

The Future of LAMAT System in Asian Developing Countries: Whether to Eliminate or Tolerate It?

(アジア諸国における LAMAT システムに関する研究)

Veng Kheang PHUN 研究員

1. Introduction

The term “LAMAT” refers to the indigenous public transport modes that are Locally Adapted, Modified and Advanced for a certain transport service in a particular city or region. LAMAT includes all intermediate transport modes between private vehicles and conventional mass transit, ranging from non-motorized two-wheelers (bicycle taxi) up to motorized four wheelers (minibus), with a maximum seating capacity of about 25 passengers. LAMAT has been proposed and used instead of the previous term “Paratransit” due to its numerous descriptions found in Asian countries.

LAMAT plays a significant role in Asian developing cities. It provides not only personalized and flexible transport services to citizens with certain service quality and reasonable fare but also assists the social activities through its service availability and job opportunities for the poor or low-skilled people. To some extent, its operations often cause traffic congestion, traffic accident, and air pollution.

Due to the rapid economic growth and urbanization, the governments have considered operating mass transit system (e.g., Bus rapid transit, Light rail transit) to cope with urban traffic issues. Either new introduction or expansion of a mass transit system will affect the existing LAMAT services. Consequently, concerns are raised whether the LAMAT system should be eliminated or it should be promoted with better service performance and less negative impacts?

This study discusses the future directions of LAMAT system in Asian developing cities.

2. Methodology

In the literatures, there are lacks of studies on the operator intention of operating as feeder of mass transit, market share of LAMAT, etc. in Asian developing cities. Interview survey was conducted with drivers of Motodops and Remorks in Phnom Penh, as a case study city, to investigate their intention to feed the recent public bus service, using Structural Equation Model (SEM). Person trip data from several Asian cities will be used to explore the market share of LAMAT. Literatures are also reviewed to discuss the future of LAMAT.

3. Results

Results from modal share showed that Bicycle taxi, Man-pulled rickshaw and Animal cart have been almost disappeared from 11 Asian developing cities. Cycle rickshaws still exist in some cities including Dhaka and Cebu, but they have been banned from entering the CBDs. Motorized LAMAT modes remain active in urban streets, while some cities regulated and prohibited their operations. Fixed-route LAMAT like microbus and minibus had high modal share in Jakarta, Ulaanbaatar and Manila. In Phnom Penh, SEM results showed that drivers of Motodops supported for the public bus service and intended to operate as its feeder mode, but drivers of Remorks did not. A more effective regulation (e.g., standard fare, uniform) also showed to encourage the feeder service of the public bus. This indicates that operation of Motodop should be regulated while leaving the operation of Remorks as it is.

4. Conclusions

Most non-motorized LAMAT modes including man-pulled rickshaw has been almost disappeared due to their operational characteristics (e.g., low speed, in-human working). Ordinary LAMAT modes including auto rickshaws have been eliminated (e.g., Diesel Tempo in Kathmandu) or banned from major streets (e.g., Tricycle in Cebu) or converted using fuel alternatives (e.g., E-trike in Philippines).

However, LAMAT services should not be simply eliminated due to the stability of social economy (e.g., jobs for the poor) and inevitable needs for transport poor. To this end, LAMAT should be promoted with better service performance: 1) Improvements on service quality (e.g., comfort, safety), 2) Integration with mass transit system (e.g., feeder modes, coordinated service), 3) Promotion of E-LAMATs, and 4) The government role (e.g., supporting infrastructures, green transport policy).

In sum, the future of each LAMAT mode depends not only on its operational characteristics but also other factors such as users, operators, vehicle & technology, and the government.