



# Technical Assistance Report

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Project Number: 51029-001  
Knowledge and Support Technical Assistance (KSTA)  
July 2018

## People's Republic of China: Hubei Xiangyang Integrated Sustainable Transportation and Logistics Planning and Strategic Study

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Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 30 June 2018)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1510
\$1.00	=	CNY6.6225

## ABBREVIATIONS

ADB	–	Asian Development Bank
km	–	kilometer
PRC	–	People's Republic of China
TA	–	technical assistance

## NOTE

In this report, "\$" refers to United States dollars.

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## KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 51029-001	
<b>Project Name</b>	Hubei Xiangyang Integrated Sustainable Transportation and Logistics Planning and Strategic Study (formerly Hubei Xiangyang Integrated Sustainable Urban Transportation Planning and Strategic Study)	<b>Department/Division</b>	EARD/EATC
<b>Nature of Activity</b>	Policy Advice	<b>Executing Agency</b>	Xiangyang Municipal Finance Bureau
<b>Modality</b>	Regular		
<b>Country</b>	China, People's Republic of		
<b>2. Sector</b>		<b>ADB Financing (\$ million)</b>	
✓ Transport	Transport policies and institutional development		0.40
		<b>Total</b>	<b>0.40</b>
<b>3. Strategic Agenda</b>		<b>Climate Change Information</b>	
Inclusive economic growth (IEG) Environmentally sustainable growth (ESG)	Pillar 1: Economic opportunities, including jobs, created and expanded Eco-efficiency Urban environmental improvement	Climate Change impact on the Project	Low
<b>4. Drivers of Change</b>		<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD) Knowledge solutions (KNS) Private sector development (PSD)	Institutional development  Application and use of new knowledge solutions in key operational areas Knowledge sharing activities Public sector goods and services essential for private sector development	No gender elements (NGE)	✓
<b>5. Poverty and SDG Targeting</b>		<b>Location Impact</b>	
Geographic Targeting	No	Rural	Medium
Household Targeting	No	Urban	High
SDG Targeting	Yes		
SDG Goals	SDG9, SDG11		
<b>6. Risk Categorization</b>		Low	
<b>7. Safeguard Categorization</b> Safeguard Policy Statement does not apply			
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>0.40</b>	
Knowledge and Support technical assistance: Technical Assistance Special Fund		0.40	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>0.00</b>	
None		0.00	
<b>Total</b>		<b>0.40</b>	

## I. INTRODUCTION

1. The knowledge and support technical assistance (TA) will support Xiangyang in the preparation of strategic, sustainable transport and logistics plans to improve access and mobility for passengers and freight both to and within Xiangyang over the short, medium, and long term. The TA is included in the country operations business plan for the People's Republic of China (PRC).<sup>1</sup>

## II. ISSUES

2. Rapid economic growth and urbanization in the PRC have placed an enormous strain on transport infrastructure and mobility in urban centers. Insufficient transport infrastructure capacity, fragmented transport systems, inadequate provision and use of public transport, and poor traffic management have led to safety incidents, high emissions, inefficient land use, and a high cost of transport and logistics. Furthermore, with the advent of high-speed rail and the innovation in sustainable and intelligent transport systems, geographic location alone is no longer a strategic advantage for cities, and an efficient, green, multimodal transport system is needed to spur sustainable economic growth and development.

3. Xiangyang is in the center of the PRC and the second-largest metropolitan area in Hubei Province, after Wuhan. It is known as a historic city with a rich cultural heritage. Its greater area covers 19,727 square kilometers and includes Baokang County, Gucheng County, Laohekou City, Nanzhang County, Yicheng City, and Zaoyang City; the built-up urban city center spans 190.3 square kilometers. As of 2016, greater Xiangyang has 5.65 million inhabitants, of which 1.45 million live in the city center; this number is forecast to grow to 1.7 million by 2020. In 2016, 39.95 million tourists visited the area, 12.5% more than in 2015.<sup>2</sup>

4. As a central city on the Han River and traversed by several tributaries, Xiangyang is an important part of the Yangtze River Economic Belt.<sup>3</sup> It can be reached in 3 hours by road from four major provincial capitals: Chongqing, Wuhan, Xi'an, and Zhengzhou. Historically, this central location gave it a strategic advantage, but now Xiangyang must solve several transport challenges to keep attracting business, tourism, and industry, and spur economic growth.

5. Passenger road transport in 2014 was 4.7 billion kilometers (km), growing by 13% over 4 years to 5.4 billion km in 2017. From 2013 to 2016, the number of private vehicles in Xiangyang grew by 87%, from 135,500 to 252,800 vehicles, averaging 23% per year. Freight traffic in 2016 was 52.5 billion metric ton-km, growing by 9% to 57.4 billion metric ton-km in 2017.<sup>4</sup> These increases are placing significant strain on Xiangyang's transport infrastructure and supporting systems.

6. Road and rail river crossings in Xiangyang are already at capacity and are currently key bottlenecks of the transport system. Highway connectivity to the poorer southwest part of the city is particularly low, and the connection between downtown and Xiangyang Liui Airport, 18 km northeast of the city, is inadequate. Water and air transport infrastructure is also inadequate to

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<sup>1</sup> The TA is listed as Hubei Xiangyang Integrated Sustainable Urban Transportation Planning and Strategic Study in Asian Development Bank (ADB), 2018. *Country Operations Business Plan: People's Republic of China, 2018–2020*, Manila. The TA first appeared in the business opportunities section of ADB's website on 22 May 2018.

<sup>2</sup> Xiangyang Municipal Bureau of Statistics 2018.

<sup>3</sup> The Yangtze River Economic Belt covers nine provinces and two specifically administered cities within the Yangtze River Basin and contributes about 45% of the PRC's economic output.

<sup>4</sup> Xiangyang Municipal Transport Bureau 2018.

meet current and future demand. These capacity constraints resulted in high transport costs, reducing the competitiveness of Xiangyang. The poor connectivity also led to uneven economic development, particularly in the poor mountainous areas.

7. Further, both passengers and freight heavily rely on road-based transportation, resulting in congestion, safety risks, and air pollution. The current modal split for freight transportation is of particular concern—while the national split in 2016 was about 77.6% road, 7.7% rail, 14.6% water, and 0.02% air transportation, the split in Xiangyang was about 91% road, 6% rail, and 3% water transportation (footnote 4). Although Xiangyang has 11 inland waterway port facilities, the infrastructure is fragmented and outdated, so water transportation is underused. A redistribution of freight transport from roads to waterways will potentially reduce logistics costs, fuel consumption, air emissions, congestion, and road accidents.<sup>5</sup> But this requires more infrastructure, better planning, and institutional strengthening.

8. Urban transport accounts for more than 30% of the city's total emissions because of its reliance on road transportation and the use of old technology, including high-emission buses and trucks. Xiangyang's 92 bus lines transport 550,000–600,000 passengers per day and cover the downtown area, with the exception of Dongjin New Town. Although the public transport system has improved greatly in recent years, its availability in the outlying zones of the city is poor, and the vehicle fleets need to be modernized to reduce urban air pollution. The development of nonmotorized transport lanes, bus lanes, and urban rail systems is lagging that in other cities in the PRC. Moreover, the lack of grade-separated, signalized pedestrian facilities results in high pedestrian and vehicle interaction, interrupts the traffic flow on main roads, and endangers pedestrians.

9. Plans to expand road, rail, air, and inland waterway transport in Xiangyang have been formulated, but their targets are insufficient to meet forecast demand. The logistics plan, in particular, is out of date and inadequate even for current demand. These plans do not integrate physical infrastructure development, transport communications, and systems. The lack of integration to date is in part related to the organizational structure and responsibilities of the transport departments (the organization chart is accessible from the list of linked documents in Appendix 3). The fragmentation has led to inefficient allocation of resources, inefficient logistics, poor utilization of infrastructure and services, poor connectivity, and high transport costs; and is thus constraining economic growth.

10. The need to develop a more sustainable, modern, integrated transport and logistics system in Xiangyang is becoming increasingly urgent. Prioritizing public transport, encouraging environmentally friendly transport technologies, and improving information sharing and coordination between different modes of transport to ensure seamless passenger and freight transportation are crucial to improving environmental outcomes, and the overall efficiency of transport and logistics systems. A transport plan that encompasses these elements and covers all modes of transport and logistics, as well as urban development trends, is required.

11. The Xiangyang Municipal Finance Bureau and Xiangyang Municipal Transport Bureau, including its logistics department, recognize the need for a cross-departmental, multimodal approach in formulating two strategic plans for Xiangyang—(i) a high-level, comprehensive, integrated, and sustainable transport plan to guide the development of a sustainable transport system; and (ii) a specific plan to modernize the logistics industry in Xiangyang so as to lower costs and improve competitiveness and trade outcomes. Better transport and logistics outcomes

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<sup>5</sup> ADB. 2016. *Promoting Inland Waterway Transport in the People's Republic of China*. Manila.

will contribute to the sustainable economic development of Xiangyang and to the growth of the Yangtze River Economic Belt.

### III. THE TECHNICAL ASSISTANCE

#### A. Impact and Outcome

12. The TA is aligned with the following impact: modern, green, efficient, livable urban areas in Xiangyang developed.<sup>6</sup> The TA will have the following outcome: modern, sustainable, integrated transport and logistics system promoted.

#### B. Outputs, Methods, and Activities

13. **Output 1: Comprehensive, integrated, sustainable transport plan completed.** The plan will provide a long-term vision for integrated, multimodal transport development in Xiangyang, including short-, medium-, and long-term actions that improve passenger and freight mobility.<sup>7</sup> The plan will take a user-centric approach to optimizing the mobility of people and the movement of goods. It will include a high-level sector analysis for each of the following: road, rail, air, waterway, public transport, information systems, and logistics. This should include but not be limited to (i) gap analysis of the existing transport infrastructure, systems, technology, and policies; (ii) plans to improve intermodal transport connectivity and information sharing; and (iii) the development of a prioritized project list, recommendations, and next steps specific to the needs and priorities of Xiangyang.

14. **Output 2: Logistics improvement plan completed.** A detailed analysis of the current logistics industry in Xiangyang is needed to understand the underlying causes of the high cost of logistics in the area, and to develop a plan to reduce these costs and improve logistics outcomes for Xiangyang. The plan should include (i) a detailed understanding of the current situation, stakeholder needs, and future demand for the Xiangyang logistics industry, as well as an assessment of international best practice and lessons learned; (ii) a gap analysis of infrastructure, systems, technology, and policies related to the Xiangyang logistics industry; (iii) plans to improve efficiency and reduce the cost of freight and logistics throughout Xiangyang; (iv) a Xiangyang-wide optimal layout for logistics facilities that identifies opportunities for logistics clustering and multimodal hub development based on industry needs as well as transport connectivity assessments; (v) implementation and operational plans for integrated, multimodal logistics systems, including policy recommendations; and (vi) the development of a prioritized project list and implementation plan specific to the needs and priorities of Xiangyang. The public and private sector will be consulted throughout the strategy development.

15. **Output 3: Multimodal integration and logistics capacity strengthened.** The multimodal integration and logistics capacity of the Xiangyang Municipal Transport Bureau needs strengthening to support the operation and development of an effective, multimodal transport and logistics industry in Xiangyang. In particular, the transport bureau staff have identified the need to develop a deeper understanding of inland waterway transportation, logistics clustering, multimodal logistics hubs, and how to use information technology to more effectively share

<sup>6</sup> Government of the PRC, Xiangyang Municipal Government. 2016. *The Thirteenth Five-Year Plan for Economic and Social Development of Xiangyang, 2016–2020*. Xiangyang.

<sup>7</sup> “Integrated” transport development considers land use, demographics, and societal values in developing the appropriate transport plans, policies, and systems. “Multimodal” refers to the types of transport (rail, road, water, air). An integrated, multimodal transport and logistics system should operate as one seamless entity, regardless of mode, for the benefit of the fee-paying customer.

information between transport modes and thereby improve transport system efficiency. Capacity strengthening should therefore cover infrastructure, technology, and policy development. This will enable effective implementation of the transport and logistics plans, and help improve cooperation and integration throughout the Xiangyang transport and logistics industry. In addition to training activities, a study tour of an operational multimodal transport and logistics facility in the PRC would demonstrate first-hand the efficiencies that can be gained through multimodal integration.

### C. Cost and Financing

16. The TA is estimated to cost \$400,000 which will be financed on a grant basis by the Technical Assistance Special Fund (TASF-other sources) of the Asian Development Bank (ADB). The key expenditure items are listed in Appendix 2. The government will provide counterpart support in the form of counterpart professional and support staff; an appropriately furnished office with utilities and telecommunication access; access to materials, maps, available data, and relevant documents; will cover the cost of utilities (excluding telephone) for the consultants; and other in-kind contributions.

### D. Implementation Arrangements

17. ADB will administer the TA. The indicative implementation arrangements are summarized in Table 1. ADB will recruit the consultants, the Xiangyang Municipal Finance Bureau (as the executing agency) will be responsible for the coordination of government departments as required by the TA, and the Xiangyang Municipal Transport Bureau (as the implementing agency) will be responsible for guiding and supervising TA activities. The implementation period for the TA is 15 months.

**Implementation Arrangements**

Aspects	Arrangements		
Indicative implementation period	August 2018–December 2019		
Executing agency	Xiangyang Municipal Finance Bureau		
Implementing agency	Xiangyang Municipal Transport Bureau		
Consultants	To be selected and engaged by ADB		
	Firm: QCBS	Person-months TBD <sup>a</sup>	\$400,000
Procurement	To be undertaken by the consultants		
	Shopping	1 contract (office equipment)	\$8,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	When the TA is completed, the consultants will promptly turn over any purchased equipment to the Government of the People's Republic of China. The consultants will then submit a certificate of turnover to ADB.		

ADB = Asian Development Bank, QCBS = quality- and cost-based selection, TA = technical assistance, TBD = to be determined.

<sup>a</sup> The consultants will be recruited using output-based terms of reference; the number of person-months will be determined by the consultants' methodology detailed in their proposals.

Source: Asian Development Bank.

18. **Consulting services.** ADB will engage a team of consultants from a firm that specializes in transport and logistics planning, following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.



The consulting services will be recruited through the quality- and cost-based selection method on a lump-sum contract basis not exceeding \$400,000, including milestone payments and the provision for fixed out-of-pocket expenses. The consultants will be responsible for procuring all services and goods required to conduct the activities of the TA. The consulting services will be output-focused, and the team will include an appropriate mix of international and national staff. Proposing entities will determine the number and nature of experts required to successfully deliver the project outputs to an agreeable standard, in accordance with their proposed approach and methodology. The terms of reference for consultants can be accessed from the list of linked documents (Appendix 3).

19. All TA-financed goods shall be procured in accordance with the ADB Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and/or TA staff instructions.

#### **IV. THE PRESIDENT'S DECISION**

20. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$400,000 on a grant basis to the Government of the People's Republic of China for the Hubei Xiangyang Integrated Sustainable Transportation and Logistics Planning and Strategic Study, and hereby reports this action to the Board.

### DESIGN AND MONITORING FRAMEWORK

<b>Impact the TA is Aligned with</b> Modern, green, efficient, livable urban areas in Xiangyang developed (The Thirteenth Five-Year Plan for Economic and Social Development of Xiangyang) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b>  Modern, sustainable, integrated transport and logistics system promoted	By 2020: 1a. 1 recommendation for integrated, sustainable transport adopted by the XMTB (2017 baseline: NA)  1b. 1 recommendation for logistics adopted by the XMTB (2017 baseline: NA)	Xiangyang Municipal Government	Change in government personnel or restructuring of government departments or duties delay the adoption of the strategy.
<b>Outputs</b> 1. Comprehensive, integrated, sustainable transport plan completed  2. Logistics improvement plan completed  3. Multimodal integration and logistics capacity strengthened	1a. Transport sector gap analysis completed by December 2018 (2017 baseline: NA)  1b. Integrated, sustainable transport plan completed by August 2019 (2017 baseline: NA)  2a. International logistics best-practice study and gap analysis completed by December 2018 (2017 baseline: NA)  2b. Logistics improvement plan completed by August 2019 (2017 baseline: NA)  3a. 15 XMTB staff completed a study tour and report better skills and understanding of best-practice multimodal logistics operating facilities by December 2019 (2017 baseline: NA)  3b. 15 XMTB staff have received training on models of implementation and models of operation for integrated, multimodal logistics facilities and systems by December 2019 (2017 baseline: NA)	Interim report, final report, review meeting, and workshop presentations  Interim report, final report, review meeting, and workshop presentations  Study tour completion report prepared by the implementing agency	Low stakeholder participation and support for activities  XMTB unable to secure approval from higher authorities

<p><b>Key Activities with Milestones</b></p> <p><b>1. Comprehensive, integrated, sustainable transport plan completed</b></p> <p><b>1.1 Gap analysis of Xiangyang transport infrastructure, systems, and policies (Q3–Q4 2018)</b></p> <p>1.1.1 Review and analysis of existing local, provincial, and national transport and logistics plans.</p> <p>1.1.2 International and national best-practice case studies and lessons learned.</p> <p>1.1.3 Development of current passenger and goods flows and demand analysis.</p> <p>1.1.4 Stakeholder engagement to understand future demand, needs, challenges, and forecasts.</p> <p>1.1.5 Identification of gaps between future state and current state.</p> <p><b>1.2. Transport plan (Q4 2018–Q3 2019)</b></p> <p>1.2.1 Development of recommendations for the improvement of transport in Xiangyang, with consideration of mobility and transit-oriented development principles, including infrastructure, policy, information systems, technology, multimodal connectivity, and other transport innovations.</p> <p>1.2.2 Identification of project priorities for the short, medium, and long term.</p> <p><b>2. Logistics improvement plan completed</b></p> <p><b>2.1 International logistics best-practice study and gap analysis (Q3–Q4 2018)</b></p> <p>2.1.1 Detailed investigation of current logistics challenges and needs in Xiangyang.</p> <p>2.1.2 International and national best-practice case studies and lessons learned.</p> <p>2.1.3 Development of Xiangyang-wide layout for logistics industry</p> <p>2.1.4 Identification of gaps between future state and current state.</p> <p><b>2.2. Logistics improvement plan (Q4 2018–Q3 2019)</b></p> <p>2.2.1 Development of optimal layout of logistics industry facilities in Xiangyang, considering future demand, industry needs, and multimodal transport integration.</p> <p>2.2.2 Development of an operating philosophy based on international best practice for Xiangyang logistics.</p> <p>2.2.3 Identification of project priorities for the short, medium, and long term.</p> <p><b>3. Multimodal integration and logistics capacity strengthened</b></p> <p>3.1 Development of a study tour of best-practice multimodal transport and logistics operating facilities that demonstrate the benefits of logistics clusters, multimodal transport facilities, intelligent traffic management, and information sharing by December 2019.</p> <p>3.2 Training of 15 government officials on operating philosophies for integrated, multimodal logistics, inland waterway transport, and multimodal transport integration and information sharing by December 2019.</p>
<p><b>Inputs</b></p> <p>ADB: \$400,000 (TASF-other sources)</p> <p>Note: The government will provide counterpart support in the form of counterpart professional and support staff; a suitably furnished office space with utilities and telecommunication access; materials, maps, available data, and documents required by the TA; the cost of utilities (not including telephone) for the consultants; and other in-kind contributions.</p>
<p><b>Assumptions for Partner Financing</b></p> <p>Not applicable.</p>

ADB = Asian Development Bank, NA = not applicable, XMTB = Xiangyang Municipal Transport Bureau.

<sup>a</sup> Government of the People's Republic of China, Xiangyang Municipal Government. 2016. *The Thirteenth Five-Year Plan for Economic and Social Development of Xiangyang, 2016–2020*. Xiangyang.

Source: Asian Development Bank.

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

<b>Item</b>	<b>Amount</b>
<b>Asian Development Bank<sup>a</sup></b>	
1. Consultants	320.0
2. Surveys	7.0
3. Goods (rental or purchase) <sup>b</sup>	8.0
4. Training, seminars, workshops, forum, and conferences <sup>c</sup>	45.0
5. Contingencies	20.0
<b>Total</b>	<b>400.0</b>

Note: The technical assistance (TA) is estimated to cost \$400,000, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart support in the form of counterpart professional and support staff; an appropriately furnished office with utilities and telecommunication access; access to materials, maps, available data, and documents as required by the TA; and other in-kind contributions. The value of government contribution is estimated to account for 10% of the total TA cost.

<sup>a</sup> Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources).

<sup>b</sup> Equipment purchased under the TA will be turned over to the executing agency upon completion of TA activities.

<sup>c</sup> Includes interpretation and translation costs, and a study tour in the People's Republic of China.

Source: Asian Development Bank estimates.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/LinkedDocs/?id=51029-001-TARreport>

1. Terms of Reference for Consultants

**Supplementary Document**

2. Organization Chart