-  International Boundary
- SAARC** South Asian Association for Regional Cooperation

Boundaries are not necessarily authoritative.



UTTAR PRADESH
INDIA

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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Nepal for the South Asia Subregional Economic Cooperation Roads Improvement Project.¹

2. The project will rehabilitate and upgrade in terms of capacity, quality, and safety, about 160 kilometers (km) of Nepal's strategic road network, which comprises a critical section of the country's main East–West highway and its feeder road. It will improve transport connectivity in Nepal, with a focus on providing faster and better access to social services and economic opportunities. The project roads are also integral to the international and regional road network system that connects Nepal to India, and will facilitate closer trade integration and contribute to Nepal's export competitiveness. The project will have a transformational impact by facilitating national and regional integration.²

II. THE PROJECT

A. Rationale

3. In Nepal, transportation connectivity is one of the country's most critical bottlenecks to reducing poverty and sustaining inclusive economic growth. With its challenging mountainous terrain, roads are the predominant mode of transport in the country, carrying 90% of passengers and goods. However, Nepal has the lowest road density among countries in South Asia (about 14 km per 100 square kilometers and 0.9 km per 1,000 people), and the overall efficiency and reliability of the road network is poor.³ Consequently, high transport cost and poor connectivity limit access to opportunities and hinder job creation and delivery of services. It also impedes trade with neighboring countries as the cost of importing and exporting becomes much higher, and undermines development of competitive industries in Nepal, such as high-value agriculture, agro-processing, and manufacturing.⁴ Nepal needs to deliver on its economic potential and this requires significant investment in road improvements to ensure faster and better access to social services, domestic and international markets, and employment opportunities. Accordingly, the government's Fourteenth Plan (FY2017–2019) will be prioritizing the development of the country's physical infrastructure to integrate with those of neighboring countries.⁵

4. In support of the government's plan, the proposed project will rehabilitate and upgrade two critical sections of Nepal's strategic road network, which comprises the East–West highway (115 km Narayanghat–Butwal section) and its feeder road (45 km Bhairahawa–Taulihawa section).⁶ The East–West highway is the main arterial road cutting across the entire width of the country in Terai area (southern lowland plains bordering India). The project influence area is at the center of the East–West highway, which is the most productive region in Nepal and supports growing industries in agriculture and related processing, services (education and health), trade, and tourism. Narayanghat is one of the fast-growing cities where a large number of business

¹ The design and monitoring framework is in Appendix 1.

² The Asian Development Bank (ADB) provided a grant for preparing the feasibility and detailed design study. ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to Nepal for the Transport Project Preparatory Facility*. Manila (Grant 0227-NEP).

³ By comparison, regional figures in terms of kilometers per 1,000 people are as follows: Bhutan 6.5, Sri Lanka 4.7, India 3.0, and Bangladesh 1.9.

⁴ Nepal's primary trading partner is India, which accounts for 60% of exports and 80% of imports.

⁵ Government of Nepal, National Planning Commission. 2016. *An Approach Paper of Fourteenth Plan (FY2017–2019)*. Kathmandu.

⁶ Nepal's strategic road network consists of 12,494 km of which 3,460 km is national highways and the remaining feeder roads.

and trading houses are based, and Bhairahawa is a major trading city located in the country's first special economic zone to increase trade between Nepal and India. This area also encompasses the Lumbini Zone, which is a Buddhist pilgrimage site and was accorded World Heritage Site status by the United Nations Educational, Scientific and Cultural Organization (UNESCO).⁷ Its main gateway, the Gautam Buddha Airport, is currently being upgraded to international standards under Asian Development Bank (ADB) financing.⁸

5. The proposed project is integral to the government's Transport Sector Strategy (2016–2021) with a focus on improving the country's strategic road network and progressively expanding the capacity of the East–West highway and its feeder roads.⁹ The upgraded project roads will help ease growing traffic congestion and improve transport connectivity internally and with India. It will bring significant advantages to the overall social economic development and support Nepal's goal to graduate from the status of least–developed country to a developing country by year 2022. The proposed project is in line with the strategic objective of increasing connectivity and access to basic services and markets, and promoting tourism as described in ADB's country partnership strategy, 2013–2017.¹⁰ It is included in ADB's country operations business plan, 2016–2018 for Nepal.¹¹

6. **Regional connectivity.** The project roads are integrated with an international and regional road network system that connects Nepal to the state of Uttar Pradesh in India.¹² The main benefit will be improved connectivity to Bhairahawa and its inland clearance depot and land custom station, a transit point that handles a substantial volume of imports and exports between Nepal and India. This will complement ADB's ongoing assistance to the Department of Customs, which include reengineering its business process and providing equipment and capacity development to modernize customs clearance systems. Collectively, the proposed project will facilitate increased trade with India and other countries in the region, such as Bangladesh, and help contribute to Nepal's export competitiveness. This is consistent with the objectives of ADB's support for the South Asia Subregional Economic Cooperation.¹³

7. **Climate change adaptation.** The project roads are located in the tropical climate zone with moderately high rainfall, 80% of which occurs during the monsoon months (from June to September). In anticipation of rainfall extremes, likely both in terms of intensity and frequency, road improvements include appropriate adaptation measures in terms of hydrology and drainage design. These include formation levels of the roads so that road embankments are not inundated during peak flooding in the area, cross drainage requirements to ensure adequate openings through bridges and culverts, additional subsurface drainage structures and roadside drains to keep the roads free from water logging during heavy rains, and protective measures for structures, which are vulnerable to river erosion.

⁷ The World Heritage List includes 981 sites that are considered to form part of humankind's cultural and natural heritage and to have outstanding universal value.

⁸ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loans, Asian Development Fund Grant, and Administration of Loan to the People's Republic of Bangladesh, India, and Nepal for the South Asia Tourism Infrastructure Development Project*. Manila.

⁹ Government of Nepal, Ministry of Physical Planning and Works, Department of Roads. 2016. *Transport Sector Strategy (2016–2021)*. Kathmandu.

¹⁰ ADB. 2013. *Country Partnership Strategy: Nepal, 2013–2017*. Manila.

¹¹ ADB. 2015. *Country Operations Business Plan: Nepal, 2016–2018*. Manila.

¹² Asian Highway No. 2, and South Asian Association for Regional Cooperation Corridors No. 7 (Kathmandu–Nepalgunj–New Delhi–Lahore–Karachi) and No. 10 (Kathmandu–Bhairahawa–Sunauli–Lucknow).

¹³ The South Asia Subregional Economic Cooperation program is a project-based partnership that aims to strengthen cross-border transport networks that boost intraregional trade in the subregion (Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka).

8. **Road safety.** Road traffic accidents are rising in Nepal due to the increasing number of vehicles and unsafe road conditions. In response, the government has prepared a Road Safety Action Plan (2013–2020) with five pillars of road safety suggested in the United Nations Decade of Action for Road Safety 2011–2020, which comprises safer roads and road environment, safer users, safer vehicles, safer speeds, and post-crash response management.¹⁴ In keeping with this, project preparation identified potential safety issues based on an appraisal of the roads, road sides, and the existing operating environment; and an assessment of likely situations resulting from the proposed upgrading of the project roads. This led to the adaptation of appropriate measures, including service lanes to segregate slow-moving local traffic from fast-moving through traffic, pedestrian-friendly features such as walkways on both sides of the roads in settlement areas, disabled-friendly pedestrian crossings, and the establishment of road accident emergency response systems at critical locations.

9. **Sustainable maintenance.** The government has increased the annual budget for the maintenance of the country's strategic road network—from NRs2.601 billion in FY2013 to NRs3.693 billion in FY2015—thanks to increasing revenue from fuel levies, vehicle registration fees, and tolls. However, while the budgetary need is being substantively met, the actual utilization has not kept pace.¹⁵ Therefore, there is a need to enhance capacity and implementation arrangements. In this regard, civil works contracts for the project roads will include post-completion performance-based maintenance for 5 years. It aims to assess the efficacy of adapting long-term performance-based maintenance by the private sector in Nepal, and encourage its use where appropriate. The possible benefits include better quality assurance and greater efficiency, which can further enable the prioritization of budget allocation for road maintenance. ADB is providing technical assistance to the Department of Roads (DOR), the implementing agency of the proposed project, to modernize road asset management and support the implementation of performance-based maintenance contracts.¹⁶

B. Impact and Outcome

10. The impact will be enhanced transport connectivity within Nepal and with neighboring countries, aligned with the government's Fourteenth Plan (FY2017–2019) (footnote 5). The outcome will be improved road transport system.

C. Outputs

11. The project will have the following outputs: (i) road network rehabilitated and upgraded, and (ii) road safety and maintenance improved. A total of 160 km of roads will be upgraded to four lanes,¹⁷ with proper median and shoulders, safety features, and better climate resilience.¹⁸ Performance-based maintenance included in works contracts will be undertaken for 5 years after construction to ensure better asset quality and improved maintenance.¹⁹ The project will

¹⁴ Government of Nepal, Ministry of Physical Planning & Transport Management. 2013. *Nepal Road Safety Action Plan* (2013–2020). Kathmandu.

¹⁵ FY2015 budget allocation for strategic road network met 100% of routine and regular maintenance needs and about 70% of periodic maintenance needs. The overall utilization was 71% in 2015 compared with 94% in 2013.

¹⁶ ADB. 2013. *Technical Assistance Grant to Nepal for Capacity Strengthening for Sustainable Road Transport*. Manila (TA 8413-NEP for \$0.5 million, with another \$0.5 million approved on 23 June 2016).

¹⁷ 21 km of road in the Lumbini–Taulihawa section will be upgraded to two lanes, commensurate with its traffic volume.

¹⁸ Such as climate adaptation measures to (i) increase road embankment height by 30 centimeters, (ii) replace old pipe culverts with box culverts to accommodate increased flow, (iii) design bridges with a freeboard of 1.5 meters above the high flow level, and (iv) apply bioengineering works for slope protection.

¹⁹ In both civil works packages of the Narayanghat–Butwal section.

provide (i) consulting services to support implementation of the civil works, and (ii) equipment to enhance road safety by establishing a road accident emergency response system.

D. Investment and Financing Plans

12. The project is estimated to cost \$256.50 million (Table 1). The detailed cost estimates by expenditure category are presented in the project administration manual (PAM).²⁰

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Roads ^c	211.6
2. Road safety and maintenance ^d	8.2
Subtotal (A)	219.8
B. Contingencies^e	34.3
C. Interest During Construction	2.4
Total (A+B+C)	256.5

^a Includes taxes and duties of \$28.3 million to be financed from government resources (exemption or payment).

^b In mid-2016 prices.

^c Includes land acquisition, resettlement, and afforestation.

^d Includes (i) construction supervision consultant, (ii) project management consultant, (iii) government counterpart staff, (iv) road accident emergency response system, (v) modern archive system, and (vi) environmental and air quality monitoring equipment.

^e Physical contingencies computed at 9% for civil works and 3% for consulting services. Price contingencies computed at 0.3%–1.5% on foreign exchange costs and 7.0%–7.7% on local currency costs in line with escalation rates published by the Asian Development Bank includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate. ADB. Cost Escalation Factors. <http://lnadbg1.asiandevbank.org/erd0004p.nsf/> (accessed 1 July 2016).

Source: Asian Development Bank.

13. The government has requested a loan in various currencies equivalent to SDR133,826,000 (\$186.8 million equivalent) from ADB's Special Funds resources to help finance the project. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan agreement.

14. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Special Funds resources (loan) ^a	186.80	72.81
Government	69.70	27.19
Total	256.50	100.00

^a \$60 million from the Asian Development Fund subregional allocation for 2015–2016.

Source: Asian Development Bank estimates.

²⁰ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

E. Implementation Arrangements

15. The executing agency will be the Ministry of Physical Infrastructure and Transport (MOPIT) and the implementing agency will be the DOR. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 20).

Table 3: Implementation Arrangements

Aspects		Arrangements	
Implementation period		January 2017–January 2022 ^a	
Estimated completion date	31 January 2022	Loan closing date	31 July 2022
Management			
(i) Executing agency	MOPIT		
(ii) Implementing agency	DOR		
(iii) Implementation unit	Project directorate (ADB) in Kathmandu and 3 DOR project site offices (30 staff)		
Procurement	International competitive bidding	3 civil works contracts 1 equipment contract	\$204.84 million \$1.80 million
	Shopping	2 equipment contracts	\$0.20 million
Consulting services	QCBS (CSC) 90:10	501 international person-months, 1,791 national person-months	\$10.00 million
	Individual (project management)	24 international person-months, 124 national person-months	\$1.00 million
Retroactive financing and/or advance contracting	Advance contracting for procurement of works and recruitment of consultants		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, CSC = construction supervision consultant, DOR = Department of Roads, MOPIT = Ministry of Physical Infrastructure and Transport, QCBS = quality- and cost-based selection.

^a Performance-based maintenance will be undertaken for 5 years after construction. After loan closing, performance-based maintenance will be financed by the government.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

16. Detailed design of the project roads was prepared under the Transport Project Preparatory Facility (footnote 2). The design of road embankment and drainage structures considered the likely effects of climate change. Bioengineering techniques were adopted as a slope protection measure.²¹ The project integrates socially inclusive pedestrian design features, such as 106 disabled-friendly pedestrian crossings, 41.7 km of walkways on both sides of the roads, 28 km of service lanes, and other safety features. A road safety audit was performed as part of the detailed design, and the recommendations were incorporated in the final design. With bidding documents ready, advance actions have been taken to ensure that construction can commence early.

B. Economic and Financial

17. **Economic viability.** The economic analysis was carried out in accordance with ADB's Guidelines for the Economic Analysis of Projects.²² The project will upgrade the existing strategic road network sections by rehabilitating deteriorated pavement structures and

²¹ Bioengineering is an effective, simple, and economical method of reducing instability and erosion on cut slopes by providing protection using vegetation, either alone or in conjunction with some civil engineering materials.

²² ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

augmenting the project roads' capacity to provide a desirable level of service. The principal benefits considered in the analysis are (i) savings in vehicle operating costs and travel time, and (ii) reduced accidents from upgrading the roads from two lanes to four lanes. The estimated economic internal rate of return is 17.1% for the Narayanghat–Butwal section and 14.9% for the Bhairahawa–Lumbini–Taulihawa section. The sensitivity analysis indicates that both roads have an economic internal rate of return above 12% even with adverse variation in costs and benefit streams, confirming the economic viability of the project. In addition to the quantified benefits, the project will bring significant advantages to the overall economic development by ensuring smooth traffic flow on the main transport corridors of Nepal.

18. **Financial sustainability.** The budget allocation for strategic road network maintenance increased annually since 2011, meeting 100% of routine and 70% of periodic maintenance needs as of 2015. The government developed a 5-year Strategic Road Plan (2016–2021) to improve funding for periodic maintenance to 100% and ensure sustainable funding (footnote 9). It aims to construct new roads and repair major roads, which is expected to reduce maintenance needs. To support financial sustainability, the project will include performance-based maintenance in civil works contracts for 5 years to ensure better asset quality and improved maintenance. DOR's capacity on fund and asset management is being strengthened through an ongoing ADB technical assistance (footnote 16).

C. Governance

19. **Institutional.** DOR, the implementing agency, was established in 1961 under the MOPIT. DOR is responsible for the development and maintenance of the strategic road network, which comprises the national arterial roads, and major feeder roads connecting to local and rural roads. DOR is headed by a director general who reports to the secretary of MOPIT. DOR is experienced in implementing ADB projects. DOR's capacity is further strengthened by a World Bank project²³ and an ADB project,²⁴ which includes training for feasibility studies and practices in contract management and quality assurance.

20. **Financial management.** The project financial management risk is considered moderate. DOR has an adequate capacity in financial accounting and ADB disbursement procedures, with a qualified chief project accountant and two assistant accountants. However, improvements are required in the areas of internal audit, manual accounting systems, and staff understanding of ADB policy and procedures. The project will engage a full-time financial expert stationed in the project implementation unit (PIU) to conduct internal checks and controls, and work on the integration of project accounting with DOR's financial management information systems.

21. **Procurement and anticorruption.** Procurement will be in accordance with ADB's Procurement Guidelines (2015, as amended from time to time). The government promulgated the Public Procurement Act (2007) and Public Procurement Regulations (2007), both of which are generally acceptable to ADB and encompass best international procurement practices. The Public Procurement Monitoring Office was assigned as the national procurement oversight body under the Office of the Prime Minister and Council of Ministers. The government will publish project information on DOR's website, including business opportunities associated with the project. ADB's Anticorruption Policy (1998, as amended to date) was explained to and

²³ The World Bank's support focuses on management information systems, road safety, safeguard implementation, quality control, and human resources management.

²⁴ ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant and Technical Assistance Grant to the Kingdom of Nepal for the Road Connectivity Sector 1 Project*. Manila (Grant 0051-NEP for \$55.2 million and TA 4825-NEP for \$0.3 million).

discussed with the government. The specific policy requirements and supplementary measures are described in the PAM (footnote 20).

D. Poverty and Social

22. **Poverty reduction and social impact.** The project's direct area of influence includes 673,000 people living in 24 villages and municipalities crossed by the project roads. The poverty rate in the project area is 18.0%, which is below the national average of 25.2%. The major sources of income are trade and business (18%), remittances (18%), services (11%), rent (10%), and agricultural produce (8%). Tourism is prominent and growing in the project area, given that the roads link to the UNESCO World Heritage site of Lumbini and the Chitwan National Park. The results of household surveys and focus group discussions conducted as part of the poverty and social assessment indicate that the project will increase economic and employment opportunities. The project will generate an estimated 1,460,000 person-days of employment over the construction and maintenance periods.

23. **Gender.** The poverty and social analysis included a gender assessment based on the socioeconomic characteristics of 2,634 women and consultations with 139 women. Overall, women were supportive of the project because of the potential access to economic opportunities and services. The project is categorized *effective gender mainstreaming*, and a Gender Action Plan: Gender Equality and Social Inclusion (GESI) Action Plan was prepared, which includes the following activities: (i) integrate socially inclusive pedestrian design features, such as 106 disabled-friendly pedestrian crossings, 41.7 km of walkways on both sides of the roads, 28 km of service lanes, and drainage and safety features; (ii) train women living in the Chitwan National Park buffer zone in income-generating activities and community forest management; (iii) conduct training in leadership and team management for women members of the community forest user groups; (iv) target at least 30% women participation in the tree plantation program; (v) conduct road safety awareness campaigns to communities along the corridor, reaching out to 3,000 community members (pedestrians, drivers, parents, schoolchildren, and professional drivers, with targets for women and schoolgirls); and (vi) conduct public awareness campaigns on preventive human trafficking to 2,000 communities, and on HIV/AIDS and sexually transmitted infections to 500 communities. GESI experts and field staff will be hired to ensure the effective implementation of the GESI action plan.

24. **HIV and human trafficking.** The National Centre for AIDS and STD Control under the Ministry of Health and Population coordinates activities under the National AIDS Strategy, 2006–2011, which emphasizes prevention as the most effective response.²⁵ The Ministry of Women, Children, and Social Welfare coordinates activities to counter human trafficking. A large amount of information and print material on human trafficking has been developed with the support of the United States Agency for International Development, which will be reproduced for use in project areas. The project incorporates measures to mitigate HIV risks and counter human trafficking by having consultants conduct awareness programs in the corridors of influence. The civil works contractors will carry out sexually transmitted infection and human trafficking awareness sessions for their laborers at work sites, which will be monitored by the construction supervision consultant (CSC).

²⁵ Government of Nepal, National Centre for AIDS and STD Control. 2011. *National HIV/AIDS Strategy*. Kathmandu. <http://www.ncasc.gov.np/>

E. Safeguards

25. **Environment** (category A). Since 24 km of the Narayanghat–Butwal road is adjacent to the buffer zone of the Chitwan National Park, wildlife cross the road at a number of points. Species include the Bengal tiger (endangered) and greater one-horned rhinoceros (vulnerable), which are protected under the National Parks and Wildlife Conservation Act of Nepal.²⁶ The draft environmental impact assessment for this road was disclosed on the ADB website on 6 June 2016. The Bhairahawa–Lumbini–Taulihawa road is classified *category B* in accordance with ADB's Safeguard Policy Statement (2009). Though the road is located near the UNESCO World Heritage site of Lumbini, the Department of Archaeology confirmed that the project will not affect the site because the road will not be widened at the section passing near the site. An initial environmental examination was disclosed on the ADB website on 22 August 2016. Potential significant impacts of the Narayanghat–Butwal road will be the obstruction of wildlife movement during construction and operation. To mitigate this risk, five animal underpasses will be constructed and a biodiversity conservation plan and compensatory afforestation program will be implemented to ensure that there are no measurable adverse impacts, no net loss of biodiversity, and all lesser impacts are mitigated.

26. Other anticipated impacts for both roads involve dust, noise, exhaust, construction and domestic waste, water contamination, occupational health and safety, erosion, siltation, and traffic congestion during construction and air pollution and road safety during operation. The environmental management plan includes measures to manage these impacts, which will be mandatory for implementation by the contractor. Meaningful consultations were held with affected persons and key stakeholders such as the Department of National Parks and Wildlife Conservation, Chitwan National Park, World Wildlife Fund Nepal, and the Department of Archaeology. The project will include recommendations on the design of animal underpasses and biodiversity conservation activities. The environmental impact assessment's grievance redress mechanism will alleviate concerns of affected persons and stakeholders during project implementation.

27. A PIU environmental officer will be responsible for ensuring the implementation of environment safeguards under the project. The CSC, comprising a team of environmental and wildlife specialists, will support the PIU. The civil works contractor will be required to have a team of environmental, health, and safety officers to ensure proper implementation of the environmental management plan. An external monitor will be recruited to conduct third-party monitoring on the implementation of environment safeguards.

28. **Involuntary resettlement** (category B). The land acquisition and resettlement impacts were adequately assessed and the social due diligence confirms that impacts are moderate. A total of 49 households (271 persons) are expected to be affected, among which 32 households (189 persons) will be significantly affected (i.e., physical relocation; household losing 10% or more of its land). Most of the structures affected are commercial (60%) and belong to non-titleholders. The project is expected to require the acquisition of minor strips of land (160 square meters), affecting 18 households, most of which will lose less than 10% of their plot.

29. Resettlement plans for each road were disclosed on the ADB website on 28 July 2016.²⁷ The resettlement plans provide mitigation measures and resettlement assistance

²⁶ As classified by the International Union for Conservation of Nature.

²⁷ Resettlement Plan: Narayanghat–Butwal Road; Resettlement Plan: Bhairahawa–Lumbini–Taulihawa Road (accessible from the list of linked documents in Appendix 2).

commensurate to the impacts identified. The entitlement matrix includes measures to ensure compensations at replacement cost, shifting and reconstruction assistance, and special measures for vulnerable households such as financial assistance and participation in a skills training program. DOR, given its familiarity with ADB's involuntary resettlement requirements, will implement the resettlement plans. An individual resettlement consultant will support the DOR in supervising resettlement activities, and a field-based resettlement team under the CSC will supervise day-to-day implementation. A capacity building workshop on land acquisition, rehabilitation, and resettlement implementation for key DOR staff, the PIU, and the project site offices will be conducted at the onset of the project. Resettlement and social impacts, and mitigation measures were discussed with local residents.

30. **Indigenous peoples** (category C). The project will improve existing corridors and thus will not have any impact on the culture, human rights, or livelihood systems. No tribal, ancestral, or customary land exists in the project areas.

F. Risks and Mitigating Measures

31. The integrated benefits and impacts are expected to outweigh the costs. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²⁸

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Implementation delay	Advance action for procurement and recruitment of construction supervision consultant has commenced. Preconstruction activities such as utilities relocation and obtaining forest and environment clearances are ongoing.
Lack of oversight in procurement and corruption	The Nepal Resident Mission and the Capacity Development Resource Center will train DOR staff on procurement procedures. The detailed design consultant ^a will support procurement, and a full-time financial expert will support DOR in ensuring proper financial management and audit during the project implementation period. A document archive system will be established to maintain project-related records.

ADB = Asian Development Bank, DOR = Department of Roads.

^a ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to Nepal for the Transport Project Preparatory Facility*. Manila (Grant 0227-NEP).

Source: Asian Development Bank.

IV. ASSURANCES

32. The government and the MOPIT have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

33. The government and the MOPIT have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement.

²⁸ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

V. RECOMMENDATION

34. I am satisfied that the proposed loan will comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan in various currencies equivalent to SDR133,826,000 to Nepal for the South Asia Subregional Economic Cooperation Roads Improvement Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

19 October 2016

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with			
Transport connectivity within Nepal and with neighboring countries enhanced (Fourteenth Plan [FY2017–2019]) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Road transport system improved	By 2023 a. Average travel time along project roads reduced by 25% (2016 baseline: 1.2 minutes per km) b. 1,890,000 km of average daily vehicle-kilometers in the first full year of operation achieved (2016 baseline: 1,330,000 km) c. Road signage meets the requirements of the road safety audit upon project completion	a–c. Post-implementation measurement and traffic survey by DOR	Inability of the government to provide counterpart funds on time.
Outputs 1. Road network rehabilitated and upgraded	By 2022 1a. 160 km of roads is completed with road safety features friendly to elderly people, women, children, and people with disabilities at appropriate locations ^b 1b. Conduct awareness-raising sessions on preventive human trafficking to 2,000 communities (including 50% women) and HIV/AIDS and STIs to 500 communities (including 40% women) 1c. 30% women participation in the tree plantation program	1a–c. Monitoring reports and PCR by DOR	Implementation delayed by extreme weather conditions
2. Road safety and maintenance improved	By 2022 2a. Road accident emergency response system installed in selected road section 2b. Road safety measures installed, such as signs and rumble strips, to protect	2a–d. Post-implementation survey by DOR	Changes in DOR management

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>targeted populations, including women and girls</p> <p>2c. Conduct road safety awareness campaigns to 3,000 communities (including 40% women)</p> <p>2d. 5-year performance-based road maintenance contract implemented</p>		
<p>Key Activities with Milestones</p> <p>Output 1: Road network rehabilitated and upgraded</p> <p>1.1 Award contract and mobilize construction supervision consultant by Q1 2017</p> <p>1.2 Award contracts for the upgrade of 160 km of roads by Q1 2017</p> <p>1.3 Complete construction by Q3 2020</p> <p>Output 2: Road safety and maintenance improved</p> <p>2.1 Conduct road safety audit by Q1 2020</p> <p>2.2 Implement road accident emergency response system by Q4 2020</p> <p>2.3 Start implementation of performance-based maintenance contracts under the project by Q3 2020</p>			
<p>Inputs</p> <p>ADB: \$186.80 million (loan)</p> <p>Government: \$69.70 million</p>			
<p>Assumptions for Partner Financing</p> <p>Not Applicable</p>			

ADB = Asian Development Bank, DOR = Department of Roads, km = kilometer, PCR = project completion report, Q = quarter, STI = sexually transmitted infection.

^a Government of Nepal, National Planning Commission. 2016. *An Approach Paper of Fourteenth Plan (FY2017–2019)*. Kathmandu.

^b Features include well-marked crossings, safety signage, and pedestrian walkways.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=48337-002-3>

1. Loan Agreement
2. Sector Assessment (Summary): Road Transport
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Economic and Financial Analysis
7. Country Economic Indicators
8. Summary Poverty Reduction and Social Strategy
9. Gender Action Plan: Gender Equality and Social Inclusion Action Plan
10. Environmental Impact Assessment
11. Initial Environmental Examination
12. Resettlement Plan: Narayanghat–Butwal Road
13. Resettlement Plan: Bhairahawa–Lumbini–Taulihawa Road
14. Risk Assessment and Risk Management Plan

Supplementary Documents

15. Regional Cooperation and Integration
16. Project Climate Risk Assessment and Management Report