TOWARDS A VIABLE SHARED MICROMOBILITY ECOSYSTEM

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DISCLAIMER TEXT

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This project was conducted under the mentorship of the City of Vancouver staff. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of the City of Vancouver or the University of British Columbia.

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The author acknowledges that the work for this project took place on the unceded ancestral lands of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səlilwətaɬ (Tsleil-Waututh) Nations.

EXECUTIVE SUMMARY

Introduction

To support the Climate Emergency Action Plan (CEAP) goals, the City of Vancouver (CoV) pursued the expansion of it's shared micromobility (SMM) programs. The City issued an RFP to launch a Shared E-scooter System (SES) to complement the existing Mobi by Rogers public bike-sharing system (PBS). In 2024, Lime began to operate the docked Shared E-Scooter System in Vancouver, first launching the service in Hastings-Sunrise and Grandview Woodlands neighbourhoods. As Lime gradually expanded it's service area to downtown Vancouver, the overlap of two docked systems in dense, high-demand areas creates both an opportunity to increase sustainable trips and a risk of potential competition and conflicts.

Research Objectives

To unpack the coexistence and inter-operators' dynamics in Vancouver, this report aims to study comparable case studies to understand the inter-operators' dynamics and identify the strategies incorporated by cities to manage multiple shared micromobility systems. The key research questions are:

1. Given the similarities between (E-)bike and E-scooter share systems, is the new shared E-scooter program supplanting the existing bike-sharing system, or are they complementing each other to encourage a mode shift towards active transportation?

2. What strategies and tools should be used by the City of Vancouver to effectively manage the coexistence and smooth integration of multiple SMM operators?

Methodology

The report answered the research questions through a literature review and stakeholder engagement (staff from other municipalities who operate two or more shared micromobility systems). The first part of the report established a foundation of knowledge on key terms and definitions used in SMM, as well as reviewing multiple case studies. Case studies were intended to reflect potential challenges in multi-operator SMM ecosystems and identify best practices and strategies used by cities to address challenges. Considering the context and data availability, the case studies were primarily from North America, including Washington, D.C., Seattle, Portland, and Denver.

The second part of the report focused on collecting insights from shared micromobility professionals employed by the public sector through a combination of surveys and semi-structured interviews. Responses from both the survey and interviews were analyzed using thematic analysis to identify key themes and sub-themes.

Figure 1 shows the key and complementary themes that emerged through the study. The study framework encompasses key themes to analyze and categorize findings from reviewing case studies and consulting with SMM experts. The framework was developed during the literature review and further evolved through outreach to experts. Findings from the literature review were also reorganized to match the framework and ensure consistency throughout the report. Complementary themes are additional practical details that emerged during the experts' outreach to complement the understanding of the SMM ecosystem, as well as recommendations to improve current systems.

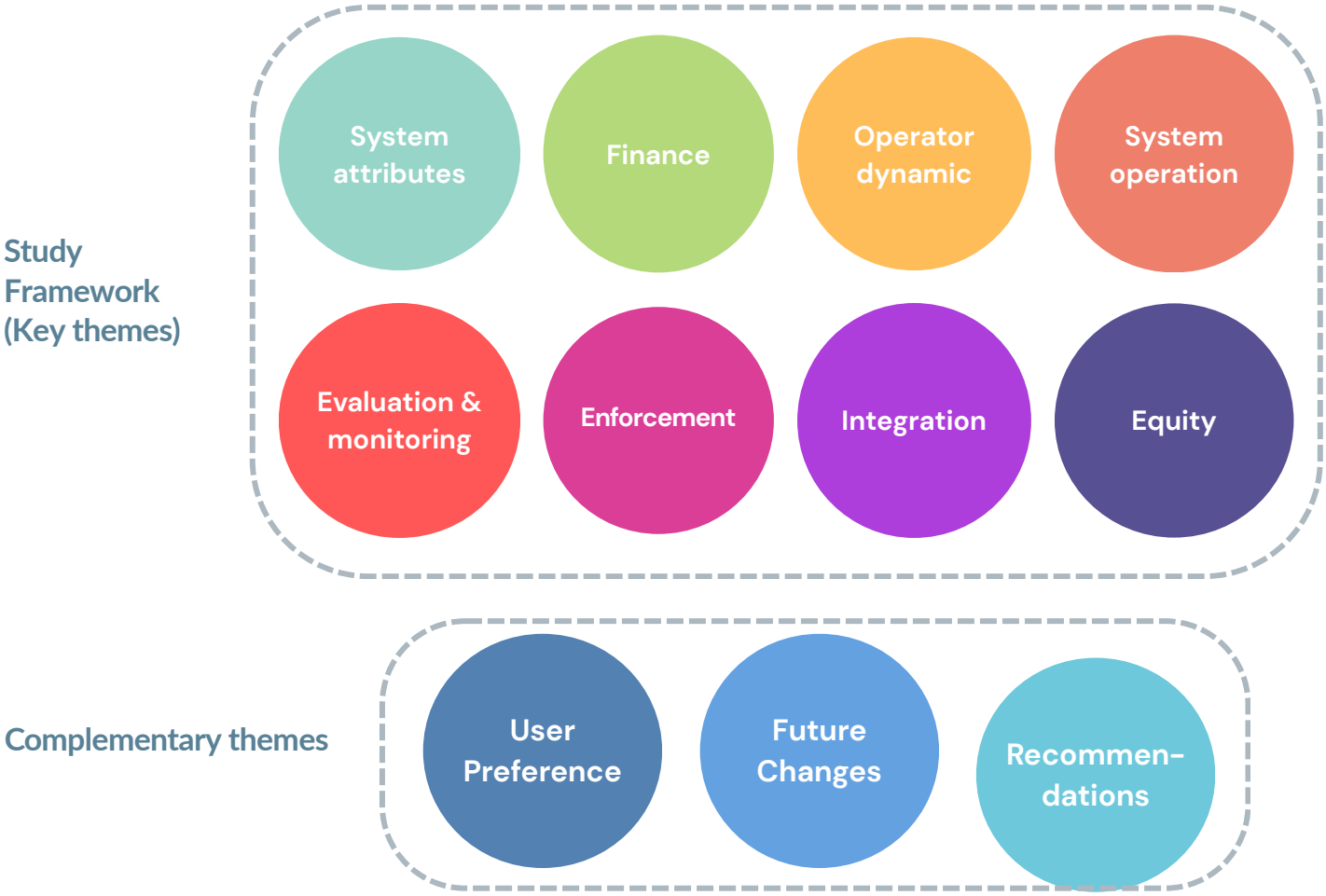

Figure 1: Study framework (extracted from literature review and experts' outreach) and complementary themes (additional details extracted from experts' outreach)

Findings

Cities with multiple shared micromobility operators are more likely to succeed when the public sector is actively supporting the system (e.g., through incentives, investments, constant monitoring, and cooperation), and the regulatory framework is clear and transparent. As emphasized in case studies, regular, structured communication with operators reduces conflicts, and a clear enforcement system (e.g., escalating fines or penalties, fleet reductions, temporary suspensions) is required to manage non-compliances.

Understanding and evaluating SMM system performance requires clear goals, measurable metrics, systematic data collection, and visualization tools (typically through dashboards such as Populus or RideReport). To compare system performances across multiple operators (and systems), a set of comparable KPIs is required. For instance, Trips per vehicle per day (TVD) is an insightful KPI often used by cities to evaluate system ridership and performance.

To provide equitable access to all people, SMM programs should contain equity requirements that are carefully designed to reduce barriers and capped to ensure long-term financial viability.

Implications

According to the findings, the recommended implications for Vancouver are as follows:

- **Provide ongoing support for the local SMM program:** To remain competitive, Vancouver's public bike-share might consider securing long-term sponsorship, seeking targeted subsidies, investing in fleet upgrades (including more e-bikes), and renewing docking and charging infrastructure.
- **Implement continuous monitoring and comparable KPIs:** Develop a city-controlled real-time dashboard and a standardized, comparable KPI set (for example: utilization rate, zero-rate, parking violation rate, and equity indicators) to enable regular evaluations.
- **Design precise, targeted equity programs:** Replace uncapped benefits with capped, eligibility-based subsidies or time-limited credits to ensure affordability, predictability, and service provision for eligible users.
- **Diversify services strategically:** Plan for offering diverse fleet options, including family-friendly and cargo bikes, and prepare to incorporate seated scooters if provincial regulations permit, to increase system utility.
- **Establish formal co-governance and communication protocols:** Institute regular bilateral meetings with each operator and periodic joint sessions to discuss system-wide issues. Publish clear and uniform regulatory expectations and performance requirements.
- **Adopt a tiered enforcement framework:** Use a graduated approach to non-compliance, including warnings, performance-based incentives/penalties, escalating fines, and temporary suspensions. Reserve the right to terminate the contract as a last resort.
- **Embed safeguards in long-term contracts:** When awarding extended agreements, include explicit language that highlights municipal authority and control over system management, pricing, coverage, and contractual requirements. Allow for check-ins to protect competition and public interest.
- **Require measurable education and outreach effort:** Make community education and engagement a contractual obligation with defined KPIs (e.g., number of events, staff hours, participant counts) and include these metrics in operator performance reviews.


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