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CREATING FRAMEWORK FOR MOBILITY AS A SERVICE (MaaS) IN INDIAN CITIES

FINDINGS OF STAKEHOLDER CONSULTATION IN INDIAN CITIES (OCTOBER 2021)

This report is compilation of findings from three different stakeholder consultations conducted as part of the study titled 'Creating Framework for Mobility as a Service (MaaS) in Indian Cities'. *It represents the opinions and thoughts of industry experts working in the urban mobility sector in India on prospect of MaaS.*

STUDY BACKGROUND

The mobility services need to respond to rapidly changing mobility patterns resulting from heterogeneity of lifestyles in the new era. Evolution of new mobility services (shared mobility, on demand mobility etc.) with flexibility, technology and ability to provide point to point services are changing the mobility landscape. It is an excellent opportunity to explore possibility of integrating different modes under one umbrella to offer a convenient end to end journey solution.

In consonance with the National Urban Transport Policy (2006), the Government of India (GoI) under the Smart Cities Mission is supporting implementation of digital interventions both in management of cities and transportation systems.

Ministry of Housing and Urban Affairs (MoHUA), Government of India and Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH are jointly implementing a bilateral technical cooperation project "Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT)" commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ).

The objective of the project is to improve the planning and implementation of sustainable urban transport in selected Indian cities. As a part of this project, SMART-SUT has been conducting a study titled "Creating Framework for Mobility as a Service (MaaS) in Indian Cities".

The study aims explore opportunities for implementing MaaS in Indian cities and identify a structured approach towards developing a smart mobility ecosystem which is required for developing a MaaS solution by leveraging the real value of urban mobility data.

The study outputs consist of –

I. Basics of MaaS and Learnings from Global Case Studies

II. MaaS Readiness Tool

III. Urban Mobility Data Policy

IV. Mobility Data Standards and Specifications

V. Legal and Regulatory Framework

VI. System Architecture and Technical Requirements

VII. Reference 'Scope of Work' Document for MaaS Project

STUDY OBJECTIVE

01

To develop a mobility data specification (MDS) framework and a mobility data harvesting guideline for the effective implementation of Mobility as a Service (MaaS) in Indian cities

02

To develop a conducive administrative and institutional framework for implementation of MaaS in Indian cities

03

To develop a capacity building toolkit for assisting Indian cities and other stakeholders embarking towards journey of implementing MaaS

APPROACH

This report provides collective insights and perspectives of key stakeholders towards implementation of MaaS in Indian context. It compiles findings from three different stakeholder consultations organized with –

I. Research, Think Tanks and Policy Experts (Transport Sector Experts);

II. Private Transport Service Providers (Private TSPs);

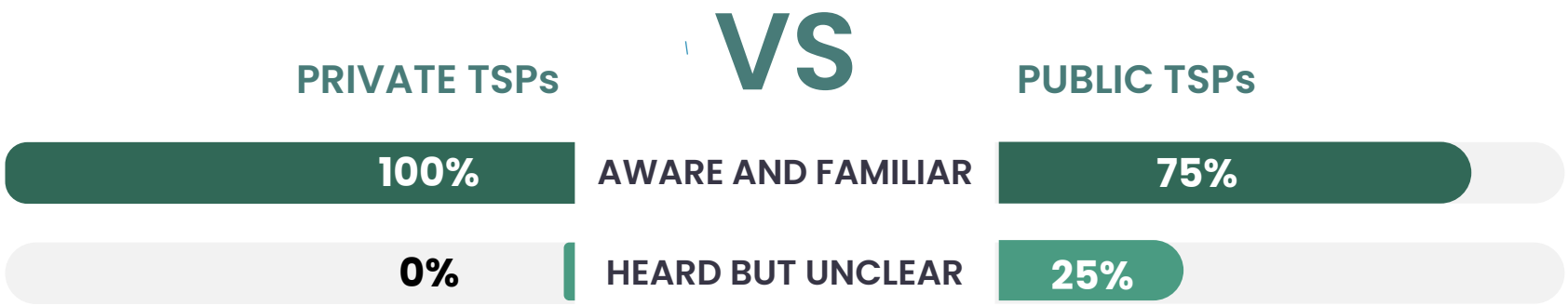
III. City Authorities and Public Transport Service Providers (Public TSPs);

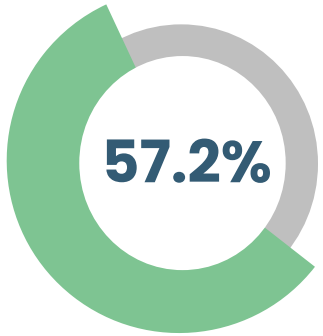
The report represents opinions and thoughts of these professionals working across different sectors of transportation in India.

A structured approach was undertaken for organizing these consultations. Pre and post meeting questionnaires were circulated to capture responses from experts involved. The collected responses were then collated into meaningful set of insights which has been shown in the following sections.

Are you aware of the concept of MaaS (Mobility as a Service)?

***All** the stakeholders who were part of the Focused Group Discussion (FGDs) were well-aware about the paradigm of the MaaS concept. An interesting and pragmatic result mainly due to higher exposure of the dynamic market and upcoming mobility trends was that **100% of the private transport service providers (TSP)** had a clear understanding in terms of the functioning of the MaaS environment. Yet **25% of the public transport providers** were still unclear about the concept.*





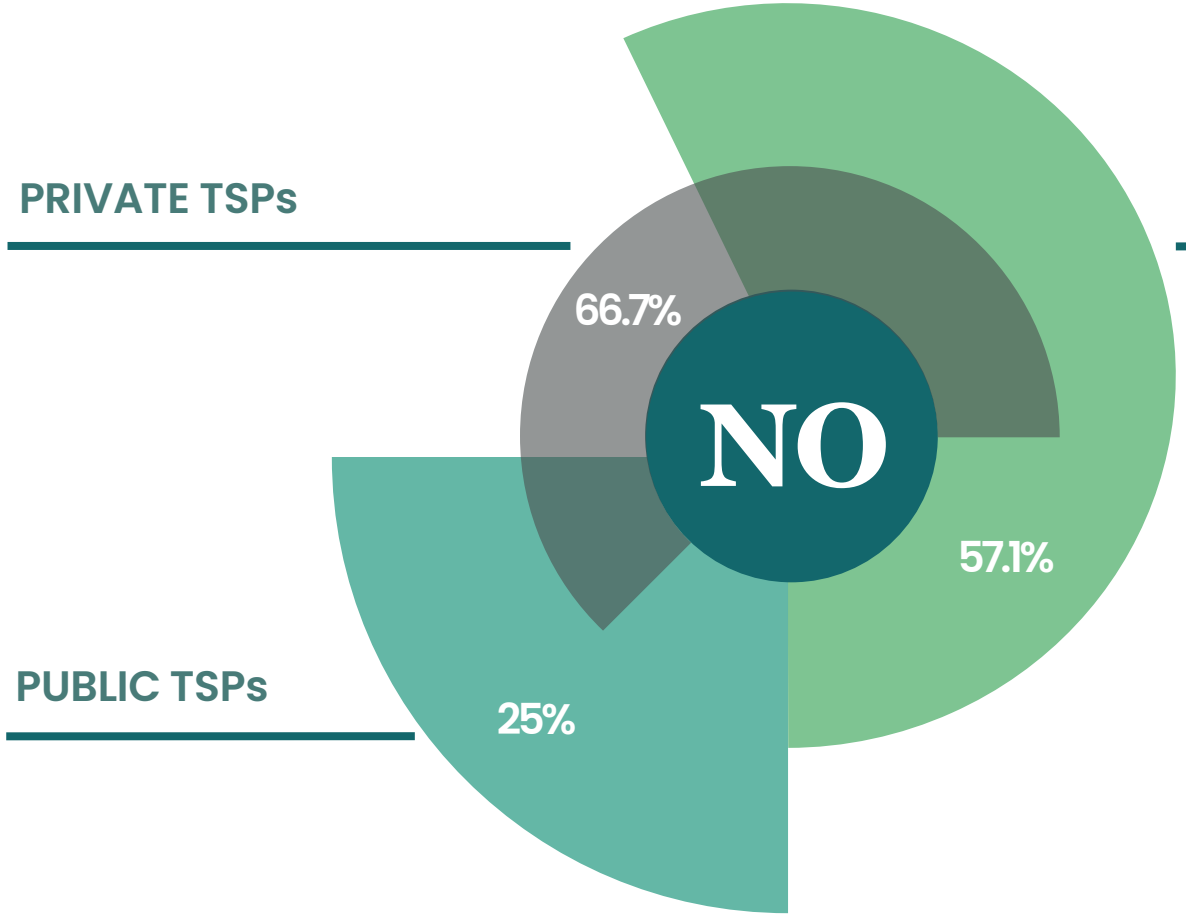
*At the same time, **57.2%** of the **transport sector experts** from various research institutes, think tanks including policy makers and city officials were directly or indirectly **associated with some initiative regarding the introduction of MaaS** in Indian Cities.*

2

Do you think Indian cities are prepared for MaaS?

66.7 % of private transport service providers *consider that currently Indian cities are* ***not prepared for MaaS****.*

- ***Only 25% of the public TSPs*** *considered Indian cities to be* ***prepared for MaaS*** *while other* ***25 % considered Indian cities*** *to be* ***unprepared for a complex mobility solution like MaaS****,*
- *The rest* ***50 % of public transport service providers*** *were* ***uncertain*** *about MaaS.*



57.1 % *of the* ***transport sector experts*** *believe that Indian cities are currently* ***not prepared*** *for MaaS.*

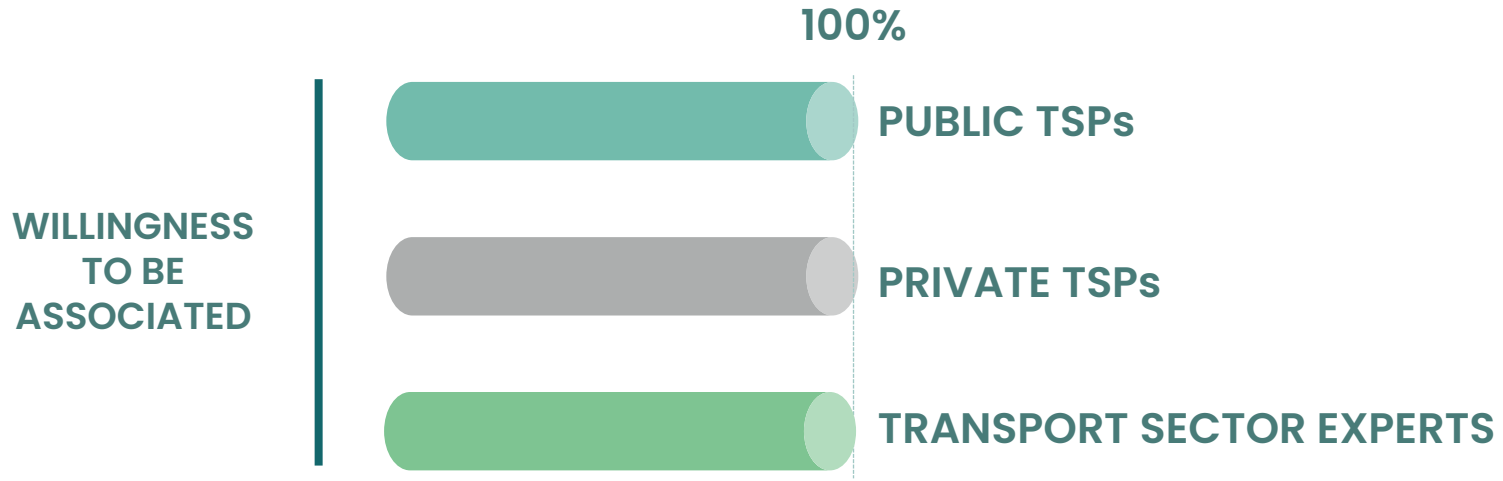
Significantly large number of participants consider a lot of efforts need to be made in the current Indian landscape to make it feasible for a thriving MaaS ecosystem.

3

Would you like to be associated with introduction of MaaS in India?

***All** the stakeholders involved were enthusiastic to be involved with the prospective initiatives to introduce MaaS in Indian cities.*

***Almost half of the transport experts** were aware of **several cities** in India willing to implement the concept of MaaS.*

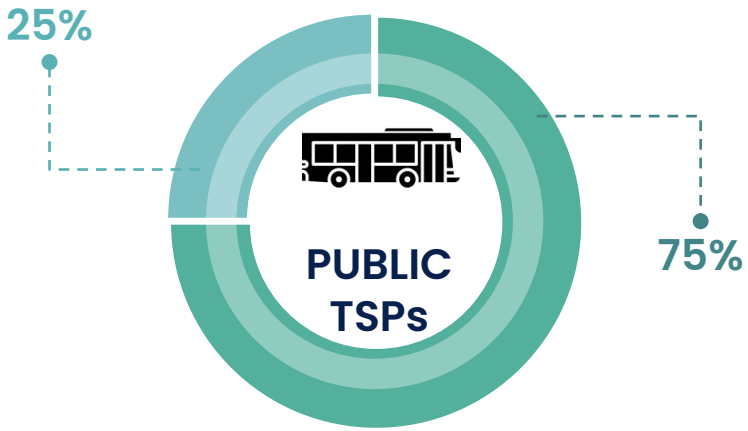


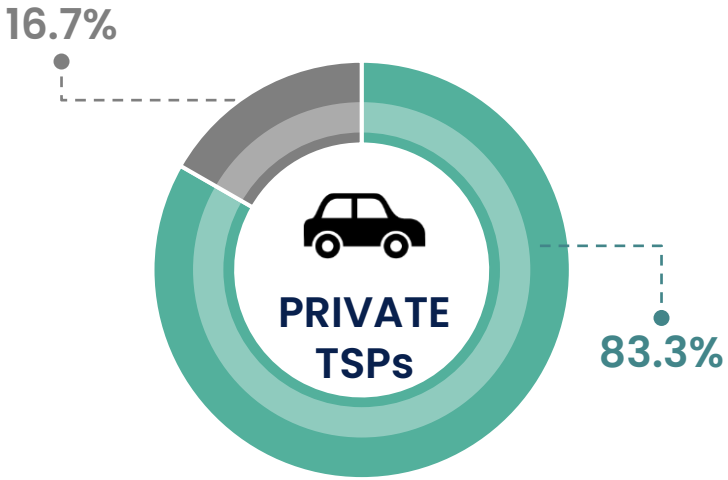
While many participants do not consider Indian cities to be ready for MaaS; they are surely thrilled to be a part of this future mobility solution.

Since majority of the transport sector experts were already involved with several MaaS projects, they had comparatively clear perspective and strong opinions on the required mobility dynamics for a MaaS solution in Indian context.

4 Which modes should be included as a part of MaaS initially?

75 % of the public transport service providers *believed that a combination of* ***PT + IPT + micro-mobility modes*** *should be included in MaaS while* ***25%*** *were of the view that MaaS should comprise of* ***only of public transport*** *mode during the initial stage.*





83.3 % of private transport service providers *believed that MaaS should include* ***PT + IPT + micro-mobility modes*** *right from the initial stage and* ***16.7 %*** *were of the view that at least* ***PT + micro-mobility*** *should be introduced initially.*

57.1 % of the experts *prefer* ***PT + IPT + micro-mobility, 28.6%*** *prefer* ***only public transport*** *while* ***16.7%*** *says* ***PT + micro-mobility modes*** *should be included at the initial stage of MaaS development.*

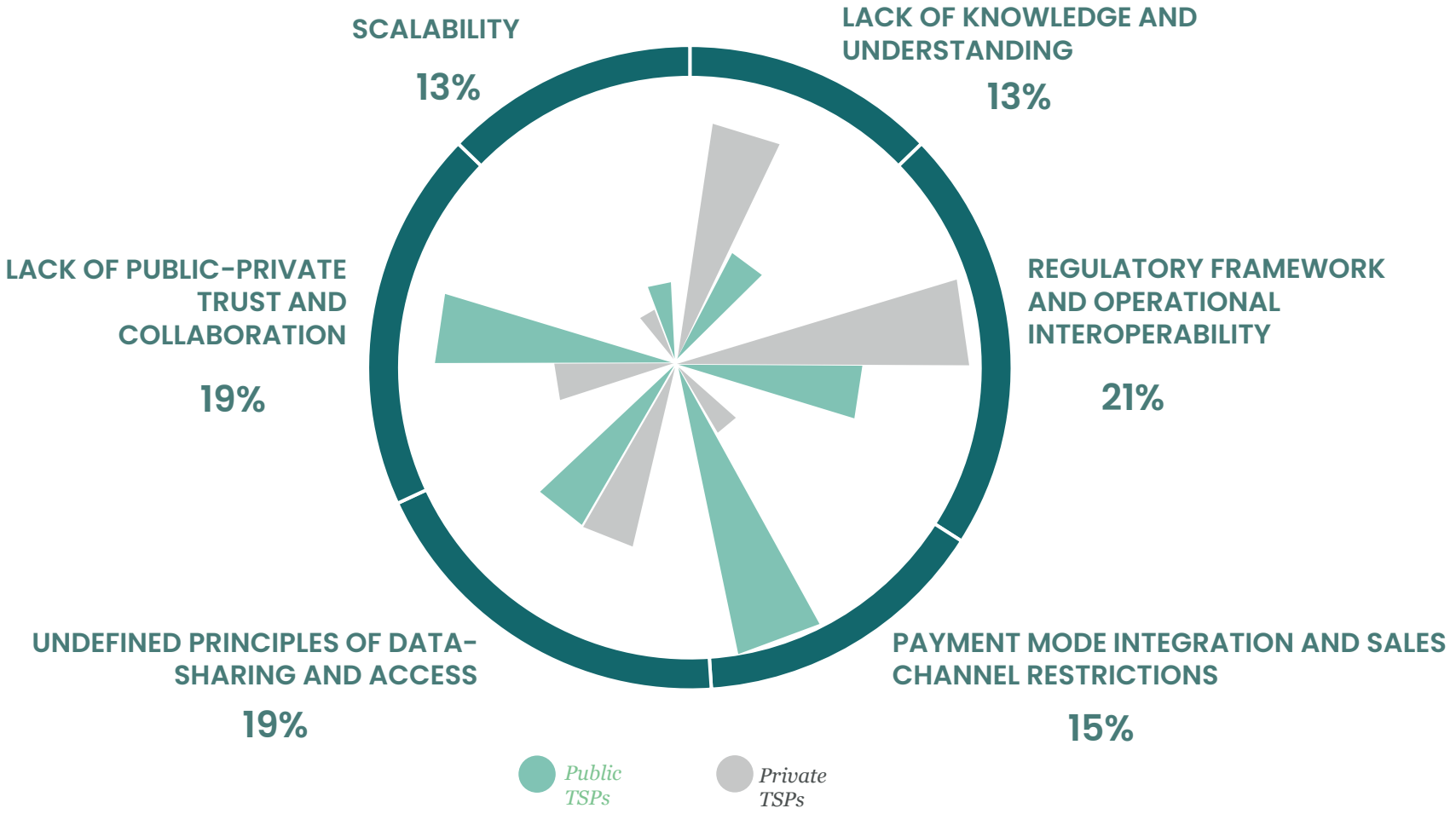
PT + IPT + Micro-mobility | Only public transport (bus / metro/ BRT /LRT) | PT + micro-mobility

5

What do you think are the major barriers for MaaS in Indian context?

*'**Regulatory framework and operational interoperability**' are the prominent barriers recognized by all participants followed by **'lack of public-private trust and collaboration' and 'undefined principles of data-sharing and access'.***

*However, some priorities were poles apart. Amongst the **public TSPs** stakeholders, the **'payment mode integration and sales channel restrictions'** was identified as the **most challenging barrier**; while **amongst the private TSPs,** this was not a major barrier.*

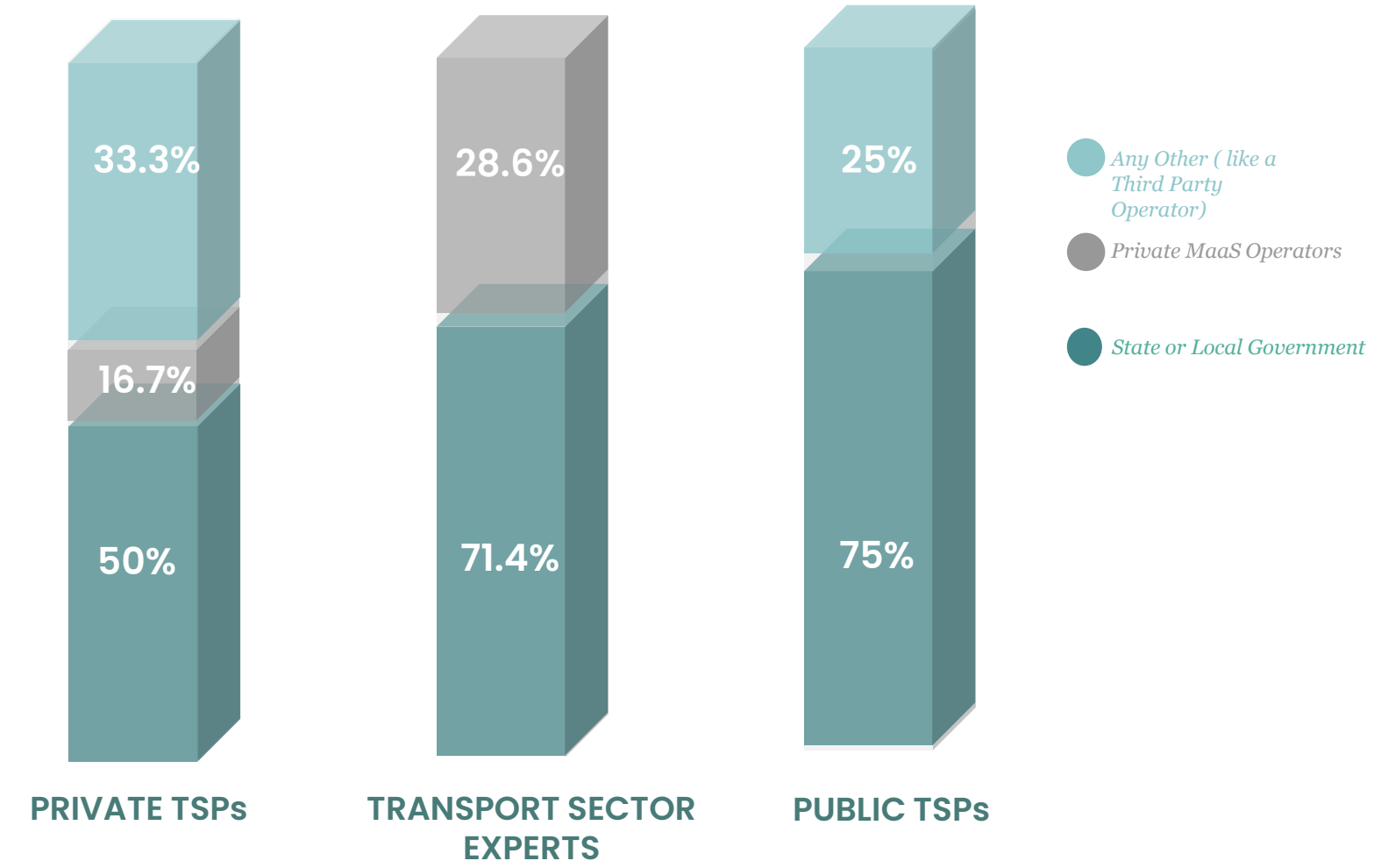


6

Who should be responsible for developing a MaaS solution for the Indian cities?

The consensus was that public sector to take a lead in implementing a MaaS solution ***with more than 50%*** *of the participants think that the respective* ***State or the Local Government*** *should take the responsibility for implementing MaaS in Indian cities.*

Simultaneously, ***28.6% of the transport sector experts*** *seem to prefer* ***private MaaS operators to take a lead*** *while* ***25% of the public transport service providers*** *would rather support* ***third party operator*** *to take the responsibility.*



7

What are your biggest concerns regarding the MaaS environment in India?

- Weak Institutional Framework
- Integration of booking and payment channels across different modes
- Existence of cohort transit system in cities
- Data sharing and synergies between different data collection, data processing entities
- Data sharing, data privacy, revenue apportionment
- 3P's - Policy, Privacy and Partnership
- Cost effectiveness of solutions
- Presence of unorganized informal transport sector
- Absence of a unified transport authority at state level
- Lack of awareness among the general public

8

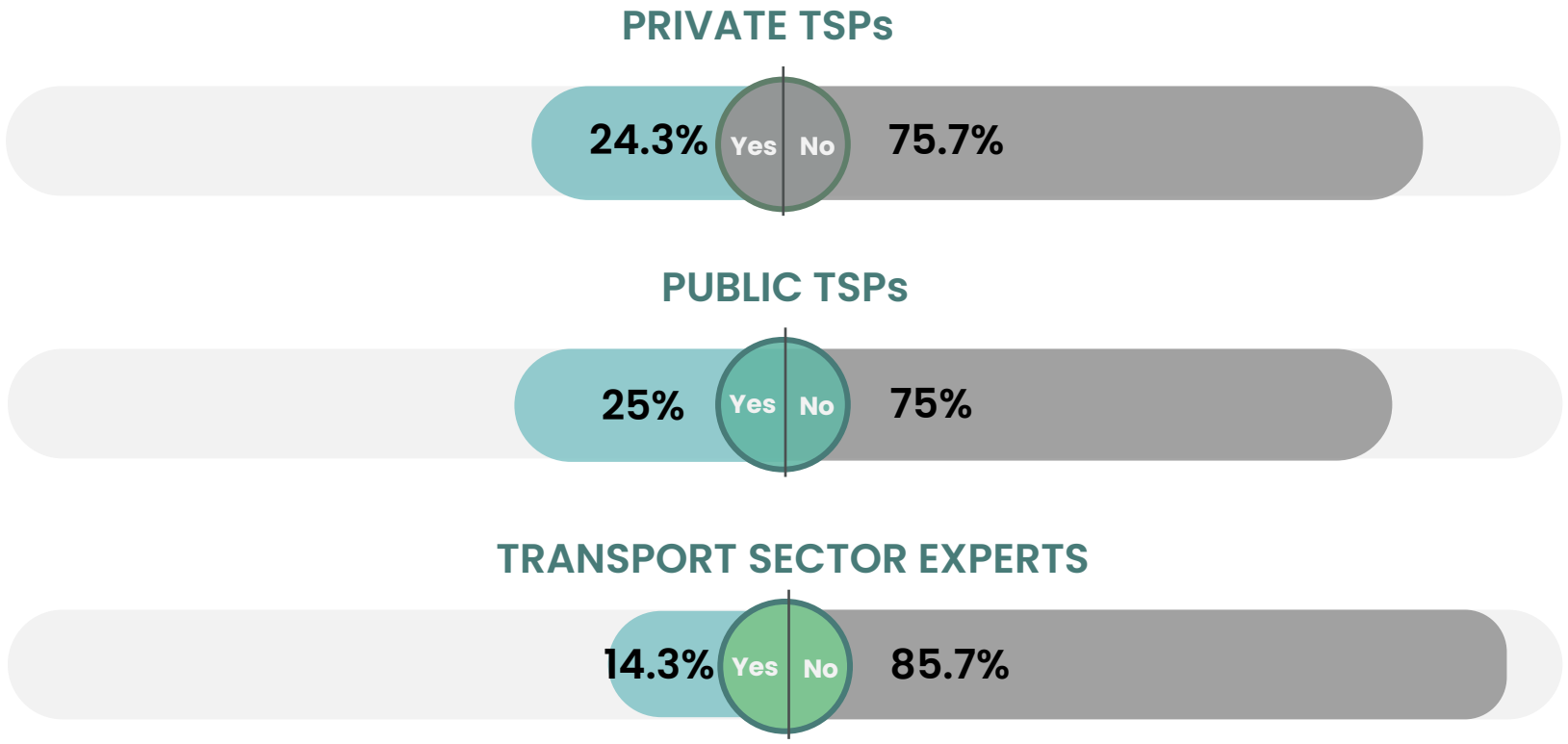
Is the legal framework conducive for introduction of MaaS in Indian cities?

More than 75% respondents *agree that the legal framework is not conducive for introduction of MaaS and requires significant modifications and legislative inclusions.*

Key reasons listed by respondents

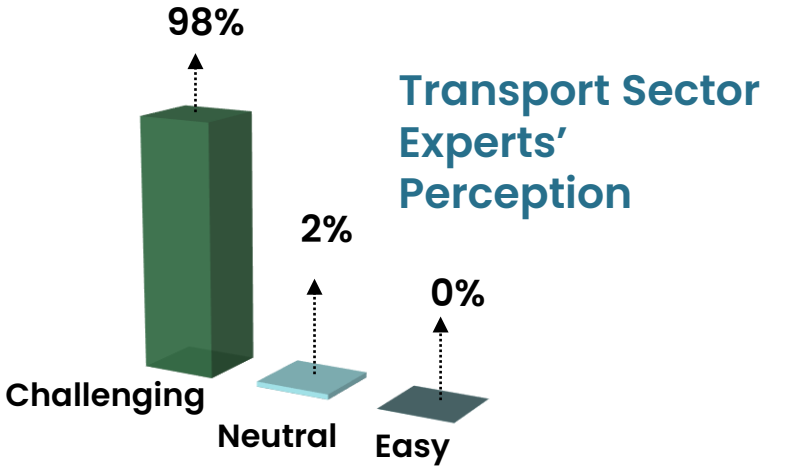
a. *Lack of coordination among various stakeholders.*

b. *Absence of laws and regulations concerning extent of transport data collection, sharing, privacy and ownership.*



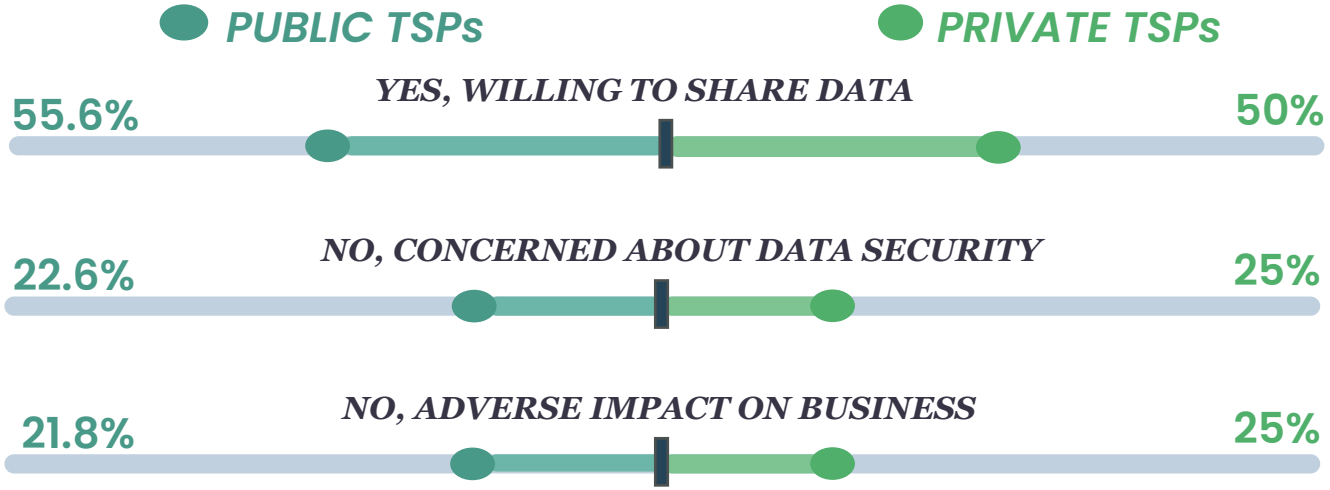
9 Your thoughts, if you are requested to share real-time data on existing services for MaaS?

The discussion on real time data was divided in two categories-
***Category 1 questions** focused on TSPs, in order to understand their willingness and deterrents*
***Category 2 questions** were focused on transport sector experts, based on their experience of dealing with private and public sector players.*



Transport Sector Experts' Perception

*In relation to data sharing, **transport sector experts** believed achieving a consensus on data sharing is a **very challenging** aspect.*



*On the other hand, both Private TSPs and Public TSPs shared many characteristics. **In both cases, an equal 50% of respondents were willing to share their data**. Nonetheless, rest had their apprehensions due to concerns over negative impact on business as they are of the view that sharing information may result in losing the competitive advantage in the market.*

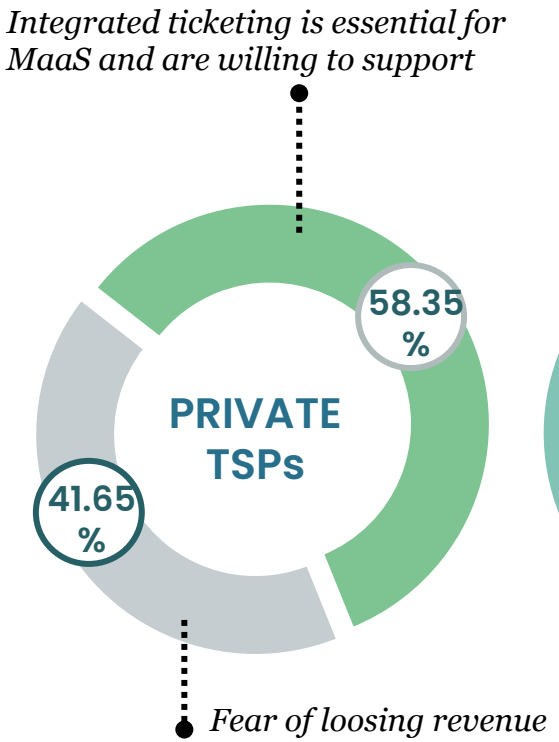
10

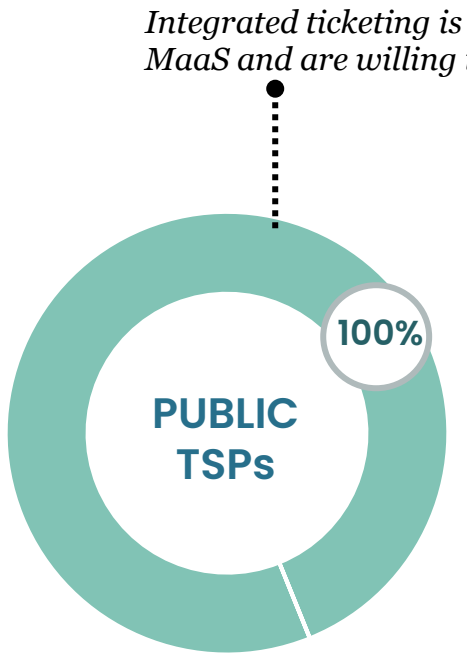
Your thoughts, if integrated ticketing is planned across all modes?

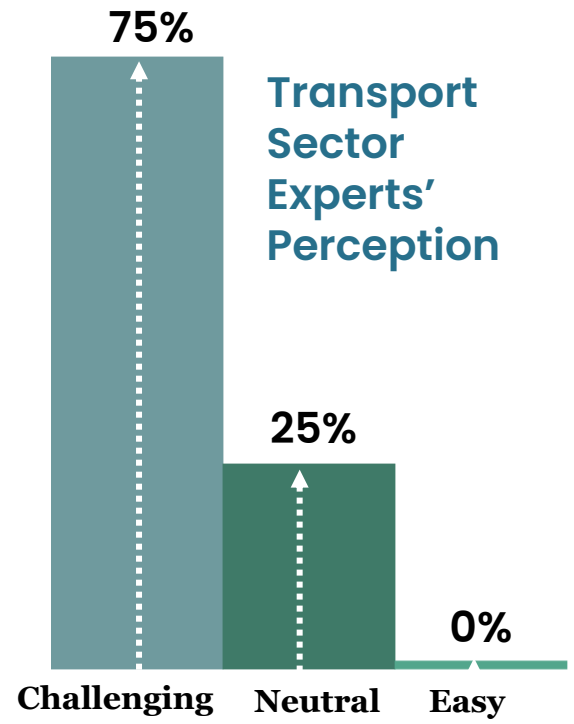
The discussion on integrated ticket planning was divided in two categories-
***Category 1** focused on TSPs;*
***Category 2** was focused on transport sector experts.*

***Transport sector experts** were of the opinion that enabling integrated ticketing across different mode was a **marginally challenging** aspect.*

*Simultaneously, while the **Private TSPs** had their fair share of concerns due to fear of losing revenue and revenue apportionment; the **Public TSPs** unanimously were in **support of integrated ticket planning**.*







11

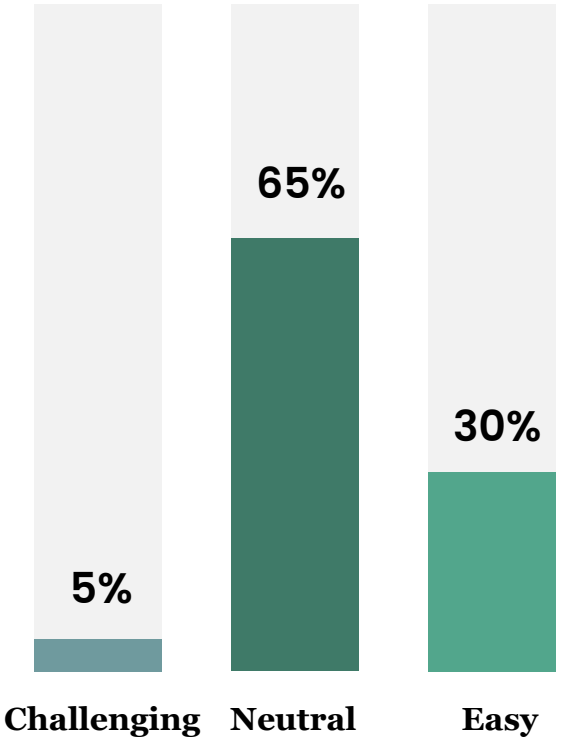
How keen would you be in adopting data standardisation practices?

83.3 % *of the respondents in Private TSPs and 100 % of the respondents in Public TSPs* ***were keen on adopting data standardisation*** *practices.*

16.7% respondents in private TSPs were not sure at this stage *but are certainly likely to provide their support and accept the data standardisation practices in the near future.*

Transport sector experts *also had a neutral opinion in terms of data standardization and did not consider it to be a* ***significant challenge.***

Transport Sector Experts' Perception



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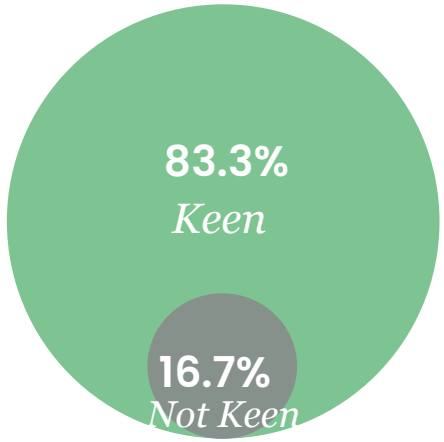
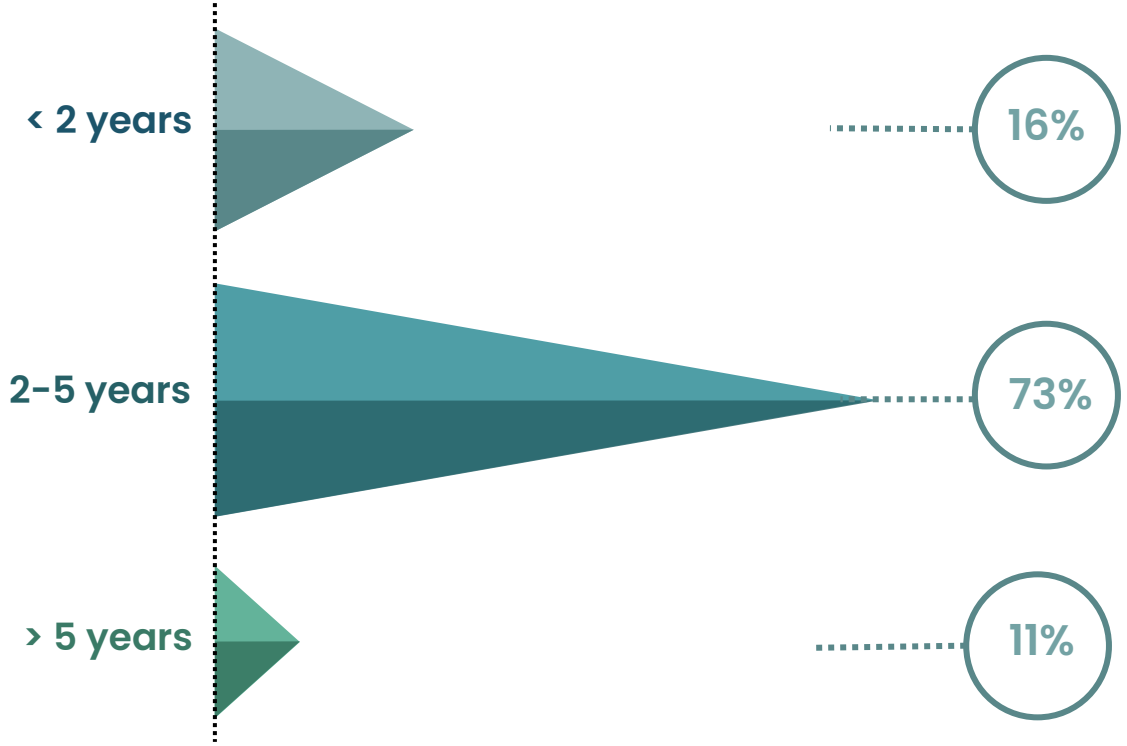


Experts' Opinions on MaaS pilot and implementation in Indian cities

A

The key challenges for MaaS implementation

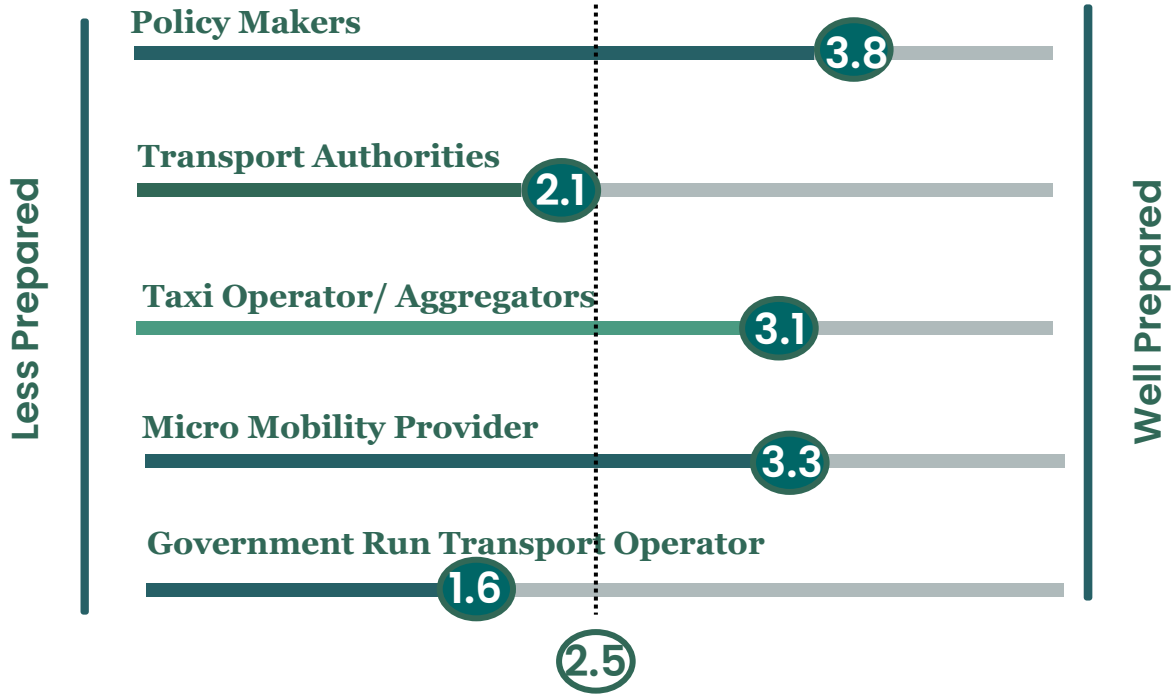
Timeline to expect the first full scale MaaS pilot in Indian cities



Experts' Opinions on MaaS pilot and implementation in Indian cities

B

Readiness of Stakeholders



Experts' Opinions on mobility data sharing for MaaS

i. *The absence of a national level policy is a significant barrier for data sharing*

ii. *There is no mandate for agencies to share data. Besides, the lack of a data privacy policy can pose a challenge.*

iii. *Our systems are very unorganised, lack of authority's interest in the value of data is hampering progress. Smart delegation of responsibilities is a must.*

iv. *The 'why and what' regarding data standardisation is crucial.*

v. *Minimal challenges in terms of technical feasibility, but the challenge is present at organisational, administrative level for the public sector and business case feasibility for the private sector.*

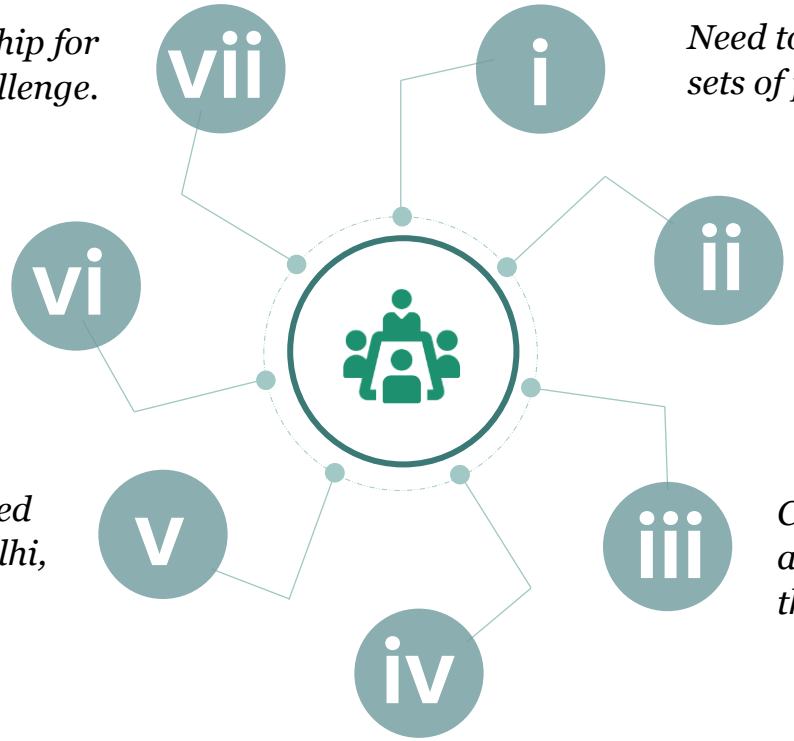
vi. *Issues related to data storage and authentication are quite sensitive areas – there is a need of a conducive policy environment.*

vii. *Journey planning data is easy to standardise in GTFS format. However, ticketing data management is complicated.*

viii. *Private operators might not want to share data.*

Experts' Opinions on integrated ticketing and payment for MaaS

D



Acceptability by stakeholders and ownership for implementing such integration will be a challenge.

Need to develop feasibility options for distinct sets of public transport modes included in MaaS.

Identifying the right fare split and the back-end revenue sharing mechanism in case of a multimodal journey is yet to be resolved in any Indian city.

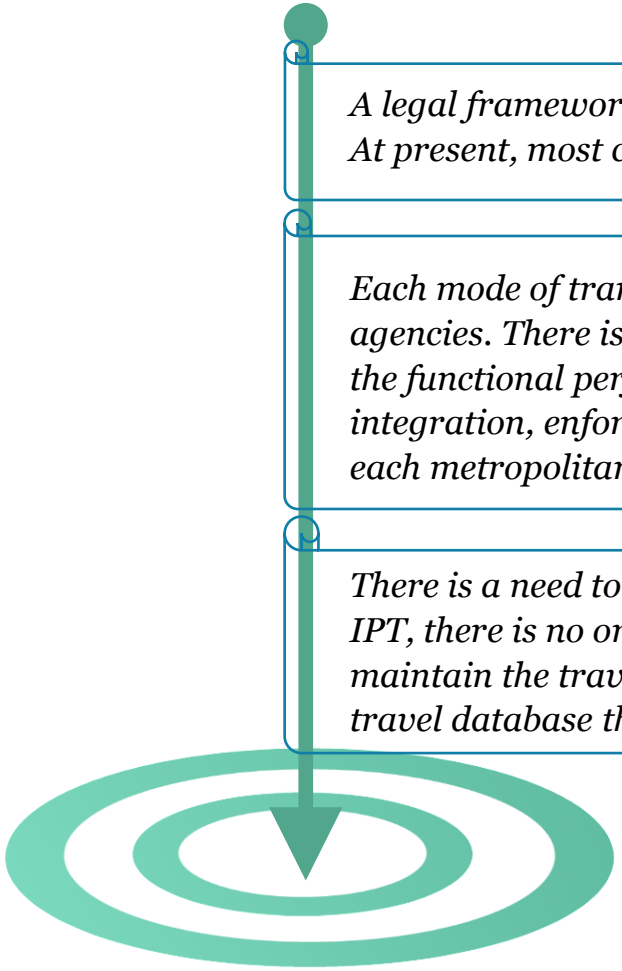
MoHUA can play a major role in-development of data standardisation norms. Standardisation is a prerequisite to design, develop, implement, and operationalise integrated ticketing for MaaS.

Some cities are better positioned for integrated ticketing across modes (e.g., Ahmedabad, Delhi, Mumbai, Bangalore).

Cities have varied demographic, socio-economic, and physiographic characteristics which influence their mobility preferences.

For easy implementation of integrated ticketing across modes , the adoption of digital payments and involvement of financial institutions are key factors.

Experts' Opinions on conduciveness of the legal framework for MaaS In Indian cities

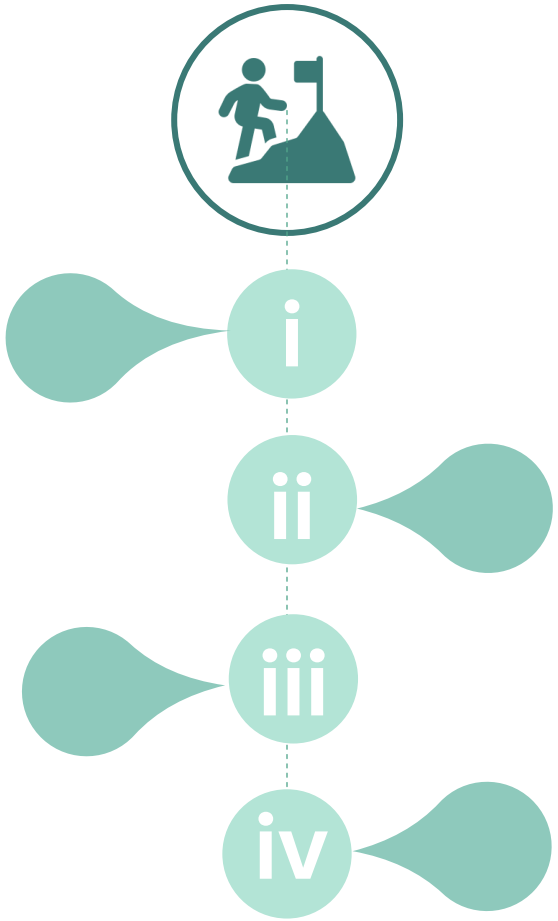


A legal framework makes it mandatory for the state/local bodies to keep records pertaining to MaaS. At present, most cities are not prepared legally but, there is significant potential.

Each mode of transport is governed by a set of different laws and is managed/ monitored by different departments/ agencies. There is a functional gap between the agencies, and hence they act competitors of each other. This impedes the functional performance of the entire system vis-à-vis the implementation of necessary strategies for their integration, enforcement, and data sharing. Setting up the Unified Metropolitan Transport Authority (UMTA) in each metropolitan city (a million-plus population city) can help deal with the stated issue.

There is a need to sensitize stakeholders on the benefits of implementing MaaS. Amongst the unorganized modes like IPT, there is no organization to keep the records system for analysis. Simultaneously, the app-based cab aggregators maintain the travel data separately and may not be obliged to share. Absence of legal framework for a unified travel database thus poses significant challenge.

Experts' Opinions on Indian cities' preparedness for MaaS



Absence of long-term planning keeping comprehensive mobility at its core.

Different modes are under different public and private entities. These entities have their own internal strategies and mechanisms for service delivery and the revenue collection . For development of MaaS, it is challenging to develop a mechanism for sharing revenue amongst these different entities. The absence of robust IT system is another impediment for the implementation of MaaS.

There is a lack of technical, financial, and infrastructural capacity. While mobile ticketing is a prerequisite for MaaS, very few Indian cities have put concerted efforts towards putting such a mechanism in place. Bus services are struggling to provide simple journey planning information. Hence, mobile booking on a real-time basis is still a few years away in India.

Network planning & development is inequitable and disjointed with inadequate institutional integration.

KEY TAKEAWAYS

- ✓ *Mobility as a Service (MaaS) as a concept is still puzzling for the private and public transport providers. However, both parties are keen on understanding the technicalities and get on board with the mobility trend.*
- ✓ *There are several concerns and discourses regarding the modes to be included in the preliminary pilot, cities preparedness, as well as system operations. Nevertheless, all stakeholders are of the view that MaaS is the next thing and are willing to work on several aspects.*
- ✓ *On one hand, Public TSPs are apprehensive of the private transport providers running the MaaS ecosystem. And on the other hand, Private TSPs are concerned about losing their strategic position in the market and face a downfall in terms of business and revenue.*
- ✓ *A common consensus was observed in terms of the need for standardisation regarding the adoption of data sharing practices and integrated ticketing and payment.*
- ✓ *Transport Sector Experts believe that standardisation is a prerequisite to design, develop, implement, and operationalise MaaS. At the same time, smart delegation of responsibilities is a must in absence of a clear organisational structure at the present.*
- ✓ *The readiness of stakeholders and cities might be questionable at the moment; however, all stakeholders were of the belief that MaaS is going to take shape one way or another.*
- ✓ *A legal framework paradigm, governance, public-private trust and collaboration, data privacy and security are the key milestones to achieve in this journey towards the implementation of MaaS in Indian cities.*

Ministry of Housing and Urban Affairs (MoHUA) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH are jointly implementing the technical cooperation project “Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT)”, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The project works with the three Smart Cities of Bhubaneshwar, Coimbatore, and Kochi and respective state governments of Odisha, Tamil Nadu, and Kerala to promote low carbon mobility planning, and to plan and implement sustainable urban transport projects.

As part of the Indo-German bilateral cooperation, both countries have also agreed upon a strategic partnership - Green Urban Mobility Partnership (GUMP) between Ministry of Housing and Urban Affairs (MoHUA) and Federal Ministry for Economic Cooperation and Development (BMZ). Within the framework of partnership’s technical and financial cooperation, the German government will support improvements in green urban mobility infrastructure and services, strengthen capacities of national, state, and local institutions to design and implement sustainable, inclusive, and smart mobility solutions in Indian cities. As part of the GUMP partnership, Germany will also be supporting expansion of public transport infrastructure, multimodal integration, low-emission or zeroemission technologies, and promotion of non-motorised transport in India. Through this strategic partnership, India and Germany intend to jointly achieve effective international contributions to fight climate change.