

Country Name	The Project for Improvement of Transportation Capacity of Public Bus in Vientiane Capital
Lao People's Democratic Republic	

I. Project Outline

Background	Vientiane Capital rapidly progressed in urbanization, which resulted in motorization, thereby increasing private transportation and hence traffic congestion in urban area. To solve the traffic congestion and reduce traffic accidents in Vientiane Capital, it was required to increase the share of public transportation by enhancing the transportation capacity of the public buses. Major public transportation of Vientiane Capital was the public buses operated by Vientiane Capital State Bus Enterprise (VCSBE). VCSBE operated the buses, most of which had been provided by the past Japan grant aid, by repair and maintenance. These small and big buses exceeded the running distance of 400,000 km and 1,200,000 km, respectively, thereby seriously damaging engine parts, worsening its transport safety and reducing its operation rate.				
Objectives of the Project	To enhance the public bus operation of Vientiane Capital and increase the transportation capacity by replacing the VCSBE owned outdated buses in urban routes, and thereby alleviating traffic congestion and traffic accidents in Vientiane Capital.				
Contents of the Project	<ol style="list-style-type: none"> 1. Project Site: Vientiane Capital 2. Japanese side: Procurement of bus (42 units) and maintenance equipment 3. Lao side: (1) To secure the necessary personnel and obligations at the execution of the guidance for initial operation, inspection and maintenance. (2) Conducting the operations of city bus and making arrangements for necessary budgets and staff. (3) Making appropriate and effective use of, and maintaining and managing equipment to be procured. 				
Ex-Ante Evaluation	2011	E/N Date	March 10, 2011	Completion Date	19 June, 2012
		G/A Date	March 18, 2011		
Project Cost	E/N Grant Limit/ G/N Grant Limit: 500 million yen, Actual Grant Amount 494 million yen				
Executing Agency	Vientiane Capital State Bus Enterprise (VCSBE)				
Contracted Agencies	Katahira Engineering International, Toyota Tsusho Corporation				

II. Result of the Evaluation

1 Relevance
<p><Consistency with the Development Policy of Laos at the time of ex-ante and ex-post evaluation></p> <p>This project has been highly consistent with Laos's development policy. At the time of ex-ante evaluation, the 6th Development Plan (2006-2010) aimed at improving urban environment by promoting "Environmentally Sustainable Transport: EST" policy. At the time of ex-post evaluation, the 8th Socio-Economic Development Plan (2016-2020) of Vientiane Capital clearly mentioned the solution of traffic congestion in Vientiane Capital, especially in 4 urban districts.</p> <p><Consistency with the Development Needs of Laos at the time of ex-ante and ex-post evaluation></p> <p>The project has been also highly relevant with Laos's development needs for improvement of urban environment of Vientiane Capital. At the time of ex-ante evaluation, increase of private transportation, traffic congestion and traffic accident accordingly were issues in Vientiane Capital. Although increase of the share of public transportation was necessary, the condition of busses of VCSBE was deteriorated and bus replacement was urgently required. At the time of ex-post evaluation, the traffic congestion is still an issue, due to the drastic increase of the registered vehicles, and the rapid growth of city caused by the development projects is considered as the factor. Therefore, the needs for public bus services are still high due to the traffic congestion, safety reasons and conveniences since the coverage of public bus service network is still insufficient.</p> <p><Consistency with Japan's ODA Policy at the time of ex-ante evaluation></p> <p>The project was also consistent with Japan's ODA policy at the time of ex-ante evaluation as the Country Assistance Program to Laos (2006) prioritized developing socioeconomic infrastructure and effectively utilizing existing infrastructure.</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is high.</p>
2 Effectiveness/Impact
<p><Effectiveness></p> <p>The project has, to a certain extent, achieved its objectives, "to enhance the public bus operation of Vientiane Capital and increase the transportation capacity". Indicators of quantitative effects such as "operation frequency" and "transportation capacity" have almost achieved the target figures in 2012 but they have gone down and have not reached the targets set at the time of ex-ante evaluation.</p> <p>The buses procured by the project operated well. Together with the opening of additional two routes, the operation frequency has increased. Especially, the frequency of buses on high-occupancy routes has increased stepwise. Although the operation frequency of those 42 buses dropped from 2012, it was the results of restructuring the lower revenue routes (replaced by medium-sized buses), and the operation suspension of some provided buses over the route where the road construction was undergoing. Increase in operation routes and frequency, especially on the high occupancy routes, has resulted in the increase of transportation capacity. However, increased figure could not achieve the target figure set forth at the time of Ex-Ante evaluation due to the aforementioned restructure of bus operation on the low rate route, suspension of bus operation service due to the road construction including the reconstruction of new Central Bus Station.</p> <p>Almost all the passengers interviewed during this ex-post evaluation are satisfied with the quality of buses and services of VCSBE. However, it was observed that bus and services need more improvement, especially on-time service, number of bus route, and service</p>

information.

After the project implementation, because of VCSBE's efforts on the mechanical inspection and maintenance, the number of malfunctions of public buses in Vientiane Capital has reduced when compared with that before the project. The improvement in quality and conditions of the buses has mitigated the risk on technical and mechanical aspects and hence, the number of traffic accidents of the public buses has reduced.

<Impact>

After the project completion, smooth operation and quality air-conditioning buses has motivated people to use public bus services more frequently. No statistic clearly shows the declining trend of traffic accidents. On the other hand, the traffic congestion on public bus routes in Vientiane Capital has not improved. It may be due to the increase of registered vehicles. However, the traffic congestion is limited to the rush hours.

No negative impacts on natural environment were observed and no land acquisition occurred under this project.

<Evaluation Result>

In light of the above, the effect of the project has been observed to a certain extent, as operation frequency and transportation capacity have improved, though the targets were not achieved. Therefore, the effectiveness/impact of the project is fair.

Quantitative Effects

	Before the project 2010	Target figure at target year (2015) (3 years after implementation)	Actual figure at the year of completion (2012)	Actual figure at the target year (2015)	Actual figure at the year of Ex-post evaluation (2016)
Indicator 1 Operation Frequency*1	177	211	284	191	165
Indicator 2: Transportation Capacity	196,000 pax km/day*2 (pax: passenger)	331,000 pax km/day	328,429 pax km/day	327,691 pax km/day (Actual pax km/day: 195,355 pax km/day)	313,569 pax km/day (Actual pax km/day: 159,450 pax km/day)

*1 Number of operation or urban routes per day. At the time of ex-ante evaluation, urban routes consisted of 10 routes, however, it changed to 9 in 2015 and 8 in 2016.

*2 pax km is multiplying "Bus vehicle kilometer" by "seating capacity"

Source : JICA internal documents, questionnaire with VCSBE

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), project period slightly exceeded the plan (ratio against the plan: 118%). Supply of parts for assembling in Thailand was delayed due to influence by flood lasted for three months from July 2011 in Thailand.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

Operation and Maintenance (O&M) of the buses procured under the project is carried out by VCSBE, a state owned company established under Vientiane Capital administration. Under the Deputy Director of Technical Affairs, Technical Workshop is responsible for maintenance, and Division of Parts Supplies is responsible for supply of spare parts. The number of maintenance technicians and drivers has slightly reduced in accordance with the reduction in number of buses¹ during the past years. However, the number of technical staff is sufficient to carry out maintenance activities.

<Technical Aspect>

The technicians and maintenance technicians are very skillful. The capacity of maintenance technicians of VCSBE was strengthened and enhanced through series of technical workshops, guidance and transfer on O&M from Japanese Experts under a technical cooperation project "Project to Enhance the Capacity of Vientiane Capital State Bus Enterprise". The technical and maintenance divisions have systematically and strictly followed the technical guideline and maintenance plans of buses. Technical transfer from senior to junior technicians is conducted on the regular basis.

<Financial Aspect>

Although the number of bus passengers has increased, profitable tariff cannot be secured², and therefore, the operation loss still occurred. However, considering the depreciation cost, the cash flow becomes positive. Although VCSBE secured maintenance budget, increasing cost for O&M activities is still a problem. However, VCSBE has planned to minimize its expenses by increasing the efficiency of maintenance and operation management through securing appropriate number of qualified and skillful technical engineer and maintenance technicians. Meanwhile, they have also planned to make the number of passengers increase by opening 2 new bus routes in order to generate more revenue .

<Current Status of Operation and Maintenance>

Inspection, regular maintenance and overhaul are performed on the regular basis, for instance: Daily check and regular check every 1,000 km, technical maintenance 1 (TO1) for every 5,000 km, technical maintenance 2 (TO2)³ for every 10,000 km, engine overhaul for every 250,000 km. The spare parts procured by the project have been properly managed. In addition, the spare parts can be procured from the original sources through the middle man in Vientiane Capital.

¹ Considering the safety reason, VCSBE demolished some over-aged and damaged buses.

² VCSBE still keeps seeking ways to reduce its expense by requesting for tax exemption of imported spare parts and gasoline, which will be considered as the governmental subsidy.

³ TO2 include all checklist of TO1 and additional checking list.

<Evaluation Result>

In light of the above, a few problems have been observed in terms of the financial aspect of the implementing agency. Therefore, the sustainability of the project effect is fair.

5 Summary of the Evaluation

The project has to a certain extent achieved its objectives, “to enhance the public bus operation of Vientiane Capital and increase the transportation capacity”, as indicators of quantitative effects such as “operation frequency” and “transportation capacity” have improved, though the targets were not achieved. Passengers are satisfied with the bus services, and the number of the accidents in public buses has reduced owing to upgradation of buses. As to impact, although the project motivated people to use public bus services, it is difficult to clarify contribution of this project to reduce traffic accidents and traffic congestion in Vientiane Capital. For sustainability, a few problems have been observed in terms of the financial aspect of the executing agency. As to efficiency, the project period exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendation to executing agency

Appropriate measures have already been taken on the observed issues on the bus route and service information by the subsequent technical cooperation project with JICA. It is suggested that the executing agency continuously follow up the measures through the project.

Lessons learned for JICA:

In order to ensure sustainability of the bus provided by the grant aid project, skills and know-how of maintenance technicians were strengthened and enhanced by the technical cooperation project targeting VCSBE. Thus, a technical cooperation project for capacity development for bus operator is effective when introduced concurrently with the grant aid.



Picture 1: Bus provided by Grant Aid is popular as “Green Bus” among citizens at the Central Bus Station



Picture 2: Minister for Land, Infrastructure, Transport and Tourism, Mr. Ishii visited the Vientiane Capital State Bus Enterprises (the 4th gentleman from the left)