



Department  
for Transport

# Consultation on Mobility as a Service Code of Practice

February 2022

Department for Transport  
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# Contents

|                                  |    |
|----------------------------------|----|
| How to respond                   | 4  |
| Freedom of Information           | 4  |
| 1. Introduction                  | 6  |
| 2. Data                          | 9  |
| 3. Multimodal Ticketing          | 12 |
| 4. Accessibility and Inclusion   | 13 |
| 5. Consumer Protection           | 15 |
| 6. Algorithmic Bias              | 16 |
| 7. Competition                   | 17 |
| 8. Questions                     | 18 |
| What will happen next            | 21 |
| Annex A: Consultation principles | 22 |

## How to respond

The consultation period began on 8 February 2022 and will run until 11.45pm on 3 May 2022. Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document or if you need alternative formats (Braille, audio CD, etc.) you can contact [FutureofTransport@dft.gov.uk](mailto:FutureofTransport@dft.gov.uk)

You may send your consultation response

- Via the online survey
- By downloading the response form and emailing us the return at [FutureofTransport@dft.gov.uk](mailto:FutureofTransport@dft.gov.uk)
- By emailing [FutureofTransport@dft.gov.uk](mailto:FutureofTransport@dft.gov.uk) directly with your comments
- By post at: Future of Transport, Department for Transport Zone 1-3, Floor 3, Great Minster House, 33 Horseferry Road, London SW1P 4DR

When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of a larger organisation, please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

If you have any suggestions of others who may wish to be involved in this process please contact us.

## Freedom of Information

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department will process your personal data in accordance with the Data Protection Act (DPA) and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

## Data Protection

The Department for Transport (DfT) is carrying out this consultation to gather evidence on a mobility as a service code of practice. This consultation and the processing of personal data that it entails is necessary for the exercise of our functions as a government department. If your answers contain any information that allows you to be identified, DfT will, under data protection law, be the Controller for this information.

As part of this consultation we're asking for your name and email address. This is in case we need to ask you follow-up questions about any of your responses. You do not have to give us this personal information. If you do provide it, we will use it only for the purpose of asking follow-up questions.

DfT's privacy policy has more information about your rights in relation to your personal data, how to complain and how to contact the Data Protection Officer. You can view it at <https://www.gov.uk/government/organisations/department-for-transport/about/personal-information-charter>.

# 1. Introduction

## Background

We want the UK to be a world leader in shaping the future of transport. Innovations in technology and business models are transforming how people and goods move around. Vast investments are being made globally in these new mobility concepts, to unlock opportunities and meet demands for safer, cleaner and more convenient travel.

In response to the increasing availability of data and digital capability in transport, we are seeing new business models emerge that package different modes and services together into one application or platform to make the planning and payment of trips easier for consumers. Such innovation has been termed ‘Mobility as a Service’ (MaaS), which we have defined as **‘the integration of various modes of transport along with information and payment functions into a single mobility service’** (Future of Mobility: Urban Strategy, 2019).

This consultation is the third in a series of public consultations on MaaS, following the publication of the Future of Mobility Urban Strategy in March 2019 and the Future of Transport regulatory review: call for evidence on micromobility vehicles, flexible bus services and MaaS, which concluded in July 2020. A summary of responses was published in November 2020. This consultation aims to build on our 2019 and 2020 work. In our previous call for evidence, we asked respondents for their views on the usefulness of a MaaS code of practice. The majority of respondents were in favour of a code that could help provide clarity by highlighting the roles and responsibilities of various actors in the MaaS ecosystem, provide guidance on central government objectives and highlight areas of best practice for MaaS solutions.

As part of ‘Decarbonising transport: a better, greener Britain’, which sets out the government’s commitments and the actions needed to decarbonise the entire transport system in the UK, we have committed to consult on a MaaS code of practice. Taking a voluntary approach through a code of practice will enable us to support MaaS as it grows without introducing regulations at a time that could stifle innovation in this emerging industry. A code of practice will also provide an opportunity to gather further evidence in a structured manner to understand where regulation might need to be brought forward in the future.

## Examples of MaaS

MaaS platforms integrate and analyse data from multiple modes of transport, such as rail, bus, taxi and cycle hire, to offer choice in journey planning to consumers. This requires, for example, the ability for MaaS platform providers to access service timetabling data, along with the ability to purchase tickets digitally. Some existing digital products are also developing incrementally to incorporate MaaS elements, for example Google Maps now enables users to locate nearby e-scooters. There are often commercial arrangements between platform providers and transport operators underpinning access to this information.

MaaS platforms can make journeys more convenient for consumers through streamlining planning and payment, which could encourage consumers to choose more sustainable modes of transport, and empower more people to travel, improving equity. To support local leaders and industry to test these new technologies and business models at scale, we have invested £92m in four Future Transport Zones (FTZ), as part of which there have been trials of MaaS platforms. Outside of the UK, established MaaS schemes can be found in several cities worldwide including the Jelbi mobility app in Berlin and the Whim app in Helsinki. In the UK, some examples of MaaS include:

- The Citymapper Pass launched in London Zones 1-2 in early 2019 (and now extended to zone 6) marks the first MaaS product brought to the capital. The ‘Super Duper Pass’ currently offers a weekly subscription to public transport, unlimited Santander Cycle hire and £10 weekly credit for some taxi and private hire vehicle services, e-bikes and scooters. The pass is available with Apple Pay and Google Pay, or as a smartcard.
- The Solent Transport MaaS project is part of the £28.8m of funding allocated from the Department for Transport’s FTZ programme. The regional MaaS app will be the first multi-city product in the UK and will consist of a journey planner, smart ticketing, payment system and will experiment with incentives to encourage travellers to use more sustainable modes. It will also include a carbon footprint calculation to help people make choices that benefit their environment. Rail, ferry and bus connections, as well as bikes, e-scooters and car rental services will all be available from the MaaS app.

## MaaS Code of Practice

MaaS is still in its infancy worldwide, with testing and trialling taking place alongside small-scale deployments. From these trials, we are starting to understand the digital infrastructure needed for MaaS platforms to be deployed at larger scales, along with broader social behavioural changes to adjust to these new service offerings. Now is an opportune time to take a voluntary, guidance-based approach through a code of practice to enable these platforms to emerge and mitigate any unintended consequences.

We propose the MaaS code of practice could:

- Provide guidelines for new entrants to the market and incumbent MaaS platform providers to aid navigation around relevant legislation

- Support new businesses in the MaaS industry to make decisions in line with government goals
- Encourage MaaS platform providers to include carbon data for each route offered, helping consumers choose lower carbon journeys
- Provide guidelines to MaaS platform providers to ensure that the services they offer are inclusive and accessible to all customers from the outset
- Provide best practice examples of MaaS solutions
- Assist local authorities in developing or considering MaaS platforms to operate in their areas, developing local solutions that build on nationally agreed standards

In the following sections, we have identified a number of areas that we wish to gain further evidence on to develop the content of the code of practice.

## Questions

Question 1.1 In your view, how can we ensure the code of practice is relevant for:

- Commercial MaaS platform providers (for example Citymapper, Moovit, Whim)
- Local authorities (local council authorities within the UK)
- Sub-national transport bodies (for example, Transport for London, Midlands Connect, Transport for the North)
- Transport operators (for example National Express, LNER, Stagecoach)
- Transport users (those using transporting systems)

Question 1.2 In your view, what issues do you feel would not be appropriate to include in a code of practice for MaaS?



## 2. Data

MaaS is a digital, data driven business model that relies on the ability to access timely and accurate data relating to service timetables, routes, fares and ticketing. To help users choose lower carbon journeys, the inclusion of carbon data for each route offered should also be available for MaaS platform providers to access. For MaaS to work, data sharing arrangements need to be in place between transport operators and MaaS platform providers, and the data shared should be of sufficient quality to provide the most accurate travel information to the user.

We have already undertaken a number of initiatives to open, share, and digitise relevant data across modes, which can help to facilitate MaaS. This has included but is not limited to:

- The Bus Services Act 2017
- The Joint Rail Data Action Plan
- The Rail Sector Deal; and
- The Local Data Action Plan

In September 2020, the government published the National Data Strategy (NDS), which outlines the concrete steps we are taking to unlock the power of data and free up businesses and organisations to keep using data to innovate, experiment and drive growth. The NDS Mission 1 policy framework, which was published in November 2021, sets the ambition to unlock the value of data in the economy by improving data availability, access and use, for example by setting data standards and improving foundations such as data quality.

Through our previous consultations we did not find a reason for legislative change at this time, but respondents noted that greater clarity on the current legal framework for transport data was needed. We have identified two areas where the code of practice could assist in this.

### Modal Data Standardisation

The complexity of data generated by different transport modes is ever increasing. Often when this data is made available to MaaS platform providers it is not required to adhere to any common standard. This makes the ability for the data to be re-used or processed in different applications more difficult and costly.

Currently there are inconsistencies in the way each transport mode standardises its data due to the way each mode is regulated separately. Improving data standardisation and discoverability could increase the pace of new innovations such as MaaS by improving data quality and data collection. Data standardisation is also a valuable tool in understanding the shift towards more sustainable modes of transport. Passenger numbers and the uptake of new modes of transport can help us to understand if users are switching from private car use to more sustainable modes of travel such as public transport and active travel, from one sustainable mode to another, or creating entirely new journeys.

## Data Sharing

MaaS platform providers need to be able to access journey and payment data to increase the functionality of their applications by providing users with tailored information about their journey, such as service availability, timetable data, payment methods, reservation details and disruption data. Data sharing between transport operators and MaaS platform providers will allow MaaS to fully integrate with public transport, payment processors and local authorities.

At present there are a number of barriers to data sharing including incomplete and inconsistent data, such as the lack of available real-time data to help consumers plan their journeys more effectively. There may also be commercial and competition impacts for MaaS platform providers that need to be taken into consideration.

**We would like to understand how a code of practice can play a role in supporting data issues to facilitate MaaS.**

## Questions

Question 2.1 What, in your view, if any, should be the role of a code of practice in addressing:

- Data issues overall to facilitate MaaS?
- Data sharing arrangements to facilitate MaaS?
- Data quality to facilitate MaaS?

### Modal Data Standardisation

Question 2.2 What are the benefits of data standardisation?

Question 2.3 In your view what, if any, challenges to accessing standardised data:

- Exist now?
- Will exist in the future?

## Data Sharing

Question 2.4 How, in your view, should data sharing arrangements between transport operators and MaaS platform providers be managed? For example, contractual or voluntary arrangements

Question 2.5 In your view, what are the main challenges to sharing data?

Question 2.6 What do you think will be the impact of your challenges?

Question 2.7 Are there other data issues beyond data sharing and data standardisation that a code of practice could address?

## 3. Multimodal Ticketing

Alongside the ability to plan a journey using multiple modes of transport, MaaS can offer the ability for customers to purchase a ticket for their journey through the MaaS application, using either pay-as-you-go or subscription models. This can save the customer time, allow them to compare different options more easily and could be more convenient than having to make multiple transactions. Increasing convenience for customers can encourage greater use of public transport for end-to-end trips.

For this to work, however, passengers need to be able to receive their tickets in a convenient, digital format, and MaaS providers need to be able to integrate with operator retailing systems. While digital ticketing is increasingly available on some modes, for example with the roll out of barcode e-tickets on rail, different modes and operators can adopt different standards for both ticketing and retailing systems, meaning that MaaS providers would potentially need to integrate with a multitude of standards. In some cases, standard interfaces do not exist, or onerous accreditation standards apply, requiring significant development work for new players like MaaS providers.

**We would like to understand how the code of practice can help MaaS platform providers, local authorities and transport operators overcome the challenges to offering ticketing and integrating with multiple modes.**

### Questions

Question 3.1 What do you believe are the barriers to creating multimodal ticketing schemes?

Question 3.2 What do you think will be the impact of your challenges?

Question 3.3 In your view what role, if any, can the code of practice play in supporting multimodal ticketing?

## 4. Accessibility and Inclusion

Our ambition, as set out in the 2018 Inclusive Transport Strategy, is that disabled people will have the same access to transport as everyone else, so they can travel confidently, easily, and without extra cost. By 2030 we envisage equal access for disabled people using the transport system, with assistance if physical infrastructure remains a barrier.

MaaS, with the right approach can help deliver this ambition, as it has the potential to make travel more accessible and inclusive by offering journeys for everyone tailored to individual needs, taking away the barriers experienced by disabled passengers, simplifying journey planning, and making travel more integrated, safer, more comfortable, and cost efficient. However, multimodal journeys planned and paid for through a MaaS platform could present challenges for users if, for example they do not provide appropriate assistance for passengers transferring between modes or when journey planning does not take into account passenger needs such as step-free access.

MaaS platform providers should ensure that the services they provide are inclusive and accessible to all customers from the outset. Not only should journey planning options be offered with accessibility and safeguarding needs in mind, but the MaaS platforms themselves should be accessible to all users, for example, digital only solutions will exclude people who are not able to use a computer, or mobile device.

Where passengers, including disabled passengers, need assistance to use a particular mode or to transfer between modes within a MaaS journey (such as the Passenger Assistance service for disabled people wishing to take a train), this should be factored in to the MaaS offer. Furthermore, the MaaS platform should not offer passengers inappropriate journeys, such as non-accessible journeys to disabled users; for example, if a taxi or private hire vehicle forms part of the MaaS journey for a disabled passenger, it should be of a type that provides the accessibility required by the specific passenger so there is no risk that passenger will be left stranded.

There are a several commitments in government strategies, as well as legislation, on achieving a more accessible and inclusive transport network including but not limited to

- The Equalities Act 2010
- National Disability Strategy
- The Inclusive Transport Strategy
- Gear Change
- Bus Back Better

- Williams-Shapps Plan for Rail

Through the code of practice, we propose to make clear the current regulations that operators should adhere to, and where necessary, provide expectations of requirements where these are not clear (e.g., moving between different modes). The code of practice could also provide guidance on accessibility features that should be included in MaaS platforms.

**Through this consultation we want to understand the ways in which a code of practice can help provide guidelines on accessible and inclusive travel.**

## Questions

Question 4.1 How, in your view, can MaaS platforms ensure:

- Their systems are accessible and inclusive to all users?
- The journeys they provide are accessible and inclusive to all users?

Question 4.2 How, if at all, do you think a code of practice can help to ensure that MaaS is inclusive for those who may struggle with access, such as those without a smart phone or access to a bank account?

Question 4.3 In your view, are there other ways our code of practice can help to provide guidelines on

- Accessibility?
- Inclusivity?

## 5. Consumer Protection

When planning and paying for a multimodal journey using a MaaS platform, consumers must have confidence that their journey from start to finish is covered by clear and fair consumer rights, that they would not need to engage in discussions with multiple companies to determine who is responsible for disruption to their journey and have clarity about how to seek compensation.

There are currently several frameworks in place to provide protection to consumers, such as the National Rail Conditions of Travel, which provides terms and conditions on rail passengers' rights to refunds and compensation. However, such frameworks have been established for journeys taken using a single mode of transport, rather than multimodal journeys, and the liability chain for multimodal journeys is currently unclear.

We want to ensure consumers receive the same level of service and protection when undertaking a multimodal journey purchased through a MaaS platform as when undertaking a single mode journey.

**Through this consultation we want to understand if a code of practice could help to clarify roles and responsibilities within existing legislation and offer good practice solutions for tackling the interface between modes when it comes to consumer protection.**

### Questions

Question 5.1 What role, if any, can the code of practice play in addressing consumer protection needs for multimodal journeys?

## 6. Algorithmic Bias

MaaS platforms use algorithms to determine which journey options are displayed to the user, and in which order they are presented. Algorithmic bias occurs when these algorithms produce results that are intentionally skewed away from consumer or public policy interests towards the commercial objectives of one or more providers. MaaS algorithms could also produce insights that lead to unfair discrimination.

Algorithmic bias could arise as a result of commercial agreements, putting the user at a disadvantage, or through a lack of proper monitoring of journey offerings by the provider. For example, it could potentially be less profitable for the MaaS platform provider to steer the user towards a walking or cycling route, as opposed to taking a taxi or private hire vehicle. As well as commercial bias, algorithms used by MaaS platform providers could have the potential to make incorrect assumptions about the users' accessibility requirements when offering journey options, leading to unfair discrimination. How journey options are presented to users in a MaaS platform is also likely to have an impact on their mode choice, which has implications for broader transport objectives such as decarbonisation and reducing congestion.

To help meet decarbonisation objectives, we propose the code of practice could encourage MaaS providers to promote active travel and sustainable modes of transport through the inclusion of carbon data for each route offered.

**Through this consultation we want to understand if a code of practice could encourage MaaS providers to avoid algorithmic bias and unfair discrimination.**

### Questions

Question 6.1 How, if at all, can MaaS platforms encourage:

- sustainable travel options?
- active travel options (such as walking and cycling)?

Question 6.2 What, if any, role do you think the code of practice should play in addressing algorithmic bias?



## 7. Competition

The emergence of new monopolies for mobility services could pose a significant threat to realising the potential of MaaS. There are a range of competition issues that may arise including public and private sector monopolies, data sharing, the integration of transport operators onto a MaaS platform and, due to the collaborative approach required to agree commercial agreements, the risk of organisations violating existing competition laws.

In our previous call for evidence, we asked respondents for their views on the competition concerns MaaS might present. Respondents felt that a monopoly could lead to price fixing, pursuing profit over public goals, pricing out competitors and fewer choices for consumers. Respondents also expressed concerns on the impact that an industry monopoly could have on creating barriers to entry for new transport operators.

The monopolisation of the MaaS market could limit user uptake and therefore undermine the potential, long-term growth of MaaS in the UK. Given that the MaaS market is still emerging, it is not clear if or how these issues will arise.

**We want to understand the role a code of practice can play in addressing competition issues that may arise in the MaaS market.**

### Questions

Question 7.1 What, if any, role do you think the code of practice can play in addressing competition issues that may arise in the MaaS market?

## 8. Questions

### Introduction

Question 1.1 In your view, how can we ensure the code of practice is relevant for:

- Commercial MaaS platform providers (for example Citymapper, Moovit, Whim)
- Local authorities (local council authorities within the UK)
- Sub-national transport bodies (for example, Transport for London, Midlands Connect, Transport for the North)
- Transport operators (for example National Express, LNER, Stagecoach)
- Transport users (those using transporting systems)

Question 1.2 In your view, what issues do you feel would not be appropriate to include in a code of practice for MaaS?

### Data

Question 2.1 What, in your view, if any, should be the role of a code of practice in addressing:

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- Data sharing arrangements to facilitate MaaS?
- Data quality to facilitate MaaS?

### Modal Data Standardisation

Question 2.2 What are the benefits of data standardisation?

Question 2.3 In your view what, if any, challenges to accessing standardised data:

- Exist now?
- Will exist in the future?

### Data Sharing

Question 2.4 How, in your view, should data sharing arrangements between transport operators and MaaS platform providers be managed? For example, contractual or voluntary arrangements

Question 2.5 In your view, what are the main challenges to sharing data?

Question 2.6 What do you think will be the impact of your challenges?

Question 2.7 Are there other data issues beyond data sharing and data standardisation that a code of practice could address?

## Multimodal Ticketing

Question 3.1 What do you believe are the barriers to creating multimodal ticketing schemes?

Question 3.2 What do you think will be the impact of your challenges?

Question 3.3 In your view what role, if any, can the code of practice play in supporting multimodal ticketing?

## Accessibility and Inclusion

Question 4.1 How, in your view, can MaaS platforms ensure:

- Their systems are accessible and inclusive to all users?
- The journeys they provide are accessible and inclusive to all users?

Question 4.2 How, if at all, do you think a code of practice can help to ensure that MaaS is inclusive for those who may struggle with access, such as those without a smart phone or access to a bank account?

Question 4.3 In your view, are there other ways our code of practice can help to provide guidelines on

- Accessibility?
- Inclusivity?

## Consumer Protection

Question 5.1 What role, if any, can the code of practice play in addressing consumer protection needs for multimodal journeys?

## Algorithmic Bias

Question 6.1 How, if at all, can MaaS platforms encourage:

- sustainable travel options?
- active travel options (such as walking and cycling)?

Question 6.2 What, if any, role do you think the code of practice should play in addressing algorithmic bias?

## Competition

Question 7.1 What, if any, role do you think the code of practice can play in addressing competition issues that may arise in the MaaS market?

## Other questions on MaaS

- What good practice are you aware of in relation to the six areas identified above that you would like to see reflected in the code of practice?
- What, if any, other topics you feel should be addressed through the code of practice?
- What do you think we should be doing to monitor the effectiveness of the code of practice?
- Are there any other ways you think we should support MaaS in the future?
- Any other comments?

## What will happen next

These responses will complement evidence gathered from the Future of Transport regulatory review: call for evidence on micromobility vehicles, flexible bus services and MaaS and other work on the Future of Transport to inform our work on this code of practice. A government response will be published in due course.

## Annex A: Consultation principles

The consultation is being conducted in line with the Government's key consultation principles which are listed below. Further information is available at <https://www.gov.uk/government/publications/consultation-principles-guidance>

If you have any comments about the consultation process please contact:

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