

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Indonesia

Project: Engineering Services (E/S) for Construction of Jakarta Mass Rapid Transit East-West Line Project (Phase I)

Loan Agreement: December 4, 2015

Loan Amount: 1,919 million Yen

Borrower: The Republic of Indonesia

2. Background and Necessity of the Project**(1) Current State and Issues of the Urban Transportation Sector in Indonesia**

The total population of the Jakarta Metropolitan Area increased approximately 1.3 times over the past decade (at an annual average growth rate of approx. 2.8%), reaching some 28 million people in 2010. It is rising rapidly, especially in the suburbs of Jakarta (e.g., Bogor, Depok, Tangerang and Bekasi). Along with this population growth, the number of commuters from these suburbs to the city center also rose approximately 1.5 times over the past eight years, from around 743 thousand in 2002 to around 1,105 thousand in 2010. As of 2010, 97% of the work and school commuting traffic in the metropolitan area was accounted for by road transport. With a steady economic growth, the number of registered motor vehicles in the Special Capital Region of Jakarta rapidly increased by approximately 3.6 folds over the past 10 years, reaching 9.63 million in 2010. These factors have caused serious problems including severe traffic congestion and traffic-related pollution (e.g., air pollution caused by traffic emissions). Although the Government of Indonesia has taken various measures to mitigate traffic congestion, such as inner-city traffic restrictions on private cars and installation of bus lanes, it is still essential to develop a new mass urban transport system in the metropolitan area as robust traffic growth is expected to continue.

(2) Development Policies for the Urban Transportation Sector in Indonesia and the Priority of the Project

According to the Master Plan for Acceleration and Expansion of Economic Development (MP3EI) published by the Government of Indonesia as its economic development plan towards 2025, the development of the Jakarta Metropolitan Area has been identified as one of the key economic activities. Moreover, in the National Mid-term Development Plan (2015-2019) published in January 2015, the development of mass public transport systems in urban areas has been designated as one of the priority goals, and specific targets have been set for the promotion of a modal shift to public transport and the implementation of development projects for mass public transport systems. Jakarta Mass Rapid Transit East-West Line Project (hereinafter referred to as "this Project") is to contribute to the

mitigation of severe traffic congestion and traffic-related pollution through the construction of an urban mass rapid transit (MRT) system in the Jakarta Metropolitan Area.

(3) Japan and JICA's Policy and Operations in the Urban Transportation Sector

According to Japan's Country Assistance Policy for the Republic of Indonesia (revised in April 2012), "assistance for further economic growth" has been identified as a priority area, and "infrastructure development in Jakarta Metropolitan Area" has been planned as one of its assistance programs. Meanwhile, JICA's Country Analysis Paper for Indonesia has also identified "infrastructure development in Jakarta Metropolitan Area" as a priority development issue. Thus, this Project is in line with these policy and analysis documents. JICA has so far implemented 99 railway and road sector projects since the Railway Rehabilitation Projects approved in FY 1970.

(4) Other Donors' Activity

KfW Development Bank implemented a rolling stock procurement project for KRL Jabotabek (launched in 2005). Moreover, the World Bank carried out Indonesian Railway Efficiency Project (from 1996 to July 2009) including support for railway management and policy reform and the betterment of the Bandung line. These projects, designed to support existing railway systems, are not overlapped with this Project intended to construct a new urban MRT system.

(5) Necessity of the Project

As described above, this project to construct an urban mass rapid transit system in the Jakarta Metropolitan Area is prioritized in the Indonesian development policy and is in line with the issues of Indonesia as well as assistance policies of Japan and JICA; therefore, it is highly necessary and relevant for JICA to implement this project.

3. Project Description

(1) Project Objectives

By constructing an urban mass rapid transit system East-West Line (Phase 1 section) in the Jakarta Metropolitan Area and its surrounding area faced with serious traffic problems, this Project aims to increase passenger traffic capacity and contributes to improve the traffic congestion as well as the investment climate in Java. The Loan is provided for engineering services (E/S) with regards to basic design and tendering for the stage 1 section of the project (Kali Deres Station to Cempaka Baru Station) to promote a smooth implementation of the project.

(2) Project Site/Target Area:

Special Capital Region of Jakarta (DKI Jakarta), Banten Province, and West Java Province

(3) Project Components

The project is to construct an urban mass rapid transit system in DKI Jakarta, Banten

Province and West Java Province with the plan to improve the whole section (Balaraja-Chikarang (total length: about 90 km)) by dividing in two phases: the phase 1 section from Kali Deres Station to Ujung Menteng Station (within DKI Jakarta) with the total length about 32 km; and the phase 2 section (Balaraja Station to Kali Deres Station (Banten Province-West Java Province) with the total length about 58 km. This project is to provide E/S (for (i) engineering design (including Environmental and Social Considerations) and (ii) tender assistance) for the stage 1 section of the phase 1 section (Kali Deres Station to Cempaka Baru Station; total length: about 20km).

Components of the project plan for the phase 1 section, including the E/S, are as follows:

- 1) Construction of a Mass Rapid Transit System (MRT): Kali Deres Station to Ujung Menteng Station with the total length about 32km ((i) civil and track works: elevated section: about 23km, underground section: about 9.0km, rail yard, rolling stock plant (ii) construction of station building: elevated section: 16 stations, underground section: 8 stations (iii) electricity and communication system (iv) rolling stock procurement)
- 2) Consulting services ((i) basic design (including Environmental and Social Considerations), (ii) tender assistance, (iii) supervision of construction works, and (iv) Feasibility Study (the phase 2 section))
- (4) Estimated Project Cost (Loan Amount)

12,794 million Yen for the E/S project (Loan Amount: 1,919 million Yen)

- (5) Schedule

Planned from December 2015 to December 2018 (37 months in total); project completion is defined as the completion of all disbursements (December 2018).

- (6) Project Implementation Structure

- 1) Borrower: The Republic of Indonesia
- 2) Executing Agency: Directorate General of Railways (DGR)
- 3) Operation and Maintenance System: to be considered in this E/S project.

- (7) Environmental and Social Consideration/Poverty Reduction/Social Development

- 1) Environmental and Social Consideration

(i) Category: A

(ii) Reason for Categorization: It is because this Project falls under the railway sector stipulated in the JICA Guidelines for Environmental and Social Considerations (established in April, 2010).

(iii) Environmental Permit: The Environmental Impact Assessment (EIA) regarding this project is under the approval process. Its details are confirmed in the E/S project.

(iv) Anti-Pollution Measures: Speed limit of construction vehicles, installation of noise barrier, long rails, and anti-vibration mat, and other measures are taken for air pollution, water pollution, noise and vibration, etc. during the construction works. As for water pollution, noise and vibration, etc. after the commencement of the service,

installation of a drainage facility in a rail yard and noise barrier and other measures are planned to be taken. The details are confirmed in the E/S project.

- (v) Natural Environment: The project site is not located in or around sensitive areas such as national parks, and adverse impact on the natural environment is assumed to be minimal.
 - (vi) Social Environment: Acquisition of about 20ha land and involuntary resettlement of 385 households (about 1,300 residents) will involve in the implementation of the project in the stage 1 section, thus the acquisition is carried out in line with the domestic procedures and resettlement plan of Indonesia. On an occasion of a consultation with the residents on resettlement, a compensation policy was explained to the participants in response to their inquiry on compensation and there were not any opposition to the project raised from project-affected residents. The details are confirmed in the E/S project.
 - (vii) Other / Monitoring: During the construction works in the project, DGR will monitor the project site for atmospheric and water pollution, noise and vibration, resettlement and land acquisition, etc. The details are confirmed in the E/S project.
- 2) Promotion of Poverty Reduction: Fare level will be considered in the project taking into account the fare level of buses and other existing public transportations as well as the use by poor groups.
- 3) Promotion of Social Development (e.g. Gender Perspective, Measure for Infectious Diseases Including HIV/AIDS, Participatory Development and Consideration for the Handicapped etc.): Implementing agency will included an item to be implemented for HIV/AIDS prevention in tender documents for the main construction works.
- (8) Collaboration with Other Donors: The project will collaborate with consulting services for “Organizational Development/Operation and Management” of Construction of Jakarta Urban Mass Rapid Transit Project (I) or Jakarta MRT project advisor.
- (9) Other Important Issues:
- While this Loan was requested with the general terms, it is required to introduce unified specifications of railway, signal and other systems with North-South line from the viewpoint of using common facilities which were provided through Special Terms of Economic Partnership (STEP). Thus, technologies of Japanese enterprises are expected to be utilized in this project.
 - The project is to promote modal shift from vehicles to public transportation systems, thus contribute to the greenhouse gas (GHG) emission (about 96,000t-CO²/year in the phase 1 section).

4. Targeted Outcomes

(1) Quantitative Effects

- 1) Operation and Effect Indicator: To be finalized by loan for construction.
 - 2) Internal Rate of Return: To be finalized by loan for construction.
- (2) Qualitative Effects:
To be finalized by loan for construction.

5. External Factors and Risk Control

None in particular

6. Lessons Learned from Past Projects

(1) Results of Evaluation of Similar Past Projects

1) Technical assistance for enhancement of railway management capacity

Ex-post evaluations for the past railway projects implemented in Indonesia show the following railway management issues: (i) clarification of subsidies and other institutional frameworks, (ii) more convenient access to stations, (iii) coordination with urban planning including railway development, and (iv) development of appropriate personnel system for maintenance. Based on these issues, lessons have been identified that it is necessary to provide technical assistance for improvement of profitability and organizational management.

2) Land acquisition

Due to delay in the process of land acquisition in ODA loan projects in urban transportation and other sectors in Indonesia, some projects were delayed but also suspended or turned into lawsuit, thereby. Thus, it is necessary to develop the consensus on land acquisition as well as to start legitimate land acquisition procedures at an early stage within the Indonesian Government including local governments.

(2) Lessons for the Project

1) Technical assistance for enhancement of railway management capacity

This project will also collaborate with consulting services for “Assistance for Organizational Development/Operation and Management” of E/S and Phase I of Construction of Jakarta Urban Mass Rapid Transit Project as well as Jakarta MRT project advisor.

2) Land acquisition

It is agreed with the Indonesian Government to include the activity of land acquisition in the implementation schedule and project cost of this E/S project. Since the land acquisition procedure is estimated to start in this E/S project, the procedures will be promoted within consulting services.

7. Plan for Future Evaluation

(1) Indicators to be Used

To be finalized by loan for construction.

(2) Timing

To be finalized by loan for construction.