



# Draft Design and Monitoring Framework

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Project Number: 42018  
July 2009

## PRC: Anhui Integrated Transport Sector Improvement 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> Integrated road transport system supports the central region growth strategy.</p>	<p>Road traffic is forecast to increase during 2015–2020 at 6–7% per annum for passenger traffic and 5–6% per annum for freight traffic in Anhui.</p> <p>Rural poverty incidence (PPP at \$1.25) reduced from 19.6% in 2007 in Lingbi and from 18.0% in 2007 in Sixian to 10% by 2020</p> <p>CO2 emissions per unit of GDP are reduced by at least 20% by the end of 2015 from their 2005 level, and are further reduced by 2020.</p>	<p>Provincial and county statistical data</p> <p>Provincial and county statistical data</p> <p>Country Statistical Yearbooks</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Government investment projects are implemented as planned.</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>The Government is committed to reducing poverty in the central region, according to the central region growth strategy.</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>The Government maintains its commitment to energy efficiency</li> </ul>
<p><b>Outcome</b> An efficient, safe, and sustainable transport system is developed in the project area.</p>	<p>Traffic on the XME corridor increased by 8% per year during 2008–2015, 7% per year during 2015–2025, and 6% per year during 2025–2030.</p> <p>Travel time by road is reduced by at least 30 minutes between Xuzhou to Mingguang.</p> <p>Vehicle operating costs are reduced to CNY2.18 per pcu-km with the Project from CNY2.52 pcu-km without the Project in 2014.</p> <p>Traffic accident rate, measured by road accident fatalities per 10,000 vehicles in Anhui province, reduced by 10% in 2015</p> <p>Percentage of budget allocated to road maintenance and rehabilitation increased.</p> <p>Fuel savings of 10,500 tons in 2014 and 1.3 million tons over 20 years in the project corridor. CO2 emission reduced by 4.2 million tons over 20 years in the project corridor.</p>	<p>Travel time survey for the expressway and local roads</p> <p>PCR</p> <p>Accident statistics from Public Security Department</p> <p>APCD</p> <p>Anhui Provincial Environmental Protection Bureau</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Passengers and freight operators realize the benefits of using the project roads.</li> <li>The Jiangsu section (6-km), linking XME to the Xuzhou–Huai’an expressway is completed by Jiangsu province</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Effective traffic law enforcement</li> <li>Greater public awareness</li> <li>Good road user behavior</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>APCD is committed to road maintenance</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Traffic forecasts for the XME are realized</li> <li>Vehicle emissions standards are enforced on Anhui roads</li> </ul>
<p><b>Outputs</b></p> <p>1. Improved road infrastructure in the Xuzhou-Mingguang Corridor</p> <p>2. Improved local roads and traffic safety practices</p>	<p>1.1 137 km of XME opened to traffic and effectively operated by 2014</p> <p>1.2 Road safety enhanced through improved road safety facilities by 2014</p> <p>2.1 452 km of local roads upgraded by 2015</p>	<p>ACIG, PAMs, and PCR</p> <p>ACIG, PAMs, and PCR</p> <p>PAMs, and PCR</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Axle load standards are enforced</li> <li>Adequate quality and safety assurance</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Counterpart resources are made available on time.</li> </ul>

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
<p>3. Improved rural village bus services</p> <p>4. Institutional development and capacity building of APCD, its related agencies, and ACIG is strengthened</p>	<p>2.2 Percentage of traffic accidents causing fatalities and serious injuries reduced on project roads.</p> <p>2.3 Road safety audit recommendations incorporated in road design.</p> <p>3.1 Rural township bus stations built and rehabilitated</p> <p>3.2 Passenger bus route licensing and operation reforms implemented in three pilot townships (Shi Pei, Du Cun and Xiao Wei) and surrounding villages.</p> <p>3.3 The number of trips per day per bus in each direction increased on selected routes.</p> <p>4.1 ACIG's IEHS team provided training to construction workforce. IEHS monitor reports submitted to ADB and APCD.</p> <p>4.2 APCD submitted the road maintenance financing framework recommendations to APG for consideration</p> <p>4.3 Survey techniques are adopted to assess changes in work practices and behavior to measure the effectiveness of the capacity building component</p>	<p>APSD</p> <p>PAM, progress reports, and PCR</p> <p>PAM, progress reports, and PCR</p> <p>Length of licensed bus route from APCD</p> <p>Bus operator and records from APCD</p> <p>PAM, progress reports, and PCR</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Strong ownership from APCD and good cooperation from APSD to promote road traffic safety</li> </ul> <p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>Commitments by APCD and local governments to implement new regulations.</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>The required regulatory changes of village bus licensing system are not approved by APG timely</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>IEHS team established</li> <li>Operative Staff at provincial and lower levels assigned and available for the training</li> <li>Trainees have opportunity to apply in their daily work what they have learned</li> </ul>
<b>Activities with Milestones</b>		<b>Inputs</b>	
<p>1. XME Works</p> <p>2. Local road and safety component</p> <p>3. Rural bus services demonstration</p> <p>4. Institutional capacity building</p> <p>5. Environmental mitigation</p> <p>6. Resettlement</p> <p>7. Social Development</p>	<p>Contracts awarded by June 2010 and completed by December 2013.</p> <p>Work completed by June 2015</p> <p>Work completed by June 2015</p> <p>Activities completed by June 2015</p> <p>Environmental mitigation measures implemented during project implementation and operation, according to the environmental impact assessment</p> <p>Implement and monitor resettlement plans, according to the resettlement plans</p> <p>Implement and monitor the social development action plan, including disease prevention and gender measures.</p>	<ul style="list-style-type: none"> <li>Asian Development Bank: \$200 million</li> <li>Domestic Bank Loans: 598.8 million</li> <li>Ministry of Transport: \$119.1 million</li> <li>ACIG: \$320.9 million</li> <li>APG: \$116.2 million</li> </ul>	

APCD = Anhui Provincial Communications Department, ACIG = Anhui Communications Investment Group Company Limited, APG = Anhui Provincial Government, APSD = Anhui Public Security Department, CO<sub>2</sub> = carbon dioxide, IEHS = independent environment, health and safety team, km = kilometer, PAM = project administration mission, PCR = project completion report, pcu = passenger car unit, ton= ton oil equivalent, XME = Xuzhou–Mingguang Expressway.

Source: ADB staff estimates.