

Ex-Ante Evaluation

1. Name of the Project

Country: Romania

Project: Bucharest International Airport Access Link Project

Loan Agreement: March 10th, 2010

Loan Amount: 41,870 million yen

Borrower: Romania

2. Background and Necessity of the Project

(1) Current State and Issues of the Transport Sector in Romania

Boosted by the healthy economic development that resulted from the flow of international investment beginning in the late 1990s, the number of automobiles entering the capital city of Bucharest increased substantially, from 56,000 in 1998 to 15,600 in 2007. In addition, it is predicted that the number of cars owned within the city will rise by 2012 by 1.6 times in comparison with 2007, to 1.6 million vehicles. As such, the Romanian government is required to take measures to counteract this problem as soon as possible. In particular, this project focuses on the northern area of Bucharest, which is home to growing developments of large-scale commercial facilities and residential quarters, and where population is predicted to grow in coming years.

In addition, it is also the location of the Henri Coandă International Airport, the gateway to Romania, which is predicted to handle significantly increasing numbers of passengers, up from 3.5 million in 2006 to 6.3 million in 2015, as a result of Romania's EU accession in 2007, and more economic interaction with other EU countries is expected.

(2) Development Policies for the Transport Sector in Romania and the Priority of the Project

The Romanian government's "General Strategy of Ministry of Transport" designates the construction of a rail link between the Bucharest city and the Henri Coandă International Airport, the gateway to Romania, as of the highest priority for the Romania's transport system.

(3) Japan and JICA's Policy and Operations in the Transport Sector and Eastern Europe

This project is designed not only to contribute to the development of the regional economy through the creation of transportation infrastructure for the capital city of Romania, but also to improve the urban environment through helping to relieve congestion. It is, therefore, complementary to the efforts to tackle environmental issues such as climate change, which is one of the main concerns of the Japanese government, and with JICA's operation policy.

JICA has implemented four loans to Romania in the past (including loans outside the transport sector).

(4) Other Donor's Activities

EIB committed to the financing (315 million EUR) for the Bucharest Metro Line M5, part of the Bucharest's transport network, in November 2009.

(5) Necessity of the project

This project is designed to reduce both heavy congestion of the road network and air pollution of the Bucharest city through upgrading the public transport system, and supports the Romanian government's strategy for the transport sector. The project contributes not only to the development

of regional economy, but also to improvement in the urban environment, therefore, is line with not only Japan's country strategy also JICA's operational standpoint which prioritizes environmental conservation. JICA's assistance for this project is, therefore, highly necessary and relevant.

3. Summary of the Project

(1) Project objectives

Under this project, railroad will be constructed in Romania's capital of Bucharest to improve access between the center of Bucharest to the Henri Coandă International Airport in order to provide transportation and to alleviate traffic congestion and pollution, thereby contributing to development of regional economy and improvement of environment.

(2) Project site/target area

Bucharest city and its suburb

(3) Project outline

- 1) Civil works (including underground construction)
- 2) Track works
- 3) Electric works
- 4) Rolling Stocks
- 5) Depot
- 6) Consulting services

(The Japanese ODA loan to cover 1) and 6) above)

(4) Total Project Cost

226,390 million yen (of which total amount of Japanese ODA loan: 41,870 million yen)

(5) Project Implementation Schedule

March 2010 – September 2018 (103 months). Project completion is scheduled in September 2018 as the metro service of the project becomes available for public.

(6) Project Implementation Structure

- 1) Borrower: Romania
- 2) Executing agency: Metrorex
- 3) Operation/Maintenance/Management structure: Metrorex

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

1) Environmental and Social Considerations

(i) Category: A

(ii) Reason for Categorization: The Project falls under the category of a railroad sector project which is likely to have a significant adverse impact on the environment under the "Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Consideration" (established in April 2002). Thus this project is classified as Category A

(iii) Environmental Permit: the Environmental Impact Assessment (EIA) report relating to this project was approved by the Bucharest Regional Environmental Protection Agency (REPA) in December 2007.

(iv) Anti-Pollution Measures: Soundproof walls are to be installed to reduce noise and vibration pollution. Sludge from the construction site is to be collected and caused to precipitate in a

regulating pond in accordance with Romania's wastewater standards, before being released into the Bucharest City wastewater system.

- (v) Natural Environment: Because the project's site is located in an urban area and the planned route generally runs along existing roads, it is likely to have minimum adverse impact on the natural environment.
- (vi) Social Environment: This project involves the acquisition of around 24.4ha of land and the resettlement of 7 households. The acquisition of land and resettlement of residents is underway in accordance with the standards based on the relevant Romanian law for such procedures.
- (vii) Other/Monitoring: In this project, the executing agency will monitor water quality, air quality, noise, vibration, land acquisition and resident resettlement.

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.):

The executing agency will pay the utmost consideration at all stages to facilitating the safe and simplified utilization of the underground transportation system for the elderly and those with disabilities.

(8) Partnerships with Other Donors

Other donors' assistance will be expected.

(9) Other Important Issues

None

4. Project Outcomes

(1) Operation/Effect Indicators

Indicator		Target value (2020) (2 years after completion of project)
Passenger-kilometers carried (1000 km/day)		1,766.00
Operation frequency (no. of trains/day/direction)	Piata Victoriei station - Băneasa Airport station	312
	Băneasa Airport station - Henri Coandă International Airport station	299
Operating rate (%)		87.3
Train-kilometers operated (1000km/day)		2.12
Travel Time (mins) (From Piata Victoriei station - Henri Coandă International Airport station)		Express: 19/ Local train: 31
Passenger revenue (1000 EUR/day)		40.04

Note: No initial value sets since this is a newly constructed underground railway

(2) Internal Rate of Return

Based on the following assumptions, the EIRR (Economic Internal Rate of Return) is 13.7%, and the FIRR (Financial Internal Rate of Return) is 6.0%.

(EIRR)

Costs: Construction costs (excluding tax), operation/maintenance/management costs

Benefits: Reduction in transportation costs (savings in gasoline and oil used in automobile transportation), reduction in transportation time

Project Life: 45 years

(FIRR)

Costs: Construction costs, operation/maintenance/management costs

Benefits: Income from freight

Project Life: 45 years

5. External Factors and Risk Control

None

6. Lessons Learned from the Past Projects

The ex-post evaluation of previous railroad and metro projects suggest it should be considered to disseminate benefit of underground system which can offer stress-free transport and scheduled travel time for the people suffering from significant traffic congestion in urban area. JICA is to propose to the Executing Agency (1) the setting of ticket prices at the same level as those of buses in order to attract bus passengers to the metro, and (2) the operation of the metro system in line with users' needs (establishing appropriate time tables, and installing comfortable carriages and user-friendly station facilities, etc.). They are encouraged to promote the new metro to residents and businesses in the commercial areas and growing residential quarters along the railway line, as well as inhabitants in centre of Bucharest.

7. Plans for Future Evaluation

(1) Indicators for Future Evaluation

(a) Passenger-kilometers carried (1000 km/day)

(b) Operation frequency (no. of trains/day/direction)

Piata Victoriei station - Băneasa Airport station

Băneasa Airport station - Henri Coandă International Airport station

(c) Operating range (%)

(d) Train-kilometers operated (1000km/day)

(e) Travel Time (mins) (From Piata Victoriei station - Henri Coandă International Airport station)

(f) Passenger revenue (1000 EUR/day)

(g) Internal rate of return (EIRR (%), FIRR (%))

(2) Timing of Next Evaluation

Two years after the project completion.

(END)