Validation Report

Reference Number: PVR-470
Project Number: 36455-013
Loan Number: 2448
December 2016

People’s Republic of China: Central Yunnan Roads Development Project

Independent Evaluation Department
Asian Development Bank
NOTE

In this report, "$" refers to US dollars.

Key Words

adb, asian development bank, lessons, people’s republic of china, performance evaluation, project completion report, roads, transport, transport systems, validation, yunnan

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### PROJECT BASIC DATA

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<td>W. Zhang</td>
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<td>E. Kwon, Principal Evaluation Specialist, IED2</td>
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ADB = Asian Development Bank; ADF = Asian Development Fund; IED2 = Independent Evaluation Department, Division 2; OCR = ordinary capital resources; PCR = project completion report; PRC = People’s Republic of China.

### I. PROJECT DESCRIPTION

#### A. Rationale

1. At the time of appraisal, poverty was widespread in Yunnan, one of the most underdeveloped regions of the People’s Republic of China (PRC). In 2008, Yunnan had 73 national poverty-stricken counties, accounting for 45% of total counties in the province and a population of 44 million, of which 84% were in rural areas. Annual per capita rural income was

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CNY2,250 in 2006, one of the lowest levels in the PRC. More than 6.7 million people were poor, defined as living below the government low-income line of CNY958 per capita per year (which was below the international poverty line of $1 per person per day). Rural poverty incidence in Yunnan was 20%.

2. Infrastructure bottlenecks and lack of access to outside markets hindered poverty reduction efforts. The development of transport infrastructure in key corridors to connect the western and coastal regions was deemed essential to promote trade and reduce regional development disparities. Specifically, the lack of an efficient and effective transport system was a constraint to economic growth in Yunnan. Roads were the main mode in Yunnan’s transportation system. Poor roads led to inadequate and costly transport services. In 2006, road traffic in Yunnan accounted for 79% of total passenger traffic in passenger kilometers (km) and 60% of total freight traffic in ton-kms. From 1990 to 2006, road passenger traffic grew by 9.3% annually and freight traffic increased by 6.3% annually. However, road infrastructure was underdeveloped. Less than 17% of the total road length in the province was paved; the remaining 83% was unpaved. Of the total 13,198 villages, about 50% did not have all-weather road access at the end of 2006. About 6,500 villages had no direct access to bus services as bus operators were unwilling to use poor roads.

B. Expected Impacts, Outcomes, and Outputs

3. The project’s expected impact was a well-functioning integrated road transport system in Yunnan Province and connecting the rest of the Greater Mekong Subregion. There were four performance targets in the design and monitoring framework (DMF) related to the expected impact: (i) road traffic was to increase at 6%–7% per annum for passenger traffic and 5%–6% per annum for freight traffic in Yunnan during 2013–2023; (ii) per capita rural income in Wuding County was to increase from CNY1,791 in 2005 to CNY3,000 in 2015; (iii) rural poverty incidence in Wuding County was to decrease from 37% in 2005 to 20% in 2015; and (iv) trade between Yunnan and the Greater Mekong Subregion countries was to increase by 10% per annum during 2008–2015.

4. The project’s expected outcome was an efficient, safe, and environmentally sustainable regional transport system in the project area. The DMF in both the project completion report (PCR)

2 Roads that were classified as Class II and above comprised 3% of all roads in 2006, significantly lower than the national average of 10%. Unclassified roads comprised 50% of the road network in 2006, much higher than the national average of 34%.

additional private sector funds were to be raised by 2015; and (vii) fuel savings of 6,000 tons of oil equivalent in 2013 and 61,000 tons of oil equivalent in 2033; carbon dioxide (CO₂) emissions were to be reduced by 22,000 tons in 2013 and 231,000 tons in 2033; and CO₂ emissions were to be reduced by 2.3 million tons over 20 years in the project corridor.

5. The project outputs were listed as follows: (i) Component A—construction of a 64-kilometer Wuding–Kunming expressway and associated facilities; (ii) Component B—upgrading of local roads in the project area with a total length of 190 km; (iii) Component C—improvement of traffic safety on the local road network in the project area; and (iv) Component D—strengthening of technical and management capacity of the Yunnan Provincial Communications Department and its related agencies and Wukun Expressway Company Limited. The RRP’s DMF identified eight performance targets: (i) 64 km of expressway opened to traffic by 2012; (ii) electrical and mechanical works and other facilities procured and functioning by 2012; (iii) road safety enhanced through improved road safety facilities by 2012; (iv) 190 km of local roads upgraded by 2012; (v) reduced travel time on project local roads by 2012; (vi) traffic accident rate, measured by road accident fatalities per 10,000 vehicles in Yunnan Province, reduced by 20% in 2013; (vii) 85 person-months of international training provided for capacity development by 2012; and (viii) survey techniques adopted to assess changes in work practices and behavior to measure the effectiveness of the capacity-building component.

C. Provision of Inputs

6. The loan was approved on 25 September 2008, signed on 27 March 2009, and became effective on 31 August 2009. Civil works for the expressway began in March 2010, about 9 months later than planned. The project expressway was opened on 26 October 2013, 10 months later than expected at appraisal. Delays in construction were due to difficulties in land acquisition and prolonged procurement processes for civil works contracts.

7. For the local roads component, upgrading began in January 2009 and was completed by 31 December 2011. Seven local roads, with a total length of 190 km, were upgraded to the proposed standard. Under the local road safety enhancement program, local road traffic safety facilities in 16 prefectures and/or municipalities were improved by December 2012. The study to formulate a local road traffic safety strategy in Yunnan began in October 2013 and was completed in March 2014. To complete all project activities, the loan closing date was extended by 9 months, from 30 June 2013 to 31 March 2014.

8. The total project cost at the time of approval was $745 million, with the Asian Development Bank (ADB) providing a $200 million loan from its ordinary capital resources to finance 27% of the total cost. The remaining cost was to be financed by the Ministry of Communications, the Yunnan provincial government, and the Industrial and Commercial Bank of China. The Ministry of Communications and the Yunnan provincial government made provisions for the counterpart funds and the PRC was to be the borrower of the loan. ADB loan proceeds were to be made available to the Yunnan provincial government on the same terms and conditions as the ADB loan. The Yunnan provincial government was to apply a portion of the proceeds of the loan in the amount of $6 million for component C and onlend the balance of $194 million to Wukun Expressway Company Limited. The project was also to provide $100,000 to finance a local road traffic safety strategy study.

9. At completion, the actual cost of the project was $1,110.3 million, which was 49% higher than the appraisal estimate. The 34.8% increase in project cost was attributed to the significant
cost increase in land acquisition and resettlement as well as increased labor costs. The balance of the cost overrun was attributed to the appreciation of the yuan. The actual amounts funded by ADB remained unchanged at project completion. Grants amounted to $113.4 million equivalent in local currency from the Ministry of Transport and $119.3 million from Yunnan Provincial Department of Transport. The loans from commercial banks amounted to $677.6 million equivalent in local currency. The cost overrun was covered by counterpart funds provided by the Yunnan Provincial Department of Transport and Wukun Expressway Company Limited and domestic borrowing.

10. The project was classified category A under both the ADB environmental and indigenous people categorization requirements. Land acquisition and resettlement activities were carried out in line with the resettlement plans and followed PRC laws and regulations and ADB’s 1995 Involuntary Resettlement Policy. The environmental procedures and guidelines of the government and of ADB were followed and adverse environmental impacts were minimized through mitigation measures and an environmental monitoring program. Audited accounts and financial statements were submitted to ADB on time and the auditor raised no significant issues. The ethnic minority development plan was implemented and monitored. Measures to ensure adequate road safety were taken.

11. The project involved a large amount of land acquisition and resettlement. In total, 6,252 mu\(^4\) of land were permanently acquired, 4% more than the original estimate in the resettlement plan. The number of people affected by land acquisition was 26,322. A total of 261,679 square meters of buildings were demolished, a 43% increase from the estimate in the resettlement plan. The increase resulted mainly from the enlarged scope of house relocation in consideration of safety and the willingness of the local population to relocate. The number of people affected by house demolition was 2,705, an increase of 116%. A total of 1,593 mu of land was temporarily used during construction, 298% more than originally estimated.

12. The project was also to finance 36 person-months of international consulting services. The Yunnan Provincial Communications Department was to engage and finance 5,500 person-months of national consultants. Of the 36 person-months planned, 33.2 person-months of services were delivered. More than 100 experts provided national consulting services for about 4,500 person-months, which were financed by Wukun Expressway Company Limited. According to the PCR, consultants engaged for technical design, engineering, and construction supervision performed satisfactorily and contractors successfully fulfilled their obligations under their contracts. The PCR also noted that staff knowledge and the project management system were strengthened through collaboration with the consultants. Adequate training was provided to the Yunnan Provincial Communications Department and Wukun Expressway Company Limited staff in road safety, bridge and tunnel design and construction, and operation and maintenance for the expressway.

D. Implementation Arrangements

13. The Yunnan Provincial Communications Department was to be the executing agency, responsible for overall implementation of the project. Project activities were to be implemented by Wukun Expressway Company Limited, the implementing agency. The project management office established within the Yunnan Provincial Communications Department was to be responsible for overall project implementation. Under the overall direction of the project management office, Wukun Expressway Company Limited was to be responsible for

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\(^4\) Chinese unit of measurement (1 mu = 666.67 m\(^2\)).
implementing components A and D, and the Yunnan Provincial Communications Department through the project management office was to be responsible for implementing components B and C. The project management office was to coordinate and oversee project implementation, submit progress, audit and other reports to ADB, and coordinate with ADB review missions. The project was to be implemented over 4 years from January 2009 to December 2012.

14. As envisaged, the Yunnan Provincial Department of Transport became the executing agency responsible for overall project implementation. A project management office was established in the Yunnan Provincial Department of Transport and Wukun Expressway Company Limited was the implementing agency for the project. Wukun Expressway Company Limited implemented the project expressway and capacity-building components. The Yunnan Provincial Department of Transport supervised the upgrading of local roads and the local road safety enhancement program. Wukun Expressway Company Limited, led by a general manager, had 10 divisions with 46 staff members. A financial management unit was established in Wukun Expressway Company Limited, which ensured sound financial management for the project. County communication bureaus assisted the project management office in upgrading local roads and were responsible for their maintenance. The PCR deemed the implementation arrangements for the project effective.

15. There were no loan covenants that were modified or waived during project implementation. All major covenants were complied with or were being complied with during the time of PCR preparation. Wukun Expressway Company Limited and the project management office were established in a timely manner and undertook their respective responsibilities as stipulated in the project agreement. The Yunnan Provincial Department of Transport and Wukun Expressway Company Limited provided adequate counterpart funds, including funds for the cost overrun.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

16. The PCR rated the project relevant. The project was highly relevant to the government’s road development policy of expanding the National Trunk Highway System and developing secondary roads to help promote the rural economy and reduce poverty. The government’s road development strategy at appraisal was to (i) construct expressways to expand the National Trunk Highway System to link all cities with a population of over 500,000; (ii) develop secondary roads to reduce poverty and promote the rural economy; and (iii) build roads to support regional cooperation with neighboring countries. The project roads fit the government’s three strategies for road development. The project was also in line with the government’s Western Region Development Strategy to reduce development disparities between the western and eastern regions. The project was also highly relevant to the government’s policies and plans for road development in the 11th Five-Year Plan, 2006–2010, which accorded high priority to improving transport capacity and efficiency, meeting the requirements for road infrastructure, and establishing a high-quality trunk-road network.

17. The project was also consistent with ADB’s strategy for the road sector in the PRC at appraisal and at project completion. This strategy supported (i) building roads to connect major growth centers and to promote linkages with hinterland economies and regional cooperation; (ii) upgrading the road network and rural roads to provide access to poor areas; (iii) promoting road safety and vehicle emission reductions; and (iv) strengthening regional cooperation in the transport sector.
18. This validation is of the view that the project design was appropriate, despite a few changes needed with respect to the enlarged scope of house relocation (para. 11). This validation assesses the project relevant.

B. Effectiveness in Achieving Project Outcomes and Outputs

19. The PCR rated the project effective. It indicated that the project expressway and the local roads were successfully implemented to a high-quality standard of construction. The PCR also noted that project outcomes were achieved, road safety measures taken for both the expressway and the local roads were effective, and stricter vehicle emissions standards were enforced for both new and used vehicles. The Yunnan Provincial Department of Transport and Wukun Expressway Company Limited were strengthened in institutional capacity and in practical knowledge in road design and implementation. This validation is of the view that the PCR’s discussion of effectiveness was overly focused on project impacts. The PCR should have done a better job in discussing the achievements of outcomes and outputs and in comparing with their performance indicators as listed in the design and monitoring framework in the PCR’s Appendix 1.

20. To achieve the outcome of an efficient, safe, and environmentally sustainable regional transport system in the project area, traffic volume on the expressway reached 12,404 PCUs and 10,000 PCUs on National Highway 108 in 2013, compared with a target of 8,150 PCUs and 5,200 PCUs, respectively. It was not possible to verify whether traffic volume will achieve the 7% per year during 2013–2023 and 6% per year during 2023–2032, as stipulated in the design and monitoring framework. Also, distance traveled from Kunming to Wuding was reduced by about 20 km and travel time reduced by about 1 hour when the expressway was opened in October 2013. Likewise, envisaged road capacity of 25,000–45,000 PCUs per day was met with the construction of the expressway. Given these, it may be concluded that these outcome indicators were achieved. Vehicle operating costs for passenger cars were reduced to CNY1.5 per vehicle-km. The target in the design and monitoring framework was CNY1.37 in 2013. However, the shortfall appeared to be marginal. Thus, this outcome target was deemed achieved.

21. Corporate governance and efficiency was to be improved by (i) obtaining autonomy in operation and management, and (ii) appointing an external auditor to audit Wukun Expressway Company Limited’s financial reports annually. According to the PCR, Wukun Expressway Company Limited was established in March 2007 and operated autonomously in legal and financial terms; project financial statements were audited annually by independent auditors and the audit reports submitted to ADB in a timely manner. Public–private partnership in toll road development was also to be facilitated and additional private sector funds were to be raised by 2015. The PCR indicated that the private sector’s assistance was solicited for the operation of the expressway, including advertising for and operation of the services center. Over CNY20 million was raised by 2014. The PCR did not specifically address the issue of facilitating public–private partnership in toll road development.

22. The project was to achieve fuel savings of 6,000 tons in 2013 and 61,000 tons in 2033, reduction in CO₂ emissions by 22,000 tons in 2013 and 231,000 tons in 2033, and CO₂ emissions reduced by 2.3 million tons over 20 years in the project corridor. According to the PCR, CO₂ emissions were reduced by 44,000 tons carbon equivalent in the first year of operation, which surpassed the target for 2013 in the DMF. However, the PCR did not indicate if the project was able to generate savings in fuel.
23. Regarding outputs, 63.6 km of expressway, including connecting roads, tunnels, and bridges were constructed. The expressway was opened on 26 October 2013. The expected output in the DMF was 64 km of expressway to be opened by 2012. Electrical and mechanical works and other facilities were procured and functioning and road safety was enhanced through improved road safety facilities by 2012. A traffic management system, axle-weighting scales, traffic signals, and safety guardrails were installed and functioning when the expressway was opened. Seven local roads comprising 190 km were upgraded by 2012 and local people’s travel time was reduced with the upgrading of the local roads. However, the PCR did not indicate how much travel time was reduced. Road accident fatalities per 10,000 vehicles were reduced by 30% in 2013 in Yunnan, more than the 20% expected in the DMF. A total of 63 person-months of international training were provided to staff of the Yunnan Provincial Department of Transport and Wukun Expressway Company Limited in 2013, compared with 85 person-months of international training by 2012 in the DMF. Reports were submitted to ADB after each training workshop. Based on these observations, this validation assesses the project effective.

C. Efficiency of Resource Use in Achieving Outcomes and Outputs

24. The PCR rated the project efficient. It noted that all outputs were completed, although the overall implementation was delayed by about 9 months. The total project cost increased by 34.8%, mainly due to compensation for land acquisition and resettlement and to increased labor costs for civil works. Traffic volume of the expressway and toll revenue was higher than the appraisal estimates.

25. The reevaluated economic internal rate of return (EIRR) of the project was 13.2%, compared with 17.1% estimated at appraisal. The lower EIRR was mainly due to the increased capital cost of the project expressway. A sensitivity analysis was carried out to test the impacts of the increase in operation and maintenance costs, decrease in benefits, and combination of the two. Under the worst-case scenario of a 20% increase in operation and maintenance costs and a 20% benefit reduction, the EIRR would have been 11.2%. Benefits, such as tourism, improved access to health and education, and reduced accidents, were not included because of lack of data. The EIRR for the rural roads component only was calculated to be 18.4%.

26. This validation notes some methodological issues in the EIRR recalculation. The PCR stated that “the economic costs are derived from financial costs by excluding taxes and duties and financing charges, applying a shadow wage rate of 0.7 on unskilled labor, and converting border prices to domestic economic prices using a shadow exchange-rate factor of 1.013.” First, the expressway capital cost and operation and maintenance costs were adjusted by the standard conversion factor (0.987), the inverse of the shadow exchange rate factor, and not the shadow exchange rate factor as stated in the text. This is incorrect and understates the capital cost of the project and the operation and maintenance costs.

27. Second, as seen in Table A11.3 of the PCR, time savings seems to account for more than vehicle operating cost savings of the total economic benefits, becoming the main source of economic benefits. This seems to be hardly convincing since vehicle operating cost savings are traditionally the biggest source of economic benefits in most road projects. While this benefit seems to be overvalued, explanations given in para. 8 of the PCR were not sufficient to make this case convincing. It would be interesting to compare this time savings with other similar expressway projects in the PRC.
28. Third, the PCR did not provide details on how land acquisition and resettlement costs were dealt with in the EIRR calculation. In response to the validation team’s inquiry, the PRC resident mission responded that "land and resettlement cost has been incorporated in project cost." This validation notes that the RRP did not address the issue of shadow pricing of land and resettlement costs in its EIRR calculation. The PCR should have given an explanation on how the land and resettlement financial costs were converted to economic costs and what assumptions were used for the conversion. The PCR seems to imply that the project’s financial cost of land acquisition and resettlement was used. This is not correct as the financial cost is often different from the economic cost.

29. This validation also notes that the PCR provided little information on which to assess process efficiency. The PCR only indicated that disbursements were smooth and timely; implementation arrangements were effective; and that the performance of consultants, contractors, and suppliers was satisfactory. Project completion was delayed 9 months, which is not excessive.

30. Despite the short project implementation delay, this validation assesses the project efficient.

D. Preliminary Assessment of Sustainability

31. The PCR rated the project likely sustainable. It recalculated the financial internal rate of return (FIRR) using the same methodology as at appraisal. The reevaluated FIRR was 4% on an after-tax basis, lower than the appraisal estimate of 4.3%. The difference was mainly due to increased capital costs and delayed completion of the expressway. The after-tax weighted average cost of capital (WACC) was calculated using the actual capital mix and the cost of various financing sources. The revised WACC was 2.3%, which was lower than the appraisal estimate of 3.5%. The recalculated FIRR was higher than the revised WACC, therefore, the project was considered financially sustainable. A sensitivity analysis was conducted to test the impact of variations in operation and maintenance costs and revenues. Under all scenarios, the FIRR remained above the WACC.

32. The use of a residual value of 50% of the initial capital cost after 19 years for the expressway is also an issue in the FIRR calculation, as in the EIRR calculation. The range of the FIRR calculation should also be extended to 2054 to avoid the problem of implying 4% growth in traffic after 2035.

33. The financial projections for the expressway showed that the operation of the project expressway will be profitable from 2024. The project agreement covenanted Wukun Expressway Company Limited to maintain (i) a working ratio of not more than 15% from the first year of full operation; and (ii) a debt service coverage ratio of not less than 1.2 from the eighth year of full operation. The projected financial statements indicate that Wukun Expressway Company Limited will be able to comply with the working ratio from 2014 and the debt service coverage ratio from 2019.

34. The project expressway was well designed and constructed using consistent and systematic quality-control procedures. The PCR confirmed that the Yunnan Provincial Department of Transport and other operating agencies have the institutional capacity to operate and maintain the project expressway and local roads. In December 2008, the state council announced a fuel tax reform to establish a stable funding source for local road construction and
maintenance. However, the PCR did not discuss the effectiveness of the fuel tax reform. This validation assesses the project likely sustainable.

E. Impact

35. The PCR rated the project’s impact significant. It stated that the project promoted economic growth in the project area by increasing effective transport linkages, lowering transport costs, and facilitating trade and investment in the project area. The negative environmental impacts generated during project implementation were mitigated and safeguard measures on land acquisition and resettlement were implemented.

36. The PCR indicated that the project had a positive socioeconomic impact. The project expressway contributed to economic development and poverty reduction in Fumin County, Kunming City, Wuding County, and Chuxiong Prefecture. From 2008 to 2013, the average annual increase of per capita gross domestic product was 14.9% in Yunnan and 18.3% in the project area. The statistics showed that rural per capita income of farmers increased in Fumin County (128%), Wuding County (122%), and Chuxiong Prefecture (104%) from 2008 to 2013. Disposable per capita income of urban residents increased by 96% in Kunming City from 2008 to 2013. Improved rural roads and associated services benefited poor villagers in remote areas and the incidence of poverty was reduced in the project area. The statistics showed that the number of poor people in the project area dropped from 204,800 in 2011 to 124,300 in 2013.

37. The expressway removed traffic bottlenecks from Wuding to Kunming. In Kunming City, the volume of freight traffic increased to 16,176 tons in 2013 from 9,928 tons in 2008, and the passenger traffic volume increased by 21.2% from 2008 to 2013. The local roads provided better and faster transport for the villagers, particularly the poor and ethnic minorities. In total, around 2.19 million local people benefited directly or indirectly from the project through an improved road network and connectivity.

38. The project's construction and operation also generated employment opportunities for the local population. The project created over 3,930 unskilled temporary jobs for people living along the expressway during construction and 268 permanent jobs during operation. Many laborers were trained on the job and worked on other construction projects as skilled workers since project completion. The project also promoted gender development in the project area. Among the 3,930 unskilled job opportunities created during construction, 15% were taken by women. Among 268 permanent jobs during construction, 168 jobs were provided to women and most of them came from poor families in the surrounding areas. In addition, the improved road conditions enabled local women, particularly those who live in remote mountainous areas, to gain access to medical and health services and employment opportunities.

39. The project gave ethnic minorities an opportunity to fully participate in all stages of the project cycle. Among the 3,930 unskilled jobs taken by the local residents during project operation, 623 were provided to ethnic minorities. About 98 people from ethnic minorities engaged in road maintenance and took advantage of toll service job opportunities generated by the expressway, positions that account for 55% of total permanent jobs. The project also took measures to mainstream HIV/AIDS awareness into the induction training for construction workers and increased awareness in the local communities. Given the project's positive
socioeconomic impact and that the project’s negative impacts were mitigated, this validation assesses the project’s impact *satisfactory*.\(^5\)

### III. OTHER PERFORMANCE ASSESSMENTS

#### A. Performance of the Borrower and Executing Agency

40. The PCR rated the performance of the borrower and the executing agency *satisfactory*. It noted that the project was implemented according to the arrangements envisaged at appraisal. All major loan covenants were complied with or are being complied with. The borrower and the executing agency ensured that the counterpart financing was adequate and made available as required. Land acquisition and resettlement were implemented effectively and in accordance with ADB’s 1995 Involuntary Resettlement Policy. Measures taken by the executing agency to mitigate negative environmental impacts proved to be adequate and effective. Given the above, this validation views the performance of the borrower and the executing agency *satisfactory*.

#### B. Performance of the Asian Development Bank

41. The PCR rated ADB’s performance *satisfactory*. Seven missions were fielded during project implementation, including a social safeguards review mission. The PCR indicated that communication and coordination between ADB, the Yunnan Provincial Department of Transport, and Wukun Expressway Company Limited were effective. ADB’s response to the executing and implementing agencies’ requests and consultations was prompt and constructive. The Yunnan Provincial Department of Transport and Wukun Expressway Company Limited benefited from ADB’s guidance and cooperation in resolving implementation issues, particularly its support of reallocating loan proceeds, which resulted in full utilization of the loan proceeds. The Yunnan Provincial Department of Transport and Wukun Expressway Company Limited particularly benefited from timely disbursement of the loan proceeds. Because of the change in ADB’s project officers, the recruitment of a domestic consulting firm to carry out a study on local road safety strategy in Yunnan was delayed. Nonetheless, the study was completed before the extended loan closing date. This validation considers the performance of ADB *satisfactory*.

### IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

#### A. Overall Assessment and Ratings

42. The PCR rated the project *successful*. It stated that project outcomes were successfully achieved and objectives were met. The project promoted economic growth and reduced poverty in central Yunnan; lowered transport costs and improved access to markets, social facilities, and services in the project area; contributed to regional development in the Greater Mekong Subregion; and improved road safety in Yunnan. The project was confirmed to be economically financially viable. Details of the PCR ratings are provided in the table.

43. This validation assesses the project *relevant, efficient, effective, and likely sustainable*. Therefore, the project is rated *successful*.

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\(^5\) Beginning May 2016, the Independent Evaluation Department adopts the ratings terminology of the April 2016 Guidelines for the Evaluation of Public Sector Operations on development impacts. In this terminology, a *satisfactory* rating coincides with the *significant* rating that was used before.
## Overall Ratings

<table>
<thead>
<tr>
<th>Criteria</th>
<th>PCR</th>
<th>IED Review</th>
<th>Reason for Disagreement and/or Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>Relevant</td>
<td>Relevant</td>
<td></td>
</tr>
<tr>
<td>Effectiveness in achieving outcome</td>
<td>Effective</td>
<td>Effective</td>
<td></td>
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<tr>
<td>Efficiency in achieving outcome and outputs</td>
<td>Efficient</td>
<td>Efficient</td>
<td></td>
</tr>
<tr>
<td>Preliminary assessment of sustainability</td>
<td>Likely sustainable</td>
<td>Likely sustainable</td>
<td></td>
</tr>
<tr>
<td>Overall Assessment</td>
<td>Successful</td>
<td>Successful</td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>Significant</td>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Performance of borrower and executing agency</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Performance of ADB</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Quality of PCR</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td>Please refer to para. 49.</td>
</tr>
</tbody>
</table>

**ADB** = Asian Development Bank, **IED** = Independent Evaluation Department, **PCR** = project completion report.

**Note:** This report uses the ratings terminology of the April 2016 Guidelines for the Evaluation of Public Sector Operations.

**Source:** ADB Independent Evaluation Department.

### B. Lessons

44. The PCR identified two lessons. First, land acquisition and resettlement costs should be budgeted adequately during project preparation. In the case of the project, resettlement costs increased over 300% mainly in view of the nationwide resettlement policy reform in 2008 (PCR, para. 59). In this validation's view, changes in policies are not always predictable and, therefore, budgets for resettlement may sometimes be inadequate. In addition, the PCR's suggestion that project preparation should compare resettlement policy with the market prices to assess whether compensation is reasonable in this validation's view.

45. Second, when establishing the project implementation team, staff with experience in ADB-financed projects should be mobilized under the same executing or implementing agency. Although a reasonable suggestion in this validation’s view, it may not be possible given that there may be other projects under implementation where experienced staff are also needed. The decision should ultimately be left up to the government. This validation has no other lessons to offer.

### C. Recommendations for Follow-Up

46. The PCR suggested two recommendations. First, the Yunnan Provincial Department of Transport and Wukun Expressway Company Limited should continue monitoring project performance in 2016 and submit a report to ADB in 2017. Second, recruitment of a domestic consulting firm to carry out the study on local road safety strategy in Yunnan encountered significant delays because the recruitment process was suspended during the transition to a new ADB officer and complexity of the submission and selection procedures. The PCR suggested that candidate consultants for contracts less than $100,000 be identified in the early stages of project preparation and recruitment focus only on finalizing the terms of reference and the contract. ADB’s selection process should also be simplified and expedited. This validation has no opinion on this recommendation as it involves changes to ADB and government procedures that are beyond the scope of this project. This validation has no other recommendations to offer.
V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Evaluation Design, Implementation, and Utilization

47. The RRP stated that project performance management system indicators, their relevance, and monitoring practicalities were confirmed and agreed with the government during project preparation. Baseline socioeconomic and transport indicators were also updated. These key indicators and assumptions were to form the core data required for assessing the project. The Yunnan Provincial Communications Department was to measure the indicators and report the key findings to ADB at project inception, completion, and 3 years thereafter. It was also agreed that a qualified local institute was to be engaged by Wukun Expressway Company Limited to perform social monitoring.

48. The PCR stated that a project performance management system was established to monitor the achievement of project objectives and the Kunming University of Science and Technology was recruited to monitor project performance. Three project performance monitoring reports were submitted to ADB. The reports provided information and data in measuring project outcome and impact, covering socioeconomic, social, gender, sector development, and regional integration. However, the PCR did not assess the design of the project performance management system or its implementation and utilization.

B. Comments on Project Completion Report Quality

49. This validation rates the PCR quality satisfactory. On the positive side, lessons and recommendations were adequate. Less positively, there were several shortcomings in the calculation of the EIRR in the PCR (paras. 26–28), and there was no assessment of the project performance monitoring system.

C. Data Sources for Validation

50. Data sources included the RRP, the PCR, and loan review mission reports.

D. Recommendation for Independent Evaluation Department Follow-Up

51. The PCR suggested that project performance be evaluated in the second half of 2017, 3 years after project completion. This validation holds a similar view on the timing of the project performance evaluation report.