

# Recommendations on a User-Centric Approach for MaaS

Vision paper of the MaaS Alliance

Users & Rules Working Group

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## WHAT IS MaaS?

MaaS is the integration of various forms of transport services into a single mobility service, accessible on demand. For the user, MaaS offers added value through the use of a single application to provide access to mobility, with a single payment channel instead of multiple ticketing and payment operations. To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi, car rental or lease, or a combination thereof. A successful MaaS service also brings new business models and ways to organise and operate the various transport options, with advantages including access to improved user and demand information and new opportunities to serve unmet demand for transport operators. The aim of MaaS is to be the best value proposition for its users, providing an alternative to the private use of the car that may be as convenient, more sustainable, and even cheaper while contributing to the achievement of societal and environmental goals.

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This document, drafted by the MaaS Alliance and its members, offers recommendations describing promising evolution paths for user-centric mobility services and systems. The document aims to inspire the wide variety of actors working in the field of MaaS and related initiatives to aim towards ever-improving levels of user experience, widening applicability of MaaS services and more inclusive, sustainable and vital mobility ecosystems and economies. Furthermore, the aim of this document is to map out some key user experience factors in order to facilitate the fulfilment of satisfaction of the users and to address them through market-based offerings.

## ROLE OF THE USER IN THE MaaS ECOSYSTEM

The fundamental principle and core motivation driving development and deployment of MaaS is based on user-/customer-centric view in a societally grounded framework, with market-centric approach. MaaS is poised to become the best value proposition for both individuals and business users, by helping them meet their mobility needs and addressing the inconvenient parts of individual journeys. When more players are integrated in the ecosystem the greater the value for users, operators and decision makers will be. The ultimate aim is to improve the efficiency of the entire transport system.

In a nutshell, the MaaS user should always be “better off” compared to the traditional use of mobility services. MaaS is a service promise. In a mobility context, a service promise means that users get a point-to-point solution from A to B or at least the best possible solution for them to travel from A to B. One of the most attractive elements of MaaS is its focus on the freedom, variety and flexibility it can offer to the user. The best value proposition is not always limited to what is the quickest or most cost-efficient solution. Depending on the user’s preferences it can also be the safest, healthiest, most environmentally friendly, most accessible, or one with the best working-while-commuting options.

Transport sector, organised in silos, is struggling to satisfy end-users needs for seamless mobility. MaaS has the potential to be a game-changer, giving more power to and options for the users. New technologies make it easier to aggregate demand in a way that makes it possible (and feasible business-wise) to address a range of target groups, e.g. people with reduced mobility, people desiring tailored top-end services, and everyone in-between, instead of accepting a one-size-fits-all solution.

In the MaaS ecosystem, every user is characterised by a unique identity, which is built on different attributes (their own set of personal preferences, financial profile, physical characteristics and past behaviours). Service providers have to recognize, serve and safeguard the individual preferences of every user for MaaS to deliver truly personalised offerings. Users are also offered the possibility to manage their own data and minimize the data collected, processed and stored by the providers. The user’s trust in MaaS relies on the ability of the whole ecosystem to foresee and/or adapt to potential needs and requests of the user.

While designing and establishing the MaaS ecosystem, the principles of openness and inclusivity should be fully respected, i.e. the ecosystem should be open to all service providers and inclusive of all types of users. In order to build attractiveness and public acceptance of MaaS, the whole value chain should be carefully and inclusively envisioned and designed to meet the expectations related to ecological, social and financial sustainability.

## SETTING THE FRAMEWORK

Public authorities play a crucial role in implementation of MaaS, setting out policy objectives serving their community. Under many jurisdictions, they have contracts with public transport operators and other service providers and in some cases they are also subsidising services.

Part of the role of public authorities can be to give guidance or define mandatory standards for the provision and quality of transport services. In order to create a level playing field, these standards should address MaaS operators as well mobility operators, public or private.

This mandate is especially important, as roles and responsibilities in transport sector are changing. Governments are shifting away from their traditional service provider function towards customer, regulator, controller and supervisory roles. Even though the role of public authorities is to ensure level-playing field, also the need for better interoperability in the transport sector should be taken into account.

Mobility is increasingly turning into a commodity. Although the goal of MaaS is to offer the best value proposition, providing an alternative to private car use, a strong focus has to be in fulfilment of societal goals. Examples are:

- Provision of mobility as a basic prerequisite for social and economic participation and interaction; accessibility
- Healthy lifestyle
- Environmental awareness & impact
- Adaptation to demographic changes, migration and other shifts in society
- Service offering in suburban or rural areas
- Advancement of circular economy
- Use of data for public interest, in a human-centric manner
- Lower prices as compared to owning a car (parking, insurance, fuel, etc.)

One of the benefits of MaaS is the positive environmental impact. Being able to select the most efficient transportation solutions for passenger trips, MaaS will contribute to multimodal optimisation and therefore help reduce congestion. Data provided through a platform can lead to the better alignment of transport capacities and mobility demands, whether MaaS is for passenger or for freight.

## FACTORS AFFECTING THE USER EXPERIENCE OF MaaS

The MaaS Alliance has identified a number of factors within the “MaaS User Experience Matrix”, see below, as pivotal for the MaaS user. This framework covers both digital and physical user experience and can be used to identify the complex variety of individual user needs and requirements. While many different stakeholders are taking first steps with MaaS, the whole transport sector has a unique opportunity to redesign the ecosystem to be something better, more user-friendly and more inclusive than it has been to date. It is essential at all stages that users are being in the core whilst new services are developed.

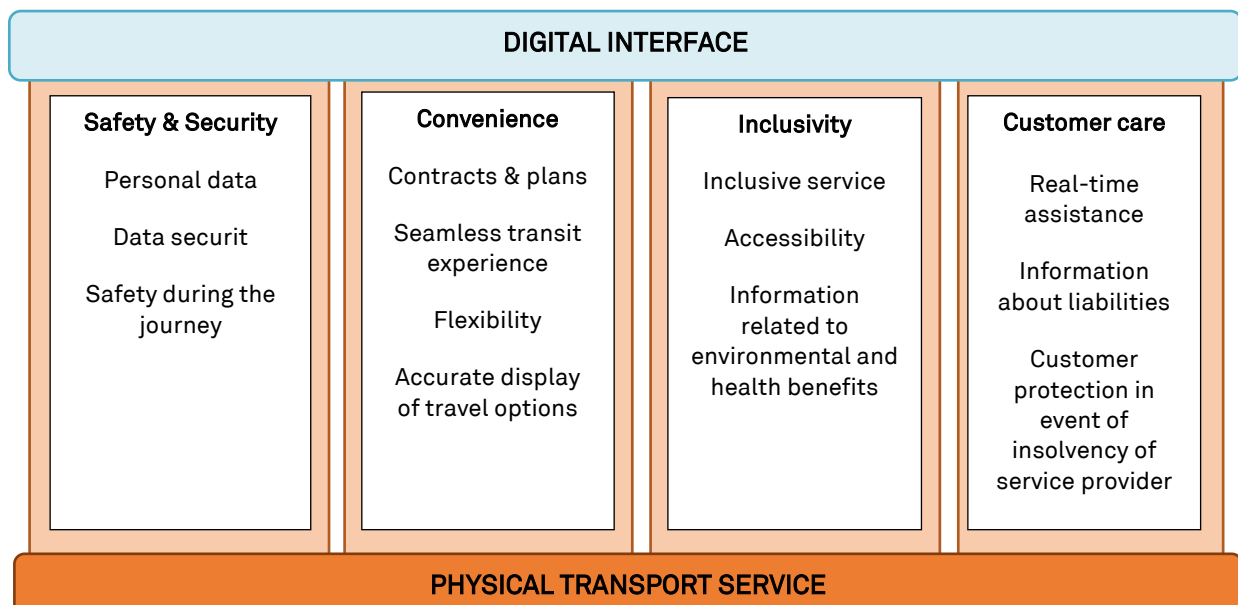


Figure 1: Some key aspects for MaaS user experience as discussed in this document

In the table above, four main building blocks, safety & security, convenience, inclusivity and customer care are broken down in order to give an overview what are factors affecting to MaaS user experience.

## How to read and use this document?

This document has been drafted by the MaaS Alliance Users and Rules Working Group during fall 2018 – spring 2019. It includes a list of aspects that are elementary in order to gain good user experience when using MaaS, covering both the aspects related to digital interface and physical transport service.

The list of recognised aspects is not exhaustive, rather a source of inspiration and to shed light on specific features that are likely to come up when providing services through digital platform and as a travel chain combining together various services.

The recommendations starting from the page 6 are divided into two categories, basic level and advanced level features. In this logic, the advanced level includes all the elements from basic level features but adds on it. Some of the factors are directly related to services provided by the MaaS service provider (like contracts and plans), but some are based solely on control by other service providers or actors in the ecosystem (like safety during the journey). The amount and variety of the factors in the MaaS service and value chain, once again, call for strong and committed collaboration of different actors within the MaaS ecosystem, in order to adequately serve the needs of the users and to offer constant improvement of the travel experience in seamless mobility system.

As a disclaimer the drafting team fully acknowledges that this particular draft framework applies best to the mobility environments and conditions of digitally mature countries. If applying MaaS in different environments, the framework might need to be adjusted to better fit local conditions and expectations. The authors recognise that this document mainly reflects the current situation in Europe and the US and further customisation might be necessary according to the type of region. Moreover, the regulatory framework of mobility services varies widely from one market area to another. More generally, the user experience is also highly dependent on the cultural context and as such the model might need to be modified.

**The authors also acknowledge that the list of factors and service level aspirations indicated on next pages are not exhaustive and not prescriptive and should not be used with the purpose of setting any binding minimum requirements for future development of MaaS services.**

As this document does not touch some important aspects of MaaS, such as desired amount of services integrated to MaaS services or level of integration (due to the various business and operation model when you cannot set one-size-fits-all -standard), roaming between services (due to lack of maturity of the topic), or providing alternatives for the use of digital platform (no solution available yet), these topics mentioned will be elaborated in upcoming working documents of the MaaS Alliance.

## Acknowledgements

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## A. What can a customer expect on physical and digital safety and security of services?

### 1. HANDLING OF PERSONAL DATA<sup>1</sup>

Basic level	Advanced level
<p>All processing of personal data needs to be done in accordance with the General Data Protection Regulation, this includes also the identification of the correct legal basis.</p> <p>Information addressed to the data subjects should be concise, easily accessible and easy to understand.</p> <p>Anonymous trips should be an option where possible.<sup>2</sup></p>	<p>Anonymised and/or aggregated data produced in MaaS ecosystem should be made available for the purposes of, including but not limited to, traffic management, traffic planning and urban planning, whilst respecting commercial interests of parties involved.</p> <p>Optional implementation of <a href="#">MyData</a> principle to the service promise<sup>3</sup>.</p>

### 2. DATA SECURITY

Basic level	Advanced level
<p>Safe payment channels (compliance with PCI DSS).</p>	<p>Proactive engagement in cybersecurity issues related to MaaS; e.g. mechanism in place to avoid hacking or undesired interventions.</p>

### 3. SAFETY DURING THE JOURNEY

Basic level	Advanced level
<p>In case of an accident, user is protected by transport service providers for each component of the journey.</p> <p>In case of accident or misbehaviour, clear means to get appropriate response throughout the system.</p> <p>Collaboration with operator and public sector to enhance the safety of the users.</p>	<p>In case of accident, the user is protected by MaaS Operator or for instance by insurance company, covering the whole journey.</p> <p>Possibility to evaluate the safety of each component of the journey through the application. The feedback from the users will be shared with respective actors and used to improve safety and security of the system.</p>

<sup>1</sup> More information regarding MaaS Alliance's approach to data is available in "Data Makes MaaS Happen" Vision Paper: <https://maas-alliance.eu/wp-content/uploads/sites/7/2018/11/Data-MaaS-FINAL-after-plenary-1.pdf>

<sup>2</sup> For specific types of service where the user takes responsibility of a vehicle that could be damaged or potentially used for criminal or terrorist purposes, identification of said user is a legal requirement subject to various pieces of legislation. In such instances, anonymization is therefore not a possibility

<sup>3</sup> More information available at "Data Makes MaaS Happen" Vision Paper: <https://maas-alliance.eu/wp-content/uploads/sites/7/2018/11/Data-MaaS-FINAL-after-plenary-1.pdf>

## B. What can a customer expect in regards to convenience?

### 1. CONTRACTS AND PLANS

Basic level	Advanced level
<p>Clear information about MaaS offerings and its terms and conditions should be given to consumers before they subscribe to a MaaS service.</p> <p>Transparency in pricing so that breakdown of final complete costs and included services is available.</p> <p>Clear information about the service promise.</p>	<p>Portability of services, no lock-in contracts.</p> <p>The user should be clearly informed about the algorithm and ranking policy followed by the MaaS provider (latter is listing different travel services).</p> <p>Possibility to handle public subsidies at the backend system (social, school, elderly, mobility budget) and offer discounted trips as well.</p> <p>Compensation scheme in case of deviation from service promise.</p>

### 2. SEAMLESS TRANSIT EXPERIENCE

Basic level	Advanced level
<p>Easy orientation supported by the application when transiting.</p>	<p>Guided dynamic, personalised and detailed transfer information and special orientation in real-time (also in case of unexpected route changes).</p>

### 3. FLEXIBILITY

Basic level	Advanced level
<p>Possibility to adapt planned the journey according user's needs.</p>	<p>Possibility to adapt planned and ongoing the journey according user's needs.</p> <p>Flexibility instruments included in offering to enable deviation from initial travel plan/cancel or alter one's journey until very last minute.</p>

### 4. ACCURATE DISPLAY OF THE TRAVEL OPTIONS

Basic level	Advanced level
<p>Cost, time, number of changes, information about environmental impact.</p>	<p>User should be able to set preferences modifying ranking of services accordingly, e.g. based on estimated environmental impacts, active modes, accessibility, etc.).</p>

## C. What can a customer expect in regards to Inclusivity?

### 1. ENSURE INCLUSIVE SERVICES

Basic level	Advanced level
<p>No local phone number or credit card requirements.</p>	<p>All user groups should be granted access (also those without digital skills, credit cards or mobile phones).</p> <p>Printability and interfaces for multipurpose vending machines; advanced and multichannel tools to support digital inclusivity.</p> <p>Various language options available.</p>

### 2. ACCESSIBILITY I.E. NON-DISCRIMINATORY ACCESS OF ALL USER GROUPS

Basic level	Advanced level
<p>Clear information about accessibility of services and clarity of terms and conditions.</p> <p>Principles of universal design respected.</p>	<p>Fully accessible trips available for complete travel chains and first mile/last mile. All trips are fully accessible, special assistance can be provided if needed.</p> <p>Routes for persons with reduced mobility indicated as a mode option.</p> <p>Special attention and features in services designed for special target groups (e.g. seats for children in cars of cargo-bikes, special vehicles for disabled people).</p>

### 3. INFORMATION RELATED TO ENVIRONMENTAL AND HEALTH BENEFITS

Basic level	Advanced level
<p>Comparison of travel choices based on the environmental footprint.</p> <p>Transparency on the method(s) used to estimate environmental impact.</p>	<p>Possibility to immediately evaluate one's estimated environmental footprint, in addition to evaluating travel history.</p> <p>Possibility to reward for environmentally healthy choices and/or compensate for environmental footprint.</p> <p>Encouraging routes or travel segments that are greener or healthier.</p>



## D. What can a customer expect in regards of Customer Support?

### 1. REAL-TIME ASSISTANCE AND CUSTOMER CARE (ONLINE/OFFLINE)

Basic level	Advanced level
<p>Service provider should offer real time assistance with reasonable working hours with all operational languages.</p> <p>If the information is available, the, service provider should inform customer in advance regarding possible disruption (such as long delays or cancellations) prior and/or during the journey.</p> <p>Possibility to provide feedback through the application.</p>	<p>24/7 contact centre with a service promise that customer will be assisted and possibly provided with an alternative mobility solution as soon as possible. Online customer care always available to customers</p> <p>In case of disruption, the communication to the customer will be personalised and customised to his/her travel and needs.</p> <p>Possibility to provide feedback (also in real-time, journey specifically) through the application.</p> <p>Various feedback user-group specific going from social media to email to chat, telephone and traditional mail; also easy feedback options: smiley, thumb up/down, etc.</p>

### 2. LIABILITIES

Basic level	Advanced level
<p>Clearly outlined information to users concerning liabilities prior to the use of services.</p> <p>Customer service for claims</p> <p>Clear information about how the case escalates</p> <p>When existent, industry conciliation services contact should be made available (e.g. European Car Rental Conciliation Service)</p>	<p>In case of a cross-country mobility offer, the European Consumers Centre should be a key interlocutor, suggesting a possible ADR (Alternative Dispute Resolution) method to solve the issue.</p> <p>Insurance policy and waiver options available.</p> <p>User covered during the whole journey as a passenger and as a driver (if applicable).</p>



### 3. CUSTOMER PROTECTION IN EVENT OF INSOLVENCY OF SERVICE PROVIDER

Basic level	Advanced level
<p>MaaS operator should make sure that measures such as insurance or other customer protections are taken care of in case of insolvency by Maas operator and transport service providers for the refund of all costs incurred by customers.</p> <p>In case of cross-border services, responsible party should also guarantee the repatriation of the customer.</p> <p>Advance payments made by customer to service providers (operators, MaaS provider, etc.) shall be guaranteed in case of insolvency of any party.</p>	<p>The MaaS operator should provide personalised information regarding procedures in case of insolvency of any party (MaaS operator, transport service provider) in advance.</p> <p>Full refund of all costs and repatriation of the customers should be provided without undue delay and free of any additional charge.</p>

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*The Mobility as a Service Alliance (MaaS Alliance) is a public-private partnership that is creating foundations for a common approach to MaaS, and unlocking economies of scale needed for successful implementation and take-up of MaaS in Europe and beyond. The main goal is to facilitate a single, open market and full deployment of MaaS services.*

For more information & inquiries: [www.maas-alliance.eu](http://www.maas-alliance.eu), [info@maas-alliance.eu](mailto:info@maas-alliance.eu)