

Country Name	Study on the Strategic Railways Networks for the Greater Capital Region
Republic of the Philippines	

I. Project Outline

Background	<p>In Metro Manila and other areas in the Greater Capital Region (GCR)¹, the traffic conditions had been deteriorated due to the rapid urbanization with the rapid population growth. In addition to the growing transport demand in the region, alternative mass transportation system was required in order to cope with air pollution and greenhouse gas emission caused by the growing road transportation. In order to solve the serious traffic problems in the region, the Government of the Philippines planned to promote extension of the mass transportation system including the extension of LRT (Light Rail Transit) Line-1 to the south, LRT Line-2 to the east. In addition, it was necessary to develop a seamless transport network in the region, including construction of new high-speed railway connecting Clark International Airport (CIA) and National Capital Region (NCR), in order to mitigate the serious congestions of the road transportation within the GCR.</p> <p>Under those situation, the Government of the Philippines requested the Government of Japan a technical cooperation to conduct a study on improvement of the railway network in GCR and construction of new high-speed railway.</p>								
Objectives of the Project	<p>Through reviews of the existing studies on the extensions of LRT Line-1 and Line-2 and consideration of options for construction of new high-speed railway connecting Metro Manila and its surrounding areas (Region III and Region IV-A²), as well as conduct of pre-feasibility study on the planned construction, the project aimed at preparation of a strategic railway network development plan for GCR to connect CIA and NCR.</p> <ol style="list-style-type: none"> Expected Goals through the proposed plan³: The plan will be part of the development of seamless transportation networks in the Subic-Clark-Manila-Batangas growth corridor. Expected utilization of the plan proposed by the project: The strategic railway network development plan is prepared that connecting CIA and NCR. 								
Activities of the Project	<ol style="list-style-type: none"> Project site: Pampanga, Bulacan and Metro Manila Main activities: 1) Reviewing the existing studies on extension of LRT Line-1, 2) Reviewing the existing studies on extension of LRT Line-2, 3) Considering appropriate technologies for the proposed transportation network, organizational setting for operation and maintenance of the system and tariff system, 4) Conducting project evaluation and environment impact assessment on the proposed project of Clark-Manila line, etc. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Philippine Side</td> </tr> <tr> <td>1) Mission members: 10 persons</td> <td>1) Staff allocated: 20 persons</td> </tr> <tr> <td>2)</td> <td>2) Land and facility: Office space</td> </tr> </table> 			Japanese Side	Philippine Side	1) Mission members: 10 persons	1) Staff allocated: 20 persons	2)	2) Land and facility: Office space
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Project Period	February, 2012 to June, 2013	Project Cost	(ex-ante) 198 million yen, (actual) 259 million yen						
Implementing Agency	Department of Transportation (DOTr), Bases Conversion and Development Authority (BCDA) (In July 2015, Department of Transportation and Communications was restructured to DOTr)								
Cooperation Agency in Japan	Oriental Consultants Co., Ltd., ALMEC Corporation, Katahira & Engineers International								

II. Result of the Evaluation

1 Relevance
<p><Consistency with the Development Policy of Philippine at the Time of Ex-Ante Evaluation and Project Completion></p> <p>The project was consistent with Philippine's development policy of and "the Philippine Development Plan (PDP) 2011-2016" promoting development of seamless transportation networks in Subic-Clark-Manila-Batangas growth corridor that is the distribution and growth corridor of the wider area of the Greater Capital Region and "the Executive Order No.64" (2011) clarifying the role of the Clark International Airport (CIA) and the Ninoy Aquino International Airport (NAIA). The development policies were confirmed at the time of ex-ante evaluation and at the time of project completion.</p> <p><Consistency with the Development Needs of Philippine at the Time of Ex-Ante Evaluation and Project Completion ></p> <p>The project was consistent with the Philippine's development needs of establishment of alternative mass transportation networks with less greenhouse gas emissions against the deteriorating traffic conditions in NCR and GCR as well as resolution of bottlenecks of transportation in the route between NAIA and other areas in GCR, with heavy traffic congestion.</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation></p> <p>The project was consistent with "the Country Assistance Plan for the Philippines" (2008), a Japan's ODA policy for the Philippines, prioritizing "sustainable growth for creation of employment opportunities", including infrastructure development in the growth areas such</p>

¹ Greater Capital Region (GCR): comprised of three regions namely NCR or Metro Manila, Region III, and Region IV-A

² The Region III covers Central Luzon and the Region VI-A covers CaLaBaRZon (Cavite, Laguna, Batangas, Rizal, and Quezon).

³ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

as GCR, as one of three priority areas.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the Time of Project Completion>

The study on Railway Strategy for Enhancement of Railway Network System in GCR was completed as planned. The final report of the study includes the following components as planned: i) Review of the Line-1 south extension plans and the extension to the north-east to connect with MRT Line-3 under planning stage, ii) Review of the Line-2 extension plans including the plan of extension to east for 4.2 km with two new stations at Emerald and to terminate in Masinag, iii) Preparation of options and pre-feasibility study on construction of high-speed railway connecting Clark and the Metro Manila Region.

Prior to the completion of the study, a Loan Agreement on the project, which is entitled “Capacity Enhancement of Mass Transit System in Metro Manila”, was signed between JICA and the Government of the Philippines on March 27, 2013, for procurement of 120 Light Rail Vehicles (LRVs), rehabilitation of the existing Baclaran Depot, construction of a new satellite depot in Zapote for LRT Line-1 extension to south in Cavite, and procurement of electro-mechanical systems for LRT Line-2 extension to east in Masinag.

<Utilization Status of the Proposed Plan at the Time of Ex-post Evaluation>

To realize the development concept for the north-south economic growth corridor as described in the “Roadmap for Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A)” or Infrastructure Roadmap, the utilization of the strategic railway network plan prepared by the project is vital in order to alleviate the urban development issues in Metro Manila and to develop the neighboring provinces, hence, accommodate people and economic activities in Metro Manila. In line with this, the plans proposed by the project for enhancement of the railway network in the target areas have been utilized to develop the north-south backbone through the implementation of the proposed Airport Express Railway (AER). Currently, AER is officially known as the North 1 of the North-South Commuter Railway (Malolos-Tutuban) and has been approved by the National Economic Development Authority (NEDA) Board in February 2015. The North 2 for the route between Malolos and New Clark City (NCC), and Manila and Los Banos (South Commuter) was approved in June 2017.

The Capacity Enhancement of Mass Transit Systems in Metro Manila, extending LRT Line-1 to the south in Cavite, by 20.7 km. would add eight (8) stations to the existing 20 stations. Under the same project, LRT Line-2 was extended by 4.2 km towards east, adding two stations (Emerald and Masinag). The two extensions had become important parts of the railway network development plan envisioned in the Infrastructure Roadmap. The operations and maintenance of the entire LRT Line-1, including construction of an elevated structure or viaduct that will connect the existing line between Roosevelt and Baclaran towards Niyog in Bacoor Cavite had been awarded to a private entity, Light Rail Manila Corporation (LRMC), under a 32-year concessionaire agreement with the government of the Philippines in October 2014. The planned extension of LRT Line-1 to the northeast to connect with MRT Line-3, is also underway, as the ground breaking ceremony was held by the government of the Philippines in September 2017, to commence the construction of a common station and platform that will provide convenient transfer of passengers to and from LRT Line-1, MRT Line-3, and MRT Line-7.

<Status of Achievement for Expected Goals through the Proposed Plan at the Time of Ex-post Evaluation>

The Expected Goal cannot be verified as a whole at the time of ex-post evaluation since the timing for the verification of the indicator 2 for the modal shift was too early under the situation, given the uncompleted implementation of the priority projects proposed by this project, though the indicator 1 for the implementation of the priority projects has been already partially achieved. As for the implementation of the proposed project for construction of AER, the North 1 project had commenced in January 2018, and the construction works will start in late 2018, and is planned to be completed in 2022. The construction works for the North 2 project and South Commuter is projected to start in 2019. It is expected that the total daily passengers from Malolos and Tutuban, will be 370,000. While new routes for the North 2 project and the PNR South Commuter Project, studied by the project are planned or ongoing for development of railway networks in the target regions. Since any of the projects have not been completed yet, the modal shift from road to railway was not verified at the time of ex-post evaluation.

<Other Impact at the time of Ex-post Evaluation>

There is no positive and negative other impact observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, through the project, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

Aim	Indicators	Results
(Utilization Status of the Proposed Plan) The strategic railway network development plan is prepared that will connect CIA and NCR.	1. To what extent the plans developed by the project has been implemented.	Status of achievement: Achieved (Ex-post Evaluation) - The North 1 project (Malolos-Tutuban) had commenced in January 2018, and the construction works will start in late 2018. - The detailed design for the North 2 project (Malolos-New Clark City), and the South Commuter (Manila-Los Banos) is now ongoing.
(Expected Goals through the Proposed Plan) (Not to be evaluated) The plan will be part of the development of seamless transportation networks in the Subic-Clark-Manila-Batangas growth corridor.	1. The proposed project to construct AER connecting CIA and Metro Manila Region has been under implementation.	Status of achievement: Partially achieved (Ex-post Evaluation) The proposed projects to construct AER connecting CIA and the Metro Manila Region (the North 1 project and the North 2 project) have been under preparation but constructions have not been implemented yet .
	2. The modal shift has been promoted.	Status of achievement: Not verified Implementation of the proposed railway network projects will promote modal shift from road to rail transportation within the growth corridor.

(Source) Questionnaire survey and interview with DOTr, NEDA and Office of the Undersecretary for Railways

3 Efficiency

Although the outputs were produced as planned and the project period was within the plan (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan: 130%). Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

“The Philippine Development Plan (PDP)” (2017-2022) outlines the strategic framework for the transportation sector. Specifically, PDP encourages the shift from private to public transport, with emphasis on mass transport, by ensuring the accessibility, availability, affordability, adequacy, convenience and reliability of rail transport and bus rapid transport systems. Moreover, the Infrastructure Roadmap, supports the development of a north-south economic growth corridor to alleviate the urban development issues in Metro Manila and to develop the neighboring provinces to accommodate people and economic activities in Metro Manila. In order to realize this development concept, the Roadmap envisages the Clark-Manila Railway as a north-south backbone together with the North Luzon Expressway (NLEX).

<Institutional Aspect>

[DOTr]

DOTr has been in charge of implementing the NSCR project, developing and constructing infrastructure through Project Management Office (PMO), including management of contractors, and also procurement and selection of O&M contractors as well as supervising the provision of O&M services by the O&M contractors. Due to the current organizational development, 44 staffs are now deployed to DOTr, and the number of staff members may be sufficient to perform their current responsibilities. However, their qualifications or capacity may need to be strengthened. DOTr may further recruit additional personnel at the construction stage when the need arises.

[PNR]

PNR has taken responsibilities as co-implementer of the NSCR project to provide technical supports to PMO and regulate the railway operations of the NSCR. PNR has 5 staffs to complete their tasks, and the number was sufficient at the time of ex-post evaluation. However, similar to DOTr, PNR may increase the number of staffs to achieve sufficient number of needed manpower at the project implementation phase.

<Technical Aspect>

Personnel of DOTr and PNR are hands-on to the ongoing related projects. Hence, continuously acquiring technical expertise in the project implementation through training and technical advisory services which are also adequately provided by the Asian Development Bank.

As part of its initiatives, DOTr has started to develop its own manual on Right of Way Acquisition based on actual experiences to secure right of way for railway projects.

<Financial Aspect>

The estimated total cost for the NSCR project (both the North 1 project and the North 2 project) was 255 billion Philippine Peso (PHP). According to the official of DOTr interviewed by the ex-post evaluation team, DOTr has secured the necessary budget to implement the NSCR project. Moreover, the future budget for the NSCR project is expected to be secured as the current policies “the Ten-Point Socioeconomic Agenda” to be implemented within the administration of President Duterte, aims to ramp up investments on public infrastructure including railways and “the PDP 2017-2022” includes the required financial resources for the other components of the strategic railway network development plan in GCR. In addition, the fare system for the NSCR, which was proposed by the project, is also being considered, and the fare system is planned to be introduced in the following price setting: 30.00 PHP for Base Fare and 2.20 PHP per kilometer.

<Evaluation Result>

In light of the above, no major issue has been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The railway network development plan proposed by the project, has been utilized through the development of Infrastructure Roadmap which serves as a railway network development plan. The AER project proposed by the project is now being implemented through the North-South Commuter Railway project, which will enhance the backbone of north-south corridor for Metro Manila. As for efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- For DOTr to ensure that O&M entity private or public shall be assigned or procured in advance prior to the start of revenue operations upon completion of the project.
- For DOTr to ensure that adequate number of personnel is put in place when project full implementation swings in late 2019.

Lessons Learned for JICA:

- Closer coordination between the JICA study team and counterparts, including DOTr, PMO, PNR as well as relevant local government units are essential for the smooth facilitation in conducting the studies and other related activities as well as elaboration of effective and feasible strategic plans. In terms of data collection, it is necessary for JICA study team to jointly work with PMO to ensure that accurate data are collected to minimize or eradicate gaps, for pre-feasibility study on the proposed project.
- On the other hand, since PNR is a key stakeholder in the railway sector, involvement of PNR in the study from the beginning is essential to make necessary coordination for the proposed project. The PNR Board Resolution No. 073-2014 stipulates the adoption of the concept of the North South Railway Project subject to the condition that Philippine National Railways be duly consulted during the project implementation. In addition, the coordination with the local government units by the JICA study team was good practice for public awareness raising among the local government units and the people inhabiting the planned routes.



Advanced Construction Mobilization Works (site clearing, grading of unlevelled surfaces, demolition of obstructing structures) for North-South Commuter Railway (NSCR) Project (Malolos-Tutuban) on January 5, 2018.