

**INTEGRATED SAFEGUARDS DATA SHEET
APPRAISAL STAGE**

Report No.: ISDSA7501

Date ISDS Prepared/Updated: 12-Mar-2014

Date ISDS Approved/Disclosed: 13-Mar-2014

I. BASIC INFORMATION

1. Basic Project Data

Country:	China	Project ID:	P128919
Project Name:	Zhengzhou Urban Rail Project (P128919)		
Task Team Leader:	Gerald Paul Ollivier		
Estimated Appraisal Date:	24-Mar-2014	Estimated Board Date:	23-Sep-2014
Managing Unit:	EASCS	Lending Instrument:	Investment Project Financing
Sector(s):	Urban Transport (100%)		
Theme(s):	City-wide Infrastructure and Service Delivery (100%)		
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No
Financing (In USD Million)			
Total Project Cost:	3005.33	Total Bank Financing:	250.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			2755.33
International Bank for Reconstruction and Development			250.00
Total			3005.33
Environmental Category:	A - Full Assessment		
Is this a Repeater project?	No		

2. Project Development Objective(s)

The proposed project development objective (PDO) is to improve urban mobility for the population of Zhengzhou located along the catchment area of Line 3 from Xin Liu Lu Station to Hang Hai Dong Lu Station.

3. Project Description

The project would support the development of Line 3 of the Zhengzhou urban rail system from Xin

Liu Lu Station to Hang Hai Dong Lu Station. The project consists the following four components:

Component 1: Construction of Line 3. This component includes all construction activities for the Zhengzhou Urban Rail Line 3 (about 25.2 km). Line 3 will connect the city center of Zhengzhou with the northwest and southeast development areas. It will start from the Line 3 parking yard, located nearby the Provincial Sports Center, go through Xin Liu Lu Station in the northwest corner of the city, run down along Nanyang Road to Erqi Plaza in the city center, then move east along the West-East Street and Zhengbian Road towards Bo Xue Lu Station, turn south onto Chenyang Road towards Hang Hai Dong Lu Station in the southeast corner of the city, and end at the Line 3 depot, located east of the G4 Expressway. Line 3 includes 21 stations, which will all be located underground and connected by tunnels. The Line 3 depot for maintenance and stabling will be located above ground at one end of Line 3 in southeast Zhengzhou, and the parking yard will be located above ground at the other end of Line 3 in northwest Zhengzhou. Six interchange stations to be constructed by 2019 will provide convenient interchange with other urban rail lines. This line is fully self-standing and not dependent on future extensions, which may take place after 2020. The Bank loan will support the construction of five stations and five tunnels in between, which are located at the southeast end of the line.

Component 2: Equipment for Line 3. This component includes all the equipment necessary to the successful operation of Line 3, such as rolling stock, power supply, control system, signaling system, communication system, monitoring system, fare collection system, safety and security system, ventilation and air conditioning system, water supply, sewerage and fire protection system, and station auxiliary equipment.

Component 3: Design, Construction Management and Technical Assistance. This component includes (i) activities for design and preparation of the project; (ii) activities for construction management and quality assurance; and (iii) technical assistance and capacity building to relevant staff in Zhengzhou Municipality and URC. The Bank loan will support the technical assistance and capacity building activities.

Component 4: Safeguards and Other Construction Costs. This component will include the land acquisition and resettlement costs, construction site preparation (environmental mitigation measures) as well as other project related construction costs such as engineering insurance, work safety assurance, inspection and acceptance, and project cost estimation. This component will be 100% financed by the local counterpart funding.

4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project is located in Zhengzhou City, capital city of Henan Province in central China. Zhengzhou is located in the transition zone between the North China Plain and the easternmost range of the Qinling Mountains. The proposed Zhengzhou Urban Rail Line 3 is located in the urban built-up area of Zhengzhou which is located in the east side of the flat land area. The entire 25.2 km line will be underground.

The proposed project passes through densely populated urban areas including the core city center and connects several major commercial areas. The line will pass nearby or underneath some cultural relics including Shang Dynasty City Wall Relics, Erqi Tower, and Zhengzhou Wen Temple and Peng Xiangqian Ancestral Temple among others.

According to its topographic feature and geotechnical properties, the project area can be divided into two categories: Zone A (K0+0.000~K23+200) is part of the alluvial plain of the Yellow River; Zone B (K23+200~K31+350.000) is known as an aeolian dune microrelief of the alluvial plain of the Yellow River. Zhengzhou has a temperate continental climate, with cool, dry winters and hot, humid summers. The annual mean temperature is 14.9 °C, the monthly average temperature ranges from 0.3 °C in January to 27.8 °C in July. Average annual precipitation is 640 mm and most of the rainfall occurs in summer.

The groundwater within the region along the line are mainly of three types: perched ground water, quaternary loose rock type hole water and bedrock crevice water. The quaternary loose rock type hole water forms the majority of groundwater. The groundwater is mainly supplied from surface waters (including Jinshui River, Xionger River, Chaohe River) with limited impact from artificial exploitation.

5. Environmental and Social Safeguards Specialists

Yiren Feng (EASCS)

Jun Zeng (EASCS)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/ BP 4.01	Yes	OP4.01 is triggered due to the scale of tunnel and stations construction, waste disposal and potential environmental and social impacts from construction and operations in the urban context.
Natural Habitats OP/BP 4.04	No	Given the urban context, and as confirmed by site visits, the project will not affect any natural habitats or critical natural habitats.
Forests OP/BP 4.36	No	The project will not cause conversion or degradation of natural forests.
Pest Management OP 4.09	No	The project will not involve procurement of pesticide or have any impact on pest management practice.
Physical Cultural Resources OP/ BP 4.11	Yes	The proposed Line 3 rail project will pass nearby or pass underneath some cultural relics including Shang Dynasty City Wall Relics, Erqi Tower, and Zhengzhou Wen Temple and Peng Xiangqian Ancestral Temple among others. Therefore, there is a potential risk of impact from tunnel excavation during construction and vibration during operation. The PCR policy is therefore triggered.
Indigenous Peoples OP/BP 4.10	No	The Social Specialist visited the project area to conduct a screening to determine whether ethnic minority peoples are present in, or have collective attachment to, the project area. A small Hui district is located in the city center of Zhengzhou. The Hui people is an officially recognized national minority and include all historic muslim

		communities in People's Republic of China not included in China's other Muslim groups. Hui people speak Chinese, do not have their own traditional language and are mainly entrepreneurs in Zhengzhou. The project will be constructed within the downtown of Zhengzhou City and no indigenous people groups as defined in Bank's OP4.10 have been identified within the project area. The Social Specialist concluded that no indigenous people groups as defined in Bank's OP4.10 is present in, or have collective attachment to the project area. Therefore, this policy is not triggered.
Involuntary Resettlement OP/BP 4.12	Yes	Based on the site visit and primary project alignment, land taking caused by the project construction will be unavoidable. The main involuntary resettlement impact will include urban house demolition, removal of shops/ restaurant and other public facilities. Therefore, the Bank's Social Safeguards policy on Involuntary Resettlement is triggered and a Resettlement Action Plan has been prepared by the client in both English and Chinese, and an experienced consultant was hired to assist the RAP preparation. The RAP covers all resettlement impacts caused by the Line 3 from Xin Liu Lu Station to Hang Hai Dong Lu Station. On the mission, no linkage project has been identified.
Safety of Dams OP/BP 4.37	No	The project will not finance construction or rehabilitation of any dams as defined under this policy.
Projects on International Waterways OP/BP 7.50	No	The project is not located in any international waterways as defined under the policy.
Projects in Disputed Areas OP/BP 7.60	No	The project is not located in any known disputed areas as defined under the policy.

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

<p>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</p> <p>As a public transport oriented project, the project will bring significant net positive environmental benefits through the promotion of mass public transportation, reduction of traffic congestion and consequent reduction of vehicle emissions and improvement of overall quality of life in the Zhengzhou Metropolitan Area.</p>
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The potential negative environmental and social impacts related to the project will occur mainly during the construction phase. These potential impacts include: disruption of traffic; reduced accessibility to business and non-motorized vehicle/pedestrian access around metro stations during construction; construction accidents linked in particular to ground water and geological risk; potential damage to surrounding buildings and physical cultural sites; improper transportation and disposal of spoil material, potential water pollution, dust, vibration, noise nuisance during construction; and land acquisition and demolition of structures like houses or enterprises. Other impacts during operation include noise and vibration, odor and water pollution, potential inadequate aesthetics integration, and waste management from rail operation facilities. The relevant mitigation measures were incorporated into the EIA/ESMP.

The project has significant social benefits and is an integral part of the public transportation system of the city. The project is expected to benefit the local communities by enhancing the options for affordable, safe and fast public transportation in the vicinity of the project line. All stations will have a universal accessibility design with barrier free passage for wheelchairs, including at least one elevator per station, and guidance on sidewalks and in station for blind people.

The project will have social impacts related to the need for land acquisition and demolition of a number of structures like houses or enterprises. About 767 people from 239 families will be affected by the acquisition of 52.4 ha of collective owned land; about 1,308 people from 449 families will be affected by the demolition of 35,347 m² of private houses; and about 1,026 employees from 264 enterprises, institutes and small shops will be affected by the demolition of 66,313 m² of structures.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The proposed project supports the development of a major urban rail line as part of the Zhengzhou urban rail network. The future development of the rail network will have significant impacts on Zhengzhou, leading to more compact and transit-oriented urban development accompanied by land use change. The project is mainly laid along the urban main roads of Zhengzhou except for its extremities located in the periurban area of Zhengzhou. The construction of Line 3 is expected to be accompanied by a speed up in the urbanization development process and gradual changes in land use along the line. The main change will be a conversion from farmland and forest land in the extremities of the line into land used for residential, commercial and educational purpose, and a gradual densification of land use around the 21 stations along the line, especially along the Nanyang Road.

After the project is put into operation, it is expected to attract a large volume of passengers, and reduce some of the traffic on roads along the alignment, compared to a situation without project. The project will be accompanied by some adjustments in the public transport routes, leveraging the new line. The preparation and implementation of reasonable bus-rail integral program will facilitate the use of Line 3 by the public, enhance public traffic utilization rate in Zhengzhou and finally improve overall urban traffic.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

The project has been subject to intense analysis of alternative options including a project-no project scenarios, various options for rail line alignments, location of stations and construction methods, as well as consideration of different engineering technology alternatives.

During the design phase, the EA teams worked closely with project planners/ owners and the feasibility study teams to compare and evaluate alternatives. The EA identified, evaluated and compared various options for alignment selection, station location selection, and construction method selection, and optimal alternatives were selected based on the avoidance of (or least adverse) social and environmental impacts, as well as other engineering technology alternatives, and financial considerations for least cost solutions. A “no project” scenario was also considered as an alternative. Adequate engineering measures have been designed to mitigate the expected impacts, including noise barriers, vibration reduction equipment, intensive greening plan, landscape design for stations, and parking/depot site.

As a result, the alignment, station location and construction method were optimized so as to reduce the land acquisition, decrease construction risks, minimize resettlement, avoid environmental and cultural sensitive sites, reduce disruption of traffic and increase the accessibility and convenience of public transport transfer, integrate with the overall public transport plan, and with less cost. Further optimization will be conducted during preliminary design and detailed design.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The project is classified as a Category A project as per OP4.01, due to the scale of tunnel construction, waste disposal and potential environmental and social impacts from construction and operation in an urban context. Environment Assessment (EA) reports were prepared in accordance with relevant national laws, regulations, and technical guidelines and standards applicable to the project, as well as the World Bank Safeguards Policies. The reports include (a) an EA Executive Summary, (b) an Environmental Impact Assessment (EIA), and (c) an Environmental and Social Management Plan (ESMP). The EA reports have been prepared, incorporating the Bank’s comments, and found to be satisfactory.

The potential environmental and social impacts of the proposed project are thoroughly addressed in the EIA report, and necessary mitigation measures have been developed in the ESMP. It is concluded that these adverse environmental and social impact can be adequately avoided, minimized and mitigated with good management practice and mitigation measures as developed in EIA/ESMP. The main conclusions of impact and mitigation measures are summarized as follows:

Construction Phase. To address the potential adverse impacts as mentioned above, preventive and mitigation measures during the construction phase have been developed in the ESMP to adequately avoid, minimize and mitigate these adverse environmental and social impacts. These impacts will be avoided, minimized or mitigated by the following measures, including (but not limited to): implementation of city procedures for traffic diversion and utility relocation; coordination with the police department; provision of prior notice through public media; proper fencing of the construction site for safety; setup of temporary access roads; public consultation throughout the construction period to address public concerns and improve construction activities; proper management of wastes; use of low noise equipment and construction technologies; careful scheduling of construction activities near sensitive sites; installation of a temporary noise reduction facility at sensitive sites; restricting night-time construction; and requiring prior public notice, as well as night-time construction permit from the city Environmental Protection Bureau, for activities that need continuous construction during the night. Further, shield tunneling and cover-and-cut methods will be used for tunnels and most of the stations to minimize noise and vibration impacts, and measures will be taken for air and wastewater pollutant control, as well as a risks assessment and Environmental, Health and Safety (EHS) measures.

Operations Phase. To address potential impacts during the operations phase, mitigation measures that will be adopted include (but are not limited to) the following. For the land use change, Zhengzhou city has mature institutions and procedures to manage the land development to ensure that land development induced from the rail network is in line with urban master plan and conducted in an orderly and legal process. For the noise-sensitive sites, noise barriers will be installed, and ventilation shafts will be installed with low noise equipment and silencers and will be located at least 15 meters from nearby residential areas. For vibration sensitive sites, vibration-reduction facilities will be installed. Measures for air quality, wastewater and solid wastes have also been formulated.

Physical Cultural Resources OP/BP 4.11. The proposed Line 3 rail project will pass nearby or pass underneath some cultural relics including Shang Dynasty City Wall Relics, Erqi Tower, and Zhengzhou Wen Temple and Peng Xiangqian Ancestral Temple among others. Therefore, there is a potential risk of impact from tunnel excavation during construction and vibration during operation. Adequate site survey and consultation with the relevant cultural relic bureau was conducted during EA preparation to ensure all the relevant cultural relics along the rail are identified, and the potential impacts were carefully addressed through project design, selection of alignment and construction technologies, good construction management including monitoring of settlement, and other mitigation measures, to ensure all the relevant cultural relics along the rail are identified, and mitigation measures are incorporated into the design, construction and operation appropriately. Procedures for cultural findings will include provisions and procedures stipulated in the Cultural Property Law and will be included in bidding documents and contracts.

A stand-alone ESMP has been developed that describes the policies, applicable environmental standards, environmental management organization and responsibilities, mitigation measures, capacity training plan, monitoring plan, and budget estimates of ESMP implementation. The ESMP measures were developed in consistency with WBG EHS Guidelines. ESMP measures will be incorporated into bidding documents and contracts in order to ensure effective implementation.

The Zhengzhou Urban Rail Company (ZURC) has been established to manage the construction and operation of the proposed urban rail system in Zhengzhou. Environmental management is built into the overall management setup in the company, and the construction of line 1 and 2 has demonstrated successful environmental management performance in terms of construction site management, traffic diversion, and provision of access to public, safety, dust control, spoil material disposal, information disclosure and public consultation. As the project implementing agency, ZURC is responsible for overall environmental and social management during construction. Internal environmental management involves three parties, i.e. the project owner, supervision institutes including engineering supervision and risk management supervision, and contractors. The contractors are crucial for the implementation of the various environmental protection measures specified in the ESMP. Consultants will provide timely professional services in particular on the ESMP implementation, for design and risk management. Meanwhile, the project will be supervised and inspected by national, provincial and municipal environmental authorities, as well as by supervision missions from the World Bank. ZURC will also carry over its responsibilities in environmental management during operational stage. The main responsibilities include public environmental awareness, implementation of ESMP in operational phase, maintenance of environmental facilities such as sewage/wastewater treatment, vibration and noise control.

To ensure effective implementation of the ESMP, environmental training will be provided to staff involved in the project management, engineering supervision, and construction workers. The training during construction phase will be conducted before commencement of the construction and focus on: (1) national and local regulations on environmental protection; (2) good management practice related to minimize environmental impact; (3) related requirements of environment, health and, safety (EHS); and (4) environmental mitigation measures included in the ESMP. During operation stage, the ZURC will incorporate environmental protection into its management system.

Following the relevant Chinese laws, regulations and World Bank OP 4.12 on Involuntary Resettlement, the Zhengzhou PMO has prepared a Resettlement Action Plan (RAP) to address involuntary resettlement impacts caused by project construction. A Resettlement Policy Framework (RPF) was also prepared for components that might change their locations during project implementation. The resettlement planning work was carried out by the line agencies under the guidance of a team from Wuhan University with prior experience in resettlement planning for World Bank financed Projects. Planning work included project impact inventory surveys, social economic surveys and consultations over resettlement and livelihood rehabilitation measures. For Project Affected Persons (PAPs) affected by collective land acquisition, cash compensation will be arranged. Land acquisition compensation will include land compensation, a resettlement subsidy, and compensation for standing crops. For PAPs affected by house demolition, the options of cash compensation and house property exchange scheme have been arranged. The compensation rates for structures and public facilities are determined based on their full replacement costs. The affected enterprises, institutes and shops will be compensated at full replacement cost and the business losses caused by demolition will be compensated as well.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Two rounds of public consultation were conducted during the EA preparation. The first round was conducted from April to December 2012 through meetings, field interviews and questionnaire surveys among project-affected people, local residential and village committees, schools and hospitals, and through a telephone hotline. The main concerns raised by the public are resettlement compensation, information disclosure, disturbance of traffic, night time construction noise etc. All these concerns were addressed in the RAP and EIA/ESMP.

The second round of public consultation was conducted in August 2013 after the draft EIA report had been prepared. During the consultation, the key findings of draft EIA report and proposed mitigation measures were explained, as well as the responses to the questions raised from the first round consultation. The majority of those consulted expressed strong support for the project.

Information about the project was disclosed following both the domestic and Bank requirements. The availability of the EA reports, and how to access to them, was announced in a local major newspaper (DongFangJingBo Newspaper) on July 8, 2013. The EA reports were disclosed on the Zhengzhou Government Website (<http://www.zzdrc.gov.cn>) on May 17, 2012 and August 19, 2013, respectively, and the EA reports were disclosed in the World Bank's Infoshop on January 29, 2014.

The RAP and RPF were disclosed to local people via Zhengzhou Government Website and ZURC's website on January 28, 2014; and the English versions of the documents were disclosed on the World Bank's Infoshop on January 29, 2014.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	16-Jan-2014
Date of submission to InfoShop	29-Jan-2014
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	14-Mar-2014
"In country" Disclosure	
China	19-Aug-2013
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	23-Jan-2014
Date of submission to InfoShop	29-Jan-2014
"In country" Disclosure	
China	28-Jan-2014
<i>Comments:</i> If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Sector Manager (SM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Sector Manager review the plan?	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>] NA [<input type="checkbox"/>]
The World Bank Policy on Disclosure of Information	

Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]

III. APPROVALS

Task Team Leader:	Name: Gerald Paul Ollivier	
Approved By		
Regional Safeguards Advisor:	Name: Peter Leonard (RSA)	Date: 12-Mar-2014
Sector Manager:	Name: Abhas Kumar Jha (SM)	Date: 13-Mar-2014