



27 India National Highway-2 Improvement Project

Contributing to the promotion of tourism through the improvement of tourist routes which represent northern India

Loan Amount / Disbursed Amount 4,855 billion yen / 3,957 billion yen
Loan Agreement January 1992
Terms & Conditions 2.6% interest rate, 30 year repayment period (10 year grace period), General untied
Final Disbursement Date October 2000
Executing Agency National Highways Authority of India (NHAI) (<http://www.nhai.org/>)



Project Objectives

The objective of this project was to improve road transport capacity and alleviate traffic congestion by expanding the section of National Highway 5 between Mathura and Agra (51.33 km) in the state of Uttar Pradesh and thereby contribute to the development and promotion of the local economy.

Effectiveness and Impact

Rating **a**

The project was implemented as planned and average daily traffic volume in 2002 reached over 70% of the target in all three sections surveyed. Traffic volume has also steadily increased since then. For example, average daily traffic volume of the second section in 2006 was 18,688 vehicles/day (94% of the target), and can therefore be considered as having reached target level. The average travel time between Mathura and Agra was also reduced to 45 minutes, half of the average before the project.

In addition, the number of tourists visiting Agra, which is home to the world-renowned Taj Mahal, famous for its distinctive architecture, and Mathura, which is an important Hindu religious site, increased annually by an average of 8.1% and 12.6%, respectively in the 11-year period from 1993-1994 to 2003-2004. According to the beneficiary survey, 94% of the households indicated that access to various services had improved through the project. Therefore, this project has largely achieved its objectives and effectiveness is highly satisfactory.

Relevance

Rating **a**

Project implementation was highly relevant with India's national policies both at the time of appraisal and at the ex-post evaluation. The target section constitutes part of National Highway 2, which

forms part of the Golden Quadrilateral, vital infrastructure in domestic transport in India. Therefore, this project continues to have high priority.

Efficiency

Rating **b**

Although the project costs were lower than planned (74% of planned), the project period was much longer than planned (169% of planned period), therefore, the evaluation for efficiency is moderate. The main reason for the cost saving was the fluctuation in currency exchange rates. On the other hand, the delays in the project were mainly due to various approvals and permits secured for the project implementation and design and construction accompanying additions to the scope of the project.

Sustainability

Rating **a**

No major problem has been observed for capacity, nor the operation and maintenance (O&M) system, nor budget allocation for the executing agency. Therefore, sustainability of this project is high.

Conclusion, Lessons Learned, Recommendation

In light of the above, this project is evaluated to be highly satisfactory. In view of the high traffic volume of the project site and its importance as a part of the tourist route representing northern India, linking Delhi, Agra, and Jaipur, traffic safety measures should be promoted further. Since there was no clear indication of a reduction in traffic accidents at the time of the ex-post evaluation, traffic safety education for highway users is needed. In addition, the active enforcement of a regulation concerning the illegal occupation of roadside areas by stall holders in urban areas and near villages is essential, as well as a regulation concerning obstructions on roads including on-street parking by trucks and buses.

Comparison of Forecast vs. Actual Traffic Volume in 2002 and 2006 (second section)

	1991		2002		2006		
	Actual	Forecast	Actual	Achievement	Actual	Forecast	Achievement
Motorcycles	2,079	4,090	1,668	41%	5,736	3,181	55%
Passenger vehicles	1,478	2,907	4,615	159%	4,078	6,745	165%
Trucks	3,377	6,643	3,438	52%	9,317	7,522	81%
Buses	304	598	580	97%	839	1,240	148%
Total	7,238	14,238	10,301	72%	19,970	18,688	94%

Note: Traffic volume above does not include bicycles, rickshaws, or animal-drawn carts. Passenger vehicles include jeeps and vans.

Source: Forecast Figures: JBIC appraisal materials

Actual Figures: Surveys by NHAI in March 2002 and November 2006

Third-Party Opinion

This project was highly effective in reducing travel time and contributed to the improvement of the social and economic environment of the area. For implementation of similar projects in the future, undertaking appropriate road demand projections is desirable.

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