

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Indonesia

Project: Jabodetabek Railway Capacity Enhancement Phase I

Loan Agreement: February 24, 2014

Loan Amount: 16,322 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 the Republic of Indonesia**

The Jakarta Metropolitan (Jabodetabek) Area has a population of approximately 28 million (as of 2010) that has grown by 130% in the past ten years (annual average growth: approx. 2.8%). As a result of an especially remarkable population boom in the suburbs of Jakarta (Bogor, Depok, Tangerang and Bekasi), the number of people commuting from these areas to downtown Jakarta increased by approximately 150% from 743,000 in 2002 to 1,105,000 in 2010. In the Jakarta Metropolitan Area, 98% of passenger transportation depends on road transport. In line with the region's steady economic growth, the number of vehicles registered in DKI Jakarta has increased by a factor of 3.6 in the last ten years to approximately 9.63 million (2010). Consequently, severe traffic congestion, air pollution caused by exhaust gases and other types of traffic pollution have become serious problems. While the Indonesian government is making efforts to relieve traffic congestion by restricting the use of passenger vehicles and creating bus lanes in downtown Jakarta, there is an urgent need to establish a new mass urban transportation system and improve the existing public transportation service Jakarta Metropolitan Area's to cater for further anticipated increases in transportation demand. Jabodetabek Railways (eight routes, total length: approx. 166 km), which is a major public transportation system in the area, has insufficient transportation capacity to meet future increased demand due to shortage of rolling stocks, delays, accidents and other issues creating bottlenecks.

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

The Master Plan for the Acceleration and Expansion of Indonesia's Economic Development, which is the country's development plan for the period up to 2025, lists the development of the Jakarta Metropolitan area as a major economic activity. The Medium-term Development Plan (RPJM: 2010 – 2014) lists the expansion of transportation infrastructure and capacity as a goal in its urban transportation sector development policy and states that consolidation of railway networks and other public transportation systems is especially necessary in the sector. The Study on Integrated

Transportation Master Plan for Jabodetabek (SITRAMP) revised under the Jabodetabek Urban Transportation Policy Integration (JUTPI) also includes additional procurement of rolling stocks for the Bogor Line and improvement of signaling system for Jabodetabek Railways, which are targets of the Jabodetabek Railway Capacity Enhancement Phase I (referred to here as “the Project”), as railway initiatives to be implemented at an early stage.

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

JICA Analytical Work for the Republic of Indonesia states that infrastructure improvement in the metropolitan area is an important task. Country Assistance Policy for the Republic of Indonesia (April 2012) also lists support for further economic growth as a priority area and infrastructure improvement in the metropolitan area as a development task. The Project is in accordance with the policy and analysis, and is also selected as a Jakarta Metropolitan Priority Area (MPA) fast-track project to be promoted jointly by the Japanese and Indonesian governments.

(4) Other Donors’ Activity

Germany’s Reconstruction Loan Corporation (KfW) is currently conducting rolling stock procurement for Jabodetabek Railways (started in 2005).

(5) Necessity of the Project

As mentioned above, the Project is consistent with the country’s issues and development policies, as well as the assistance policies of Japan and JICA. Therefore it is highly necessary and relevant for JICA to provide assistance through the Project.

3. Project Description

(1) Project Objective(s)

The Project is to alleviate serious traffic congestion in Jabodetabek area through enhancing Jabodetabek railway capacity, thereby contributing to improvement of investment climate and urban environment.

(2) Project Site/Target Area

Jakarta Metropolitan Area

(3) Project Component(s)

1) Construction/Expansion of Depok Depot and Workshop

2) Railway system Improvement: improvement of power supply and safety facilities, etc.

3) Rolling Stock

4) Consulting services: Basic Design, Detailed Design, Tender Assistance, Construction Supervision, capacity building for railway capacity, etc.

5) The targets for this loan in the Project are 1) Construction/Expansion of Depok Depot and Workshop and 4) Consulting service.

(4) Estimated Project Cost (Loan Amount)

44,773 million yen (amount subject to yen-denominated loans: 37,497 million yen;

loans for the current project: 16,322 million yen)

(5) Schedule

The scheduled project term runs from February 2014 to January 2020 (72 months in total), and will be considered complete on the day of service commencement in January 2020.

(6) Project Implementation Structure

- 1) Borrower: The Republic of Indonesia
- 2) Executing Agency: Directorate General of Railways (DGR)
- 3) Operation and Maintenance System: Indonesian Railway Company (PT.KAI)

(7) Environmental and Social Considerations/Poverty Reduction, Social Development

1) Environmental and social Considerations

① Category B

② Reason for Categorization: The Project does not qualify as a large-scale railway sector as listed in the JICA Environmental and Social Consideration Guidelines (issued in April 2010), is not expected to have major adverse effects on the environment. The Project also does not have any of the characteristics that are likely to lead to adverse effects, and is not in an area that is likely to be affected.

③ Environmental Permit: No environmental impact assessment (EIA) report is required for the Project under Indonesia's domestic law. Application for approval of the Environment Management Efforts (UKL) and Environment Monitoring Efforts (UPL) has already been submitted to the Depok Environment Management Agency.

④ Pollution and noise countermeasures: Sheet piles will be used during construction as a measure to prevent soil loss. To alleviate noise, sound insulation walls will be used during construction and sound insulation materials will be installed on tracks and track walls after the commencement of service.

⑤ Natural environment: As the Project area is not situated in or around a national park or other vulnerable areas, any adverse effect on the natural environment is expected to be minimal.

⑥ Social environment: The Project does not involve land acquisition or relocation of residents, as it will be conducted exclusively within the property of DGR.

⑦ Other/monitoring: Air pollution, water quality, noise and other types of monitoring will be conducted by DGR during construction and after the commencement of service based on UKL and UPL.

2) Poverty reduction contribution: none

3) Social development contribution (e.g., gender considerations, measures against AIDS and other infectious diseases, participatory development, consideration for the disabled): none

(8) Collaboration with Other Donors or Schemes: Germany's Reconstruction Loan

Corporation (KfW) is currently conducting rolling stock procurement for Jabotabek Railways (started in 2005). A total of 40 rolling stocks had been procured by the end of 2012 and have been in operation since 2013.

(9) Other remarks: none

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicator)

Indicator	Reference value (2010)	Target value (2022) (2 years after project completion)
Passenger-km (per day)	11,346,212	24,643,000
No. of train (per day)	126	163
Car-km (per day)	115,080	286,371
Car operation ratio (%)	71	89

2) Internal rate of return

FIRR: 3.8%

- Expenses: project, operation and maintenance cost
- Benefits: railway service income
- Project life: 40 years

EIRR: 14.5%

- Expenses: project costs (excluding taxes), operation and maintenance cost
- Benefits: reduction of vehicle operating costs and travel times/costs
- Project life: 40 years

(2) Qualitative Effects

Creation of employment opportunities, relief of traffic congestion, improvement of the living environment by reducing road air pollution and noise, improvement of the investment environment, regional economic development, contribution to measures against climate change (alleviation efforts)

5. External Factors/Risk Control

None

6. Results of Evaluation for Similar Past Projects and Lessons for the Current Project

(1) Results of Evaluation for Similar Projects

The results of ex-post evaluation regarding the Railway Double Tracking on Java North Line Projects in Indonesia showed that the involvement of engineers of PT.KAI in addition to DGR at the construction supervision stage allowed the prompt and appropriate resolution of technical problems on site and was effective for early completion of civil engineering work.

(2) Lessons for the Current Project

The Project will also employ a system in which engineers in charge of operation, maintenance and management at the construction supervision stage participate to provide advice on technical problems on site.

7. Future Evaluation Plans

(1) Indicators to be Used

- 1) Passenger-km (per day)
- 2) No. of train (per day)
- 3) Car-km (per day)
- 4) Car operation ratio (%)
- 5) Economic internal rate of return (EIRR) (%)
- 6) Financial internal rate of return (FIRR) (%)

(2) Timing

Two years after project completion