

| 1. Project Data:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Project Data: Date Posted: 05/04/2001                                                      |                          |            |            |  |  |
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| Project Name :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Henan Prov. Transport                                                                      | Project Costs<br>(US\$M) |            | 296.2      |  |  |
| Country:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | China                                                                                      | Loan/Credit (US\$M)      | 120        | 112        |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Board: TR - Roads and<br>highways (97%),<br>Sub-national government<br>administration (3%) | Cofinancing<br>(US\$M)   |            |            |  |  |
| L/C Number:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                            |                          |            |            |  |  |
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| Partners involved :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                            | Closing Date             | 06/30/1998 | 06/30/2000 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                            |                          | 1          | 4          |  |  |
| Prepared by :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Reviewed by :                                                                              | Group Manager :          | Group:     |            |  |  |
| Kavita Mathur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Alice C. Galenson                                                                          | Alain A. Barbu           | OEDST      |            |  |  |
| The project objectives were to: <ol> <li>Improve Henan's road network by: (a) relieving congestion in the heavily trafficked east-west corridor and linking Henan and other provinces with the new port of Lianyungang; (b) rehabilitating and expanding the provincial road network; and (c) improving rural roads mainly in the poverty areas.</li> <li>Strengthen Henan Provincial Communications Department (HPCD) and the five key HPCD agencies, mainly in the areas of planning and management of highways system; and providing equipment maintenance for the highway network and operations of the Kaifeng-Zhengzhou Expressway.</li> <li>Make recommendations for improving the efficiency and quality of road transport services, currently characterized by high cost, little competition and inadequate industry structure.</li> <li>Components</li> <li>The project consisted of the following components:         <ul> <li>(a) construction of a 120 km single carriage-way, two lane access controlled expressway between Zhengzhou and Luoyang, including service facilities and toll stations;</li> <li>(b) rehabilitation and improvement of five provincial roads (180 km) and six rural roads (112 km) in Northwest Henan where some of the porest counties of the province were concentrated;</li> <li>(c) a provincial, prefectural and rural roads;</li> <li>(d) provision of equipment for highway maintenance and operations, including environmental monitoring;</li> <li>(e) institutional strengthening of HPCD staff and the five agencies affiliated with HPCD;</li> <li>(f) Training of staff of High-Grade Highway Construction Authority (HGHCA) and Highway Administration Bureau (HAB) and its divisions at local level; and</li> <li>(g) a study of trucking industry in Henan province to improve its efficiency.</li> </ul></li></ol> |                                                                                            |                          |            |            |  |  |
| <b>Revised Components</b><br>The specifications of Zhengzhou-Luoyang Expressway were changed from single to<br>dual carriage-way.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                            |                          |            |            |  |  |

## c. Comments on Project Cost, Financing and Dates

Total disbursement at completion was US\$112 million versus the approved loan amount of US\$120 million, and US\$8 million was undisbursed. The actual project cost was US\$296.2 million, slightly lower than the appraisal estimate of US\$300.7 million. However, the cost in Renminbi were higher by 45%. The project closed on June 30, 2000, two years after the original closing, to complete the traffic engineering contracts.

## 3. Achievement of Relevant Objectives:

The project achieved most of its key objectives.

- The road network in the Henan Province has improved considerably.
   Physical targets for the construction of the Zhengzhou-Luoyang Expressway (ZLE) and rehabilitation and improvement of provincial roads were met. However, the achievement under the Road Improvement Program (RIP) fell short of the target (see section 5).
  - The construction of ZLE is reported to have considerably relieved the traffic congestion in the heavily trafficked east-west corridor. The ex-post ERR for the expressway is estimated to be 25.1% versus the appraisal estimate of 28.9%. The reduction in the ERR estimate is mainly because of the increase in the cost of the project. The economic rate of return indicates that the investment is providing substantial economic benefits in the form of reduced vehicle operating costs and travel time savings in the corridor. The ERR for the total project is 29.6%, slightly higher than 28% estimated in SAR.
  - The rehabilitation of provincial and rural roads has substantially improved access to remote areas and expanded growth opportunities in poor areas.

2. The institutional development of HPCD and its five key agencies was achieved through the successful implementation of the staff training program and introduction of new technologies for road construction, management and maintenance and the provision of specialized equipment.

3. The trucking study was satisfactorily completed. Several recommendations of the study have been implemented, including the cargo consolidation terminals, vehicle inspection stations, weigh bridges maintenance and repair facilities, and rationalization of policies and regulations governing the trucking industry. An action plan has been developed for implementation of other recommendations.

## 4. Significant Outcomes/Impacts:

Significant achievements of the project are: (i) the construction of the Zhengzhou-Luoyang Expressway (ZLE) thereby connecting the eastern and western parts of China; (ii) improvement in highway maintenance, construction and planning; and (iii) introduction of modern methods in toll road organization and management.

5. Significant Shortcomings (including non-compliance with safeguard policies):

- The physical targets for rehabilitation/improvement under the Road Improvement Program were not fully met. Of the 740 km planned at appraisal, 491.5 km of provincial and rural roads were rehabilitated/improved.
- There were significant delays in the installation of traffic engineering systems on the expressway.
- The project did not address the overloading problem. There are signs of premature wear on the pavement surface of the expressway, largely due to overloading.

| 6. Ratings:          | ICR          | OED Review   | Reason for Disagreement /Comments |
|----------------------|--------------|--------------|-----------------------------------|
| Outcome:             | Satisfactory | Satisfactory |                                   |
| Institutional Dev .: | Substantial  | Substantial  |                                   |
| Sustainability :     | Likely       | Likely       |                                   |
|                      |              |              |                                   |

| Bank Performance : Satisfactory                                                                                                                                                                                                                                                                       | Satisfactory |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--|--|--|--|--|
| Borrower Perf .: Satisfactory                                                                                                                                                                                                                                                                         | Satisfactory |  |  |  |  |  |
| Quality of ICR :                                                                                                                                                                                                                                                                                      | Satisfactory |  |  |  |  |  |
| <b>NOTE</b> : ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.                                                                                                                                                                                      |              |  |  |  |  |  |
| 7. Lessons of Broad Applicability:                                                                                                                                                                                                                                                                    |              |  |  |  |  |  |
| When combining highways and rural roads components in one project, particular<br>attention must be given to the rural roads components so that the targets are<br>achieved. The rural roads component had significant benefits and has proved to<br>be an effective instrument for targeting poverty. |              |  |  |  |  |  |
| B. Assessment Recommended?  Yes  No<br>Why? The project could be audited together with other recently<br>completed highway projects in China.                                                                                                                                                         |              |  |  |  |  |  |
| <b>9.Comments on Quality of ICR:</b><br>The quality of ICR is satisfactory. However, the ICR does not provide the<br>reasons for the underachievement of RIP targets.                                                                                                                                 |              |  |  |  |  |  |