

## Ex-ante Evaluation

### 1. Name of the Project

Country: The Socialist Republic of Vietnam

Project: North-South Expressway Construction Project (Da Nang – Quang Ngai Section)(I)

L/A signed on: June 15, 2011

L/A Amount: ¥15,912,000,000

Borrower: The Government of the Socialist Republic of Vietnam

### 2. Background and Necessity of the Project

#### (1) Current state and Issues of the Transport and Road Sector in Vietnam

As to the transport sector in Vietnam, the passengers and freight transport volume has been rapidly increasing proportionately with its recent economic growth particularly in urban districts in big cities, arterial roads connecting big cities with local cities, and major regional corridors. It is surmised that it will continue to grow further in the future. In addition to the rapid increase in traffic, the features of transport have seen drastic change: privately owned cars and large trucks have been on the increase. The mixed traffic is observed in nationwide national roads, which is one of the factors that cause traffic congestion, traffic accidents, and deterioration in roads. Under such circumstances, it is an important issue towards further economic growth to provide competitive as well as efficient, safe, and comfortable transport services.

#### (2) Development Policy for the Transport/Road Sector in Vietnam and the Priority of the Project

The government of Vietnam has set one of its goals in the Eighth Five-year Socioeconomic Development Plan (2006-2010) at “its industrialization (by 2020) after having broken away from the category of low-income countries (by 2010).” In order to achieve the goal, the government gives overriding priority to the development of transport and traffic infrastructure. Based on this, the government has been formulating and implementing plans to construct large-scale transport infrastructure including airports, harbors, expressways, and urban railways. In particular, it is stipulated that expressways extending over a length of 5,873km will be constructed in the Expressway Network Development Master Plan by 2020 and Vision after 2020 (Prime Minister’s decision No. 1734) which was approved in December 2008. The government aims for building expressways covering 2,235km by 2020. Institution-wise, Vietnam Expressway Corporation (hereinafter referred to as VEC) was founded in 2004 that would assume responsibility of development and investments in expressways. Thus, Vietnamese government has been working on establishment of systems towards introduction of commercial based transportation systems.

As stated above, the Vietnamese government has been reinforcing its measures for the construction of expressways. Particularly, emphasis has been placed on building the

North-South expressway that runs through the country from north to south. This Project develops a middle section of the North-South expressway stretching over the total length of 3,262 km along the National Road No. 1 that connects Can Tho with Hanoi. Da Nang, its starting point, is the largest city in the central region. In the neighborhoods of Tien Sa port which is the third largest harbor, there are a number of production and distribution sites such as export processing zones. In particular, in the province of Quang Nam adjacent to Da Nang, Dung Quat Refinery has been constructed as the first oil refinery in Vietnam. It is expected that the oils refined by the plant will be transported by using the target section of this Project. In addition, Da Nang is the key point of the distribution of goods in the eastern region on the east-west economic corridor that eventually connects with Myanmar via Laos and Thailand. Thus, this Project also has substantial significance from the perspective of economic enhancement in the central region and balanced development of Vietnam.

The project of North-South expressway construction is one of the projects that Prime Minister Dung requested cooperation from Japan when he visited Japan in October 2006, for which the Japanese government made an explicit commitment to provide its cooperation in the Japan-Vietnam Joint Statement. Furthermore, Japan received a strong request from the Vietnamese government in the Japan-Vietnam Joint Statement announced on October 31, 2010 as well.

### (3) Japan's and JICA's country assistance program and achievements in the transport/road sector

The JICA's country assistance program formulated in July 2009 maintains that "as to intercity arterial networks, JICA will examine the priorities of and roadmap for developing arterial roads (including the North-South expressway), railways, harbors, and airports, while taking into account efficiency in the distribution of goods as well, and provides its assistance with due consideration for selection and concentration." This Project is expected to contribute to raising efficiency in the distribution of goods in the central region by constructing the highest priority section of the North-South expressway. Thus, it is consistent with the JICA's policy. Concurrently with this program, JICA made plans to develop an arterial network as part of assistance to "urban development and improvements in transport/traffic and communications network," out of its four aid priority areas. As a result, in fiscal 2007 as cooperation for the field of expressways, JICA provided its assistance to the North-South Expressway Construction Project (Ho Chi Minh City – Dau Giay Section (I) (16,643 million yen). In addition, JICA carried out the Study on ITS Technical Standards Operational Planning Support Project in Vietnam (March 2010 ~ January 2011), dispatched an advisor as to expressway management, operation and maintenance (May 2010~), and assisted the formulation of the North-South Expressway Master Plan for the Comprehensive Study on the Sustainable Development of Transport System in Vietnam (VITRANSS2) (Nov. 2007 ~ May 2010). When this Project is implemented, the outcome of such technical cooperation will be effectively used.

#### (4) Assistance by Other Aid Organizations

The World Bank has been extending its assistance to the fields of development of national and municipal roads, inland waterway transport, and infrastructure development of urban transport. On the other hand, the Asian Development Bank is now implementing the Greater Mekong Subregion Economic Cooperation Program including Kunming - Hai Phong Multi-modal Transport Corridor Development Plan to enhance distribution.

#### (5) Necessity of the Project

This Project is highly relevant to Japan's and JICA's country assistance program for Vietnam. In addition, in light of the above-stated necessity, the Vietnamese government's Expressway Network Development Master Plan also defines the Project's section as the top priority section from the viewpoints of taking measures to meet the higher transport demands in the future, raising efficiency in the distribution of goods, and eventually contributing to economic growth in the central region. Hence, the necessity and relevance of this Project are high.

### **3. Project Description**

#### (1) Project Objectives

The objective of the Project is to meet increasing traffic demand, to reduce travel time and uncertainty for passenger users and freight, and to enhance travel safety for road users, by constructing an expressway from Da Nang to Quang Ngai – a top priority section of the North-South Expressway, thereby contributing to economic growth and international competitiveness of Central Vietnam including Da Nang City.

#### (2) Project Site/Target Region

Da Nang City, Quang Nam Province, and Quang Ngai Province in the Socialist Republic of Vietnam

#### (3) Project Outline

- ① Construction of expressways {four-lane road for 131.5 km between Da Nang and Quang Ngai; including nine interchanges, three long bridges, and a tunnel (540 m)} (international competitive bidding)
- ② Detailed design, construction and installation of the operation and maintenance (O&M)-related equipment (international competitive bidding)
- ③ Consulting service (support for bidding and supervision/coordination of implementation) (shortlist method)

#### (4) Total Project Cost

86,773 million yen (Japanese ODA loan amount for this fiscal year: ¥15,912 million)

(Note) The above does not include the project cost for the section financed by WB because it has not been decided yet.

#### (5) Schedule

June 2011 ~ December 2017 (79 months in total): The time to start the service (December 2015) shall be the time of the project's completion.

(6) Implementation Structure

- 1) Borrower: The Government of the Socialist Republic of Vietnam
- 2) Executing agency: Vietnam Expressway Corporation
- 3) Operation and maintenance system: Same as above.

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

1) Environmental and social consideration

① Category: A

② Reasons for categorization:

This project is classified as category A, because it comes under the road and bridge sector and also has features that are likely to have significant impact (large-scale involuntary resettlement) as defined by the Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (stipulated in April 2002).

③ Environmental permit

The Environmental Impact Assessment (EIA) report on this project was approved by the Ministry of Natural Resources and Environment in November 2008. The report of additional EIA carried out after the changes in the route was approved in October 2010.

④ Anti-pollution measures

Air pollution and noise level after the start of service will be controlled under the international standards by growing vegetation along the road, regular maintenance of the road, and installing noise-barriers.

⑤ Natural environment

The Project site and its surrounding area are not situated in sensitive areas such as national park, and it is assumed that an adverse effect on natural environment will be kept to minimum.

⑥ Social environment

The Project will involve land acquisition of approximately 456ha and the resettlement of 306 households. The acquisition shall be carried out under the Resettlement Action Plan that has been formulated in compliance with the Vietnamese domestic laws.

⑦ Other/monitoring

The contractor will monitor air quality, noise level and water quality under the supervision of the construction management consultant during the time when the project is in progress. After the start of the service, the environmental monitoring consultant employed by VEC will do such monitoring.

2) Poverty reduction: None in particular

3) Promotion of social development: (e.g. gender perspective, measure for infectious

diseases including AIDS, participatory development, considerations for persons with disabilities, etc.): The project is a large-scale infrastructure development project to be implemented in the areas with high HIV/AIDS prevalence rates. Hence, AIDS control measures by using WB loans will be taken for construction workers for the entire section including the section developed with yen loan.

(8) Partnership with other donors:

Co-financing with WB is explored. A detailed design will be started in April 2011 with WB loan funds.

(9) Other important issues:

None

#### 4. Project's Effects

(1) Quantitative Effect

1) Operation and Effect Indicators

Indicator	Baseline (2009 Actual)	Target (2017) 【2 years after the project completion】
Annual average daily traffic (PCU <sup>1</sup> /day)	N.A. (Because a new road is constructed)	15,000
Time needed from Da Nang to Quang Ngai (min.)	230 {for a trip in a 10-ton truck on the existing road (state road #1)}	90
Variable coefficient of the time needed for goods and passenger transport between Da Nang and Quang Ngai	10-ton truck: 140 (Range of fluctuation in the time needed: 170~310 min.) Passenger car: 30 (Range of fluctuation in the time needed: 150~180 min.)	All vehicles: 10

It is planned to keep monitoring traffic accident rates as reference values.

2) Internal Rate of Return

Based on the following premises, the economic internal rate of return (EIRR) of this project is 22.1%, and the financial internal rate of return (FIRR) is 2.1%.

**【EIRR】**

Cost: Project cost (excluding tax) and operation and management expenses

Benefit: Saving in vehicle operating cost and shortened traveling time, decrease in traffic accidents, and reduction in flood damage

Project life: 25 years

**【FIRR】**

Cost: Project cost and operation and maintenance expenses

Benefit: Toll revenues

<sup>1</sup> PCU(Passenger Car Unit): Indicator obtained by converting a stream of multiple traffic modes such as passenger cars, buses, trucks and motorbikes into a passenger car traffic stream

Project life: 25 years

(2) Qualitative Effect

Higher efficiency in passenger and freight transport in the central region of Vietnam; promotion of economic development; stronger international competitiveness; establishment of nationally standardized expressway operation and management systems: utilization of the expressway as the basic lifeline at the time of flooding

**5. External Risk Factors and Control**

None in particular

**6. Lessons Learned from Findings of Similar Projects Undertaken in the Past**

A lesson learned from the ex-post evaluation of the past expressway construction projects is that it is important to provide assistance based on the national highway development plan instead of fragmented and inconsistent construction of each expressway section for producing for producing project's good results. Another lesson is that it is essential to plan and build an operation and maintenance system including operation and management expenses and carefully design a toll collection plan from an initial stage of the project in order to ensure sustainability after the Project's completion.

Based on the above lessons, under this Project it is planned to construct a section that is defined as the foremost priority section by the Expressway Network Development Master Plan so that it gives a good start to the development of national expressway networks in Vietnam. At the same time, the Project activities will be reinforced by collaboration with technical cooperation projects in terms of the establishment of an operation and maintenance system and the formulation of a toll collection plan.

**7. Plans for Future Evaluation**

(1) Indicators for Future Evaluation

- 1) Annual average daily traffic (PCU/day)
- 2) Time needed from Da Nang to Quang Ngai (min.)
- 3) Variable coefficient of the time needed for goods and passenger transport between Da Nang and Quang Ngai
- 4) Economic internal rate of return (EIRR) (%)
- 5) Financial internal rate of return (FIRR) (%)

(2) Timing of the Next Evaluation: Two years after the completion of the project