Lao People's Democratic Republic

FY2022 Ex-Post Evaluation Report of Technical Cooperation Project

"The Project to Enhance the Capacity of Vientiane Capital State Bus Enterprise/The Project to Enhance the Capacity of Vientiane Capital State Bus Enterprise (Phase II)"

External Evaluator: Keiko Watanabe, Mitsubishi UFJ Research and Consulting Co., Ltd.

0. Summary

The objective of the project was to improve urban public bus service and to promote public bus ridership in the capital city of Vientiane by enhancing corporate management/operation system of Vientiane Capital State Bus Enterprise (hereinafter referred to as "VCSBE"), improving bus operation services and establishing/improving necessary public transportation policies on public bus services. As a result, the project also aimed to contribute to promoting a modal shift to public transportation. The objective of the project was consistent with the development plan and needs of the country and the project plan and approach were appropriate. In particular, the approach of establishing a new organization and promoting organizational reform was groundbreaking. The project was consistent with Japan's ODA Policy. Close collaboration with other projects within JICA and other organization such as Kyoto City was achieved from the planning stage, and concrete results were confirmed. Therefore, relevance and coherence are very high. Although the project objective of improving bus services was achieved to a certain extent, promotion of bus ridership was not achieved. In addition, overall goal of promoting a modal shift to public transportation was not achieved. On the other hand, continuation of the management system introduced in this project was confirmed, and positive impacts such as the selection of VCSBE as the main operator of Bus Rapid Transit (hereinafter referred to as "BRT") project, implemented by ADB, which provides efficient transportation by establishing bus-only lanes on some roads. However, the effectiveness and impacts of the project are moderately low, as only a certain degree of effects by the project could be confirmed compared to the plan. Efficiency is high as the project cost and period slightly exceeded the plan but not to a great extent. Sustainability of the effects of the project is moderately low since there are some technical and financial issues and they are not expected to be improved/resolved soon.

In light of the above, this project is evaluated to be partially satisfactory.

1. Project Description

Project Location

Public Bus Operating in the City

(Source: External Evaluator)

1.1 Background

Economic activity in Vientiane Capital of Laos had been increasing as the urban area expanded and the population grew year by year. There has also been a significant shift to motorization, including passenger car and motorcycles, with vehicle registrations increasing at an average annual rate of 7% since 2005. This increase in privately owned vehicle traffic was already causing large-scale traffic congestion during the morning and evening peak hours, mainly in urban areas. Therefore, there was a need to increase the share of public transport.

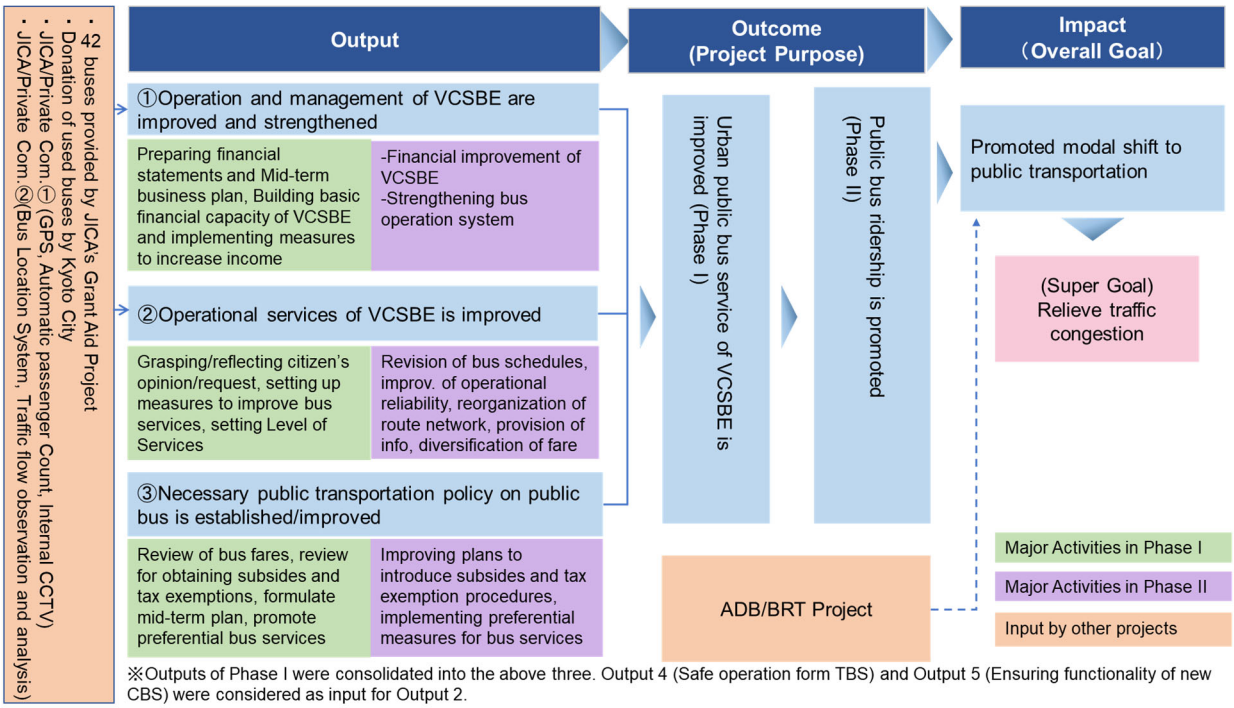
Public buses in Vientiane are operated by 100% government owned VCSBE. The bus users had been declining due to a reduction in the number of buses available for operation caused by aging and a decline in the quality of services. The urgent task was to improve both the quality and quantity of public buses in order to improve bus services and restore the number of public bus users. For this, it was necessary not only to improve management of VCSBE, but also to identify citizens' demands for bus services in general and to improve the level of public bus services through the implementation of preferential bus transport policies, as these issues were difficult for VCSBE to deal with on its own. These challenges also required improving the capacity of the Department of Public Works and Transport of Vientiane Capital (hereinafter referred to as "DPWT") and Ministry of Public Works and Transport (hereinafter referred to as "MPWT") to address these issues at the policy level of public transport.

1.2 Project Outline

		Phase I	Phase II
Overall Goal		Public bus service coverage in Vientiane is expanded.	Modal shift to public transportation is promoted in Vientiane Capital (VC).
Project Purpose		Urban public bus service of VCSBE is improved.	Public bus ridership is promoted in VC.
Output(s)	Output 1	Corporate management is improved by VCSBE.	Corporate management system of VCSBE is enhanced.
	Output 2	Measures for improvement of VCSBE's service are implemented in Vientiane responding to citizens' requests.	Bus operation service of VCSBE is improved.
	Output 3	Public transportation policies and plans favorable to public bus are established.	Necessary public transportation policy on public bus service is improved.
	Output 4	Safe and smooth bus operation is conducted at the Temporary Bus Station.	
	Output 5	New Central Bus Station function is secured.	
Total cost (Japanese Side)		390 million yen	427 million yen
Period of Cooperation		January 2012 – March 2015 (Extension period: January – March 2015)	August 2016 – March 2020 (Extension period: September 2019 – March 2020)
Target Area		Vientiane Capital State	
Implementing Agency		Vientiane Capital State Bus Enterprise (VCSBE), Ministry of Public Works and Transport (MPWT), Department of Public Works and Transport of Vientiane Capital (DPWT)	
Other Relevant Agencies/ Organizations		None	
Organization in Japan		None	
Related Projects		[Technical Cooperation] • The Study on Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR (2007-2008) • Project for Urban Development Master Plan Study in Vientiane Capital (2010-2015) • Verification Survey with the Private Sector for Disseminating Japanese Technologies for the Bus Operation Optimization (2016-2018) • Verification Survey with the Private Sector for Disseminating Japanese Technologies for New Location Information System and Traffic Observation System for Urban Transport Improvement in Vientiane City (2016-2018) [Grant Aid]	

	• The Project of Improvement of Public Transportation Capacity (March 2011) [International Organization] • ADB, "Vientiane Sustainable Urban Transport Project (VSUTP)" (2015-2024)

Figure 1 is a conceptual diagram showing the relationship between Phase I and Phase II, including other projects closely related to this project. Phase II was built on the results of Phase I and aimed to improve the management situation and organizational capacity of VCSBE, with the same goal in mind. As shown in Figure 1, major outputs can be summarized as the following three points; 1) Operation and management of VCSBE are improved and strengthened, 2) Operational services of VCSBE are improved, and 3) Necessary public transportation policy on public bus is established/improved. The project purpose of Phase I (improvement of urban public bus services) and that of Phase II (promotion of bus ridership) are considered as outcomes. Through Phase I and Phase II, the overall goal of Phase II (promotion of a modal shift to public transportation) was taken as the overall impact, and the evaluation was conducted, considering two projects as one project.



(Source) Formulated by the external evaluator

Figure 1: Relations between Phase I and Phase II

1.3 Outline of the Terminal Evaluation

The terminal evaluation was not implemented in Phase II. The relevant parts from the completion report are quoted as below.

1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

Although the project purpose "public bus users are increased by 10% by December 2019" was not achieved, it was judged that the project had laid the groundwork for an increase in the number of users by improvement of transparency in bus fare collection, spreading to the new management methods introduced by the project and improvement of bus services.

1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation

(Including other impacts)

The overall goal, "promotion of a modal shift to public transportation" was judged to have a high probability of being achieved. This was because synergies could be expected with ADB's BRT project and new bus procurement plan, and the number of bus users was expected to increase by strengthening the service provision system and improving the financial position.

1.3.3 Recommendations from the Terminal Evaluation[1]

In order to achieve the overall goal, the Terminal Evaluation recommended that VCSBE; 1) further improve the operation rate against operation plan, 2) further enhance reliability and convenience (introduction of timetables at bus stations, deployment of bus route registration on Google maps, etc.) and 3) expand bus routes. For MPWT and DPWT, it was recommended that they ensure 1) implementation of public transportation policies that promote modal shift, 2) resolution of the issues of building the suspended central bus station, and 3) formulation of a public transportation network including BRT and organization of the roles of VCSBE.

2. Outline of the Evaluation Study

2.1 External Evaluator

Keiko Watanabe, Mitsubishi UFJ Research and Consulting Co., Ltd.

[1] The recommendations for the VCSBE were not implemented because public bus service was suspended immediately after project completion due to the COVID-19 pandemic and bus service had just resumed at the time of the post-evaluation. Regarding the recommendations to MPWT and DPWT, JICA's project "Institutional capacity building for sustainable urban transport system" (underway at the time of ex-post evaluation) is working on 1) and 3) as well as the development of a new master plan for urban transport. No solution to 2) had been found yet.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: September, 2022 – December, 2023

Duration of the Field Study: April 19, 2022 – May 10, 2022 (implemented by the local assistance under the supervision of external evaluator)

July 31, 2023 – August 9, 2023

3. Results of the Evaluation (Overall Rating: C[2])

3.1 Relevance/Coherence (Rating: ④[3])

3.1.1 Relevance (Rating: ③)

3.1.1.1 Consistency with the Development Plan of Laos

The country development plans of Laos in effect at the time of planning and completion of Phase I and Phase II (*7th National Socio-Economic Development Plan (2011-2015)* for Phase I and *8th National Socio-Economic Development Plan (2016-2020)* for Phase II) emphasize economic development balanced with the natural environment and aim to improve the urban environment of major cities including Vientiane Capital. In the transport sector plan, at the planning of Phase II, *Transport Master Plan* developed by MPWT and Vientiane City identifies the expansion of bus route network and promotion of the introduction of public transportation as priority issues. In addition, *Mid-term plan of VCSBE (2015-2019)*, valid at the time of completion of Phase I and at the time of planning of Phase II, aimed to improve bus service providing capacity by conducting measures to ensure safe transportation, increase revenues, expand bus routes, reduce costs and so on.

Therefore, the objectives of both phases are consistent with Laotian development plan at the time of planning and completion.

3.1.1.2 Consistency with the Development Needs of Laos

At the time of planning of Phase I, economic activities were increasing due to the yearly expansion of the urban area and population growth, and the number of private cars and motorcycles was rapidly increasing. On the other hand, the public transportation share was only 4% in 2007. There were concerns about the occurrence of large-scale traffic congestion during the morning and evening peak hours. The above situation remained the same at the time of completion of Phase I and planning of Phase II, and an increase in the share of public transportation was needed. Public transportation in Laos includes irregular public transportation such as taxi, three-wheelers, and shared-ride taxi

[2] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[3] ④: Very High, ③: High, ②: Moderately Low, ①: Low

converted from small trucks, but public buses operated by VCSBE are the main form of transportation. Therefore, in order to promote a modal shift to public transportation, improvement of both the quality and quantity of public buses was an urgent issue. In particular, the limited number of public bus routes and the still low quality of bus service had resulted in bus users of 3.3 million as of 2016 at the planning time of Phase II, far from the previous peak (7.6 million in 2002). Furthermore, the efforts made in Phase I to improve the management of VCSBE had achieved certain results, but did not lead to an improvement in its financial base. It was necessary to continue strengthening the management structure of VCSBE in Phase II. At the time of completion of Phase II, the public transportation share was low at 1.9% (2019)[4] due to the rapid increase in the number of private cars and motorcycles, further increasing the need for a modal shift to public transportation to improve traffic congestion.

From the above, it was confirmed that the development needs from the time of project planning to the time of completion are consistent with this project, which aims to improve bus service and increase the number of bus users.

3.1.1.3 Appropriateness of the Project Plan and Approach

In Phase I, as indicated by "Effectiveness," the achievement of the project purpose was high, despite the low achievement of outputs. There were some logic problems in that the outputs, project purpose, and overall goal were not set logically. Although all of the outputs set were important for VCSBE, they did not necessarily contribute to the project purpose. However, it would be too much to say that the entire approach was problematic. Phase II took the approach of creating a new organization called City2 to carry out organizational reform, hiring new staff, and gradually expanding it to the entire organization as the staff of the existing organization gained a better understanding of its achievements. This was an innovative and appropriate approach that successfully avoided the risks of directly reforming the existing organization and staff, which could have caused friction. It was also confirmed that the lessons learned from similar past projects had been addressed in this project. For example, efforts were made to introduce tax measures and government subsidies to address financial issues, regular meetings were held involving high-level key officials from the three implementing agencies, including Director of VCSBE, Director-General of MPWT and Director-General of DPWT to share information and facilitate decision-making, and there was collaboration with other organizations such as traffic police and Ministry of Finance.

Thus, it can be said that the project plan and approach were appropriate.

[4] Information provided by MPWT.

3.1.2 Coherence (Rating: ④)

3.1.2.1 Consistency with Japan's ODA Policy

The Country Assistance Program (September 2006) at the time of planning of Phase I identified the development of social and economic infrastructure and the effective utilization of existing infrastructure as one of priorities. It also indicated a policy of promoting cooperation in human resource development, organizational strengthening, and institutional building support for the proper maintenance and management of existing infrastructure including public buses. In *JICA Country Assistance Policy*, "urban environment development" was also listed as one of priority issues, and the policy was to cooperate in the development of infrastructure in the urban transportation sector and in the strengthening of administrative capacity required for maintenance and management of existing infrastructure.

At the time of planning of Phase II, in *the Country Assistance Policy* (April 2012), social and economic infrastructure development was listed as a priority area, and support was to be provided to help build a comfortable society in harmony with the environment, including public transportation. *JICA Country Analytical Paper* (March 2015) stipulated a policy of working on transportation, road network development and urban environment improvement including public bus transportation.

Therefore, the project was consistent with the ODA Policy of the Japanese government and JICA at the time of planning.

3.1.2.2 Internal Coherence

In collaborating with the grant aid project which provided 42 large buses (hereinafter referred to as "green buses")[5], it was planned from the time of planning that Japanese experts from the project would be dispatched before the buses arrived to set up a system to receive the buses. In fact, the project started before the arrival of buses and prepared bus yard, recruited and trained bus drivers for the new buses, planned new bus operation, etc. This led the smooth utilization of new buses. In addition, digital tachograph[6] procured in this project was installed on green buses, allowing to monitor bus operation status. Through this, concrete collaborative effects were confirmed such as better fuel management based on the actual number of bus trips and mileage, and improved eco-driving by drivers.

In terms of collaboration with the two dissemination/verification projects[7],

[5] The Project of Improvement of Public Transportation Capacity (March 2011). Green bus has 45 seats.
[6] Operation recording device that records information such as speed, travel time, and travel distance when driving a bus.
[7] "Verification survey with the private sector for disseminating Japanese technologies for new location information system for urban transport improvement in Vientiane City" (hereinafter referred to "Bus Navigation

cooperation was envisioned from the planning stage and discussions were held among the parties involved. The two dissemination/verification projects installed their own ICT equipment on green buses. The information obtained from the equipment was also utilized in this project to improve the service schedule and route network. For the dissemination/verification projects side, the expected synergistic effects were realized, such as clarifying issues in the use of ICT equipment. Furthermore, in order to closely collaborate with the dissemination/verification projects, staff from the private companies implementing the dissemination/verification projects participated as advisors in Phase II. As a result, the project also had some effects such as utilizing the know-how of a Japanese private bus company in this project.

3.1.2.3 External Coherence

During the implementation of Phase II, Kyoto City donated 34 used buses (hereinafter referred to as "Kyoto buses") to its sister city, Vientiane. JICA provided background support for the donation by acting as an intermediary between Kyoto City and VCSBE. The project realized the effective utilization of Kyoto buses by replacing with the aged medium-sized buses (minibuses)[8] made in the 1990's. In addition, the project arranged to install ICT equipment from the above two dissemination/verification projects to Kyoto buses and to utilize Kyoto buses for the operation of the new City2 organization. This has enhanced the effectiveness of the project. Furthermore, when importing the Kyoto buses, VCSBE negotiated and coordinated with the private company (Lao World Public Company) which operated the shopping mall (ITECC Mall) in Laos, and a partnership was born. On the condition that a new bus route to the ITECC Mall was established, Lao World Public Company covered half of the cost of importing Kyoto buses and the cost of modifying buses for use within the city[9]. In addition, the company established the bus station at the ITECC mall at its own expense to attract more customers. This demonstrated synergistic effects with the bus business.

The project is consistent with Lao's development plan and development needs, and the project plan and approach were appropriate. It is also consistent with Japan's ODA Policy. The internal coherence with grant aid project and dissemination/verification projects was confirmed. In addition, the external coherence such as the synergistic effect of the provision

System") implemented by Japan Research Institute for Social System Co., Ltd. (JRISS) which introduced location system of bus and monitoring traffic system. Other project is "Verification survey with the private sector for disseminating Japanese technologies for new location information system for the bus operation optimization" (hereinafter referred to as "Eagle Bus System") implemented by the Eagle Bus Co., Ltd which introduced a system to visualize operation data and passenger numbers.

[8] Minibus has 25 seats.

[9] Because traffic is on the right, the bus entrance for city buses, through which passengers frequently get on and off, was installed on the right.

of used buses from Kyoto City, which was realized through active collaboration and coordination by JICA, and the synergistic effect that was greater than expected due to collaboration and coordination between VCSBE and the private company in Laos, were also recognized. Therefore, its relevance and coherence are very high.

3.2 Effectiveness and Impacts[10] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Project Output

(1) Phase I

Table 1 shows the achievement of outputs of Phase I at the time of completion. It was judged that Output 1 and Output 3 were partially achieved, while Output 2 was almost achieved. Output 4 and Output 5 were added as a response to the rebuilding of the Central Bus Station due to a policy change in Vientiane City after the project started. These outputs were included in order to secure safety operation of buses, however, they were not achieved due to the delay of construction of Temporally Bus Station

Table 1 Achievement of Project Output (Phase I)

Output	Achievement
Output 1: Corporate management is improved by VCSBE	**Partially Achieved** As a result of the project, VCSBE's revenue increased by just under 3% compared to before the project started, but operating revenue was in the red except in 2012, when buses were provided, and its income did not improve. In addition to securing stable income for VCSBE, the National University of Laos experimentally introduced a student bus pass (IC card) with the aim of clarifying the amount collected in fare collection, but the number of sales did not reach the expected target[11]. The achievement of indicator 1 was low because it can be judged from JICA information that it was aiming not only to increase income but also become profitable. On the other hand, financial statements have been developed and daily income management has been converted into data (Indicator 2). The bus operation records have been maintained and utilized for management (Indicator 3). In addition, daily inspection manual and checklist for inspection were developed and implemented under the technical guidance utilizing buses provided by the grant aid (Indicator 4). In addition, the Central Bus Station was to be reconstructed, coordination with related agencies for the construction of bus stops took time. As a result, the number of bus stops installed and timetable displays at bus stops did not progress, and the bus stop improvement plan was not in line with changes in the number of buses and the number of bus routes operated. (Indicator 5).

[10] When providing the sub-rating, Effectiveness and Impacts are to be considered together.

[11] In introducing the student commuter card, the project collaborated with the National University of Laos to conduct a questionnaire survey regarding student transportation methods, and to hear from students and university staff about their bus-related needs. The project also held a seminar on commuter cards at the university.

Output 2: Measures for improvement of VCSBE's service are implemented in Vientiane responding to citizens' requests.	**Almost Achieved** Various improvement measures were implemented in response to citizens' opinions and requests such as reviving abolished routes, launching a website and Facebook page, posting timetables at bus stops and extending service hours (Indicator 1). A method for determining level of services of bus was agreed and target values determined (Indicator 2).
Output 3: Public transportation policies and plans favorable to public bus are established.	**Partially Achieved** Although the bus fare system and preference measures and subsidies for vulnerable people in traffic have not been changed in the public transport policy and plan, the rules and requirements for subsides were cleared and a proposal was submitted to the mayor (Indicator 1). Medium-term business and investment plan of VCSBE was developed. However, the plan for bus stops were not included (Indicator 2). DPWT coordinated with VCSBE and Paratransit [12] Association, and a committee was set up under the Vientiane City to coordinate between the parties concerned. The committee held discussion to coordinate the relocation of shops and street shops around Central Bus Station (Indicator 3). BRT was considered as one of the bus transport preference measures and social experiment was conducted. However, the lack of parking spaces did not improve the illegal parking problem, which was necessary for smooth traffic. Thus, BRT did not become a measure that could be implemented early (Indicator 4). Public Transportation Policy and Plan was updated based on the advice from the project (Indicator 5).
Output 4: Safe and smooth bus operation is conducted at the Temporary Bus Station	**Not Achieved** Regarding the location of Temporary Bus Station, VCSBE made proposal to the mayor based on the advice from the project (Indicator 1). However, due to the delay of construction of Temporary Bus Station, the bus services did not start (Indicator 2), nor did the provision of bus information (Indicator 3), or the provision of transport facilities in the vicinity (Indicator 4).
Output 5: New Central Bus Station function is secured.	**Not Achieved** Advice from the project regarding the design of the New Central Bus Station was reflected in the revised concept (Indicator 1). However, since the construction of the New Central Bus Station has not been started, the indicators were not achieved. The construction of the New Central Bus Station was to begin once the Temporary Bus Station has been prepared and service being started at the Temporary Bus Station.

(Source) Information provided by JICA, Questionnaire results to the implementing agency and implementing consultants

(2) Phase II

Table 2 shows the achievement of outputs of Phase II at the time of completion. Although Output 3 was not achieved, Output 1 was partially achieved, and Output 2 was achieved. In Phase II, a new system of operation and management of staff including drivers was developed, which was different from the existing style. As stated in

[12] Paratransit indicates Tuk Tuk (Auto tricycle taxi) , Songthaew (the name of a shared bus or shared taxi that has been converted into a small truck bed for passenger use), Taxi, etc.

"Appropriateness of the Project Plan and Approach," apart from the existing bus service division (hereinafter referred to as "City1"), a new organization called City2 was created as a new city bus service division. The staff of City2 was newly recruited and a new management system was introduced. The project worked to gradually transform the existing organization, while producing results from City2 (Please refer to "Additionality" and the attachment for the differences between City1 and City2). Kyoto buses were utilized for the routes operated by City2. Data from the on-board ICT equipment of the dissemination/verification projects was also used to clarify passenger usage and operational status in order to improve operation.

Table 2 Achievement of Project Output (Phase II)

Output	Achievement
Output 1: Corporate management system of VCSBE is enhanced.	**Partially Achieved** The operational system has been strengthened to a certain extent by strengthening capacity of staff regarding financial management and improving the operation system using the ICT system installed on buses in the dissemination/verification projects. The revenue of VCSBE increased to a certain extent. In the final year of the project, it turned into surplus for the first time after years of deficits. However, the number of users decreased due to external factors such as the abolition of unprofitable routes and a decrease in convenience due to delays in the construction of a new Central Bus Station. Therefore, the revenue from bus operations only increased by 10% (13,724 million kip (2016) ➔ 15,038 million kip (2019)). This fell short of the goal of a 30% increase. However, with regard to the bus driver salary system that was being promoted as part of the organizational reform, by the time the project was completed, VCSBE had succeeded in abolishing the performance remuneration system (lump sum system[13]) that had been in place, which moved the reform forward.
Output 2: Bus operation service of VCSBE is improved.	**Achieved** The project conducted the satisfaction survey in terms of operation schedule, safety and smoothness, route network and information provision after taking improvement measures based on user needs survey. The results showed that all factors received a score of 3 or higher on a five-point scale, which was the target. Therefore, a certain level of improvement was seen in the bus services (Indicator 1-4). Regarding the bus fare system, in addition to the student bus pass[14] that had been in place since Phase I, a zone-based fare system was introduced (Indicator 5). Through the activities of Output 2, VCSBE

[13] A system in which rewards are paid when certain results are achieved. For details, see "5.2 Additionality."
[14] As for the student bus pass, the card reader installed on the busses broke down and were no longer in production, making them unrepairable several years after their introduction. Although some efforts were made to temporarily produce paper-based commuter passes, many students responded by simply copying the cards. Therefore, the sales were discontinued since October 2019. Although the introduction of transportation IC cards has been suspended for technical reasons, VCSBE recognized the usefulness of such ICT devices and was considering the introduction of touch payment and QR code payment in the future.

	staff became able to update the bus schedule (timetable), understand and practice methods of needs and satisfaction surveys, how to implement improvement measures related to bus operation, and PR methods, which also led to capacity building.
Output 3: Necessary public transportation policy on public bus service is improved.	**Not achieved** Revenue/Expenditure of VCSBE has been clarified. The target of having a business plan in place by February 2019 has been met (Indicator 1). Regarding the possibility of subsidies and tax exemptions, which had been addressed since Phase I, discussion with decision makers from the three implementing agencies, the Ministry of Finance in charge of state-owned enterprise and tax, Department of International Cooperation of the Ministry of Planning and Investment, and other relevant departments led to the conclusion that the Lao Tax Law makes it difficult to receive subsidies and tax exemption. On the other hand, a working group was established with the Traffic Police to discuss traffic demand management (TDM), a policy that would effectively utilize current resources, realize efficient travel, and improve traffic congestion mitigation. A TDM social experiment on bus priority signaling, which was deemed feasible, was conducted. This led to the improvement of the skills of MPWT and DPWT staff in planning and implementing public transportation policies. The issues that were identified through the experiment (personnel arrangement in Traffic Police and approval from the Vientiane Congestion Management Committee) were to be followed up by MPWT and DPWT in the future after the completion of the project. Therefore, the public bus transportation preferential policy was not improved in this project (Indicator 2)

(Source) Information provided by JICA, Questionnaire results to the implementing agency and implementing consultants

3.2.1.2 Achievement of Project Purpose

(1) Achievement of Project Purpose of Phase I

As shown in Table 3, all indicators set for the project purpose have been achieved. By utilizing the 42 buses provided by the grant aid, a synergistic effect was also observed in terms of an increase in the number of buses in operation and an improvement in the ability of VCSBE staff to manage and maintain the buses on a daily basis (Indicator 3 and Indicator 4 of Output 1). On the other hand, the overall achievement of the five outputs was low as indicated above. The reason why the achievement level of project purpose indicator was high despite the low achievement level of each output was because there was a problem in the logic between outputs and project purpose. Improvement of operation service (Output 2) and Output 4 and Output 5 which were associated with the improvement of Central Bus Station were related directly to the project purpose. Improvement of finance of VSCBE (Output 1) and enhancement of transport policies (Output 3) were important issues for capacity enhancement of VCSBE and for sustainability of the effects. However, these outputs

were not directly linked to achieving the project purpose indicator of increasing the number of buses in operation and carrying capacity. Although Phase I did not reach the point of improving the financial base of VCSBE, it did achieve all the indicators of the project purpose and had some impact on improving bus services. Therefore, the project purpose for Phase I can be judged to have been generally achieved.

Table 3 Achievement of Project Purpose (Phase I)

Project Purpose	Indicator	Actual				
Urban public bus service of VCSBE is improved.	Level of Service (LOS) is improved.	**Achieved** Set indicators have been achieved by target year (2014) as shown below.				
	1) Operation numbers (Roundtrips per day)	Target 2014	2011 (before Project)	2012 (Year 1)	2013 (Year 2)	2014 (Year 3)
		211	190	263	225	256
	2) Carrying Capacity (Thousand per km/day)	Target 2014	2011 (before Project)	2012 (Year 1)	2013 (Year 2)	2014 (Year 3)
		331	161	374	378	333
	3) Total operation length (km)	Target 2014	2011 (before Project)	2012 (Year 1)	2013 (Year 2)	2014 (Year 3)
		300	128	366	286	286
	4) Number of passengers (Passengers per day)	Target 2014	2011 (before Project)	2012 (Year 1)	2013 (Year 2)	2014 (Year 3)
		10,000	6,270	9,540	9,100	10,140
	5) Number of passengers (Passengers roundtrips)	Target 2014	2011 (before Project)	2012 (Year 1)	2013 (Year 2)	2014 (Year 3)
		40	32.9	36.9	41.6	39.6

(Source) Information provided by JICA

(2) Achievement of Project Purpose of Phase II

In Phase II, the project focused on improving the financial base of VCSBE and strengthening its operational structure, which had not been achieved in Phase I. The long-standing financial deficit was reversed to a surplus (Output 1). A certain degree of success was achieved in improving bus services (Output 2). A questionnaire survey of citizens conducted by the project showed a certain level of satisfaction with the service schedule, route safety, and provision of information. Although further improvements were needed, the effectiveness of the project was confirmed. In particular, installation of ICT equipment on buses through the two JICA dissemination/verification projects clarified issues in the bus operation system (e.g. unprofitable routes and issues associated with fare collection), which enabled to take concrete measures to address bus operations and management system. Since the project focused on financial stabilization, the project had to implement initiatives to ensure transparency in fare collection as

revealed through project activities, abolish unprofitable routes (two routes at the end of 2017, two routes in 2019), and raise bus fare in 2018. As a result, the number of users actually decreased. According to an interview with VCSBE, the reason why the number of users did not increase was that citizens had a long-established negative image of buses (using public buses is seen as a lack of money, buses are unreliable with delays, using personal motorcycles or cars is better looking, etc.), and this project alone did not lead to a change in user behavior. Thus, as in Phase I, there were problems with the logic between the outputs and project purpose. Although the improvement of the service of VCSBE alone did not directly lead to an increase in bus ridership, the indicators and targets were not reviewed. Furthermore, there were issues that could not be resolved by the project, such as the construction of the new Central Bus Station, which was suspended and never proceeded[15], and the discontinuation of bus routes by existing buses that had exceeded their useful life and could no longer be repaired. As shown in Figure 2, the number of users has decreased by 26% since the start of the project. The project purpose of "bus ridership is promoted (increased users by 10%)" was not achieved. Therefore, it can be concluded that the project purpose for Phase II was not achieved. From the above, the project achieved its purpose only to a certain extent.

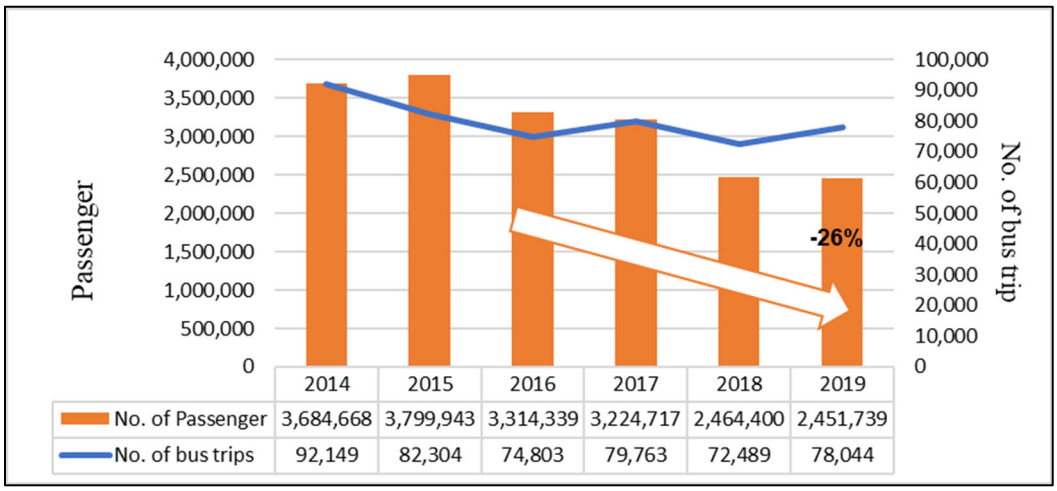
The project purpose of Phase I was generally achieved, while that of Phase II was not.

Table 4 Achievement of Project Purpose (Phase II)

Project Purpose	Indicator	Actual
Public bus ridership is promoted in VC.	Public bus users are increased by 10 % by December 2019	**Not Achieved** The 2019 results were 26% lower than the 2016 results.

(Source) Information provided by JICA

[15] According to the information provided by JICA, the new Central Bus Station was scheduled to be completed by the end of 2017, but the contracted construction company had suspended construction due to shortage of funds caused by non-payment of other construction projects. According to VCSBE, the construction was still suspended at the time of ex-post evaluation, and there is no prospect for completion.



(Source) Information provided by JICA

Figure 2 Number of Passengers and Number of Bus Trips

3.2.2 Impacts

3.2.2.1 Achievement of Overall Goal

As Figure 1 showed that the direction of Phase I and Phase II is the same, the overall goal was evaluated using the overall goal of Phase II. The indicator was not achieved as described in Table 5 and Table 6. Regarding the modal share, the data of 2019 was the most recent available data. The data of 2022, three years after completion of project was not available. Therefore, the background of the target value setting was reviewed and the situation from 2019 to the time of ex-post evaluation was taken into account to analyze the reasons why the indicator was not achieved.

Table 5 Achievement of Overall Goal

Overall Goal	Indicator	Actual
Modal shift to public transportation is promoted in Vientiane Capital	Public transport* modal share is increased by 5% in VC three years after completion of the project	**Not Achieved** The latest data at the time of ex-post evaluation was 1.4% (2019), compared to 4% (2007) at the time of planning. Although the target was set for three years after the completion of the project (2022), the BRT project, which was expected to be in operation by the target year, had not started by the time of ex-post evaluation. Besides, the private car share increased (11%➔24%). This suggests that the 5% improvement by 2022, the target year, will not be achieved.

* Public transport means public bus, BRT, including paratransit

Table 6 Modal Share

	2007	2019
Public Transportation	4%	1.4%
(of which Public Bus)	(2%)	(1%)
Private Car	11%	24%
Motorcycle	60%	63%
Non-Motorized Transport (NMT*)	25%	11.6%

*: Non-Motorized Transport includes bicycle, walking, etc.

(Source) Information provided by JICA for 2007, Questionnaire results from MPWT for 2019

The target of "public transport share is increased by 5%" was set based on the assumption that the effects of the project would continue and that the BRT project by ADB would be started in three years after the completion of the project. However, it was difficult to keep the effects of the project under the circumstances that the city bus services stopped almost entirely for about two years immediately after the completion of the project due to the new coronavirus infection (hereinafter referred to as "COVID-19"), and about half of the employees left their jobs. Although the bus operations have gradually resumed since 2022, only 8 routes were in operation, compared to 15 routes at the time of project completion. The ADB's BRT project was also delayed due to COVID-19, and had not started operation at the time of ex-post evaluation.

Although COVID-19 had a major impact, other factors also played a role, such as the fact that the construction of the new Central Bus Station has remained suspended to this day after the pandemic[16], which has compromised the convenience of the services. On the other hand, as seen in Table 6, the modal share of private cars has approximately doubled since 2007, showing faster growth than MPWT had originally anticipated. According to the data obtained from MPWT, the number of registered vehicles in Vientiane City increased rapidly from 600,000 (2013) to 1.1 million (2022) over the 10-year period from 2013 to 2022, with an average annual increase rate of approximately 7%. In contrast, the average population growth rate in Vientiane City during this period was approximately 1.3%[17]. The growth rate in the number of registered vehicles exceeded the population growth rate. In other words, this shows that the number of people who own private cars and motorcycles is increasing. Furthermore, as mentioned above in the project purpose of Phase II, it would have been difficult to achieve the goal of promoting a modal shift to public transportation unless citizen's awareness of public buses had changed. Therefore, the modal shift to public transportation has not progressed due to

[16] VCSBE operates their buses using only the first floor of the Central Bus Station, where construction has been suspended.

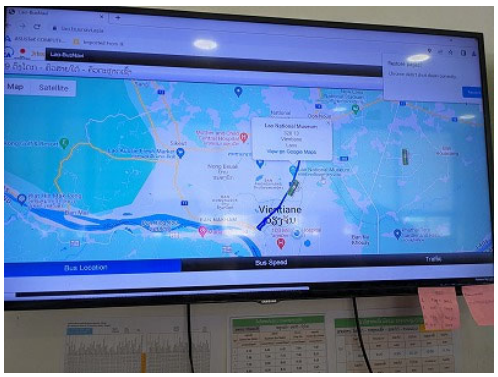
[17] The population of Vientiane City in 2013 was 627 thousand, and the population in 2022 was 706 thousand people (World Population Overview: https://worldpopulationreview.com/world-cities/vientiane-population)

various factors in addition to COVID-19, such as the fact that they are not able to increase the number of bus services because they cannot secure drivers due to tight finances in the absence of subsidies and other systems, the lack of convenience in terms of the service areas, which are still limited to main roads, and the fact that the number of people using private cars and motorcycles is increasing more than expected.

Even if the effects of COVID-19 and the postponement of the start of the BRT project are subtracted, it is difficult to say that the target of a 5% increase in the public transportation share three years after the completion of the project has been achieved. From the above, the project has achieved its overall goal only to a certain extent. It is also true that in both Phase I and Phase II, the logic of the project results did not lead to the achievement of the overall goal (please refer to "3.1.1.3 Appropriateness of the Project Plan and Approach").

Bus Stop installed on City2 Route

Central Bus Station where construction has been suspended



Bus Navigation System (Verification /Dissemination project)

Bus fare collected by conductor

(Source) Photos taken by the evaluator at the time of field survey

3.2.2.2 Other Positive and Negative Impacts

1) Impacts on the Environment

This project was classified as Category C based on the *JICA Guidelines for*

Environmental and Social Considerations (April 2010) as it was judged to have minimal or negligible impacts on the environment. No negative impacts were confirmed by the implementing agency and implementing consultant.

2) Resettlement and Land Acquisition

There was no resettlement or land acquisition for this project.

3) Gender Equality, Marginalized People, Social Systems and Norms, Human Well-being and Human Rights, and Unintended Positive/Negative Impacts

<Continuation of operation under City2 System>

After the project completion, it was not possible to continue operating under the City2 system due to the suspension of city bus services caused by COVID-19. In order to resume operation, VCSBE set up a project team and established a policy of operating all buses under City2 system in the future, which was the target of this project. VCSBE has experimentally resumed operation under City2 system since beginning of 2023. At the time of ex-post evaluation, only one route was operating under City2 system. However, the system was operated based on the PDCA cycle, such that a user survey was conducted using the know-how acquired through this project, and the survey results were reflected for further improvement. For example, based on the survey results, the timetable was revised to meet customer needs to improve services. Interviews with VSCBE and the observation revealed that some of the City2 practices were followed. Newly hired drivers underwent approximately three weeks of training on not only driving skills, but also the manners and attitude necessary for the service industry[18]. They were provided with uniforms and were thoroughly checked for alcohol every morning. Nevertheless, of the 8 routes operating at the time of ex-post evaluation, seven routes were operated under City1 system since it took time to coordination with relevant organizations to install bus stops and set timetables, and it was difficult to establish a fixed salary system for all drivers in the difficult financial situation. Even so, some City2 operation methods were introduced such as having a conductor on board and conducting alcohol checks[19].

In fact, according to an interview with VCSBE, there has been a change in awareness about the service, with City1 drivers and conductors now wearing uniforms

[18] Under the conventional system, drivers with experience of bus driving were hired without any training.
[19] Under the conventional system, the routes are fixed, but like a taxi, passengers get on and off where they want to get on and off. There are no bus stops or timetables.

as influenced by City2. Although there have been interruptions due to COVID-19, it can be said that the positive effects of the project are continuing as the City2 system is gradually expanding operations.

<Selected as a BRT Operator>

Interviews with ADB and implementing agencies revealed that a joint venture composed of VCSBE, a Lao private company and an international company was selected as the BRT operator. VCSBE will be the main operator (40% share), and local and international private companies will be selected through bidding. According to An ADB consultant, although VCSBE faces the issue of financial instability as it cannot enjoy subsidies or tax exemptions, it was judged that it was well-suited as a BRT operator because it had more than 30 years of bus operation experience. In fact, the ADB consultant has evaluated that the project has improved the management aspect of VCSBE, especially that the City2 management system implemented in Phase II has brought about changes such as the driver's salary structure and the addition of a conductor on board alongside the driver. Furthermore, it is believed that this result was achieved in part due to the continuous sharing of information and encouragement from JICA officials to ADB. Based on the information provided by JICA and interview results from JICA officials, it is believed that ADB did not initially envisage VCSBE as the BRT operator. It is due to the project's contribution that it was chosen as operator of the BRT.

<An Agreement Signed with the National University of Laos>

According to VCSBE, in July 2023, VCSBE signed an agreement with the National University of Laos to establish a route primarily targeted at students and school personnel. The conclusion of the agreement went smoothly because the relationship with the National University of Laos has been built when introducing student bus pass through this project. The idea came about because VCSBE have implemented various measures to increase the number of users in the project, including user surveys. Therefore, the conclusion of the agreement can be considered a contribution of the project. Although fares must be kept low as it is primarily aimed at students, VCSBE hopes that it will give students and other young people an opportunity to become familiar with buses, leading to an increase in the number of users in the future.

Since this project has achieved its project purpose and overall goal only to a certain extent, effectiveness and impacts of the project are moderately low. For the project purpose,

the project increased the operation numbers, carrying capacity, number of users to a certain extent, leading to improved services, while the target value was not reached in terms of increase in the number of users. The project established a new organizational called City2, reformed bus operation system, aimed at improvement financial base, and focused on using ICT systems to improve efficient operation and strengthen the management system. As a result, VCSBE was forced to take measures to counter the increase in ridership, such as reorganizing unprofitable routes and raising bus fares. Although the target value was not reached, these measures can be said to be necessary for the sound management system of VCSBE.

The overall goal of improving the modal share of public transportation was not achieved. Two months after the completion of the project, there was a lockdown due to COVID-19, and the city bus service was suspended. Even when it resumed, only a limited number of routes were available, creating an extremely difficult business environment for VCSBE. Besides, the increase in the share of public transportation was influenced by the need to further improve the convenience of road transportation as a whole, in addition to the change in citizen's awareness of public transportation. On the other hand, regarding the resumption of bus service, the continued effects of steadily implementing the restart and expansion of the City2 system was observed. In addition, other positive impacts were observed such as that the VCSBE has been selected as a key member of the BRT operator, and the conclusion of an agreement regarding bus operation with the National University of Laos. No negative impact was observed.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

Table 7　Plan and Actual of Inputs

	Phase I		Phase II	
Inputs	Plan	Actual (Completion time)	Plan	Actual (Completion time)
(1) Experts	Not mentioned	Short-term: Total 19 experts (97MM)	Short-term Number not listed (80 MM)	Short-term: Total 21 experts (87.04MM)
(2) Trainees received	Not mentioned	20 persons (4 times)	Not mentioned	13 persons (3 times)
(3) Equipment	Bus operation recording device, PC, Software for traffic analysis	Digital tachograph (Bus operation recording device), PC, Software for traffic demand forecasting/analysis	ICT system for bus operation management	ICT system for bus operation management
(4) Local Expenses	Not mentioned	47 million yen	Not mentioned	Not mentioned

Japanese Side Total Project Cost	307 million yen	390 million yen	358 million yen	427 million yen
Laotian Side Total Project Cost	Not mentioned	Not mentioned	Not mentioned	Not mentioned

(Source) Information provided by JICA

3.3.1.1 Elements of Inputs

Above Table 7 shows the inputs of the project.

3.3.1.2 Project Cost

The actual project cost for Phase I was 390 million yen compared to the planned cost of 307 million yen, slightly exceeding the plan (127% of the plan). In Phase II, the actual cost was 427 million yen compared to the planned cost of 358 million yen, slightly exceeding the plan (119% of the plan). In Phase I, there was an increase in expert costs due to the addition of Output 4 and Output 5, as well as an increase due to the additional equipment (one PC and one reader for digital tachograph management). In Phase II, there was an increase in expert costs for establishment of City2 which was not initially planned and in procurement cost for ICT equipment for bus operation management installed on Kyoto Buses. The increase in both phases were costs for implementing activities necessary to enhance the project effects. It can be judged that the increases in project costs were appropriate. The total project cost for both phases was 123% of the plan, slightly exceeding the plan.

3.3.1.3 Project Period

The project period of Phase I was planned from September 2011 to September 2014 (37 months), while the actual period was from January 2012 to March 2015 (39 months) (105% of the plan). The project period of Phase II was planned from June 2016 to May 2019 (36 months), while the actual period was from August 2016 to March 2020 (44 months) (122% of the plan). The total project period for both phases was 114% of the plan, slightly exceeding the plan. In Phase II, a new Director of VCSBE was appointed four months before the end of the project. The Laos side requested an extension in order to encourage the Director's understanding of the project. In fact, the organizational reform was progressed as the new Director has shown his understanding of the issues clarified by the project and the new management methods under City2. It can be judged that the extension was appropriate.

Therefore, although both the project cost and project period slightly exceeded the plan, efficiency of the project is high.

3.4 Sustainability (Rating: ②)

3.4.1 Policy and System

The 9th National Socio-Economic Development Plan (2021-2025), which is valid at the time of ex-post evaluation, places the construction of a new Central Bus Station as a priority project, while promoting urban development in the capital city of Vientiane. In relation to the project, one of the strategies is to build a sustainable and resilient infrastructure using the latest IT tools, such as mobile apps for bus scheduling and bus ticket payment. *The Mid-term Plan of VCSBE* at the time of ex-post evaluation aims to improve bus services, which backs up the continuation of the project effects. VCSBE has made it a priority to expand operations under City2 management system established through this project as a recovery from COVID-19. Based on the above, no major problems were found in the policy and systems related to this project.

3.4.2 Institutional/Organizational Aspect

There have been no major changes in the roles and organization structure of VCSBE. According to VCSBE, there were 90 employees before COVID-19, but due to the business downturn caused by the shutdown owing to COVID-19, half of them, 45, left in search of higher-paying jobs. 19 out of 25 employees in the Finance Division, which was the focus of the project, and 14 out of 36 employees in the Technical Affairs Division had left. Only one new employee was subsequently hired in the Division of Planning and Transport. Therefore, the existing staff members were in charge of work in multiple divisions at the time of ex-post evaluation. In particular, more than half of the staff in the Finance Division, and most of the mid-level employees who took the training have left. In addition, although there are 75 registered drivers, only 39 were operating at the time of ex-post evaluation. VCSBE is planning to strengthen the organization by hiring more staff and drivers as routes resume, but it is expected that recovery will take time.

Table 8 shows the number of buses owned by VCSBE. The existing buses, including the 42 green buses provided by the grant aid during Phase I, have not been in operation for about two years due to COVID-19, so many of them became aging and in need of major repair. The Kyoto Buses used as city buses were approximately 18 years old at the time of donation, and at the time of ex-post evaluation, all but the five used as Shuttle Buses were in a state beyond repair. The tight financial situation does not allow for quick response to major repairs, however, it is expected that 52 minibuses (24 seats) from the grant aid delivered in 2023 (FY 2020), will be utilized for the routes to be restored. Furthermore, VCSBE is expected to be actively involved as the BRT operator, thus ensuring its sustainability as an organization.

Table 8 Number of Buses Owned by VCSBE (by Types)

Operation Type	Type of Bus	Phase II		At the time of Ex-post Evaluation				Note
		Start (2016)	End (2020)	Existing	In Operation	Waiting for repair	Beyond repair*	
City Bus	Green Bus	42	42	42	22	20	0	For 20 buses waiting for repair, although there is financial issue, they are scheduled to be repaired within 1-2 years.
	Minibus	14	3	52	52 (18 buses actually in operation)	0	0	52 buses are provided by Japan's grant aid (arrived in 2023). 3 buses remained at the end of Phase II will be disposed within 2023.
	Kyoto Bus	-	23	23	0	0	23	23 buses beyond repair will be disposed within 2023.
	EV Bus	(10)	-	4	4	0	0	
	S-Total	56 (66)	68	121	78	20	23	
Friendship Shuttle Bus	Minibus	7	-	-	-	-	-	
	Kyoto Bus	-	7	7	5	0	2	2 buses beyond repair will be disposed within 2023.
	S-Total	7	7	7	5	0	2	
Inter-Provincial Bus	Large Bus	24	17	3	1	0	2	
	S-Total	24	17	3	1	0	2	
International Bus	Large Bus	6	2	1	1	0	0	
	Kyoto Bus	-	4	4	0	0	4	4 buses beyond repair will be disposed within 2023.
	S-Total	6	6	5	1	0	4	
Total ( ) including EV		93 (103)	98	**136**	**85**	**20**	**31**	

*: This refers to large-scale failures that cannot be repaired due to discontinuation of spare parts production or due to aging.
(Source) Information provided by VCSBE

3.4.3 Technical Aspect

It was confirmed that the main management staff including the Director had a sufficient understanding of the City2 management system introduced in this project. At the time of ex-post evaluation, the skills acquired in this project were still being used for bus schedule creation, route planning techniques, user needs surveys, income-generating means other than bus fares, and coordination with related organizations and methods for implementation of preferential transportation policies. There are no major problems with the continuation of skills in these areas, as new staff in charge are given on-the-job training to transfer their skills.

On the other hand, as mentioned above in "Institutional/Organizational Aspect," many

employees in the Finance Division and Technical Affairs Division, where the project put much effort, have left in search of higher salaries due to the financial deterioration caused by COVID-19. VCSBE confirmed that the guidelines and manuals for financial processing prepared for this project were not utilized, but they understood the importance of proper financial processing. VCSBE has hired a local consultant and is using a small number of people to perform accounting procedures in a more improvised manner, but this needs to be improved in the future as well as to strengthen the system. Therefore, there are some problems with the technical aspect to sustain the effects of the project, and the prospects for improvement are low, especially in the area of finance-related skills.

3.4.4 Financial Aspect

Although VCSBE once got out of the red in 2019 at the completion of Phase II, the revenue of VCSBE worsened in 2020 and 2021, as shown in Figure 3. Due to the near inability to operate buses as a result of COVID-19, it again went into the red. However, the deficit is not worse than it was during the implementation of this project. In 2022, bus service resumed, albeit at a limited frequency, and VCSBE returned to the black, indicating that the company's finances are improving. On the other hand, looking at the breakdown of expenses, fuel costs had accounted for about 40% from the beginning, but due to recent fuel price hikes and inflation[20], more than half (52.7%) of the expenses was fuel costs in 2022 (Figure 4). Next is labor costs, which account for about 20%, but it was observed that costs necessary for maintenance, such as spare parts, engine oil, and tire costs, are limited to about 5% of total costs, with almost no costs going to maintenance. In the questionnaire responses and interviews with VCSBE, they indicated that they were only able to cover minimal maintenance costs, and although they can expect stable revenues in the future as BRT operator, their financial situation will remain difficult in the short term. Therefore, some challenges are seen on the financial aspect, and the prospects for improvement are low in the near term due to the financial deterioration caused by COVID-19 as well as the recent sharp rise in fuel prices and the impact of inflation.

[20] According to the IMF, inflation rate in Laos was below 2% from 2015 to 2018, but it has increased significantly to 3.32% (2019), 5.10% (2020), 3.75% (2021), 23.00% (2022 estimate), 15.10% (2023 estimate) (World Economic Outlook, April 2023).

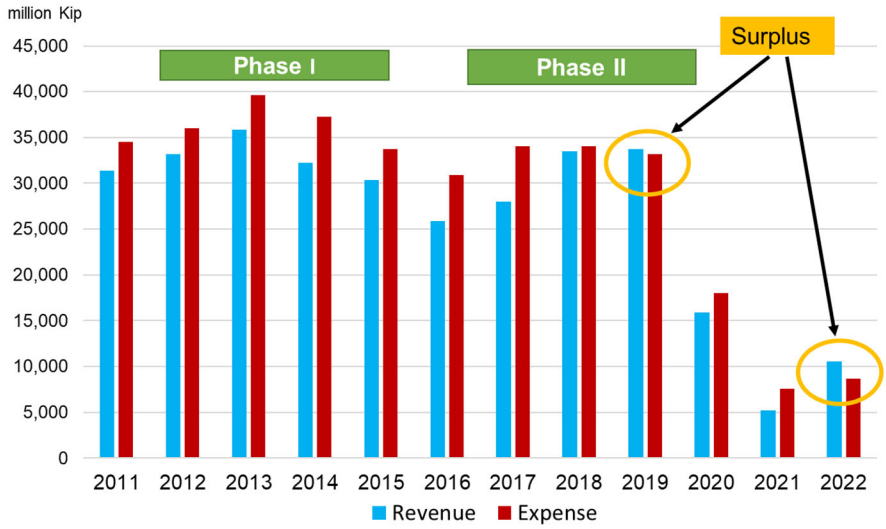


Figure 3　VCSBE Revenue and Expenditure

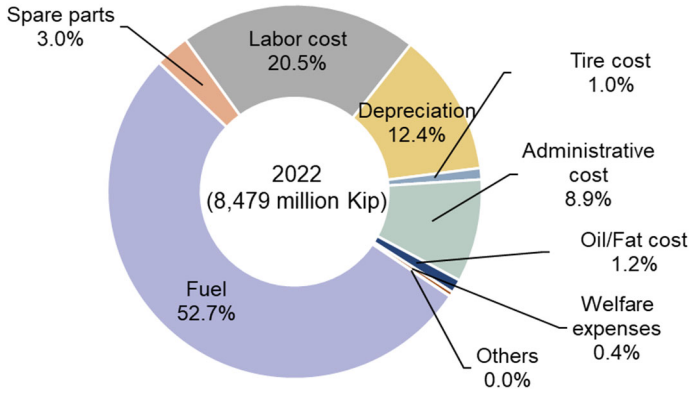


Figure 4　Breakdown of Expenditure (2022)

(Source) Questionnaire results from VCSBE

【Column】Cooperation between JICA and Implementing Agencies during COVID-19

The rapid COVID-19 pandemic began immediately after the completion of this project. JICA's contribution to VCSBE during the coronavirus pandemic deserves special attention. As part of the COVID-19 support for Laos, JICA surveyed the needs from MPWT and VCSBE soon after the pandemic began, and conducted an awareness campaign on the use of public transportation in June 2020. This support was coordinated with the World Bank. Specifically, JICA supported the production of posters and bus wrapping advertisements to promote infection prevention measures when riding a bus (see photo below). The World Bank supported the production of awareness videos. This support educated the public about infection prevention measures and safe transportation practices on public transportation, and provided information and reassurance to citizens who were concerned about public transportation in the coronavirus pandemic. The support also contributed to increasing the

appeal of public buses to citizens.

Furthermore, JICA proposed that VCSBE operate buses for transportation from the airport to quarantine hotels during the coronavirus pandemic. During the coronavirus pandemic, people in Laos had to stay at designated quarantine hotels upon entering Laos as a border control measure, but each person had to make their own arrangements for transportation to the hotels. There was a risk of infection spreading during the transfer to the quarantine hotels. Amid the suspension of city bus services, JICA proposed to MPWT the possibility of bus service between the airport and the quarantine hotels, as it would contribute to thorough infection prevention and the income of VCSBE. Following JICA's proposal, MPWT submitted a proposal to the National Taskforce Committee for COVID-19 Prevention and Control, which led to VCSBE officially operating a shuttle bus between the airport and the quarantine hotels starting in October 2020. In February 2021, JICA provided VCSBE with infection control equipment such as alcohol disinfectant for bus cleaning and protective clothing for drivers and conductors, which helped airport shuttle buses operate more smoothly and safely.

JICA's contribution during the coronavirus pandemic was made possible in a timely manner because even after this project was completed, JICA office continued to communicate with the implementing agencies and other related donors. It also monitored the current situation of VCSBE. According to VCSBE, due to the coronavirus, VCSBE has been in a very difficult financial situation, with drivers and staff having pay daily wages. It was said that they could not even afford to buy masks for their drivers. With little support from the government, JICA's support can be said to have contributed to the survival of VCSBE by providing a means of generating income.

Bus wrapping advertisement supported by JICA for infectious disease prevention awareness (Photo: Provided by VCSBE)

3.4.5 Environmental and Social Aspect

As a result of confirming with the implementing agencies, there were no unforeseen

issues related to environmental and social consideration.

3.4.6 Preventative Measures to Risks

In response to the risk of stabilizing revenue amidst the recent rise in fuel prices and the inability to receive preferential policies such as subsidies and tax exemption systems, VCSBE was taking appropriate measures such as promoting publicity regarding the resumption of bus service through Facebook and posters in order to increase ridership and conducting user surveys to improve bus services.

Some issues have been observed in terms of the technical and financial aspects. They are not expected to be improved/resolved in the near future. Therefore, sustainability of the project effects is moderately low.

4. Conclusion, Lessons Learned and Recommendation

4.1 Conclusion

The objective of the project was to improve urban public bus service and to promote public bus ridership in the capital city of Vientiane by enhancing corporate management/operation system of VCSBE, improving bus operation services and establishing/improving necessary public transportation policies on public bus services. As a result, the project also aimed to contribute to promoting a modal shift to public transportation. The objective of the project was consistent with the development plan and needs of the country and the project plan and approach were appropriate. In particular, the approach of establishing a new organization and promoting organizational reform was groundbreaking. The project was consistent with Japan's ODA Policy. Close collaboration with other projects within JICA and other organization such as Kyoto City was achieved from the planning stage, and concrete results were confirmed. Therefore, relevance and coherence are very high. Although the project objective of improving bus services was achieved to a certain extent, promotion of bus ridership was not achieved. In addition, overall goal of promoting a modal shift to public transportation was not achieved. On the other hand, continuation of the management system introduced in this project was confirmed, and positive impacts such as the selection of VCSBE as the main operator of BRT project, implemented by ADB, which provides efficient transportation by establishing bus-only lanes on some roads. However, the effectiveness and impacts of the project are moderately low, as only a certain degree of effects by the project could be confirmed compared to the plan. Efficiency is high as the project cost and period slightly exceeded the plan but not to a great extent. Sustainability of the effects of the project is moderately low since there are some technical and financial issues and they are not expected to be improved/resolved soon.

In light of the above, this project is evaluated to be partially satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

4.2.1.1 Recommendations to VCSBE

(1) VCSBE has announced a policy to resume and expand bus service under City2 system in the future. To this end, a phased implementation is planned by VCSBE, including retraining of drivers, installation of timetables at bus stops, ensuring that people get on and off at bus stops, conducting publicity activities and surveys for users, cooperative activities with schools and businesses, and introduction of an ICT-based bus fare collection and monitoring system. Although the implementation has been underway since 2023, it is recommended that in the short term, the plan to resume and expand operations using City2 system, which is still under implementation, be reliably implemented. In addition, the progress of the plan, future plans and issues, including the results of user questionnaires conducted during this period, should be widely disseminated to MPWT, DPWT, JICA and other relevant organizations.

(2) In order to increase the number of bus users in Laos, it is important to change the long-established negative image of public buses, such as frequent delays, unreliability, and being regarded as poor. To this end, along with service improvements, it is necessary to continue to provide information to users and educate them about the use of buses. It is also important to continue to actively appeal to high-level government officials regarding the importance of public buses, and to make efforts to have them understand the problems faced by VCSBE. For example, it is recommended that a report summarizing the implementation of the City2 system, which was resumed in 2023, and the challenges it faces, be submitted to the Mayor of Vientiane and other high-level government officials for discussion.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

<u>Review of indicators taking into account the environment surrounding the project</u>

Only a certain degree of achievement of the project purpose for Phase II and the overall impact of the project was confirmed relative to the plan. The main reason for this was that the indicators were not reviewed based on its logic problem. In some situations, the logic that improving bus service will increase the number of passengers could be logically valid, but in the case of this project, as pointed out in “Achievement of Project

Purpose of Phase II," improving service alone was not enough to increase the number of passengers. Therefore, it was necessary to flexibly change the indicators during the project period if the environment surrounding the project turned out to be different from what had been expected. For example, in a similar project, the project purpose could be set as "the implementation capacity of bus-related organizations to promote the use of bus transportation is improved" and the indicator could be set as "buses are operated as planned" instead of "the number of ridership increases." Another idea is to set the overall goal as "improving the image of public transportation" or "improving the convenience and comfort of bus transportation," and set the indicator as "increasing the level of satisfaction of users with related items."

When there are projects with which collaboration is possible, high synergistic effects can be achieved by discussing what kind of effects can be expected through collaboration and agreeing on some concrete collaborative activities at the time of planning as well as implementing the agreed-upon activities.

Regarding the coordination between this project and the grant aid that provided the buses, preparations for receiving the buses were planned from the planning stage of this project, and experts were actually dispatched before the buses arrived. As a result, the buses could be utilized promptly. In addition, the coordination was also made with the dissemination/verification projects from the planning stage regarding what types of collaboration and cooperation would be possible. As a result, data from the ICT equipment installed in the dissemination/verification projects was shared smoothly. From these data, this project was able to clarify issues related to operation status and fare collection. Furthermore, it has also led to the enhancement of the abilities of VCSBE staff members, such as using data to create timetables and service routes. Collaboration with Kyoto City was a case where collaboration was found to be possible during the project implementation. Kyoto buses were equipped with ICT equipment from the dissemination and demonstration project and used for operations in City2, and Kyoto buses were effectively utilized in the project and at the same time, efficient bus operations were achieved.

Planning and implementing specific activities in anticipation of collaboration effects at the project planning stage, or at the stage when the possibility of collaboration is confirmed in a project that is already in progress, will contribute to the development of high synergistic effects.

5. Non-Score Criteria

5.1 Performance

5.1.1 Objective Perspective

During the implementation of the project, JICA Laos Office closely shared information with VCSBE and the implementing consultants, and contributed to the project's effectiveness in terms of publicity by making the project one of the destinations for student study tours and press tours organized by the JICA office. In particular, strategic support for the press tour held in March 2018, including the introduction of the airport shuttle service and City2 activities in the tour, resulted in coverage in the local Japanese and Laotian language media, and played a role in raising awareness about the use of buses.

In the case of the donation of used buses by Kyoto City, Kyoto City learned that JICA supported the bus corporation of Vientiane, a sister city of Kyoto City, and consulted JICA about used buses that were in good condition. Then, the donation was made possible with JICA acting as an intermediary.

The selection of VCSBE as the main operator of ADB's BRT project was due in part to the capacity building through this project and the establishment of a new management policy through City2, as mentioned above in the “Impact,” but it was also due to the continuous efforts of the JICA office, implementation experts, and mission from JICA headquarters who shared information with ADB on related fields and lobbied continuously.

JICA's contribution was an appropriate response to the changes in the environment surrounding VCSBE, and was made possible by the close cooperation and information sharing that took place on a daily basis with the implementing agency and other related organizations.

5.2 Additionality

In this project, a new organization (City2) was created within VCSBE, and based on the new human resources, the new system was successfully rolled out smoothly as the existing organization gradually gained a better understanding of the project by accumulating achievements and producing results. In this regard, the innovative methods used by the Japanese experts in this project and the Japanese bus operators are notable for their creative value.

In order to improve the level of bus service, it was necessary to operate the buses under a different system and to manage them under a new system, by reforming the operation system, including the driver salary structure. However, making major changes to the system within the existing organization was likely to be resisted by the existing drivers. Therefore, in this project, a new organization called City2 was created within VCSBE, new drivers were hired for the routes operated by City2, and service improvement was started under the new

system. Specifically, a fixed salary system was adopted in place of the conventional salary system (lump sum system), which imposed a quota for achieving a certain number of passengers based on bus routes and the number of buses operated, and provided a base salary on the condition that the quota was achieved. In the lump sum system, the driver earns any surplus over the quota, but it was not possible to clearly control how much surplus there was, and unclear fee collection was a major problem. In addition, because drivers were paid as long as they achieved their quota regardless of their service level, this did not lead to an improvement in service level. Therefore, VCSBE decided to improve the operation management and service level by setting a fixed salary for the drivers and an incentive salary based on the evaluation of the bus corporation staff who manage the drivers. In addition, under the lump sum system, the bus and driver were fixed, so the driver in charge could not operate in the event of a bus breakdown. Therefore, the bus could only be operated for as long as one driver could operate it, but by sharing one bus between two drivers, it could be possible to operate for longer periods of time. In addition, a conductor was assigned to the bus to receive fares and provide information, allowing the driver to concentrate on driving. Efforts were also made to improve service, including providing training to drivers and conductors and providing them with new uniforms. The new payroll system implemented under City2 gradually spread to existing drivers, and existing routes were transferred to City2. They then transferred drivers who were willing to accept the new system to City2 and expanded the scope of City2's operations. As a result, they reduced the lump sum pay structure and succeeded in eliminating the lump sum system from all city bus routes by January 2020.

Creating a new organization to introduce and develop the new system was an idea that was generated mainly by Japanese experts in this project, based on the bus operation know-how of Eagle Bus Company, a Japanese bus operator that conducted one of the dissemination/verification projects.

(END)

Attachment

Difference between City1 and City2

	City1 (Existing system before Phase II)	City2	City2 (Transition)
Salary System	Lump sum Payment (The number of passengers (quota) is set depending on the route. A fixed amount is paid on condition that the quota is achieved. Drivers can obtain surplus charges when it occurs.)	Fixed Salary Payment or Non-lump sum Payment ・Full fare revenue is handed to VCSBE Drivers receive fixed salary independent of bus ridership (but dependent on working hours)	
Business Risk	Drivers (If the quota is not met, it will be deducted from the salary)	VCSBE	
Fare Payment	Fare is paid to a driver. No tickets are issued	Fare is paid to a conductor. Tickets are issued	
Management	VCSBE (City1)	VCSBE (City2)	City1 with some support from City2
Work System	・Drive the same bus (If driver takes leave, the bus will be suspended) Bus can only operate for as long as one driver can work (working hours are the hours the driver operates) ・Change the assigned route every six months. Once a route is assigned, there are no holidays, work everyday. No assignment means no work, so it is unstable.	・Shift work system ・One day off every 7-9 days	Shift work system but with longer operating hours
Drivers	Existing drivers	Newly hired drivers who underwent full training	City1 drivers who underwent partial training
Conductors	No conductors (some drivers ask their family to act as an informal conductor)	Newly hired conductors who undergo full training	
Greetings/ Manners	No specific training	Training for greetings and proper manners	Partial training for drivers
Uniforms	Old uniforms for driver	New uniforms for drivers and conductors	
Fixed Bus Stops	No	Installed for R10, R44	No
Timetable at Each Bus Stop	No (Timetables only at the Central Bus Station)	Setting up at bus stops on R10, R44 For other routes, only timetables at the main stops are given	No (Timetables only at the Central Bus Station)
Routes adopting the system (as of August 2016)	All city routes	—	—
Routes adopting the system (as of February 2020)	R05, R06	R10, R44, R11 (new routes) R32 (former City1 route transferred to City2) ITECC-Haikham (cancelled after introduction)	R08, R14, R20, R23, R29, R31 (City1 routes operating by City2 style system)

(Source) Information provided by JICA