

SECTOR ASSESSMENT (SUMMARY): ROAD TRANSPORT (NON-URBAN)

A. Sector Performance, Problems, and Opportunities

1. **State context.** Madhya Pradesh covers about 308,000 square kilometers (km²), and roads are the predominant mode of transport services within the state. Madhya Pradesh Public Works Department (MPPWD) has outlined its approach to road development on the following policy basis:¹

- (i) encourage private sector participation through build–operate–transfer contracts;
- (ii) amend the Indian Tolls (Madhya Pradesh) Act, 1932 to facilitate private sector participation; and
- (iii) develop the existing road network through the preparation of a master plan, providing new links, and focusing on highway safety.

2. **Development plan.** Under Asian Development Bank (ADB) technical assistance (TA), Madhya Pradesh Road Development Corporation (MPRDC) prepared a State Road Development Plan for Madhya Pradesh that outlines the status of the state road network (State Highways and major district roads [MDRs]) and estimates improvement and financial resource requirements over 2013–2033.²

3. **Transport characteristics and road safety.** Data from the state commissioner for transport showed 859,376 vehicles registered in Madhya Pradesh during 2011–2012. The number of registered vehicles in the state has increased at an average annual rate of about 10%, from about 3.00 million in 2001 to about 8.14 million in 2012—in line with the national average.³ Over 75% of these vehicles are two-wheelers. The road accident rate in the state was 67 per 10,000 vehicles in 2011, down from 78 per 10,000 vehicles in 2009.⁴ However, the state has the fifth highest road accident rate in the country at 74 road accidents per 100,000 population, and the 14th highest number of persons killed per 100,000 population in 2012. Most accidents are the fault of drivers (85%). Since 2012, the state has been taking action to improve safety consciousness in drivers, and implementing systems to monitor and improve safety. MPRDC is developing a statewide accident response system, which is among the first in the country.

4. **Road institutions.** MPPWD is the main agency for managing the State Highways and MDRs, while Madhya Pradesh Rural Roads Development Authority manages rural roads. MPRDC is the third key state road agency. National highways in the state are managed by central government agencies—the National Highways Authority of India and the Ministry of Road Transport and Highways (MORTH). MORTH has assigned 1,443 km of national highways for reconstruction to MPRDC under a memorandum of understanding with the state government. Table 1 shows the extent of the road network in the state, and the institutions managing the roads.

Table 1: Madhya Pradesh Road Network

Category	Length (km)	MPPWD	MPRDC	MPRRDA
National Highways	4,709		1,443	
State Highways	10,966		10,966	

¹ Source: India Brand Equity Foundation: http://www.ibef.org/artdisplay.aspx?art_id=5928&cat_id=409&page=1

² ADB. **Xxxx**. Development Plan for State Roads in Madhya Pradesh. Consultant's report. Manila (TA 7785-IND).

³ Government of India, Ministry of Road Transport and Highways (MORTH). 2012. *Road Transport Year Book*. Delhi.

⁴ Government of India, MORTH, Transport Research Wing. 2012. *Road Accident Statistics in India*. New Delhi.

Category	Length (km)	MPPWD	MPRDC	MPRRDA
Major District Roads	19,574	17,582	1,992	
Village Roads	91,789	24,089	0	67,700
Total	127,038	41,671	14,401	67,700

km = kilometer, MPPWD = Madhya Pradesh Public Works Department, MPRDC = Madhya Pradesh Road Development Corporation, MPRRDA = Madhya Pradesh Rural Roads Development Authority.

Source: Madhya Pradesh Road Development Corporation.

5. **Madhya Pradesh Road Development Corporation.** To give focus to the development of roads, the government of Madhya Pradesh incorporated MPRDC as a special purpose entity in 2002. MPRDC was set up pursuant to recommendations under ADB Loan 1959-IND: Madhya Pradesh State Roads Sector Development Project; and TA-4013-IND: Technical Assistance for Institutional Strengthening and Capacity Building for Madhya Pradesh State Road Sector.⁵ It has since become a leading organization of its nature in the country. MPRDC was incorporated in 2004, and designated a highway authority to develop state highways and MDRs. The chief minister of Madhya Pradesh is chair of the board, and it is headed by a managing director who is a senior officer from the Indian Administrative Services. MPRDC's objectives are to

- (i) construct, reconstruct, repair, develop, improve, operate, and maintain the roads and highways;
- (ii) act as nodal agency of the state government to execute roads and allied infrastructure projects or for objects envisaged in above clause as under public-private partnership, joint venture or otherwise; and
- (iii) prepare and develop strategic plans for the state road sector through identification and selection of projects based on economic, social, technical and commercial criteria.

B. Government's Sector Strategy

6. The state government, through MPPWD and MPRDC, has been improving the state road network through a combination of budgetary support, ADB assistance, and public-private partnership (PPP). Substantive portions of the state highways are already improved. Using funds from budgetary support, the national rural roads program, and ADB assistance, rural roads have also been substantially improved. The government is now focusing on MDRs, and is preparing detailed project reports for over 3,000 km of MDRs—part of which will be improved using ADB assistance.

7. **Budgetary resources.** Budget allocations since 2008 have been more or less constant, with the allocation for roads and bridges about \$400 million in Indian rupees equivalent. About 60% of this is for planned expenditure, 10% for salaries and wages, and 10% for maintenance and renewals. Table 2 summarizes the plan and non-plan budget allocation.

⁵ ADB. 2002. Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Madhya Pradesh State Roads Sector Development Project. Manila

Table 2: Madhya Pradesh Public Works Department Budget Allocation and Expenditure
(Rs10 Million)

Item	2008	2009	2010	2011	2012	2013
A. Budget Allocation						
Plan	1,858.59	2,050.06	2,209.50	2,272.09	2,556.00	2,413.00
MPRDC ^a				861.96	794.85	787.28
Non-Plan	545.14	423.35	500.00	537.28	871.01	1,407.81
Wages and salaries	161.49	217.35	291.75	0.00	0.00	395.04
Renewal	295.00	45.00	60.00	187.00	485.00	515.00
Maintenance	88.65	161.00	168.25	350.28	386.01	497.77
Total (A)	2,403.73	2,473.41	2,709.50	2,809.37	3,427.01	3,820.81
B. Expenditure						
Plan	1,801.30	2,025.85	1,991.74	1,241.00	2,081.00	2,260.00
MPRDC ^a				493.11	509.24	711.28
Non-Plan	488.49	417.78	329.61	525.95	864.18	1,341.36
Wages and salaries	121.34	214.07	0.00	0.00	0.00	380.03
Renewal	294.13	44.96	59.85	186.79	482.66	505.19
Maintenance	73.02	158.75	269.76	339.16	381.52	456.14
Total (B)	2,289.79	2,443.63	2,321.35	1766.95	2,945.18	3,601.36

MPRDC = Madhya Pradesh Road Development Corporation.

^a MPRDC plan allocations and expenditures are included in the aggregate plan figures.

Source: Madhya Pradesh Public Works Department.

8. **Maintenance budget.** The non-plan budget has been substantially increased from Rs1,610.0 million to Rs4,977.7 million in the past 5 years (from 2009 to 2013). However, this is well below maintenance requirements. In the 12th Five Year Plan⁶ starting 2012–2017, the Government of India is providing an additional Rs9.0 billion over 5 years. Even with this, the allocations may meet only one-half to two-thirds of the requirement.

9. **Use of public–private partnership in state roads.** MPRDC has extensively used a PPP-based approach to road development—a unique model pioneered in the state. In MPRDC’s development model, PPP is examined as the first option. An increasing proportion of road sector spending takes place outside of the MPPWD budget, especially on build–operate–transfer roads. Almost 33% of state highways will be developed under build–operate–transfer schemes. MPRDC is proposing private sector participation in the maintenance of 1,122 km of state highways through operation, maintenance, and transfer (with tolling) schemes in which private sector entities will operate and maintain them for a specified period and recover costs through tolls after rectifying any deficiencies in the highways and building bypasses where needed. The modality of financing road development work undertaken by MPRDC is indicated in Table 3. Almost 75% of the projects are developed using PPP modalities. MPRDC is probably the only agency in the country using the PPP modality so extensively.

⁶ Government of India. Planning Commission. 2013. *Faster, More Inclusive and Sustainable Growth*. Twelfth Five Year Plan. Delhi.

**Table 3: Development Modality Used by
Madhya Pradesh Road Development Corporation**

<i>Category and/or Model</i>	<i>Cost (Rs 10 million)</i>	<i>Percentage (%)</i>
BOT (Toll)	16,094	50
BOT (Toll + Annuity)	3,260	10
BOT (Annuity)	4,578	14
ADB	4,159	13
Regular Contract	1,427	4
ROB and/or RUB	1,645	5
Border Checkpoint	1,094	3
OMT	45	0
Building Works	165	1
Total	32,467	100

ADB = Asian Development Bank, BOT = build-operate-transfer, OMT = operate maintain and transfer, ROB = road over bridge, RUB = road under bridge.

Source: Madhya Pradesh Road Development Corporation.

10. **Major district roads.** With a combination of PPP, ADB support in three previous loans⁷, and budgetary allocations, the state is close to completing renewals on its entire State Highway network. However, MDRs have received marginal attention and major portions still need to be upgraded. The government of Madhya Pradesh has taken up improvement of MDRs as a critical part of the state road network. MDRs in the state measure about 19,574 km, of which about 8,500 km are being improved through state and central government schemes. About 1,600 km are proposed to be improved through this ADB loan, and the government is examining other sources of finance to improve the remaining MDRs.

C. ADB Sector Experience and Assistance Program

11. **ADB assistance in Madhya Pradesh road sector.** ADB has significant presence in the state road sector, with three previous loans for improving the State Highways. In addition, three loans to the central Ministry of Rural Development have also been partly allocated to improve rural roads in Madhya Pradesh. Table 4 summarizes the previous ADB loans to the state's road sector.

Table 4: ADB Assistance to the Government of Madhya Pradesh in the Transport Sector

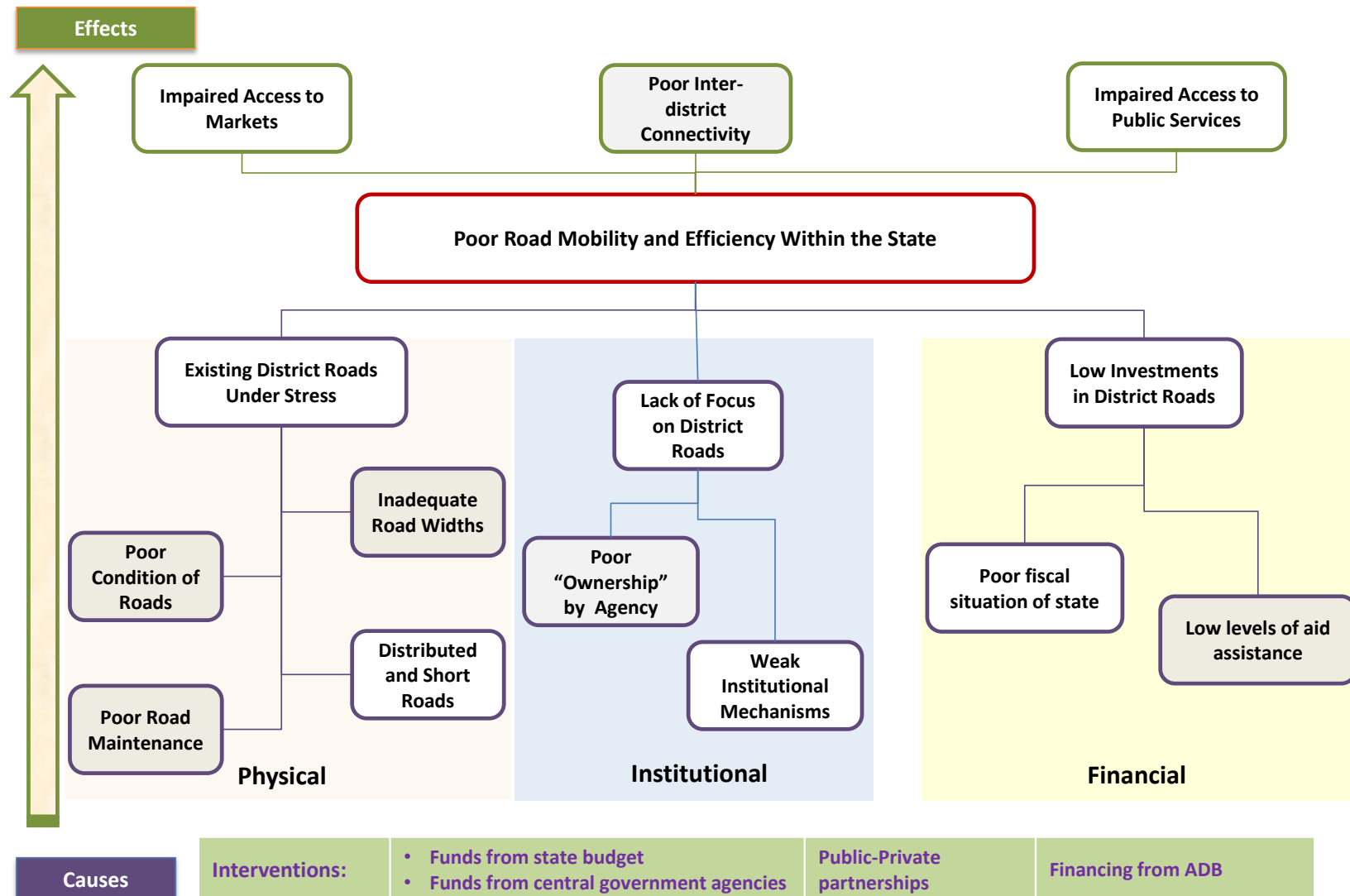
<i>Loan</i>	<i>Road Length (km)</i>	<i>Loan Amount (\$ million)</i>	<i>Status</i>
Madhya Pradesh State Roads Sector Development Project (1959-IND)	1,603	150	Project completed. Formation of MPRDC as a result of TA connected with this loan. (TA4013-IND: Institutional

⁷ (i) ADB. 2002. Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Government of India for the Madhya Pradesh State Roads Sector Development Project. Manila; (ii) ADB. 2007. Report and Recommendation of the president to the Board of Directors: proposed Loan to the Government of India for the Madhya Pradesh State Roads Sector Project II. Manila; (iii) ADB. 2011. Report and Recommendation of the president to the Board of Directors: proposed Loan to the Government of India for the Madhya Pradesh State Roads Sector Project III. Manila

Loan	Road Length (km)	Loan Amount (\$ million)	Status
			Strengthening and Capacity Building for Madhya Pradesh State Sector)
Madhya Pradesh State Roads Sector Project II (2330-IND)	1,702	320	Project completed
Madhya Pradesh State Roads Project III (2736-IND)	1,080	300	Project in progress

km = kilometer, MPRDC = Madhya Pradesh Road Development Corporation, TA = technical assistance.
Source: Asian Development Bank.

Problem Tree for the Transport (Road Transport {Non Urban}) Sector



ADB = Asian Development Bank.

Sector Results Framework (Transport (Road Transport {Non-Urban}), 2013–2017)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	Indicators with Targets and Baselines	Outputs with ADB Contribution	Indicators with Incremental Targets	Planned and Ongoing ADB Interventions	Main Outputs Expected from ADB Interventions
Increased movement of people and goods in a more efficient and sustainable manner	<p>100% of villages (population >1,000) have access to all-weather roads by 2017 (2000 baseline: 90%)</p> <p>Road freight traffic 1.8 trillion ton-km in 2016 (2011 baseline: 1.2 trillion ton-km)</p> <p>Road pass-km 11.4 trillion in 2016 (2011 baseline: 7.4 trillion pass-km)</p>	Transport systems with safety and accessibility features for women, the elderly, people with disabilities, and children expanded, improved, and maintained	<p>Additional 126,500 km of state roads built or upgraded by 2017 compared with 2012</p> <p>Additional 167,500 km of major district roads built or upgraded by 2017 compared with 2012</p> <p>Additional 242,181 km of rural roads built or upgraded by 2017 compared with 2012</p>	<p>Planned key activity areas State roads (58% of funds) Rural roads (18% of funds) Railways (4% of funds) Urban transport (20% of funds)</p> <p>Pipeline projects 12 projects amounting to \$2,275 million for 2013–2015 (including two projects categorized as effective gender mainstreaming)</p> <p>Ongoing projects 15 ongoing loans amounting to \$3,262 million as of 31 December 2012 (including two projects categorized as effective gender mainstreaming)</p>	<p>Planned key activity areas 4,700 km of state roads improved with pedestrian lanes, crossing points, and other safety features, including 150 km of subregional connectivity</p> <p>12,300 km of rural roads improved to include pedestrian lanes, crossing points, and other safety features</p> <p>Pipeline projects 3,600 km of state roads improved with pedestrian lanes, crossing points, and other safety features, including 600 km of subregional connectivity</p> <p>6,000 km of rural roads improved to include pedestrian lanes, crossing points, and other safety features</p> <p>Ongoing projects 9,000 km of state roads improved 30,000 km of rural roads improved Road corporations established in three states</p>

ADB = Asian Development Bank, km = kilometer, pass-km = passenger-kilometer, ton-km = ton-kilometer.

Sources: ADB. 2013. Country Partnership Strategy. India. 2013–2017. Manila.