



# Report and Recommendation of the President to the Board of Directors

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Project Number: 37328  
May 2007

Proposed Loan and Technical Assistance Grant  
India: Madhya Pradesh State Roads Sector Project II

Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 1 May 2007)

Currency Unit	–	Indian rupee/s (Re/Rs)
Re1.00	=	\$0.0243
\$1.00	=	Rs41.1900

## ABBREVIATIONS

ADB	–	Asian Development Bank
BOT	–	build-operate-transfer
DGM	–	deputy general manager
EARF	–	environmental assessment review framework
EIA	–	environmental impact assessment
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
GOMP	–	government of Madhya Pradesh
ICB	–	international competitive bidding
IEE	–	initial environmental examination
IPDP	–	indigenous peoples development plan
km	–	kilometer
LIBOR	–	London interbank offered rate
MDR	–	major district road
MOSRTH	–	Ministry of Shipping, Road Transport and Highways
MPPWD	–	Madhya Pradesh Public Works Department
MPRDC	–	Madhya Pradesh Road Development Corporation
MPSRSDP	–	Madhya Pradesh State Roads Sector Development Program
NCB	–	national competitive bidding
TA	–	technical assistance

## NOTES

- (i) The fiscal year (FY) of the Government of India ends on 31 March.
- (ii) In this report, "\$" refers to US dollars.

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## LOAN AND PROJECT SUMMARY

<b>Borrower</b>	India
<b>Classification</b>	Targeting classification: General intervention Sector: Transport and communications Subsector: Roads and highways Themes: Sustainable economic growth, capacity development Subtheme: Fostering physical infrastructure development
<b>Environment Assessment</b>	Category B An initial environmental examination was undertaken for the sample road, and one will be prepared for each subsequent subproject as a requirement for subproject approval.
<b>Project Description</b>	<p>The Project will rehabilitate and reconstruct about 1,800 kilometers (km) of state roads identified under the state road rehabilitation program. Consulting services will be provided to support implementation of the civil works. Road improvement works under the Project include rehabilitating and improving existing roads, strengthening existing culverts and bridges, and constructing new bridges and cross-drainage structures.</p> <p>The Project will also enhance overall sector management capacity by providing (i) equipment for the government of Madhya Pradesh (GOMP) to enhance sector capacity such as road safety and control of overloading; and (ii) technical assistance (TA) to support GOMP sector development initiatives, especially for reform and capacity building of the Madhya Pradesh Public Works Department (MPPWD), including (a) enhancing planning capacity, (b) improving business processes, (c) improving human resources management, and (d) increasing private sector participation.</p>
<b>Rationale</b>	<p>The state road network requires improvement in terms of coverage and conditions. About half of the state roads are assessed to have deteriorated severely and require major rehabilitation largely because of the continuous shortfall in investment on road maintenance until recently, and increasing volume of traffic and loads. The rehabilitation of 1,800 km of state roads under the Project will help complete the strategically important state road network and help meet the increased demands of road transport.</p>

MPPWD is in charge of overall sector development and management. However, it lacks modern project management and procurement systems, which often leads to cost and time overruns in project delivery. For efficient and effective road asset development and management covering all categories of roads, the overall capacity of MPPWD must be enhanced. The Madhya Pradesh Road Development Corporation (MPRDC) was established in line with a comprehensive reform under the Madhya Pradesh State Roads Sector Development Program to efficiently implement projects of strategically important state roads by adopting modern systems in its business processes. Improvements to road safety and control of overloading are also required for the safe and efficient use of road assets.

<b>Impact and Outcome</b>	The Project will improve transport efficiency of the state road network, which will contribute to expansion of economic opportunities and poverty reduction. This will be realized by (i) improving the state road network, (ii) facilitating safe and appropriate road usage, (iii) increasing efficiency of transport services, and (iv) enhancing GOMP capacity for road asset development and management. Improved roads will improve accessibility to social services and markets, and enhance the efficiency of road transport usage. With the central location of the state in the country, the Project will improve transport efficiency for the rest of India.
<b>Project Investment Plan</b>	The investment cost of the Project is estimated at \$400 million, including taxes and duties.
<b>Financing Plan</b>	A loan of \$320,000,000 from the ordinary capital resources of the Asian Development Bank (ADB) will be provided under ADB's London interbank offered rate (LIBOR)-based lending facility. The loan will have a 25-year term including a grace period of 5 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.35% per annum, and such other terms and conditions set forth in the draft loan and project agreements.
<b>Allocation and Relending Terms</b>	The Government will provide the loan proceeds in local currency to GOMP on the same terms and conditions as received from ADB. GOMP will bear the foreign exchange risk on the loan.
<b>Period of Utilization</b>	Until 31 December 2010
<b>Estimated Project Completion Date</b>	30 June 2010
<b>Executing Agency</b>	GOMP acting through MPRDC

**Implementation Arrangements**

The chief engineer at MPRDC headquarters will be designated as the “project in charge” for project implementation. Seven project implementation units, each headed by a divisional manager, will be responsible for project implementation in the field. One or two full-time project managers will be assigned for each contract package. The divisional managers will be delegated adequate technical and administrative authority for expeditious project implementation. Construction supervision consultants engaged by MPRDC will act as the engineer for construction contracts.

**Procurement**

Procurement under the Project will be carried out in accordance with ADB’s *Procurement Guidelines* (2006, as amended from time to time) and the Government’s tender procedures acceptable to ADB. The civil works contracts will be procured under international competitive bidding. The Project will provide \$1 million for equipment to be procured using national competitive bidding procedures if the estimated contract is valued from \$0.1 million to \$1 million, and shopping if the estimated contract amount is less than \$0.1 million.

**Consulting Services**

Two international consulting firms will be recruited for construction supervision of civil works under the Project. MPRDC will select and engage the consultants in accordance with ADB’s *Guidelines on the Use of Consultants* (2006, as amended from time to time). About 56 person-months of international consultants and 1,758 person-months of national consultants will be required.

**Project Benefits and Beneficiaries**

The improved state road network management through the sector development program and the TA, and improved road network under the Project will enhance the overall road condition and usability, thus increasing travel speeds and reducing travel time, accidents, and overloading. The Project will also enhance MPPWD’s capacity for road asset development and management, which will improve governance in road administration and accountability, and create an environment that encourages competition and efficiency within MPPWD and in the construction industry. This will ensure more efficient road asset development and management, and higher quality of construction and maintenance, resulting in decreased recurrent costs over the medium and long term. These will lead to overall social and economic development in Madhya Pradesh.

Poverty incidence is significantly higher in Madhya Pradesh than in India overall. The Project will improve access to socioeconomic services, increase employment opportunities, and improve means of transport services, which will in turn reduce poverty in the region, and stimulate economic growth and human development in the state. Improved mobility will provide households with better paying jobs outside of their villages.

**Risks and Assumptions**

The risk of initial delays has already been mitigated through MPRDC's advance actions and TA provided by ADB. Training on safeguard requirements has been provided to MPRDC staff to mitigate the potential risk of initial delays due to procedural clearance. The TA provides support to due diligence for subproject approval. Frameworks for safeguarding social and environmental impacts have been set up so that network development will be ensured while minimizing or nullifying negative impacts on land acquisition, involuntary resettlement, and social and environmental aspects.

The sector reform agenda reflects the context of the state of Madhya Pradesh in the institutional development action plan by taking into account the rather short-term project duration, actions taken by GOMP, and the recent GOMP policy recommendations.

The risk of an inefficient and ineffective maintenance budget will be mitigated by implementing budget monitoring systems for full utilization and road management systems for better planning and budgeting through the TA. GOMP has increased its maintenance budget, which substantially covers the requirement since the current fiscal year 2006/07 especially due to provision of the Government of India's grant-in-aide under the 12th Finance Commission.

**Technical Assistance**

In conjunction with the Project, TA will be provided to support GOMP's sector development initiatives. MPPWD will be equipped with (i) norm-based planning and budgeting, (ii) improved business practices, and (iii) improved human resources management. An alternative realigned structure of the state's road sector institutions will be proposed for long-term road sector reform. The estimated cost of the TA is \$1,250,000, of which ADB will finance \$1,000,000 on a grant basis from the Japan Special Fund, funded by the Government of Japan. The TA consultants will be recruited in accordance with ADB's *Guidelines on the Use of Consultants*.



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to India for the Madhya Pradesh State Roads Sector Project II. The report also describes proposed technical assistance (TA) for Institutional Strengthening of Madhya Pradesh Public Works Department, and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, will approve the TA.

## II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

### A. Performance Indicators and Analysis

2. The state of Madhya Pradesh is located in center of India. Traffic from the surrounding states passes through the state using the road and rail networks. Railways connecting north–south and east–west regions of India pass through Madhya Pradesh with a total length of about 5,900 kilometers (km). However, due to the state's vast area, the railway services cannot provide the desired connectivity to major economic zones and centers. The railway network traversing the state serves the needs of cross-country traffic more than those of Madhya Pradesh. In total, 11 major districts in the state have little rail service. Civil aviation, ports, and inland waterways have a very limited role in the state's overall economy and transport services. As a result, roads are the predominant mode of transport.

3. Madhya Pradesh has 72,000 km of roads, of which 60,000 km are surfaced. It has 4,286 km of national highways, 8,728 km of state highways, 10,817 km of major district roads (MDRs), and 48,590 km of other district roads (ODRs)/village roads. The road network is 75 km/100 square km (km<sup>2</sup>) in the country, and 45 in Madhya Pradesh. Surfaced roads, e.g., black-topped or bitumen, cement, or water-bound macadam, comprise 21.4 km/100 km<sup>2</sup> in the country and 8.4 in Madhya Pradesh. Most roads (85%) are surfaced; most (98%) unsurfaced roads such as gravel and earthen roads are in the ODR/village road category. Only 8% of state highways have two or more lanes, 52% are single lane; 90% of MDRs are single lane. All the ODRs/village roads are single lane. About half of the roads in each category of national highways, state highways, and MDRs, and 80% of ODRs/village roads are assessed to have deteriorated severely and require major rehabilitation largely because of continuous shortfall in investment on road maintenance until recently, and increasing volume of traffic and loads. Increasing and improving the existing highway network in the state by widening existing carriageways, and strengthening and constructing or reconstructing bridges and culverts is required.

4. Madhya Pradesh Public Works Department (MPPWD) is responsible for the state road network. The Government of India's (the Government) Ministry of Shipping, Road Transport, and Highways (MOSRTH) administers national highways, but delegates development and maintenance of these roads to MPPWD. MPPWD's district administrations manage most ODRs and village roads. In addition, the Madhya Pradesh Rural Roads Development Authority is responsible for developing ODRs/village roads, which are funded through a special scheme initiated by the Government (Pradhan Mantri Gram Sadak Yojana or PMGSY). For the state road network, the Madhya Pradesh Road Development Corporation (MPRDC) develops and manages strategically important roads including all state highways and some national highways delegated by MOSRTH and MDRs delegated by MPPWD. MPRDC also implements all build-operate-transfer (BOT) roads and bridges.

5. MPRDC was established in line with a comprehensive reform under the ADB-funded Madhya Pradesh State Roads Sector Development Program (MPSRSDP).<sup>1</sup> MPRDC was incorporated as a company under the Indian Companies Act, 1956, primarily to take over the functions of the former Madhya Pradesh Rajya Setu Nirman Nigam Limited and to promote public-private partnership projects in the road sector. It is wholly owned by the government of Madhya Pradesh (GOMP) and has been declared and notified as the highway authority under section 4 of the Madhya Pradesh Highway Act, 2004. MPRDC has started functioning as the state highway authority as was envisaged in the reform program.

6. MPRDC is a lean organization: using consultants for project preparation and supervision during delivery periods, adopting modern procurement systems guided by FIDIC<sup>2</sup> conditions, and setting up computerized road asset management and financial management systems. An ADB TA strengthened MPRDC capacity. MPPWD, which implements all other state roads, follows the Public Works Manual designed largely in line with the Central Public Works Department manual. It lacks modern project management and procurement systems, and often experiences cost and time overruns in project delivery.

7. Budgetary expenditure for state roads in 2004/05 was Rs673 crore<sup>3</sup> (\$150 million) against an original budget of Rs886 crore (\$197 million). The extent of underspending was equivalent to 24% of the original budget. In 2005/06, the budget increased by 29% at Rs1,080 crore (\$240 million). The 2006/07 budget has increased further to Rs1,598 crore (\$355 million). However, an increasing proportion of road sector spending is taking place outside the budget, especially on Bond<sup>4</sup>/BOT roads. Reconstruction of more than 900 km of roads is planned under the Bond/BOT scheme by 2007/08 at a total cost of about Rs950 crore (\$211 million). This will bring the total length of Bond/BOT roads throughout the state to 2,000 km.

8. Revenues relating to road use include registration fees, vehicle taxes, passenger taxes, and goods tax were Rs560 crore (\$124 million) in 2005/06, which increased from Rs393 crore (\$87 million) in 2001/02. The average annual increase is 9.4% with a substantial increase of 15% during the last 2 years due to introduction of a smart card system for vehicle registration and tax payment. In addition, road users pay fees at border posts for overloading control; commercial sales taxes such as vehicles, fuel, tires, and spare parts; central road fund share; and tolls to MPPWD and BOT concessionaires. Road users paid approximately Rs340 crore (\$76 million) in 2005/06 to GOMP and the Bond/BOT concessionaires.

9. The Madhya Pradesh Transport Department is responsible for licensing, registration, and regulation of motor vehicles, drivers, and passenger and freight transport. Motor vehicle registration increased from 2.9 million in 2001 to 4.2 million in 2005, which is 9.4% increase per year on average. Of 3.8 million motor vehicles registered, 76% were two wheelers. Of vehicles other than two wheelers, 43% were tractors/trailers, 20% cars and jeeps, 11% commercial trucks, and 2% buses and minibuses. Motor vehicles on roads in Madhya Pradesh increased from 2.6 million in 2001 to 3.9 million in 2005, an average increase of 10.2% per year.

10. The state-owned Madhya Pradesh State Road Transport Corporation, which was responsible for about 3% of the state's buses, is being closed down in a phased manner. A number of government-operated routes have now been released for private sector operation,

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<sup>1</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loans and Technical Assistance Grant to India for the Madhya Pradesh State Roads Sector Development Program*. Manila.

<sup>2</sup> Federation Internationale Des Ingenieurs-Conseils

<sup>3</sup> A crore is equal to Rs10,000,000.

<sup>4</sup> Bonds roads are those financed under the Madhya Pradesh Infrastructure Investment Fund Scheme.

and once the corporation is closed all routes will be released to the private sector. Route permits are given for private operators. GOMP sets fares, which are generally followed. Truck hire rates are fixed by market demand. Competition is good. Private sector operators provide most of the services for passenger and freight transport. Madhya Pradesh Transport Department is also responsible for enforcing axle-load regulations. It has a system of 39 weigh stations at entry points into the state, and mobile squads to carry out its responsibilities. Traffic police, under the Home Department, are responsible for enforcing traffic and road safety regulations.

11. The road accident rate in Madhya Pradesh was 12.4 fatalities per 10,000 vehicles in 2004, decreasing from 13.2 in 2001. The rate now has improved to the national average (12.8 in 2003). However, it is still much higher than in Australia, Europe, Japan, and United States. Accidents are primarily due to driver error, followed by poor mechanical condition of motor vehicles.

12. The design and monitoring framework for the Project is in Appendix 1. Appendix 2 provides more details of the state road sector.

## **B. Analysis of Key Problems and Opportunities**

### **1. Main Sector Issues and Government Initiatives**

13. The state's road network requires improvement in terms of coverage and condition. Demands for road transport are increasing. Insufficient funding for road maintenance has increased the backlog of deferred maintenance. GOMP is now working to reduce the backlog of deferred maintenance as set out in *Refurbishing Roads in Madhya Pradesh*.<sup>5</sup> The state road rehabilitation program is to immediately strengthen and improve the state road network by 2009/10.

14. GOMP also takes on sector development initiatives under the State Road Policy to develop and sustain the road network in accordance with Indian Roads Congress standards, develop efficient asset management systems, enhance the capacity for effective and efficient road construction, attract private sector financing roads, and ensure high standards of road safety and travel comfort.

#### **a. Reform and Capacity Building in Road Sector Management**

15. Under the MPSRSDP, substantial sector reform was achieved. Major achievements include enactment of the State Highway Act, 2004, and incorporation of MPRDC and its subsequent notification as the highway authority for state highways. MPRDC has adopted best practices of planning and maintenance systems, financial management, and procurement. MPRDC is now regarded as the benchmark for good practices in managing the state highway network. GOMP highly appreciated the contributions made by the TA provided in parallel with the MPSRSDP loan, especially in terms of establishing and building MPRDC capacity. MPPWD intends to adopt relevant MPRDC technologies and practices.

16. GOMP recently provided policy recommendations to improve MPPWD operations, which include development of appropriate road development plans, improvement of MPPWD's business procedures and practices, and human resources management. GOMP recently

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<sup>5</sup> Government of Madhya Pradesh. 2005. *Refurbishing Roads in Madhya Pradesh*. Bhopal.

decided to abolish the letter-of-credit system to streamline administrative procedures for transparent, effective, and efficient use of the allocated budget. MPPWD also initiates enhancement of the planning capacity to prioritize roads for improvement on the basis of economic viability and to prepare condition-based budget allocation for maintenance. Such initiatives include establishment of the Planning Unit at the state center, training of project management skills, and pilot implementation of road management systems in selected districts.

#### **b. Road Maintenance Financing**

17. The nonplan budget has been substantially increased from Rs136 crore to Rs423 crore during the past 5 years (from 2002/03 to 2006/07). The Planning Commission estimates the maintenance requirement as Rs500 crore per annum. The budget allocation since the current fiscal year 2006/07 substantially covers the requirement especially due to provision of the Government's grant-in-aid (about Rs147 crore annually) under the 12th Finance Commission. After GOMP's road improvement program, the budget requirement for maintenance will be increased and is estimated at Rs650 crore annually between 2009/10 and 2014/2015. Revenue relating to road use is estimated at Rs557 crore in 2005/06, increasing by 15% from the previous year, which is absorbed in the general government revenue. GOMP also established an earmarked reserve known as the Kisan Road Fund, which is exclusively used for development and maintenance of state roads. About Rs100 crore to Rs120 crore has been collected every year from a major portion (85%) of one half of market cess levied on agriculture produce since 2001.

18. The primary concern is the efficient and effective utilization of the budget. Due to the strong GOMP initiatives on effective use of gang labor, the increase to maintenance excluding salary and wages is much higher, from Rs56 crore in 2002/03 to Rs296 crore in 2006/07. The share of the salary/wage element in the nonplan budget is reduced from 70% in 2003/04 to 40% in 2006/07 (as of October 2006). This demonstrates GOMP's increased commitment to maintenance and increased efficiency of road maintenance works. GOMP is expected to improve efficiency, e.g., further 30% reduction from the current level of the wage/salary element of maintenance works by the end of the Project. Increased construction quality due to inclusion of 3–5-year performance guarantee in civil works contracts will also increase the efficiency of maintenance works and hence reduce maintenance costs.

#### **c. Private Sector Participation**

19. GOMP took on major initiatives to facilitate road development through public-private partnerships, such as enactment of the Madhya Pradesh Highway Act, 2004, and Indian Tolls (Madhya Pradesh Amendment) Act, 1992. The 1992 amendment of the Indian Tolls Act and the Indian Tolls (Madhya Pradesh Amendment) Act, 1992, empower GOMP to enter into contracts for development of public roads and bridges with private entities, appoint them as lessees for collection of tolls on contracted roads or bridges, and give them protection in the matter of toll collection as if they were employed by GOMP. Currently, MPRDC manages 1,540 km of roads under the BOT scheme. An additional 640 km is proposed to be developed under the BOT scheme in 2006/07. All state highway maintenance is now contracted out to the private sector. A maintenance, operate, and transfer scheme has been introduced and will be applied to ADB-funded roads where it is financially viable. MPRDC will explore more opportunities for applying BOT and maintenance, operate, and transfer schemes to high-density state roads.

20. MPPWD contracts all road improvement and part of periodic maintenance to the private sector. MPPWD will increase the contracting out of maintenance works by incorporating 3–5-

year maintenance works into civil works contracts. This will be in accordance with the reduction in gang labor to keep roads in a maintainable condition.

#### **d. Road Safety**

21. The state Road Safety Council was reconstituted in 2006, chaired by a chief minister and comprising representatives of all government agencies, road user groups, and transport experts concerned. Committees coordinate various efforts to improve road safety. District road safety committees under the leadership of a district collector meet 2–4 times a year to review road safety issues, especially a road safety program comprising 20 issues such as implementation of improvements to road sections that are prone to accidents, e.g., geometry, guardrails and other protective measures at bridges and high embankments, advance warning measures to prevent accidents during the heavy rain season, reflective markers on the side of carriageways, and use of helmets and seatbelts. The traffic police collects and analyzes accident data. Other initiatives taken by GOMP include road safety education included in the school curriculum, establishment of trauma care centers, and setting up of an accident assistance number.

22. MPRDC has established a road safety cell to institutionalize safety measures, and modified the accident investigation and prevention manual prepared for the Ministry of Shipping, Road Transport and Highways under ADB TA<sup>6</sup> to reflect local experiences and to adapt it to the road network. The accident investigation and prevention manual was prepared in 1996 to guide highway authorities and engineers in reducing road accidents and fatalities in India. Based on this, MPRDC conducts a road safety audit to ensure safety features are incorporated in road design. MPRDC conducted a road safety audit for the proposed Project and the previous ADB project (footnote 1).

23. In 1996, the Government recommended establishing the Directorate of Safety and Traffic Management and setting up a road safety fund, earmarking 1% of cess revenue for national highways. An expert committee at MOSRTH will review these recommendations and finalize a state road safety policy to address legal, institutional, and financial issues for road safety. This will provide a new context for the funding and institutional setup for road safety at the state level.

#### **e. Control of Overloading**

24. The state has a legal framework for controlling overloading of vehicles. The weakness is the lack of inspection, surveillance, and enforcement system to enforce it. GOMP (i) has drawn up a phased statewide program to strengthen and improve infrastructure at state border check posts to strengthen overloading control, (ii) is undertaking a rigorous inspection at border check-post locations, and (iii) has allocated funds for 10 electronic weigh bridges and surveillance mechanisms that MPRDC installed at the state borders and key locations on the road network under the MPSRSDP (footnote 1). Private investors are being invited to install weigh bridges at 26 other locations; GOMP will provide state support for their operation. As an added precaution against enforcement officers' laxity and corruption, closed-circuit television cameras are being installed and connected by satellites to the nearest road transport offices, allowing weighing operations to be monitored remotely. Collection of the composition fee has increased as a result of these efforts: in 2004/05, it was 27% higher than in 2003/04, and in 2005/06, 60% higher than

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<sup>6</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loans and Technical Assistance Grant to India for the National Highways Project*. Manila.

in 2004/05. GOMP recently increased the composition fee by more than 100%, thus sensitizing truck operators and discouraging them from plying overloaded trucks. In November 2005, the Supreme Court of India passed a judgment banning overloading of trucks to prevent premature damage to roads, and mandated that excess cargo be offloaded at the risk and cost of the vehicle owner before the truck would be permitted to continue its journey, even after payment of the penalty. GOMP's efforts are expected to eventually reduce vehicle overloading.

25. Key sector development initiatives undertaken are summarized in the institutional development action plan (Appendix 3).

## **2. External Assistance and ADB Strategy**

26. The road sector in India has received substantial external assistance in the recent past. ADB has provided loans and TA amounting to about \$3.4 billion. The World Bank has provided loans and grants amounting to \$5.6 billion to upgrade national highways, improve state highways, and upgrade rural roads. Japan Bank for International Cooperation (JBIC) has provided five loans amounting to \$0.33 billion to upgrade national highways and construct bridges. The government of the United Kingdom has provided TA support for the sector. ADB's support for the road sector has been developed in close collaboration with these key players. Coordination with the World Bank has particularly been active for transport. Mini-retreats for transport operations in the South Asia region have become a regular practice for headquarters staff. For the resident missions, a broad-based sector collaboration mechanism has been instituted to facilitate the exchange of information between key sector coordinators of both institutions. With the Japanese Government and JBIC, cooperation has been active, particularly for railway and urban sectors. ADB has formed a close partnership with the Department for International Development (United Kingdom) in the provision of TA for areas that contribute to poverty reduction in India. The two organizations regularly hold coordination meetings. A summary of external assistance is in Appendix 4.

27. Since 2002, ADB has provided three loans to improve India's state road network—to Madhya Pradesh in 2002, Chhattisgarh in 2003, and Uttaranchal in 2006. Other state road projects under preparation for the eight northeastern states are in the 2007 pipeline; and the second project for Chhattisgarh and the first for Jharkhand, both of which are in the 2008 pipeline. In principle, ADB provides support to improve state road sector management capacity along with physical investment to improve the state road network. The first loan demonstrated major sector reform achievements, including establishment of MPRDC and its adoption of best practices for planning and maintenance systems, financial management, and public procurement. GOMP requested the proposed Project based on the substantial progress with sector reforms under the first ADB assistance (footnote 1) to pursue sector development and improve the state road network.

## **3. Lessons**

28. Many ongoing ADB-financed road sector projects in India are experiencing delays. The MPSRSDP is no exception. These delays are mostly attributable to (i) lack of safeguard consideration in selecting and preparing investment, and insufficient support in safeguards planning and implementation; and (ii) the gap in support between the feasibility phase and construction to executing agencies, which are often not familiar with ADB procedures in procurement of civil works contracts and recruitment of consultants.

29. MPRDC acquired substantial experience under the MPSRSDP. GOMP engaged detailed project report consultants to prepare projects and asked ADB for TA<sup>7</sup> to support the preconstruction activities of MPRDC so that the construction can be commenced without unnecessary delay after loan approval. MPRDC took actions to facilitate advance clearance of quarry sites and utility shifting, and will have the supervision consultants involved in finalizing drawings. GOMP also initiated advance actions for contracting such as engagement of construction supervision consultants and preparation of bidding documents. GOMP further takes policy initiatives for speedy completion of construction works such as regular monthly district review meetings to expeditiously resolve issues encountered during implementation.

### III. THE PROPOSED PROJECT

#### A. Impact and Outcome

30. The Project will improve transport efficiency of the state road network, which will contribute to expansion of economic opportunities and poverty reduction. This will be realized by (i) improving the state road network, (ii) facilitating safe and appropriate road usage, (iii) increasing efficiency of transport services, and (iv) enhancing GOMP capacity for road asset development and management. Improved roads will improve accessibility to social services and markets, and enhance the efficiency of road transport usage. With the central location of the state in the country, the Project will improve transport efficiency for the rest of India.

#### B. Outputs

31. **Investment Component.** The Project will rehabilitate and reconstruct about 1,800 km of state roads identified under the state road rehabilitation program, which identifies about 10,000 km of state roads for rehabilitation and improvement. During feasibility studies, GOMP initially selected more than 4,000 km of state roads, and a list of about 1,800 km of state roads was identified for the Project, taking into account preliminary assessment of traffic volume, social and environmental impacts, improvement to the overall state road network, state priority, and project readiness (Appendix 5). Road improvement works under the Project include rehabilitating and improving existing roads; strengthening existing culverts and bridges, and constructing new bridges and cross-drainage structures. Based on the feasibility study and the project selection and prioritization report, the candidate subprojects will be reviewed and approved in accordance with a set of selection criteria (Appendix 6). Consulting services will be provided to support implementation of the civil works.

32. **Institutional Development Component.** The Project will provide equipment necessary for GOMP to enhance sector capacity, such as road safety and control of overloading. Major equipment includes those for safety training, vehicle fitness testing, and weigh bridges. A TA will be attached to the loan to support GOMP initiatives of sector development, especially for MPPWD reform and capacity building, including (i) enhancing planning capacity, (ii) improving business processes, (iii) improving human resources management, and (iv) increasing private sector participation. The detailed institutional development action plan is set out in Appendix 3. The consultants will identify the specification and timing of other equipment required during TA implementation.

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<sup>7</sup> A component TA of \$250,000 for project preparation support for the Project was provided under the TA Cluster to India for Project Processing and Capacity Development (ADB. 2006. *Technical Assistance Cluster to India for Project Processing and Capacity Development*. Manila.)

### C. Special Features

33. The Project was prepared with the enhanced capacity of MPRDC, which has been gained through MPSRSDP preparation and implementation, and ADB TA provided for capacity building of MPRDC. MPRDC engaged detailed project report consultants with its own funds for possible ADB financing; incorporating ADB's requirement of economic, social, and environmental studies into the consultants' terms of reference. GOMP asked ADB for TA to supplement the detailed project report consultants' work to fully comply with ADB requirements. Engineering design is prepared to minimize social and environmental impacts. Advance actions have been taken to ensure that the construction can be commenced without unnecessary delay. All of these are enabled by MPRDC's familiarity with ADB procedures and requirements, and MPRDC's enhanced capacity for project planning and implementation, which improved project readiness, mitigating the risk of delay. The Project demonstrates the success in capacity development of MPRDC in preparing and implementing state road projects.

34. The major constraints of the road sector in Madhya Pradesh are (i) limited physical network of roads in terms of coverage and conditions, and (ii) limited resources of road sector institutions against the requirement of providing a road network in the vast area of the state. The first ADB assistance, the MPSRSDP, established MPRDC to manage the strategically important state road network by adopting modern business practices for road asset development and management. MPRDC is now regarded as the benchmark for good practice in managing the state road network. By adopting the sector loan modality, the Project provides an opportunity to extend the capacity development efforts to MPPWD, enabling overall sector capacity to be enhanced in conjunction with improvements to the physical road network.

### D. Project Investment Plan

35. The project investment cost is estimated at \$400 million, including taxes, duties, commitment charges, and interest during construction (Table 1). The detailed cost estimates and financing plan are in Appendix 7.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Investment Component	324.4
2. Institutional Development Component	1.0
<b>Subtotal (A)</b>	<b>325.4</b>
<b>B. Contingencies<sup>c</sup></b>	<b>48.3</b>
<b>C. Financing Charges during Implementation<sup>d</sup></b>	<b>26.3</b>
<b>Total (A+B+C)</b>	<b>400.0</b>

<sup>a</sup> Includes taxes and duties estimated at \$15 million.

<sup>b</sup> In mid-2006 prices.

<sup>c</sup> Physical contingencies computed at 10% for civil works. Price contingencies computed at 2.6% on foreign exchange costs and 6.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction has been computed at the 5-year forward London interbank offered rate plus a spread of 0.6%.

Source: Asian Development Bank estimates.

## E. Financing Plan

36. The Government has requested a loan of \$320,000,000 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 interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.35% per annum, and such other terms and conditions set forth in the draft loan and project agreements. The Government 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.

37. ADB will finance 80% of the total project cost, taking into account that (i) the Project is part of the \$1.1 billion Madhya Pradesh state roads rehabilitation program for 2006–2009, excluding projects under National Highway Development Program (NHDP), PMGSY, and MPSRSDP; (ii) ADB provided a loan under the MPSRSDP with ADB cost sharing at 57.4% (\$150 million of the total project cost of \$261.2 million), which has not encountered any issues of counterpart funding with 42.6% government sharing; (iii) the Project is part of ADB assistance to the Government's overall development program for the road sector, including the NHDP-III (\$12.5 billion by 2012) and PMGSY (\$11 billion by 2009); (iv) 20 projects have been approved so far at the final stage of the current country strategy and program period (2003–2007), and the aggregate ADB financing will not exceed the ADB's country cost-sharing ceiling of 70% during that period; (v) state road development is the priority for ADB assistance in India and the Project serves less-developed areas in one of the poorest states; and (vi) the higher cost sharing by ADB helps the fiscal reforms of the state.

38. The Government will provide the loan proceeds in local currency to GOMP on the same terms and conditions as received from ADB. GOMP will bear the foreign exchange risk on the loan. The financing plan for the Project is in Table 2.

**Table 2: Financing Plan**  
(\$ million)

<b>Source</b>	<b>Total</b>	<b>%</b>
Asian Development Bank	320.0	80.0
Government	80.0	20.0
<b>Total</b>	<b>400.0</b>	<b>100.0</b>

Source: Asian Development Bank estimates.

## F. Implementation Arrangements

### 1. Project Management

39. The Executing Agency for the Project will be GOMP acting through MPRDC. MPRDC is wholly owned by GOMP and was originally established as the project management unit for the MPSRSDP. It has been equipped with capacity to implement the Project. The Project will be implemented based on the organizational structure indicated in Appendix 8. The chief engineer at MPRDC headquarters will be designated as the "project in charge" for project implementation. The Environmental Cell at MPRDC headquarters, reporting to the chief engineer, will be responsible for ensuring compliance with social safeguards and engineering

aspects of subprojects. Seven project implementation units, located in the divisions, each headed by a divisional manager will be responsible for subproject implementation in the field. One or two full-time project managers will be assigned for each contract package. The divisional managers will be delegated adequate technical and administrative authority for expeditious project implementation. Construction supervision consultants engaged by MPRDC will act as the engineer for the construction contracts.

## **2. Implementation Period**

40. The Project will be implemented over 3 years, inclusive of procurement and preconstruction activities in 2007, and is expected to be completed by 30 June 2010. The implementation schedule is included in Appendix 9.

## **3. Procurement**

41. Procurement to be financed from the ADB loan will be carried out in accordance with ADB's *Procurement Guidelines* (2006, as amended from time to time). The civil works have been packaged into a number of contracts in accordance with the geographic location and size of the contracts. The civil works contracts will be undertaken in 15 contract packages (Appendix 10). All these contracts are estimated at more than \$10 million and will be procured through international competitive bidding procedures. ADB standard bidding documents for large works with postqualification under the two-envelope system will be adopted. Equipment financed under the Project will be \$1 million under the institutional development component, and procured using national competitive bidding (NCB) procedures if the estimated contract is between \$0.1 million and \$1 million, and shopping if the estimated contract amount is less than \$0.1 million. Contract packaging for equipment will be based on required technical features and timing of procurement; the TA consultants will finalize detailed specifications and identify the packages during TA implementation. The procurement plan is in Appendix 11. NCB procedures adopted for procurement of goods and services under the Project will use the advertised tender enquiry method stipulated in the Government's General Financial Rules,<sup>8</sup> as reflected in the procurement plan. Any modifications to the procurement plan will be subject to prior approval by ADB.

## **4. Consulting Services**

42. MPRDC will select two internationally recruited consulting firms to supervise construction of civil works under the Project. One consultant will be engaged for Bhopal region and the other for Jabalpur region. MPRDC will select and engage the consultants using ADB's quality- and cost-based selection procedures and in accordance with ADB's *Guidelines on the Use of Consultants* (using the full technical proposal method) as reflected in the procurement plan. The outline terms of reference for consulting services for construction supervision are provided in Supplementary Appendix A. About 56 person-months of international and 1,760 person-months of national consultants are expected to be required.

## **5. Advance Contracting**

43. The process of advance contracting has been initiated for recruiting construction supervision consultants as normal procedures. ADB management has approved advance

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<sup>8</sup> Compilation of General Financial Rules (2005) and Compendium of Rules on Advances to Government Servants along with circulars, Government decisions, and other relevant materials, Nabhi Publication, 2006.

contracting of civil works. The Government has been informed that approval of advance procurement action does not in any way commit ADB to finance the Project.

## **6. Anticorruption Policy**

44. ADB's *Anticorruption Policy* (1998, as amended to date) was explained to and discussed with the Government, GOMP, and MPRDC. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project will include provisions specifying the right of ADB to audit and examine the records and accounts of the Executing Agency and all contractors, suppliers, consultants, and other service providers as they relate to the Project.

45. Under the MPSRSDP, MPRDC was created to provide efficient project implementation, adopting international best practices for asset management systems, financial management systems, and procurement procedures. Roads under public-private partnership schemes have increased to 1,500 km. MPRDC discloses its activities including information of tender call and project implementation to the public through its website. GOMP also takes initiatives to improve governance in MPPWD, including a recent major step of abolishing a letter-of-credit system to streamline administrative procedures for transparent, effective, and efficient use of the allocated budget. The efficiency of the road maintenance budget has also been improved and is closely monitored. To enhance overall road sector management, a TA will be attached to the loan to provide institutional strengthening of MPPWD, which will improve governance in road administration and accountability, and create an environment encouraging competition and efficiency within MPPWD and the construction industry.

## **7. Disbursement Arrangements**

46. Loan disbursements will be in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time). Direct payment and reimbursement procedures will be used for civil works, consulting services, and equipment. Any individual payment to be reimbursed under statement of expenditure procedures will not exceed \$100,000.

## **8. Accounting, Auditing, and Reporting**

47. For the Project, MPRDC will maintain separate records and accounts adequate to identify the goods and services financed from the loan proceeds, expenditures incurred, and use of local funds under the project components and their subprojects. The accounts will be set up in accordance with sound accounting principles. Independent private sector auditors, acceptable to ADB, will audit MPRDC's accounts and related financial statements annually. MPRDC will submit the audited reports to ADB within 9 months of the close of each financial year.

48. MPRDC will prepare and provide ADB with quarterly progress reports on progress made during the review period, changes if any of the implementation schedule, problems or difficulties encountered and remedial actions taken, anticipated problems and proposed remedial measures, and work to be undertaken in the following period. MPRDC will submit the quarterly progress reports to ADB within 45 days from the close of each quarter. These reports will also

include a summary financial account for each subproject, expenditures to date, report on performance monitoring, and the results of monitoring of the social and environmental impacts.

49. MPRDC will prepare and provide ADB with a subproject completion report within 3 months of physical completion of each individual subproject, and a project completion report within 3 months of completion of transactions under the Project. These reports will include a detailed evaluation of subprojects and the overall Project, respectively, covering the design, costs, contractor and consultant performance, social and economic impact, economic rate of return, and other details relating to the Project as may be requested by ADB.

#### **9. Project Performance Monitoring and Evaluation**

50. MPRDC will, within 3 months of loan effectiveness, develop a systematic project performance monitoring system, in a form and substance acceptable to ADB, for use throughout the life of the Project.

51. The project performance monitoring system will follow the baseline for performance indicators to be used for monitoring implementation of each subproject. In accordance with the system, MPRDC will conduct evaluation surveys annually under each subproject to evaluate the scope, implementation arrangements, progress, and achievements of project objectives.

#### **10. Project Review**

52. ADB and GOMP will meet regularly as required to discuss project progress and any changes to implementation arrangements or remedial measures required to achieve the objectives of the subprojects and Project. In January 2009, ADB, the Government, GOMP, and MPRDC will undertake a midterm review of the Project. The review will focus on issues related to implementation arrangements, and agreement on changes, if needed, to achieve the objectives of the Project.

### **IV. TECHNICAL ASSISTANCE**

53. A TA for \$1,000,000 for Institutional Strengthening for the Madhya Pradesh Public Works Department will be provided to support GOMP's sector development initiatives set out in the action plan (Appendix 3). The objective is to strengthen MPPWD's capacity in road asset development and management. During TA implementation, MPPWD will be equipped with (i) norm-based planning and budgeting, (ii) improved business practices, and (iii) improved human resources management. An alternative realigned structure of the state's road sector institutions will be proposed for long-term road sector reform. The previous ADB-financed TA for Institutional Strengthening and Capacity Building for the Madhya Pradesh State Road Sector in 2002 successfully developed the capacity of MPRDC, which adopted best practices of planning and maintenance systems, financial management, and procurement. The proposed TA will make recommendations to modernize MPPWD's operations, adopting MPRDC technologies and practices in the context of the MPPWD environment. MPPWD will be the Executing Agency for the TA.

54. The TA will be financed on a grant basis from the Japan Special Fund, funded by the Government of Japan, and be carried out by an international consulting firm, to be recruited using ADB's quality- and cost-based selection procedures and in accordance with ADB's *Guidelines on the Use of Consultants* (using the simplified technical proposal method). The TA will be implemented during 12 months from October 2007 to September 2008. International

consulting inputs of about 30 person-months and national inputs of about 40 person-months are required. Terms of reference for the TA are in Supplementary Appendix B. Major equipment to be purchased includes computers and software for project management, financial management, and road asset management. The TA consultants will identify the specification and timing of other equipment required.

## **V. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS**

### **A. Institutional and Operational Improvements**

55. Improving management of the state road network through the institutional development component and the TA, and improvement of the road network under the Project will enhance the overall road condition and usability, thus increasing travel speeds and reducing travel time, accidents, and overloading. The enhancement of MPPWD's capacity in road asset development and management will improve governance in road administration and accountability, and create an environment encouraging competition and efficiency within MPPWD and in the construction industry. This will ensure more efficient road asset development and management, and higher quality of construction and maintenance, resulting in decreased recurrent costs over the medium and long term. These will lead to overall social and economic development in Madhya Pradesh.

### **B. Economic Assessment**

56. The approach used to evaluate the Project follows the standard practice of comparing life-cycle road agency and user costs with and without the Project, using net present value with a 12% discount rate and economic internal rate of return (EIRR) as decision criteria. The Highway Development and Management Model, HDM-4, was used for the analysis. The analysis focuses on savings in transport costs. Value added from better transport links resulting in new industries and employment are not quantified in this analysis but are captured through benefits to generated traffic.

57. The EIRR for the roads evaluated varied between 13% and 49%. The Project will be for the state road sector rather than for individual roads. While the Project as a whole is robust, some individual roads are marginal. Options such as reducing the formation width could be considered if the costs turn out higher than anticipated at the detailed design stage.

58. The sensitivity of the EIRR for the project roads was analyzed with respect to changes in the benefit and cost streams. The following sensitivity test cases were examined: (i) construction costs increase by 15%; (ii) no time saving; (iii) benefits decrease by 15%; and (iv) 50% reduction to generated traffic in addition to a combination of (i) and (iii). The results show that the quantified economic benefits are robust to various sensitivity tests. Three of the roads have an EIRR below 12% in some of the sensitivity analysis cases. The EIRRs in these cases range from 9.9 % to 11.6%, marginally below 12%. These three roads serve relatively less-developed areas of the state and their improvement will have a positive impact on the development of these areas. Considering their positive development impact and the fact that even in the worst case sensitivity scenario, they have an EIRR more than 9%, these three roads are recommended for implementation under the Project along with all other roads included in the analysis. Details of the economic assessment are in Supplementary Appendix C.

## C. Financial Sustainability

59. Incremental recurrent costs associated with the Project are estimated at 7%–8% of the current MPPWD maintenance budget and 2% of the overall MPPWD budget on an annual basis. The maintenance will be required after project completion in 2010 and the appropriate budget increase is expected, considering the trend in recent years. Funds are expected to be available to meet these costs. For financially viable road sections, MPRDC will apply the maintenance, operate, and transfer scheme to finance maintenance outside of the GOMP budget.

## D. Social Impacts

### 1. Poverty Reduction and Social Impact

60. Madhya Pradesh is one of the most economically backward states in the country with 37.06% people living below the poverty line, significantly higher than India's average of 27.09%. The estimated annual per capita income of those living below the poverty line in the state is Rs3,889.32 (less than \$90). The state also ranks low in terms of the human development index, which is 0.394 in comparison to the national value of 0.472.

61. An initial poverty and social assessment was undertaken during project preparation on the core sample subproject. The assessment indicates that agriculture is the mainstay of the people in the area, with the majority deriving their livelihood from agriculture and labor (both agricultural and nonagricultural). In some subproject sections, mainly towns and marketplaces, some depend on small trade and business for their livelihood. Seasonal migration to neighboring districts and states for employment is a common feature with a number of sample households (21% of the surveyed households) in the subproject villages migrating for 2–3 months to work on construction sites and other nonagricultural wage labor opportunities. The considerable range between high and low income groups and high incidence of poverty, in keeping with the state data, is reflected in the sample subproject area with 42% of the total sample households covered during the socioeconomic survey comprising poor households.

62. The Project will rehabilitate the deteriorated and damaged state roads of Madhya Pradesh to provide reliable road transport services. The Project is expected to stimulate economic growth and human development in the state by improving access to socioeconomic services and providing a better quality of life for project beneficiaries in the long term. A summary poverty reduction and social strategy is in Appendix 12.

### 2. Gender

63. Madhya Pradesh ranks 28th among other states on the gender disparity index with a value of 0.662<sup>9</sup> in comparison to the national average.<sup>10</sup> The gender ratio of the population is 920 females for every 1,000 males (2001 census). The literacy rate is 64.11%; 76.80% for males and 50.28% for females (2001 census). Focus group discussions were undertaken with women from varying socioeconomic groups in the sample subproject. The assessment identified that women in most socioeconomic groups are disadvantaged by their low status in households and communities in terms of access and control, which are among the significant reasons for

<sup>9</sup> National Planning Commission, Government of India. 2001. *National Human Development Report*. New Delhi.

<sup>10</sup> India, with a gender disparity index value of 0.574, ranks 103rd in the World (United Nations Development Programme. 2003. *Human Development Indicators*. New York.)

why women are constrained from actively participating in society consequently hampering the process of their empowerment and development.

64. The Project will have positive impacts on both men and women, and offer special benefits to women by increasing the opportunity for girls to access higher education, and the access of women and children to improved local services and higher levels of health care outside the village.

### **3. HIV/AIDS**

65. India is on the brink of one of the biggest public health challenges in its history. National Aids Control Organization statistics report HIV/AIDS estimates for India for 2004 as 5.134 million infections, and note that HIV infection is typically concentrated among poor, marginalized groups, including sex workers, drug users, migrant laborers, and truck drivers who are categorized as “high risk groups.” These groups, particularly truckers, drive the HIV/AIDS epidemic and many studies indicate that infection is spreading rapidly to the general population. Madhya Pradesh, categorized as a “low prevalence state” with regard to HIV/AIDS, officially reported 1,729 cases of infection as of August 2006.<sup>11</sup> The detailed study undertaken during project preparation did not anticipate any risks of increased HIV/AIDS as a result of the Project. In addition, state, district, and block campaigns by the health department and state AIDS Control Society are being undertaken to increase awareness of the disease. Interactions with the chief medical health officer, AIDS counsellors, and block medical officers in the core sample subproject indicate that annually 2–3 block awareness campaigns are organized to increase awareness of HIV/AIDS.

### **4. Human Trafficking**

66. During the detailed study undertaken during project preparation, one of the key components was to assess the current status of human trafficking risks in the subproject areas and project implications. Semistructured interactions were undertaken with different key stakeholders such as village head, men’s and women’s groups, village school teachers, as well as with district and block government personnel. No human trafficking risks were found in the area; none of the stakeholders reported any cases during the course of the study. Further the community noted that due to the sociocultural setting of the area with society and villages having very close social and cultural ties, trafficking risks have not been identified. In addition, though migration remains a common phenomenon in rural areas, this is largely a seasonal phenomenon limited to searches for labor opportunities to nearby growth centers to work on construction sites and other nonagricultural wage labor to sustain livelihoods. Both the community consultations and socioeconomic survey in the subproject area identified that for migrating families, generally the men seasonally migrate without women and children thereby further reducing the possibility of trafficking via migration. Since all the subprojects are existing state roads, the proposed augmentation is not expected to lead to human trafficking in the area.

### **5. Indigenous Peoples**

67. Madhya Pradesh, as per the Census of India 2001, has a population of 12,233,474 scheduled tribe members, constituting 20.3% of the total state population compared to 8.2% of the national population. Some presence of indigenous peoples groups such as – Gonds and Baiga was noted on the sample subproject section passing through districts of Dindori, Mandla,

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<sup>11</sup> Source: National AIDS Control Organization.

and Seoni. However, since the Project entails rehabilitation of existing road alignments, the social assessments have not identified any adverse impact on tribal groups within the area of influence of the project road. The assessment also notes that indigenous groups in the project area have been mainstreamed and assimilated into the local population. The study undertaken for project preparation did not indicate differential impacts between indigenous and nonindigenous groups in project locations. The improved road network is expected to augment access to socioeconomic facilities of tribal groups along with other sections of the subproject population. The subproject construction will not have any adverse consequences on socioeconomic conditions and will not result in any disruption of their community life or culture of their communities.

68. An indigenous peoples development framework was prepared for the Project in accordance with ADB's *Policy on Indigenous Peoples* (1998) (Supplementary Appendix D) to be used if an indigenous peoples development plan is required.

## **6. Land Acquisition and Involuntary Resettlement**

69. The Project entails rehabilitation of existing state roads, which will occur within the available right-of-way; no land acquisition is expected. The project design avoids or minimizes the need for land acquisition and involuntary resettlement by adopting the most feasible technical design.

70. The sample subproject was assessed for involuntary resettlement impact. Due diligence was undertaken based on the preliminary designs and confirmed that the sample subproject will not entail any involuntary resettlement and land acquisition impact.

71. A resettlement framework has been prepared for the Project, in accordance with ADB's *Involuntary Resettlement Policy* (1995), to address any adverse resettlement impacts on assets such as land, structures, and cultural assets arising during detailed design and construction of the sample subproject and for additional subprojects. Short resettlement plans (RPs), if required for future subprojects, will be prepared in accordance with the agreed resettlement framework (Supplementary Appendix E). MPRDC will ensure that under contracts for civil works no contractor will commence construction or displace people until those affected have been compensated in accordance with the resettlement plan acceptable to ADB. RP approval will be obtained prior to award of civil works contracts. MPRDC will translate all RPs under the Project into local language and distributed them to the people affected. The RPs will also be posted on ADB and MPRDC websites. Any changes to RPs based on detailed designs will also be subject to prior approval by ADB.

## **E. Environmental Impacts**

72. The overall environment categorization for the Project is B. However, if during implementation any subproject selected will pass through national parks, sanctuaries, or other areas designated as environmentally sensitive, an environmental impact assessment (EIA) must be completed for the subproject following the procedure described in the environmental assessment review framework (EARF) (Supplementary Appendix F).

73. The overall Project is not expected to have adverse environmental impacts as shown in the findings of the initial environmental examination (IEE) of the sample subproject. This sample subproject was selected as about 38 km of its 190 km length (about 20%) passes through several tracts of forested areas. The subproject IEE provides a picture of all potential generic

environmental impacts associated with civil works of the Project and the recommended mitigation measures for the sample subproject, which could be adopted for follow-up subprojects. The IEE duly shows that the environmental impact will mostly occur during construction and is mostly due to clearing for widening the carriageway, construction work related to compaction of the embankment and cut and fill, as well as from quarrying to support construction activities. The carriageway clearing is not expected to affect the forested area since the available right-of-way has been 10–30 meters. The environmental impacts are all temporary and therefore, a further EIA is not required. Adequate mitigation measures have been provided and are summarized in the environmental management plan (EMP). The EMP for this subproject was prepared to guide implementation of the mitigation measures. MPRDC will be responsible for implementing overall mitigation measures with some to be implemented by the contractors, especially mitigation measures during construction. The new Environmental Cell of MPRDC will be responsible for monitoring EMP implementation. The summary IEE, including the EMP matrix, is presented in Supplementary Appendix G.

74. The environmental assessment of the follow-up subprojects will be prepared and reviewed by following the procedure described in the EARF (Supplementary Appendix F). The EARF was formulated to ensure that follow-up subprojects will be prepared to comply with the Government and state laws and ADB's *Environment Policy* (2002).

## **F. Risks**

75. A draft sector assistance program evaluation identified issues of state road projects in India, including (i) initial delays in implementation, (ii) risk of incomplete network development by total avoidance of involuntary resettlement and environmentally sensitive areas, (iii) appropriateness of sector development framework, and (iv) a need for government discipline to efficiently and effectively secure the maintenance budget.

76. The risk of initial delays has already been mitigated through MPRDC's advance actions and TA provided by ADB (Supplementary Appendix H). MPRDC is now familiar with ADB's requirements and procedures based on substantial experience gained through MPSRSDP preparation and implementation. Training on safeguard requirements was provided to MPRDC staff to mitigate potential risk of initial delays due to procedural clearance. TA also provided support to due diligence for subproject approval.

77. Project roads were identified in accordance with strategic importance and the state road rehabilitation program. The Project will minimize/nullify any negative social and environmental impacts through appropriate engineering design, which is possible as no populated areas have been identified along the project roads. In addition, frameworks for safeguarding social and environmental impacts have been set up so that network development will be ensured while minimizing/nullifying negative impacts on land acquisition and involuntary resettlement, and social and environmental aspects.

78. The risk of an unrealistic sector reform agenda has been mitigated by reflecting the state context in the institutional strengthening action plan by taking into account the rather short-term project duration, actions taken by GOMP, and recent GOMP policy recommendations.

79. GOMP has increased its maintenance budget, which substantially covers the requirement since the current fiscal year 2006/07 especially due to the provision of the Government's grant-in-aid under the 12th Finance Commission. The risk of inefficient and

ineffective maintenance budget will be mitigated by implementing budget monitoring systems for full utilization and road management systems for better planning and budgeting through the TA.

## **VI. ASSURANCES**

80. In addition to the standard assurances, the Government, GOMP, and MPRDC have given the following assurances, which are incorporated in the legal documents.

### **A. Implementation**

81. The Government will ensure that GOMP and MPRDC and other agencies at state level undertake activities and respective responsibilities and assurances given, to achieve the objectives of the Project in a timely manner.

82. GOMP will ensure that MPRDC and other agencies at state level undertake activities and respective responsibilities and assurances given, to achieve the objectives of the Project in a timely manner.

83. GOMP will provide timely and adequate counterpart funds for the Project.

### **B. Sector Development and Road Maintenance**

84. GOMP will implement measures included in the institutional development action plan during the project implementation period and also implement the agreed recommendations of the TA for institutional strengthening of MPPWD, in a timely manner.

85. The Government and GOMP will ensure that adequate and timely funding or other mechanism is available to MPRDC for maintenance of the roads improved under the Project.

### **C. Subproject Selection Criteria and Implementation**

86. GOMP through MPRDC will ensure that all subprojects meet and are implemented, to the satisfaction of ADB, in accordance with the provisions set forth in Appendix 6.

### **D. Environmental Considerations**

87. GOMP through MPRDC will ensure that:

- (i) the Project is carried out and all project/subproject facilities are designed, constructed, operated, maintained, and monitored in compliance with the environmental laws and regulations of the Government, GOMP, ADB's *Environment Policy* (2002), and the EARF (Supplementary Appendix F);
- (ii) an IEE or EIA report as required will be prepared, including an EMP with budget identifying the cost of its implementation (as incorporated in the related procurement bid document), with adequate public consultation for each subproject, in accordance with the EARF. This will be submitted to ADB for review and approval before the award of related civil works contract. The EIA or IEE for A or B sensitive subprojects as categorized under ADB's *Environment Policy* (2002) will be subject to prior approval of ADB before subproject approval before the 120-day requirement of public disclosure under ADB's *Environment Policy* (2002);

- (iii) all environmental clearances required by all laws, acts, and regulations at national, state and local levels are obtained in a timely manner and prior to commencement of civil works for the relevant section of the subproject as applicable;
- (iv) all mitigation measures identified in the IEEs, summary IEEs, EIAs, summary EIAs, and EMPs, prepared for the subprojects, as applicable, are incorporated in subproject designs; and are carried out during their construction, operations, and management; and are disclosed to stakeholders.
- (v) if there are any changes in specific locations or alignments of any infrastructure or project facilities after completion of the process of IEE or EIA or any new information is made available during detailed design and or implementation that has an impact on the environmental assessment process carried out thus far, then additional environmental assessment shall be carried out in accordance with ADB's *Environment Policy* (2002) and the EARF, and prior approval of ADB shall be obtained before further physical implementation of the relevant section of the subproject as applicable; and
- (vi) semiannual progress reports will be submitted to ADB on the implementation of the EMPs, and measures under the IEE/EIA, and the environmental monitoring carried out as a regular part of project implementation for review and disclosure in accordance with ADB's *Public Communications Policy* (2005).

#### **E. Involuntary Resettlement; Indigenous Peoples**

88. GOMP through MPRDC will undertake the Project in accordance with the Government and state laws and regulations, ADB's Policy on *Involuntary Resettlement* (1995), and the resettlement framework (Supplementary Appendix E).

89. GOMP through MPRDC will ensure that to the extent possible subprojects will not require land acquisition or involuntary resettlement; however, if land acquisition and/or involuntary resettlement are required for any subproject, GOMP through MPRDC will ensure that:

- (i) all land, rights-of-way, and other land-related rights required for the subproject are acquired or otherwise made available to the project implementation units;
- (ii) a short resettlement plan (RP) will be prepared for that subproject, acceptable to ADB, in accordance with applicable laws and regulations of GOMP, ADB's Policy on *Involuntary Resettlement* (1995), and the resettlement framework, and submitted to ADB for review and approval before award of the related civil works contract;
- (iii) proper consultation during preparation of RP with the affected persons is undertaken and the RPs are disclosed to the affected persons including land acquisition and compensation process, and to the general public through the ADB website;
- (iv) if during detailed design and implementation, any modification and or additional land acquisition or involuntary resettlement impacts are identified, an RP will be prepared/modified in accordance with applicable laws and regulations referred herein, and the resettlement framework and prior approval of ADB obtained before further implementation of the relevant section of the subproject as applicable;
- (v) all affected persons are compensated in accordance with the RP, the land and rights in land are made free from any encumbrances, any obstructions are

- cleared, all from the related section required to be handed over to the contractor for and prior to commencement of construction thereof in accordance with the work schedule under the related civil works contract;
- (vi) efficient grievance redresses mechanisms are in place in accordance with the related RP to assist affected persons to resolve queries and complaints in a timely manner; and
  - (vii) all necessary funds are available in a timely manner so that the RPs are implemented and full reimbursement for acquired assets is made to the affected persons well in advance so as to provide them sufficient time to make alternative arrangements before commencement of the relevant section of civil works contract as applicable.

90. In case of adverse impacts identified during planning, design, and implementation of any subproject on indigenous people, GOMP through MPRDC will ensure that an indigenous peoples development plan or integration of specific actions in favor of indigenous people in the RP, is prepared in accordance with ADB's *Policy on Indigenous Peoples* (1998) and the indigenous peoples development framework (Supplementary Appendix D) and that the same is further (i) approved by ADB before award of the related civil works contract, and (ii) implemented before commencement of the relevant section of civil works contract as applicable. Any update of the indigenous peoples development plan due to detailed designs or during implementation shall follow requirements similar to the RPs as described for involuntary resettlement.

#### **F. HIV/AIDS and Human Trafficking; Labor**

91. GOMP through MPRDC will ensure that the civil works contracts under the Project incorporate provisions to the effect that the contractors will (i) carry out HIV/AIDS and human trafficking awareness programs for labor; (ii) not employ or use children as labor; (iii) disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (iv) follow and implement all statutory provisions on labor (including equal pay for equal work), health, safety, welfare, sanitation, and working conditions. The civil works contract will also provide for termination of the contract by GOMP through MPRDC in case of breach of any of the stated provisions by the contractors.

### **VII. RECOMMENDATION**

92. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve the loan of \$320,000,000 to India for the Madhya Pradesh State Roads Sector Project II from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)- based lending facility; 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.

Liqun Jin  
Vice President

02 May 2007

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b></p> <p>Increase economic growth in Madhya Pradesh.</p>	<p>Contribution of road transport sector to the state gross domestic product increased to 6%–10% by 2015 (from 3% according to recent data)</p>	<p>National and state socioeconomic data and statistics</p>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• Various government development activities are effectively coordinated with road sector investment</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>• Roadside small businesses could lose business opportunities due to increased efficiency and vehicle speeds</li> </ul>
<p><b>Outcome</b></p> <p>Enhanced road transport capacity</p>	<p>Actual growth rates of traffic on the project roads surpasses the assumed growth rate by 15% (e.g., from 7% for cars)</p> <p>Vehicle operating costs on the project roads reduced by 35% for heavy vehicles, and by 25% for passenger cars after completion</p> <p>Travel time on the project roads reduced by 25% on average</p> <p>Access of the rural poor to social services, markets, and other economic activities improved (e.g., the number of daily trips by the rural poor doubled)</p> <p>Project roads maintained with International Roughness Index below 5</p>	<p>Post-implementation measurement</p> <p>Data collected through the road asset management system</p> <p>Social and household survey</p> <p>Project performance monitoring system</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Delivery of the Project is timely.</li> <li>• The state allocates sufficient maintenance budget to be eligible for grants-in-aid available as provided by the 12th Finance Commission ruling.</li> <li>• Monitoring for full utilization of allocated funds for maintenance works is effective.</li> <li>• Transport modes and services are available for the project roads.</li> </ul>

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<b>Outputs</b>  1. Rehabilitated and improved state roads  2. Improved sector management	Approximately 1,800 kilometers of state roads rehabilitated or improved by 2009  Medium- and long-term road investment and maintenance program developed for the state and districts  Project delay reduced by 50%  Allocated funds are fully utilized	Progress reports of Madhya Pradesh Road Development Corporation  ADB review missions  Project completion report  Project performance monitoring system	<b>Assumptions</b> <ul style="list-style-type: none"> <li>• Civil works are implemented on schedule.</li> <li>• Institutional strengthening is implemented.</li> <li>• Qualified civil works contractors and consultants participate.</li> <li>• Efficiency and effectiveness in handling procurement, safeguard policies follows ADB procedures and requirements.</li> </ul>
<b>Activities with Milestones</b>  <b>1. Investment Component</b> 1.1 Engagement of construction supervision consultants by August 2007 1.2 Procurement of first group of civil works completed by September 2007 1.3 Construction of all civil works completed by June 2010  <b>2. Sector Development (equipment)</b> 2.1 Equipment procured by end of 2008  <b>3. Sector Development (technical assistance)</b> 3.1 Consultant selection by end of 2007 3.2 Consulting services by March 2008 3.3 Training of Madhya Pradesh Public Works Department staff by end of 2008 3.4 Road asset management system fully operational by end of 2008 3.5 Road investment and maintenance program by March 2009			<b>Inputs</b>  For 1 and 2: <ul style="list-style-type: none"> <li>• ADB \$320 million</li> <li>• Government \$80 million</li> </ul> For 3: <ul style="list-style-type: none"> <li>• ADB \$1 million</li> <li>• Government \$0.25 million in-kind contributions</li> </ul>

ADB = Asian Development Bank.

## ROAD SECTOR ANALYSIS IN MADHYA PRADESH

1. The state of Madhya Pradesh, formed on 1 November 1956, comprises 43 districts. Subsequently, two large districts were bifurcated, and in 1998 16 more districts were constituted. The Chhattisgarh region, comprising 16 districts, was separated to form the new state of Chhattisgarh. The reorganized state of Madhya Pradesh came into existence on 1 November 2000 with 45 districts. The total geographic area of the state is now 308,000 square kilometers. It is situated in the very heart of India and is surrounded by five states: Chhattisgarh, Gujarat, Maharashtra, Rajasthan, and Uttar Pradesh.

2. Because of the state's central location, traffic from surrounding states passes through the state road and rail network. Railways connecting north–south and east–west regions pass through Madhya Pradesh with a total length of about 5,900 kilometers (km). However, due to Madhya Pradesh's vast area, the railway services cannot provide the desired connectivity to major economic zones and centers. The railway network traversing Madhya Pradesh serves the needs of cross-country traffic more than those of Madhya Pradesh. In total, 11 major districts in Madhya Pradesh have little rail service. Civil aviation, port, and inland waterway have a very limited role in the state's overall economy and transport services. As a result, roads are the predominant mode of transport services.

### A. Road Network and Traffic

3. In 2006, the road network in Madhya Pradesh was as presented in Table A2.1.

**Table A2.1: Road Length in Madhya Pradesh**

No.	Class of Road	Length (km)
1	National Highways	4,286
2	State Highways	8,728
3	Major District Roads	10,817
4	Other District Roads/Village Roads	48,590
<b>Total Length</b>		<b>72,421</b>

km = kilometer.

Source: Madhya Pradesh Public Works Department Annual Administration Report 2005–2006, correct as of March 2006.

4. Not all roads are of the same type in terms of width or quality. If the type of road surface is taken as an indicator of quality, then most of the higher class of roads have been provided with a sealed (bitumen or concrete) surface while the less important remain unsealed (metalled or gravel). Table A2.2 shows the current status of the road network within the state. About 628 km (8%) of state highways and 1,607 km of major district roads (15%) remain unsealed. While sealing all roads may be desirable, the implications in terms of the huge capital investment requirement and commitment for recurring maintenance expenditure require such decisions to be taken on the basis of sound economic analysis.

**Table A2.2: Distribution of Roads by Type of Surface**  
(kilometers)

No.	Class of Road	Sealed	Metalled	Gravel	Total
1	National Highways	4,286			4,286
2	State Highways	8,100	579	49	8,728
3	Major District Roads	9,210	1,486	121	10,817
4	Other District Roads/Village Roads	13,720	22,636	12,234	48,590
	<b>Total</b>	<b>35,316</b>	<b>24,701</b>	<b>12,404</b>	<b>72,421</b>

Source: Madhya Pradesh Public Works Department Annual Administration Report 2005–2006, updated as of March 2007 for national highways and state highways.

5. The carrying capacity of a road is governed by its carriageway width. Building wide roads when not warranted by traffic density does not make economic sense. Consequently, nearly half the state highways, most of the major district roads, and all other district roads are single lane. Table A2.3 indicates the distribution of roads by carriageway width.

**Table A2.3: Distribution of Roads by Carriageway Width (%)**

No.	Class of Road	Percent of Road Length			Total
		Single Lane	Intermediate Lane	Two or More Lanes	
1	State Highways	52	40	8	100
2	Major District Roads	90	9	1	100
3	Other District Roads	100	0	0	100

Source: Madhya Pradesh Public Works Department

6. The number of motorized vehicles registered increased from 2.9 million in 2001 to 4.2 million in 2005, representing an average 9.4% increase per year. Of 3.8 million motor vehicles registered, 76% were two-wheelers. Other than two wheelers, 20% were cars and jeeps, 11% commercial trucks, 2% buses and minibuses, and 43% tractors/trailers. Motor vehicles on roads increased from 2.6 million in 2001 to 3.9 million in 2005, an average 10.2% increase per year.

## B. Institutions of State Roads Asset Management

7. Madhya Pradesh Public Works Department (MPPWD) is responsible for the 72,000 km state road network. Madhya Pradesh Road Development Corporation (MPRDC) develops and manages strategically important roads including all state highways, some national highways, and major district roads delegated by MPPWD. MPRDC also implements all build-own-transfer (BOT) roads and bridges. The Ministry of Road Transport and Highways administers national highways, but delegates development and maintenance of these roads to MPPWD. The district administrations manage other district roads and village roads. The Rural Engineering Service is involved in the construction of rural roads and other rural civil engineering works. The Madhya Pradesh Rural Roads Development Authority is responsible for developing other district roads and village roads, which are funded through special schemes initiated by the central Government.

### 1. MPPWD

8. MPPWD is responsible for the construction and maintenance of public buildings, roads, and other works on behalf of the government of Madhya Pradesh (GOMP). The engineer-in-

chief is the technical head of the department and professional advisor to GOMP on policy and implementation related to public works. The engineer-in-chief reports to the MPPWD principal secretary and secretary. MPPWD is organized into six zones of which five are responsible for construction and maintenance of roads including other district roads and village roads. The zones are headed by chief engineers located at Bhopal, Gwalior, Indore, Jabalpur, and Rewa. The chief engineers are responsible for policy implementation and overall supervision of MPPWD administration at the zone level, and construction and maintenance of works within the zone.

9. Before 2000, 25 circle offices were headed by superintending engineers in the zones. They were responsible for supervision of the district division offices and were important links between the districts and the state. After these offices were abolished in 2000, a gap in supervision and coordination was noted. The circle offices have been reinstated.

10. Each circle office is responsible for 4–5 works divisions. Each district has about two divisions; the current 45 districts have 83 divisions. The divisions are the basic operating units and are headed by executive engineers, who are responsible for management of works including management of contracts and payment for works. A division can handle an annual workload of about Rs10 crore.<sup>1</sup>

11. The divisions are divided into 3–4 subdivisions; the state has 264 subdivisions. The subdivisions are headed by assistant engineers, who manage and supervise works. This involves design and contract management including quality control and testing. The assistant engineers are required to check the quality and quantity (measurement) of works, and are authorized to make staged payments to contractors and labor. Under every subdivision are 4–6 sections headed by subengineers, who are the basic field functionaries. They are responsible for managing actual construction activity in the field, taking measurements, giving day-to-day guidance and reporting to the assistant engineer.

12. MPPWD also has an electrical and mechanical wing, which is responsible for installing and maintaining electricity supply in public buildings and maintaining department equipment including machinery for roads. The electrical and mechanical wing has 3 circles, 6 divisions, and 48 subdivisions.

13. MPPWD (i) is a well-organized department with clearly defined duties and responsibilities for all professional staff; (ii) has competent and qualified engineers and other support staff to manage the road network and buildings in urban areas; (iii) has tools, plant, and adequate staff to operate and maintain them in working condition; and (iv) has a well-defined accounting and auditing system managed under the overall government systems. However, MPPWD requires improvements in certain areas including quality control, works management, and human resources development and management.

14. **Quality Control.** Quality control of works is the responsibility of contractors under the supervision of MPPWD staff. Contractors are responsible for establishing field laboratories and carrying out mandatory tests for materials and quality of work. MPPWD does not have enough laboratories or a well-defined system for testing and quality control in the divisions to enable rigorous testing. The state has one laboratory for testing and quality control for road works; every zone has a regional moratory. However, given the large area of the state and the

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<sup>1</sup> A crore is equal to Rs10,000,000.

extensive road network, adequate arrangements for quality control and testing of road material are needed.

15. **Works Management.** The works management system is in need of overhaul. Adherence to old codes and procedures sometimes result in project implementation delays. Decision making is not sufficiently decentralized. Operation decisions are delayed because of too many levels of interventions, and the tendency to adhere to established management and construction practices; staff are not motivated to accept new challenges.

16. **Human Resources Development and Management.** No regular arrangement seems to be in place to provide training and reorientation to officers of the department. The state does not have a single research or training institute dedicated to the roads sector. Cadre management has not received due attention in PWD. Promotion prospects are poor and many professional staff remain at lower levels for long periods. Discussions with MPPWD officers indicate that many junior engineers remain at the same level for up to 20 years, as do assistant engineers. Because of financial stringency and overstaffing in GOMP administration, recruitment of new staff into government employment has been restricted to certain reserved categories. During the last 10 years, virtually no assistant engineers have been recruited. Improved capability of engineering staff and reform of the human resources management policy are needed. The MPPWD engineers are competent but they are demoralized. Good results cannot be expected without increased training, capacity building, more effective cadre management, and career development strategies. Avenues for staff promotion have to be ensured, particularly for lower level functionaries.

## 2. MPRDC

17. MPRDC was established in line with a comprehensive reform under the Madhya Pradesh State Roads Sector Development Program.<sup>2</sup> MPRDC was incorporated as a company under the Indian Companies Act, 1956, primarily to take over the functions of the Madhya Pradesh Rajya Setu Nirman Nigam Limited and to promote public-private partnership projects in the Madhya Pradesh road sector. It was declared and notified as the highway authority under section 4 of the Madhya Pradesh Highway Act, 2004. MPRDC has started functioning as the state highway authority as was envisaged in the reform program.

18. MPRDC is a lean organization: using consultants for project preparation and supervision during delivery, adopting modern procurement systems guided by FIDIC conditions, and setting up computerized road asset management and financial management systems.<sup>3</sup> Its capacity was strengthened with a technical assistance (TA) funded by the Asian Development Bank (ADB). MPRDC is headed by a managing director, supported by a chief engineer and two deputy general managers (DGMs) for human resources and management information systems, and finance and accounting. The chief engineer is supported by two general managers for planning and maintenance, and projects; and one DGM for BOT. The general manager for planning and maintenance has two sections: (i) planning and maintenance, and (ii) road safety, which includes the environment and social management unit. The general manager for projects has four sections: (i) highway engineering, (ii) quality control, (iii) procurement, and (iv) bridge

<sup>2</sup> Asian Development Bank. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loans and Technical Assistance Grant to India for the Madhya Pradesh State Roads Sector Development Program*. Manila.

<sup>3</sup> MPRDC's finance and accounting function is headed by a deputy general manager supported by a chief accounting officer with two managers (finance and accounts). MPRDC adopted a computerized financial management system under the Madhya Pradesh State Roads Sector Development Program. The system has been commissioned and MPRDC officials are operating it.

engineering. Each section is headed by a DGM supported by an assistant general manager. MPRDC has seven division offices, which are in charge of day-to-day project and contract management for each project. Each division office is headed by a DGM supported by five assistant general managers, 12 managers, and support staff.

19. MPRDC adopts a modern management structure including computerized systems of road asset management and financial management. It has been equipped with capacity to use modern systems. However, concerns about long-term knowledge and know-how accumulation in the organization are related to the large number of staff deputed from MPPWD. Also, weak skills in project and contract management are apparent at the division offices. GOMP initiates support to increase the number of MPRDC regular staff, and MPRDC provides training opportunities for the staff to develop skills in various areas.

### **C. Road Transport Regulation and Industry**

20. The Madhya Pradesh Transport Department is responsible for (i) licensing, registration, and regulation of motor vehicles, drivers, and passenger and freight transport; and (ii) road safety policy and enforcement of axle-load regulations. It has a system of 39 weigh stations at entry points into the state, and mobile squads to carry out its responsibilities. The department is headed by a principal secretary and its functions are designed in accordance with the provisions of the Motor Vehicles Act, 1988. The principal legislation and regulations affecting the functioning of the department are Motor Vehicles Act, 1988; Central Motor Vehicles Rules, 1989; Madhya Pradesh Motor Vehicles Tax Act, 1991; Madhya Pradesh Motor Vehicles Tax Rules, 1991; and Madhya Pradesh Motor Vehicle Rules, 1994. Principal functions of the department are revenue collection; registration of vehicles; issuance of permits; inspection of vehicles and enforcement of penalties under various central and state laws and regulations; monitoring, implementation, and coordination of interstate and interregional transport arrangements; prevention of vehicular pollution and enforcement related regulations; and maintenance of statistical data for the use of central and state governments and transport organizations. Traffic police are responsible for enforcing traffic and road safety regulations. The traffic police are under the Home Department.

21. To modernize its functioning, Madhya Pradesh Transport Department has recently taken several initiatives. Among the initiatives to control and check overloading of goods carrying vehicles, the department is installing electronic weigh bridges at all major border crossings with other states. This helps the state identify vehicles violating the gross vehicle weight and axle-load regulations besides earning substantial revenues from fines and penalties. MPDRC will develop some of the integrated border check posts on a BOT basis.

22. The state-owned Madhya Pradesh State Road Transport Corporation, which was running about 3% of the state's buses, is being closed down in a phased manner. A number of government-operated routes have now been released for private sector operation, and once the corporation is closed, all routes will be released to the private sector. Route permits are given for private operators. GOMP sets fares, which are generally followed. Truck hire rates are fixed by market demand. Competition is good. Private sector operators provide most of the services for passenger and freight transport.

### **D. Road Expenditures and Revenues**

23. Budgetary expenditure for state roads in 2004/05 was Rs673 crore (\$150 million) against an original budget of Rs886 crore (\$197 million). The extent of underspending was equivalent to

24% of the original budget. The 2005/06 budget was 29% greater than the previous year at Rs1,080 crore (\$240 million). The 2006/07 budget has increased to Rs1,598 crore (\$355 million). However, an increasing proportion of road sector spending is taking place outside the budget, especially on Bond<sup>4</sup>/BOT roads. Reconstruction of more than 900 km of roads is planned under the Bond/BOT scheme by 2007/08 at a total cost of about Rs950 crore (\$211 million). This will bring the total length of bond/BOT roads throughout the state to 2,000 km. Table A2.4 summarizes the plan and nonplan budget allocation in recent years.

**Table A2.4: MPPWD Budget Allocation and Expenditure (Rs crore)**

Item	2002/03	2003/04	2004/05	2005/06	2006/07 <sup>a</sup>
<b>A. Budget Allocation</b>					
Plan	295.70	402.75	770.45	821.19	1,175.00
Nonplan	136.44	95.56	116.04	258.62	422.57
Wages/Salary	80.00	75.34	75.38	79.72	111.29
Renewal/Blacktop	24.46	0.00	0.00	51.31	59.08
Maintenance	31.64	20.03	40.62	127.48	237.18
Other	0.34	0.19	0.04	0.10	15.02
<b>Total</b>	<b>432.14</b>	<b>498.31</b>	<b>886.49</b>	<b>1,079.81</b>	<b>1,597.57</b>
<b>B. Expenditure</b>					
Plan	203.49	337.5	536.74	747.57	394.18
Nonplan	150.18	112.78	136.59	266.16	161.13
Wages/Salary	74.92	75.23	84.62	86.69	66.00
Renewal/Blacktop	22.36	2.83	0.99	66.54	14.11
Maintenance	52.89	31.64	50.95	112.93	80.64
Other	0.01	3.09	0.03	0.00	5.38
<b>Total</b>	<b>353.67</b>	<b>450.28</b>	<b>673.33</b>	<b>1,013.73</b>	<b>555.31</b>

MPPWD = Madhya Pradesh Public Works Department.

<sup>a</sup> Expenditure of 2006/07 is as of October 2006.

Source: Madhya Pradesh Public Works Department.

24. Revenues relating to road use include registration fees; vehicle, passenger, and goods taxes, and so on, and were Rs560 crore (\$124 million) in 2005/06, which increased from Rs393 crore (\$87 million) in 2001/02. The average annual increase is 9.4% with a substantial increase in the last 2 years by 15% due to a smart-card system for vehicle registration and tax payment. In addition, road users pay fees at border posts and to flying squads for overloading control; commercial sales taxes such as vehicles, fuel, tires, and spare parts; central road fund share; and tolls to MPPWD and BOT concessionaires. Road users paid approximately Rs340 crore (\$76 million) in 2005/06 to the GOMP and the Bond/BOT concessionaires.

## E. Main Sector Issues and Government Initiatives

25. The road network of the state is very poor in terms of coverage and conditions, and demands for road transport are increasing. Insufficient funding to road maintenance has increased the backlog of deferred maintenance. GOMP is working to reduce the backlog as set out in *Refurbishing Roads in Madhya Pradesh*, May 2005. This is a state road rehabilitation program to immediately strengthen and upgrade the state road network by 2009/10. The program (Table A2.5) intends to improve some 22,000 km of state roads through various schemes, including the central road fund, Bond/BOT schemes, and ADB assistance.

<sup>4</sup> Bonds roads are those financed under the Madhya Pradesh Infrastructure Investment Fund Scheme.

**Table A2.5 State Roads Rehabilitation Program**

Item	State Highway		Major District Road		Other District Road/Village Road		Total	
	Km	Rs crore	Km	Rs crore	Km	Rs crore	Km	Rs crore
2006/07	1,520	760	2,000	320	3,000	540	6,520	1,620
2007/08	1,385	693	2,200	352	3,000	540	6,585	1,585
2008/09	580	290	2,370	379	3,000	540	5,950	1,209
2009/10					2,440	439	2,440	439
<b>Total</b>	<b>3,485</b>	<b>1,743</b>	<b>6,570</b>	<b>1,051</b>	<b>11,440</b>	<b>2,059</b>	<b>21,495</b>	<b>4,853</b>

km = kilometer.

Source: Government of Madhya Pradesh. 2005. *Refurbishing Roads in Madhya Pradesh*. Bhopal.

26. GOMP also takes on sector development initiatives under the state road policy to (i) develop and sustain the road network in accordance with Indian Roads Congress standards, (ii) develop efficient asset management systems, (iii) enhance the capacity for effective and efficient road construction, (iv) attract private sector financing to roads, and (v) ensure high standards of road safety and travel comfort.

### 1. Reform and Capacity Building in Road Sector Management

27. Under the Madhya Pradesh State Roads Sector Development Program, substantial development of the sector reform was achieved, including enactment of the State Highway Act, 2004, and incorporation of MPRDC and its subsequent notification as highway authority for state highways. MPRDC has adopted best practices for planning and maintenance systems, financial management, and procurement. MPRDC is now regarded as a benchmark of good practice in managing the state highway network. GOMP highly appreciates the contributions made by the TA provided in parallel with the loan, especially in terms of establishing MPRDC and developing its capacity. MPPWD intends to adopt technologies and practices of MPRDC in the context of MPPWD.

28. GOMP recently provided policy recommendations to improve MPPWD operations, which include development of an appropriate road development plan, improvement of MPPWD's business procedures and practices, and human resources management. A major step taken by GOMP is to abolish the letter-of-credit system to streamline administrative procedures for transparent, effective, and efficient use of the allocated budget. MPPWD is also enhancing its planning capacity to prioritize roads for improvement on an economic basis and to prepare a condition-based budget for maintenance. Such initiatives include establishing the Planning Unit, training in project management skills, and pilot implementation of road management systems in selected districts.

### 2. Road Maintenance Financing and Operations

29. The nonplan budget has been substantially increased from Rs136 crore to Rs423 crore in the past 5 years (from 2002/03 to 2006/07). The maintenance requirement, estimated by the Planning Commission, is Rs500 crore per annum. The budget allocation since the current fiscal year 2006/07 substantially covers requirements especially due to the provision of the Government's grant-in-aid (about Rs147 crore annually) under 12th Finance Commission. After the GOMP's road improvement program, the budget requirement for maintenance will be increased and is estimated at Rs650 crore annually between 2009/10 and 2014/15. Revenue relating to road use is estimated at Rs557 crore in 2005/06, increasing by 15% from the previous year, which is absorbed in the general government revenue. GOMP also established

an earmarked reserve, the Kisan Road Fund, which is exclusively used for development and maintenance of state roads. About Rs100 crore–Rs120 crore has been collected every year from a major portion (85%) of one half of market cess levied on agriculture produce since 2001.

30. Of concern is the efficient and effective utilization of the budget. Due to the strong GOMP initiative on effective use of gang labor, the increase to maintenance excluding salary and wages is much higher, from Rs56 crore in 2002/03 to Rs296 crore in 2006/07. The share of the salary/wage element in the nonplan budget has been reduced from 70% in 2003/04 to 40% in 2006/07 as of October 2006 (Table A2.4). These demonstrate GOMP's increased commitment to maintenance and increased efficiency of road maintenance works. GOMP is expected to further improve efficiency, e.g., further 30% reduction of the current wage/salary element of maintenance works by the end of the Project. Increased construction quality due to inclusion of 3–5-year performance guarantees into civil works contracts will increase the efficiency of maintenance works and hence reduce maintenance costs.

### **3. Private Sector Participation**

31. GOMP took on major initiatives to facilitate road development through public-private partnerships such as enactment of the Madhya Pradesh Highway Act, 2004, and Indian Tolls (Madhya Pradesh Amendment) Act, 1992. The 1992 amendment of the Indian Tolls Act and the Indian Tolls (Madhya Pradesh Amendment) Act, 1992, together empower GOMP to enter into contracts for development of public roads and bridges with private entities, appoint them as lessees for collection of tolls on contracted roads or bridges, and give them protection in the matter of toll collection as if they were employed by GOMP. Currently, MPRDC manages 1,540 km of roads under the BOT scheme. An additional 640 km are proposed to be developed under the BOT scheme in 2006/07. Maintenance of state highways is now 100% contracted out to the private sector. A maintenance, operate, and transfer scheme has been introduced and will be applied to all ADB-funded projects. MPRDC will explore more opportunities for BOT and maintenance, operate, and transfer schemes for high-density state roads.

32. MPPWD contracts all road improvements and part of periodic maintenance to the private sector. It will increase the contracting out of maintenance works by incorporating 3–5-year maintenance works into civil works contracts. This will be in accordance with the reduction of gang labor to keep roads in a maintainable condition.

### **4. Road Safety**

33. The road accident rate in Madhya Pradesh was 12.4 fatalities per 10,000 vehicles in 2004, decreasing from 13.2 in 2001. The rate has now improved to the national average (12.8 in 2003). However, it is still much higher than rates in Australia, Europe, Japan, and United States. About 30% of fatal accidents are head-on collisions. Most accidents are the fault of drivers, followed by defects in the mechanical condition of motor vehicles.

34. The state Road Safety Council was reconstituted in 2006, chaired by a chief minister and represented by all government agencies, road user groups, and transport experts concerned. Committees have been established to coordinate various efforts to improve road safety. District road safety committees under the leadership of a district collector meet 2–4 times a year to review road safety-related aspects, especially a road safety program comprising 20 issues such as implementation of advance warning measures to prevent accidents during the heavy rainy season, reflective markers on the side of trucks, and use of helmet and seatbelts. Other initiatives taken by GOMP include road safety education, which is included in the school

curriculum, establishment of trauma care centers, and provision of an accident assistance number. The traffic police are responsible for accident data collection and analysis. The relatively high share of accidents due to mechanical defects is a concern.

35. A road safety cell has been formulated in MPRDC. MPRDC has modified the accident investigation and prevention manual prepared for the Ministry of Shipping, Road Transport and Highways under ADB TA<sup>5</sup> to reflect local experiences and to adapt it to the road network under GOMP. The accident investigation and prevention manual was prepared in 1996 to guide highway authorities and engineers in reducing road accidents and fatalities in India. Based on this, MPRDC conducts a road safety audit to ensure safety features are incorporated in designs. MPRDC conducted road safety audits for the proposed Project and the previous ADB project (footnote 2).

36. In 1996, the Government recommended establishing the Directorate of Safety and Traffic Management and setting up a road safety fund, earmarking 1% of cess revenue for national highways. An expert committee at the Ministry of Shipping, Road Transport, and Highways will review these recommendations and finalize a road safety policy to address legal, institutional, and financial issues for road safety. This will provide a new context for state funding and institutional setup for road safety.

## 5. Control of Overloading

37. The legal framework is in place to control overloading of vehicles. The weakness is the lack of inspection, surveillance, and enforcement system to enforce it. GOMP has drawn up a phased statewide program to strengthen and improve infrastructure at state border check posts to strengthen overloading control. GOMP is undertaking a rigorous inspection at the border check-post locations. It has allocated funds for 10 electronic weigh bridges and surveillance mechanisms, which MPRDC installed at the state borders and key locations on the road network under the previous loan (footnote 2). Private investors are being invited to install weigh bridges at another 26 locations. GOMP will provide state support to their operation. As an added precaution against enforcement officers' laxity and corruption, closed-circuit television cameras are being installed and connected by satellite to the nearest road transport offices, allowing remote monitoring of weighing operations. Collection of the composition fee has increased as a result of these efforts: in 2004/05, it was 27% higher than in 2003/04, and in 2005/06, 60% higher than in 2004/05. GOMP recently increased the composition fee by more than 100%, thus sensitizing truck operators and discouraging them from plying overloaded trucks. In November 2005, the Supreme Court of India passed a judgment banning overloading of trucks to prevent premature damage to roads, and mandated that excess cargo be offloaded at the risk and cost of the vehicle owner before the truck would be permitted to continue its journey, even after payment of penalty. GOMP's efforts are expected to eventually reduce vehicle overloading.

38. Key sector development initiatives undertaken are summarized in the institutional development action plan (Appendix 3).

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<sup>5</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loans and Technical Assistance Grant to India for the National Highways Project*. Manila.

### INSTITUTIONAL DEVELOPMENT ACTION PLAN

Objective	Elements	Actions Taken/Under Way	Actions to be Taken
<b>A. Road Sector Strategy</b>			
1.	Sustainable long-term strategy for the state road sector	-Road policy -Investment programs for state highways and major district roads	-Road policy developed -Short-term plan developed
<b>B. Organization Reform/Strengthening</b>			
2.	Enhanced road organization structure for roads policy, planning, and execution functions	-Reorganize road sector institutions for modernizing overall sector development and management -Enhance the capacity of the MPPWD Planning Unit	-MPRDC established and managing strategically important roads on a commercial basis -MPPWD Planning Unit to be equipped with staff and tools to prepare <ul style="list-style-type: none"> <li>▪ condition-based investment and maintenance budget annually</li> <li>▪ medium- and long-term state road development program</li> </ul>
3.	Improved business practices for state road	-Sound procurement and contracting processes	-MPRDC adopts procurement procedures and standard bid documents based on international best practices -MPPWD and MPRDC put procurement advertisement in websites and reputed newspapers, and the bid documents are downloadable from the website
-Obtain administrative approval based on the detailed project report -MPPWD and MPRDC to enhance project/contract management skills -MPPWD to improve tender documents -Increase outsourcing of construction supervision in MPPWD -Strengthen MPRDC highway and bridge design units through training and use of modern software			

Objective		Elements	Actions Taken/Under Way	Actions to be Taken
		<ul style="list-style-type: none"> <li>-Sound norm-based planning process</li> <li>-Improved quality assurance</li> <li>-Improved efficiency and transparency of resource use</li> <li>-Enhanced environment and social management capacity</li> <li>-Improved financial management capacity</li> </ul>	<ul style="list-style-type: none"> <li>-MPRDC adopts asset management practices based on international best practices</li> <li>-Guidelines of project preparation and asset management prepared</li> <li>-Testing laboratory to be essential part of construction works and supervision consultants</li> <li>-MPPWD terminate a letter of credit system for facilitating smooth flow of funds to field offices</li> <li>-MPRDC established an Environmental Cell and staffed</li> <li>-MPRDC computerized financial management systems</li> </ul>	<ul style="list-style-type: none"> <li>-Establish planning practices based on international best practices</li> <li>-Establish a competent quality control unit</li> <li>-Enhance laboratory capacity</li> <li>-Establish quality assurance strategy</li> <li>-MPPWD to develop monitoring systems for maintenance budget</li> <li>-MPRDC to strengthen environment and social management capacity</li> <li>-Computerize MPPWD financial management systems</li> </ul>
4.	Improved human resources management	<ul style="list-style-type: none"> <li>-Increased staff productivity</li> <li>-Improved skill mix</li> </ul>	<ul style="list-style-type: none"> <li>-MPPWD enhanced productivity of gang labor by increasing maintenance funding and effective distribution of materials</li> <li>-Annual training provided to engineers</li> </ul>	<ul style="list-style-type: none"> <li>-Fully utilize available human resources through skill development and redeployment in other organizations</li> <li>-Adopt cadre management to ensure promotion opportunities and adequate staffing</li> <li>-Ensure continuous results-oriented posting of personnel</li> </ul>

	Objective	Elements	Actions Taken/Under Way	Actions to be Taken
				<ul style="list-style-type: none"> <li>-MPPWD to increase planning, procurement, quality assurance, social, and environment staff</li> <li>-Develop learning and training program</li> <li>-MPPWD to enhance productivity of gang labor</li> </ul>
<b>C. Private Sector Participation</b>				
5.	Improved quality and efficiency of road development and management	<ul style="list-style-type: none"> <li>-Increased private sector participation in maintenance</li> <li>-Increased cost effectiveness of road construction and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>-Develop enabling environment, e.g., laws and regulations</li> <li>-Build-operate-transfer schemes implemented</li> <li>-Maintain, operate, and transfer contracts implemented</li> <li>-Performance-based contracts implemented</li> </ul>	<ul style="list-style-type: none"> <li>-Increase build-operate-transfer; maintain-operate-transfer; and performance-based contracts on developed/rehabilitated roads</li> <li>-Increase outsourcing maintenance works to private sector</li> </ul>
<b>D. Financing Road Development and Maintenance</b>				
6.	Economic budget allocation for road improvement and maintenance	<ul style="list-style-type: none"> <li>-Rational selection of road investment projects</li> <li>-Condition-based budget estimate for maintenance</li> <li>-Increased budget allocation to maintenance</li> </ul>	<ul style="list-style-type: none"> <li>-MPRDC established electronic road register and asset management systems</li> <li>-MPRDC prepared annual condition-based budget for maintenance</li> </ul>	<ul style="list-style-type: none"> <li>-MPPWD to introduce electronic road register and asset management systems for condition-based budget estimate</li> <li>-Collect required data for state road network</li> <li>-Institutionalize the data collection program</li> </ul>
7.	Enhanced transparency and accountability for fund usage	<ul style="list-style-type: none"> <li>-Road user satisfaction</li> <li>-Efficient use of allocated funds</li> </ul>	<ul style="list-style-type: none"> <li>-Full maintenance financing for state highways</li> <li>-Outcome budgeting introduced</li> </ul>	<ul style="list-style-type: none"> <li>-Increase maintenance financing for district roads</li> <li>-Fully utilize allocated funds</li> </ul>

Objective	Elements	Actions Taken/Under Way	Actions to be Taken
<b>E. Road Safety</b>			
8.	Improved road safety	Enhanced GOMP capacity to improve and manage traffic safety	<ul style="list-style-type: none"> <li>-State road safety council reconstituted</li> <li>-20-point road safety program implemented and monitored</li> <li>-A road safety cell formulated in MPRDC</li> <li>-Accident investigation and prevention manual prepared</li> <li>-MPRDC and MPPWD implement road safety audit</li> </ul> <ul style="list-style-type: none"> <li>-Improve training school for testing and licensing</li> <li>-Improve GOMP capacity for vehicle fitness testing</li> </ul>
<b>F. Overloading</b>			
9.	Reduced overloading	Enhanced GOMP capacity to reduce overloading	<ul style="list-style-type: none"> <li>-A phased program set up to improve infrastructure at state border check posts</li> <li>-Weigh bridges installed in selected spots</li> </ul> <ul style="list-style-type: none"> <li>-Install additional weigh bridges</li> <li>-Enforce the regulation, e.g., practicing off-loading of overloaded trucks</li> </ul>

GOMP = government of Madhya Pradesh, MPPWD = Madhya Pradesh Public Works Department, MPRDC = Madhya Pradesh Road Development Corporation.

## EXTERNAL ASISTANCE TO THE ROAD SECTOR

## A. Asian Development Bank

No.	Project Name	Type	Amount (\$'000)	Date Approved
<b>1.</b>	<b>Technical Assistance</b>			
0955	Road Improvement	PP	75	24 Feb 1988
1058	Pavement Management	A&O	490	3 Jan 1989
1059	Expressway System Planning	A&O	260	3 Jan 1989
1164	Second Road	PP	100	9 Jun 1999
1325	Vadodara–Bombay Expressway	PP	600	15 Jun 1990
1402	Pavement Management for National Highways	A&O	760	30 Oct 1990
1403	Private Sector Participation in Expressway Financing, Construction, and Operation	A&O	500	30 Oct 1990
1404	Road Construction Industry	A&O	340	30 Oct 1990
1325	Vadodara–Bombay Expressway (Supplementary)	PP	250	19 Mar 1991
1678	Third Road	PP	250	26 Mar 1992
1942	Faridabad–Noida–Ghaziabad Expressway	PP	550	27 Aug 1993
1951	Bombay–Vadodara Expressway TA Project Environmental Impact Assessment	PP	90	10 Sep 1993
2001	Road Safety	A&O	210	29 Nov 1993
2002	Environmental Management of Road Projects	A&O	240	29 Nov 1993
2003	Technical Standards of Highway Concrete Structures	A&O	350	29 Nov 1993
2986	Western Transport Corridor: Facilitating Private Participation	PP	1,000	9 Feb 1998
3142	North–South Corridor Development in West Bengal	PP	1,000	23 Dec 1998
3361	Capacity Building for Contract Supervision and Management in the National Highways Authority of India	A&O	600	22 Dec 1999
3365	Capacity Building for Social Development	A&O	800	23 Dec 1999
3445	Establishing a Public Private Joint Venture for the West Bengal North–South Economic Corridor Development	A&O	150	25 May 2000
3538	Preliminary Engineering for the West Bengal Corridor Development	PP	150	13 Nov 2000
3539	Resettlement and Environmental Assessment for the West Bengal Corridor Development	PP	150	13 Nov 2000
3540	Economic and Poverty Analysis for the West Bengal Corridor Development Project	PP	150	13 Nov 2000
3724	Enhancing the Corporate Finance Capability of National Highways Authority of India	A&O	700	20 Sep 2001
3751	Madhya Pradesh State Road Sector Development	PP	600	29 Oct 2001
3752	National Highway Corridor and Public–Private Partnership	PP	700	29 Oct 2001
3845	Madhya Pradesh State Road Development	PP	1,000	14 Mar 2002
3914	Economic Studies for the Rural Roads Sector Development	PP	150	3 Sep 2002
3915	Engineering Studies for the Rural Roads Sector Development	PP	150	3 Sep 2002
3916	Environmental Analysis for the Rural Roads Sector Development	PP	100	3 Sep 2002
3917	Institutional and Policy Development Studies for the Rural Roads Sector Development	PP	150	3 Sep 2002
3918	Social Analysis for the Rural Roads Sector Development	PP	150	3 Sep 2002
3995	Chhattisgarh State Roads Sector Development	PP	800	21 Nov 2002
4013	Institutional Strengthening and Capacity Building for Madhya Pradesh State Road Sector	A&O	1,500	5 Dec 2002
4036	National Highway Corridor (Sector)	PP	500	16 Dec 2002
4152	National Highway Sector II	PP	300	21 Jul 2003
4220	Rural Roads Sector II	PP	1,000	20 Nov 2003
4271	Development of High-Density Corridors under the Public–Private Partnership	A&O	700	18 Dec 2003
4355	High Priority National Highways	PP	1,000	8 Jul 2004
4378	Northeastern State Roads	PP	800	23 Aug 2004
4013	Institutional Strengthening and Capacity Building for Madhya Pradesh State Road Sector (Supplementary)	A&O	600	29 Apr 2005
4697	Development of Road Agencies in the North Eastern States	ADTA	900	23 Nov 2005

No.	Project Name	Type	Amount (\$'000)	Date Approved
4814	TA Cluster for Project Processing and Capacity Development		15,000	30 June 2006
<b>2. Loans from Ordinary Capital Resources</b>				
0918	Road Improvement		198.00	10 Nov 1988
1041	Second Road		250.00	30 Oct 1990
1274	National Highways		245.00	29 Nov 1993
1747	Surat–Manor Tollway Project		180.00	27 July 2000
1839	Western Transport Corridor		240.00	20 Sept 2001
1870	West Bengal Corridor Development		210.00	11 Dec 2001
1944	East–West Corridor		320.00	26 Nov 2002
1958	Madhya Pradesh State Roads Sector Development (Program Loan)		30.00	5 Dec 2002
1959	Madhya Pradesh State Roads Sector Development (Project Loan)		150.00	5 Dec 2002
2018	Rural Roads Sector I		400.00	20 Nov 2003
2029	National Highway Corridor (Sector) I		400.00	4 Dec 2003
2050	Chhattisgarh State Roads Development Sector		180.00	15 Dec 2003
2154	National Highway Sector II		400.00	21 Dec 2004
MFF	Rural Roads Sector II Investment Program		750.00	20 Dec 2005
2248	Rural Roads Sector II Investment Program–Project 1		180.00	31 July 2006

## B. Other Funding Sources

Region/State	Project Name	Project Length (km)	Loan Amount (yen million)	(\$ million equivalent)
<b>1. Japan Bank for International Cooperation</b>				
Uttar Pradesh	Mathura–Agra	51	4,855	43.3
Uttar Pradesh	Allahabad–Naini Bridge	5	10,037	89.6
Andhra Pradesh	Chilakaluripet–Vijayawada	83	11,360	101.4
Orissa	Jagatput–Chandikhol	33	5,836	52.1
Uttar Pradesh	Ghaziabad–Hapur	33	4,827	43.0
			<b>Amount (\$ million)</b>	
			<b>IBRD</b>	<b>IDA</b>
			<b>Date Approved</b>	
<b>2. World Bank Group</b>				
Countrywide	Roads		72.11	1 Jun 1961
Bihar	Bihar Rural Roads		35.00	1 Nov 1980
Countrywide	National Highway	200.00		1 May 1985
Gujarat	Gujarat Rural Roads		119.60	1 Feb 1987
Countrywide	State Roads		80.00	1 Oct 1988
Countrywide	State Roads	170.00		1 Oct 1988
Countrywide	Second National Highways	153.00		1 May 1992
Countrywide	Second National Highways		153.00	1 May 1992
Countrywide	State Road Infrastructure Development		51.50	1 Dec 1996
	Technical Assistance			
Andhra Pradesh	State Highways	350.00		1 Jun 1997
Countrywide	Third National Highways	516.00		12 May 2000
Countrywide	Gujarat State Highways	381.00		15 Sep 2000
Countrywide	Grand Trunk Road Development	589.00		21 Jun 2001
Karnataka	Karnataka State Highways Improvement	360.00		24 May 2001
Kerala	Kerala State Transport	255.00		14 Mar 2002
Mizoram	Mizoram State Roads		60.00	14 Mar 2002
Uttar Pradesh	Uttar Pradesh State Roads	488.00		19 Dec 2002
Tamil Nadu	Tamil Nadu Road Sector	348.00		17 Jun 2003
Himachal Pradesh, Jharkhand, Rajasthan, Uttar Pradesh	Rural Roads	99.50	300.00	23 Sep 2004
Uttar Pradesh, Bihar	Lucknow–Muzaffarpur National Highway		465.00	21 Dec 2004

A&O = advisory and operational, IBRD = International Bank for Reconstruction and Development, IDA = International Development Association, PP = project preparatory.

Sources: Asian Development Bank, Japan Bank for International Cooperation, and World Bank.

## LIST OF CANDIDATE ROADS AND SUMMARY OF DESIGN STANDARDS

1. Table A5 presents a list of the candidate project roads.

**Table A5: List of Candidate Project Roads**

No.	Name of Candidate Project Road	Length (km)
1	Shivpuri–Sheopur–Rajasthan Border (SH-6)	144
2	Gairathganj–Silwani–Gadarwada (SH-44)	93
3	NH 12 Junction–Silwani (SH-15)	35
4	Bareilly–Pipariya road (SH-19)	40
5	Mandleshwar–Kasrawad (SH-1) Kasrawad–Khargone road (SH-31)	50
6	Banher to Maharashtra Border (SH-31)	66
7	Badwah–Dhamnod road, Khalghat–Manawar road (SH-38) and Khalghat–Kasrawad road	123
8	Indore–Deparpur road	33
9	Girgodha–Indoria road	43
10	Shyampur–Goras road (SH-23)	65
11	Morena–Porsa road (SH-2)	50
12	Khandwa–Khargone road (SH-26)	75
13	Hoshangabad–Budhani–Nasrullaganj–Khategaon road (SH-22)	87
14	Nagod Jasso Saleha Powai Semaria Amanganj road	116
15	Amanganj–Malhera (SH-10)	90
16	Seoni–Chiraidongri (SH-11A)	91
17	Bhalaghat–Nainpur (SH-11)	82
18	Tala–Shahdol (Chhatisgarh Border) (SH-10)	69
19	Katni–Barhi–Tala (SH-10)	79
20	Lakhnadon–Mandla–Dindori (SH-10)	191
21	Bela–Gonvindgarh–Churhat (SH-52)	57
22	Rewa–Sirmor–Dabhore road	76
<b>Total</b>		<b>1,754</b>

Source: Madhya Pradesh Road Development Corporation

2. A summary of the design standards and general design considerations for the subprojects is as follows:

- (i) The design criteria adopted is in accordance the applicable Indian Roads Congress codes and standards for the design and construction of roads and bridges.
- (ii) Existing single and intermediate lane carriageways will be rehabilitated and widened to intermediate (5.5 meters [m])/two- lane (7.0 m) carriageway width. The overall formation width of the highway will be 10/12 m. In built-up and urban areas widening will be accommodated within the existing right-of-way as far as possible.
- (iii) Proper cross-drainage structures will be provided, wherever necessary, to ensure all-weather connectivity.
- (iv) The overall width of culverts and new bridges will be 12 m.

- (v) Adequate road safety features will be provided in accordance with the requirements of Indian Roads Congress standards and based on the results of the road safety audit.
- (vi) Bituminous pavement will be provided, except for stretches through built-up and urban areas. Concrete pavement if required will be provided in built-up and urban areas.

## SELECTION CRITERIA AND APPROVAL PROCESS FOR INVESTMENT SUBPROJECTS

### A. Subproject Selection Criteria

1. Unless modified or amended in the loan or project agreements, the Project will utilize the following subproject selection criteria and approval process.
2. A subproject will be eligible for financing under the Project if:
  - (i) It is to improve existing state roads, and be part of the network implemented by the MPRDC;
  - (ii) It is technically feasible least-cost and a detailed report prepared supporting such feasibility;
  - (iii) An economic analysis of the subproject prepared in accordance with Asian Development Bank (ADB) *Guidelines for the Economic Analysis of Project* shows that the estimated economic internal rate of return will be at least 12%;
  - (iv) The subproject has been screened for its environmental impacts in compliance with the requirements of India and ADB's *Environment Policy (2002)*, an environmental assessment has been prepared following the environmental assessment and review procedures as specified in the environmental assessment review framework agreed between the Government and ADB (Supplementary Appendix F), it avoids passing through any designated wild-life sanctuaries, national parks, other sanctuaries, or area of internationally significance (e.g. protected wetland designated by the Wetland Convention), it avoids, as much as possible, passing through any cultural heritage designated by UNESCO and ADB has approved the environmental assessment and proposed mitigation measures;
  - (v) The subproject will, to the extent possible, not require land acquisition or resettlement (which includes the displacement of squatters or encroachers from the rights-of-way). If land acquisition or involuntary resettlement is required for a subproject, the subproject should limit to category B where a short resettlement plan will be prepared in accordance with applicable laws and regulations of GOMP, ADB's *Policy on Involuntary Resettlement (1995)* and *Operations Manual F2 on involuntary resettlement (2003)*; and the agreed resettlement framework (Supplementary Appendix E);
  - (vi) If any indigenous peoples/scheduled tribes are likely to be affected significantly by a subproject, an indigenous peoples development plan (IPDP) will be prepared in accordance with the agreed indigenous peoples development framework (Supplementary Appendix D);
  - (vii) Sufficient counterpart funding has been allocated to implement the subproject timely and efficiently in accordance with the overall implementation schedule; and;
  - (viii) For each subproject, all necessary Government approvals will be obtained.

## B. Approval Process

3. All subprojects will be prepared and processed in accordance with the procedures set out below.

- (i) MPRDC will select a possible subproject from priority roads, which is part of the existing network implemented by MPRDC. MPRDC will then conduct a feasibility study for the subproject including its cost estimate, technical and economic analysis. EA will also prepare (a) an initial poverty and social assessment (IPSA) and fill out a checklist for (b) involuntary resettlement; (c) indigenous people; and (d) environmental screening.
- (ii) MPRDC will submit (a) appraisal reports/project selection and prioritization reports, (b) IPSA, and (c) the above checklists to ADB for further review, to obtain necessary guidance with regard to the extent of relevant analysis, assessment or plans.
- (iii) ADB will review the reports submitted by MPRDC. If ADB finds that a proposed subproject is not likely to satisfy the eligibility criteria and/or that the agreed procedures, ADB will advise MPRDC either (a) to modify the subproject proposal in a manner that will make it eligible for approval; or (b) that the subproject must be rejected. If a subproject is rejected, MPRDC may propose a replacement subproject. If the ADB finds that the proposed subproject is likely to satisfy the eligibility criteria and procedures, ADB will advise whether, based on the resettlement checklist a short resettlement plan is required, and based on the indigenous people checklist, whether an IPDP is required. An initial environmental examination (IEE) is required for all subprojects.
- (iv) Following the review described in (iii) by MPRDC and/or ADB, MPRDC will conduct preliminary design and/or detailed design or other similar design works and, based on those works, develop a short resettlement plan (if required) and IPDP (if required), and undertake an IEE including an environmental management plan (EMP) with support of the on-going technical assistance consultants.<sup>1</sup>
- (v) MPRDC will disclose the short resettlement plan (if required), IPDP (if required) and IEE to the affected persons and incorporate the results of the consultation.
- (vi) The reports of preliminary design/other design work, including the short resettlement plan (if required), IPDP (if required) and IEE, will be submitted by MPRDC in light of the relevant frameworks and following examples provided by the ADB based on the appraisal of the sample subproject.
- (vii) MPRDC will send the relevant safeguard documents (the short resettlement plan [if required], IPDP [if required] and IEE) to ADB for final review and approval.
- (viii) After reviewing the appraisal reports and relevant safeguard documents, if ADB finds that the proposed subproject does satisfy the eligibility criteria and procedures, ADB will approve the subproject. If ADB finds that the proposed

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<sup>1</sup> ADB. 2006. *TA Cluster to India for Project Processing and Capacity Development*. Manila.

subproject does not satisfy the eligibility criteria and procedures, or does not comply with ADB's safeguard policies, ADB may (a) advise MPRDC on remedial actions to be taken for the proposed subproject in order for it to comply or (b) reject the subproject.

## DETAILED COST ESTIMATES AND FINANCING PLAN

(\$ million)

Item	Foreign Exchange	Local Currency	Total	ADB Financing	Government Financing
<b>A1. Sample Subproject</b>					
<b>(Lakhnadon – Mandla - Dindori, SH-10, about 190 km)</b>					
1. Civil Works <sup>a</sup>	19.6	9.2	28.9	25.0	3.9
2. Relocation of Utilities	0.0	0.1	0.1	0.0	0.1
<b>A2. Non-Sample Subproject (about 1,600 km)</b>					
1. Civil Works <sup>a</sup>	188.9	88.9	277.8	240.6	37.2
2. Relocation of Utilities	0.0	1.5	1.5	0.0	1.5
3. Land Acquisition and Resettlement	0.0	0.1	0.1	0.0	0.1
<b>Subtotal (A)</b>	<b>208.5</b>	<b>99.8</b>	<b>308.4</b>	<b>265.6</b>	<b>42.8</b>
<b>B. Consulting Services</b>	3.0	9.0	12.0	12.0	0.0
<b>C. Project Management</b>	0.0	4.0	4.0	0.0	4.0
<b>D. Institutional Development (Equipment)</b>	1.0	0.0	1.0	1.0	0.0
<b>Subtotal (A+B+C+D)</b>	<b>212.5</b>	<b>112.8</b>	<b>325.4</b>	<b>278.6</b>	<b>46.8</b>
<b>E. Contingencies</b>					
1. Physical Contingencies <sup>b</sup>	22.1	10.4	32.5	27.9	4.7
2. Price Contingencies <sup>c</sup>	6.9	8.9	15.8	13.5	2.3
<b>F. Interest During Construction<sup>d</sup></b>	24.3	0.0	24.3	0.0	24.3
<b>G. Commitment Charges<sup>e</sup></b>	2.0	0.0	2.0	0.0	2.0
<b>Total</b>	<b>267.9</b>	<b>132.1</b>	<b>400.0</b>	<b>320.0</b>	<b>80.0</b>
				<b>80.0%</b>	<b>20.0%</b>

ADB = Asian Development Bank, km = kilometer.

<sup>a</sup> Cost estimate is based on feasibility study and includes environmental mitigation. The cost estimate includes taxes and duties estimated at about \$15 million.

<sup>b</sup> Physical contingencies are computed at 10% of civil works and consulting services cost.

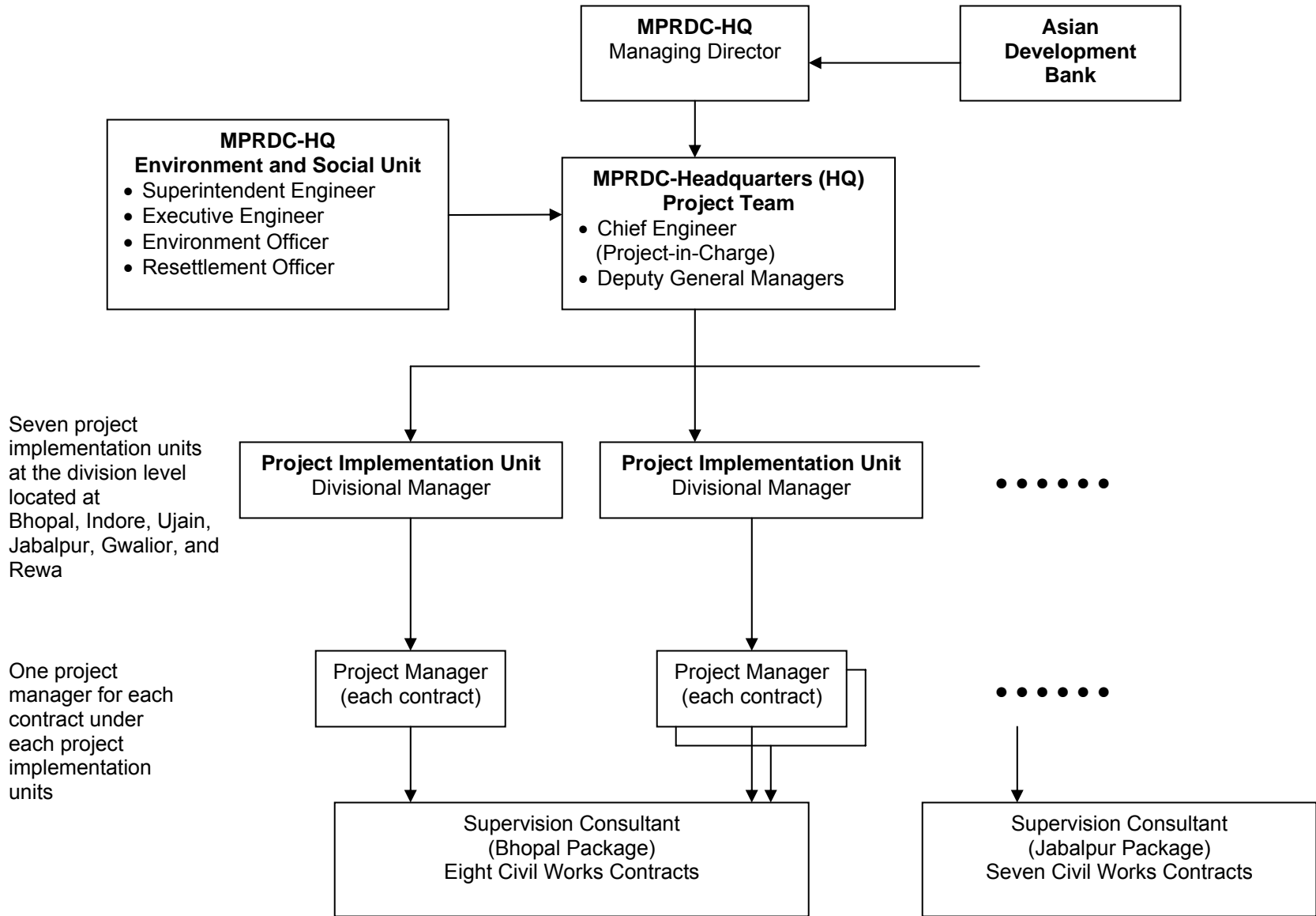
<sup>c</sup> Price contingencies computed at 2.8% (2007) and 1.2% (subsequent years) on foreign exchange costs and 5% (2007), 4.5% (2008) and 4.3% (2009) on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Interest during construction computed at London interbank offered rate 6-month floating rate (5.2%) + ADB spread (0.6%).

<sup>e</sup> Commitment charges computed at 0.35% of the undisbursed amount.

Source: Asian Development Bank.

# PROJECT IMPLEMENTATION CHART



## IMPLEMENTATION SCHEDULE

Item	2007				2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>A. Project Preparation</b>																				
<b>1. First Group Subprojects</b>																				
a. Loan Processing and Approval by ADB																				
b. Detail Design																				
<b>2. Other Subprojects</b>																				
a. Subprojects Appraisal by EAs																				
b. Detail Design																				
<b>B. Construction Supervision Consultants</b>																				
<b>1. First Group Subprojects</b>																				
a. Selection																				
b. Supervision																				
<b>2. Other Subprojects</b>																				
a. Selection																				
b. Supervision																				
<b>C. Civil Works</b>																				
<b>1. First Group Subprojects</b>																				
a. Procurement																				
b. Construction																				
<b>2. Other Subprojects</b>																				
a. Procurement																				
b. Construction																				


 Defect liability period

ADB = Asian Development Bank.  
Source: Asian Development Bank.

## INDICATIVE CONTRACT PACKAGES

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**Table A10.1: Construction Supervision Package II (Bhopal Package)**

Civil Work Package	Road No.	Road Name	Length (km)	Estimated Cost (Rs crore)	Estimated Cost (\$ million)	Estimated Cost by Contract (\$ million)	Procurement Mode
1	1	Shivpuri–Sheopur–Rajasthan Border (SH-06)	144	115.0	25.6	25.6	ICB
	2	Gairathganj–Silwani–Gadarwada (SH-44)	93	85.7	19.0		
2	3	NH-12 Junction to Silwani (SH-15)	35	21.6	4.8	29.1	ICB
	4	Bareli–Pipariya Road (SH-19)	40	23.8	5.3		
3	5	Mandleshwar–Kasrawad (SH-1) Kasrawad–Khargone Road (SH-31)	50	46.5	10.3	21.9	ICB
	6	Banher to Maharashtra Border (SH-31)	66	52.1	11.6		
4	7	Badwah–Dhamnod Road and Khalghat–Manawar Road (SH-38) and Khalghat–Kasrawad Road	123	102.7	22.8	22.8	ICB
5	8	Indore–Dopalpur Road	33	24.9	5.5		
	9	Girgodha–Gautampura-Indoria Road	43	32.4	7.2	12.7	ICB
6	10	Shyampur–Goras (SH-23)	65	45.6	10.1		
	11	Morena–Porsa (SH-2)	50	32.7	7.3	17.4	ICB
7	12	Khandwa–Khargone (SH-26)	75	75.6	16.8	16.8	ICB
8	13	Hoshangabad–Budhani–Nasrullaganj-Khategaon (SH-22)	87	78.2	17.4	17.4	ICB
<b>Total</b>			<b>904</b>	<b>736.8</b>	<b>163.7</b>	<b>163.7</b>	

Appendix 10

ICB = international competitive bidding.

Note: Estimated cost exclusive of contingencies.

Source: Madhya Pradesh Road Development Corporation.

**Table A10.2 : Construction Supervision Package II (Jabalpur Package)**

Civil Work Package	Road No	Road Name	Length (km)	Estimated Cost (Rs crore)	Estimated Cost (\$ million)	Estimated Cost by Contract (\$ million)	Procurement Mode
9	14	Nagod–Jasso–Saleha–Powai–Semaria–Amanganj Road	116	84.9	18.9	18.9	ICB
10	15	Amanganj–Malhera (SH-10)	90	62.2	13.8	13.8	ICB
11	16	Seoni–Chiraidongri (SH-11A)	91	85.7	19.1	19.1	ICB
12	17	Balaghat–Nainpur (SH-11)	82	61.3	13.6	32.7	ICB
13	18	Tala–Shahdol (Chhatisgarh Broder) (SH-10)	69	43.4	9.6		
	19	Katni–Barhi–Tala (SH-10)	79	54.3	12.1	21.7	ICB
14	20	Lakhnadon–Mandla–Dindori (SH-10)	191	129.8	28.8	28.8	ICB
15	21	Bela–Govindgarh–Churhat (SH-52)	57	56.5	12.6		
	22	Rewa–Sirmor–Dabhore Road	76	52.2	11.6	24.1	ICB
		<b>Total</b>	<b>850</b>	<b>630.3</b>	<b>140.1</b>	<b>140.1</b>	

ICB = international competitive bidding.

Note: Estimated cost exclusive of contingencies.

Source: Madhya Pradesh Road Development Corporation.

## PROCUREMENT PLAN

### A. Project Information

Country	India
Name of Borrower	India
Project Name	Madhya Pradesh State Roads Sector Project II
Loan or TA Reference	-
Date of Effectiveness	Targeted for June 2007
Amount (\$):	\$320,000,000
Executing Agency	Government of Madhya Pradesh and Madhya Pradesh Road Development Corporation
Approval Date of Original Procurement Plan	Targeted for May 2007
Approval of most recent Procurement Plan	
Publication for Local Advertisements	March 2007
Period Covered by this Plan	March 2007 to August 2008

### B. Procurement Thresholds, Goods and Related Services, Works and Supply and Install

Procurement Method	Thresholds
International Competitive Bidding (ICB) Works	All civil works
National Competitive Bidding (NCB) Goods <sup>a</sup>	Up to \$1 million
Shopping Goods	Below \$0.1 million

<sup>a</sup> NCB procedures adopted for procurement of goods and services under the Project will be the advertised tender enquiry method stipulated in the Government's General Financial Rules, 2007 with details described in this procurement plan.

### C. Procurement Thresholds, Consulting Services

Procurement Method	To be used above/below
Quality- and Cost-Based Selection (QCBS)	FTP: Over \$1,000,000

FTP = full technical proposal.

**D. List of Contract Packages in Excess of \$100,000; Goods, Works, and Consulting Services**

Ref	Contract Description	Estimated Cost	Procurement Method	Expected Date of Advertisement	Prior Review Y/N
1.	Consulting services for construction supervision (2 packages)	\$12 million	QCBS with FTP	Completed in September 2006 as normal procedures of advance actions	Yes
2.	Civil works contracts (15 packages)	\$12.7 million to \$32.7 million	ICB	March 2007, subject to ADB agreement for advance procurement action	Yes
3.	Equipment (Detailed specification and contract packaging will be finalized during project implementation by TA consultants.)	\$1 million	NCB (see details) or shopping	Targeting: January 2008	Yes (NCB) <sup>a</sup> No (shopping)

<sup>a</sup> ADB's prior review for the first 2 packages only and post-review for the subsequent packages

**E. Details for Procurement of Goods under National Competitive Bidding**

**1. General**

1. National competitive bidding (NCB) for the procurement of goods and related services shall conform to the provisions for advertised tender enquiry as prescribed in the *General Financial Rules, 2005* issued in July 2005 by the Ministry of Finance, with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the *ADB Procurement Guidelines (2006, as amended from time to time)*.

**2. Registration**

2. The following details apply to registration.

- (i) Bidding shall not be restricted to registered suppliers of the Director-General Supplies and Disposals (DGS&D) of the Ministry of Supply and Rehabilitation, and such registration shall not be a condition for the submission of bids in the bidding process.
- (ii) Where registration is required prior to award of contract, bidders: (a) shall be allowed a reasonable time to complete the DGS&D registration process; and (b) shall not be denied registration for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.

### **3. Advertising**

3. Bidding of NCB contracts estimated at \$1,000,000 or more for goods and related services shall be advertised concurrently with the general procurement notices on ADB's website.

### **4. Bidding Documents**

4. Procuring entities shall use standard bidding documents acceptable to ADB, based ideally on the standard bidding documents issued by ADB.

### **5. Bidding Period**

5. Procuring entities shall allow for a minimum of four weeks for submission of bids.

### **6. Bid Security**

6. Where required, bid security shall be in the form of a bank guarantee from a reputable bank and should normally be about two percent of the estimated value of contract to be procured. The bid security shall be required to remain valid for a period of not more than 30 days beyond the final bid validity period.

### **7. Preferences**

7. The following details apply to preferences.

- (i) No preference of any kind shall be given to domestic bidders or for domestically manufactured goods such as those reserved for small-scale industrial units.
- (ii) Foreign suppliers and contractors from ADB member countries shall be allowed to bid, without registration, licensing, and other government authorizations, leaving compliance with these requirements for after award and before signing of contract.

### **8. Price Negotiations**

8. Price negotiation shall be allowed only where the price offered by the lowest evaluated and substantially responsive bidder substantially exceeds costs estimates. Approval of ADB is required prior to any negotiation of prices.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

### A. Linkages to the Country Poverty Analysis

<b>Is the sector identified as a national priority in country poverty analysis?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<b>Is the sector identified as a national priority in country poverty partnership agreement?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No
<p><b>Contribution of the sector or subsector to reduce poverty in India:</b></p> <p>The Madhya Pradesh government recognizes that while economic growth and service delivery are crucial for poverty reduction, transport infrastructure development (aviation ports, roads, and railways) is critical as a catalyst for generating economic activity and employment, and accelerating growth; as well as for providing better integration within the state and within the regions.</p> <p>The Project will rehabilitate the deteriorated and damaged state roads of Madhya Pradesh to provide reliable road transport services, which will improve access to socioeconomic services and better quality of life for the project beneficiaries and hence contribute to poverty reduction in the long term.</p>			

### B. Poverty Analysis

#### Targeting Classification: General intervention

<p>The main objective of the Project is to rehabilitate the existing state roads in Madhya Pradesh and augment existing connectivity within the state. The Project will cover an estimated of 1,969.36 kilometers (km) of state roads hence creating a reliable and efficient road network within the state. Some of the immediate benefits will be in terms of improved access to socioeconomic facilities, safe and comfortable travel with reduced fuel consumption and vehicle operating costs, and development of the rural economy.</p> <p>A socioeconomic baseline survey was undertaken on a sample subproject in Nov–Dec 2006, based on a representative sample covering a total of 619 households. The social assessment and analysis of the secondary data reveal that agriculture is the mainstay of people in the area, with the majority deriving their livelihoods from agriculture and labor (both agricultural and nonagricultural). Some of the major crops grown in the area are wheat, soybeans, pulses, and maize. In some subproject sections, mainly town portions and market places, some of the population is also dependent upon small trade and business for fulfillment of their livelihood needs. Seasonal migration to neighboring districts and states for employment is a common feature of the area with a number of sample households (21% of the surveyed households) in the subproject villages migrating for 2–3 months to work on construction sites and other nonagricultural wage labor opportunities.</p> <p>Poverty in the state is estimated at 37.06%, significantly higher than India's average of 27.09%, with an estimated annual per capita income of those living below the poverty line at Rs3889.32 (less than \$90). The Project is expected to stimulate economic growth and human development in the state. The survey findings indicate that 86.43% of the respondents confirmed the need for the Project and perceive a positive linkage between poverty reduction and road improvement.</p> <p>The households covered during the socioeconomic survey consider the perceived socioeconomic benefits of the Project in terms of improved access to socioeconomic services, increased employment opportunities, and improved means of transport services as the major positive impact of the project construction that would in turn reduce poverty in the region. The households engaged in wage labor regard improved mobility as an opportunity that would provide them better paying jobs outside their villages. The communities also felt that the Project, by improving transport services, would possibly result in cheaper services, thereby benefiting those working outside the villages.</p>
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### C. Participation Process

<b>Is there a stakeholder analysis?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Is there a participation strategy?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Consultations and meetings with the various project communities were organized during the social survey to ascertain their response to road construction, the communities' needs and demands, an estimate of the communities' losses, and steps to mitigate them.</p> <p>In the case of the sample subproject, a number of focus group discussions were organized during the course of the social</p>		

appraisal. These discussions were held with men, women, farmers, indigenous people, scheduled castes, high income groups, poor, shopkeepers, truckers, etc. to ensure a comprehensive perspective on the Project as well as its impacts. Other key stakeholders such as *panchayati raj* members such as village *sarpanch*, village health workers, block development officers, *aanganwadi* workers, auxiliary nurse midwives, and school teachers were consulted by means of key stakeholder discussions. These discussions and consultations undertaken confirmed the need for the Project with a positive response of the community and different stakeholders toward the Project among all socioeconomic groups. The key benefits of the Project as voiced by the stakeholders will be in terms of augmented access to socioeconomic services.

Madhya Pradesh Road Development Corporation (MPRDC) will ensure that for additional subprojects, essential participation focuses will be adhered to with the related stakeholders to enhance economic development and growth of the communities. The perceptions and priorities of the stakeholders will be considered while finalizing project design and mitigation measures to address risks, if any.

#### D. Gender Development

##### Strategy to maximize impacts on women:

Gender participation was ensured during the course of the social study by undertaking gender analysis to assess the impact of the Project. Focus group discussions were undertaken with women belonging to different socioeconomic groups such as high income group, poor, scheduled tribe women, and women belonging to scheduled castes, and other backward classes. These discussions brought forth that the Project will provide benefits for both men and women and special benefits to women by increasing the opportunity among girls to access higher education, and access for women and children to improved local services and higher levels of health care outside the village. Focus group discussions with the women of various castes and communities revealed that women of all castes want the construction of roads.

Has an output been prepared?  Yes  No

#### E. Social Safeguards and other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>The Project has been developed with a view to avoid or minimize the need for land acquisition and resulting involuntary resettlement by means of adopting the most feasible technical design. In addition, the Project entails rehabilitation of existing state roads, which will occur within the available right-of-way; no land acquisition will be required.</p> <p>A sample subproject was selected to assess the involuntary resettlement impact for the Project. Due diligence was undertaken based on preliminary designs and confirmed that the sample subproject will not entail any involuntary resettlement and land acquisition impact.</p> <p>A resettlement framework (Supplementary Appendix E) prepared for the additional subprojects, addresses adverse resettlement impacts on assets such as land, structures, and cultural assets.</p>	<input type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> RF
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	<p>The rehabilitation of the existing roads will reduce transport costs and increase the mobility of the local population in the project areas.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<b>Labor</b>	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	<p>Project construction is expected to generate employment opportunities for local communities during construction, thereby offering opportunities for employment. Men and women will be paid equally for equal work.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Indigenous Peoples</b>	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Some presence of indigenous peoples groups, such as Gonds and Baiga, was noted for the sample subproject section passing through the districts of Dindori, Mandla, and Seoni. However, since the Project is confined to rehabilitation of existing road alignments, the social assessments undertaken have not identified any adverse impact on the tribal groups within the area of influence of the project road. The assessment also noted that the indigenous peoples groups in the project area have been mainstreamed and assimilated into the local population. The study undertaken for project preparation did not indicate differential impacts, either positive or negative between indigenous and nonindigenous peoples in project locations.</p> <p>For all additional subprojects that impact indigenous peoples, MPRDC will prepare an indigenous peoples development plan on the basis of the framework in Supplementary Appendix D prepared for the Project.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> IPDF
<b>Other Risks and/or Vulnerabilities</b>	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>MPRDC will ensure that all civil works comply with all applicable labor laws; do not employ child labor for construction and maintenance activities; encourage employment of the poor, particularly women; and will not differentiate wages between men and women particularly for work of equal value. MPRDC will ensure that the civil works contractors disseminate information at worksites on the risks of sexually transmitted diseases, HIV/AIDS, and human trafficking for those employed during construction. Contracts for all subprojects will include specific clauses on these undertakings, and compliance will be strictly monitored by the Government during project implementation.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No