



China, People's Republic of: Shandong Spring City Green Modern Trolley Bus Demonstration Project

Project Name	Shandong Spring City Green Modern Trolley Bus Demonstration Project	
Project Number	50010-002	
Country	China, People's Republic of	
Project Status	Approved	
Project Type / Modality of Assistance	Loan	
Source of Funding / Amount	Loan: Shandong Spring City Green Modern Trolley Bus Demonstration	
	Ordinary capital resources	US\$ 150.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth	
Drivers of Change	Governance and capacity development Knowledge solutions	
Sector / Subsector	Transport - Urban public transport	
Gender Equity and Mainstreaming	Effective gender mainstreaming	
Description	<p>The proposed project aims to improve the urban transport environment in Jinan, Shandong province by reducing emissions and congestion in the city through the development of a modern trolley bus network. It will be developed and designed through a project preparatory technical assistance (PPTA) in order to verify the technical, financial, economic, social and environmental viability of the project and develop sustainable urban mobility strategies for the city, to be implemented together with the trolley bus system. The outcome of the project will be enhanced sustainable urban mobility with integrated public transport services and a zero emission trolleybus network.</p> <p>The PPTA will (i) prepare technical preliminary design of trolley bus infrastructure, trolley bus standard recommendation, trolley bus lane and stations, and trolley bus depots; (ii) conduct cost and benefit analysis, and financial analysis of the trolley bus system development and operation based on travel demand forecast; (iii) conduct a financial management assessment of the EA and IA; (iv) conduct safeguards assessments; (v) conduct emission reduction and impact analysis on health; and (vi) conduct sustainable urban mobility assessment and strategy preparation. The project will adopt a model-based approach for travel demand forecast, emission estimations, environment impact estimations and benefit estimations.</p>	

Project Rationale and Linkage to Country/Regional Strategy

Jinan is the capital of the Shandong province located in eastern China. It is 400 km south of Beijing and 200 km from the east coast. Jinan in recent years has evolved into a major administrative, economic and transportation center, with a population of 6.4 million and an average annual GDP per capita of USD 9,907 in 2014. The city has a monocentric and sprawl pattern to the southwest, east and north with direct jurisdiction over six urban districts, one county level city, and three counties. It has a special geological structure with underground streams from Taishan Mountain emerging in the form of numerous springs. The protection of springs is an important element to be considered in Jinan's urban development. The development of underground metro lines in the downtown area is restricted by the springs, thus making modern bus services more important.

Despite efforts by the government in reducing traffic congestion and pollution through improved public transport services with the seven Bus Rapid Transit routes, four trolley bus routes, suburban and exurban bus and special services for schools, supermarkets and businesses, Jinan overtook Beijing as the most congested city in the first quarter of 2016 in the PRC and tops the list in traffic congestion with a delay index of 2.1. Also according to the National Environmental Analysis released in January 2013, Jinan is one of the ten most polluted cities in the world. In Aug and Sep 2014, the Ministry of Environmental Protection Statistics ranked Jinan as the most polluted city in PRC. The major sources of pollution are coal-based power plants and industries in the Shandong province, rapidly increasing motor vehicles, and massive construction sites in the city.

Jinan has been nominated as one of the pilot cities in several different urban transport initiatives in the PRC. The Jinan Municipal Government (JMG) has developed a comprehensive urban public transport development plan for urban rail network development, a trolley bus network development plan, and a public transport infrastructure plan including stations, depots and low emission buses. With the visions and plans established, JMG has requested ADB to support upgrading and integrating its urban public transport infrastructure by developing a trolley bus network and sustainable urban mobility strategies built around urban public transport.

The outcome of the project has a huge potential for other cities in the PRC and DMCs where the trolley bus system can be considered suitable for the urban transport context.

Impact	Urban environment in Jinan city improved.
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Project Outcome

Description of Outcome	Traffic congestion and air pollution in Jinan city reduced
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Progress Toward Outcome	
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Implementation Progress

Description of Project Outputs	Construct zero-emission public transport network and infrastructure complying with universal access Develop and implement modern trolley bus and service standards with at least 30% women drivers Prepare Travel demand management (TDM) measures for Jinan
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Status of Implementation Progress (Outputs, Activities, and Issues)	
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Geographical Location	Jinan
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Safeguard Categories

Environment	B
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Involuntary Resettlement	B
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Indigenous Peoples	C
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Summary of Environmental and Social Aspects

Environmental Aspects	
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Involuntary Resettlement	
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Indigenous Peoples	
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Stakeholder Communication, Participation, and Consultation

During Project Design	
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During Project Implementation	
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Responsible ADB Officer	Guy, Katherine M.
Responsible ADB Department	East Asia Department
Responsible ADB Division	Transport and Communications Division, EARD
Executing Agencies	<i>Jinan Municipal Government Longao Bldg, No. 1 Longding Road, Lixia District</i>

Timetable

Concept Clearance	14 Oct 2016
Fact Finding	24 Apr 2017 to 28 Apr 2017
MRM	09 Jun 2017
Approval	23 Oct 2017
Last Review Mission	-
Last PDS Update	23 Oct 2017

Project Page	https://www.adb.org/projects/50010-002/main
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