



# Draft Design and Monitoring Framework

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Project Number: 39149  
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## PRC: Western Guangxi Roads Development Project

A design and monitoring framework is an active document, progressively updated and revised as necessary, particularly following any changes in project design and implementation. In accordance with ADB's public communications policy (2005), it is disclosed before appraisal of the project or program. This draft framework may change during processing of the project or program, and the revised version will be disclosed as an appendix to the report and recommendation of the President.

**Asian Development Bank**

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Contribution to pro-poor sustainable economic growth in Western Guangxi and Northern Viet Nam</p>	<ul style="list-style-type: none"> <li>• GDP is forecast to increase per annum by 7%–8% for Guangxi and 8%-9% for the project area during 2010–2020.</li> <li>• Per capita rural income in project area will increase from CNY1,726 in 2005 to CNY3,800 to 2015.</li> <li>• Poverty incidence in the project area will be reduced from 30% in 2006 to 15% in 2016</li> <li>• Trade between Guangxi and Viet Nam is forecast to increase by 10% per annum during 2006–2016.</li> </ul>	<p>Guangxi Statistics Yearbook</p> <p>Provincial and County Statistical Data</p> <p>Poverty Alleviation and Development Offices</p> <p>Government Statistics and accounts</p>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• Good growth performance in the project area and beyond sustained</li> <li>• The Government is committed to implement Western Development Strategy</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• Continued growth in Viet Nam and increased trade with PRC</li> <li>• Streamlined cross-border operation and reduction of barriers to trade and mobility.</li> </ul>
<p><b>Outcome</b> Contribution to an efficient, safe, and environmental friendly regional transport system to connect new markets in the project area, and reducing trade barriers with Viet Nam.</p>	<ul style="list-style-type: none"> <li>• Traffic volume for the expressway increased from 6,330 pcu in 2012 to 18,800 pcu in 2022 and 30,500 pcu in 2032</li> <li>• Travel time for the expressway reduced from 5 hours before project to 2 hours after project</li> <li>• Travel distance is reduced by 34 km from Baise to Guizhou border after the Project.</li> <li>• Expressway capacity is increased by 25,000-45,000 pcu per day for Longlin-Wangdian section; and by 35,000-50,000 pcu per day for Wangdian-Baise at opening.</li> <li>• Vehicle operating costs for a passenger car are reduced from CNY1.45 per vehicle-km without the project to CNY1.26 with the Project in 2012.</li> <li>• Road accidents and fatalities in the project area reduced by 10% by 2012</li> <li>• Fuel savings of 11,000 toe in 2012 and 89,000 toe in 2032; and reduced CO2 emissions by 39,000 tons in 2012 and 450,000 tons in 2032. Reduction of CO2 by 4.7 million ton over 20 years</li> </ul>	<p>Actual traffic data on the expressway through its auto-monitoring system.</p> <p>Travel time survey for the expressway</p> <p>PCR</p> <p>PCR</p> <p>Estimation of vehicle operating costs by GCD and ADB.</p> <p>Accident statistics from the Guangxi Public Security Bureau.</p> <p>Estimation by Provincial and local EPB and design institute</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Assumed economic growth rates materialize.</li> <li>• Transport operators and drivers realize the benefits of using the expressway</li> <li>• The contiguous section of expressway in Guizhou is completed in 2012</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• The nationwide road safety program may not be implemented effectively.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• New standards are enforced on Guangxi roads</li> </ul>

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	<ul style="list-style-type: none"> <li>• Project local road capacity increased to 2,000 pcu per day for Class-IV road, 6,000 pcu per day for Class-III road, and 15,000 pcu per day for Class-II class at opening in 2012</li> <li>• Administrative villages with all weather road access increased from current 52% to 100% of the total by 2012.</li> <li>• Licensed bus service becomes available to 100% of villages by 2012, from 54% in 2006.</li> <li>• Reduced transport fares with better quality of transport services</li> <li>• Cash crop output value increases from 18% of total rural output value in 2005 to 20% in 2012.</li> <li>• Income from non-farm sector increases from 15% of total income in 2005 to 20% by 2012</li> <li>• The number of tourists visiting Baise increases from 4.05 million in 2005 to 7 million by 2012</li> <li>• Value of trade through Pingxiang, Longbang, and Yuexu is forecast to increase by 15% per annum during 2010–2012.</li> <li>• Head of livestock traded through Naxi to increase by 10% per annum during 2010–2012.</li> <li>• Value of small-scale cross-border trade in Jingxi County increases from CNY 380 million by 20% over 5 years.</li> </ul>	<p>PAMs, PRs, and PCR</p> <p>Statistics offices at the provincial and county levels</p> <p>Baise transport administration Bureau.</p> <p>Monitoring of fares and rates by GCD</p> <p>Household survey by consultants</p> <p>Household survey by consultants</p> <p>Baise Tourist Bureau</p> <p>Guangxi Commence Department and Baise Border Trade Bureau.</p> <p>Naxi statistics compiled by Baise border trade officials</p> <p>Guangxi Commence Department and Trade Data compiled by Baise border trade officials</p>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• GCD's rural road investment projects are implemented as planned.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Operating cost savings realized by commercial vehicle operators are passed on to road users</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• The Government's "new countryside development" initiative is effectively implemented.</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• Government investment projects are implemented as planned.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• PRC-Vietnam incorporate Pingxiang, Longbang border crossing points and transport corridors in border trade agreement</li> <li>• Yuexu border market proceeds as planned</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>• Existing Naxi market facility is not expanded as planned</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Government continues to expand the range, scale and geographic scope of approved border-trade activities</li> </ul>
<p><b>Outputs</b></p> <p>1. Expressway infrastructure and associated facilities improved.</p>	<p>1.1 177 km of expressway opened to traffic as scheduled and effectively operated.</p>	<p>PAMs, PRs, and PCR</p>	

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>2. Local road infrastructure and associated facilities improved in the project area.</p> <p>3. Rural transport services improved in the project area</p> <p>4. Rural road maintenance improved in the project area.</p>	<p>1.2 Road safety enhanced through improved surface quality, and provision of shoulders, signs, markings, and black spots. Safety awareness is increased</p> <p>1.3 Cross-border trade facilities are procured and functioning.</p> <p>1.4 The welfare of those affected by land acquisition and resettlement are restored to at least the same level as before land acquisition</p> <p>1.5 Minorities, gender and environmental safeguard policies for project roads are complied with.</p> <p>1.6 HIV/AIDS and health risks for construction workers and service providers are mitigated</p> <p>2.1 1,060 km of local roads are upgraded.</p> <p>2.2 Road safety signs and markings are displayed and safety awareness is increased.</p> <p>3.1 48 Class-V and 2 Class-III township bus stations are built</p> <p>3.2 Passenger route licensing and operation reform is implemented in Jingxi County.</p> <p>3.3 Productivity of buses increased by 20% by 2012 from 170km/day for medium bus and 30km/day for small bus in 2006.</p> <p>3.4 Bus network coverage and service frequency are increased.</p> <p>4.1 Rural road maintenance reform is implemented in Baise City.</p> <p>4.2 Project rural roads are effectively maintained.</p> <p>4.3 New rural road maintenance regulation is implemented.</p> <p>4.4 At least 300 person-months training are provided to local authorities at county and township levels.</p>	<p>PAMs, PRs, and PCR</p> <p>PAMs, PRs, and PCR.</p> <p>RP will be updated. Regular monitoring by an independent institute</p> <p>EMDP, SEIA, monitoring and evaluation reports, PAMs, and PCR</p> <p>Monitoring by the Guangxi Health Department and Baise Disease Control Center</p> <p>PAMs, PRs, and PCR</p> <p>PAMs, PRs, and PCR</p> <p>PAMs, PRs, and PCR.</p> <p>PAMs, PRs, and PCR</p> <p>Bus operator and terminal records from BTAB</p> <p>Length of licensed bus route from Baise Transport Administration Bureau</p> <p>PAMs, PRs, and PCR</p> <p>PAMs, PRs, and PCR</p> <p>PAMs, PRs, and PCR</p>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>Affected people are able to restore their living standards</li> <li>Adequate implementation of complementary activities by GCD and local governments</li> <li>The funding for the Baise Centre for Disease Control is sufficient to monitor activities</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>Bus operators realize the benefits of using the increases of bus productivity.</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>Inadequate village road maintenance.</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>Commitment by GCD and local governments to implement new regulations</li> </ul>

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5. Corporate governance and institutional capacities improved in expressway operations.	5.1 GCIG is established. 5.2 The governance and efficiency are improved by separating the policy and planning functions from the construction and O&M functions. 5.3 Private sector participation is introduced. 5.4 70 person-months of international training are provided. On-the-job training of national consultants are provided by the international consultants 5.5 Survey techniques are adopted to assess changes in work practices and behavior to measure the effectiveness of the capacity-building component.	PAMs, PRs, and PCR  PAMs, PRs, and PCR  PAMs, PRs, and PCR  A report by consultants on the capacity-building component, including participants, subject areas, feedback from participants, and new skills applied by trainees	<b>Risk</b> <ul style="list-style-type: none"> <li>Few private firms are interested in the expressway operation.</li> </ul> <b>Assumption</b> <ul style="list-style-type: none"> <li>Trainees apply in their daily work what they have learned</li> </ul>
<b>Activities with Milestones</b>			
1. Implementing and supervising project road and bus station works. 2. Installing Equipment 3. Providing Consulting services and training. 4. Implementing passenger route licensing and operation reform in Jingxi County 5. Implement the road maintenance reform in Baise City. 6. Implementing and monitoring of RPs. 7. Implementing and monitoring of EMP and EMDP.	Civil works contracts completed by March 2012. Equipment procured by December 2011. Consultants recruited by December 2007 and completed by March 2012. An action plan prepared by December 2008 and implemented according to the plan. Implement rural road maintenance regulation as approved by GCD. Rehabilitation measures completed by December 2008 Implementation of SEIA and EMDP	ADB \$300 million MOC \$170 million GRG \$546 million Domestic loans \$550 million	

ADB = Asian Development Bank, BTAB = Baise Transport Administration Bureau, EIA = environmental impact assessment, EMDP = Ethnic minority development plan, GCD = Guangxi Communications Department, GCIG = Guangxi Communications Investment Group Company, GDP = gross domestic product, GRG = Guangxi regional government, HIV/AIDS = Human immunodeficiency virus/acquired immunodeficiency syndrome, km = kilometer, MOC = Ministry of Communications, O&M = operation and maintenance, PAM = project administration missions, PCR = project completion report, PCU = passenger car units, PEPB = Provincial Environmental Protection Bureau, PR = progress report, RP = resettlement plan, toe = ton oil equivalent.