



House of Commons  
Transport Committee

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# Mobility as a Service

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**Eighth Report of Session 2017–19**

*Report, together with formal minutes relating  
to the report*

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## Transport Committee

The Transport Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department for Transport and its associated public bodies.

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Committee reports are published on the Committee's website at [www.parliament.uk/transcom](http://www.parliament.uk/transcom) and in print by Order of the House.

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The current staff of the Committee are Gordon Clarke (Committee Clerk), Ed Faulkner (Second Clerk), Previn Desai (Second Clerk), Nerys Davies (Committee Specialist), Andrew Haylen (Committee Specialist), Deborah Courtney (Senior Committee Assistant), Michelle Owens, (Committee Assistant), Oliver Florence (Media Officer), and Estelle Currie (Senior Media Officer).

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# Contents

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<b>Summary</b>	<b>3</b>
<b>Conclusions and recommendations</b>	<b>5</b>
<b>1 Introduction</b>	<b>9</b>
What is Mobility as a Service?	9
Our inquiry and this report	10
<b>2 The MaaS concept</b>	<b>12</b>
The MaaS “ecosystem”	12
Potential benefits of the implementation of MaaS	13
Alignment with Government policy and strategies	14
The Cycling and Walking Investment Strategy (CWIS) and healthy travel choices	14
Industrial Strategy Grand Challenge and the Future of Mobility	15
<b>3 MaaS in practice</b>	<b>19</b>
MaaS pilots	19
Testing mitigations for the potential disadvantages of MaaS	20
Increase in the use of private hire vehicles and taxis	21
Social and digital exclusion	21
Boundary limitations of MaaS caused by geographical scope	22
Government funding	24
<b>4 Governance and regulation</b>	<b>27</b>
Incentivising data sharing	27
The regulatory framework	30
Passenger rights and protection	32
<b>Annex: Committee visit notes</b>	<b>36</b>
<b>Formal minutes</b>	<b>37</b>
<b>Witnesses</b>	<b>38</b>
<b>Published written evidence</b>	<b>39</b>
<b>List of Reports from the Committee during the current Parliament</b>	<b>41</b>



## Summary

Faster fixed and mobile access to the internet and data services have changed how people communicate, find information and shop. They have also increased people's choices over how, where and when they access online content and services. Interest is growing among transport operators, academics, planners and policy makers about the effect this shift in consumer behaviour could have on the provision of transport services.

An idea that is already being piloted abroad and in the UK is Mobility as a Service (MaaS). MaaS is the term for the digital platforms (often smartphone apps) through which people can access a range of public, shared and private transport, using a system that integrates the planning, booking and paying for travel.

This Report is intended to

- increase public awareness of what MaaS is;
- show policy makers why it could be important and is worth investing time and effort to understand; and
- clarify the Department for Transport's (DfT) role in shaping its development in the UK.

MaaS is being developed in response to the growing demand from users for transport to be delivered as an on-demand, multi-mode service that allows passengers to travel door-to-door conveniently and seamlessly. MaaS could revolutionise the way people travel, just as streaming services have fundamentally changed the way people search for, consume and pay for media.

MaaS pilots have shown the potential such schemes have for transforming how people travel, with claims it could bring very substantial benefits for individuals and society as a whole. These include reduced road congestion, improved air quality, healthier travel choices, increased efficiency in transport networks and more effective management of transport demand. These potential benefits align with those expected to be delivered by Government strategies such as the Cycling and Walking Investment Strategy and the Future of Mobility challenge, which is part of the Government's Industrial Strategy.

If MaaS develops in an uncontrolled way, it could have unintended negative consequences. For example, a poorly implemented MaaS scheme could increase road congestion and worsen air quality, or exacerbate digital and social exclusion. If a scheme's geographical extent is limited it could create difficulties for people wanting to make journeys outside the area or between areas covered by different MaaS schemes.

Many of the potential benefits of MaaS align well with the benefits the Government is seeking through several of its key strategies. We believe that MaaS should feature more prominently in the Government's plans. The Department for Transport was right to take a backseat while there were only a few MaaS pilots in the UK but it will need to play a more active part as piloting activity increases. It can do this by supporting and funding a variety of MaaS projects. Before the end of 2018, the Department for Transport must ensure that its interdepartmental group on MaaS engages with current and emerging

MaaS pilots and research initiatives to assess a wide range of models and identify the best ways to ensure the potential benefits of MaaS are realised and the potential costs are mitigated. In the immediate future, there is a clear role for the Government to shape the evolution of MaaS. We identify three tasks for the Department for Transport. It needs to:

- provide leadership;
- provide practical support for the development of MaaS in the UK; and
- review and update existing guidance and legislation and bring forward new legislative proposals where necessary to provide a suitable regulatory framework for MaaS.

Data is key to the effective running of MaaS as it enables MaaS platform providers to deliver up-to-date and accurate information to customers and is key for efficient planning of customer-focused services. This will involve transport operators and MaaS platform providers sharing data on the planning, booking, travelling and post-travelling phases of journeys. The Government needs to take steps to encourage transport operators and MaaS platform providers to share data in ways that are consistent with their respective commercial interests and the protection of passengers' personal data.

There is little regulation to govern MaaS. The lack of regulation, especially outside London, has caused concern for local and combined authorities, MaaS platform providers, transport operators and passengers. We believe there is a role for Government in helping to define and regulate the emerging MaaS market. We see two tasks for the Government. First, it should review and update current guidelines, codes of conduct and regulations covering the provision of transport services so that MaaS schemes are properly accommodated within the regulatory framework. Second, it should work with MaaS stakeholders to develop a regulatory framework for those aspects of MaaS not covered by the existing regulatory framework. This could be a code of conduct developed by MaaS stakeholders, but the Government must satisfy itself that any code is fit for purpose and can be enforced. If an approach based on self-regulation cannot be found the Government should be willing to bring forward its own legislative proposals to ensure MaaS develops in a way that protects the interests of its users and wider society. This is vital if investors, MaaS platform providers and passengers are to have the confidence needed to support the growth of MaaS.

MaaS is likely to require the introduction of regulation or legislation to protect passengers when they are making multi-modal journeys. Customers' interests must be protected in case of accident or failure in service, and their financial interests must not be harmed as the MaaS market grows. We recommend the Government commissions research on MaaS users' rights and how best these can be protected. The Government should also investigate how fair market competition can be established and maintained to ensure users' financial interests are protected. This should be done as part of the thorough legislative and regulatory review the Department has said it will conduct in connection with the Future of Mobility Industrial Strategy.

# Conclusions and recommendations

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## The MaaS concept

1. Mobility as a Service (MaaS) could transform how transport is provided and used, delivering important benefits, and it could also support the delivery of several of the Government's key strategies and policies. The Government should not miss this opportunity. We believe MaaS should be a key part of the Government's ambition to make the UK a world leader in the future of mobility. The Government's current vision focuses too much on the growth of electric vehicles and connected and autonomous vehicles. We are concerned that the Government does not yet seem to have recognised the full extent of the role MaaS could play in transforming mobility, delivering truly integrated transport solutions, or the wider benefits this could bring, for example by helping to reduce congestion on our roads and encouraging healthier, more active travel choices. (Paragraph 28)
2. We see three clear tasks for the Government. It needs to provide:
  - Leadership: the Government needs to set out its vision for MaaS, how it wants to see the sector develop, make clear its position on the desirability of a national scheme versus local schemes and how it expects MaaS to contribute to its policy objectives like those on air quality, and how it would expect MaaS to contribute to modal shift and encourage cycling and walking by encouraging schemes to give preference to certain journey types;
  - Practical support: the Government needs to provide financial and other support for piloting and development of schemes, including help developing a framework for governing the sector, the development of standards for interoperability and cross-platform working, sharing experience, helping local authorities and others develop workable schemes; and
  - Suitable legislative and regulatory unpinning: the Government needs to review the current legislative framework from transport services and identify what areas need to be updated to take account of developments like MaaS. It also needs to identify what areas are not covered by existing legislation and bring forward the necessary legislative proposals. (Paragraph 29)
3. *We recommend the Government take a more active and direct role in shaping MaaS to ensure it develops in a way that supports Government strategies and policies, and that the benefits to society are realised to the greatest extent possible. The Government must explicitly incorporate the development of MaaS into its relevant policies and strategies, including: promotion and development of electric and connected and autonomous vehicles; its Clean Air Strategy; the Cycling and Walking Investment Strategy; and the Industrial Strategy Grand Challenge, which in part will involve an update of the Future of Urban Mobility strategy. We expect to see MaaS feature in that strategy when it is updated.* (Paragraph 30)
4. *The Department should also set out, in its response to this Report, how it is working with other Departments, such as the Department for Health and Social Care and*

*the Department for Business, Energy and Industrial Strategy, to ensure MaaS is considered in the development of strategy and policy and that MaaS evolves in ways that support the delivery of key Government policies. (Paragraph 31)*

### MaaS in practice

5. While in theory the benefits of MaaS are understood, in practice it could lead to unintended negative consequences. These could include increased road congestion and potentially poorer air quality, social and digital exclusion, and boundaries arising from a scheme's geographical extent. Early research and piloting of MaaS should focus not only on maximising the potential benefits but also on mitigating potential negative effects that could arise from the implementation of MaaS. We believe MaaS should be tested under as wide a variety of conditions as possible if those in local and central government considering MaaS or who are responsible for designing policies and commissioning schemes are to understand and avoid these potentially costly unintended consequences. The Department for Transport's approach of watching closely as different models are explored by companies and local authorities has been right up to this point but it should now become a more active participant in shaping the evolution of MaaS. (Paragraph 53)
6. *We recommend the Department for Transport help to support a much more varied "test and learn" approach to the implementation of MaaS. We recommend, before the end of 2018, the Department's interdepartmental group, which has been set-up to work on MaaS, should collect data and information on a diverse range of MaaS projects and develop a means for sharing best practice between local and regional authorities and MaaS platform providers. We recommend that the Government should focus on facilitating the development of an overall approach to MaaS that tests both the potential benefits and mitigations against unintended negative consequences that have been highlighted in this report. (Paragraph 54)*
7. We agree with the Minister that identifying the potential benefits and costs of MaaS is important. But more funding for MaaS will be required for this to happen successfully. Some of this will come from the private sector but there is a case for Government funding. Current Government funding, such as the Transforming Cities budget, is not sufficient to support all the areas with an interest in piloting some form of MaaS. We do not see a case for limiting such funding to just those areas with a metro-mayor. Current funding arrangements overlook rural areas that are unlikely to attract private sector investment. Opportunities to test how MaaS might help local authorities implement total transport could be lost. If the Government is committed to making the UK a leader in the future of mobility, then it will need to look wider than connected and autonomous vehicles and financially support the testing of a new and emerging MaaS pilots and initiatives, particularly where these can help increase the use of public transport and reduce our dependence on private cars. This is crucial to ensuring MaaS develops in a way that benefits both passengers and society. (Paragraph 64)
8. The Government can take steps that will encourage investment in the development of MaaS. This could include additional funding from Government, and there are potentially sources of funding in other Departments that could be used to help pilot



MaaS schemes where there are likely to be health and/or social benefits, but should also look at how the current framework encourages companies and other bodies to invest in the piloting and development of MaaS. (Paragraph 65)

9. *We recommend that the Government more clearly outlines its support for MaaS pilots in its budget, estimates and departmental plans. We recommend that the Government take steps to identify how much additional funding will be needed to effectively support and test a broad range of pilots in line with our earlier conclusions. In doing so, the Government should assess the suitability of current funding arrangements, such as the Transforming Cities budget, for supporting MaaS pilots and the extent to which the framework to support innovation encourages companies and others to invest in the piloting and development of MaaS. In reviewing funding arrangements, the Government should consult as wide a range of stakeholders as possible. The Government should investigate how it might secure the necessary funding, including if necessary redirecting funding from other projects linked to its Future of Mobility strategy, for the development of MaaS in the UK. (Paragraph 66)*

### Governance and regulation

10. Data is crucial to the effective operation of MaaS schemes; transport operators need to share data about the services they provide so that journeys can be planned and optimised to meet the needs of their users. Within a MaaS scheme any agreement between transport operators, for example on how they will share passenger revenue will almost certainly need to be underpinned by agreements on how data will be shared. Information about how services are used and what journeys passengers make will be needed to evolve services in ways that best meet users' needs. We recognise that if data sharing is not encouraged there is a serious risk schemes will never be developed at a scale that moves beyond piloting activity and remains sustainable. Data must be shared in an anonymised and aggregated manner to protect passengers' personal information and the commercial interests of transport operators and MaaS platform providers. We recognise Transport for London's regulatory approach to data sharing and the 2018 Finnish Transport Service Act as good examples of encouraging data sharing. (Paragraph 80)
11. *We recommend that the Government works with local authorities towards a “no data, no service” policy that would require all transport operators to share data if they want to provide a service in a given area. While such a policy must be implemented to promote innovation and growth of the MaaS market it will also bring other benefits and has merit on its own. In developing this policy, the Government must ensure that it does not favour any single actor over another, and that smaller transport operators are provided with appropriate support to ensure they are not driven out of the market by the implementation of such a policy. (Paragraph 81)*
12. We acknowledge the disruption MaaS and new forms of transport may pose to local authorities, transport operators and the wider transport industry. These stakeholders are willing to work together and with the Government to develop and implement an appropriate and proportionate level of regulation of MaaS. We recognise that without some agreed rules—either self-regulation based on a code of conduct or regulation by the Government underpinned by legislation—investors, MaaS

platform providers and passengers are unlikely to have the confidence needed to support the further growth of MaaS. We recognise that the Government has helped to define and regulate other new markets and we believe that similar steps are needed for the development of MaaS. We see two tasks for the Government: reviewing and updating current guidance, codes of practice and regulations to ensure they cater for MaaS; and the development of a framework to regulate those elements of MaaS not covered by existing legislation. The latter should take a light-touch approach, but the Government should be willing to bring forward legislative proposals if it cannot agree a suitable framework with MaaS stakeholders. (Paragraph 90)

13. *It is essential that existing regulations on transport, data protection, and consumer protection are updated to take account of MaaS. The Government should bring forward the necessary legislative proposals as soon as it has reviewed the adequacy of existing regulation. We recommend by the middle of next year the Government should have developed a plan for how it will update existing guidance, codes of practice and current regulations to take account of MaaS. On those aspects of MaaS not covered by an existing framework the Government should work with MaaS stakeholders to develop a code of conduct that sets out roles, responsibilities and expectations for those involved in MaaS schemes. The Government should ensure any code includes consideration of the means by which it will be enforced. The Government should demonstrate its willingness to regulate where a code of conduct proves to be inadequate.* (Paragraph 91)
14. We recognise the importance of passenger protection within the context of MaaS. Passengers' interests (particularly passenger safety) must always be of paramount importance when new markets are emerging, but with the Government's "wait and see approach" and the current unregulated environment it is not clear this is the case. We conclude there is a role for Government in assessing the risks to MaaS users' interests, from fair market competition and the pricing of MaaS packages, to individuals' personal safety. We identify consumer protection as one of the top three priorities for Government, along with measures on data protection and sharing, and the regulation of MaaS covered earlier in our Report. (Paragraph 101)
15. *We recommend the Government commissions research on MaaS users' rights and safety. The Government should also investigate what steps it needs to take to ensure there is fair market competition and that users' financial interests are protected. This should be done as part of the thorough legislative and regulatory review the Department has said it will conduct in connection with the Future of Mobility Industrial Strategy.* (Paragraph 102)

# 1 Introduction

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1. The take-up of faster fixed and mobile access to the Internet and data services has changed how people communicate, find information and shop. It has also increased people's choices over how, where and when they access online content and services. In the UK around four in every five adults use a smartphone to access the internet.<sup>1</sup> Increased use of mobile internet-connected devices has transformed the way people access and pay for things like music, films, television and banking. People are becoming accustomed to, and demanding, seamless, readily accessible online services to meet many of their everyday needs.

2. Interest is growing among transport operators, academics, planners and policy makers about the effect this shift in consumer behaviour could have on the provision of transport services.<sup>2</sup> While online ticket booking has been around for a while and some places have had online multi-mode journey planners for a few years, passengers' expectations of services are changing and there is demand for services that can handle route planning, ticket booking and payments across several modes of travel.<sup>3</sup>

## What is Mobility as a Service?

3. An idea that could meet this demand is already being piloted abroad and in the UK: Mobility as a Service (MaaS). MaaS is a term used to describe digital services, often smartphone apps, through which people can access a range of public, shared and private transport, using a system that integrates the planning, booking and paying for travel.<sup>4</sup>

4. MaaS could be thought of as offering truly integrated transport planning with the benefits of smart ticketing and through ticketing rolled-up into an easily accessible online service. Someone using MaaS could plan and pay for an entire journey, without the need for several transactions with different transport operators or multiple tickets using an app on their smartphone or other device. The service would use real-time data to optimise their journey and provide them with all the information they need to make it. Payment could be on a pay-as-you-go or subscription basis.

5. Proponents of MaaS say that such services could offer greater convenience and value for money to passengers and efficiencies to transport operators.<sup>5</sup> Bold claims have been made about MaaS's transformative potential, including that it could even usurp the dominant position of the privately-owned car,<sup>6</sup> resulting in substantial social and

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1 Ofsted, [Communications Market Review 2018](#), August 2018

2 Some have suggested that MaaS also has the potential to improve transport services for business fleets, see for example [Q205](#), [Q85](#) and Fleetondemand ([MAS0013](#)); and for freight operators, see for example Aberdeen City Council ([MAS0057](#)), Aberdeen City Council & Robert Gordon University ([MAS0043](#)) and [Q228](#)

3 Transport Systems Catapult, [Mobility as a Service: Exploring the Opportunities for Mobility as a Service in the UK](#), (July 2016)

4 See, for example, Deloitte ([MAS0018](#)), MaaS Global Oy ([MAS0026](#)), Viaqqio, part of the ESP Group ([MAS0005](#)), MaaS Alliance ([MAS0027](#)) and Transport Systems Catapult, [Mobility as a Service: Exploring the Opportunities for Mobility as a Service in the UK](#), (July 2016)

5 Deloitte Review, [The Rise of Mobility as a Service: Reshaping how urbanites get around](#), Issue 20, 2017 pp 112–113

6 See, for example, BVRLA ([MAS0010](#)), Ito World Ltd ([MAS0049](#)), MaaS Global Oy ([MAS0026](#)) and West Midlands Combined Authority ([MAS0004](#))

environmental benefits. These include reduced road congestion,<sup>7</sup> improved air quality,<sup>8</sup> healthier travel choices,<sup>9</sup> increased network efficiency and more effective management of transport demand.<sup>10</sup> These potential benefits align with those expected to be delivered by Government strategies such as the Cycling and Walking Investment Strategy,<sup>11</sup> and the Future of Mobility challenge set out in the emerging Industrial Strategy.<sup>12</sup> The growing number of pilots will help develop an understanding of how MaaS could contribute to the Government's key policy goals, with benefits shared widely across society. Viaqqio's NaviGoGo app and MaaS Global's Whim app are the most developed MaaS pilots in the UK today. (More detail on current MaaS pilots in the UK can be found in chapter 3 of this report).

6. We are aware that some of the key benefits of MaaS can be achieved via other means. For example, London's transport system is not designed as a MaaS solution, but it offers passengers access to a wide range of transport modes, which can be accessed via Oyster or contactless payment.<sup>13</sup> However, it cannot be said to be a complete MaaS solution as it does not fully integrate journey planning and payment. London's approach has been enabled by a long-established, highly developed and integrated transport network with strong regional governance. This is not widely replicated elsewhere in the UK and the London model is not likely to be an option in many areas. MaaS could be an effective alternative that could be realised in a many more places because it can be specifically tailored to the needs of communities and the transport operators that serve them.<sup>14</sup>

7. This fast-emerging sector could develop in ways that generate unintended negative consequences. For example, it could entrench social and digital exclusion.<sup>15</sup> A lesson from the recent boom in single-mode ride hailing apps, such as Uber and Lyft, is that MaaS could lead to more private hire vehicles on the road, with implications for road congestion and air quality. A key policy challenge is how to support its development with thoughtful and careful regulation so the benefits can be realised while avoiding unintended negative consequences.<sup>16</sup>

## Our inquiry and this report

8. Our inquiry and this Report are intended to increase public awareness of what MaaS is, to show policy makers why it could be important and is worth investing time and effort to understand, and to clarify the Department for Transport's (DfT's) role in shaping its development in the UK. We received over 50 written submissions and held four oral evidence sessions, hearing from academics; transport consultants; MaaS platform providers; data experts; transport operators; local and regional government; and Jesse Norman MP, the then Parliamentary Under-Secretary of State for Transport, whose responsibilities include

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7 West Midlands Combined Authority ([MAS0004](#))

8 See, for example, Google ([MAS0051](#)), Visa Europe ([MAS0050](#)), London TravelWatch ([MAS0008](#)) and Transport Systems Catapult, *Mobility as a Service: Exploring the Opportunities for Mobility as a Service in the UK*, (July 2016)

9 Alstom UK & Ireland ([MAS0021](#))

10 Transport Systems Catapult ([MAS0044](#))

11 Department for Transport, *Cycling and Walking Investment Strategy*, (April 2017)

12 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017)

13 [Q28](#) and [Q194](#)

14 See, for example, [Q30](#), [Q226](#), [Q228](#) and ITS, *Mobility as a Service - an ITS perspective*, (December 2016)

15 Deloitte ([MAS0018](#)) and Travelspirit Foundation ([MAS0036](#))

16 The Go-Ahead Group plc ([MAS0042](#))

the Government's strategy on the Future of Mobility. We also visited Birmingham to see its MaaS pilot, the Whim app, in action and talk to a range of stakeholders working to support the development of MaaS.

9. Terms of reference for our inquiry are available on our website.<sup>17</sup> A full list of witnesses and details of our visit to the West Midlands can be found at the end of this Report.<sup>18</sup> We thank everyone who contributed to our work. We are particularly grateful to Justine Bornstein (Insight Lead and Program Manager, Future of Mobility at Deloitte LLP), our Specialist Adviser for the inquiry, whose support and contributions were invaluable.<sup>19</sup>

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17 House of Commons Transport Select Committee, [Mobility as a Service \(MaaS\) inquiry webpage](#), (November 2017)

18 The programme for the Committee's visit to the West Midlands is annexed to this report.

19 Justine Bornstein was appointed on 22 January 2018 (see the Committee's formal minutes). She had no interests to declare (for further details see the [formal minutes](#)).

## 2 The MaaS concept

*“MaaS is a new page. It is a new start; it is a possibility to deliver transport outcomes in different ways.”* Paul Campion, CEO, Transport Systems Catapult.<sup>20</sup>

10. At its core, MaaS offers the customer the ability to:

- **Plan journeys that use more than one mode of travel:** individuals can access a range of public and private transport modes on-demand. This can include private hire vehicles, bike-sharing schemes, as well as conventional public transport systems; and
- **make a single payment for a multi-mode journey**

MaaS platforms—the hardware and software needed to deliver the service—allow travel options to be tailored towards the needs or preferences of the customer, whether their wish is for greater speed, lower cost, higher quality or increased environmental friendliness.<sup>21</sup> Those designing and commissioning MaaS schemes can use these platforms to spread knowledge of healthier alternatives, such as cycling or walking, and can design schemes that encourage users to make particular choices. This ‘nudge’ approach can be combined with other measures such as increasing the cost of motoring or offering incentives that encourage the use of public, shared or active transport.<sup>22</sup> In this way MaaS offers transport authorities and providers scope to shape how their services are used.

### The MaaS “ecosystem”

11. MaaS solutions depend on a network of interconnected actors known in the sector as an “ecosystem”.<sup>23</sup> The MaaS ecosystem is made up of:

- **customers;**
- **MaaS platform provider(s):** who design and offer the MaaS platform (typically a smartphone app) and create packages based on customer demands;
- **data provider(s):** who share and use data, which is crucial to MaaS (we discuss data in some detail in chapter 4); and
- a range of **transport operators.**<sup>24</sup>

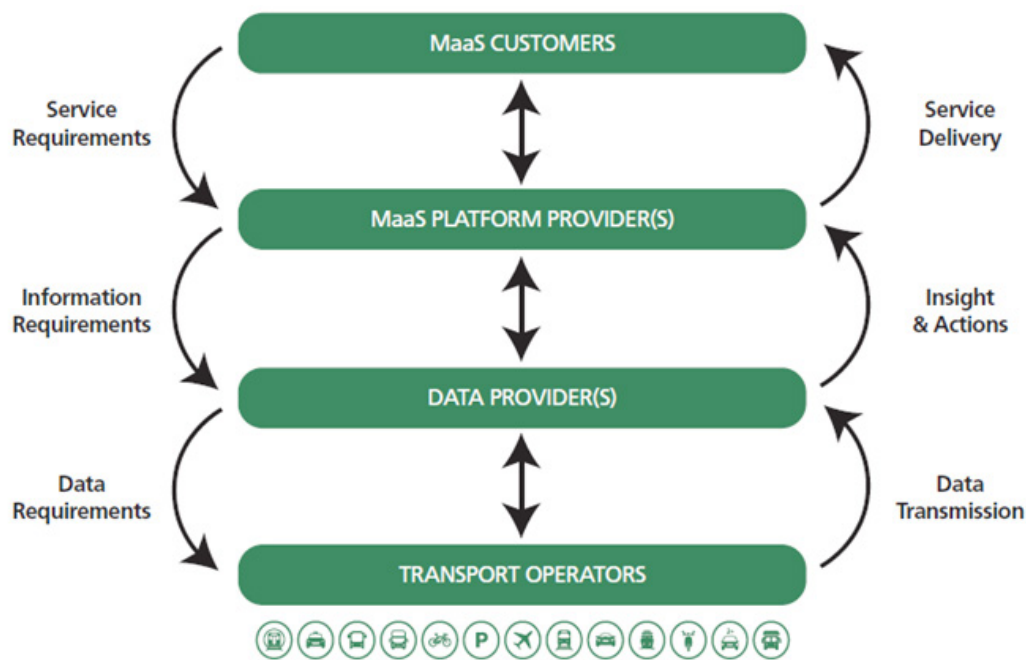
20 [Q34](#)

21 [KPMG LLP \(MAS0055\)](#)

22 [Alstom UK & Ireland \(MAS0021\)](#)

23 An actor may have several positions within a MaaS ecosystem. For example, a Transport Operator, alongside providing transport assets and services, may also be a Data Provider. As MaaS develops, it is possible that the distinction between different categories of actors becomes ever more blurred; for example, Transport Operators might begin to offer their own MaaS platform and take on the role of MaaS platform provider, and so forth.

24 See, for example, [KPMG LLP \(MAS0055\)](#), [Travelspirit Foundation \(MAS0036\)](#) and [Transport Systems Catapult, \*Mobility as a Service: Exploring the Opportunities for Mobility as a Service in the UK\*, \(July 2016\)](#)



Source: Transport Systems Catapult, [Mobility as a Service: Exploring the Opportunity for Mobility as a Service in the UK](#), July 2016

## Potential benefits of the implementation of MaaS

12. Early research from pilots appears to confirm MaaS' considerable potential benefits, particularly if the level of service and convenience of the platform incentivises people to reduce their use of private cars in favour of public and shared modes of transport.<sup>25</sup> We were told that in theory MaaS could:

- **reduce road congestion;**<sup>26</sup>
- **improve air quality** because of decreased car use and road congestion;<sup>27</sup>
- **improve users' physical health** by encouraging increased use of active modes of travel such as walking and cycling;<sup>28</sup>
- **improve passenger travel experience** by offering simplified ticketing and payment processes, and more bespoke and personalised journeys;<sup>29</sup>
- **improve customer choice** by facilitating awareness of, and access to, various transport modes and thereby empowering people to make better and more informed choices;<sup>30</sup> and
- **facilitate better management of travel demand and transport infrastructure:** by utilising aggregated customer and travel data from the MaaS app, transport planners can both optimise use of existing transport networks and better plan necessary infrastructure enhancements.<sup>31</sup>

25 MaaS Global Oy ([MAS0026](#))

26 See, for example, [Q128](#), West Midlands Combined Authority ([MAS0004](#)) and ITS United Kingdom ([MAS0029](#))

27 See, for example, [Qq3-4](#), Visa Europe ([MAS0050](#)) and Google ([MAS0051](#))

28 See, for example, [Q57](#); [Q145](#) and Alstom UK & Ireland ([MAS0021](#))

29 See, for example, [Q3](#), Department for Transport ([MAS0003](#)) and Mastercard ([MAS0053](#))

30 See, for example, Transport Systems Catapult ([MAS0044](#)), Stagecoach Group plc ([MAS0031](#)) and Atkins ([MAS0030](#))

31 See, for example, [Q39](#) and Campaign for Better Transport ([MAS0037](#))

## Alignment with Government policy and strategies

13. The potential benefits of MaaS appear to align well with some of the Government’s key policy and strategy aims, such as those recently set out in the Department for Transport’s Cycling and Walking Investment Strategy,<sup>32</sup> and the Future of Mobility Grand Challenge in the Industrial Strategy White Paper.<sup>33</sup> The DfT’s Departmental Plan 2015–2020 outlines its commitment to a range of objectives that would support, or be supported by, the development of MaaS. This includes ticketing innovation; developing new measures on open data; and contributing to the delivery of the National Air Quality Strategy.<sup>34</sup> By encouraging active travel—cycling and walking—MaaS schemes could contribute to efforts to tackle obesity. In addition, the data generated by MaaS schemes could provide an insight into travel patterns and choices that may be of great use to transport and infrastructure planners.

### *The Cycling and Walking Investment Strategy (CWIS) and healthy travel choices*

14. The Cycling and Walking Investment Strategy (CWIS) is the first multi-year funding commitment to make “walking and cycling [ ... ] a normal part of everyday life, and the natural choices for shorter journeys such as going to school, college or work, travelling to the station, and for simple enjoyment”.<sup>35</sup> It contains specific targets, including doubling cycling use from 0.8 billion individual journey stages in 2013 to 1.6 billion stages in 2025.<sup>36</sup>

15. Preliminary research appears to indicate that MaaS could help to achieve some of the key aims of the CWIS. For example, Professor Kamargianni from the University College London (UCL) research unit, MaaS Lab, told us that its studies had shown that simply offering bike use as a modal option within a MaaS app has led to people cycling more.<sup>37</sup> Bike-share companies, such as Nextbike, emphasised that cycling options within MaaS solutions are often a key part of the “first and last mile” of multi-mode journeys.<sup>38</sup>

16. Bike-share company, ofo UK, noted that MaaS not only provides a means to encourage more walking and cycling but also offers a way to collect data, in an anonymised and aggregated form, that enables transport planners to better understand when and where individuals are travelling and by which mode. Moreover, ofo UK pointed out that this information can be used to better understand how and where to provide improved cycling and walking infrastructure,<sup>39</sup> another key aim of the CWIS.<sup>40</sup>

17. Transport Systems Catapult suggested that the promotion of active travel within MaaS apps could align with the key policy goals of the Department for Health and Social Care.<sup>41</sup> This includes:

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32 Department for Transport, [Cycling and Walking Investment Strategy](#), (April 2017)

33 HM Government, (November 2017)

34 Department for Transport, [Corporate Report: Department for Transport single departmental plan](#), accessed 6 August 2018

35 Department for Transport, [Cycling and Walking Investment Strategy](#), (April 2017) p 7

36 Department for Transport, [Cycling and Walking Investment Strategy](#), (April 2017) p 9

37 [Q26](#)

38 [Q145](#)

39 ofo UK ([MAS0017](#))

40 Department for Transport, [Cycling and Walking Investment Strategy](#), (April 2017) p 30

41 Transport Systems Catapult, [Mobility as a Service: Exploring the Opportunities for Mobility as a Service in the UK](#), (July 2016), pp 36–37



- Support active lifestyle objectives—by promoting the switch to active modes of transport that MaaS can encourage;
- Improve patient and NHS transport—by engaging with MaaS platform providers to deliver transport for NHS-related demand; and
- Reduce respiratory and air quality-related health issues—by using MaaS platforms to optimise clean travel modes in areas with poor air quality.

18. The Minister, Jesse Norman MP, acknowledged that the adoption and promotion of MaaS had the potential to contribute towards greater uptake of walking and cycling.<sup>42</sup> He told us that the Department for Transport has set up an inter-ministerial group to assess how best to incorporate active travel into a MaaS offering.<sup>43</sup> He emphasised that he was acting to “make sure that the Department’s different areas are as joined up as possible” and that the growth of MaaS would not be hindered by the Department’s isolated internal structures which is organised around different modes of transport.<sup>44</sup>

### *Industrial Strategy Grand Challenge and the Future of Mobility*

19. The Government’s intention, set out in the Future of Mobility Grand Challenge in the Industrial Strategy White Paper in November 2017, is that the UK becomes:

a world leader in shaping the future of mobility. We are on the cusp of a profound change in how we move people, goods and services around our towns, cities and countryside. This is driven by extraordinary innovation in engineering, technology and business models.<sup>45</sup>

20. This broad ambition of the Government appears to align very strongly with the potentially transformative benefits of MaaS set out above.<sup>46</sup> This also appears to be the case for the more specific “four early priorities”<sup>47</sup> outlined in the White Paper. These priorities demonstrate a commitment to:

- preparing for new mobility services;
- encouraging greener travel;
- supporting new modes of transport and business models; and
- exploring the use of data in improving the use of transport systems (the importance of data to MaaS is discussed in chapter 4).

### *Preparing for new mobility services*

21. The Government has stated that it is “preparing for a future of new mobility services, increased autonomy, journey sharing and a blurring of the distinctions between private and public transport.”<sup>48</sup> Although broad, there are clear parallels with this aim and the

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42 [Q232](#)

43 [Q238](#)

44 [Qq245–246](#)

45 BEIS, ‘[The Grand Challenges](#)’, accessed 13 July 2018

46 [Q74](#)

47 HM Government, [Industrial Strategy: Building a Britain fit for the future](#), (November 2017), pp 50–51

48 HM Government, [Industrial Strategy: Building a Britain fit for the future](#), (November 2017) pp 50–51

core objectives of MaaS. For example, demand for MaaS has, in part, been a response to greater public expectation that transport should be delivered at a click of a button by new “on-demand” services.<sup>49</sup> It has also been facilitated by the growth of the “sharing economy” in which people are becoming increasingly used to the prospect of sharing or “pooling” underused assets (such as privately-owned cars) as the means of transport.<sup>50</sup> As MaaS seeks to create new mobility services by integrating public, private and shared modes it plainly aligns with this Government priority.

### *Encouraging greener travel*

22. The White Paper also reiterates the Government’s priority to promote greener travel. This commitment ties in with the CWIS and the Government’s Clean Growth Grand Challenge to reduce air pollution.<sup>51</sup> For example, the Government will “seize the opportunities and address the challenges of moving from hydrocarbon to zero emission vehicles”.<sup>52</sup>

23. Several witnesses told us that, MaaS could challenge individuals’ reliance on their personal cars and vehicles but that this did not mean car-hire should be excluded as an option from MaaS apps.<sup>53</sup> For many people travelling by car will remain essential. The Campaign for Better Transport has pointed out that the Government has an opportunity to take steps that would support the integration of zero emission vehicles into MaaS platforms.<sup>54</sup>

### *Supporting new modes of transport and business models*

24. Another early priority for the Government involves the governance of new and emerging transport modes. The Government is committed to the “establishment of a flexible regulatory framework to encourage new modes of transport and new business models”.<sup>55</sup> To date much of the Government’s focus has been on having fully-self driving cars (without a human operator) on UK roads by 2021.<sup>56</sup> Transport Systems Catapult have claimed that by 2035, the UK market for connected and autonomous vehicles could be worth up to £52 billion.<sup>57</sup>

25. Sampo Hietanen, CEO of MaaS Global, told us “MaaS needs to happen before the autonomous vehicles hit the roads so that we make sure that it works for the benefit of the cities as well”.<sup>58</sup> The Government has taken a few steps to assess what role autonomous vehicles can have within a MaaS offering. For example, Addison Lee are working with the Government on the MERGE Greenwich project in South East London. This project aims to develop an operating model to integrate autonomous vehicles, ride-sharing and existing transport into a multi-modal transport system in Greenwich. Addison Lee are

49 Transport for London (MAS0045)

50 See, for example, MaaS Lab, UCL (MAS0022) and Deloitte Review, *The Rise of Mobility as a Service: Reshaping how urbanites get around*, Issue 20, 2017

51 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) pp 142–147

52 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) pp 49–50

53 See, for example, Q104; Q106; Q109; Q122; Q147 and Q157

54 Campaign for Better Transport (MAS0037)

55 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) p 50

56 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) pp 49–50

57 Transport Systems Catapult, *Market Forecast For Connected and Autonomous Vehicles*, (July 2017)

58 Q93

investigating how app design can be used to influence travel behaviour and modal choice, with the aim of improving the efficiency of transport networks, providing a seamless customer experience and tackling road congestion and air pollution.<sup>59</sup>

26. The Department for Business, Energy and Industrial Strategy (BEIS) also has a role in enabling the growth of autonomous and connected vehicles. For example, it is likely that BEIS will be involved in:

- Supporting innovation and growth, particularly in the sharing economy—through creating an environment that supports the development of new businesses and promotes MaaS customer choice; and
- Supporting new markets for connected and autonomous vehicles—through using MaaS to manage the supply of these vehicles.<sup>60</sup>

27. Despite the clear alignment of the potential benefits of MaaS with the Government's key priorities for the Future of Mobility Grand Challenge, there is little evidence to date that MaaS forms a central part of the Government's thinking. The Government has said that it will consult with the industry and various other stakeholders and publish a Future of Urban Mobility strategy by November 2018.<sup>61</sup> On 30 July 2018, the Government issued a call for evidence in connection with its open consultation on the Future of Mobility Grand Challenge.<sup>62</sup> The call for evidence briefly defines MaaS and highlights several broad questions that the Government is exploring.<sup>63</sup>

**28. Mobility as a Service (MaaS) could transform how transport is provided and used, delivering important benefits, and it could also support the delivery of several of the Government's key strategies and policies. The Government should not miss this opportunity. We believe MaaS should be a key part of the Government's ambition to make the UK a world leader in the future of mobility. The Government's current vision focuses too much on the growth of electric vehicles and connected and autonomous vehicles. We are concerned that the Government does not yet seem to have recognised the full extent of the role MaaS could play in transforming mobility, delivering truly integrated transport solutions, or the wider benefits this could bring, for example by helping to reduce congestion on our roads and encouraging healthier, more active travel choices.**

29. We see three clear tasks for the Government. It needs to provide:

- **Leadership:** the Government needs to set out its vision for MaaS, how it wants to see the sector develop, make clear its position on the desirability of a national scheme versus local schemes and how it expects MaaS to contribute to its policy objectives like those on air quality, and how it would expect MaaS to contribute to modal shift and encourage cycling and walking by encouraging schemes to give preference to certain journey types;
- **Practical support:** the Government needs to provide financial and other support for piloting and development of schemes, including help developing

59 [Qq146–147](#) and Addison Lee Group ([MAS0040](#))

60 See, for example, Atkins ([MAS0030](#)), Ordnance Survey ([MAS0025](#)) and The Go-Ahead Group plc ([MAS0042](#))

61 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) p 51

62 Department for Transport, 'Future of mobility call for evidence', accessed 6 August 2018

63 Department for Transport, *Future of Mobility: Call for Evidence - Moving Britain Ahead*, (July 2018) pp 13–15

a framework for governing the sector, the development of standards for interoperability and cross-platform working, sharing experience, helping local authorities and others develop workable schemes; and

- **Suitable legislative and regulatory unpinning:** the Government needs to review the current legislative framework from transport services and identify what areas need to be updated to take account of developments like MaaS. It also needs to identify what areas are not covered by existing legislation and bring forward the necessary legislative proposals.

We examine each of these in greater detail in the remainder of this report.

*30. We recommend the Government take a more active and direct role in shaping MaaS to ensure it develops in a way that supports Government strategies and policies, and that the benefits to society are realised to the greatest extent possible. The Government must explicitly incorporate the development of MaaS into its relevant policies and strategies, including: promotion and development of electric and connected and autonomous vehicles; its Clean Air Strategy; the Cycling and Walking Investment Strategy; and the Industrial Strategy Grand Challenge, which in part will involve an update of the Future of Urban Mobility strategy. We expect to see MaaS feature in that strategy when it is updated.*

*31. The Department should also set out, in its response to this Report, how it is working with other Departments, such as the Department for Health and Social Care and the Department for Business, Energy and Industrial Strategy, to ensure MaaS is considered in the development of strategy and policy and that MaaS evolves in ways that support the delivery of key Government policies.*

### 3 MaaS in practice

*“We should encourage different business models and different operational models for MaaS, to learn what works best and what works well in different conditions.”* Piia Karjalainen, Senior Manager, MaaS Alliance.<sup>64</sup>

32. While the conceptual and theoretical benefits of MaaS are well established, there are also risks inherent in its implementation. Real world evidence of its effectiveness is relatively scarce. Below we set out some of the main risks of MaaS; examine progress to date of pilot schemes and consider the DfT’s role in facilitating and supporting a broader “test and learn” approach to the development of MaaS.

#### MaaS pilots

33. There are currently a handful of MaaS pilots in the UK, varying in nature and scale. The most advanced pilots include the Whim app, which is being tested in partnership with Transport for the West Midlands (TfWM—the executive transport arm of West Midlands Combined Authority (WMCA)); and Viaqio’s NaviGoGo app, which is being trialled in Dundee and North Fife.

34. The Whim app is developed and operated by Finnish start-up MaaS Global. Whim was introduced in Helsinki in 2016 and has over 45,000 users there (around 7% of its population).<sup>65</sup> It calculates optimal routes across different modes of transport (including taxis, car rentals, rail, metro, tram and local ferries) and allows customers to book combined end-to-end journey tickets for their preferred option.<sup>66</sup> MaaS Global sells tickets to customers on behalf of transport operators<sup>67</sup> via monthly subscription packages or on a pay-as-you-go basis.<sup>68</sup>

35. MaaS Global began piloting Whim in the West Midlands in August 2017. WMCA told us that the provision of a MaaS solution was a key part of its transport strategy and delivery plan for 2026.<sup>69</sup> WMCA and MaaS Global agreed commercial contracts with several transport operators. These currently include National Express West Midlands (bus and tram services); Enterprise (car hire); and Gett (taxi service). Bike-sharing (via Nextbike) and National Rail services (via On Track Retail) are expected to be introduced into the app soon. The West Midlands app is now in its beta release and has been downloaded around 500 times.<sup>70</sup>

36. In its written submission, the WMCA told us that one problem with Whim is that it does not address the needs of all passengers. For example, families are not treated as a unit and it does not cater for those who do not have access to a smartphone or those with disabilities who need specific adaptation for their journey to be practical. WMCA have said that they are actively involved with initiatives looking at making MaaS open and accessible.<sup>71</sup>

64 [Q28](#)

65 Bloomberg, [How Helsinki Arrived at the Future of Urban Travel First](#), accessed 10 August 2018

66 MaaS Global Oy ([MAS0026](#))

67 MaaS Global Oy ([MAS0026](#))

68 WSP ([MAS0009](#))

69 West Midlands Combined Authority ([MAS0004](#))

70 West Midlands Combined Authority ([MAS0004](#))

71 West Midlands Combined Authority ([MAS0004](#))

37. Viaqqio has launched several MaaS initiatives that aim to support certain groups to use transport. For example, NaviGoGo, launched in Dundee and North Fife in 2017, is specifically designed for young people and currently has around 100 users.<sup>72</sup> Alongside integrated journey planning, booking and payment functions, NaviGoGo offers “rewards” to users for choosing sustainable travel options in connection with their Young Scot card.<sup>73</sup> Unlike the Whim-model, NaviGoGo does not sell tickets on behalf of transport operators; rather, Viaqqio aims to facilitate the purchasing of tickets directly from operators through NaviGoGo.<sup>74</sup>

38. Viaqqio has launched other projects that could be developed into MaaS offerings. This includes Onwards, which supports individuals who are retiring from driving (particularly those with dementia) in using transport services.<sup>75</sup> TfWM has worked with Viaqqio in piloting Car Freedom, which aims to support over-65s as they receive their concessionary bus pass and begin to reduce their reliance on driving.<sup>76</sup> The app offers users the ability to ring a telephone helpline so that if the user becomes confused while travelling, they can talk to somebody for support and guidance.<sup>77</sup> The scope of the pilot will expand soon, when a train operating company joins.<sup>78</sup>

39. The WMCA claimed that the Government has started to support the development of MaaS by sharing best practice through and convening discussions to further assess how MaaS can be advanced in the West Midlands.<sup>79</sup> Jesse Norman MP confirmed that he had been watching the Whim pilot in the West Midlands “like a hawk”<sup>80</sup> and that “there is tremendous scope for trying, testing and learning” various MaaS models.<sup>81</sup>

## Testing mitigations for the potential disadvantages of MaaS

40. Johan Herrlin, CEO of Ito World, told us that “there is nothing inherently altruistic about MaaS as a concept”.<sup>82</sup> A range of witnesses noted that early research showed MaaS could develop in such a way as to result in:

- an increase in use of taxis and private hire vehicles, with negative consequences for road congestion and air pollution;
- the worsening of digital and social exclusion; and
- MaaS solutions that were available in some places and not others.

They noted that, as MaaS increases in popularity, such issues will need to be addressed to ensure that MaaS evolves in as beneficial a way as possible.<sup>83</sup>

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72 Viaqqio, part of the ESP Group ([MAS0005](#))

73 [Q97](#) and Department for Transport ([MAS0003](#))

74 [Q121](#)

75 The ESP Group, ‘[Onwards](#)’, accessed 2 July 2018

76 Viaqqio, part of the ESP Group ([MAS0005](#))

77 [Q197](#) and West Midlands Combined Authority ([MAS0004](#))

78 Viaqqio, part of the ESP Group ([MAS0005](#))

79 West Midlands Combined Authority ([MAS0004](#))

80 [Qq247–249](#)

81 [Q234](#)

82 [Q97](#)

83 See, for example, [Qq51–53](#), [Q55](#), [Q128](#) and [Qq194–196](#)

### ***Increase in the use of private hire vehicles and taxis***

41. Official statistics show that the recent boom in ride-hailing apps has coincided with a substantial increase in private hire vehicles (PHVs) on the roads. For example, the number of licensed PHVs in London rose from 49,854 in March 2013 to 84,886 in November 2016—up 70% in less than four years—and was linked to increased vehicle miles travelled and road congestion.<sup>84</sup> As noted in chapter 1, and emphasised to us by a range of witnesses, the principle risk of MaaS is that it could further increase the use of on-demand ride-hailing services, which would lead to even more taxi and PHVs journeys. This could result in increased road congestion and air pollution, a movement away from healthier, more active travel choices and put more pressure on already stretched local roads networks.<sup>85</sup>

42. New York City Council recently voted in favour of capping the number of vehicles driving for ride-hailing services for a 12-month period, to tackle road congestion, air pollution and low driver wages.<sup>86</sup> Following this, in August 2018, Sadiq Khan, Mayor of London and Chair of Transport for London, wrote to Transport Secretary Chris Grayling asking for further power to similarly cap the number of vehicles linked to ride-hailing apps in London.<sup>87</sup>

43. Dr Sarah Owen-Vandersluis, a Partner at KPMG, told us that price, information and speed may all play a factor in whether customers become over-reliant on PHVs and ride-hailing services.<sup>88</sup> WMCA acknowledged that, when a customer is paying a fixed price to access a range of travel modes, they are unlikely to choose to travel by public transport over taxi or PHV.<sup>89</sup> Dr Steve Cassidy from Viaqqio said that the lack of core public transport services could also result in an increase in single-occupancy taxi use. He said that this happened with Viaqqio's NaviGoGo pilot in Dundee, where the local bus operator had not fully integrated into the MaaS trial.<sup>90</sup> However, as a possible solution, Dr Owen-Vandersluis suggested that “MaaS gives us the tools to be able to start nudging individuals” in a direction that is healthier for passengers and less harmful to air quality and roads.<sup>91</sup> Several witnesses made this point to us.<sup>92</sup>

### ***Social and digital exclusion***

44. Many witnesses identified digital and social exclusion as another potential cost of the MaaS approach.<sup>93</sup> The TravelSpirit Foundation highlighted that MaaS is typically only available to those who have sufficient income to afford a subscription, a bank account to debit each month and a recent-version smart phone or computer.<sup>94</sup> Deloitte pointed out

84 The Go-Ahead Group plc ([MAS0042](#))

85 See, for example, [Qq53–54](#), [Q97](#), [Qq146–147](#), Department for Transport ([MAS0003](#)), The Go-Ahead Group plc ([MAS0042](#)), Licensed Taxi Drivers' Association ([MAS0016](#)) and London TravelWatch ([MAS0008](#))

86 See, for example, The New York Times, [New York Could Become First Major U.S. City to Cap Uber and Similar Vehicles](#), accessed 15 August 2018 and The Verge, [In major defeat for Uber and Lyft, New York City votes to limit ride-hailing cars](#), last accessed 15 August 2018

87 Financial Times, [Mayor of London asks for power to cap private hire drivers](#), accessed 15 August 2018

88 [Q97](#)

89 West Midlands Combined Authority ([MAS0004](#))

90 [Qq96–97](#)

91 [Q97](#)

92 See, for example, [Q226](#), [Q219](#) and [Q205](#)

93 See, for example, [Q51](#), [Q52](#), [Q128](#), [Q302](#), Viaqqio, part of the ESP Group ([MAS0005](#)), techUK ([MAS0056](#)), Campaign for Better Transport ([MAS0037](#)), KPMG LLP ([MAS0055](#)) and Google ([MAS0051](#))

94 Travelspirit Foundation ([MAS0036](#))

that MaaS customers would also require good internet connectivity on these devices.<sup>95</sup> There is a significant risk that MaaS develops as a service for wealthier, digitally connected users who live in urban areas. It could exclude poorer or more isolated groups.<sup>96</sup>

45. Jesse Norman MP, whose Ministerial responsibilities include the Future of Mobility, believed alternative methods of accessing MaaS could be developed for those who did not own a smartphone. He suggested publicly available, digitally-connected “kiosks”, based in railway stations, bus stops or other public buildings could be “a perfectly sensible” solution.<sup>97</sup> The Minister also told us that the DfT had held discussions about the implementation of MaaS in rural areas,<sup>98</sup> which the Department was “not ignoring.”<sup>99</sup> He said the Department intended to publish a paper on the Future of Rural Mobility, “in due course”.<sup>100</sup>

46. Another potential cost related to social exclusion involves concessionary fare schemes. Discounted travel, particularly for socially and economically disadvantaged groups, provides a direct and significant benefit. But it is currently unclear how a MaaS system would account for such discounts as fares schemes are currently focused solely on traditional forms of public transport.<sup>101</sup>

47. Several witnesses said that the Government will need to consider how concessionary fare regulations can be altered to apply to MaaS subscriptions as an alternative to traditional methods of providing discounted travel.<sup>102</sup> Dr Owen-Vandersluis told us that “there is no reason why you cannot have concessionary fares in a MaaS scheme. ...[But] I do not think that will happen if we just say, ‘Let’s take the bus pass and roll it over into MaaS.’ It probably needs a more substantive rethink”.<sup>103</sup>

48. When questioned about this, Jesse Norman MP told us, “I have not looked at the issue of concessionary fares at all” but said that the Department remained committed to “using Mobility as a Service as a way to reduce exclusion wherever possible, and certainly not to encourage it or enlarge it.”<sup>104</sup>

### ***Boundary limitations of MaaS caused by geographical scope***

49. Local or regional boundary limitations are another potential barrier to MaaS schemes reaching their full potential. If MaaS solutions develop in such a way that they are confined to one place or region, this could make it difficult for people wanting to travel outside the region. This could also hinder MaaS from working at a national level. Paul Campion of Transport Systems Catapult told us that regional apps would create inefficiencies for passengers; for example, when completing longer trips passengers might have to switch between MaaS apps mid-journey.<sup>105</sup> Mr Campion also told us that if the benefits of MaaS

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95 Deloitte ([MAS0018](#))

96 See, for example, [Q51](#), [Q52](#), [Q128](#) and [Q302](#)

97 [Q302](#)

98 [Q239](#)

99 [Q241](#)

100 [Q239](#)

101 See, for example, MaaS Global Oy ([MAS0026](#)), Visa Europe ([MAS0050](#)), MaaS Alliance ([MAS0027](#)) and KPMG LLP ([MAS0055](#))

102 See, for example, MaaS Lab UCL ([MAS0022](#)), MaaS Global Oy ([MAS0026](#)), [Q31](#) and [Q134](#)

103 [Q134](#)

104 [Q306](#)

105 [Q28](#)



could not be achieved on a multi-regional or national scale it would “not just perpetuate but exacerbate the differences in transport provision that we currently see” between “the capital and other regions”.<sup>106</sup>

50. Chris Lane of West Midlands Combined Authority told us “If you can integrate a national service, you should try to do that”.<sup>107</sup> In discussions during our visit to Birmingham, there was general support in principle for a national MaaS scheme, but acknowledgement of practical difficulties. Mike Waters from Transport for the West Midlands, said that for MaaS to work at a national level, it would require substantial investment in technology and data, which he did not believe could be successfully delivered. He also suggested that investment in a single, national MaaS scheme would stifle innovation.

51. Several witnesses were more optimistic that MaaS could be established to work across different boundaries. For example, Piia Karjalainen of MaaS Alliance said, “I am quite confident, that we will soon see national [MaaS] schemes and programmes.”<sup>108</sup> Similarly, Paul Campion said that he did not think that there are any “technical reasons” why MaaS could not work at a national level.<sup>109</sup>

52. Several witnesses, including Stéphanie Rivet (Stagecoach Group),<sup>110</sup> Dr Steve Cassidy (Viaqio, part of the ESP Group),<sup>111</sup> Piia Karjalainen (MaaS Alliance),<sup>112</sup> Professor Maria Kamargianni (MaaS Lab)<sup>113</sup> and Paul Campion (Transport Systems Catapult),<sup>114</sup> stressed the importance of testing a broad range of pilots under different conditions to identify the MaaS models which can most effectively mitigate these potential costs and be replicated successfully at scale.

**53. While in theory the benefits of MaaS are understood, in practice it could lead to unintended negative consequences. These could include increased road congestion and potentially poorer air quality, social and digital exclusion, and boundaries arising from a scheme’s geographical extent. Early research and piloting of MaaS should focus not only on maximising the potential benefits but also on mitigating potential negative effects that could arise from the implementation of MaaS. We believe MaaS should be tested under as wide a variety of conditions as possible if those in local and central government considering MaaS or who are responsible for designing policies and commissioning schemes are to understand and avoid these potentially costly unintended consequences. The Department for Transport’s approach of watching closely as different models are explored by companies and local authorities has been right up to this point but it should now become a more active participant in shaping the evolution of MaaS.**

**54. We recommend the Department for Transport help to support a much more varied “test and learn” approach to the implementation of MaaS. We recommend, before the end of 2018, the Department’s interdepartmental group, which has been set-up to work on MaaS, should collect data and information on a diverse range of MaaS projects**

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106 [Q28](#)

107 [Q198](#)

108 [Q28](#)

109 [Q28](#)

110 [Q152](#)

111 [Q121](#)

112 [Q28](#)

113 [Q32](#)

114 [Q69](#)

*and develop a means for sharing best practice between local and regional authorities and MaaS platform providers. We recommend that the Government should focus on facilitating the development of an overall approach to MaaS that tests both the potential benefits and mitigations against unintended negative consequences that have been highlighted in this report.*

## Government funding

55. Within the transport industry, it is commonly accepted that another important way the Government could support the testing of a variety of MaaS pilots is through financial investment.<sup>115</sup> Simon Warburton of Transport for Greater Manchester told us that longer-term funding for transport in Greater Manchester was a genuine concern. He said that “capital funding regimes alone are unlikely to get us where we need to be”. This would mean “central Government opportunities for us to be able to secure more medium-term revenue funding in our city transport systems” would need to be “revisited”.<sup>116</sup> Mr Warburton also said that Transport for Greater Manchester previously looked to the EU for financial investment for their MaaS projects, as current Government funding is only sufficient for small piloting activity.<sup>117</sup> This point was reiterated by Aberdeen City Council,<sup>118</sup> and FiveAI.<sup>119</sup>

56. The Minister told us that “The Department is already happy to review and support forms of innovation where they take place”. But, he did not believe that the DfT should launch its own MaaS pilots as an “alternative” to what the private sector is currently doing, particularly as MaaS is “in the very early stages of technology and commercial development”.<sup>120</sup>

57. In its written submission, the Department highlighted that in the Autumn Budget, the Chancellor announced a £1.7bn Transforming Cities fund to boost intra-urban connectivity in English city regions. This includes a per-capita allocation to the six mayoral combined authorities and a £840m fund to drive multi-modal interventions that seek to tackle air quality, reduce congestion and improve access to work between cities and their suburbs.<sup>121</sup>

58. The Transforming Cities funding excludes areas that are not combined authorities with metro mayors, which could mean these areas are left behind as MaaS develops exclusively in urban regions which receive greater financial investment. These areas may not attract private investment, exacerbating the need for Government funding.<sup>122</sup>

59. In response to questions about this, the Minister said that he “does not think [the Government] should go too far beyond where we are at the moment”.<sup>123</sup> This is because

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115 See, for example, Atkins ([MAS0030](#)), North East Combined Authority ([MAS0028](#)), ITS United Kingdom ([MAS0029](#)), Travelspirit Foundation ([MAS0036](#)), Deloitte ([MAS0018](#)), London TravelWatch ([MAS0008](#)) and Campaign for Better Transport ([MAS0037](#))

116 [Q195](#)

117 [Qq199–200](#)

118 Aberdeen City Council ([MAS0057](#))

119 FiveAI Limited ([MAS0039](#))

120 [Q260](#)

121 Department for Transport ([MAS0003](#))

122 [Qq264–265](#)

123 [Q264](#)

the DfT “are still trying to work out what are the costs and benefits” of MaaS.<sup>124</sup> However, as noted earlier in this chapter, it is widely thought within the transport industry that the Government will need to redirect existing funding or create new funding streams to ensure a range of MaaS pilots are effectively tested. This is because current Government funding opportunities are insufficient and, as MaaS is relatively new, it cannot yet attract significant levels of investment from the private sector.

60. Several witnesses told us that MaaS will happen in the UK, but financial investment will be crucial for it to progress beyond small-scale pilots in a way that realises many of the benefits and mitigates potential costs. If the DfT is serious about wanting to put the UK at the forefront of future mobility, then it is likely that Government investment will be required to stimulate this new market.<sup>125</sup>

61. Shashi Verma, from Transport for London, told us that “there is no shortage of money being spent on smart ticketing,<sup>126</sup> so it is not right to say that there is no money for fresh thinking or fresh development.”<sup>127</sup> In its written submission, the DfT emphasised its commitment to supporting the roll-out of smart ticketing, reaffirming the £80m investment to facilitate it on national rail and highlighting that in the Spending Review 2015, HM Treasury pledged £150m to Transport for the North for the development and delivery of smart ticketing across the North.<sup>128</sup>

62. In April 2017, the National Audit Office (NAO) published a report on their Investigation into the South East Flexible Ticketing Programme, which highlighted significant flaws in the Government’s commitment to spend £80m to facilitate the roll-out of smart ticketing on national rail. The report said the Department for Transport’s oversight of the Programme was ineffective.<sup>129</sup> When questioned about this NAO report, the Minister said “it is certainly not an issue that I have spent any time thinking about”<sup>130</sup> and also claimed that he did “not have detailed understanding of [the rail] sector”.<sup>131</sup>

63. Following the conclusion of our oral evidence sessions, the Minister wrote to us and said that the DfT was “sure to apply lessons learned from previous efforts to roll out smart ticketing across the South East” and that the Department will take a more collaborative approach with the industry and focus on increasing passenger take-up of smart ticketing.<sup>132</sup>

**64. We agree with the Minister that identifying the potential benefits and costs of MaaS is important. But more funding for MaaS will be required for this to happen successfully. Some of this will come from the private sector but there is a case for**

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124 [Q265](#)

125 See, for example, [Q37](#), [Q39](#), [Q45](#), [Q53](#) and [Q55](#)

126 Smart ticketing enables passengers to seamlessly “hop on and off” different transport modes without using traditional payment systems, like cash, to purchase a physical ticket. Smart ticketing works by electronically storing a travel ticket on a microchip, which is then embedded on a smartcard. The ticket can also be stored on smart phones and watches via a built-in NFC (Near Field Communication) chip. The smartcard or chip is scanned at a ticket machine or barrier to authorise travel. Alternatively, contactless debit cards can similarly be used for travel. See, for example, ITSO, ‘[What is smart ticketing](#)’, accessed 20 August 2018.

127 [Q200](#)

128 Department for Transport ([MAS0003](#))

129 National Audit Office, [Department for Transport: Investigation into the South East Flexible Ticketing Programme](#), (April 2017)

130 [Qq307–308](#)

131 [Q300](#)

132 [Letter from Jesse Norman MP, Parliamentary Under-Secretary of State for Transport, Department for Transport to Lilian Greenwood, Chair of the House of Commons Transport Select Committee, dated 28 June 2018](#)

**Government funding.** Current Government funding, such as the Transforming Cities budget, is not sufficient to support all the areas with an interest in piloting some form of MaaS. We do not see a case for limiting such funding to just those areas with a metro-mayor. Current funding arrangements overlook rural areas that are unlikely to attract private sector investment. Opportunities to test how MaaS might help local authorities implement total transport could be lost. If the Government is committed to making the UK a leader in the future of mobility, then it will need to look wider than connected and autonomous vehicles and financially support the testing of a new and emerging MaaS pilots and initiatives, particularly where these can help increase the use of public transport and reduce our dependence on private cars. This is crucial to ensuring MaaS develops in a way that benefits both passengers and society.

65. The Government can take steps that will encourage investment in the development of MaaS. This could include additional funding from Government, and there are potentially sources of funding in other Departments that could be used to help pilot MaaS schemes where there are likely to be health and/or social benefits, but should also look at how the current framework encourages companies and other bodies to invest in the piloting and development of MaaS.

66. *We recommend that the Government more clearly outlines its support for MaaS pilots in its budget, estimates and departmental plans. We recommend that the Government take steps to identify how much additional funding will be needed to effectively support and test a broad range of pilots in line with our earlier conclusions. In doing so, the Government should assess the suitability of current funding arrangements, such as the Transforming Cities budget, for supporting MaaS pilots and the extent to which the framework to support innovation encourages companies and others to invest in the piloting and development of MaaS. In reviewing funding arrangements, the Government should consult as wide a range of stakeholders as possible. The Government should investigate how it might secure the necessary funding, including if necessary redirecting funding from other projects linked to its Future of Mobility strategy, for the development of MaaS in the UK.*

## 4 Governance and regulation

*“A wise regulator has an eye to problems that solve themselves quickly, and tries to separate those from the ones that are going to be enduring and potentially cancerous.”*  
Jesse Norman MP, Parliamentary Under-Secretary of State for Transport.<sup>133</sup>

67. In the immediate future, there is a role for the Government in shaping regulation and legislation to ensure MaaS can evolve effectively. The key choices the Government can make are on its approach to the governance around MaaS in the areas of incentivising data sharing; introducing a regulatory framework such as a code of conduct and ensuring passenger rights are protected.

### Incentivising data sharing

68. Data is central to the successful running of MaaS, as Paul Champion told us: “[MaaS] is all about data; it is enabled by data. The reason it has not happened before and can happen in the future is data”.<sup>134</sup> This is because access to travel data, in aggregated and anonymised form, is essential to MaaS providers’ ability to offer up-to-date travel information on a wide variety of modes and which is tailored to users’ preferences. Interoperable data, which allows different technological systems ‘to talk to each other’ and make use of different pieces of information, is crucial to this.<sup>135</sup>

69. Ito World said that this data relates to the following phases of journeys:<sup>136</sup>

- **Plan:** stations, routes, timetables, accessibility, availability, service facilities, restrictions, pricing;
- **Book:** pricing, availability, subscription, reservation, booking, payment, ticketing;
- **Travel:** vehicle progress & journey prognosis, service disruption, facility & vehicle crowding, cancellation & alterations; and
- **Post-travel:** record of actuals, customer compensation, customer feedback.<sup>137</sup>

70. In their written submission, MaaS Global suggested that both private and public transport operators ought to give MaaS providers access to this data, which is often booking engines (in the case of taxi providers or car hire companies) or mobile ticket services (in the case of bus and rail operators).<sup>138</sup>

71. Access to travel data is also important to other actors in a MaaSecosystem. For example, Stéphanie Rivet (Chief Digital Officer, Stagecoach Group) told us that MaaS providers and local authorities should also be willing to share their data with transport operators, so that

133 [Q290](#)

134 [Q18](#)

135 See, for example, Travelspirit Foundation ([MAS0036](#)), Digital Policy Alliance ([MAS0033](#)), MaaS Alliance ([MAS0027](#)) and Fleetondemand ([MAS0013](#))

136 Ito World stated that it is important to enhance the scope of the data that is currently available to MaaS platform providers and transport operators. For example, there should be standardised information about opening and closing times of station facilities, walking times between different areas of the station, toilets and so forth. This would better help the end-users’ journey experience. See, Ito World Ltd ([MAS0049](#)).

137 Ito World Ltd ([MAS0049](#))

138 MaaS Global Oy ([MAS0026](#))

they can better understand travel demand and gaps in their provision, as well as passenger preferences that would allow them to improve their own services.<sup>139</sup> Several witnesses representing local authorities and transport operators told us that they ensure individuals' personal information is kept secure and never shared, and have welcomed more stringent data protection laws such as the General Data Protection Regulations (GDPR), which were introduced in the UK earlier this year.<sup>140</sup>

72. A key commitment set out in the Government's Future of Mobility Industrial Strategy is to "explore ways to use data to accelerate development of new mobility services and enable the more effective operation of our transport system".<sup>141</sup> The Minister told us that "one of the Transport Secretary's priorities is to put Britain at the 'forefront of the technological revolution' and increasing the availability of and use of data is critical to this".<sup>142</sup> He went on to explain that the Department for Transport's Chief Analyst had chaired a Data Board, established in Spring 2017, which launched various projects investigating how "to get more data available for transport innovators and users".<sup>143</sup> This includes, the Bus Open Data Project, the Rail Data Action Plan and the Local Transport Data Discovery project<sup>144</sup> and a study into Big Data and the Internet of Things.<sup>145</sup> The Bus Services Act 2017 also includes powers for local authorities to make regulations regarding the release of data on routes, timetables, real-time information and fares.<sup>146</sup>

73. Despite the Department's preliminary work on data sharing and the wide recognition within the transport industry that data is central to the development of MaaS, access to historical and live data remains a key barrier to the implementation of MaaS in the UK. Several witnesses told us that some transport providers were not always prepared to share data, which has resulted in a power struggle regarding who owns the information.<sup>147</sup> Dr Owen-Vandersluis (KPMG) suggested that data was probably being withheld for competitive reasons.<sup>148</sup> Simon Warburton (Transport for Greater Manchester) also told us that this issue is exacerbated outside of London because in other city regions there simply is not the same requirement on transport operators to share data.<sup>149</sup>

74. Stagecoach,<sup>150</sup> and the Rail Delivery Group,<sup>151</sup> said that there is currently no incentive for a transport operator to collect or share data in a timely and appropriate manner. Opening their data will be a cost and an inconvenience to some players in the MaaS ecosystem. This entrenches the status quo where it is unclear why transport operators would proactively open their data unless they are required to do so by a contract or regulation.

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139 [Q170](#) and [Qq178–180](#)

140 See, for example, [Q152](#), [Qq168–171](#), [Q177](#), [Q196](#), [Q209](#) and [Q212](#)

141 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) pp 51–52

142 [Letter from Jesse Norman MP, Parliamentary Under-Secretary of State for Transport, Department for Transport to Lilian Greenwood, Chair of the House of Commons Transport Select Committee, dated 28 June 2018](#)

143 [Letter from Jesse Norman MP, Parliamentary Under-Secretary of State for Transport, Department for Transport to Lilian Greenwood, Chair of the House of Commons Transport Select Committee, dated 28 June 2018](#)

144 [Letter from Jesse Norman MP, Parliamentary Under-Secretary of State for Transport, Department for Transport to Lilian Greenwood, Chair of the House of Commons Transport Select Committee, dated 28 June 2018](#)

145 Department for Transport ([MAS0003](#))

146 Department for Transport ([MAS0003](#))

147 See, for example, [Qq21–22](#), [Q43](#), [Qq106–107](#), [Q110](#), [Q213](#), [Q275](#), Stagecoach Group plc ([MAS0031](#)) and Rail Delivery Group ([MAS0019](#))

148 [Q106](#)

149 [Q213](#)

150 Stagecoach Group plc ([MAS0031](#))

151 Rail Delivery Group ([MAS0019](#))

75. Johan Herrlin (Ito World) suggested that, as a possible solution, a regulatory body or the Government should enforce a “no data, no service” policy.<sup>152</sup> This would oblige all transport operators to share relevant parts of their data but in a way that “does not benefit one player or another disproportionately, or penalise one player”.<sup>153</sup> Mr Herrlin stressed this policy would have to be balanced with allowing transport operators to maintain their competitive edge and not result in transport operators giving up their entire business model.<sup>154</sup> Paul Campion promoted a similar position, claiming the Government should regulate data along the lines of “to play here, you have to make a certain amount of data available.”<sup>155</sup>

76. One example of this policy being implemented successfully is the Finnish Transport Service Act, which came into force from 1 January 2018. It mandates that essential data on transport services is made open to third parties via open application programme interface.<sup>156</sup> Several witnesses praised this model and suggested that if the UK were to adopt legislation like Finland’s with stated minimum expectations, this could jump-start the delivery of MaaS.<sup>157</sup> Similarly, Transport for London (TfL) made the policy decision to open-up all of their data, which has resulted in new journey planning apps, such as CityMapper, offering popular services in London.<sup>158</sup> Chris Lane (West Midlands Combined Authority) and Simon Warburton (Transport for Greater Manchester) said that more work needed to be done outside London on data that mirrors TfL’s own data policy.<sup>159</sup> Similarly, Shashi Verma (Transport for London) told us that this can be done and “it is something we would like to do. That is a matter of national policy.”<sup>160</sup>

77. A variety of MaaS stakeholders have said that there is broad consensus within the transport industry that the Government should lead the charge on open data. For example, the Government could open up its data first, encourage the adoption of open data standards and share best practice examples for future contracts to incentivise open data.<sup>161</sup>

78. Jesse Norman MP told the Committee that he “could imagine very large operators not wanting to play ball because they think their data is too valuable and they do not want to share it with anyone”,<sup>162</sup> recognising the exact problem highlighted to us by many of our witnesses. The Minister also said that he understands the view that “entities that rely for their existence on public subsidy should contemplate making data available, if it can be done on non-punitive terms. These are early days and we are still looking at that.”<sup>163</sup>

79. The Minister explained that the Department for Transport had “done quite a lot of work to encourage rail companies to look at the way in which we can explore different

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152 Ito World Ltd ([MAS0049](#)), [Q107](#) and [Q110](#)

153 [Q109](#)

154 [Q107](#)

155 [Q141](#)

156 See, for example, MaaS Alliance ([MAS0027](#)), BVRLA ([MAS0010](#)), West Midlands Combined Authority ([MAS0004](#)), Transport for Greater Manchester ([MAS0014](#)) and MaaS Global Oy ([MAS0026](#))

157 [Q110](#) and [Q196](#)

158 [Q207](#)

159 [Q198](#) and [Q226](#)

160 [Q227](#)

161 See, for example, [Q196](#), Aberdeen City Council & Robert Gordon University ([MAS0043](#)), The Go-Ahead Group plc ([MAS0042](#)), Ordnance Survey ([MAS0025](#)), Transport for Greater Manchester ([MAS0014](#)) and Fleetondemand ([MAS0013](#))

162 [Q275](#)

163 [Q279](#)

forms of making data available” and said “[this is] certainly something on which we will be reporting to Parliament in due course.”<sup>164</sup> In the longer-term, the Minister believed that there would be “more pressure on Governments across Europe to push back on data, and potentially to encourage sharing it”.<sup>165</sup>

**80. Data is crucial to the effective operation of MaaS schemes; transport operators need to share data about the services they provide so that journeys can be planned and optimised to meet the needs of their users. Within a MaaS scheme any agreement between transport operators, for example on how they will share passenger revenue, will almost certainly need to be underpinned by agreements on how data will be shared. Information about how services are used and what journeys passengers make will be needed to evolve services in ways that best meet users’ needs. We recognise that if data sharing is not encouraged there is a serious risk schemes will never be developed at a scale that moves beyond piloting activity and remains sustainable. Data must be shared in an anonymised and aggregated manner to protect passengers’ personal information and the commercial interests of transport operators and MaaS platform providers. We recognise Transport for London’s regulatory approach to data sharing and the 2018 Finnish Transport Service Act as good examples of encouraging data sharing.**

*81. We recommend that the Government works with local authorities towards a “no data, no service” policy that would require all transport operators to share data if they want to provide a service in a given area. While such a policy must be implemented to promote innovation and growth of the MaaS market it will also bring other benefits and has merit on its own. In developing this policy, the Government must ensure that it does not favour any single actor over another, and that smaller transport operators are provided with appropriate support to ensure they are not driven out of the market by the implementation of such a policy.*

## The regulatory framework

82. There is little legislation specific to MaaS. This lack of regulation, particularly in areas outside of London, has caused concern for local and combined authorities, MaaS providers, transport operators and customers. This is because it has resulted in uncertainty around key aspects of the MaaS market such as fair competition, health and safety, insurance and contracts for the provision of MaaS services.<sup>166</sup>

83. Chris Lane (WMCA) told us that the lack of regulation means “there is nothing stopping anybody turning up in the West Midlands and just running this without talking to us. They could just create a MaaS-type service and get on with it.”<sup>167</sup> This very issue has been exemplified by the lack of regulation around bikeshare schemes in the UK. In its written submission, Nextbike claimed that the gaps in regulation have allowed non-licensed bikeshare providers to flourish. For example, Bath and North East Somerset Council had to use littering laws to remove unwanted bikes belonging to non-licensed

164 [Q278](#)

165 [Q298](#)

166 See, for example, Addison Lee Group ([MAS0040](#)), North East Combined Authority ([MAS0028](#)), Rail Delivery Group ([MAS0019](#)), BVRLA ([MAS0010](#)) and SYSTRA Ltd ([MAS0012](#))

167 [Q228](#)



operators, at a cost to the local taxpayer. Julian Scriven (Nextbike) told us that introducing regulation at the earliest opportunity would prevent similar situations happening in other parts of the country.<sup>168</sup>

84. In response to this issue, Jesse Norman MP said that “as the [bikeshare] market is now developing, we in Government are in a position to start thinking constructively about whether it requires regulation over and above whatever exists at the moment, and I absolutely would not rule it out. When we think about the grand challenge on the future of mobility, one of the questions for us will be, ‘Does the dockless bike market require a degree of regulation in order to preserve the public good of tidy streets or to prevent littering?’ It will be considered as part of that process.”<sup>169</sup>

85. Chris Lane told us that current regulation around the operation of MaaS and emerging modes of transport was not sufficient. Mr Lane said that the Government should introduce a code of conduct to set out how new transport services and new mobility providers are going to work together. He suggested that a trial framework ought to be introduced by the Government to govern relationships across the MaaS ecosystem which could then be amended as needed.<sup>170</sup> This idea was also supported by Julian Scriven.<sup>171</sup>

86. Simon Warburton (Transport for Greater Manchester), Crispin Humm (Rail Delivery Group), Stéphanie Rivet (Stagecoach Group) and Julian Scriven told us that central Government must set the long-term high-level objectives, and then it would be up to the transport operators and MaaS platform providers to ensure that these are met. These objectives would also need to be co-ordinated across different regions to ensure consistency between different MaaS solutions.<sup>172</sup>

87. The Minister told us “it is not an unusual phenomenon to have a situation in which operators seek to have Government impose requirements”.<sup>173</sup> He explained that if MaaS “is very clearly either detrimental to consumers, or imposing externality costs more widely, the case for a code of conduct or something similar starts to become more compelling”.<sup>174</sup> The Minister suggested “licensing regimes” or “publicly enunciated standards [ ... ] which [ ... ] can become very quickly enforced” owing to the prevalence of social media in today’s society, were other possibilities by which MaaS could be regulated.<sup>175</sup>

88. The Government has already carried out work in regulating new markets with the aim of supporting innovation. For example, the Minister told us that “in Government, we are constantly creating markets, as you know. We are doing it in space at the moment. We are defining property rights that allow private sector operators to come in and potentially put up satellites”.<sup>176</sup> The Minister stressed that this “brought into existence a market that did not exist before,”<sup>177</sup> and that shaping new markets “can be done quite well by the state.”<sup>178</sup>

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168 [Qq163–164](#) and [nextbike UK \(MAS0048\)](#)

169 [Q287](#)

170 [Q196](#)

171 [Q153](#)

172 [Q154](#), [Qq160–161](#) and [Q228](#)

173 [Q285](#)

174 [Q300](#)

175 [Q295](#)

176 [Q271](#)

177 [Q286](#)

178 [Q271](#)

89. As part of its Industrial Strategy Grand Challenge, the Government aims to publish a Future of Urban Mobility strategy within the next six months<sup>179</sup> which “will include a thorough regulatory review of all relevant legislation”<sup>180</sup>.

90. **We acknowledge the disruption MaaS and new forms of transport may pose to local authorities, transport operators and the wider transport industry. These stakeholders are willing to work together and with the Government to develop and implement an appropriate and proportionate level of regulation of MaaS. We recognise that without some agreed rules—either self-regulation based on a code of conduct or regulation by the Government underpinned by legislation—investors, MaaS platform providers and passengers are unlikely to have the confidence needed to support the further growth of MaaS. We recognise that the Government has helped to define and regulate other new markets and we believe that similar steps are needed for the development of MaaS. We see two tasks for the Government: reviewing and updating current guidance, codes of practice and regulations to ensure they cater for MaaS; and the development of a framework to regulate those elements of MaaS not covered by existing legislation. The latter should take a light-touch approach, but the Government should be willing to bring forward legislative proposals if it cannot agree a suitable framework with MaaS stakeholders.**

91. *It is essential that existing regulations on transport, data protection, and consumer protection are updated to take account of MaaS. The Government should bring forward the necessary legislative proposals as soon as it has reviewed the adequacy of existing regulation. We recommend by the middle of next year the Government should have developed a plan for how it will update existing guidance, codes of practice and current regulations to take account of MaaS. On those aspects of MaaS not covered by an existing framework the Government should work with MaaS stakeholders to develop a code of conduct that sets out roles, responsibilities and expectations for those involved in MaaS schemes. The Government should ensure any code includes consideration of the means by which it will be enforced. The Government should demonstrate its willingness to regulate where a code of conduct proves to be inadequate.*

## Passenger rights and protection

92. An area likely to require the introduction of regulation or legislation is the protection of passengers making multi-modal journeys, as part of a MaaS offering. This would involve ensuring the protection of passengers’ physical safety and financial interests.

93. Currently, different transport operators must comply with different rules and regulations which are in place to protect passenger safety. As the uptake of MaaS increases, these rules will need to be harmonised and reflect the interdependency of different transport modes in a MaaS solution. In their written evidence, the West Midlands Combined Authority (WMCA) highlighted this issue and rhetorically asked, “if there is an accident or failure in service, who is liable?”. The WMCA said that a lack of regulation around insurance and guaranteed service levels must be in place for protection of the customer.<sup>181</sup>

179 HM Government, *Industrial Strategy: Building a Britain fit for the future*, (November 2017) p 51

180 Department for Transport ([MAS0003](#))

181 West Midlands Combined Authority ([MAS0004](#))

94. Piia Karjalainen (MaaS Alliance)<sup>182</sup> and Sampo Hietanen (MaaS Global)<sup>183</sup> told us that when there is a failure in service then customers' first point of contact is the primary provider of the service—the MaaS platform provider. Ms Karjalainen suggested to us that more work was required to entrench the responsibility of the MaaS provider to their customers. This is also an issue at the European level as there is no clearly defined passenger right for multi-modal transportation; passenger rights are defined for journeys on one mode.<sup>184</sup> MaaS Alliance are currently drafting a “bill of rights” for the MaaS user which they hope to be ready by September 2018.<sup>185</sup>

95. This issue is likely to be exacerbated by the public's perception of a MaaS solution to provide a service to an acceptable standard. Addison Lee suggested that passengers will be reluctant to use an app for their travel if the service is not reliable, convenient and safe.<sup>186</sup> The WMCA told us that this is a potential problem with the Whim trial in the West Midlands, where the reliability and convenience of the MaaS pilot could be potentially undermined because any transport operator could choose to withdraw their service from the platform at any time.<sup>187</sup> In response to this, Sampo Hietanen (MaaS Global) told us that not allowing transport operators to determine whether they would continue to be part of the MaaS app would be difficult at this early stage of the Whim trial.<sup>188</sup> Mr Hietanen also suggested that, over time, as the user uptake of MaaS hits critical mass, there will be greater opportunity for MaaS providers to make explicit commitments to service levels for their customers.<sup>189</sup>

96. When we questioned the Minister, he said, “If there is significant and, in particular, enduring consumer detriment, it is absolutely properly a matter for Government.” The Minister cautioned that any system will have “strengths and weaknesses” and new legislation or regulation around passenger protection could limit “uncovenanted and unexpected benefits from a piece of innovation.”<sup>190</sup> In this way, the Minister emphasised the DfT's established “wait and see” approach to MaaS, arguing “It is important to remind ourselves of [unexpected benefits] before loading up the regulation gun and discharging it madly into one's own foot.”<sup>191</sup>

97. Another area involving passenger protection that will need to be addressed is fair competition within the MaaS ecosystem. The TravelSpirit Foundation said that “The single most significant threat to realising the potential of MaaS is the emergence of new monopolies for mobility services”.<sup>192</sup> A wide range of MaaS stakeholders have claimed that there is likely to be a key role for the Government in reducing the barriers to entry for new providers to join the MaaS market. It is not beneficial in a commercial market to have only one provider for such a service. This is because having a single provider may give rise to anti-competitive behaviour such as the promotion of one transport service or

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182 [Q15](#)

183 [Q125](#)

184 See, for example, SYSTRA Ltd ([MAS0012](#)), MaaS Alliance ([MAS0027](#)), MaaS Lab, UCL ([MAS0022](#)), BVRLA ([MAS0010](#)), Travelspirit Foundation ([MAS0036](#)), Atkins ([MAS0030](#)), Licensed Taxi Drivers' Association ([MAS0016](#)) and [Qq15–16](#)

185 [Q15](#) and MaaS Alliance ([MAS0027](#))

186 Addison Lee Group ([MAS0040](#))

187 Viaqgio, part of the ESP Group ([MAS0005](#)) and West Midlands Combined Authority ([MAS0004](#))

188 [Q122](#) and [Q124](#)

189 [Qq123–124](#)

190 [Q292](#)

191 [Q292](#)

192 Travelspirit Foundation ([MAS0036](#))

operator over another and the distortion of the pricing of MaaS packages, which would not serve the industry’s or passengers’ best interests.<sup>193</sup> Paul Campion (Transport Systems Catapult) told us that “We are at a critical point at the moment. It is not too late to do the right thing, but the longer we leave it, the more private companies will try to monopolise, because that is how they work”.<sup>194</sup>

98. The British Vehicle Rental and Leasing Association raised a specific concern that transport operators and MaaS providers might agree exclusivity agreements amongst themselves which would result in a barrier to entry for others to join the MaaS ecosystem, clearly undermining fair competition.<sup>195</sup> Paul Campion told us “To be clear, the provision of anything like [MaaS] requires existing incumbents to be challenged. We need to challenge what are essentially local franchise monopolies”.<sup>196</sup> A range of witnesses agreed and said that they supported an open pro-market approach and encouraged transport operators and MaaS providers to not sign exclusivity agreements, although they acknowledged that there is currently no regulation in place to guarantee this.<sup>197</sup>

99. A range of witnesses also emphasised the significant harm that this could cause to passengers’ interests. Sampo Hietanen (MaaS Global) told us that “[customers] should get to choose between MaaS operators, so that there is not just one. There should be fair competition and many to choose from.” He continued, “What is good about cars is that you get to choose from hundreds of beautiful different options that are individually made for you.”<sup>198</sup> In this way, Mr Hietanen told us “I do not think there is any chance of survival with a single-provider model”,<sup>199</sup> a range of MaaS solutions will need to be on offer if there is going to be significant user uptake of MaaS. As Dr Sarah Owen-Vandersluis (KPMG) explained to us, this is because a competitive MaaS market “will drive greater benefit for all users [more so] than a single model trying to anticipate everybody’s requirements.”<sup>200</sup> The monopolisation of the MaaS market could limit user uptake and therefore undermine the potential, long-term growth of MaaS in the UK.

100. The MaaS industry favours action by the Government to establish an open market approach in order to facilitate competition in this emerging area.<sup>201</sup> The Minister has said that “The key thing is to make sure that there is enough underlying competition to keep everyone honest in the provision of the service.”<sup>202</sup> He also said that it “is absolutely true” that regulation could be crucial to framing the market in a way that supports the growth of competitors,<sup>203</sup> but insisted that, with changes in new technology, it was possible that “the market is actually curing itself and does not require regulation.”<sup>204</sup>

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193 See, for example, West Midlands Combined Authority ([MAS0004](#)), KPMG LLP ([MAS0055](#)), MaaS Global Oy ([MAS0026](#)), Travelspirit Foundation ([MAS0036](#)), Addison Lee Group ([MAS0040](#)), Campaign for Better Transport ([MAS0037](#)), Atkins ([MAS0030](#)), North East Combined Authority ([MAS0028](#)) and MaaS Alliance ([MAS0027](#))

194 [Q18](#)

195 BVRLA ([MAS0010](#))

196 [Q19](#)

197 See, for example, [Q28](#), [Q110](#) and [Qq129–130](#)

198 [Q110](#)

199 [Q130](#)

200 [Q129](#)

201 See, for example, West Midlands Combined Authority ([MAS0004](#)), KPMG LLP ([MAS0055](#)), MaaS Global Oy ([MAS0026](#)), Travelspirit Foundation ([MAS0036](#)), Addison Lee Group ([MAS0040](#)), Campaign for Better Transport ([MAS0037](#)), Atkins ([MAS0030](#)), North East Combined Authority ([MAS0028](#)) and MaaS Alliance ([MAS0027](#))

202 [Q253](#)

203 [Q286](#)

204 [Q190](#)

101. We recognise the importance of passenger protection within the context of MaaS. Passengers' interests (particularly passenger safety) must always be of paramount importance when new markets are emerging, but with the Government's "wait and see approach" and the current unregulated environment it is not clear this is the case. We conclude there is a role for Government in assessing the risks to MaaS users' interests, from fair market competition and the pricing of MaaS packages, to individuals' personal safety. We identify consumer protection as one of the top three priorities for Government, along with measures on data protection and sharing, and the regulation of MaaS covered earlier in our Report.

102. *We recommend the Government commissions research on MaaS users' rights and safety. The Government should also investigate what steps it needs to take to ensure there is fair market competition and that users' financial interests are protected. This should be done as part of the thorough legislative and regulatory review the Department has said it will conduct in connection with the Future of Mobility Industrial Strategy.*

## Annex: Committee visit notes

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The Committee visited the West Midlands on 15 March 2018 in connection with its inquiry into Mobility as a Service (MaaS). The Committee heard from various stakeholders who are working on MaaS. The agenda for the visit is outlined below. Committee members in attendance were Chair Lilian Greenwood, Iain Stewart and Luke Pollard.

### Agenda

- David Harris, Transport Policy Manager, Birmingham City Council
- Mike Waters, Director of Policy and Strategy, Transport for the West Midlands: Why MaaS?
- Chris Lane, Head of Transport Innovation, West Midlands Combined Authority: The Whim app
- Sampo Hietanen, Founder and CEO, MaaS Global
- Keith Budden, Head of Business Development, Cenex UK
- Andy Street, Mayor of the West Midlands
- Sarah Owen-Vandersluis, Partner and Head of Transport Strategy, KPMG UK
- Andy Bland, Enterprise
- Roundtable discussion with representatives from the West Midlands Combined Authority, MaaS Global, Birmingham City Council, National Express, Enterprise, Nextbike, Gett, Solihull Council, TravelSpirit Foundation, Horiba Mira and KPMG.

# Formal minutes

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## Wednesday 12 December

Members present

Lilian Greenwood, in the Chair

Jack Brereton	Huw Merriman
Ruth Cadbury	Grahame Morris
Robert Courts	Graham Stringer
Steve Double	Daniel Zeichner

Draft Report (*Mobility as a Service*), proposed by the Chair, brought up and read.

*Ordered*, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 102 read and agreed to.

Annex agreed to.

Summary agreed to.

*Resolved*, That the Report be the Eighth Report of the Committee to the House.

*Ordered*, That the Chair make the Report to the House.

*Ordered*, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Monday 17 December at 5.15pm]

## Witnesses

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The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

### Monday 5 March 2018

**Paul Campion**, CEO, Transport Systems Catapult, **Simon Ho**, Chair of Executive Board, TravelSpirit Foundation, **Dr Maria Kamargianni**, Head of MaaS Lab, UCL Energy Institute, and **Piia Karjalainen**, Senior Manager, MaaS Alliance

[Q1–76](#)

### Monday 23 April 2018

**Dr Steve Cassidy**, Managing Director, ESP Group, **Johan Herrlin**, CEO, Ito World, **Sampo Hietanen**, CEO, MaaS Global, **Dr Sarah Owen-Vandersluis**, Partner, Strategic Advisory, KPMG

[Q77–141](#)

### Monday 14 May 2018

**Crispin Humm MBE**, Head of Customer Journey, Rail Delivery Group, **Catherine Hutt**, Mobility Programme Manager, Addison Lee, **Stéphanie Rivet**, Chief Digital Officer, Stagecoach Group, and **Julian Scriven**, Managing Director, Nextbike UK

[Q142–192](#)

**Chris Lane**, Head of Transport Innovation, Transport for the West Midlands, **Shashi Verma**, Chief Technology Officer & Director of Customer Experience, Transport for London, and **Simon Warburton**, Transport Strategy Director, Transport for Greater Manchester

[Q193–229](#)

### Monday 11 June 2018

**Jesse Norman MP**, Parliamentary Under-Secretary of State for Transport, Department for Transport

[Q230–309](#)



## Published written evidence

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The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

MAS numbers are generated by the evidence processing system and so may not be complete.

- 1 Aberdeen City Council & Robert Gordon University ([MAS0043](#))
- 2 Aberdeen City Council ([MAS0057](#))
- 3 ACFO ([MAS0006](#))
- 4 Addison Lee Group ([MAS0040](#))
- 5 Alstom UK & Ireland ([MAS0021](#))
- 6 Atkins ([MAS0030](#))
- 7 BeemCar Ltd ([MAS0038](#))
- 8 BVRLA ([MAS0010](#))
- 9 Campaign for Better Transport ([MAS0037](#))
- 10 Chartered Institute of Highways and Transportation (CIHT) ([MAS0020](#))
- 11 Community Transport Association ([MAS0007](#))
- 12 Deloitte ([MAS0018](#))
- 13 Department for Transport ([MAS0003](#))
- 14 DHC Loop Connections ([MAS0023](#))
- 15 Digital Policy Alliance ([MAS0033](#))
- 16 FiveAI Limited ([MAS0039](#))
- 17 Fleetondemand ([MAS0013](#))
- 18 The Go-Ahead Group plc ([MAS0042](#))
- 19 Google ([MAS0051](#))
- 20 Hayfield Sustainable Transport Ltd ([MAS0002](#))
- 21 Ito World Ltd ([MAS0049](#))
- 22 ITS United Kingdom ([MAS0029](#))
- 23 KPMG LLP ([MAS0055](#))
- 24 Licensed Taxi Drivers' Association ([MAS0016](#))
- 25 London TravelWatch ([MAS0008](#))
- 26 MaaS Alliance ([MAS0027](#))
- 27 MaaS Global Oy ([MAS0026](#))
- 28 MaaS Lab, UCL ([MAS0022](#))
- 29 Mastercard ([MAS0053](#))
- 30 nextbike UK ([MAS0048](#))
- 31 North East Combined Authority ([MAS0028](#))
- 32 ofo UK ([MAS0017](#))
- 33 Ordnance Survey ([MAS0025](#))

- 34 PaxAssign Limited ([MAS0046](#))
- 35 Phillips, Mr John ([MAS0001](#))
- 36 Protherough, Ms Carole ([MAS0034](#))
- 37 Rail Delivery Group ([MAS0019](#))
- 38 Stagecoach Group plc ([MAS0031](#))
- 39 SYSTRA Ltd ([MAS0012](#))
- 40 techUK ([MAS0056](#))
- 41 Transport for Greater Manchester ([MAS0014](#))
- 42 Transport for London ([MAS0045](#))
- 43 Transport Systems Catapult ([MAS0044](#))
- 44 Travelspirit Foundation ([MAS0036](#))
- 45 Uber ([MAS0015](#))
- 46 University of Nottingham ([MAS0052](#))
- 47 Urban Transport Group ([MAS0024](#))
- 48 Viaqgio, part of the ESP Group ([MAS0005](#))
- 49 Visa Europe ([MAS0050](#))
- 50 Wallace, Mr Bruce ([MAS0035](#))
- 51 West Midlands Combined Authority ([MAS0004](#))
- 52 WSP ([MAS0009](#))
- 53 Wye Ruin It? ([MAS0011](#))

## List of Reports from the Committee during the current Parliament

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All publications from the Committee are available on the [publications page](#) of the Committee's website. The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

### Session 2017–19

First Report	Community transport and the Department for Transport's proposed consultation	HC 480 (HC 832)
Second Report	Improving air quality	HC 433 (HC 1149)
Third Report	Airports National Policy Statement	HC 548 (Cm 9624)
Fourth Report	Rail Infrastructure investment	HC 582 (HC 1557)
Fifth Report	Intercity East Coast rail franchise	HC 891 (HC 1729)
Sixth Report	Appointment of the Chair of the Office of Rail and Road	HC 1510
Seventh Report	Rail timetable changes: May 2018	HC 1163
First Special Report	Vauxhall Zafira fires: Government Response to the Committee's Tenth Report of Session 2016–17	HC 516
Second Special Report	Community transport and the Department for Transport's proposed consultation: Government Response to the Committee's First Report of Session 2017–2019	HC 832
Third Special Report	Improving air quality: Government Response to the Committee's Second Report of Session 2017–2019	HC 1149
Fourth Special Report	Rail infrastructure investment: Government and Office of Rail and Road Responses to the Committee's Fourth Report of Session 2017–19	HC 1557
Fifth Special Report	Intercity East Coast franchise: Government Response to the Committee's Fifth Report of Session 2017–19	HC 1729