

## Ex-ante Project Evaluation

### 1. Name of project

Country: Socialist Republic of Vietnam

Name of project: Hanoi City Urban Railway Construction Project: Nam Thang Long – Tran Hung Dao Section (Line 2) (I)

L/A signing date: March 31, 2009

Loan amount: 14,688 million yen

Borrower: The Government of the Socialist Republic of Viet Nam

### 2. Background and need for project

(1) Issues in urban transportation sector in Vietnam and development achievements (current status)

In Hanoi and Ho Chi Minh, increased traffic congestion due to the economic growth has led to increased air pollution, deteriorated amenities, and reduced accessibility to urban services. The current situation calls for the development of a comprehensive urban public transport system.

Hanoi's population jumped from about 2.7 million in 2000 to about 3.2 million in 2006 (and is expected to reach 4.5 million in 2020), resulting in a dramatic increase in traffic volume on city roads and severe traffic congestion. This impedes efficient socio-economic activity. Given the difficulty in significantly expanding the transport capacity of existing public transportation and road networks, a new urban mass rapid transit systems are required to be built to ease traffic congestion and air pollution.

(2) Role of this project and development policies for urban transportation sector in Vietnam

Vietnam's Master Plan for Railway Construction (2002) aims to modernize its rail transport, including facilities and railway cars, by 2020, raise speed and increase the share of railway transport in means of transportation overall. Specifically, the plan aspires for railways to account for 20% or more of all urban transportation in Hanoi and Ho Chi Minh by 2020.

Moreover, given the lack of transportation infrastructure in major cities and importance of measures to combat traffic congestion, the Five-Year Socio-Economic Development Plan (2006-2010) proposes to complete the construction of ring roads and bypasses in major cities and construct an urban railway system in Hanoi and Ho Chi minh. The plan aims for public transportation to account for 30% of the transportation demand in urban regions.

(3) Japan and JICA's aid policy and achievements in urban transportation sector

Japan's aid plan for Vietnam, established in April 2004, states that the construction of urban transportation networks is an important issue for "urban development, transportation and the construction of communications networks." This project is consistent with this plan, which is based on promoting economic growth and strengthening international competitiveness. As a result of this plan, JICA made promotion of growth and reinforcement of competitiveness priority issues for aid, and accordingly aid for the urban transportation sector is positioned as

a “program to develop an urban transportation network.” This project will be carried out as part of this effort.

(4) Response by other aid organizations

a) World Bank

The World Bank has made “improving the business environment” one of the four pillars for its aid for Vietnam, and projects in the urban transportation sector include the Project to Improve Urban Transportation (L/A signed in 1998 and completed in December 2005) and the Hanoi Urban Transportation Development Project (L/A signed in 2007).

b) Asian Development Bank (ADB)

“Economic growth driven by the private sector and with consideration for the impoverished” is one of the three pillars in the ADB’s aid priorities for Vietnam. In the urban transportation sector, the ADB began a technical cooperation project in Ho Chi Minh and Hanoi in 2007.

(5) Need for project

This project addresses the issues in Vietnam’s urban transportation sector as described in (1), and is consistent with Vietnam’s development policy and JICA’s aid policies. Accordingly Japanese ODA loans from JICA are extremely necessary and relevant.

<b>3. Project Summary</b>
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(1) Project purpose

This project intends to address the rising demand for transportation by building an urban rail line in Hanoi (the 11.5km section with the greatest priority based on demand forecasts out of the total 41.5km planned for Hanoi City Urban Railway Line 2, which will pass through the center of Hanoi City from Noi Bai International Airport in northern Hanoi to Ha Dong), Vietnam’s capital and the center of the northern region’s economy. This will ease traffic congestion and air pollution in Hanoi, and thus contribute to regional economic development and improving the urban environment.

(2) Name of project site and targeted regions

Hanoi City

(3) Project summary

1) Construction of an urban railway (underground and elevated section: 11.5km)

2) Consulting services (detailed design, tender assistance, construction supervision, support for operation maintenance and management, etc.)

(4) Total project cost

131,023 million yen (of which amount from Japanese ODA loan: 14,688 million yen)

(5) Project implementation schedule

Planned for March 2009 – December 2020 (total of 142 months); the project will be deemed complete when maintenance services and consulting services are completed.

(6) Project implementation system

- 1) Borrower: The Government of the Socialist Republic of Viet Nam
- 2) Executing Agency: Hanoi Metropolitan Rail Transport Project Board (HRB)
- 3) System for operations, administration, maintenance and management: Project Implementation Department under HRB

(7) Environmental and social considerations, poverty reduction, social development

1) Environmental and social considerations

a) Category classification: A

b) Rationale for category classification

This project is classified in category A, as defined in the JBIC Guidelines for Confirmation of Environmental and Social Considerations (established in April 2002), as it is likely to have significant adverse impact on the environment under the Environmental Guideline.

c) Environmental permits

The Environmental Impact Assessment (EIA) for this project was approved by Hanoi's Department of Natural Resources and Environment in December 2007.

d) Measures for pollution control

Measures will be taken to counter noise and vibrations both during construction and once service starts.

e) Natural environment

Hoan Kiem Lake, which is adjacent to the project site, is home to a species of tortoise registered in the International Union for Conservation of Nature and Natural Resources (IUCN) Red Book. As the impact on groundwater flowing into this lake during this project's construction and service would be minimal, any negative effect on the lake's ecosystem would be minimized.

f) Social environment

The project is expected to result in about 42ha land acquisition and the resettlement of about 200 households. The land acquisition and resettlement will be carried out in accordance with Vietnam's own procedures, the resident resettlement plan prepared by the executing agency, and the detailed resident resettlement plan to be prepared in the future.

g) Other, monitoring

The executing agency will monitor the impact during construction and service, the progress of resettlement and residents' living conditions after the resettlement.

2) Promotion of poverty reduction: None

3) Promotion of social development (gender perspective, measures addressing infectious diseases such as AIDS, participatory development, consideration of handicapped people, etc.)

a) AIDS countermeasures: This project is a large-scale project in which construction workers will be in one place for a long and concentrated period in a country in which AIDS infection is a concern. Accordingly, the bidding documents will be written so that the construction contract requires that contractors take AIDS counter-measures

with workers.

- b) Consideration of handicapped people: In accordance with Vietnam's laws on handicapped people, the train stations and other facilities will adopt universal design precepts that consider the elderly and handicapped. Further, in the planning stage, JICA will hold discussions with local handicapped groups and reflect their views so that train stations are easy for local elderly and handicapped people to use.

(8) Coordination with other donors: None

(9) Other notes: None

#### **4. Project Outcome**

(1) Indicators for Operations and Outcome

Name of indicator	Target value (2020 [when project is completed])
Volume of passenger (passenger km/day)	3,049,000
Number of running trains (trains/day)	155
Operating rate (%)	85.7
Running distance (km/day)	14,260
Full trip time (minutes)	17

(2) Internal rate of return

Based on the assumptions below, the economic internal rate of return (EIRR) for this project would be 29.1% and the financial internal rate of return (FIRR) would be 12.0%.

##### **EIRR**

Costs: Project costs (excluding taxes), maintenance and management costs

Benefits: Reductions in current costs of running, maintaining and managing transportation system, reductions in travel time

Project life: 30 years

##### **FIRR**

Costs: Construction costs, maintenance and management costs

Benefit: Revenue from transportation charges

Project life: 30 years

#### **5. External conditions and risk control**

(1) Economic stagnation and deterioration in Vietnam and project's target area

(2) Natural disasters, etc.

#### **6. Evaluation results for similar projects in the past and lessons for this project**

The evaluation results of similar projects in the past demonstrate the importance of

ensuring the financial strength of the operating body by setting appropriate fees, evoking potential demand by improving the convenience of transfers to other modes of transportation and developing residential neighborhoods along the train route, and improving convenience through appropriate coordination with organizations operating public transportation. When implementing this project, appropriate fee levels will be recommended through affiliations and cooperation with consulting services and JICA, and the implementing organization will receive support with policies encouraging demand and increasing usage.

## **7. Future evaluation plans**

(1) Indicators to be used in future evaluations

( 1 ) Volume of passenger (passenger per km/day)

( 2 ) Number of running trains (trains s/day)

( 3 ) Operating rate (%)

( 4 ) Running distance (km/day)

( 5 ) Full trip time (minutes) between Nam Thang Long and Tran Hung Dao Section

( 6 ) EIRR (%), FIRR (%)

(2) Timing of future evaluation

At project completion