

Mobility as a Service: code of practice

Introduction

Thank you for responding to our consultation. Your views will help us to gather further evidence to develop the content of a Mobility as a Service (MaaS) code of practice.

Closing date is Tuesday 3 May 2022.

View all the questions

This survey provides questions based on user choice, a [full copy of the questions is available \(opens in a new window\)](#).

Print or save a copy of your response

When you get to the end of this questionnaire, you will be offered the chance to either print or save a copy of your response for your records. This option appears after you press 'Submit your response'.

Save and continue option

You have an option to 'save and continue' your response at any time. If you do that you will be sent a link via email to allow you to continue your response where you left off.

It's very important that you enter your correct email address if you choose to save and continue. If you make a mistake in the email address you won't receive the link you need to complete your response.

Accessibility statement

Read our [accessibility statement for SmartSurvey forms \(opens in a new window\)](#).

Confidentiality and data protection

This consultation is asking for views to help us to gather evidence to develop the content of a MaaS code of practice.

We are asking for:

- your name and email address, in case we need to ask you follow-up questions about your responses (you do not have to give us this personal information, but if you do provide it, we will use it only for the purpose of asking follow-up questions)
- whether you are representing an organisation or yourself

Additionally for organisation we are asking for the:

- name of your organisation, for identification

- type of work your organisation does, to better understand the relationship between you and the topic

For organisations we are also asking for the type of organisation you are in order to better understand how this strategy will affect your work.

Your consultation response and the processing of personal data that it entails is necessary for the exercise of our functions as a government department. DfT will, under data protection law, be the controller for this information. [DfT's privacy policy \(opens in new window\)](#) has more information about your rights in relation to your personal data, how to complain and how to contact the Data Protection Officer.

Any information you provide will be kept securely and destroyed within 12 months after the closing date. Any information provided through the online questionnaire will be moved to our internal systems within 2 months of the consultation period end date.

Personal details

1. Your (used for contact purposes only):

name

email

2. Are you responding: *

as an individual? (Go to 'Introduction')

on behalf of an organisation?

Organisation details

Name of organisation?

3. Your area of work is?

Public sector

Private sector

Third (charity) sector

Another area:

Introduction

In response to the increasing availability of data and digital capability in transport we are seeing new business models emerge. These models package different modes and services together into one application or platform simplifying consumer trip:

- planning
- payment

Such innovation has been termed 'Mobility as a Service' (MaaS) and we have defined this as:

"the integration of various modes of transport along with information and payment functions into a single mobility service"

We are consulting on the potential contents of a MaaS code of practice.

We believe:

1. A voluntary 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.
2. That consulting on a code of practice will provide an opportunity to gather evidence in a structured manner to understand where regulation might need to be brought forward in the future.

The consultation includes the areas of

- data
- multimodal ticketing
- accessibility and inclusion
- consumer protection
- algorithmic bias
- competition issues

MaaS Code of Practice

We propose a 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 our goals of:
 1. Putting users at the heart of the transport system.
 2. Reducing the environmental impacts from transport
- 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

For this consultation the terms of:

- commercial MaaS platform providers refers to companies who use MaaS for their business such as [Citymapper \[opens in a new window\]](#), [Moovit \[opens in a new window\]](#) and [Whim \[opens in a new window\]](#)
- local authorities refers to local council authorities within the UK
- sub-national transport bodies refers to established transport bodies such as Transport for London, Midlands Connect and Transport for the North
- transport operators includes suppliers across all transport types such as, road, rail, maritime and aviation for example National Express, LNER and Stagecoach
- transport users refers to those using transporting systems

4. In your view how can we ensure the code of practice is relevant for:

<p>commercial MaaS platform providers?</p>	<p>The code should: Provide clarity on any policy, regulatory and legislative requirements that enable the provision of services nationally and where local requirements can be found.</p> <p>Identify which data standards, protocols and datasets (access points for example) should be used to achieve interoperability between systems and thereby allow the easy consumption of data for their systems.</p> <p>Encourage the use of standard agreements with consistent accountability of the provider.</p> <p>Set out requirements for customer service standards and complaint escalation.</p> <p>Specify any involvement – either expected or voluntary, in forums or groups to encourage the sharing of good practice.</p>
<p>local authorities?</p>	<p>It should:</p> <p>Enable authorities and public bodies to access demand and supply data for different modes including trip origin / destinations; and planned and actual journey times: to support local authorities to support network and service planning.</p> <p>Require the provision of key financial services metrics, for example, weekly fixed payment, pay as you go, monthly subscription and variable usage.</p> <p>Specify any involvement – either expected or voluntary, in forums or groups to encourage the sharing of good practice.</p> <p>Provide a way to signpost providers to local policies and requirements that impact provision.</p>
<p>sub-national transport bodies?</p>	<p>It should:</p> <p>Provide access to the same data as local authorities - to support regional and cross border network and service planning.</p> <p>Enable cross authority border considerations to be identified; as well as good practice on working with other bodies: to ensure that cross border data and service provision is possible through cooperation and that shared policy and standards are in place.</p>
<p>transport operators?</p>	<p>There should be clarity on where and how an authority can require involvement in a MaaS scheme and how and where transport operators should make their service data available.</p> <p>The code should make clear: The expected formats for data and agreements that need to be used at a national and local level to enable data sharing and interoperability between different service providers and travel modes.</p> <p>The standardisation of the offer and which solutions need to be provided as a minimum - to steer people towards public/shared/active travel.</p>

Specify any involvement - either expected or voluntary, in forums or groups to encourage the sharing of good practice.

The code should:

Require information on the modes and costs of the services from the MaaS provider to be clearly provided before the customer has to sign up to the MaaS service. It should be possible to identify key information that can be presented in a consistent manner to facilitate simple comparison to be made between providers – in a similar way as is done with domestic energy provision.

transport users?

Help ensure that services enable increased modal shift – in particular - from cars ; and that carbon and other environmental impact of choices are clear to the user.

Standardise the offer and which solutions need to be provided as a minimum - to steer people towards public/shared/active travel

Provide for minimum standards of customer service including how to secure refunds and rebates; details of where and how to complain and how to escalate an existing complaint.

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

Detailed requirements and specification for services, which will be better covered in more targeted documents.
Mode specific requirements unless already mandated, for example, rail complaint escalation.

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
- ticketing

To help users choose lower carbon journeys, we think the inclusion of carbon data for each route offered should 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 plus the data shared must be of sufficient quality to provide the user with the most accurate travel information.

We want to understand what role, if any, a code of practice can play in supporting data issues in order to increase MaaS use.

6. What, in your view, if any, should be the role of a code of practice in addressing data:

issues overall to facilitate MaaS?	There should be an expectation that information is made available - not necessarily fully "open data" but easily accessible through published standardised interfaces and agreements.
sharing arrangements to facilitate MaaS?	To provide advice on where to find out details of what data formats, protocols and standards are used for data for particular modes.
quality to facilitate MaaS?	There should be an expectation that data is provided in standardised formats and is of a quality appropriate for the purpose for which it is being provided; and is measurable and monitorable. It is not necessary to specify, for example, that scooters are available 90% of the time. That is a detail of service that should be agreed between the provider and MaaS supplier.

7. Do you believe there are benefits to data standardisation for MaaS?



Yes



No (Go to 'Data')



Don't know? (Go to 'Data')

MaaS benefits to data standardisation

8. What benefits?

We see that data standardisation will:

Enable ease of access to, and sharing of, data.

Ensure easier and lower cost of service integration- particularly for new market entrants.

Reduce the risk of market dominance and improve transparency

Provide simpler compliance with local and national policies and requirements.

Data

9. In your view what, if any, challenges to accessing standardised data:

exist now?

There is currently a lack of access to consistent data on “new” modes such as bicycles and scooters.
Access to ride share providers needs to be provided in a consistent way.
Providers of MaaS and operators are not providing core service, usage or performance data in standard formats.
There is a lack of available resources (both human and written) to help identify the standards that are already available and in use.

will exist in the future?

We see there is a risk of a plethora of suppliers - particularly those established in different regulatory environments and markets, who use different standards to those well established in the UK, expecting to use the formats to which they are accustomed, rather than complying with UK requirements.

A process to identify in good time where existing standards need revision or new standards need to be developed to ensure that overall, standards remain fit for purpose.

10. How, in your view, should data sharing arrangements between transport operators and MaaS platform providers be managed?

Contractually

Voluntarily

Another way?

Why?

Contracts are required to ensure that controls are enforceable for areas including data protection, finance and liability.

11. In your view are there any challenges to sharing data?

Yes

No (Go to 'Data')

Don't know? (Go to 'Data')

Data sharing challenges

12. What do you believe are the main challenges to sharing data?

Data availability – knowledge of where and how to access data including formats, sharing and the necessary commercial agreements.

Uncertainty over how and why some datasets are restricted, for example, when should fare routing tables be applied to rail data?

13. What do you think will be the impact of your challenges?

Lack of easy access to data will make it harder for MaaS providers to present a choice of provider, for example, where multiple scooter providers operate in an area.

Data

14. Do you believe there are there other data issues, beyond data sharing and data standardisation, that our code of practice could address?



Yes



No (Go to 'Multimodal ticketing')



Don't know? (Go to 'Multimodal ticketing')

Other data issues

15. What other data issues?

Protection of personal customer data and when and how it can and should be shared, for example, to resolve complaints or provide refunds.

How should concessionary travel be addressed and managed.

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
- subscription models.

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.

We want to know how a code of practice can help MaaS platform providers, local authorities and transport operators overcome:

- the challenges to offering ticketing
- integrating with multiple modes

16. In your view, are there any barriers to creating multimodal ticketing schemes?



Yes



No (Go to 'Multimodal ticketing')



Don't know? (Go to 'Multimodal ticketing')

Multimodal ticketing challenges

17. What do you believe are the barriers to creating multimodal ticketing schemes?

There is a lack of support and advice on how agreements can be structured and how to technically structure data and configure equipment to enable interoperability between modes.

18. What do you think will be the impact of your challenges?

Multimodal ticketing

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

It should reduce or remove the lack of support and advice for multimodal tickets and data publication/sharing i.e. what needs to be provided by transport operators and how should that data be presented to the customer to properly reflect the options available for a journey. For example, many journeys are regular and presenting a single journey price is not always the best option for the customer.

Accessibility and inclusion

MaaS 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
- making travel more:
 - integrated
 - safer
 - comfortable
 - cost efficient

However, multimodal journeys planned and paid for through a MaaS platform could present challenges for users if:

- they do not provide appropriate assistance for passengers transferring between modes
- when planning journeys they do not take into account passenger needs such as step-free access

We want to understand the ways in which a code of practice can help provide guidelines on accessible and inclusive travel.

20. How, in your view, can MaaS platform providers ensure:

their systems are accessible and inclusive to all users?	<p>It should require platform providers to apply standards such as W3C to basic service provision.</p> <p>They should be required to properly integrate with operating system accessibility features of devices - to ensure they are as easily accessible to as many people as possible without them having to do anything differently.</p> <p>Providers should work with user groups to design and test services to ensure inclusivity and accessibility. This could be an authority requirement before a licence to operate in an area is granted.</p>
the journeys they provide are accessible and inclusive to all users?	<p>The code of practice can signpost to existing legislation and requirements to provide accessible services.</p> <p>It should be possible to contractually require service providers who sign up to the MaaS service to meet required standards; and where not mandatory, provide accessible services including assistance.</p>

There should be a requirement upon service providers to supply disruption information to MaaS suppliers in a standardised way - to enable proactive re-routing and advice.

21. 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 (including examples such as those without a smart phone or access to a bank account)?

It could specify the use of intermediaries to allow the unbanked to access services through cash handling, for example, Payzone.

It should enable cash flow challenged customers who may not be able to afford to pay a monthly fee in advance, to access services at similar cost to those who can pay upfront; or for those who cannot achieve a credit status to be able to post pay.

There should be alternatives such as the use of contactless smartcard to unlock services such as bicycles - rather than requiring an expensive modern phone that meets specific requirements.

22. In your view are there other ways our code of practice can help provide guidelines on accessibility?



Yes



No (Go to 'Inclusivity')



Don't know? (Go to 'Inclusivity')

Accessibility assistance

23. How?

The code of practice could support the production of guidance by industry bodies on how to provide information and services that are accessible.

It should specify how MaaS suppliers should work with user groups to understand local needs and requirements.

Inclusivity

24. In your view are there other ways our code of practice can help provide guidelines on inclusivity?



Yes



No (Go to 'Consumer protection')



Don't know? (Go to 'Consumer protection')

Inclusivity assistance

25. How?

There should be a requirement for MaaS suppliers to work with user groups to understand local needs and requirements.

Consumer protection

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.

We want to understand if a code of practice could help to:

1. Clarify roles and responsibilities within existing legislation.
2. Offer good practice solutions for tackling the interface between modes when it comes to consumer protection.

26. Do you think the code of practice should play a role in addressing consumer protection needs for multimodal journeys?



Yes



No (Go to 'Algorithmic bias')



Don't know? (Go to 'Algorithmic bias')

Multimodal journeys role

27. What role?

The Code should provide a pathway to where existing requirements and expectations already exist, for example, on data standards or presentation of information.

It should identify how and when journey and personal data should be transferred between

providers to ensure a good customer service and experience.

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:

1. Away from consumer or public policy interests.
2. Towards the commercial objectives of one or more providers.

MaaS algorithms can also produce insights that lead to unfair discrimination.

To help meet decarbonisation objectives, we propose the code of practice could encourage MaaS providers to promote:

- active travel such as walking and cycling
- sustainable modes of transport through the inclusion of carbon data for each route offered

We want to understand if a code of practice could encourage MaaS providers to avoid:

1. Algorithmic bias.
2. Unfair discrimination.

28. How, if at all, in your view can MaaS platforms encourage:

sustainable travel options?	Through ensuring that, for example, lowest carbon is a planning option. And by showing low carbon alternatives where the “best” option for the selected criteria is not the lowest carbon.
active travel options (for example walking and cycling)?	Through understanding the modes available to the traveller for example: cycle to a rail station, or car to a P&R or rail station, rather than just “all the way by car” which is the default for many planning engines at the moment.
	Yes by providing them as options where it is possible and sensible. For example, rather than providing a short leg using a taxi or bus, to provide a walking option. Accessibility requirements will need to be factored in to ensure that journeys are appropriate for the individual’s abilities. This could be managed through the collection of personal preference and abilities.

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

There should be content that signposts to information about bias and how it can be avoided.

It should provide an expectation that the algorithm can be externally validated in the event of challenge over bias.

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
- the risk of organisations violating existing competition laws

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

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

Open standards and agreements will help. Whilst they will not address competition issues on their own, they will reduce the barriers to entry for competition.

Where there are multiple providers of a mode in an area, it should be a requirement that all providers are advertised on all platforms to reduce the risk of restrictive agreements between parties.

Other MaaS issues

31. Are you aware of any good practice in relation to:

	Yes	No	Don't know?
data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
multimodal ticketing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
accessibility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
inclusion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
consumer protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
algorithmic bias?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
competition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add examples (including which topic):

32. What, if any, other topics do you think should be addressed through the code of practice?

33. What do you think we should be doing to monitor the effectiveness of the code of practice?

Collection of take up and operational data from MaaS providers and transport providers should be mandated to ensure that the claims or otherwise, of success from either party can be evidenced.

There should be an organisation that reviews the number of customer complaints and comments to Authorities and providers about MaaS systems - to ensure that such complaints are resolved appropriately and comments taken on board so that services are developed in line with customer feedback.

34. Are there any other ways you think we should support MaaS in the future?

There should be support for the non-statutory bodies providing and promoting standards and advice to enable the expansion of services to provide the necessary standards and advice to meet the known and developing customer and policy requirements of MaaS

Final comments

35. Any other comments?

Mobility as a Service: code of practice

Personal details

Q1. Your (used for contact purposes only):

name Tim Rivett
email tim.rivett@rtig.org.uk

Q2. Are you responding:

on behalf of an organisation?

Organisation details

Name of organisation?

RTIG Inform

Q3. Your area of work is?

Another area:
Industry association

MaaS Code of Practice

Q4. In your view how can we ensure the code of practice is relevant for:

commercial MaaS platform providers?	The code should: Provide clarity on any policy, regulatory and legislative requirements that enable the provision of services nationally and where local requirements can be found. Identify which data standards, protocols and datasets (access points for example) should be used to achieve interoperability between systems and thereby allow the easy consumption of data for their systems. Encourage the use of standard agreements with consistent accountability of the provider. Set out requirements for customer service standards and complaint escalation. Specify any involvement – either expected or voluntary, in forums or groups to encourage the sharing of good practice.
local authorities?	It should: Enable authorities and public bodies to access demand and supply data for different modes including trip origin / destinations; and planned and actual journey times: to support local authorities to support network and service planning. Require the provision of key financial services metrics, for example, weekly fixed payment, pay as you go, monthly subscription and variable usage. Specify any involvement – either expected or voluntary, in forums or groups to encourage the sharing of good practice. Provide a way to signpost providers to local policies and requirements that impact provision.
sub-national transport bodies?	It should: Provide access to the same data as local authorities - to support regional and cross border network and service planning. Enable cross authority border considerations to be identified; as well as good practice on working with other bodies: to ensure that cross border data and service provision is possible through cooperation and that shared policy and standards are in place.
transport operators?	There should be clarity on where and how an authority can require involvement in a MaaS scheme and how and where transport operators should make their service data available. The code should make clear: The expected formats for data and agreements that need to be used at a national and local level to enable data sharing and interoperability between different service providers and travel modes. The standardisation of the offer and which solutions need to be provided as a minimum - to steer people towards public/shared/active travel. Specify any involvement - either expected or voluntary, in forums or groups to encourage the sharing of good practice.
transport users?	The code should: Require information on the modes and costs of the services from the MaaS provider to be clearly provided before the customer has to sign up to the MaaS service. It should be possible to identify key information that can be presented in a consistent manner to facilitate simple comparison to be made between providers – in a similar way as is done with domestic energy provision. Help ensure that services enable increased modal shift – in particular - from cars ; and that carbon and other environmental impact of choices are clear to the user. Standardise the offer and which solutions need to be provided as a minimum - to steer people towards public/shared/active travel Provide for minimum standards of customer service including how to secure refunds and rebates; details of where and how to complain and how to escalate an existing complaint.

Q5. In your view, what issues do you feel would not be appropriate to include in a code of practice for MaaS?

Detailed requirements and specification for services, which will be better covered in more targeted documents.
Mode specific requirements unless already mandated, for example, rail complaint escalation.

Data

Q6. What, in your view, if any, should be the role of a code of practice in addressing data:

issues overall to facilitate MaaS?	There should be an expectation that information is made available - not necessarily fully "open data" but easily accessible through published standardised interfaces and agreements.
sharing arrangements to facilitate MaaS?	To provide advice on where to find out details of what data formats, protocols and standards are used for data for particular modes.
quality to facilitate MaaS?	There should be an expectation that data is provided in standardised formats and is of a quality appropriate for the purpose for which it is being provided; and is measurable and monitorable. It is not necessary to specify, for example, that scooters are available 90% of the time. That is a detail of service that should be agreed between the provider and MaaS supplier.

Q7. Do you believe there are benefits to data standardisation for MaaS?

Yes

MaaS benefits to data standardisation

Q8. What benefits?

We see that data standardisation will:
 Enable ease of access to, and sharing of, data.
 Ensure easier and lower cost of service integration- particularly for new market entrants.
 Reduce the risk of market dominance and improve transparency
 Provide simpler compliance with local and national policies and requirements.

Data

Q9. In your view what, if any, challenges to accessing standardised data:

exist now?	There is currently a lack of access to consistent data on "new" modes such as bicycles and scooters. Access to ride share providers needs to be provided in a consistent way. Providers of MaaS and operators are not providing core service, usage or performance data in standard formats. There is a lack of available resources (both human and written) to help identify the standards that are already available and in use.
will exist in the future?	We see there is a risk of a plethora of suppliers - particularly those established in different regulatory environments and markets, who use different standards to those well established in the UK, expecting to use the formats to which they are accustomed, rather than complying with UK requirements. A process to identify in good time where existing standards need revision or new standards need to be developed to ensure that overall, standards remain fit for purpose.

Q10. How, in your view, should data sharing arrangements between transport operators and MaaS platform providers be managed?

Contractually

Why?
 Contracts are required to ensure that controls are enforceable for areas including data protection, finance and liability.

Q11. In your view are there any challenges to sharing data?

Yes

Data sharing challenges

Q12. What do you believe are the main challenges to sharing data?

Data availability – knowledge of where and how to access data including formats, sharing and the necessary commercial agreements.
 Uncertainty over how and why some datasets are restricted, for example, when should fare routing tables be applied to rail data?

Q13. What do you think will be the impact of your challenges?

Lack of easy access to data will make it harder for MaaS providers to present a choice of provider, for example, where multiple scooter providers operate in an area.

Data

Q14. Do you believe there are there other data issues, beyond data sharing and data standardisation, that our code of practice could address?

Yes

Other data issues

Q15. What other data issues?

Protection of personal customer data and when and how it can and should be shared, for example, to resolve complaints or provide refunds.
How should concessionary travel be addressed and managed.

Multimodal ticketing

Q16. In your view, are there any barriers to creating multimodal ticketing schemes?

Yes

Multimodal ticketing challenges

Q17. What do you believe are the barriers to creating multimodal ticketing schemes?

There is a lack of support and advice on how agreements can be structured and how to technically structure data and configure equipment to enable interoperability between modes.

Multimodal ticketing

Q19. In your view what role, if any, can the code of practice play in supporting multimodal ticketing?

It should reduce or remove the lack of support and advice for multimodal tickets and data publication/sharing i.e. what needs to be provided by transport operators and how should that data be presented to the customer to properly reflect the options available for a journey. For example, many journeys are regular and presenting a single journey price is not always the best option for the customer.

Accessibility and inclusion

Q20. How, in your view, can MaaS platform providers ensure:

their systems are accessible and inclusive to all users?	It should require platform providers to apply standards such as W3C to basic service provision. They should be required to properly integrate with operating system accessibility features of devices - to ensure they are as easily accessible to as many people as possible without them having to do anything differently. Providers should work with user groups to design and test services to ensure inclusivity and accessibility. This could be an authority requirement before a licence to operate in an area is granted.
the journeys they provide are accessible and inclusive to all users?	The code of practice can signpost to existing legislation and requirements to provide accessible services. It should be possible to contractually require service providers who sign up to the MaaS service to meet required standards; and where not mandatory, provide accessible services including assistance. There should be a requirement upon service providers to supply disruption information to MaaS suppliers in a standardised way - to enable proactive re-routing and advice.

Q21. 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 (including examples such as those without a smart phone or access to a bank account)?

It could specify the use of intermediaries to allow the unbanked to access services through cash handling, for example, Payzone.
It should enable cash flow challenged customers who may not be able to afford to pay a monthly fee in advance, to access services at similar cost to those who can pay upfront; or for those who cannot achieve a credit status to be able to post pay.
There should be alternatives such as the use of contactless smartcard to unlock services such as bicycles - rather than requiring an expensive modern phone that meets specific requirements.

Q22. In your view are there other ways our code of practice can help provide guidelines on accessibility?

Yes

Accessibility assistance

Q23. How?

The code of practice could support the production of guidance by industry bodies on how to provide information and services that are accessible.
It should specify how MaaS suppliers should work with user groups to understand local needs and requirements.

Inclusivity

Q24. In your view are there other ways our code of practice can help provide guidelines on inclusivity?

Yes

Inclusivity assistance

Q25. How?

There should be a requirement for MaaS suppliers to work with user groups to understand local needs and requirements.

Consumer protection

Q26. Do you think the code of practice should play a role in addressing consumer protection needs for multimodal journeys?

Yes

Multimodal journeys role

Q27. What role?

The Code should provide a pathway to where existing requirements and expectations already exist, for example, on data standards or presentation of information.

It should identify how and when journey and personal data should be transferred between providers to ensure a good customer service and experience.

Algorithmic bias

Q28. How, if at all, in your view can MaaS platforms encourage:

sustainable travel options? Through ensuring that, for example, lowest carbon is a planning option. And by showing low carbon alternatives where the "best" option for the selected criteria is not the lowest carbon. Through understanding the modes available to the traveller for example: cycle to a rail station, or car to a P&R or rail station, rather than just "all the way by car" which is the default for many planning engines at the moment.

active travel options (for example walking and cycling)? Yes by providing them as options where it is possible and sensible. For example, rather than providing a short leg using a taxi or bus, to provide a walking option. Accessibility requirements will need to be factored in to ensure that journeys are appropriate for the individual's abilities. This could be managed through the collection of personal preference and abilities.

Q29. What, if any, role, do you think the code of practice should play in addressing algorithmic bias?

There should be content that signposts to information about bias and how it can be avoided. It should provide an expectation that the algorithm can be externally validated in the event of challenge over bias.

Competition

Q30. What, if any, role do you think the code of practice can play in addressing competition issues that may arise in the MaaS market?

Open standards and agreements will help. Whilst they will not address competition issues on their own, they will reduce the barriers to entry for competition.

Where there are multiple providers of a mode in an area, it should be a requirement that all providers are advertised on all platforms to reduce the risk of restrictive agreements between parties.

Other MaaS issues

Q33. What do you think we should be doing to monitor the effectiveness of the code of practice?

Collection of take up and operational data from MaaS providers and transport providers should be mandated to ensure that the claims or otherwise, of success from either party can be evidenced. There should be an organisation that reviews the number of customer complaints and comments to Authorities and providers about MaaS systems - to ensure that such complaints are resolved appropriately and comments taken on board so that services are developed in line with customer feedback.

Q34. Are there any other ways you think we should support MaaS in the future?

There should be support for the non-statutory bodies providing and promoting standards and advice to enable the expansion of services to provide the necessary standards and advice to meet the known and developing customer and policy requirements of MaaS.