First and Last Mile Access to Public Transport in Lao PDR

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Presentation Outline

I. Introduction
II. Public Transport in Laos
III. Road Public Transport in Vientiane
   1. Formal PT and Paratransit
   2. Green and Smart Mobility
   3. Demand Responsive Transport (DRT)
IV. Strategic Planning
I. Introduction

Our goal is to become a land-linked country in the mainland of ASEAN and Greater Mekong Sub-region (GMS).

- Land area: 236,800 km$^2$
- Population: 7.75M (2022 est.)
- Pop. Density: 26.7/km$^2$
- The economy base is agriculture, mines, hydro power and services.
- Total GDP: 14.24B USD
- GDP per capita: 1,878 USD (2023 est.)

Vientiane City is the economic center of Lao.
II. Public Transport in Laos

1. Lao-China railways, Lao-Thai railways
2. Intercity bus between province to province, province to Capital city
4. Public bus, paratransit (Songtheo, Tuk-Tuk, Jumbo), van, taxi, motorbike-taxi

Figure 3. PT in Laos
III. Road Public Transport in Vientiane

There are 7 main types of road PT modes operating: bus, taxi, jumbo, tuk-tuk, songteo, van and motorcycle-taxi.

From 2017, car-taxi and motorcycle-taxi started to increase. More importantly, 3-wheel vehicles are the most prominent modes.
1. Formal PT and Paratransit

CITY BUS / BRT & TAXI (formal PT)

- City bus is government operated company
- Fixed operation schedule and stops
- Cash payment and paper-tickets
- BRT will be introduced in 2025 with e-ticket and cashless payment

Van, Songteo, Tuk-Tuk & Jambo (paratransit)

- Unregulated, single owner-drivers
- Flexible routes and stops, 24/7 operations
- Songteo is competing with city bus
- Tuk-tuk and Jambo are limited to City center and tourist areas
- Plan to integrate paratransit as DRT
2. Green and Smart Mobility

Lao Bus Navi (Real time bus tracking system)

- Initiative green and smart mobility, and intelligent transport systems (ITS) to meet transport needs, improve connectivity, accessibility and achieve sustainable development.

E-vehicle promotion program

- Ride-hailing service (RHS) is popular in Lao.
- Aims to increase EV bus, taxi, E-tuktuk and E-taxi services.
3. Demand Responsive Transport (DRT)

Demand-Responsive Transit (DRT) is an app-based PT service that operates on a flexible schedules and routes based on real-time demand from passengers.

Vientiane DRT combines flexibility of paratransit to support formal PT fixed routes like BRT (Trunk route).

DRT modeling scenario identified potential to improve connectivity, accessibility and, increase public transport mode share.

Paratransit can be organized and monitored. Introduce cashless payment and collect data for future plans.

Figure 10. Fixed route and DRT
Demand Responsive Transit (DRT) for Informal Transport

DRT OPERATIONS NETWORK MODEL

DRT is used as feeder service to BRT. Both BRT and DRT are not capacity-constrained (meaning that capacity is matched to demand).

### Table 1. DRT scenario model

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
<th>Image</th>
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<tbody>
<tr>
<td>Scenario 1a</td>
<td>DRT vehicles allow for first-mile/last-mile trips that must begin or end at a BRT Station. DRT does not compete with BRT but acts as a feeder. In this scenario, there are 15 designated pick-up/drop-off areas that DRT services must use. <strong>Overall area served by DRT is very large.</strong></td>
<td><img src="image" alt="Figure 11. DRT scenario model service areas" /></td>
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<tr>
<td>Scenario 1b</td>
<td>DRT vehicles allow for first-mile/last-mile trips that must begin or end at a BRT Station. DRT does not compete with BRT but acts as a feeder. In this scenario, there are 15 designated pick-up/drop-off areas that DRT services must use. <strong>Overall area served by DRT is compact.</strong></td>
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<td>Scenario 2</td>
<td>DRT may compete with BRT for short trips within the city center. The inner area is generally bounded by the ring roads.</td>
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Demand Responsive Transit (DRT) for Informal Transport

SP SURVEY RESULTS

Respondents are generally in favor of both implementing and using DRT.

The following are where respondents intend to use it:

- 34% for local area circulators
- 10% for to and from transport hubs
- 36% use for full commute
- 32% use to school
- 12% use for business travel

Figure 12. Opinions on DRT system

Figure 13. Intention to use BRT with DRT system
Conclusions and Recommendations

• Results from the survey shows DRT is highly accepted, respondents indicated they would be willing to use it in combination with BRT in the future.

• This shows DRT has good potential to improve paratransit operation and improve first and last mile accessibility.

• MPWT is improving PT through paratransit integration, green and smart mobility, and DRT.

• However, more support is necessary to meet strategic planning goals.

Figure 14. Future connection of Public Transport in Vientiane
IV. Strategic Planning

Short-term: Building Foundational Knowledge and Skills

Output 1: Comprehensive Needs Assessment and Gap Analysis

• **Outcome:** A clear understanding of the current situation, key challenges, and priority areas for intervention.

Output 2: Targeted Capacity Building Programs

• **Outcome:** Enhanced knowledge and skills among key stakeholders to effectively address the evolving landscape of first and last mile access.

Medium-term: Developing Policy and Regulatory Frameworks

Output 1: Draft Policy and Regulatory Framework for First and Last Mile Access

• **Outcome:** A robust and future-proof policy and regulatory environment that enables the safe and responsible adoption of new technologies.

Output 2: Pilot Projects and Regulatory Sandboxes

• **Outcome:** Evidence-based policy and regulation development, mitigating risks associated with new technologies and ensuring solutions are context-appropriate.
IV. Strategic Planning

Long-term: Ensuring Sustainability and Regional Integration

Output 1: Sustainable Financing Models and Investment Promotion
- **Outcome**: Increased investment in first and last mile access, ensuring long-term sustainability and reducing reliance on public funding.

Output 2: Regional Knowledge Sharing and Harmonization
- **Outcome**: Enhanced regional cooperation and harmonization, promoting seamless and efficient first and last mile connectivity across borders.
Thank you for your kind attention.