Master Techniques

From Japan to the World — 4

Reviving Scheduled Bus Services with GPS

– Aiming to Introduce a Bus Operation Optimization System in the Capital of Laos

New buses donated by Japan. (Photo: Eagle Bus Co., Ltd.)

Laos, of the Association of Southeast Asian Nations, is experiencing rapid economic growth. With the sharp increase in the number of motorcycle and automobile owners, the country has also seen an increase in severe traffic congestion and traffic accidents. Laos needs to develop its public transport in order to alleviate this newfound traffic congestion.

Despite this, Vientiane Capital State Bus Enterprise operates a large number of aging buses that have exceeded their service life. Its fleet of buses, which stood at 120 in 2001, had decreased all the way to 77 by 2010. More and more people were eschewing buses for their own motorcycles or automobiles. Bus ridership, which was 7.6 million in 2002, had fallen by more than half to 2.85 million in 2009, while public transport usage had dropped all the way to 4%, making it difficult for Vientiane Capital State Bus Enterprise to maintain its business operations.

Vientiane Capital State Bus Enterprise needs to retire its aging buses and restore the frequency of services. Having received an official request from the Government of Laos, Japan provided 42 buses for Vientiane Capital State Bus Enterprise in the form of grant aid in June 2012. However, the bus company will need to source new buses on its own and regain its position as a daily mode of transport for the people in the future. To accomplish this, the bus company needs to improve its business management.

In November 2014, Eagle Bus Co., Ltd. of Kawagoe City, Saitama Prefecture, initiated a Feasibility Survey[1] with the Private Sector for Utilizing Japanese Technologies in ODA Project under JICA's Partnership with Japanese Small and Medium-sized Enterprises (SMEs)[2] because it wanted to share its know-how in improving bus company management with Vientiane Capital State Bus Enterprise.

Eagle Bus was once a tour bus company. But it marked the company's first inroads into the scheduled bus services business in 2006 when it acquired the scheduled bus services of Higashichichibu Village and other areas, which had been operating at a loss. While 90% of Japan's public bus companies were operating in the red, Eagle Bus successfully ushered in management reforms for scheduled bus services, by developing a proprietary Bus Operation Optimization System.

Mr. Masaru Yajima, President of Eagle Bus, decided to apply the Bus Operation Optimization System to the scheduled bus services in Vientiane. Specifically, each bus was fitted with a global positioning system (GPS) so that the company could easily know when and where the bus was in operation and where it stopped. Furthermore, sensors were installed on the doors of each bus to see where and how many people got on and off the bus. The data obtained from the system was recorded in a database so that the actual state of bus operations could be understood at a glance. Interviews were also conducted with bus drivers and passengers.

Japanese staff members install GPS in local buses. (Photo: Eagle Bus Co., Ltd.)

This survey shed light on the actual state of bus operations in Vientiane. Each driver operated one bus exclusively from morning till six o'clock at night. While bus stops did exist, bus drivers drove along routes where they knew that passengers were located, instead of making the regular stops. This meant they picked up passengers where they raised their hand and stopped where passengers asked to be let off. Bus drivers also stopped for long periods of time at bus stops with large numbers of passengers, and did not leave until the bus was full. This showed that bus drivers had operated buses at their own discretion and picked up passengers along the way. Once the day was over, bus drivers deposited the predetermined amount with the Vientiane Capital State Bus Enterprise and kept the rest as their pay.

In other words, Vientiane Capital State Bus Enterprise had not grasped the sales of each bus and the number of passengers it carried. This also demonstrated that despite its scheduled bus services there was actually neither a fixed route nor schedule in reality.

President Yajima explains, "Bus drivers know where passengers are and when they want to ride the bus. GPS and passenger detection sensors enable the measurement of data, analysis of circumstances, and creation of solutions, which will lead to the most optimized routes and schedule." In this manner, President Yajima became convinced that Vientiane Capital State Bus Enterprise could quickly win back passengers that had left due to its aging fleet, provided it optimized its bus operations and created an operation plan to make full use of its 42 new buses.

President Yajima is also thinking of the future strategy for bus tourism. "Until now buses stop running at six o'clock at night, but they should run at night as well for tourists and other passengers. Laos was named the 'World's Best Tourist Destination for 2013' by the European Council on Tourism and Trade. A large number of tourists travel to the capital, Vientiane, from Europe and North America, including backpackers on extended stays. As was the case with our success in Kawagoe City, Laos should be able to plan a tourism-oriented business where travelers are able to take public buses," says President Yajima, who originally worked in the tourism industry. He believes in the potential for tourism to transform management.

As Laos continues to develop, public transport will play an even more important role. There are high expectations towards the technologies and know-how of Japanese bus companies in optimizing bus operations to be applied to Vientiane's public transport development and tourism strategy.

*1 Please see the note on page 108 for a description of the Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project.
*2 Please see the note on page 108 for a description of the JICA's Partnership with Japanese SMEs