

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: Socialist Republic of Vietnam

Project: Hanoi - Ho Chi Minh City Railway Line Bridges Safety Improvement Project (III)

Loan Agreement: March 22, 2013

Loan Amount : 13,790 million Yen

Borrower: Government of the Socialist Republic of Vietnam

2. Background and Necessity of the Project

(1) Current State and Issues of the Railway Sector in Vietnam

The construction of railways in Vietnam began during the French colonial period in the 19th century, and in 1936 the Hanoi-(then) Saigon Line was completed. The railway network consists of seven principal routes, all of which are single-track and non-electrified lines. Two major lines are the North-South and the East-West Lines. The former is a major passenger line connecting the northern, central and southern regions, and stretching two-thirds of the total length of the national railway of Vietnam. The East-West line is a major freight line connecting Hanoi and the northern ports. On these existing railway lines, there are many areas with sharp curves and steep grades, old bridges, and culverts. Also, due to lack of appropriate operation and maintenance, the tracks, trackbeds, signals, and communications equipment are old and in poor condition. In particular, bridges are markedly deteriorated, requiring a speed limit of 40km per hour or less in many places. Rehabilitating the bridges is urgent in terms of improving safety and transport capacity.

(2) Development Policies for the Railway Sector in Vietnam and the Priority of the Project

In the Master Plan on the Development of the Vietnamese Railway (approved by the prime minister in 2002 and revised in 2009), the goals stated for improvement of the existing lines up to 2020 include modernization and boosting of the capacity of the North-South line. This project for the Hanoi-Ho Chi Minh railway line is regarded as an important part of the Master Plan.

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

The Country Assistance Program for Vietnam formulated in July 2009¹ states that "with regard to intercity arterial transport networks, assistance will be extended to

¹ The Country Assistance Program for Vietnam formulated in December 2012 also cites "promotion of economic growth and strengthening of international competitiveness" as a priority area, showing the intention to support the development of arterial transport and urban transport network.

arterial roads, railways, ports and airports from the perspective of achieving more effective logistics, and based on the appropriate order of priority and roadmaps, with attention to selection and concentration.” This project contributes to the improvements of transportation capacity including logistics and safety of railway service, and is thus consistent with the program.

(4) Other Donors' Activity

(i) The World Bank has supported the improvement of drainage systems of the North-South line and conducted surveys on the Ho Chi Minh City Urban Railway. (ii) The Asian Development Bank has supported the development of the Hanoi - Lao Cai Train Line and the urban railway lines in Hanoi and Ho Chi Minh City. (iii) France has also supported the repair of the Hai Van Tunnel on the North-South Line.

(5) Necessity of the Project

By assisting urgently required improvement and replacement of bridges, this project contributes to the improvement of safety of railway service and strengthening of the transportation capacity, and thus is consistent with a priority assistance area of the Government of Japan and JICA, and also with the development policy of Vietnam. This project is expected to be short of funds due to price escalation and other unavoidable circumstances that could not be predicted at the beginning, so the Government of Vietnam plans to provide its own fund and has requested the Japanese counterpart to provide an additional loan. Of this project, the procurement of operation and maintenance equipment was completed in October 2010, and the replacement of bridges and construction of related facilities have been in progress and are scheduled to be finished in March 2016. Thus given the above, JICA's continued assistance for this project is highly necessary and relevant.

3. Project Description

(1) Project Objectives

The objective of this project is to ensure the safety of railway service, shorten passenger and freight transport time, and boost transport volume by replacing 44 severely deteriorated bridges on the railway line between Hanoi and Ho Chi Minh City (on the North-South rail line, total length: 1,700 km), thereby contributing to sustainable economic growth of the region along the above-mentioned railway line.

(2) Project Site/Target Area

Between Hanoi and Ho Chi Minh City of the Socialist Republic of Vietnam

(3) Project Components

- 1) Civil engineering works

- Replacement of 44 bridges and improvement of the bridge approaches
 - Construction of related facilities (removal of road crossings and building of overpasses, etc.)
- 2) Procurement of equipment for operation and maintenance
 - 3) Consulting services (tendering assistance, construction supervision, etc.)

(4) Estimated Project Cost (Loan Amount)

40,699 million Yen (Loan Amount: 13,790 million Yen)

(5) Schedule

March 2004 – March 2017 (157 months). The project will be completed when the service commences (March 2016).

(6) Project Implementation Structure

- 1) Borrower: the Government of the Socialist Republic of Vietnam
- 2) Executing Agency: Vietnam Railways (VNR)
- 3) Operation and Maintenance System: VNR

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

- 1) Environmental and Social Consideration
 - (1) Category: B
 - (2) Reason for Categorization: this project is a railway project whose regional and project characteristics are not classified as Category A under the JBIC Guidelines for Confirmation of Environmental and Social Considerations (established October 1999).
 - (3) Environmental Permit: detailed Environmental Impact Assessment (EIA) report was approved by Vietnam's Ministry of Natural Resources and Environment (MONRE) in February 2010.
 - (4) Anti-Pollution Measures: during construction, measures will be taken for noise and vibrations by planting trees and installing soundproof walls, and measures will be taken for river pollution by conducting appropriate treatment of waste material. Thus, no significant adverse impact is expected.
 - (5) Natural Environment: this project site is not located in or around sensitive areas such as a national park, and so adverse impact on the natural environment is assumed to be minimal.
 - (6) Social Environment: this project requires acquisition of approximately 86 ha of land and resettlement of 374 households. The executing agency completed the land acquisition and resettlement in accordance with the domestic laws and procedures of Vietnam.

(7) Other / Monitoring: the executing agency will monitor noise, vibration, air quality, water quality, etc. during construction and provision of service, and resident relocation, etc. during construction.

2) Promotion of Poverty Reduction: None

3) Promotion of Social Development (e.g. gender perspective, measure for infectious diseases including HIV/AIDS, participatory development, consideration for the person with disability etc.):

None

(8) Collaboration with Other Donors:

None

(9) Other Important Issues:

None

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Annual Transportation Volume on Hanoi-Ho Chi Minh Railway Line (passenger and freight)

Indicator	Baseline (Actual Value in 2005)	Target (2018) 【Expected value 2 years after project completion】
Passenger volume (1,000 persons/year)	6,671	16,500
Passenger volume (million persons/km)	3,889	6,205
Freight volume (1,000 tons/year)	2,915	12,801
Freight volume (million tons/km/year)	1,650	6,128

Time Required on Hanoi-Ho Chi Minh Railway Line (passenger and freight)

Indicator	Baseline (Actual Value in 2005)	Target (2018) 【Expected value 2 years after project completion】
Passenger trains (hours)	29.5	24
Freight trains	60	24

(2) Internal Rates of Return

Based on the conditions indicated below, the economic internal rate of return (EIRR) of the project is 10.5%.

EIRR

Cost: Project cost (excluding taxes), and operating and maintenance costs

Benefits: Reduction in travel time of passenger and freight trains, and reduction in operating and maintenance costs

Project Life: 40 years

(3) Qualitative Effects

Improvement of safety and transport capacity, and subsequent development of industries in areas along the railway line

5. External Factors and Risk Control

Non-accomplishment of improvement of other railway facilities such as rail tracks, rail cars, signals, etc.

6. Lessons Learned from Past Projects

(1) Evaluations of similar projects undertaken in the past:

It has been pointed out in ex-post evaluations of previous railway loans that, when equipment and materials are provided, it is necessary to include human resource training for technicians and technology transfer, etc., in the scope of the project so that there is no hindrance in operation and maintenance after project completion.

(2) Lessons for this project:

In the consulting service of Phase I of this project, the necessary human resource training was conducted for strengthening the operation and maintenance system after project completion, and in Phase II, training for operation and maintenance is to be conducted in conjunction with the procurement of equipment and materials.

7. Plans for Future Evaluations

(1) Indicators to be Used

- 1) Passenger volume (1,000 persons/year)
- 2) Passenger volume (million persons/km)
- 3) Freight volume (1,000 tons/year)
- 4) Freight volume (million tons/km/year)
- 5) Time required for passenger trains (hours)
- 6) Time required for freight trains (hours)
- 7) EIRR (%)

(2) Timing

Two years after project completion