

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country : The Kingdom of Thailand

Project : Chao Phraya River Crossing Bridge at Nonthaburi 1 Road Construction Project

Loan Agreement : September 28, 2010

Loan Amount : 7,307 million Yen

Borrower : The Kingdom of Thailand

2. Background and Necessity of the Project

(1) Current State and Issues of the Transportation Sector in Thailand

The Bangkok Metropolitan Area, comprised of the Bangkok special administrative area and five surrounding provinces, has a population of approximately 10.7 million people as of 2008, and is the political and economic center of Thailand. The population growth for the entire Bangkok Metropolitan Area has been approximately 1.5% in recent years. However, in the five years from 2003, suburbanization has been rapid in the provinces of Nonthaburi and Pathum Thani, which surround the Bangkok special administrative area, growing by 14% and 26% respectively. In addition, the number of registered motor vehicles in the Bangkok special administrative district increased 1.4-fold in 10 years, going from 4.02 million in 1998 to 5.71 million in 2007. As indicated by these figures, industrial activity in urban areas has been revitalized with the economic recovery of Thailand after the Asian currency crisis, and traffic congestion has become a serious problem for the transportation system that relies heavily on automobiles. Although the metropolitan highway system supported by Japanese ODA loan has been open since the 1980s and contributed to alleviation of traffic congestion, intense traffic congestion still continues, creating a bottleneck in the flow of people and products. Accordingly, air pollution caused by motor vehicles has been recognized as a major problem, and efforts towards reducing environmental load has become a pressing issue.

(2) Development Policies for the Urban Transportation sector in Thailand and the Priority of the Project

As a measure for socio-economic development, the Government of Thailand has formulated the 10th National Economic and Social Development Plan (2007-2011), in which increased distribution efficiency and environmental measures are set as one of the goals. Following the national development plan, alleviation of traffic congestion in the Bangkok Metropolitan Area is an issue that the Government of Thailand has put a priority and this Project has been formulated in accordance with such national policy. This project has also been listed as a top priority project in the Road/Bridge Sector Master Plan (2004) for the Bangkok Metropolitan area, which covers target area of the project.

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

The Japan's Economic Cooperation Program for the Kingdom of Thailand sets "enhancement of competitiveness for sustainable growth" as a priority assistance area, and lists development of bases

for industrial promotion as a development agenda. Following this policy, JICA asserts the advancement of smooth distribution to promote dynamic economic activity of industries in the “Program to Facilitate Commerce Activities.” This project is in consistent with the Program.

The major assistance projects targeting bridges crossing the Chao Phraya River in the Bangkok Metropolitan Area are as follows.

- ODA loan – Krungthep Bridge Construction Project: 7.546 billion yen, agreement in FY 1992, Disbursement completed.
- ODA loan – Industrial Ring Road Construction Project: 14.887 billion yen, agreement in FY 1997, Disbursement completed.
- ODA loan – Pak Kret Bridge and Connecting Road Construction Project: 6,807 million yen, agreement in FY 1997, Disbursement completed.

(4) Other Donors’ Activity

Main donor organizations in Thailand are the World Bank (WB) and the Asian Development Bank (ADB). The ADB has provided its loan assistance for the development of national and rural roads, and the extensions of roads in the Bangkok Metropolitan Area. The WB has provided its loan assistance for the development of national roads.

(5) Necessity of the Project

With the construction of a new bridge crossing the Chao Phraya River, which flows through the center of the Bangkok Metropolitan Area, the project will contribute to improvement of urban environment and promotion of industries by alleviating traffic congestion and it is in line with JICA’s priority assistance area. Therefore, the project is highly necessary to provide assistance.

3. Project Description

(1) Project Objective

This project is to construct a bridge crossing Chao Phraya River at a site in Nonthaburi Province in the Bangkok Metropolitan Area where serious traffic congestions are prevailed, and aims at improving efficiency in the transportation network and alleviating traffic congestion in the area and eventually at contributing to activation of industries and improvement of urban environment.

(2) Project Site/Target Area

Nonthaburi Province in the Bangkok Metropolitan Area

(3) Project Component(s)

This Project is to construct a bridge and ancillary facilities at the Chao Phraya River in the Bangkok Metropolitan Area’s Nonthaburi Province.

- 1) Bridge construction (total length of 460 m with 6 lanes)
- 2) Road (total length of 4.3 km (including bridge portion) with 6 lanes)

3) Interchange (2 locations)

4) Flyover (1 location)

(4) Estimated Project Cost (Loan Amount)

20,470 million yen (Loan Amount : 7,307 million yen)

(5) Schedule

Planned for September 2010 - October 2015 (62 months in total); the project will be completed when the facilities start operation (October 2013).

(6) Project Implementation Structure

1) Borrower : The Government of Kingdom of Thailand

2) Executing Agency : Department of Rural Roads, Ministry of Transport (DRR)

3) Operation and Maintenance System: DRR

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

1) Environmental and Social Consideration

① Category: A

② Reason for Categorization:

This project is classified as Category A because it comes under the bridges sector and has characteristics that could have significant impact as given in “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations” (formulated in April 2002).

③ Environmental Permit:

Although preparation of an environmental impact assessment (EIA) report for the project is not required by Thai national law, one was completed in October 2005.

④ Anti-Pollution Measures:

It is expected that the air pollution after the facilities put into service will satisfy Thailand’s domestic environmental standards. Further, noise and other environmental impacts will satisfy the standards by taking such measures as installation of noise-blocking walls.

⑤ Natural Environment:

The target area of the project is not classified as areas which are easily affected such as national parks and their surrounding areas. Thus, it is expected that undesirable impacts on natural environment will be minimal.

⑥ Social Environment

Under this project, resettlement of 133 residential households and acquisition of sites of approximately 23 ha will be executed and the acquisition procedure has been moving forward in line with relevant laws.

⑦ Other / Monitoring

The Department of Rural Roads under the Ministry of Transport will monitor air quality, noise, and vibration, etc. for this project.

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 Handicapped etc.)
Regarding measures against HIV/AIDS for construction workers, the contractor will implement the program, the consultant will monitor it, and the project's executing agency will provide support as needed.

(8) Collaboration with Other Donors

None

(9) Other Important Issues

None

4. Targeted Outcomes

(1) Performance Indicators (Operation and Effect Indicator)

Indicator	Baseline (Actual Value in 2009)	Target (2015) [2 years after project completion]
Annual average daily traffic (PCU/day)	-	46,800
Savings in running costs (million baht/year)	-	278.2
Savings in running time (million baht/year)	-	2,064.9

(2) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) will be 22.1%.

【EIRR】

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

Benefits: Reduction in running costs, savings in running time

Project Life : 20 years

5. External Factors and Risk Control

Stagnation/deterioration of the economy of Thailand and areas affected by this project and natural disasters

6. Lessons Learned from Past Projects

In past ex-post evaluations of past similar projects, it was indicated that for the implementation of urban transport projects, land acquisition issue tends to cause construction delays. For this project, although the relocation of residents and land acquisition procedures have already started, JICA will continue to encourage the project's executing agency and the Government of Thailand to advance the Project according to schedule.

7. Plan for Future Evaluation

(1) Indicators to be Used

- 1) Annual average daily traffic (PCU/day)
- 2) Savings in running costs (million baht/year)
- 3) Savings in running time (million baht/year)
- 4) Economic internal rate of return (EIRR)

(2) Timing

Two years after the project completion