EXECUTIVE SUMMARY

GOVERNANCE OF ON-DEMAND MOBILITY SERVICES

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Mobility has undergone a profound transformation over the different industrial revolutions. The emergence of the rail and automobile industries addressed earlier socioeconomic needs, while the third industrial revolution introduced computer-aided transport. The fourth industrial revolution, marked by digitisation, has fundamentally altered societal behaviours and ushered in a new mobility era. This digital revolution has facilitated the development of innovative transport solutions, attracting new entrants

industry and change user behaviour. On-demand mobility services (ODMS) are transport services that are available at any time, i.e. on-demand. Traditionally, these services have been offered by taxis and private vehicles. However, with the advent of digital technology, ODMS are reshaping the traditional notions of public and private transport with the click of a mouse or the use of a smartphone application.

Ride-Hailing

Shared E-Scooters And Mopeds

Car-Sharing

Shared E-Bike

Food Delivery

Parcel Delivery

INTEGRATING ON-DEMAND MOBILITY SERVICES INTO PUBLIC TRANSPORT TO ENHANCE MOBILITY LANDSCAPE

Physical and digital integration of multimodal transport into city landscape where users can easily switch from public transport systems to other mobility options such as bike and car-sharing. "If well-planned and well-managed, urbanisation can be a powerful tool for sustainable development for both developing and developed countries".

The New Urban Agenda adopted in 2016 at Habitat III in Quito, Ecuador (UN Habitat, 2016)

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armed with cutting-edge technologies. However, this paradigm shift has disrupted conventional city planning, forcing authorities to rethink their approaches. With 55% of the world currently residing in urban areas, and this figure projected to rise to 68% by 2050, according to the UN's World Urbanisation Prospects, the escalating demand for urban mobility necessitates systems that are not only convenient and fast, but also predictable, to align with evolving travel aspirations and behaviours. With the arrival of advanced technologies, big data, artificial intelligence (AI), and the internet of things (IoT), a wide range of new urban mobility solutions are emerging. This revolution has enabled the rapid rollout of new mobility solutions (NMS). The emergence of new mobility or on-demand mobility is forcing the whole public transport (PT) ecosystem to take a hard look at how they operate, in order to be sustainable in the future. Authorities and service providers have the power to redefine the mobility

This study, focused on the on-demand mobility services governance, was proposed by International Association of Public Transport (UITP) and Land Transport Authority

(LTA) with the aim of getting a better understanding of what are the on-demand mobility services, including their business models and how to adapt policies to address the emerging trend of 'disruptors' in the mobility market. The continuously changing landscape of urban mobility systems, especially on-demand services, is posing a considerable challenge to many public transport authorities (PTAs) across the globe. Asian cities are particularly quick to adopt new technologies, as many face the issue of rapid urbanisation and urban development. This report examines the current state of public transport systems and the impact of on-demand services on the urban mobility landscape and provides an overview of the difference types of governance approaches across ten Asia-Pacific cities. The project team consulted over fifty organisations from the public transport and on-demand mobility service sectors through an online survey, two workshops, and interviews.

This study aims to provide practical understanding and new ways of thinking to help organisations, especially PTAs, manage the shift toward more sustainable cities that are less reliant on private vehicles. Through various case studies and supporting data, it encourages PTAs to collaborate with new mobility service providers to complement public transport. It underscores the significance of employing regulatory and legislative tools to cultivate sustainable business models in the evolving mobility paradigm.

ON-DEMAND MOBILITY: THE CURRENT STATE OF PLAY IN PUBLIC TRANSPORT INDUSTRY SECTOR

The public transport organisations and end users consulted in this study expressed mixed views about the current landscape of public transport system and challenges and opportunities arising from the rollout of on-demand mobility services.

Our research results indicate that the mobility market is changing fundamentally and rapidly due to the rollout of new technologies and innovations. However, users may have concerns about the collection and use of their personal data by on-demand service providers. Users mentioned that payment modes, offers, and cost can be significant factors in attracting or deterring certain user segments. They highlighted the importance of convenience and flexibility, with options tailored to their specific needs, allowing them to use these services when and where they want. Similarly, public transport organisations indicated that adapting to regulatory frameworks for on-demand services can be complex,

requiring coordination and adjustments to existing public transport regulations, changes in existing infrastructure, and technology integration. At the same time, public transport organisations can potentially attract new customers by addressing the first/last mile connectivity challenge through new mobility services, connecting commuters to public transport hubs and improving overall connectivity in the public transport system.

Photo credit: AscentCmedia, istock photo

The project team conducted two online surveys. An end-user survey was conducted in 4 Asian cities—Singapore, Greater Tokyo, Greater Taipei, and Greater Bangkok—to get a better understanding of user perceptions of on-demand mobility services and their impact on public transport. A UITP member survey, which generated 55 responses from public transport organisations, including authorities, operators, service providers, and research institutes, was also conducted to gain an understanding of the role(s) each stakeholder group plays in the on-demand mobility services public transport stakeholders' perceptions of on-demand services with regards to their impact on the urban mobility ecosystem.

SHIFTING GEARS OF SOCIETY

A wide variety of environmental, social, and transport-related benefits have been attributed to the utilisation of shared and on-demand mobility with the traditional public transport system. Several studies have documented a decline in vehicle ownership, vehicle use, and vehicle miles/kilometres (km) (Machado, C et.al., 2018; Jie F. et. Al., 2021). Findings from our literature review, workshop, and surveys indicated that, along with environmental and social impacts, other major benefits include cost savings and convenience.
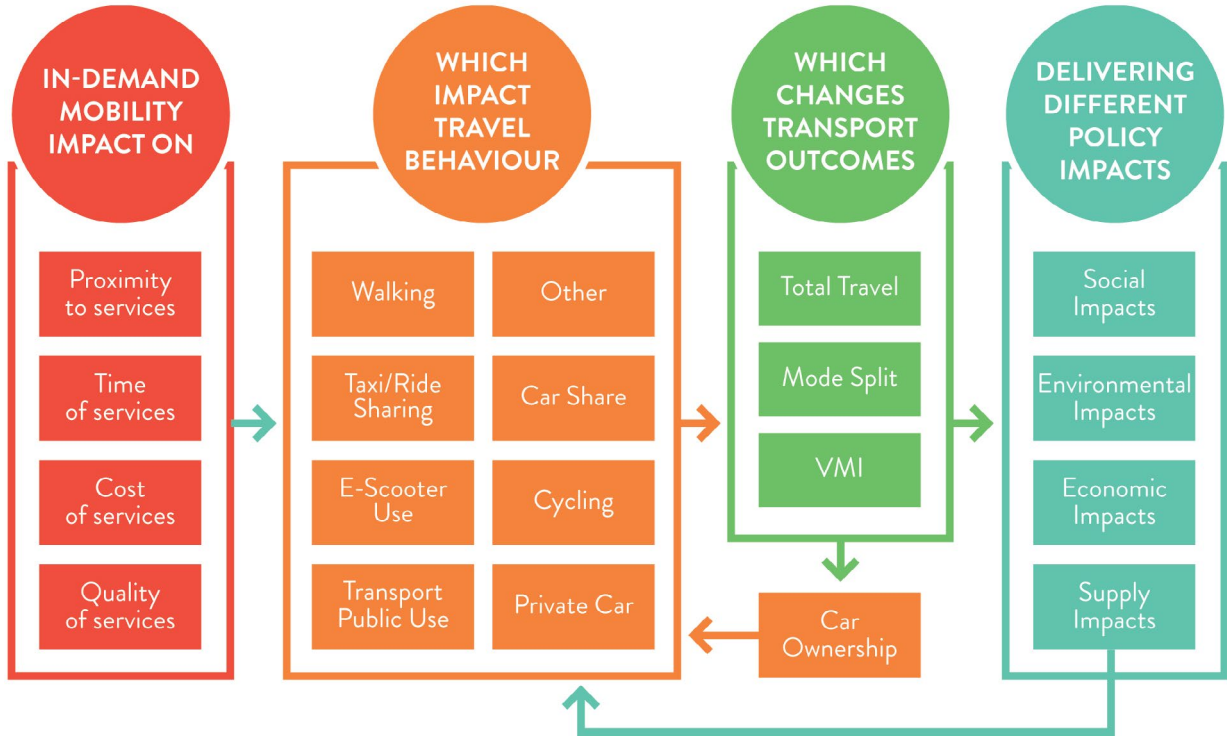
IN-DEMAND MOBILITY IMPACT ON
- Proximity to services
- Time of services
- Cost of services
- Quality of services

WHICH IMPACT TRAVEL BEHAVIOUR
- Walking
- Other
- Taxi/Ride Sharing
- Car Share
- E-Scooter Use
- Cycling
- Transport Public Use
- Private Car

WHICH CHANGES TRANSPORT OUTCOMES
- Total Travel
- Mode Split
- VMI
- Car Ownership

DELIVERING DIFFERENT POLICY IMPACTS
- Social Impacts
- Environmental Impacts
- Economic Impacts
- Supply Impacts

Photo credit: pexels-olly

UNLOCKING THE POTENTIAL OF SEAMLESS MOBILITY THROUGH EFFICIENT BUSINESS MODELS

A sound business model is the backbone of a successful integrated public transport system, especially when there is significant public sector involvement. It ensures the financial viability, quality, and long-term sustainability of these systems, while simultaneously fostering innovation and efficient resource utilisation. Essentially, it addresses the question of what we provide to a specific target audience that not only caters to their needs but is also superior to their current alternatives. In essence, it revolves around value creation—something they are inclined to invest in, whether partially or entirely. The study has highlighted the application of a range of different business models across various transport modes, including the cases of Grab in Southeast Asia, Uber and Lime in Denver, Colorado in the United States (U.S.), and Ola in India.
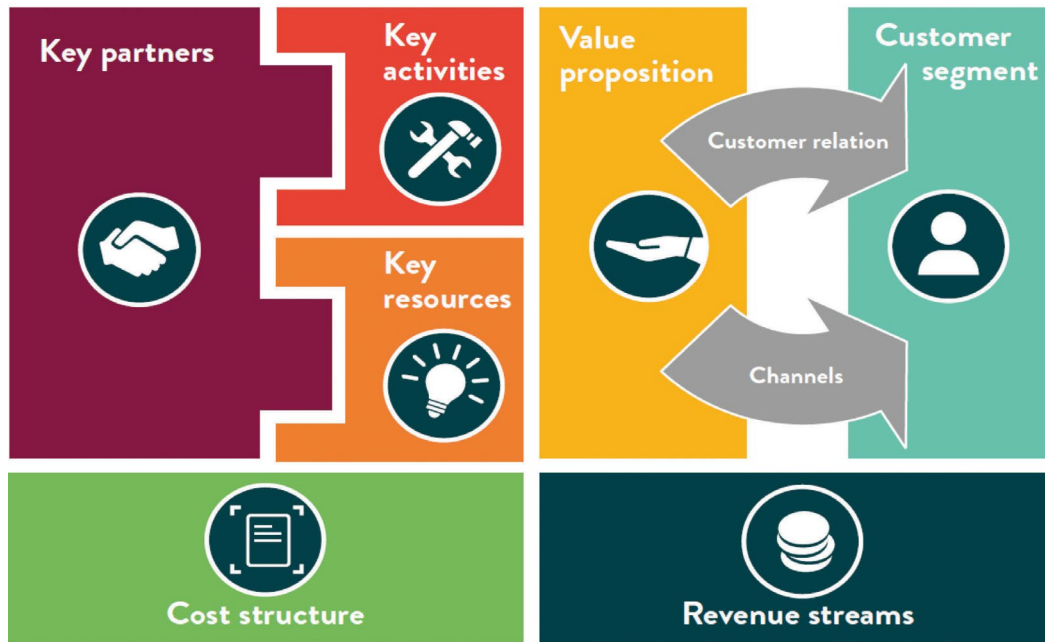
Source: UITP, 2024

The study identified the following key drivers such as localised services, partnership with local companies, market size assessment, adopting to innovations and technologies, and supportive governmental policies are few identified drivers though stakeholders' engagement.

Key drivers:

Large Market Size	Localised Services	Local Partnership	Innovation	Government Support
• Asia Pacific region has a massive population and a growing middle class. • Traffic congestion and limited public transportation options. • On-demand mobility services an attractive alternative.	• Tailored offering to meet the specific needs and preferences of local custoerms. • For examples, some services offer motorbike taxis or tuk-tuks in Southeast Asia, which are popular modes of transportation in the region.	• Partnerships whith local companies to expand their offerings and gain market share. • In Indoneisa, Grab (a ride-hailing company) has partnered with local motorcycle taxi drivers to offer ride-hailing services through the GrabBike app.	• Investing heavily in technology to improve their services and gain a competative edge. • For example, some services are experimenting with autonomous vehicles and electric scooters as a why to reduce costs and increase efficiency.	• Many governments in the region are supportive of ondemand mobility services and have implemented regulations to help them operate more easily.

Source: UITP, 2024

We also identified six key barriers are stumbling block road ahead of the integration of on-demand mobility services into overall urban mobility services. These can be categorised as social, Economic, infrastructural, operational, technological and political barriers. This research discusses about each of these in details in chapter five of the study.
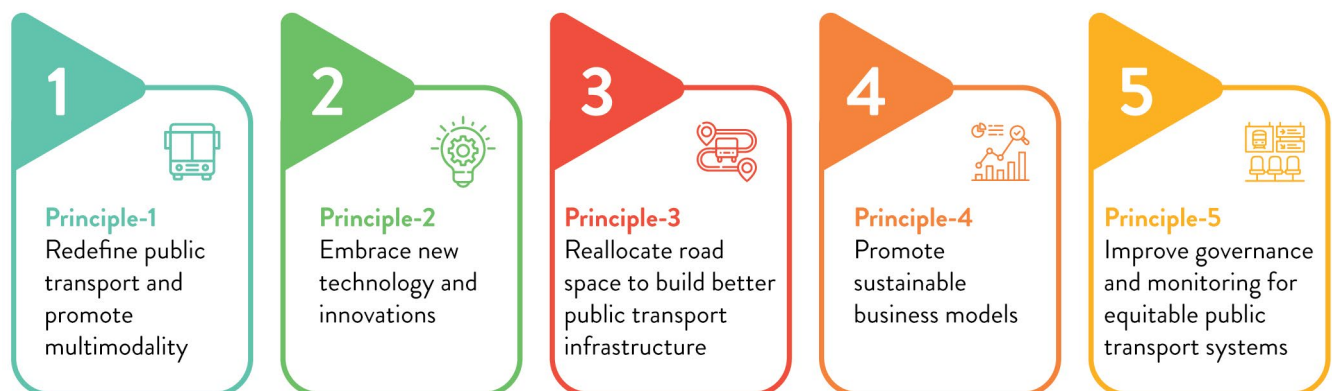
Key barriers:
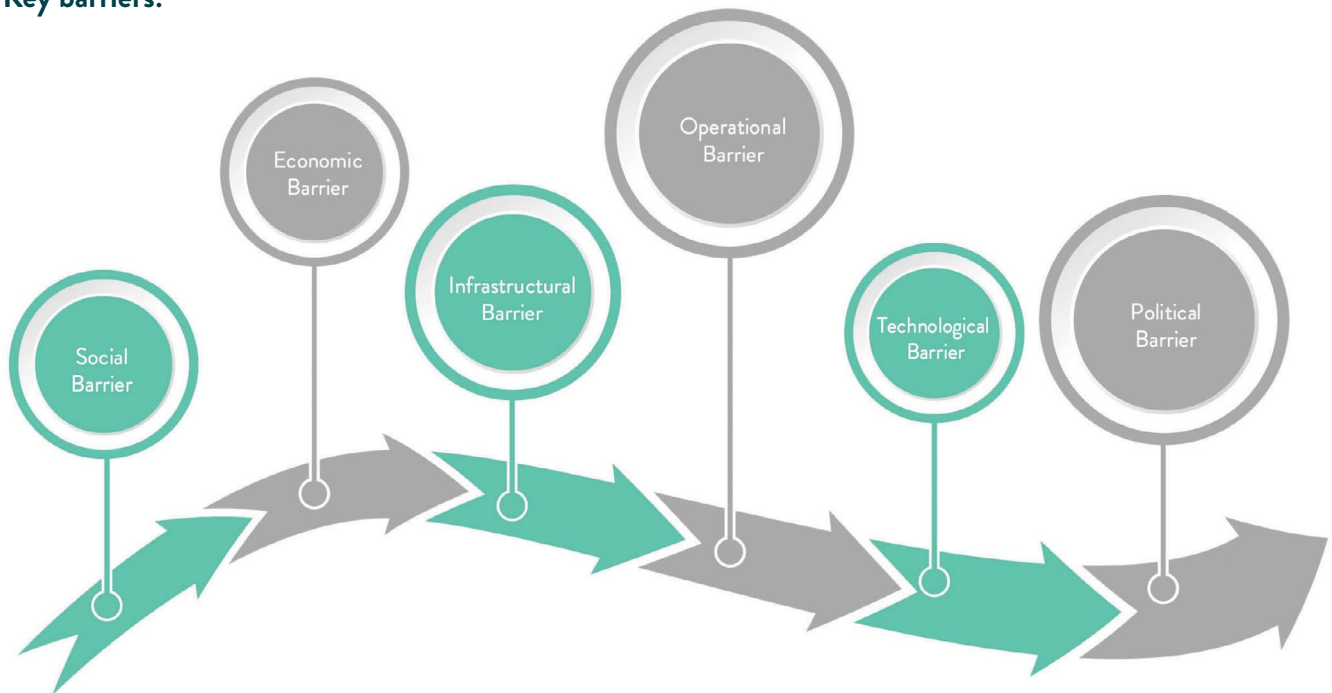
Source: UITP, 2024

GUIDING PRINCIPLES TO MAKE ON-DEMAND MOBILITY SERVICES WORK

Our analysis and review of various literature show that the future of mobility systems hinges on embracing innovative technologies in public transport and on-demand services. Traditional transport no longer serves its purpose and is not able to meet current user needs, so it is important to think innovatively and more strategically and develop more flexible integrated solutions. Technological advances are now reshaping the definition of public transport systems, with on-demand mobility services providing first and last mile connectivity. To ensure safe, reliable, sustainable, and equitable transport, we have defined five guiding principles, based on public transport stakeholder consultations and lessons learned from workshops.

Principle-1
Redefine public transport and promote multimodality

Principle-2
Embrace new technology and innovations

Principle-3
Reallocate road space to build better public transport infrastructure

Principle-4
Promote sustainable business models

Principle-5
Improve governance and monitoring for equitable public transport systems

Source: UITP, 2024

Further details on each of these guiding principles, together with relevant case studies and recommendations for action, are outlined in Chapter 5.

WHY IT IS TIME TO ACT NOW - ONE FUTURE FOR PUBLIC TRANSPORT AND NEW MOBILITY SERVICES

The mobility market is dynamic and innovative, which makes it hard to predict what will happen in the future. Long-term thinking is required to understand the key drivers of change and embrace a forward-looking approach to explore the fundamental forces steering the mobility sector's transformation. The urban mobility sector is currently undergoing the following changes or is expected to undergo them in the near future:

- User and community expectations are changing, leading to the development of public transport systems that link communities and enhance the public environment by prioritising sustainable mobility over noise, pollution, and congestion.

- Public transport will be a key enabler of economic growth and equitable opportunity, as integrated multimodal public transport systems will improve regional connectivity, reduce inequality, and support economic growth.

- Decarbonisation of public transport and environmental sustainability will increasingly become a focus, as low-carbon public transport can facilitate a long-term shift to sustainable transport systems.

- New technologies will rapidly change the landscape of the public transport ecosystem, through the integration of new technology solutions for seamless mobility. This is already happening.

- Regulatory frameworks will become more dynamic to better align with evolving market demands, with policymakers recognising the rapid evolution of the public transportation landscape.

- Competitiveness and data-driven decision making will provide an interface offering real-time information across a range of mobility services, such as Mobility as a Service (MaaS), through a single application.

WORKING TOGETHER TO ACHIEVE SUSTAINABILITY

Looking at the intricate landscape of on-demand mobility services in Asia-Pacific, it is clear that the journey towards sustainable public transport systems is both challenging and transformative. The governance of these dynamic services requires collective initiatives, innovative strategies, and an unwavering commitment to inclusivity from public transport stakeholders such as PTAs, PTOs and service provides. The path ahead is challenging as it requires awareness of the local mobility demand, geo-political and socio-economic context along with an adaptable regulatory policy that embrace innovations and support a balance approach for on-demand mobility services. Our study shows that countries are striving for sustainable mobility solutions and innovations though over regulations of transportation policies like in Hong Kong SAR or under regulation or hyper-existence of informal transportation systems in countries like India and Thailand can create sometime confusion and chaos. Nonetheless, there is no one-size- fits-all solution, based on requirement public transport authorities and operators must play greater role and should work in unison to create an environment for multimodality and integration.

In moving forward, UITP envisions a future where on-demand mobility services are seamlessly integrated with existing public transport frameworks, creating a harmonious and sustainable ecosystem. Thus, collaboration will be our cornerstone, bringing together PTAs, PTOs, service providers, communities, and technology innovators to shape the future of transport.

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This is an official Report of UITP, the International Association of Public Transport. UITP has more than 1,900 member companies in 100 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport worldwide.

This Report was prepared by UITP Asia-Pacific.

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