



Report and Recommendation of the President to the Board of Directors

Project Number: 47270-001
October 2014

Proposed Loan India: Madhya Pradesh District Connectivity Sector Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 19 September 2014)

Currency unit	–	Indian rupee/s (Re/Rs)
Re1.00	=	\$0.01645
\$1.00	=	Rs60.77

ABBREVIATIONS

ADB	–	Asian Development Bank
CSC	–	construction supervision consultant
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
km	–	kilometer
LIBOR	–	London interbank offered rate
m	–	meter
MDR	–	major district road
MPPWD	–	Madhya Pradesh Public Works Department
MPRDC	–	Madhya Pradesh Road Development Corporation
PAM	–	project administration manual
PIU	–	project implementation unit
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies begins on 1 April and ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year starts, e.g., FY2015 begins on 1 April 2015 ends on 31 March 2015.
- (ii) In this report, “\$” refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 47270-001	
Project Name	Madhya Pradesh District Connectivity Sector Project	Department /Division	SARD/SATC
Country Borrower	India	Executing Agency	Government of Madhya Pradesh
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Transport	Road transport (non-urban)		350.00
		Total	350.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	2.42
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	Medium
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Private sector development (PSD)	Public sector goods and services essential for private sector development	Some gender elements (SGE)	✓
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Rural	High
		Urban	Low
6. Risk Categorization:	Complex		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		350.00	
Sovereign Project loan: Ordinary capital resources		350.00	
Cofinancing		0.00	
None		0.00	
Counterpart		150.00	
Government		150.00	
Total		500.00	
9. Effective Development Cooperation			
Use of country procurement systems		No	
Use of country public financial management systems		Yes	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to India for the Madhya Pradesh District Connectivity Sector Project.¹

2. The project will improve about 1600 km of major district roads in the state of Madhya Pradesh, in line with the state's road development plan for 2013-2033. It will involve upgrading major district roads to intermediate lane-width of 5.5 m, or two lane-width of 7 m, depending on traffic requirements, including reconstruction, widening and strengthening culverts and bridges, and maintaining the improved road assets for a period of five years after construction.²

II. THE PROJECT

A. Rationale

3. Madhya Pradesh is the second largest state in India, with an area of about 308,000 square km. It is among the poorer states in the country, with per capita income about 60% of the national average. However, the gross state domestic product grew at a compound annual growth rate of 8.8% during 2005–2013, fostered through a series of development measures.⁴ These include developments on the Delhi–Mumbai Industrial Corridor passing through Madhya Pradesh, 229 notified industrial areas, 19 growth centers, four notified special economic zones, and 12 product-specific industrial parks. With a population of about 72.6 million, agriculture is the mainstay of the state's economy and about 73% of the people live in rural areas. The dispersed nature of industrial development and agricultural production means that the road network is a critical element of the economic infrastructure.

4. The state has a road network of about 127,000 km—4,700 km national highways, 11,000 km state highways, and 20,000 km MDRs. Rural roads make up the balance. The number of registered vehicles has increased by about 10% per year, from about 3 million in 2001 to about 8 million in 2011. Madhya Pradesh Road Development Corporation (MPRDC) projects vehicular growth of more than 7% per year over 2011–2021.⁵ Average daily traffic has also increased. More traffic will need greater road capacity to maintain service levels and better maintenance. MPRDC estimates that more than \$1.2 billion will be required over 2013–2023 to meet investment requirements in the state road sector.⁶

5. The state is close to completing the upgrade of the state highway network with a combination of budgetary allocations, previous Asian Development Bank (ADB) support, and public–private partnerships. However, MDRs have received marginal attention, and major portions still need to be upgraded. The state government of Madhya Pradesh has now commenced improvement of MDRs as a critical part of the state road network, as proposed in Table 1. Even after the proposed assistance from ADB, a significant length of MDRs will need to be improved, for which the government of India is exploring budgetary and bilateral agency financing.

¹ The design and monitoring framework is in Appendix 1.

² The Asian Development Bank (ADB) provided project preparatory technical assistance for TA 8598 IND: Preparing Madhya Pradesh District Connectivity Sector Project.

⁴ Government of Madhya Pradesh, Department of Economics and Statistics. 2013. *Madhya Pradesh Economic Survey, 2012–2013*. Bhopal.

⁵ Government of Madhya Pradesh. 2013. *Development Plan for State Roads in Madhya Pradesh (2013–2033)*. Bhopal.

⁶ Sector Assessment (Summary): Transport (Non-Urban Roads) (accessible from the list of linked documents in Appendix 2).

Table 1: Plan for Improvement of Major District Roads in Madhya Pradesh

<i>Item</i>	<i>Length (km)</i>
Total major district roads in Madhya Pradesh	19,574
Under construction by MPPWD (Under central road fund scheme)	5,398
(Under major district roads scheme)	1,134
Under construction by MPRDC (Under BOT, toll, annuity scheme)	1,992
Total under construction	8,524
Balance to be constructed	11,050
Proposed under the project^a	1,600

BOT = build–operate–transfer, km = kilometer, MPPWD = Madhya Pradesh Public Works Department, MPRDC = Madhya Pradesh Road Development Corporation.

^aThis is estimated and actual figure will depend on detailed cost estimates for each road.

Source: Madhya Pradesh Road Development Corporation.

6. ADB has assisted the state government of Madhya Pradesh with three previous loans for addressing improvements to state highways,⁷ and ADB's loans to the central line ministry for the national rural roads scheme have been used to improve rural roads in the state.⁸ MDRs, which constitute about 20% of the state road network, form a key link between rural roads and state highways, and connect the state at the district level. Across the country, various programs have been undertaken to develop national highways, state roads, and rural roads. However, district roads, which form 20%–30% of the road network, have not had such a planned approach. For ADB, this will be an opportunity to initiate a planned approach for district roads, and will be ADB's first loan for district roads in the country. Developing this network will foster inclusiveness by enabling larger segments of the state's population to better access markets and basic services. The project is consistent with the strategic objective set out in the country partnership strategy, 2013–2017 on development of the state road network focusing on lagging states; and the transport sector objective of increased, more efficient, and sustainable movement of people and goods.⁹ The project is not included in the country operations business plan, 2013–2015.¹⁰ However, the Department of Economic Affairs has requested ADB assistance for the project.

7. **Modality.** The project is prepared as a sector loan, which is well suited for the financial assistance because (i) the project pertains to a number of MDRs distributed across the state; (ii) the state has a sector development plan in place (Development Plan for State Roads in Madhya Pradesh, 2013–2033); and (iii) the state has the institutional capacity to prepare and implement the sector plan and to prepare the individual road packages. MPRDC, set up under ADB technical assistance (TA), is crucial to this capacity.¹¹ MPRDC was incorporated in 2004, and designated a highway authority under the state's highway legislation to develop state highways, MDRs, and other infrastructure.¹² The chief minister of Madhya Pradesh is chair of the board of MPRDC, and the minister for Madhya Pradesh Public Works Department (MPPWD) and the chief secretary of the state are vice–chairs. MPRDC has developed a strong

⁷ ADB. 2002. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Madhya Pradesh State Roads Sector Development Project*. Manila; ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Madhya Pradesh State Roads Sector Project II*. Manila; ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Madhya Pradesh State Roads Project III*. Manila.

⁸ Pradhan Mantri Gram Sadak Yojana is the national rural roads plan.

⁹ ADB. 2013. *Country Partnership Strategy: India, 2013–2017*. Manila

¹⁰ ADB. 2013. *Country Operations Business Plan: India, 2013–2015*. Manila.

¹¹ ADB. 2002. *Technical Assistance to India for Institutional Strengthening and Capacity Building for Madhya Pradesh State Road Sector*. Manila.

¹² Madhya Pradesh *Rajmarg Adhiniyam*, 2004 (Act for State Highways).

managerial and technical team, headed by its managing director. MPRDC has substantive experience from prior ADB loans in project design and implementation.

8. **Sample roads.** Under the sector lending modality, four sample subprojects have been prepared: (i) Chitrangi–Kasar road, (ii) Dabra–Bhitarwar–Harsi road, (iii) Mahua–Chuawahi road, and (iv) Ujjain–Maksi road. These sample roads aggregate to about 188 km, about 11% of proposed road length under the project, for which the project cost is assessed as about \$77 million. The non-sample roads will be selected and approved in line with the criteria and process outlined in the project administration manual (PAM).¹³

9. **Sustainable maintenance.** To ensure better construction quality and better maintenance of the road assets after construction, the project will include a 5-year, performance-based maintenance period adjunct to the construction contract. This will transfer some construction quality risk and maintenance risk to the private sector, and provide better value for money to the users. While this is being done on national and state highway projects in the country, this project is among the first system-wide attempt for MDRs in a state.

10. **Road safety and accident response.** Previous ADB loans have supported MPRDC's efforts to improve road safety and design an accident response system. MPRDC is implementing a geographical information-based, information technology-enabled accident response system in the state. To make the system amenable to the first-response financial needs of accident victims, MPRDC is also proposing to link insurance funds to the accident response system; this linkage will be the first such initiative in the country. MDRs improved under this project will also be covered by the accident response and insurance fund structure.

B. Impact and Outcome

11. The impact of the project will be improved road transport connectivity in the state of Madhya Pradesh. The outcome of the project will be improved road transport efficiency in Madhya Pradesh.

C. Outputs

12. The project outputs will be (i) MDRs reconstructed and rehabilitated to all-weather standards and designed for road safety; and (ii) improved road maintenance and asset management. About 1,600 km of MDRs will be reconstructed and rehabilitated to an intermediate lane width of 5.5 m, or two-lane width of 7.0 m, depending on traffic requirements. Contracts will include 5-year performance-based maintenance obligations. MDRs under the project will be integrated into the accident response system being developed by MPRDC.

D. Investment and Financing Plans

13. The project is estimated to cost \$500 million (Table 2). Detailed cost estimates by financier and by year are included in the PAM.

¹³ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 2: Project Investment Plan

		(\$ million)
	Item	Amount ^a
A.	Base Cost ^b	
	Investment component ^c	425.00
B.	Contingencies ^d	55.00
C.	Financing Charges during Implementation ^e	20.00
	Total (A + B + C)	500.00

^a ADB financing includes part of taxes and duties of about \$15 million, which is 3% of project cost, and is not considered excessive.

^b In March 2014 prices.

^c Of which \$406 million is for physical infrastructure and \$19 million for consultancy and project management.

^d Physical contingencies computed at 6% for civil works; price contingencies at 2.5% of foreign exchange costs and 8% of local currency costs, including provision for fluctuations in the purchasing power parity exchange rate if this rate is used.

^e Includes interest and commitment charges. Interest during construction for the ADB loan(s) is computed at the 5-year forward London interbank offered rate plus a spread of 0.5% and maturity premium of 0.10%. Commitment charges for an ADB loan are 0.15% per year on the undisbursed loan amount.

Source: Asian Development Bank estimates.

14. The government of India has requested a loan of \$350,000,000 from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the loan agreement and project agreement. The government of India has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility on the basis of these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The government of India has requested that repayment follow the equal repayment option. Based on the above loan terms and repayment option, the average loan maturity is 15.25 years and the maturity premium payable to ADB is 0.10% per annum.

15. The financing plan is in Table 3. The ADB loan will finance 70% of the project cost. This is considered acceptable, taking into account that the state government of Madhya Pradesh has allocated counterpart financing for 30% of the cost. By including more roads in the loan, the benefits will be spread into more areas of the state.

Table 3: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	350	70
Government (state government of Madhya Pradesh)	150	30
Total	500	100

Sources: Government of Madhya Pradesh and Asian Development Bank estimates.

E. Implementation Arrangements

16. The executing agency for the project will be the state government of Madhya Pradesh acting through MPRDC. MPRDC will implement the project through its field offices at key locations, which will be responsible for day-to-day project implementation and management, and will assign staff to work on the project. One or two full-time project managers will be assigned for each contract package. The project managers will be delegated adequate technical and administrative authority for expeditious project implementation. MPRDC will engage

construction supervision consultants as the engineers for the construction contracts. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). All consultants will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

17. The implementation arrangements are summarized in Table 4 and described in detail in the PAM.

Table 4: Implementation Arrangements

Aspects	Arrangements		
Implementation period	November 2014–April 2018		
Estimated completion date	30 April 2018		
Management			
(i) Executing agency	Government of Madhya Pradesh, acting through MPRDC		
(ii) Implementation unit	10 project implementation units of MPRDC at Bhopal, Gwalior (2), Indore (2), Jabalpur, Rewa (2), Sagar, and Ujjain. Each unit headed by a divisional manager, with support staff. Total of 28 full-time staff assigned to the project, plus oversight and control from MPRDC headquarters at Bhopal.		
Procurement	International competitive bidding	18 contracts	\$10,000,000 to \$40,000,000 each
Consulting services	Quality- and cost-based selection; full technical proposal	About 4,800 person-months	\$16,000,000 (total, in three packages)
Retroactive financing and/or advance contracting	Works and consulting services		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government of India and ADB.		

MPRDC = Madhya Pradesh Road Development Corporation.

Source: Asian Development Bank.

18. ADB approved advance contracting of civil works in December 2013. During project preparation, MPRDC's procurement activities for the sample roads were well advanced. Based on this, the government of India requested retroactive financing for all project components. Up to 20% of the loan proceeds will be eligible for retroactive financing, provided that expenditures are incurred on works, equipment, and consulting services for the project in accordance with agreed procedures and during the 12 months before the signing of the loan agreement. The government of India and MPRDC have been informed that approval of advance contracting and retroactive financing does not in any way commit ADB to finance the project.

III. DUE DILIGENCE

A. Technical

19. The project was prepared with the enhanced capacity of MPRDC, gained through the three previous ADB loans and TA provided for capacity building. MPRDC engaged consultants with its own funds to prepare detailed design documents for roads proposed for ADB financing, incorporating ADB requirements of economic, social, and environmental studies into the consultants' terms of reference. ADB engaged a consultant firm under project preparatory TA to conduct due diligence to ensure the consultants' work complies with ADB requirements. The engineering design was prepared to avoid or minimize land acquisition as well as social and environmental impacts, take road safety into account, and minimize climate change risks. In addition, advance actions have been taken to ensure the construction can commence early. All of these measures have improved project readiness and will mitigate the risk of delay.

B. Economic and Financial

20. The economic evaluation of the project followed the standard practice of comparing life cycle road and user costs with and without the project, using the net present value with a 12% discount rate and economic internal rate of return (EIRR) as decision criteria. The highway development and management system was used in the analysis, which focused on transport cost savings. Value added from better transport links, resulting in new industries and employment, are captured through benefits from generated traffic.

21. The EIRR for the sample roads evaluated is 15.6% for the Chitrangi–Kasar Road, 17.6% for the Mahua–Chuwahi Road, 23.0% for the Dabra–Bhitarwar–Harsi Road, and 21.9% for the Ujjain–Maksi Road. Overall, sample roads have an EIRR that satisfies the economic efficiency criteria. The sensitivity of the EIRR for the sample project roads was analyzed with respect to changes in the benefit and cost streams. The following sensitivity cases were examined: (i) construction costs increased by 10%, (ii) vehicle operating cost and travel time savings reduced by 10%, (iii) construction cost increased by 10% and vehicle operating cost and travel time savings reduced by 10%, and (iv) a 1-year delay in project commencement. The results show the quantified economic benefits are robust to various sensitivity tests. All selected roads have an EIRR above 12% in all sensitivity tests.

22. **Financial sustainability.** Incremental recurrent costs associated with the project are estimated to be 0.80% of the current maintenance budget of MPRDC and 0.03% of the overall MPPWD maintenance budget on an annual basis. The allocation for the annual average road maintenance budget for 2010–2013 was Rs179 million for MPRDC and Rs4,113 million for MPPWD. It is reasonable to expect that funds will be available to meet the maintenance costs.

C. Governance

23. **Institutional capacity.** The executing agency, MPRDC, was incorporated in 2004 under the Companies Act, 1956, and is an entity wholly owned by the state government of Madhya Pradesh. MPRDC's board includes the highest levels of political and administrative officers in the state. It has 10 divisional offices across the state. MPRDC has been the implementing agency for three prior ADB loans and is familiar with ADB procedures. It also manages many public–private partnership projects and has strong institutional capacity.

24. **Financial management.** An assessment of MPRDC's accounting systems, financial reporting, and external audit procedures concluded that the capacity of MPRDC is adequate in project financial accounting and in ADB disbursement procedures due to significant prior experience with ADB-funded projects. MPRDC follows double-entry accrual-based accounting and prepares financial statements in accordance with Indian accounting standards. MPRDC will maintain separate project accounts and records by funding source for all expenditures incurred on the project. Project accounts will follow accounting principles and practices prescribed by the accounting laws and regulations of the government of India. Internal audit is carried out by a firm of chartered accountants appointed by MPRDC. External audit is conducted by independent auditors from the panel of auditors appointed by the comptroller and auditor general in accordance with auditing standards issued by the government of India.

25. **Procurement.** MPRDC has extensive experience of procurement and consultant recruitment for ADB projects, as well as use of various forms of public–private partnership for road projects. Goods and works will be procured according to ADB's Procurement Guidelines. All civil works will be procured through international competitive bidding. All consulting firms will

be recruited in accordance with ADB's Guidelines on the Use of Consultants using quality- and cost-based selection, with a quality–cost ratio of 80:20. MPRDC has prepared the bid documents and commenced procurement for the first four works contracts and for recruitment of the supervision consultants for the project as part of advance action. The procurement plan for the project is in the PAM.

26. **Anticorruption.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government of India and MPRDC. The specific policy requirements and supplementary measures are described in the PAM.

D. Poverty and Social

27. Madhya Pradesh encompasses an area of about 308,000 square kilometers—the second largest state in India. It is one of the less developed states in India, with a human development index of 0.375 in 2011, which is well below the national average.¹⁴ Agriculture is the main sector in the local economy. A social impact assessment found that the poor road conditions were preventing safe and reliable travel, especially during the rainy season. Improved roads will increase new economic and employment opportunities by improving linkages to commercial facilities. Rural communities will benefit by having faster and more reliable transport of their produce to markets and by receiving higher profit margins. Access to public and social service facilities (such as government agencies, health centers, and schools) will also be improved. Project beneficiaries include local residents, road users, businesses, commercial services, and government workers. The project roads cover 29 districts in the state. About 48 million residents live in the project districts. Provisions are in the bidding documents for the civil works contracts to comply with core labor standards.¹⁵

28. **Gender.** The gender indicators for Madhya Pradesh are low at 930 females per 1,000 males. The state has a lower sex ratio than the national average of 940, which is low in international comparison.¹⁵ During the social study, 17 women-only focus group discussions were held. The discussions revealed that women are not actively engaged in family and community decision-making processes. Women indicated that poor road conditions were preventing safe and reliable travel. Improved road conditions are expected to provide (i) better access to health services, higher levels of education, and social interactions; and (ii) better public and private transport options. Gender-sensitive features include (i) integrating road safety features for the elderly, women, children, and people with disabilities into road design such as proper signage, marked crossings, and pedestrian paths at appropriate locations; (ii) giving preference to employing local women and vulnerable groups for road maintenance during the 5-year maintenance period, and ensuring that provisions for equal wages for equal work done by both male and female skilled and unskilled labor in project works are in the bidding documents; (iii) providing training to all staff employed in routine road maintenance, which will generate about 146 person-years of employment; (iv) appointing a social and gender focal person at MPRDC and project implementation unit (PIU) level; and (v) building the capacity of MPRDC staff on gender-inclusive design and mainstreaming gender in project preparation, consultation, road construction, and maintenance.

¹⁴ Government of India, Planning Commission. 2011. *India Human Development Report (Towards Social Inclusion)*. Delhi.

¹⁵ Government of India. 2011. *Census 2011*. Delhi.

29. **HIV/AIDS.** The adult HIV prevalence in India is 0.27% as of 2011. New infections declined 57% from 2000 to 2011, and AIDS-related deaths dropped 29% from 2007 to 2011.¹⁶ According to India's National AIDS Control Organisation, HIV infection is typically concentrated among the poor and marginalized groups (including such high-risk groups as sex workers, drug users, migrant laborers, and truck drivers). Madhya Pradesh is a low-prevalence state. Based on the poverty and social assessment, the project will not increase HIV/AIDS incidence as all improved roads will be along the existing corridor. Contractors will carry out HIV/AIDS awareness for laborers at work sites, monitored by the construction supervision consultants.

E. Safeguards

30. **Involuntary resettlement.** The project is categorized B according to ADB's Safeguard Policy Statement (2009). The project was developed with a view to avoid land acquisition and involuntary resettlement by adopting the most feasible technical design. The proposed improvement of roads will occur within the existing right-of-way. For sample subprojects, meaningful consultation and information disclosure were undertaken during preparation. No land acquisition is envisaged, but 34 roadside vendors will experience temporary disruption to their livelihoods during construction. A due diligence report has been prepared for the sample subprojects. The sample subprojects are representative of the kinds of impact likely to be encountered in non-sample roads. For the sector project, a resettlement framework has been prepared in accordance with the acts and policies of the government of India, and ADB's Safeguard Policy Statement. The framework will guide the screening and planning for all subsequent subprojects that have resettlement impacts. Displaced persons, if any, will be compensated at replacement cost; and rates for different categories of loss and special assistance are detailed in the framework. If any changes or additional land requirements or involuntary resettlement impacts are identified during implementation, a resettlement plan will be prepared or updated. ADB's prior approval will be obtained before further implementation of the relevant section of the subproject. MPRDC is experienced in implementing ADB projects. At the MPRDC level, two dedicated staff will oversee the project; and at the implementation level, each of the 10 PIUs of MPRDC will have a social safeguard focal person.

31. **Indigenous people.** The project is categorized C in accordance with ADB's Safeguard Policy Statement. Madhya Pradesh has a significant tribal population, which constitutes more than one-fifth of its total population. The state is home to 46 "scheduled tribes."¹⁷ The tribal population is largely concentrated in and around the forest area. All project roads will be improved within the existing alignment and no greenfield construction will take place. The poverty and social assessment survey confirmed that the socioeconomic impacts will not differ between tribal groups and non-tribal groups. Subprojects with impacts on indigenous peoples will not be financed. An indigenous peoples planning framework has been prepared to guide screening of the impact of non-sample subprojects.

32. **Environmental impact.** The scope of works under the sample subprojects involves improvement and maintenance of existing MDRs. Adequate right-of-way is available for all the sample subprojects and no significant, long-term, or irreversible environmental impacts are expected. Therefore, the sample subprojects have been categorized B in accordance with ADB's Safeguard Policy Statement. Initial environmental examination reports have been prepared for each of the four sample subprojects in accordance with ADB's Safeguard Policy

¹⁶ Government of India, Ministry of Health and Family Welfare. 2011. *National AIDS Control Organisation Annual Report 2011*. Delhi.

¹⁷ Tribes or tribal communities recognized under the Constitution of India through applicable legislation.

Statement, and will be disclosed on the ADB website. An environmental assessment and review framework has been prepared to guide compliance with environment safeguard requirements under the Ministry of Environment and Forests of the Government of India as well as the Safeguard Policy Statement for the non-sample subprojects, and will be disclosed on the ADB website. According to the environmental assessment and review framework, no category A subprojects will be included under the project. Anticipated environmental impacts under the sample subprojects during construction entail typical road construction-related issues such as generation of dust, noise, exhaust, waste from construction and worker camps, water contamination, occupational health and safety, erosion, and siltation. Potential operational impacts such as noise, pollution, and safety issues caused by increased traffic are expected to be insignificant. Mitigation measures to address all construction and operation-related impacts have been included in the environmental management plan (EMP) prepared as part of the initial environmental examination. The EMP will form part of the bidding documents and be mandatory for implementation by the contractor. Meaningful consultations have been conducted during the project preparation stage, and all concerns of the affected persons and stakeholders have been incorporated in the initial environmental examination and EMP. A grievance redress mechanism has been established to continue receiving feedback and complaints, if any, from affected parties and addressing them during the construction and operation stages.

33. MPRDC has implemented three ADB projects since 2002, so it is well versed with ADB safeguard requirements. However, the environment and social cell within MPRDC has only one dedicated officer to manage both environment and social safeguards. Hence, the staffing of the cell will be increased by one additional environment safeguards expert and two social safeguards experts, bringing the total number of staff to four. At the site level, the respective divisional office of MPRDC will be the PIU. The four sample subprojects will have a total of three PIUs. Each PIU will have one focal person for managing environment and social safeguards. The environment and social cell at MPRDC and safeguards focal person at the PIU will be supported by an environmental specialist under the construction supervision consultant (CSC) for regular monitoring and reporting on EMP implementation. An initial coordination-cum-training workshop will be carried out by ADB and the CSC environmental specialist during the pre-construction stage for MPRDC staff, other CSC staff, and the contractors. Further training will be conducted during the construction stages as necessary.

F. Risks and Mitigating Measures

34. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.¹⁸ The assessment indicates that the overall risk assessment considering the management measures is low, and the integrated benefits and impacts are expected to outweigh the costs.

Table 5: Summary Risks and Mitigating Measures

Risks	Mitigating Measures
Initial delays in project implementation	MPRDC has prepared the detailed design for the four sample roads, and has completed safeguard related surveys and reviews. Detailed project reports (DPRs) for the non-sample roads are also progressing well, and are expected to be completed by November 2014. For sample roads, consultant recruitment for construction supervision and procurement for works contracts has been initiated, and in progress. Procurement actions for non-sample roads will commence in November 2014. Project designs have been prepared to minimize land acquisition. However, because of the large number of

¹⁸ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
	non-sample roads, the risk after mitigation is still medium.
Sustainability of road maintenance	Engineers and construction supervision consultants will be engaged for quality checks in accordance with contracts. ADB will undertake frequent review missions to ensure timely undertaking and quality of contracts. Ten project implementation units are envisaged, distributed around the state near work sites. These units will be supported by three separate firms of construction supervision consultants. The introduction of 5-year performance-based maintenance in works contracts will substantially increase contractor accountability for construction quality. Despite these steps, quality control and checking will be an activity that is best addressed by field staff. The roads are dispersed geographically throughout this large state. Therefore, the level of risk after mitigation is still medium.

ADB = Asian Development Bank, MPRDC = Madhya Pradesh Road Development Corporation.

Source: Asian Development Bank.

IV. ASSURANCES

35. The Government of India, state government of Madhya Pradesh, and MPRDC 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 project administration manual and loan documents

36. The Government of India, state government of Madhya Pradesh, and MPRDC have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

V. RECOMMENDATION

37. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of \$350,000,000 to India for the Madhya Pradesh District Connectivity Sector Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

28 October 2014

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact</p> <p>Improved road transport connectivity in the state of Madhya Pradesh</p>	<p>By 2024</p> <p>Inter-district connectivity with high standard of road network (standard lane width MDRs) increased to 55%, from 35% of the total length of MDRs in the state in 2013</p>	<p>Post-implementation reports published by MPRDC</p>	<p>Assumption</p> <p>Road improvement remains a priority for state government of Madhya Pradesh</p> <p>Risk</p> <p>Funding sources from state government of Madhya Pradesh, beyond the project, are not available.</p>
<p>Outcome</p> <p>Improved road transport efficiency in Madhya Pradesh</p>	<p>By 2018 (for all indicators)</p> <p>Movement of people and goods on roads rehabilitated (measured by the average daily vehicle-km in the first full year after completion of the project) increased to 2,465,000 from 1,586,000 in 2013</p> <p>Average travel time on the project roads reduced by 25% from 2.49 minutes per km in 2013, as indicated in the detailed project reports</p> <p>Vehicle operating cost (economic) on the project roads reduced by 25% from Rs9.13 per km in the case of cars and Rs23.80 in the case of medium trucks in 2013, as indicated in the detailed project reports</p> <p>Fatal road accidents on an annual basis on the project roads reduced to less than 25 from 30 in 2013</p>	<p>Post-implementation measurement by MPRDC</p> <p>Post-implementation measurement by MPRDC</p> <p>Post-implementation measurement by MPRDC</p> <p>Data collated from police jurisdictions by MPRDC</p>	<p>Assumptions</p> <p>Sustainable mechanisms are in place for funding the required road maintenance works.</p> <p>Traffic measures are enforced by local police.</p> <p>Risk</p> <p>Severe economic reversals are encountered in the state.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Outputs</p> <p>1. Major district roads reconstructed and rehabilitated to all-weather standards and designed for road safety</p>	<p>By 2018</p> <p>About 1,600 km of MDRs reconstructed and rehabilitated, with road safety features at appropriate locations for the elderly, women, children, and people with disabilities ^a</p> <p>About 1,600 km of MDRs under the project integrated into the accident response system being developed by MPRDC</p>	<p>Progress reports by MPRDC</p> <p>Progress reports by MPRDC</p>	<p>Assumption</p> <p>No major turnover in responsible MPRDC staff during implementation</p>
<p>2. Improved road maintenance and asset management</p>	<p>By 2018</p> <p>PPP contracts with 5-year performance-based maintenance adopted for all MDRs under the project</p> <p>Financial framework for proper maintenance of roads approved by the state government of Madhya Pradesh</p>	<p>Awarded PPP contracts</p> <p>Financial framework</p>	
<p>Activities with Milestones</p> <p>Output 1: Major district roads reconstructed and rehabilitated to all-weather standards and designed for road safety</p> <p>1.1 Prepare safeguard documents: Resettlement plan, environmental impact assessment, and initial environmental examination completed for sample roads by Q2 2014 and non-sample roads by Q4 2014.</p> <p>1.2 Award and mobilize construction supervision consultant by Q4 2014.</p> <p>1.3 Award contracts for reconstruction and rehabilitation of about 1,600 km of roads by Q1 2015 and complete construction by Q2 2018.</p> <p>1.4 MDRs under the project designed for road safety and integrated into the accident response system developed by MPRDC by Q2 2018.</p> <p>1.5 Conduct post-implementation measurement of indicators by MPRDC by Q4 2019.</p> <p>Output 2: Improved road maintenance and asset management</p> <p>2.1 Award PPP contracts for MDRs under the project by 2018.</p> <p>2.2 Financial framework for proper maintenance of roads operational by 2019.</p>		<p>Inputs</p> <p>Loan</p> <p>ADB: \$350,000,000</p> <p>Government of Madhya Pradesh: \$150,000,000</p>	

ADB = Asian Development Bank, km = kilometer, MDR = major district road, MPRDC = Madhya Pradesh Road Development Corporation, PPP = public-private partnership, Q = quarter.

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

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://adb.org/Documents/RRPs/?id=47270-001-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Road Transport (Non-Urban)
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Environmental Assessment and Review Framework
11. Initial Environmental Examination: Chitrangi–Kasar Road
12. Initial Environmental Examination: Dabra–Bhitarwar Road
13. Initial Environmental Examination: Mahua–Chuwahi Road
14. Initial Environmental Examination: Ujjain–Maksi Road
15. Resettlement Framework
16. Indigenous Peoples Planning Framework
17. Risk Assessment and Risk Management Plan

Supplementary Documents

18. Due Diligence Report on Social Safeguard
19. Project Climate Risk Assessment
20. Financial Management Assessment
21. Procurement Capacity Assessment