



# Report and Recommendation of the President to the Board of Directors

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Project Number: 45022-002  
November 2014

## Proposed Loan and Administration of Grant People's Republic of China: Jiangxi Ji'an Sustainable Urban Transport Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 21 October 2014)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.16119
\$1.00	=	CNY6.2039

## ABBREVIATIONS

ADB	–	Asian Development Bank
BRT	–	bus rapid transit
GEF	–	Global Environment Facility
ha	–	hectare
JIDC	–	Ji'an Urban Investment and Development Company
JMG	–	Ji'an Municipal Government
km	–	kilometer
PMO	–	project management office
PRC	–	People's Republic of China

## NOTE

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

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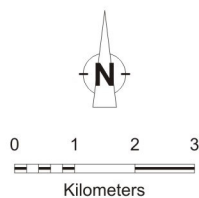
## PROJECT AT A GLANCE

1. Basic Data		Project Number: 45022-002	
Project Name	Jiangxi Ji'an Sustainable Urban Transport Project	Department /Division	EARD/EATC
Country Borrower	China, People's Republic of China, People's Republic of	Executing Agency	Ji'an Municipal Government
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✔ Transport	Transport policies and institutional development		1.30
	Urban public transport		49.40
	Urban roads and traffic management		69.30
		Total	120.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	High
Environmentally sustainable growth (ESG)	Eco-efficiency Urban environmental improvement		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✔
Partnerships (PAR)	International finance institutions (IFI) Official cofinancing		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Urban	High
6. Risk Categorization:	Complex		
7. Safeguard Categorization	Environment: A Involuntary Resettlement: A Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		120.00	
Sovereign Project loan: Ordinary capital resources		120.00	
Cofinancing		2.55	
Global Environment Facility		2.55	
Counterpart		167.10	
Government		167.10	
Total		289.65	
9. Effective Development Cooperation			
Use of country procurement systems		Yes	
Use of country public financial management systems		Yes	





## JIANGXI JI'AN SUSTAINABLE URBAN TRANSPORT PROJECT IN THE PEOPLE'S REPUBLIC OF CHINA



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- New Development Area
  - Yudai River Greenway (Project Component)
  - Provincial Capital
  - City/Town
  - County Seat
  - Traffic Management (Project Component)
  - Long-distance Bus Terminal
  - Station Square Improvement (Project Component)
  - Jinggangshan Bus Rapid Transit (Project Component)
  - 2013 Feeder Bus Routes
  - Urban Road Improvement (Project Component)
  - Urban Road
  - National Road
  - Provincial Road
  - Railway Planned
  - Railway
  - River
  - Prefecture Boundary
  - Provincial Boundary
- Boundaries are not necessarily authoritative.





## **I. THE PROPOSAL**

1. I submit for your approval the following report and recommendation on (i) a proposed loan, and (ii) proposed administration of a grant to be provided by the Global Environment Facility (GEF), both to the People's Republic of China (PRC) for the Jiangxi Ji'an Sustainable Urban Transport Project.<sup>1</sup>

2. The project will contribute to inclusive growth and environmentally sustainable development in Ji'an by improving the efficiency and sustainability of urban transport.<sup>2</sup>

## **II. THE PROJECT**

### **A. Rationale**

3. With more than 100 million people expected to move to urban areas during 2014–2020, sustainable support for rapid urbanization is a key development challenge in the PRC. Such a mass migration will require a major expansion of smaller cities, such as Ji'an, to relieve development and environmental pressures on existing urban centers, and provide economic opportunities and higher incomes for the large population of poorer rural residents. Investments in urban infrastructure, transport, and related services are needed to support development in third-tier cities. The PRC needs examples of good practice in sustainable urban transport to demonstrate the benefits to cities of supporting and prioritizing public and nonmotorized transport<sup>3</sup>, while providing safe and efficient urban road development in expanding urban areas.

4. Ji'an is located in central Jiangxi Province, along the Ganjiang River. The city is a provincial-level municipality of 4.9 million people of which 41.6% are urban residents. Economically, Ji'an lags behind nearby provinces and remains relatively poor. In 2012, per capita disposable income was CNY20,282 (\$3,253) compared with the national average of CNY38,460 (\$6,169). Incomes have been rising rapidly, but remain just over 50% of the national average. Ji'an has five national poverty counties.

5. Ji'an is a major center for tourism. Its hinterland includes the Jinggangshan National Scenic Area, which attracts many domestic tourists, most arriving by railway and long-distance buses. Ji'an is considered one of the most important areas for revolutionary history in the PRC and a major draw for the so-called "red tourism."<sup>4</sup> The government has been actively supporting the development of "red tourism," in part, to promote socioeconomic development in areas that are generally more rural and poorer than the coastal areas. The city includes a large university and has an expanding manufacturing base for electrical equipment.

6. Ji'an is located 210 km from Nanchang (the provincial capital) to the north and 600 km from Guangzhou (the provincial capital of Guangdong Province) to the south. The existing Jing-Jiu Railway (Beijing–Kowloon) and G45 Expressway (Daqing–Guangzhou) provide the foundation for the regional transport network in Ji'an. The Chang–Ji–Gan high-speed passenger railway line is now being planned with a station expected to be constructed about 4 km west of the currently developed urban district in Ji'an. Once operating, Ji'an will become better connected to fast-growing and relatively prosperous cities in Guangdong Province and

<sup>1</sup> The design and monitoring framework is in Appendix 1.

<sup>2</sup> The Asian Development Bank (ADB) provided project preparatory technical assistance for Jiangxi Ji'an Sustainable Urban Transport (TA 7965-PRC).

<sup>3</sup> Nonmotorized transport includes pedestrian, bicycle and wheelchair transport.

<sup>4</sup> "Red tourism" refers to tourist travel to locations with historical significance to the development of communism in the PRC.

the provincial capital of Nanchang. The opening of the new railway offers a significant opportunity to improve the Ji'an economy by better integrating the region into the dynamic economy of the southern PRC and by enabling development of tourism.

7. The city is typical of emerging third-tier cities in the PRC, and offers an opportunity to demonstrate more sustainable urban transport development in line with the PRC's urbanization strategy considered at the Third Plenum of the Chinese Communist Party (November 2013) and released in March 2014. The population of the urban district where the project is located was 550,000 in 2013 and is expected to reach 730,000 by 2020 and more than 1 million by 2030. To accommodate planned growth, the city has been rapidly expanding its developed urban area. The planned development of the new high-speed rail line serves as the focal point for a major new development area on the west side of Ji'an. The railway is expected to be operating by 2020, and will require road and related urban infrastructure access for construction and future development in the urban district surrounding the new station. This new development area is expected to have more than 150,000 residents by 2030. To realize the opportunity presented by the new railway, there is a need for new urban roads and public transport systems, and services are required to serve the new area and provide an efficient and low-cost means for local residents to access the new railway station and the employment opportunities expected to be developed nearby.

8. The Yudai River, a winding waterway on the west side of the Ji'an urban area, runs through the new development area and is integrated into the irrigation system for rice cultivation. During the rainy season, flooding affects farmland on both sides of the river. Rehabilitation of the Yudai River is needed to protect the new development area from flooding.

9. The existing public transport system in Ji'an is inadequate to serve the needs of a developing third-tier city, and will require substantial investment to improve its efficiency and expand its services to the new development area. The bus system transported about 111,000 passengers per day in 2013 (increasing by about 7% per year since 2009). Buses are not given priority, resulting in relatively slow and unreliable service. Public transport services in the city center are affected by increasing traffic resulting in declining operating speeds and longer travel times. Traffic signals are manually controlled and uncoordinated resulting in added delays on heavily traveled roads. Bus stops and multimodal connections at existing transport facilities are inadequate, poorly designed, and inconvenient for passengers. The multimodal connection to the Ji'an Railway Station is unorganized; provides no service information or weather protection; and requires passengers to navigate a long stairway with luggage, which is particularly difficult for women with children, the elderly, and disabled.

10. Ji'an needs to change its approach to urban transport to avoid an unsustainable future. Substantial capacity expansion and quality improvements are needed to meet current and future demand. Public and nonmotorized transport must be improved and given priority to ensure sustainable transport modes provide convenient and cost-effective service and prevent excessive motorization, congestion, and pollution.

11. **Lessons.** The Asian Development Bank (ADB) has funded three earlier projects to support bus rapid transit (BRT) in the PRC.<sup>5</sup> A key lesson from the projects is that when

<sup>5</sup> ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Lanzhou Sustainable Urban Transport Project*. Manila; ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Jiangxi Fuzhou Urban Integrated Infrastructure Improvement Project*. Manila; and ADB. 2013. *Report and*

developing BRT, an integrated approach is needed with careful coordination of BRT design, road development, and traffic management. Due to the specialized nature of BRT planning, design, and operation, a program of institutional capacity development for the municipal bus company, project management office (PMO), and the municipal transport bureau is needed. Drawing on past lessons, the project adopts an integrated approach that also incorporates measures to maximize the energy efficiency of bus operations on the BRT and feeder services by introducing hybrid buses and a monitoring system, and providing for improved multimodal connections at the existing railway station.

12. The project is aligned with ADB's country partnership strategy, 2011–2015 for the PRC<sup>6</sup> in the areas of (i) inclusive growth and balanced development by promoting urbanization, and (ii) resource efficiency and environmental sustainability by promoting efficient and sustainable urban transport and transit-oriented development.<sup>7</sup> The focus on public transport and multimodal integration fits well with ADB's Sustainable Transport Initiative, which identifies urban transport, climate change, road safety, and social sustainability as key opportunities.<sup>8</sup> The project will comprehensively address these opportunities and position ADB to increase its support for sustainable transport in the PRC.

## **B. Impact and Outcome**

13. The impact will be an efficient, inclusive, and sustainable urban transport system in Ji'an. The outcome will be efficient multimodal access to major activity centers in Ji'an. Through the project, the planned high-speed railway station and surrounding new development area will be linked to the existing city with well-designed multimodal transport infrastructure, greenway development, and integrated public transport services. The existing public transport network will be improved through a prioritized BRT system and upgraded multimodal connections. This will reduce transport costs, increase the efficiency and attractiveness of the public transport system, expand travel opportunities and regional accessibility to jobs and services, promote sustainable urbanization, and encourage a shift to modes of travel with lower emissions.

## **C. Outputs**

14. **Output 1: Public transport improved.** BRT system improvement will include developing a 6.9 km BRT corridor on the existing Jinggangshan Road between the Ji'an North Road intersection and Ji'an South Road intersection. The corridor will have dedicated center-running bus lanes with 15 stations on island platforms. The project will procure 95 BRT buses, which will constitute about a quarter of the municipal bus company's fleet.<sup>9</sup> The station square improvement will upgrade the multimodal connection between public transport and the existing railway station. It will rationalize vehicle and pedestrian access to the station, install weather-

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*Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Hubei–Yichang Sustainable Urban Transport Project.* Manila.

<sup>6</sup> ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015.* Manila.

<sup>7</sup> Transit-oriented development refers to mixed-use residential and commercial areas designed to maximize access to public transport and facilitate pedestrian movement. It is typically centered on a transit station (train station, metro station, bus terminal), surrounded by relatively high-density development with progressively lower-density development farther away from the high-capacity public transport facility.

<sup>8</sup> ADB. 2010. *Sustainable Transport Initiative.* Manila. The initiative sets a new direction for ADB's transport sector efforts to promote more environmentally and socially sustainable transport solutions in developing member countries in line with ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and the Pacific.* Manila.

<sup>9</sup> Including 12 diesel hybrid electric buses purchased with the proposed GEF grant (para. 18).

protection shelters along major pedestrian areas, and install escalators linking upper and lower levels of the square.

15. **Output 2: Yudai River and greenway rehabilitated.** The Yudai River runs through the new development area where urban roads (output 3) are to be constructed and is integrated into the irrigation system for rice cultivation. The Yudai River rehabilitation and greenway is needed for flood control in the area and will provide recreation areas, parkland, and paths for nonmotorized transport and facilities that will connect the new development area with the existing city.

16. **Output 3: Traffic management and urban roads developed.** The transport network will be developed to connect the city center to the new development area, the Yudai River greenway (output 2), and serve the feeder bus routes integrated into the BRT corridor (output 1). Five urban trunk roads with a total length of 19.3 km will be constructed along with utilities, streetscape improvements, pedestrian enhancements, and segregated lanes for nonmotorized transport. Given the rapid growth of traffic demand and implementation of the BRT system, the traffic signal system along the major existing and new road corridors will be upgraded. This will coordinate signals at 37 intersections along the BRT corridor and the proposed urban roads in the new development area.

17. **Output 4: Institutional capacity developed.** The project will build capacity for energy-efficient BRT operations and integrated urban and transport planning; support project implementation to ensure that project outputs are delivered on time and within budget in accordance with ADB policies and procedures; develop and maintain the project performance monitoring system; assist with procurement, financial management, and disbursement; oversee detailed design and road safety audits; and ensure that safeguard measures are implemented, monitored, and reported.

18. **Special feature.** A GEF grant will support environmental improvement by maximizing the energy efficiency of bus operations on the BRT and feeder services. The GEF grant will be included as joint cofinancing and will be used to augment project outputs to improve energy efficiency. The proposed GEF grant will fund three activities: (i) fuel-efficient bus operations using 12 diesel hybrid electric buses (output 1); (ii) evaluation and monitoring of hybrid bus performance under BRT and normal operating conditions (output 4); and (iii) development of an integrated transport and land use plan (output 4). The GEF-financed activities are designed to reduce the carbon intensity of the transport system in Ji'an and provide a low-carbon blueprint for future urban development.

#### **D. Investment and Financing Plans**

19. The project is estimated to cost \$289.6 million (Table 1).

20. The government has requested a loan of \$120 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an annual interest rate to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per annum, and such terms and conditions set forth in the draft loan and project agreements. The base cost includes civil works (78.4%), goods (20.5%), and consultants (1.1%). The ADB loan will cover civil works, equipment, project management and capacity development consulting

services, and taxes and duties on expenditures financed by ADB.<sup>10</sup> The GEF will provide grant cofinancing equivalent to \$2,546,300, to be administered by ADB. ADB will make the grant proceeds available to the Ji'an Municipal Government (JMG). The JMG will provide \$167.1 million to finance civil works, resettlement, design, surveys and research, and contingencies.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Public transport improvement	42.7
2. Yudai River and greenway rehabilitation	44.3
3. Traffic management and urban roads development	159.6
4. Institutional capacity development	1.9
<b>Subtotal (A)</b>	<b>248.5</b>
<b>B. Contingencies<sup>c</sup></b>	<b>36.7</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>4.4</b>
<b>Total (A+B+C)</b>	<b>289.6</b>

<sup>a</sup> Includes taxes and duties of \$9.0 million to be financed from government resources, ADB loan resources, and the Global Environment Facility grant.

<sup>b</sup> In mid-2014 prices.

<sup>c</sup> Physical contingencies computed at 8.8% for civil works. Price contingencies computed at 5.7%. Price contingencies are computed by year and expenditure type based on cumulative domestic and foreign price inflation; includes provision for exchange rate fluctuations under a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for Asian Development Bank loan(s) has been computed at the 5-year dollar fixed swap rate plus a spread of 0.5% plus a maturity premium of 0.1% based on an average loan maturity of 15.25 years. Commitment charges for an Asian Development Bank loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

21. The government will make the loan proceeds available to the Jiangxi Provincial Government, which will onlend the proceeds to the JMG. The JMG will transfer the loan proceeds to the Ji'an Urban Investment and Development Company (JIDC). The JMG will assume the foreign exchange and interest rate variation risks for the ADB loan. The financing plan is in Table 2.

**Table 2: Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	120.0	41.4
Global Environment Facility (grant) <sup>a</sup>	2.5	0.9
Government	167.1	57.7
<b>Total</b>	<b>289.6</b>	<b>100.0</b>

<sup>a</sup> Administered by the Asian Development Bank.

Source: Asian Development Bank estimates.

<sup>10</sup> The amount of taxes and duties to be financed in the project is based on the principles that (i) the amount of taxes and duties financed by the ADB loan, which represents 2.6% of the project cost, does not represent an excessive share of the project; (ii) the taxes and duties apply only to ADB-financed expenditures; and (iii) the financing of the taxes and duties is material and relevant to project success.

## E. Implementation Arrangements

22. The JMG will be the executing agency. JIDC, which is wholly owned by the JMG, will be the implementing agency. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.<sup>11</sup>

**Table 3: Implementation Arrangements**

Table of Implementation Arrangements			
Aspects	Arrangements		
Implementation period	December 2014–December 2019		
Estimated completion date	31 December 2019		
Management			
(i) Oversight body	Ji'an Municipal Project Leading Group Vice-Mayor, Ji'an Municipal Government (chair) Heads of all concerned municipal agencies (members)		
(ii) Executing agency	Ji'an Municipal Government		
(iii) Key implementing agencies	Ji'an Urban Investment and Development Company		
Procurement	International competitive bidding	4 contracts	\$28.04 million
	National competitive bidding	11 contracts	\$126.27 million
Consulting services	Various	130 person-months	\$1.93 million
Retroactive financing and/or advance contracting	ADB has approved contracting and retroactive financing for the BRT and road civil works contracts and consulting services. The amount to be retroactively financed will not exceed 20% of the loan amount.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, BRT = bus rapid transit.

Source: Asian Development Bank.

## III. DUE DILIGENCE

### A. Technical

23. Technical due diligence was performed to assess the investment components, including (i) the BRT system and railway station square improvement (including the GEF-financed component), (ii) Yudai River and greenway rehabilitation, and (iii) traffic management and urban roads development. The project is technically viable with technology choices based on efficient and proven designs. JMG capacity is adequate to implement the project, based on its performance on past and ongoing urban transport development projects; it will be supported with institutional capacity development during detailed design and implementation. The project does not have any unusual technical risks.

### B. Economic and Financial

24. The project (including the GEF-financed component) is economically viable, with an estimated economic internal rate of return of 16.4% and net present value of CNY549.6 million discounted at 12%. The economic internal rate of return covers all three physical outputs (excluding institutional capacity development) for 2015–2039. The estimated costs include investment in civil works and equipment, land acquisition and resettlement, and operation and maintenance. The estimated benefits include savings in vehicle operating cost, travel time, reduced road crashes, and flood protection benefits. Sensitivity analysis demonstrates that the project's economic viability is robust. Other benefits that could not be quantified include the reduced costs of flooding, and improved air quality and quality of life.

<sup>11</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

25. The project has revenue and nonrevenue components. The nonrevenue components include road network improvements, construction of a passenger transfer facility, and Yudai River improvements. The BRT component will generate revenue through the collection of bus fares from passengers and advertising revenue. Operating and capital subsidies are provided to public transport operators in the PRC to ensure their financial sustainability. The financial internal rate of return for the BRT component was calculated to be 3.6% after tax.<sup>12</sup> The financial internal rate of return after tax is higher than the weighted average cost of capital (2.92%). The BRT component is financially viable.

### **C. Governance**

26. All procurement to be financed under the ADB loan will be carried out in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all procurement document and contracts. ADB's Anticorruption Policy was explained to and discussed with the government, the JMG, and JIDC, including the project management office. The specific policy requirements and supplementary measures are described in the project administration manual (footnote 10). The financial management capacity assessment indicates that the JMG and JIDC follow the PRC policies and procedures for accounting and financial management. JIDC has strong accounting and financial management capacity and experience in managing large construction projects, however it has no experience with ADB-financed projects. Project and financial management, implementation support, and on-the-job training in ADB procedures will be provided through the institutional capacity development component.

### **D. Poverty and Social**

27. A poverty and social analysis, conducted in accordance with ADB guidelines, assessed the transport and economic development needs of area residents. The project will benefit approximately 468,000 Ji'an residents: 63% are urban and 37% rural. About 8% of the urban and 6% of rural residents are classified as poor. The project will facilitate the growth of a sustainable transport system and contribute to addressing existing and future transport needs. Many urban residents, especially women and the poor, are dependent on public transport. The project will provide a convenient and efficient mode of transportation to meet their mobility needs. The inclusive aspect of the project is strengthened by the introduction of dedicated lanes for nonmotorized transport on project roads and within the Yudai River greenway. Job opportunities created during project construction and operation will first be made available to low-income groups to increase their income and quality of life. The project will reduce transport costs, improve commerce and economic growth, increase local residents' income, and ensure participation of the poor and vulnerable in project implementation. A social development action plan is prepared with measures to enhance project benefits for local residents.

28. **Gender.** The project is categorized as effective gender mainstreaming. The gender analysis found that the specific transport needs of women are a result of their social roles and responsibilities, which often combine household work with travel to work outside the home. Women are concerned with personal safety when using public transport. The gender action plan (i) incorporates gender-responsive features in the project design, (ii) promotes increased employment opportunities for women, (iii) ensures women's equitable participation in public

<sup>12</sup> The business tax for transport entities is 3.36% of total sales revenues; the corporate income tax for all businesses is 25% of profit.

consultation, and (iv) builds institutional capacity for gender mainstreaming.<sup>13</sup> The GAP implementation will be monitored and financed through the project budget.

## E. Safeguards

29. **Environment.** The project is category A for environment as construction will result in loss of farmland, woodland, and riverine habitats; and it will have noise, air quality, and water quality impacts. An environmental impact assessment and an environmental management plan were prepared covering all project components including activities to be financed by the GEF. These documents comply with the PRC regulatory requirements and ADB's Safeguard Policy Statement (2009), and were disclosed on the ADB website on 9 May 2014. The budget for implementing the environmental management plan is \$775,000. Public consultation was carried out during the project design and environmental impact assessment process, and will continue throughout project implementation. The JMG and JIDC have good capacity for environmental management, but institutional capacity development is proposed to minimize environmental risks and ensure adequate monitoring and reporting. Environmental complaints will be handled through a grievance redress mechanism established for the project.

30. The provision of a safe, efficient, and sustainable urban public transport system; improved traffic management; and a new riverside park and greenway are expected to reduce emissions, travel time, and flood vulnerability, while improving the quality of the environment in Ji'an and creating a more livable city. The project is estimated to result in avoidance of 0.9 million tons of greenhouse gas emissions over 20 years. With the introduction of hybrid diesel electric buses and support for low-carbon transport planning proposed through GEF-funded activities, an additional 1.4–1.7 million tons of greenhouse gas emissions are estimated to be avoided over 20 years.<sup>14</sup> Project construction and operation will have some adverse impacts including generation of dust, noise, and air and water pollutants; conversion of 210 hectares (ha) of farmland and woodland to urban development; and potential impacts on a national protected tree species. The environmental impact assessment concludes that the anticipated environmental impacts and risks are modest and can be limited to an acceptable level through implementation of the environmental management plan and compliance with loan covenants. No cultural relics or historical sites will be affected by the project in the impact area.

31. **Climate change.** Initial climate risk screening determined that the project is at high risk from climate change effects. A detailed climate risk and vulnerability analysis determined the nature and level of project risks and specified design features to mitigate the project risks.<sup>15</sup>

32. **Resettlement.** The project is category A for involuntary resettlement. It will acquire 199.4 ha, including 162.2 ha of collective land, and 37.2 ha of state-owned land. Rural land acquisition and relocation will affect 6,789 people in 1,742 households, including 184 households with 806 persons affected by house demolition.<sup>17</sup> Additionally, the project will result in the relocation of 90 urban households with 360 persons, and partial demolition of 14 enterprises with 188 employees. It will have no impact on the continuing operation of these enterprises. The resettlement plan adequately addresses the involuntary relocation impacts of the project. The JMG has endorsed the plan and disclosed it to the affected people. The plan was disclosed on the ADB website on 25 July 2014.

<sup>13</sup> Gender Action Plan (accessible from the list of linked documents in Appendix 2).

<sup>14</sup> Details are provided in the Global Environment Facility (GEF)-Financed Component Description (accessible from the list of linked documents in Appendix 2).

<sup>15</sup> Project Climate Risk Assessment and Management (accessible from the list of linked documents in Appendix 2).

<sup>17</sup> Of these, 1,029 households with 4,092 persons will lose more than 10% of their landholdings.

33. The estimated cost of land acquisition and resettlement is CNY504.22 million. The JMG will make counterpart funding available for land acquisition and resettlement. Resettlement implementation will be monitored both internally and externally. The PMO's resettlement unit will coordinate internal supervision and reporting of plan implementation. The JMG and JIDC have good capacity for managing resettlement activities, but institutional capacity development is proposed to minimize land acquisition and resettlement risks and ensure sufficient monitoring and reporting. The PMO will engage an independent external monitor for semiannual monitoring and reporting. Public consultations were undertaken during project preparation and will continue throughout the project cycle as per the public consultation schedule prepared under the resettlement plan. A grievance redress mechanism was established to address the concerns of those affected.

34. **Indigenous peoples.** The project is category C for indigenous peoples. Han Chinese, the PRC's majority ethnic group, comprise 99% of Jiangxi Province's population.

## F. Risks and Mitigating Measures

35. The JMG and JIDC have successfully carried out many large infrastructure projects and have substantial experience in project implementation and management, but no experience with ADB-financed projects. Training on ADB safeguard procedures, procurement, and project monitoring procedures was provided during the project preparatory technical assistance. Consulting services will assist the JMG, JIDC, and project implementation unit in strengthening project management, implementation, and institutional capacity. Advance procurement action will contribute to reducing the potential risk of delays in implementation. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>18</sup> The overall benefits from public transport improvement, nonmotorized transport improvement, urban road development, river rehabilitation and energy efficient bus operation and the impacts of the project on the urban development are expected to outweigh the costs.

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measures</b>
Delay in implementation caused by lack of experience with ADB procurement, monitoring, and reporting requirements	A qualified procurement company was selected and international and national procurement specialists will be recruited to support the initial stage of project implementation. Additional consulting support and on-the-job training will be provided to JMG and JIDC staff to ensure adherence to ADB policies and procedures and to minimize the risk of delays. A project manager with ADB project implementation experience will be recruited using advance contracting.
Weak project coordination among the project management office, the JMG, and JIDC	The project-leading group, led by the vice-mayor in charge of the project, will coordinate among various agencies and resolve issues, including land acquisition and resettlement.
The JMG and JIDC have adequate safeguard management capacity but no prior experience with ADB	Specific clauses on safeguards management will be included in the civil works and supervision contracts. The JMG will hire independent monitors for resettlement and environment safeguard compliance. ADB supervision missions will include safeguard specialists. The project includes consulting support for capacity development on environmental, resettlement, and gender monitoring.
Price escalation of	Changes in the prices of construction materials prior to implementation

<sup>18</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

<b>Risks</b>	<b>Mitigating Measures</b>
construction materials or other costs might cause an increase in total project costs	were monitored as part of the technical assistance and substantial price and physical contingencies provided to cover cost overruns. The JMG will be responsible for financing all cost overruns, including land acquisition and resettlement.
Financial management risk	The government, the JMG, and JIDC will ensure the timely release of counterpart funds, as per the loan covenants. An external auditor acceptable to ADB will conduct and submit to ADB an annual audit of the project accounts in accordance with the International Standards of Auditing or National Auditing Standards acceptable to ADB. The project will provide consulting services to support and assist in establishing financial and management systems and controls, and help to ensure that ADB's reporting and monitoring requirements are met.

ADB = Asian Development Bank, JIDC = Ji'an Urban Investment and Development Company; JMG = Ji'an Municipal Government.

Source: Asian Development Bank.

#### **IV. ASSURANCES AND CONDITIONS**

36. The government and the JMG have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents.

37. The government and the JMG have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

38. The government and the JMG have agreed that no withdrawals shall be made from the loan account until the Jiangxi Provincial Government has certified to ADB that the onlending agreements have been duly executed and delivered on behalf of its parties, and have become fully effective and binding upon the parties thereto in accordance with its terms.

#### **V. RECOMMENDATION**

39. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of \$120,000,000 to the People's Republic of China for the Jiangxi Ji'an Sustainable Urban Transport Project, from ADB's ordinary capital resources, with an annual interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board; and
- (ii) the administration by ADB of the grant not exceeding the equivalent of \$2,546,300 to the People's Republic of China for the Jiangxi Ji'an Sustainable Urban Transport Project, to be provided by the Global Environment Facility.

Takehiko Nakao  
President

17 November 2014

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<b>Impact</b> An efficient, inclusive, and sustainable urban transport system in Ji'an	The share of public transport in total increased to 45% in 2025 (2013 baseline: 34%) Percentage of railway passengers using buses increased to 40% by 2025 (2011 baseline: 38%) Average concentration of nitrogen dioxide in Ji'an unchanged until 2025 (2013 baseline: 0.029-0.032 mg/m <sup>3</sup> )	Bus operator annual statistics, model forecasts Bus operator annual statistics, rail passenger survey Annual report of the Ji'an Environmental Protection Bureau	<b>Assumptions</b> The Ji'an Urban Master Plan, 2008–2020 is implemented. Government remains strongly committed to public transport and the ongoing provision of subsidies. Bus services increase with population and economic growth. BRT construction and railway square improvement are completed on time.
<b>Outcome</b> Efficient multimodal access to major activity centers in Ji'an	Average bus speeds on BRT corridor increased to 26 km/hour by 2018 (2012 baseline: 16 km/hour) Average age of the bus fleet reduced to 6 years by 2020 (2013 baseline: 8 years) Transfer time between bus terminal and railway station platform reduced to less than 5 minutes by 2020 (2013 baseline: 7 minutes) Flood frequency reduced to once in 20 years (2013 baseline: every year)	BRT operator annual statistics Bus company reports Survey Annual report of the Ji'an Environmental Protection Bureau	<b>Assumptions</b> Project components are properly maintained. Bus operation procedures are followed. Traffic rules are enforced.
<b>Outputs</b> 1. Public transport improved	BRT system BRT system operating by 2018 Lighting, security cameras, and help buttons installed in all BRT stations and vehicles Priority seating for people with special needs (pregnant women, parents with young children in prams, the elderly, people with disabilities) in all BRT buses and stations Women comprise at least 20% of drivers, and 50% of employees for ticketing, fare collection, and administration Station square New bus and taxi terminals and support facilities constructed by mid-2016 Barrier-free user environment is implemented	Project progress reports GAP and SDAP reports	<b>Assumptions</b> Counterpart funds are provided on time. Political support for BRT implementation continues. <b>Risks</b> International commodity prices increase significantly.

<b>Design Summary</b>	<b>Performance Targets and Indicators with Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
2. Yudai River and greenway rehabilitated	<p>Yudai River greenway and embankment constructed by mid 2017</p> <p>Landscaping, paths for non-motorized transport, and other facilities constructed by mid 2019</p> <p>Women fill 50% of the greenery maintenance and landscaping jobs (2014 baseline: 25%)</p>	<p>Project progress reports</p> <p>GAP and SDAP reports</p>	
3. Traffic management and urban roads developed	<p>19.32 km of urban roads and related infrastructure constructed by mid-2020</p> <p>Coordinated traffic signals operating by 2019</p> <p>BRT priority operation is installed by 2017</p>	Project progress reports	
4. Institutional capacity developed	<p>The JMG and the implementing agency trained on project management, PPMS, procurement, disbursement, safeguard, and gender requirements</p> <p>The JMG and bus company trained on traffic management, road safety, and BRT operation and management</p> <p>BRT drivers and conductors trained on women's safety needs</p> <p>Hybrid bus performance monitored and evaluated by 2019</p> <p>Integrated transport and land use plan prepared by 2017</p>	<p>Project progress reports</p> <p>GAP and SDAP reports</p>	
<b>Activities with Milestones</b>		<b>Inputs</b>	
<b>1. Public transport improved</b> <p>1.1 Construct BRT route, station, terminal, and parking area by Q1 2018.</p> <p>1.2 Implement BRT traffic engineering work by Q1 2018.</p> <p>1.3 Install BRT station ticketing system and operating system by Q4 2017.</p> <p>1.4 Purchase BRT buses and put in operation by the end of 2017.</p> <p>1.5 Purchase hybrid electric buses and put into operation by 2017.</p> <p>1.6 Purchase bus maintenance equipment by the end of 2017.</p> <p>1.7 Finish civil works by Q1 2018.</p> <p>1.8 Install elevators and other facilities by Q4 2017.</p>		<p><b>Loan</b> <b>ADB: \$120.0 million</b></p> <p><b>Government: \$167.1 million</b></p> <p><b>Grant</b> <b>Global Environment Facility: \$2.5 million</b></p>	

<p><b>Activities with Milestones</b></p> <p><b>2. Yudai River and greenway rehabilitated</b></p> <p>2.1 Complete flood control and water embankment work by mid-2019.</p> <p>2.2 Complete landscape work by mid-2019.</p> <p>2.3 The JMG completes land acquisition and resettlement by Q2 2016.</p> <p><b>3. Traffic management and urban roads developed</b></p> <p>3.1 Construct Junhua road by mid-2019.</p> <p>3.2 Construct Yangming west road by Q4 2017.</p> <p>3.3 Construct Bo'an road by Q1 2019.</p> <p>3.4 Construct Shaoshan road by Q4 2017.</p> <p>3.5 Construct Zhongshan road by Q4 2017.</p> <p>3.6 The JMG completes land acquisition and resettlement by Q3 2015.</p> <p>3.7 Install traffic signals and control center by Q4 2017.</p> <p>3.8 Install intelligent transport system and traffic information systems by Q1 2018.</p> <p>3.9 Construct pedestrian safety facilities by Q1 2018.</p> <p>3.10 Apply BRT priority operation by Q1 2018.</p> <p><b>4. Institutional capacity developed</b></p> <p>4.1 Recruit individual consultants and international consulting firm by mid-2015.</p> <p>4.2 Train the JMG, implementing agency, and project management office on project management, PPMS, procurement, disbursement, safeguards, and gender requirements by mid-2015.</p> <p>4.3 Train agencies in Ji'an on traffic management, road safety, and BRT operation and management by the end of 2016.</p> <p>4.4 Train BRT bus drivers and conductors on women's safety needs by the end of 2016.</p> <p>4.5 Supervise implementation of the resettlement plan, environmental management plan, gender action plan, and social development action plan from Q1 2015.</p> <p>4.6 Conduct evaluation and monitoring of hybrid electric bus performance in BRT operation and submit report by end of 2019.</p> <p>4.7 Conduct training on planning principles and develop an integrated transport and land-use development plan for Ji'an by the end of 2017.</p>	
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ADB = Asian Development Bank, BRT = bus rapid transit, GAP = gender action plan, JMG = Ji'an Municipal Government, km = kilometer, mg/m<sup>3</sup> = milligram per cubic meter; PPMS = project performance monitoring system, Q = quarter, SDAP = social development action plan.

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://adb.org/Documents/RRPs/?id=45022-002-3>

1. Loan Agreement
2. Project Agreement
3. Grant Agreement
4. Sector Assessment (Summary): Transport
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Financial Analysis
9. Economic Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Gender Action Plan
13. Environmental Impact Assessment
14. Resettlement Plan
15. Risk Assessment and Risk Management Plan

### **Supplementary Documents**

16. Project Technical Description
17. Travel Demand Forecasts
18. Global Environment Facility (GEF)-Financed Component Description
19. Project Climate Risk Assessment and Management