



Department
for Transport

Future of Transport Regulatory Review

Call for Evidence

Moving Britain Ahead



March 2020



Department
for Transport

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Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR
Telephone 0300 330 3000
Website www.gov.uk/dft
General enquiries <https://forms.dft.gov.uk>

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Contents

Foreword	5
Executive summary	7
How to respond	10
1. Introduction and background	12
Transport is changing	12
A principles-based approach	14
The Future of Transport Regulatory Review	14
2. Micromobility	18
Introduction	18
Opportunities and Risks	20
Possible regulatory approaches to micromobility	24
Next steps	29
3. Buses, taxis and private hire vehicles	30
Flexible bus services	30
Opportunities	32
Challenges	33
Next steps	37
4. Mobility as a Service	38
Introduction	38
Digital infrastructure is in place to support innovation	40
A fair and open market for businesses to innovate	41
Accessible, inclusive and safe mobility	43
Impacts on the wider transport system	44
Next steps	45
5. Wider issues	46
a) Ensuring inclusive future transport	46
b) Enabling trials of new modes	47
c) Local leadership of new transport services	48
d) Further areas of focus for the Regulatory Review	49

6. Ongoing work beyond this call for evidence	50
Roads theme	50
Maritime theme	51
Aviation theme	52
Cross-cutting theme	52
Annex A: Full list of questions	54
Annex B: Consultation principles	60

A note on rebranding

This programme was previously called the Future of Mobility Regulatory Review, and Future Transport Zones were formerly called Future Mobility Zones.

We are rebranding the programme so that the language reflects the importance of putting people at the heart of our approach to future transport technology and business models.

Foreword



The United Kingdom can claim to be perhaps the world's greatest transport innovator. It was the birthplace of the railway, of the urban metro, of the passenger jet. Today, our universities and businesses are at the cutting edge of battery technology, artificial intelligence and vehicle design. Our business climate is among the most welcoming on Earth.

In this document, I want to start the national conversation about how government and other regulators respond to a new wave of change in transport that could alter our lives and re-shape our world all over again. We will embrace change, as we always have. We want to stimulate innovation and enable it to thrive. Regulation itself will change, as it always has.

But our goals will not change. We want transport to be cleaner, safer, healthier, greener, cheaper, more convenient, and more inclusive. As regulators, we will judge every innovation on whether it serves those ends, or undermines them.

One of our first tasks, therefore, is to try to understand the true benefits, and costs, of each new technology or service. How, for instance, can e-scooters make life cheaper, more convenient, and maybe a bit more exciting? But also: how safe are they, for their riders and for other road users, and how sustainable? Will they really reduce traffic, or will they reduce walking and cycling more?

How can self-driving cars open up new travel possibilities? But also: what do they mean for road space and congestion in our cities if people switch en masse from buses and trains? Should the rules about micromobility and new car-based services be the same in congested city centres as they are in low-density suburbs?

That is why one way forward may be a series of trials, both regulatory and real-world – to help businesses prove the commercial case for their innovations, but also to identify that each one can deliver the social, economic and environmental benefits we want to see, and manage the risks we want to avoid.

Technology and innovation are already blurring the lines between different transport modes, and the increasing automation of transport will drive this further. Our regulatory frameworks for licensing, ticketing, payment and consumer protection need to be more responsive to this, and to single-priced journeys on multiple types of transport becoming the norm. Collaboration between different transport regulators will be critical.

And just as in other areas where technology companies have grown powerful, we want to ensure that they understand their responsibility to meet democratic norms and rules.

To make the UK a world leader in the movement of people, goods and services we need a world-leading regulatory framework for transport. Please take this opportunity to share your views and join with us in making regulation for transport innovation a reality.

A handwritten signature in grey ink, appearing to read 'Rachel Maclean'.

Rachel Maclean

Parliamentary Under Secretary of State for Transport

Executive summary

Introduction

We want the UK to be a world leader in shaping the future of transport. A robust but innovative, flexible and data-driven regulatory framework for transport is key to achieving this. This call for evidence is the first opportunity for us to gather your views on the Future of Transport Regulatory Review, following the publication of the [Future of Mobility: Urban Strategy](#) in March 2019.

This call for evidence seeks views and evidence from all those with an interest in what an innovative and flexible regulatory framework looks like for emerging transport technologies and business models, recognising their benefits to society, the environment and the economy but also the risks they potentially pose if left unmanaged.

We are seeking to address areas of regulation that are outdated, a barrier to innovation, or not designed with new technologies and business models in mind. Where new regulation is required to manage the potential negative consequences of new technologies and services, we will work with stakeholders to develop appropriate safeguards, ensuring that future transport develops in line with our Principles (see below). We are keen to harness the benefits of innovation that support the decarbonisation of transport, mass transit and inclusive and active travel:

In facilitating innovation in urban mobility for freight, passengers and services, the Government's approach will be underpinned as far as possible by the following Principles:

1. New modes of transport and new mobility services must be safe and secure by design.
2. The benefits of innovation in mobility must be available to all parts of the UK and all segments of society.
3. Walking, cycling and active travel must remain the best options for short urban journeys.
4. Mass transit must remain fundamental to an efficient transport system.
5. New mobility services must lead the transition to zero emissions.
6. Mobility innovation must help to reduce congestion through more efficient use of limited road space, for example through sharing rides, increasing occupancy or consolidating freight.

7. The marketplace for mobility must be open to stimulate innovation and give the best deal to consumers.
8. New mobility services must be designed to operate as part of an integrated transport system combining public, private and multiple modes for transport users.
9. Data from new mobility services must be shared where appropriate to improve choice and the operation of the transport system.

In this document we have focused on three priority areas of the Future of Transport Regulatory Review: Micromobility, Buses, taxis and private hire vehicles, and Mobility as a Service. You are welcome to provide feedback on as many questions as are relevant to your areas of interest and expertise.

This document is split into five main parts:

- **Part 1** sets out the background against which rapid changes in transport are occurring, and the Government's approach to addressing them. It provides:
 - An outline of the Government's principles-based approach to shaping the future of transport, as set out in the Future of Mobility: Urban Strategy
 - Further details of the Future of Transport Regulatory Review itself, including a summary of its scope, timescales and upcoming milestones
- **Part 2** focuses on Micromobility. It asks:
 - Whether certain micromobility vehicles should be permitted on the road and if so what vehicle and user requirements would be appropriate to ensure their safe use
 - What the potential benefits and risks of micromobility vehicle use could be, and how their use might affect other modes of transport
- **Part 3** seeks views on flexible bus service regulations, as part of the Buses, taxis and private hire vehicles workstream:
 - How effective existing flexible bus service rules are in enabling innovation and whether changes to various elements, such as punctuality and notice periods, could be made to improve them
 - What areas of the bus, taxi and private hire vehicle framework should be considered in future stages of the Regulatory Review
- **Part 4** asks about Mobility as a Service (MaaS) and in particular:
 - What role central and local government should play in the development of MaaS platforms
 - What opportunities or risks MaaS platforms present to the wider transport system, including active and sustainable modes and inclusive travel

- **Part 5** will inform our wider work on the Future of Transport Regulatory Review. It asks how best government can support innovation in line with the Principles in three cross-cutting areas:
 - a. Ensuring inclusive future transport
 - b. Enabling trials of new modes
 - c. Local leadership of new transport services

What will happen next

A summary of responses will be published within three months of the call for evidence ending. These responses will complement evidence gathered from the real-world experiences of the Future Transport Zones, and other work on the Future of Transport, to inform our work on this Regulatory Review. Substantive proposals for legislative reform are likely to form part of this.

How to respond

The consultation period began on 16 March 2020 and will run until 22 May 2020.

You can respond to this call for evidence in three ways:

1. Online, through a survey hosted by the Department for Business, Energy and Industrial Strategy (BEIS), at <https://beisgovuk.citizenspace.com/ccav/future-of-transport-regulatory-review>.
2. By email, to futureoftransport@dft.gov.uk
3. By posting your response to:

Future of Transport Regulatory Review

Department for Transport
Zone 1/33 Great Minster House
33 Horseferry Road
London SW1P 4DR

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

Please note that we do **not** expect you to submit evidence or views in response to every question listed if not applicable.

Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document, it can be found at <https://www.gov.uk/dft#consultations>.

Freedom of Information

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

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

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

The Department will process your personal data in accordance data protection law and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

Privacy

If you do provide any information that allows an individual to be identified, we may use this information to notify you once the summary of responses is available.

The purpose of this call for evidence is to inform our work on the Future of Transport Regulatory Review. Any personal information provided will only be kept for the purpose of this call for evidence and will not be shared with anyone else.

Your information will be kept securely within DfT and destroyed within 12 months after the call for evidence has closed. More information about DfT's privacy policy can be found at: <https://www.gov.uk/government/organisations/department-for-transport>

If you respond using the online survey, your information will also be kept securely within BEIS, and destroyed within 12 months after the call for evidence has closed. More information about BEIS' privacy policy can be found at: <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy>

1. Introduction and background

Transport is changing

Amid rapid social and economic change, innovations in technology and business models are transforming how people and goods move around. Vast investments are being made globally in these new mobility concepts, to unlock new opportunities and meet demands for safer, cleaner and more convenient travel.

Multiple changes in transport are happening at once, including:

- **Changes in transport technology**, such as the growing availability of transport data, advances in machine learning, increasing levels of automation, the development of new modes, and the transition to cleaner, more efficient vehicles and systems.
- **Changes in demand for transport**, in the context of our increasingly diverse and ageing population, the importance of accessible transport, evolving work arrangements and commuting patterns, and the increasing use of smartphones for travel purposes.
- **Changes in transport business models**, as new digitally enabled business models emerge and shared mobility becomes more prevalent.

Properly harnessed, these changes could dramatically influence people's relationship with vehicles, transform our transport networks and stimulate productivity. They could help us decarbonise transport and tackle congestion and air pollution, make travel more affordable and convenient, and improve access to transport for older people and those with disabilities. Fundamentally, such innovations could allow us to live in cleaner, quieter, more inclusive and more prosperous communities.

New transport on the path to net zero

The extraordinary wave of changes in transport creates an opportunity to support the UK's ambitions for decarbonisation and net zero emissions. As new technologies develop that encourage active travel, mass transit, zero emission vehicles and more integrated and efficient use of the transport network, we want to ensure the regulatory framework for transport optimises the benefits of accelerated transport decarbonisation for society and the environment.

As announced in October 2019, the Government's Transport Decarbonisation Plan will set out a credible and ambitious plan for the UK to ensure transport achieves 'net zero' GHG by 2050 and delivers its contribution to interim carbon budgets. Future transport is a central consideration to this plan, which recognises the industrial opportunities of an innovation and clean technology led approach to decarbonisation.

History has shown how quickly technological change can happen; just a decade ago ride-hailing apps were unheard of, for example. Today, many of the companies behind them are global businesses with hundreds of millions of users around the world.

The streets, skies and seas of tomorrow will look very different, with a range of different automated, connected and electric vehicle services transporting people, goods and services. Shared mobility could be prevalent, meaning few people own their own vehicle but instead use demand-responsive shared and public transport to get around, made possible through new digitally enabled business models. The valuable data produced through such models will help to inform regulations and transport planning decisions in future.

Consortia are already competing to deploy connected and automated vehicles in real-world services on UK roads within the next few years, and all new cars and vans are currently expected to be effectively zero emission by 2040, with zero emission ships commonplace globally by 2050. With safer and greener streets, skies and seas, a more inclusive transport system and a more productive economy, new transport technologies have the potential to deliver substantial benefits for us.

However, if technological changes are not effectively managed, they could have undesired effects, leading to worse outcomes for society, the environment and the economy. Closer integration of our infrastructure and vehicles with communication networks could lead to increased vulnerability to cyber attacks, and inadequate protection of transport data could threaten the privacy of users. New modes and services could result in increased congestion and reduced sustainable travel. Moreover, if they are not developed with the diverse needs of people in mind (for example, women, older people, or disabled people), or if they only benefit certain geographic areas or socio-economic groups, existing inequalities in access to transport and opportunity could be exacerbated.

That is why we are acting now to create a fertile environment for innovation and investment, enabled by a clear, principles-based approach from government, investment in the Future Transport Zones, and a flexible, yet robust regulatory framework based on data and evidence. The window of opportunity to shape these changes is currently open but will not stay open forever.

Future Transport Zones

£90 million of capital funding has been allocated to create four Future Transport Zones (FTZs). Each FTZ will be a globally significant demonstrator of new mobility services, modes and models, creating a functioning marketplace for mobility, combining new and traditional modes of transport. The FTZs will focus on trialling transport innovations and providing evidence of their efficacy to inform the development of, and investment in, future schemes. The FTZs will be at a scale that is appropriate for testing regulatory issues to support the work of the Future of Transport Regulatory Review.

A principles-based approach

In the Future of Mobility: Urban Strategy, published in March 2019, we set out a clear, proactive approach to making the most of the opportunities from transport innovation and mitigating the potential risks. We outlined a set of nine Principles that will underpin our decision-making, and help guide innovators and local authorities as emerging transport technologies and services develop.

An innovative and flexible regulatory framework for transport is key to the successful implementation of the nine Principles for shaping the future of transport. A thriving transport sector needs a regulatory framework that ensures safety, network efficiency and promotes decarbonisation, mass transit and active and accessible travel, while providing certainty for investment and the space for invention and trials through which live evidence can be gathered.

The Future of Transport Regulatory Review

One of the broadest and most significant of its kind for many years, this review will challenge the status quo, asking fundamental questions about how we regulate transport in the UK. We are undertaking this review to address areas of regulation that are outdated, a barrier to innovation, or not designed with new technologies and business models in mind.

In taking forward the Future of Transport Regulatory Review we are particularly keen to emphasise the following values:

Future of Transport regulatory values

1. **Regulation for innovation and safety:** The right regulatory framework can unlock innovation, rather than hamper its development, in a way that manages any potential negative or unintended consequences.
2. **Regulation built on evidence:** Our regulatory framework will support innovation where there is evidence to show it can offer net benefits for society, the environment and the economy, in line with the Principles in the Future of Mobility: Urban Strategy.
3. **Regulation for agility:** The pace of technological change means our regulatory framework should be able to respond quickly. Where pilots of transport innovations have demonstrated clear social, environmental and safety benefits, we need to be able to enable their wider roll out.
4. **Regulation for multi-modality:** Regulation should make it easier to develop multi-modal transport systems rather than reinforce modal silos.

- 5 Regulation with local consent and leadership:** We recognise that what is suitable for one region, city or environment will not necessarily be suitable for another. Where local leaders are keen to lead the way in transport innovation, the regulatory system should support them to do so.

The UK's regulatory framework for road, rail, aviation and maritime has developed gradually over the centuries, reflecting evolutions in technology and society. Much of the primary legislation underpinning how we regulate taxis, for example, dates back to the 1800s. Now, as the pace of change accelerates and the lines between different modes and business models blur, new products and ideas are challenging these existing regulatory structures and their scope.

Through the Regulatory Review, we plan to address these challenges. This call for evidence is just one element of a series of consultations, workshops and events that will inform our thinking as we progress the review. Further details of all the workstreams of the review will be published on [GOV.UK](https://www.gov.uk) in due course. Ultimately the review may conclude that substantive legislative reform is required, for example new primary legislation.

This review builds on information and views gathered through the Future of Transport Call for Evidence held in September 2018 where we asked questions about regulatory barriers and opportunities. A [summary of responses](#) was published in March 2019.

The scope of the review

The Regulatory Review is an extensive programme of work, encompassing a wide range of transport modes and cross-cutting issues, each with their own existing regulatory context. In choosing our initial priorities for the review we have reflected on the feedback we received and considered areas by their degree of importance and urgency, that is by the scale and proximity of the potential impact if regulatory issues are not addressed.

The review's workstreams are split into three modal themes: roads, maritime, and aviation, with two cross-cutting themes as shown in Figure A below. The themes contain a mix of established regulatory programmes and new areas of focus that were first set out in the Future of Mobility: Urban Strategy in March 2019.

In general, the review will **not** consider regulations or powers that have been transferred to the devolved administrations.

Timescales

This is a once in a generation opportunity to reform regulation in transport, and we expect the review as a whole to take place over three years. Some areas of the review will be completed ahead of that time frame and we will act sooner if needed on our most significant and pressing findings.

A response to this call for evidence and more detail of next steps for the review will be published within three months of the closing date.

Designing innovation friendly regulations

The Government's '[Regulation for the Fourth Industrial Revolution: White Paper](#)', identifies two key challenges in maintaining our world-leading regulatory system as the rate of innovation increases:





- **Pacing challenge:** the speed of innovation increasingly exceeds the rate at which traditional regulatory systems can adapt

- **Convergence challenge:** innovations are increasingly blurring the lines between sectors that cut across traditional regulatory boundaries.

We see these two challenges with the Future of Transport. Micromobility, flexible bus services and Mobility as a Service cut across traditional transport modal boundaries and have the potential to mature as markets at a rate not seen previously.

Through our Future of Transport regulatory values (see page 14), we have aligned the Regulatory Review with the plan set out in the White Paper to build an innovation friendly regulatory system across all sectors.

Figure A: Review Workstream Themes

Theme	Workstream
	<p>Zero emission vehicles</p> <p>This review is considering how the powers given to government in the Automated and Electric Vehicles (AEV) Act 2018 should be used. We recently consulted on proposals for electric vehicle smart chargepoint regulations under the act, including a call for evidence on the transmission of chargepoint data. We will publish the outcome of this consultation in due course.</p>
	<p>Self-driving vehicles</p> <p>This review considers the legal and regulatory framework to enable the safe development, and deployment of connected and automated vehicles. The Centre for Connected and Autonomous Vehicles (CCAV) is working with the Law Commission for England and Wales and the Scottish Law Commission on proposals for a long-term regulatory framework. CCAV is also working with colleagues in the Department for Transport and its Motoring Agencies on safety and cyber-security assurance, including in support of increasingly advanced trials on public roads.</p>
	<p>Micromobility vehicles</p> <p>This review addresses new vehicles such as electric scooters and micro vehicles for last mile delivery, and how best to trial them. We are also considering the implications of legalising such vehicles for traffic regulation and street design.</p>
	<p>Buses, taxis, and private hire vehicles</p> <p>This review seeks to join up the significant work already being undertaken in this area. It is looking specifically at the legislation covering flexible bus services, with a view to ensuring that dynamic demand responsive bus services can operate at their highest potential.</p>
<p>Maritime</p> 	<p>Innovation in maritime</p> <p>This review encompasses work being undertaken by the Department for Transport and the Maritime and Coastguard Agency at a national and international level, both through the International Maritime Organization and with industry partners, focusing on maritime autonomy and zero emission shipping.</p>
<p>Aviation</p> 	<p>Drones and future flight</p> <p>This review is considering the role that new potential air mobility solutions, such as vertical take-off and landing (VTOL) concepts, could play in transforming air mobility and improving regional connectivity. This is alongside the existing regulation programmes for drones and commercial spaceflight and the Civil Aviation Authority's project to transform the way it engages with innovation in the aviation sector.</p>
<p>Cross-Cutting</p> 	<p>Mobility as a Service</p> <p>This review is considering the regulatory changes that may be necessary to support the integration of different transport modes into a single mobility service, and the case for Government to do more to shape the development of MaaS platforms.</p>
	<p>Transport data</p> <p>This review is considering the role for regulation, or other incentive mechanisms, in the sharing of certain transport data, to support healthy competition, empower consumers and local and national authorities, and enable greater integration of transport modes. This includes data for Traffic Regulation Orders (TROs).</p>

2. Micromobility

Introduction

New technologies and trends mean vehicle designs are changing radically, with increasing options for people to choose how they travel. Micromobility vehicles, defined in this call for evidence as small, usually electric, mobility devices designed to carry one or two people, or for ‘last mile’ deliveries, form an important part of that trend. Examples of some micromobility vehicles are shown in Figure B.

In recent years there has been rapid development of micromobility vehicles such as electric scooters, electric skateboards, low-powered last-mile delivery solutions and devices designed for disabled people. The global electric scooters market size, for example, has recently been [valued at US\\$17.43 billion \(around £13 billion\)](#) and is expected to have a compound annual growth rate of 8.5% over the next 10 years. These innovations challenge previously long-established vehicle definitions, and have the potential to deliver significant benefits if carefully managed.

At present, most micromobility vehicles cannot legally be used on the road. This is because they are ‘motor vehicles’ in law, which requires them to meet a wide range of requirements that, by their design, are hard for them to comply with.

The review will look at whether, and how, regulation should change to legalise the use of some or all micromobility vehicles on roads. It considers:

- **Vehicle requirements:** which minimum design standards should be applied and how vehicles should be approved.
- **User requirements:** what requirements users must meet to use micromobility vehicles and how we should regulate micromobility vehicles for any type of user.
- **Use on the road:** whether micromobility vehicles should be permitted on roads, cycle tracks, cycle lanes or pavements.

The review will also consider:

- **Service provider requirements:** what rules should apply to businesses operating micromobility vehicle hire schemes and the powers local authorities should have to manage such schemes and their impacts.

The recent focus on micromobility has predominantly been on electric scooters, following the introduction of dockless hire schemes in many cities around the world, but this call for evidence covers all types of micromobility vehicle.

Electric scooters are sold widely across the UK. While our review into micromobility vehicles is ongoing, it is important to note that most micromobility vehicles are currently illegal to use on the road or the pavement, something those considering buying these devices should be aware of¹.

We are seeking views from members of the public, road user groups, micromobility manufacturers and service providers, regulators, local authorities and enforcement bodies.

Figure B: Examples of Micromobility Devices

Devices not currently legal for use on the road

Electric Scooter



Electric Skateboard



Self-Balancing Scooter



Segway



Self-Balancing Vehicles



Devices already legal as Electrically-Assisted Pedal Cycles:

E-Cargo Bike²



Electrically-assisted Tricycle³



² Image courtesy of e-cargobikes.com

³ Image courtesy of rydoze.com

Opportunities and Risks

With the right regulatory framework, micromobility vehicles could offer benefits for individuals and society – but there is relatively little evidence on the subject. This review aims to improve the evidence base.

As with any new technology, there are potential risks to consider as well. Safety remains of utmost importance and ensuring safety is the key purpose of much road transport regulation. Any vehicle being used on the road presents a risk to the user and to other road users, particularly vulnerable groups such as cyclists and pedestrians. In addition to this call for evidence, we are separately gathering other evidence to determine if micromobility vehicles should be allowed on the road.

Additionally, we want to ensure regulations provide suitable protections against other potential risks. Our engagement with some stakeholder groups has revealed concerns about: whether micromobility vehicles are physically robust and safe by design; whether users have the skills to use them safely; how micromobility vehicles interact with other vehicles, road users and pedestrians; and how liability is handled when accidents occur.

If micromobility vehicles are to be used on the road, we must find the correct balance between maximising the benefits they offer and keeping road users safe. Robust accident data is not yet available, as e-scooter use is a relatively new phenomenon. A number of deaths have been reported, as well as concerns about the level of hospital admissions relating to e-scooter use, mostly in cities in America. A [study of dockless electric scooter-related injuries in Austin, Texas](#) from 2018 showed that the majority of injuries appear to involve the rider falling or losing control, and many riders were not wearing helmets.

It is important to note that in order to fully understand e-scooter safety, data is required that allows comparison to other modes, such as the number and severity of injuries per number of miles travelled. This data will help to inform and implement an appropriate regulatory framework.

Improved choice and modal shift

Micromobility vehicles offer a new way of moving around. They can make journeys quicker and easier, particularly where there are limited public transport alternatives. They could provide an alternative to making short journeys by car. We want to discover whether this is indeed the case.

We also recognise however that, left unmanaged, there is a risk of a different modal shift. We want to avoid a situation in which people move away from more active choices such as walking and cycling.

Improved inclusivity

Micromobility vehicles can provide new transport choices for some disabled or older people, for example for those who are less able to walk medium to long distances and otherwise may take a car. Managed correctly, such vehicles also have the potential to open-up affordable transport links for wider economic groups, providing a crucial link for accessing jobs and services.

This needs to be balanced against concerns raised by groups representing disabled people about the possible negative impact of micromobility vehicles. For example, there are concerns about those riding on the pavement (even if prohibited) causing problems for disabled people, and about the risk of obstruction and littering from poorly parked hire

scooters. We want to learn from other cities, and the example of dockless bike hire in this country, to minimise these risks.

It is important that the pavement remains a safe and protected space, particularly for vulnerable pedestrians.

Environmental benefits

Micromobility vehicles are lightweight and electric. If journeys by micromobility vehicles replace those that would otherwise be made by internal combustion engine vehicles, cumulatively this could help reduce carbon emissions from road transport and improve air quality in towns and cities. We need to establish whether this actually happens.

We recognise that to maximise these environmental benefits, micromobility vehicles should be durable enough to avoid entire units requiring frequent replacement due to poor design. We wish to avoid the potential downside of consumer waste and environmental impact as a result of poorly designed vehicles.

Reduced congestion

Micromobility vehicles are smaller and lighter than most other vehicles on the road. Road users may shift to using micromobility vehicles for short journeys or e-cargo bikes instead of vans for parcel delivery. This has the potential to lead to reduced congestion through more efficient use of limited road space, with the resultant economic and environmental benefits.

Integrated journeys

New mobility services must be designed to operate as part of an integrated transport system combining public, private and multiple modes for transport users. Micromobility vehicles could be used for the first/last mile as one part of a journey, potentially through Mobility as a Service (MaaS) platforms.

This could improve connectivity, making public transport more accessible and appealing for those who don't live near transport hubs.

Micromobility vehicles in use: the example of electric scooters

Electric scooters offer an option for making short journeys in towns and cities. In major cities in other countries many companies offer electric scooter hire services as well as individuals using their own personal e-scooters. These allow users to download an app, pick up a scooter, make their journey to their destination, leave the scooter there and make payment in the app. Some cities require electric scooters to be picked up and left in designated docking points, while others allow electric scooters to be picked up and left in any location, identifiable on the app.

Hireable electric scooters can allow people to take public transport instead of their car, knowing that they will have transport for either end of their journey and without the need to carry a bike, scooter or other equipment with them. Electric scooters could be incorporated into a Mobility as a Service platform and be integrated as part of a multi-modal journey.

Technology can help users make journeys of more than one mode of transport, and if journey data is made available to local transport authorities, it can be analysed to deliver a more efficient transport network by enabling more joined-up services and more intelligent planning of infrastructure.

However, the experience of other cities with hire schemes show that electric scooters used in this way can also have downsides, replicating many of the issues seen previously in the UK with hireable bikes and e-bikes. Some cities found a significant number of electric scooters introduced to their streets very quickly and, as they could be picked up or left anywhere, found discarded electric scooters across pavements and paths.

To address this, Paris introduced a Code of Practice and fees for providers of hireable electric scooters and is designating parking areas where electric scooters can be left. The French government has passed new laws for micromobility vehicles. Other cities, such as Copenhagen and Los Angeles, have limited the number of hireable electric scooters that providers may place in the city. Others ask electric scooter providers to self-regulate or reach agreements with city authorities. Technology can also assist by only allowing an electric scooter to be operable in areas where e-scooters are permitted (also known as geo-fencing), or charging users when they are not parked in designated areas.

We are looking to experiences from cities around the world to determine the best way of fitting electric scooters and micromobility vehicles into existing transport networks and managing the potential downsides. Local authorities or regional mayors could have powers to manage hireable e-scooter services or the use of private e-scooters in their area.

Question 2.1

Do you think micromobility vehicles (such as those in Figure B) should be permitted on the road? Please explain why.

Question 2.2

If you can, please provide evidence to demonstrate the potential:

- a. Benefits of micromobility vehicle use.
- b. Risks of micromobility vehicle use.

Question 2.3

If micromobility vehicles were permitted on roads, would you expect them to be used instead of:

Vehicle type	Often	Sometimes	Never
Private vehicles			
Taxi or private hire vehicles			
Public transport			
Delivery vehicles			
Cycling			
Walking			
Other (please specify)			

Use on the road, cycle lanes and cycle tracks

Micromobility vehicles are not permitted on the road, in cycle lanes or cycle tracks (dedicated cycle routes). If legalised, micromobility vehicles would be permitted to use the road (though not motorways, as with other low speed vehicles). Locally, highway and traffic authorities have powers to determine whether legally-permitted vehicles can be used on specific routes.

We are seeking views on whether micromobility vehicles should also be permitted to use dedicated cycle routes. In general, their speed is similar to that of pedal cycles and their maximum speed would be comparable to electrically-assisted pedal cycles (EAPCs). Permitting use on cycle routes is likely to encourage greater take up of micromobility vehicles among those who are less confident using them on the road. Not all cycle infrastructure may be suitable for all micromobility vehicles, particularly if they are wider than a typical pedal cycle.

We would also like views on whether micromobility vehicles should only be permitted to use lower speed roads, for example those with speed limits of 20 mph or 30 mph.

If micromobility vehicles were to be allowed in cycle lanes and cycle tracks, we would work with local authorities to develop appropriate signage. Effective enforcement would be a key part of ensuring micromobility vehicles are used safely and responsibly, and we would work with the police to ensure enforcement activity is appropriate and effective.

Question 2.4

a. In your opinion, which of the following micromobility vehicles should be permitted, if any, on roads, lower speed roads, and/or cycle lanes and cycle tracks?

- All types
- Electric scooters
- Electric skateboards
- Self-balancing vehicles
- Electrically assisted cycle trailer
- Segway
- Other (please specify)

b. Please explain your choices for using micromobility vehicles (or not) on roads and/or only lower speed roads, providing evidence where possible.

c. Please explain your choices for using micromobility vehicles (or not) on cycle lanes and tracks, providing evidence where possible.

d. What impact do you think the use of micromobility vehicles on cycle lines and cycle tracks would have on micromobility vehicle users or other road users?

Use on Pavements

No vehicle is permitted to use the pavement, except some pedestrian operated street-cleaning vehicles and mobility scooters (also known as invalid carriages, and with lower speed restrictions than on the road). In general, we believe this principle should continue.

However, [we committed to look in more detail at the issues relating to the use of cycles as mobility aids by disabled people](#) including whether they could use the footway, and to review whether some electrically assisted vehicles should be permitted to use the footway. This could mean micromobility vehicles used as mobility aids by people with disabilities or electrically assisted hand carts used for deliveries may be permitted to use the footway. This could be beneficial to disabled and/or older people as a mobility aid but would also impact on other users of the footway.

Question 2.5

Mobility scooters and pedestrian operated street cleaning vehicles are already permitted on the footway. Should any other micromobility vehicles be permitted to use the pavement or pedestrian areas? If so, which types of devices should be permitted and in what circumstances?

Possible regulatory approaches to micromobility

Vehicle Requirements

Micromobility vehicles are small mobility devices designed to carry one or two people, or for use with 'last mile' freight deliveries. They typically have low maximum speeds (compared to most motor vehicles).

Two types of micromobility vehicle are already established and regulated: mobility scooters ('invalid carriages') and (EAPCs). EAPCs are not classed as 'motor vehicles', and regulations already set specific construction and use requirements for mobility scooters and EAPCs.

Other types of micromobility vehicle are not specifically regulated for, and by default are treated as motor vehicles. This means the vehicles and their users must comply with many requirements under road traffic law, including:

- Meeting construction standards (the design of most micromobility vehicles do not meet these standards)
- Registering and licensing the vehicle
- Requiring the user to hold a driving licence and motor insurance
- Wearing a helmet (in the case of two-wheeled vehicles)

Amendments to legislation will be required if the requirements for EAPCs or mobility scooters change, or if newer micromobility vehicles are to be allowed on the road network. Reviewing regulation does not necessarily mean changes will follow.

All vehicles used on the road must be safe. The Department expects to set vehicle specifications that would apply to all micromobility vehicles. These are likely to include as a minimum:

- Maximum speed of 12.5-15.5 mph (20-25 km/h)

- Specified braking requirements
- Requirement for lights and reflectors

They could also include:

- Maximum power output
- Minimum wheel size and ground clearance
- Maximum vehicle dimensions
- Indicators or ability for user to indicate
- Requirement to have a handlebar

The minimum specification may allow some micromobility vehicles to be used but prohibit others. For example, if there is a requirement to have handlebars, this would allow electric scooters and e-cargo bikes to be used but would prohibit hoverboards or uni-wheels.

While we are consulting on setting a specification for all micromobility vehicles, in some cases we may consider setting specific requirements for an individual vehicle type.

As with all other powered vehicles, it is important that micromobility vehicles' construction is determined to be safe before being used on the road. This may be either by self-certification from manufacturers or by a type-approval process. Once in use, users would be required to ensure their vehicle continues to comply with minimum vehicle standards.

We will seek further evidence on the vehicle failure rate and general roadworthiness of micromobility devices before determining standards for the vehicle and whether to require periodic testing of these vehicles.

Motor vehicles are registered with the DVLA to establish a keeper of a vehicle, to administer vehicle excise duty (vehicle tax) where applicable, and to aid enforcement of insurance requirements and other road traffic law.

We are interested in views on whether it would be beneficial to establish a register of micromobility vehicles and whether registration requirements for these vehicles and their users should differ from that of other motor vehicles.

Question 2.6

- a. What do you think the minimum standards for micromobility vehicles should be?
- b. Should different standards be set for different types of micromobility vehicle?
Please provide evidence.

Question 2.7

Are there other vehicle design issues for micromobility that you think we should be considering? Please provide examples.

User Requirements

Similarities can be drawn between micromobility vehicles and two existing categories of vehicle which are permitted to use the road:

- Electrically Assisted Pedal Cycles (EAPCs); and
- Mopeds.

Micromobility vehicles with two wheels are similar to mopeds (2 or 3 wheeled vehicles with a maximum power of 50cc and maximum design speed of 28mph), as they are principally power-driven devices. EAPCs by contrast are pedal-powered vehicles which have an element of power assistance that cuts out at 15.5 mph (which is similar to the proposed maximum speed for micromobility vehicles). Mopeds are subject to greater regulation than EAPCs.

As micromobility vehicles are lighter and slower than most vehicles on the road, the risk they present to other road users is lower than for most vehicles. We maintain that regulation should be proportionate to risk.

However, the users of micromobility vehicles will also be at risk themselves, and there may be a case to regulate the user to manage this risk, for example through helmet use or user training. As such, we are considering treating micromobility vehicles in a similar way to EAPCs, with greater regulation in some areas.

This call for evidence is seeking views on a general approach to regulating micromobility vehicles, as summarised in Figure C.

Figure C: Table showing legal requirements for use of EAPCs and mopeds that may be applied to micromobility vehicles, and possible new requirements for use of micromobility vehicles

Category	EAPC requirements⁴	Moped requirements	Other possible new requirements for micromobility vehicles
Vehicle approval before being used	Technical standards set which manufacturers must comply with, but not subject to vehicle approval before being used on the road	Vehicle type approval required before vehicle can be registered and used on the road	A light-touch approach, that helps ensure safety without a disproportionate testing regime
Vehicle registration and taxation	Not required	Must be registered and display registration plates, for enforcement of vehicle excise duty and insurance	

⁴ EAPC requirements are for Great Britain. Some requirements for EAPCs are different in Northern Ireland.

Category	EAPC requirements⁴	Moped requirements	Other possible new requirements for micromobility vehicles
Periodic vehicle testing	Not required	Requires annual MOT tests after three years	Voluntary testing with guidance on vehicle maintenance
User driving licence	Not required	Category A(M) licence is required. Those with a pre-2001 car driving licence can use mopeds on their car driving licence with no further training. Those with a post-2001 car driving licence can use mopeds on their car driving licence after completing a CBT course	All users required to hold a licence, or to complete user training, or both, before being able to use the vehicles; or holders of other licence categories being able to use the vehicles
Insurance	Not required	Mandatory motor vehicle requirements	Personal liability insurance
Helmet use	Not required, though helmet use & Hi-Viz clothing is encouraged	Motorcycle standard helmet required	“Pedal cycle” standard helmet
Minimum age requirement	Minimum age of 14 years old	Minimum age of 16 years old (as a licence is required)	
Use on the road/ cycle lanes or tracks/pavement	May be used on the road or cycle lanes or tracks, but not on the pavement	May only be used on the road	Possible exemptions for vehicles used on the pavement as a mobility aid (as with mobility scooters) or which are pedestrian controlled
Speed limits (design speed limit or road speed limit)	No road speed limit (though the electric motor must stop providing power at 15.5 mph)	Normal road speed limits apply, though their design limits mopeds to 28mph (45km/h)	Maximum speed of 12.5-15.5mph (20-25 km/h) either by setting a road speed limit or by limiting the design speed of micromobility devices

Case Studies: How other cities have regulated for micromobility vehicles

Berlin, Germany

Germany has regulated to allow 'small electric vehicles', which include electric scooters, to be used. These are limited to 12.5 mph (20 km/h) and must have handlebars. Electric scooters must be used on the road or cycle lanes (where available), but not on the pavement. Users must have insurance and the vehicle must be registered, but a driving licence and helmet are not required.

Tel Aviv, Israel

Hireable e-scooters providers are licensed and there is a limit in the number of e-scooters available. Users must be 18 years old and hold a specific driving licence. E-scooters are used in cycle lanes and cannot use the pavement. They must be parked in designated spaces.

Barcelona, Spain

E-scooters can use cycle lanes at speeds up to 10 km/h (around 6 mph) and on road at speeds up to 30 km/h (18.6 mph) but cannot be used on pavements. They must be parked in designated spaces. The minimum age to use an e-scooter is 16. Users of e-scooters that are between 25-50kg and commercial users require helmets. Insurance is recommended but not required.

Kyoto, Japan

In Japan, electric scooters are classed as mopeds. Electric scooter users require a driving licence, motor insurance and crash helmet.

Singapore

'Personal mobility devices' (which includes electric scooters) are defined with a maximum speed of 25 km/h, and maximum sizes and weight. They must be registered and can only be used on cycle paths (not on the road or pedestrian-only paths). Helmets are not compulsory.

EAPC riders already use the road and cycle lanes or tracks extensively with minimal user requirements. For example, a minimum age requirement of 14 applies to EAPC users, but they do not require driving licences. Similar user requirements would appear proportionate for speed-limited micromobility vehicles.

User behaviour remains the biggest cause of accidents on the road, whether a licence is required or not. We are concerned that users could have little experience of using micromobility vehicles or driving on the road, particularly if a minimum user age of 14 is applied as with EAPCs.

Other options for licensing include giving unique entitlement for micromobility vehicle use to those who hold any category of driving licence or who have completed some form of specialised driver training. Motorcyclists and moped users take compulsory basic training during their learning process.

We welcome responses about other steps that could be taken to ensure users are competent and comfortable using the road, for both commercial and private use.

Helmet use is not mandatory for EAPCs, though we recommend their use. Alternatively, micromobility vehicles could be treated like mopeds rather than EAPCs for the purposes of helmet use, which would make helmets mandatory. We are seeking views on whether helmet use should be mandatory for micromobility vehicle users and if so, whether this should be for cycle-standard rather than motorcycle-standard helmets. We are keen to understand whether a mandatory helmet requirement would reduce the usage of micromobility vehicles.

We are seeking views and further information on the risk presented by micromobility vehicles to determine whether they should be treated like mopeds rather than EAPCs for insurance purposes. This would require users to have some form of insurance. This could be motor insurance or a third party liability and personal accident insurance product, similar to the insurance that some cyclists seek voluntarily.

Question 2.8

In your opinion, what should the requirements be for micromobility users with regard to:

User requirements	Like EAPCs	Like mopeds	Other requirements (please provide details)
Vehicle approval			
Vehicle registration and taxation			
Periodic vehicle testing			
User driving licence			
Insurance			
Helmet use			
Minimum age			
Speed limits			

If you believe regulating micromobility vehicles like EAPCs or like mopeds would be problematic, please explain why.

Next steps

This call for evidence is seeking views on a general approach to regulating micromobility vehicles. There remain many issues to resolve to determine if and how they can be used safely on the road and how those rules could be enforced. We will also be trialling electric scooters in some areas to assess their impacts for road users.

Responses to this call for evidence will help develop these proposals and the changes to legislation needed to run on road trials. We are gathering evidence on the impact of micromobility vehicles, including learning from the experiences of electric scooters in other countries.

3. Buses, taxis and private hire vehicles

Flexible bus services

Buses are the most popular form of public transport, accounting for around [50% of all journeys on public transport and representing around 5% of all trips](#). Each year, [over 4.3 billion bus journeys are made in England](#), of which around half are made in London.

Buses serve city economies by helping people to access work and helping to tackle congestion. They have an important contribution to make in reducing emissions in cities through moving people from cars onto cleaner ultra-low and zero emission mass transit (Principles 4 and 5). Outside city centres, they provide access to jobs and services, especially for those without access to a car.

The legislative framework

This section on flexible bus services only applies to England. Bus service registration, and taxi and private hire vehicle (PHV) licensing, are devolved matters in Scotland and Wales. However, we would welcome views from respondents in Scotland and Wales on other areas of the bus, taxi and PHV framework that we should consider in future stages of the regulatory review (see Question 3.12).

The bus market in England outside London is deregulated. Operators usually decide when and where to run services, and what fares to set. Local authorities can then decide which services they wish to put out to tender in their areas in order to fill any gaps in this network.

Local bus services must be registered with the Traffic Commissioners. 42 days' notice must be given of a new, changed or withdrawn service, with a further 28 days' pre-notification given to local authorities.

The Bus Services Act 2017 gives local authorities new powers through partnerships or franchising to regulate buses in their area. Partnerships are voluntary agreements between authorities and bus operators to improve local services. They can cover almost any aspect of bus service operations and result in legally binding agreements between bus operators and local authorities.

Bus franchising allows authorities to determine all aspects of the services to be provided, similar to the system in London which is regulated by Transport for London (TfL). Using the powers in the Act, we are requiring all bus operators in England to release route, timetable, fare, and location information for local bus services.

Flexible bus services vs demand responsive transport

While the terms ‘flexible bus services’ and ‘demand responsive transport’ are often regarded as interchangeable, a specific legal definition of ‘flexible bus service’ was introduced in England and Wales in 2004 as an [amendment](#) to the [Public Service Vehicles \(Registration of Local Services\) Regulations](#). These regulations are supported by guidance issued by the Traffic Commissioners, including the [Registration of Flexibly Routed Local Bus Services: guidance for operators](#) and [Operating a registered local bus service in England \(except London\) and Wales](#). Bus service registration is a devolved matter and Scotland does not currently permit ‘flexible bus services’ as conceived in the 2004 Regulations.

The current regulations for England and Wales define a flexible bus service as one which:

- Serves one or more local communities or neighbourhoods within a specific geographical area;
- While it may have fixed sections of route, is in the entirety of its operation so flexible that it is not practicable to identify in advance all the roads to be traversed at any given time;
- Is provided primarily for the purpose of carrying passengers who have booked in advance of the journey and whose collective requirements determine the route of each journey notwithstanding that other persons may also be travelling;
- Provides seats that are all available for use by members of the general public; and
- Is provided in consideration of the payment of individual passenger fares which are not subject to variation according to the number of passengers carried on the journey.

In this call for evidence, ‘flexible bus service’ refers to a service operated under these regulations and guidance. Flexible bus services can be operated by any bus operator and on a commercial basis and should not be conflated with community transport or dial-a-ride services which may operate more like a taxi or be restricted to specific groups, such as disabled or older people.

We want to update the regulations covering flexible bus services so that:

- Operators and local authorities can harness the technological changes that have taken place since 2004 to improve services;
- Innovation is encouraged for the benefit of passengers, without leaving anyone behind;
- The regulatory framework more closely reflects the types of service now being offered; and
- Any unnecessary requirements are removed.

We would like to hear your views on:

- How well the existing flexible bus regulations are working;
- Whether there are changes that could be made to make them work better, and if so, what they are; and
- What changes might be needed in the longer term to make the regulatory framework for flexible bus services better suited to meet the requirements of emerging forms of demand responsive transport.

We are also interested in the wider context of demand responsive transport and would welcome comments on services that go beyond the strict legal definition of a flexible bus service, particularly on how the two might be brought together. While we are particularly interested in changes we could make in the short term to secondary legislation ('regulations') and guidance, we are also keen to hear suggestions for changes to primary legislation ('Acts of Parliament'). However, these are likely to take longer to deliver because of the way legislation is made.

Opportunities

Flexible bus services have the ability to take passengers where they want, when they want at potentially much lower cost than a traditional fixed route, fixed timetable bus service. Providing public transport services where demand is low and the pattern of demand is diffuse is challenging. This means that flexible bus services not only have the potential to deliver benefits to towns and cities but also to rural areas.

We funded a series of [Total Transport](#) pilots which looked at how providers of NHS patient transport services, community transport and traditional bus services could integrate to develop innovative ways of delivering local transport. The pilots demonstrated that there is scope to develop new types of flexible service which could fill gaps in provision and deliver services more effectively.

There is also evidence of commercial operations using flexible bus operation to develop innovative approaches in urban areas which support the Principles in the Future of Mobility: Urban Strategy.

Case study: Oxford PickMeUp

Oxford Bus Company operates the largest dynamic demand responsive service in the UK, PickMeUp. Its minibuses serve customers in Oxford's 'Eastern Arc', picking them up from a 'virtual bus stop' within a short walkable distance of where they are.

Customers download the PickMeUp app on their smartphone, register their payment details and can then book a journey up to 20 minutes in advance. Intelligent software works out the best way to take them and other passengers to their chosen destinations. The service operates seven days a week, using vehicles which can carry up to 20 people and are equipped with USB charging points and free Wifi.

To support greener travel and ease congestion, a £2.50 surcharge (£3 during peaks) is added if the trip could be made via an existing Oxford Bus Company bus route without walking over 200 metres.

Case study: Arriva Click

ArrivaClick operates in Liverpool and Leicester, following a pilot scheme in Sittingbourne. It combines the cost effectiveness of bus travel with the convenience of personalised transit. There are no fixed routes, with journeys determined by where passengers want to go. Passengers can 'order' and track a vehicle from the app, which provides them with a guaranteed fare and allows them to choose their pick-up point and reserve a seat. Computer algorithms match passengers traveling in the same direction, dynamically routing vehicles in real time to find the optimal route for their trip.

In Liverpool, the service covers an area running from the city centre to John Lennon Airport. Arriva worked with the city transport authority Merseytravel to roll out the app-based on-demand public transport service, initially with six luxury 15-seat buses.

Challenges

The current regulations reflect the technology of the time at which they were developed. While mobile phones were becoming increasingly common, smartphones had not yet appeared. Flexible bus services were assumed to require a 'call centre' approach with potential passengers having to contact the provider by phone to arrange their journey. Nor was it possible to send route changes in real time to drivers as can be done now. The regulations and guidance also restrict the size of an area that can be covered by a flexible bus service.

The regulations also assumed a clear distinction between buses, taxis and PHVs. New approaches to providing services have emerged which blur these boundaries. The limitations of the current regulations have led some service providers to operate under private hire legislation where a regulatory regime based on bus operation may be more appropriate.

Categories of service

The existing guidance sets out three categories of flexible bus service.

- 'Many to Many' – passengers can be picked up and set down anywhere within the area of operation
- 'Many to One' – passengers can be picked up from locations within the area of flexible operation and taken to a single, fixed destination
- 'One to Many' – passengers are picked up from fixed stops outside the area of flexible operation and taken to different destinations within it.

Question 3.1

Should an updated regulatory framework for flexible bus services allow for each category of service to be regulated differently? If so, how do you think it should be regulated differently?

Registering a flexible bus service

When registering a flexible bus service, operators are required to register fixed stops and/or a geographical area of operation. A flexible service can “serve one or more local communities or neighbourhoods within a specific geographical area”. Existing guidance states that an area of operation covering the large part of a county could not be said to fall within this definition.

Question 3.2

How do you think we should define the area of operation for a flexible bus service?

Time windows

Bus services are subject to rules which govern their punctuality and reliability. For flexible bus services, when an operator accepts a booking, the vehicle must arrive at each individual passenger pick-up and destination within a maximum 20 minute time window.

This time window can work in two ways:

- a period specified by the operator (for example, the pick-up will be between 10.30 am and 10.50 am) or
- in reference to an agreed time (no more than 10 minutes before or after the agreed time – e.g. the booking is made for 10.40 am and can be between 10.30 am and 10.50 am).

Where operators are using technology to manage the despatch of vehicles, they now have the ability to provide the passenger with real time updates delivered to their smartphone, and to track a vehicle through an app.

Question 3.3

In your opinion, does the 20 minute time window to arrive at each passenger pick-up remain appropriate? If not, how should the time window be altered?

Question 3.4

Do you think operators of flexible bus services should be required to provide real-time progress updates? Please provide evidence.

Pre-booking and ad-hoc journeys

Flexible bus services are currently ‘provided primarily for the purpose of carrying passengers who have booked in advance’. While a clear majority of passengers must have pre-booked, some can be carried who have not. However, these ad-hoc passengers cannot then alter the route of the vehicle to suit their journey. This ensures that passengers who have pre-booked are able to board and that their pick-up time would not be outside the 20 minute time window.

Since flexible bus services could become the main form of public transport in some areas in future, there could be benefits in making it easier for ad-hoc passengers to use them and reducing the limits on carriage. Experience with taxi and PHV apps in recent years has indicated that the concept of pre-booking transport does not necessarily need to mean booking well in advance. PHVs can be pre-booked through an operator’s app seconds before a car in that area arrives to pick up a customer.

Question 3.5

In your opinion, how could the carriage of more ad-hoc bus passengers be encouraged without impacting negatively on the service received by passengers who have booked in advance?

Fares

A feature of conventional bus operation is that separate fares are paid which do not vary according to the number of passengers carried on the journey or other factors such as how much time it takes to get there. Allowing for the variances that occur through the workings of travel concessions and period passes, each passenger pays the same fare for the same journey regardless of how many other passengers are either already on or boarding the bus at the time the journey is made.

On the other hand, private hire services have much greater flexibility to vary their prices according to demand for services. This is prohibited on flexible bus services. However, bus operators can charge different fares at different times, reflecting the likely demand and costs of operating at that time. For example, the Oxford PickMeUp service charges a premium on Saturday nights and operators of standard bus services have often offered cheaper fares to people travelling off-peak.

The ability to use flex pricing is one attraction of the private hire vehicle regulatory regime over the flexible bus regime for new entrants to the market and encourages 'regulatory shopping', something which the Future of Mobility: Urban Strategy is looking to deter. This form of yield management could not have been anticipated when the legislative regime for flexible bus services was created. Flex pricing can, however, be controversial and the ability to vary fares in real time can be frustrating for passengers at times of high demand.

There are concerns that this approach can create problems for passengers, especially those on tight budgets, who may be unable to plan trips with certainty about whether they will be affordable.

Question 3.6

What sort of fare structure do you think should apply to flexible bus services?

Registering flexible bus services

Although flexible bus services can adjust their routing according to the bookings they receive, they are still covered by the requirement to register the basic route or area covered.

When introducing, changing or withdrawing a flexible bus service, the operator has to give at least 42 days' notice (for community bus services it is 14 days' notice) to the Traffic Commissioner. A further 28 days' pre-notification must be given to any local authority served by the service.

We are interested in views on whether the existing registration requirements remain appropriate for routes that, by their nature, are already more flexible than standard services. For example, while a deviation to pick someone up within the flexible service area can be done almost instantly, a small expansion of that area would require 70 days' notice.

Question 3.7

- a. Do you think there should be less rigid registration requirements around notice periods for flexible bus services?
- b. Which elements of the registration requirements do you think could be improved to enable flexible bus services?

Bus Service Operators Grant

The Bus Service Operators Grant (BSOG) can be claimed on eligible local bus and community transport services where stops, measured in a straight line, are 15 miles or less apart. The Government is considering a review of how BSOG works. We do not intend to make immediate changes to BSOG as a direct result of this call for evidence, but would be interested in views to help inform our work on the next stage.

Question 3.8

Do you think the Bus Service Operators Grant (BSOG) should be adjusted to accommodate the development of flexible bus services? If so, how?

Record keeping

The regulations require operators of flexible bus services to keep certain records, so that the Traffic Commissioner can view them to determine whether the operator is providing the service outlined in the service's registration. For every journey made by a vehicle operating the service, operators are required to record, and maintain for one year:

- The date the journey was made
- The names of all passengers booked to travel (whether or not they actually did) and details of how each such passenger may be contacted
- The time and place when it was agreed the passenger should be picked up and set down
- The actual time and place that each passenger was picked up and set down

Since this requirement was introduced, the Data Protection Act 2018 have been brought into force. In the light of this, we would be interested in views on whether the record keeping requirements remain appropriate and whether some could be removed or lightened.

Question 3.9

Do you think the record keeping requirements for flexible bus services are still appropriate? If not, what changes do you think should be made?

Urban and rural areas

Flexible bus services in towns are often competing with other forms of on-demand transport such as taxis and private hire services. However, they may have an important role to play in improving mobility in rural areas. Some of the Total Transport pilot schemes found that replacing standard, infrequent bus services with a more flexible demand-responsive approach could have benefits for people living in rural areas. This was particularly the case where they could be integrated with other forms of transport, such as non-emergency patient transport.

Local authorities are taking an interest in how they might more easily consider tenders for bus services where a more flexible approach could bring benefits over a wider area but the costs may be more uncertain.

We would be interested to hear views on whether and how flexible bus services might be encouraged in rural areas to ensure that these areas have access to transport, and whether a different regulatory approach should be adopted between urban and rural areas.

Question 3.10

Do you think we could use flexible bus services to improve transport in rural areas?
Please provide evidence to support your response.

Safeguarding

The use of Disclosure and Barring Service (DBS) checks varies between buses, taxis and PHVs. We recognise that the use of such checks needs to be proportionate. However, where bus operations become more flexible and new forms of demand responsive transport emerge, it could be argued that drivers of these services should be subject to DBS checks.

Standard bus services generally carry a number of people at a time and travel on defined routes, whereas taxis and PHVs often transport lone passengers in a confined space with the driver exclusively controlling the only means of exiting the vehicle. Flexible bus services and demand responsive transport tend to use smaller vehicles than traditional bus services with fewer passengers on board.

Question 3.11

What do you think would be the correct requirement for Disclosure and Barring Service (DBS) checks on flexible bus services?

Next steps

We intend to use the responses to this call for evidence to determine whether there are changes we can make in the short term to improve the flexible bus service regime. If so, we will bring forward detailed proposals to amend the regulations and guidance.

The call for evidence response will also inform further work looking at how the bus, taxi and PHV regimes are converging and what legislative framework might be appropriate in future. We would be interested in respondents' views on what areas of the bus, taxi and PHV framework we should consider in future stages of the regulatory review.

Question 3.12

- a. What areas of the bus, taxi and private hire vehicle (PHV) framework should we consider in future stages of the Future of Transport Regulatory Review?
- b. How else, in your view, can the Government support innovation in the bus, taxi and PHV sectors?

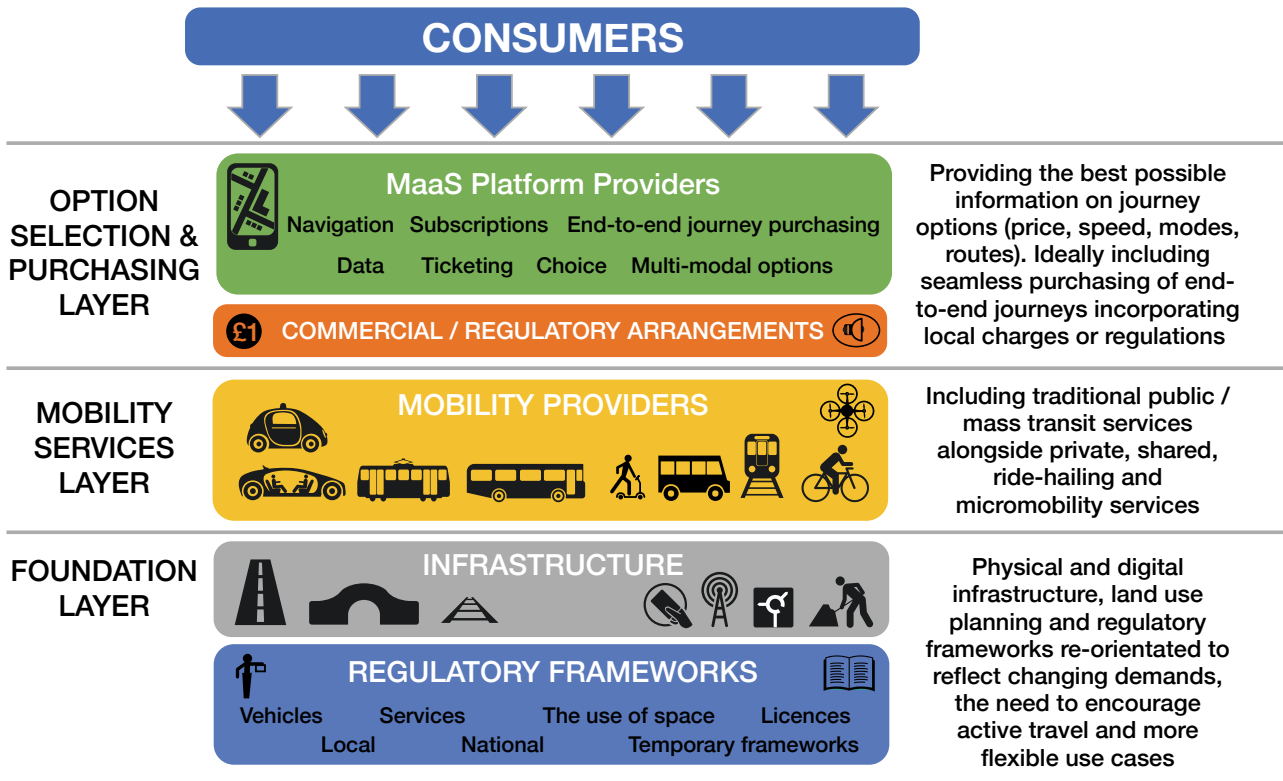
4. Mobility as a Service

Introduction

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

MaaS platforms provide a layer between mobility providers and consumers, by integrating and analysing data from multiple modes of transport to offer a choice of journeys to consumers (see Figure D). This requires service timetabling and fares data to be interoperable and available to MaaS platform providers, along with the ability for consumers to purchase tickets digitally. There are often commercial or regulatory arrangements between MaaS platform providers and mobility providers underpinning access to this data that regulation needs to be aligned with. Over time, new modes and sharing models also have the potential to be integrated within MaaS platforms. Commercial MaaS platforms tend to operate on a subscription basis.

Figure D: A conceptual model of Mobility as a Service



MaaS has the potential, through innovative approaches, to integrate a variety of transport modes, promote the use of mass transit and more sustainable travel, and improve the journey experience for consumers. We also acknowledge that there could be a number of potential risks with its development that will need to be managed.

MaaS is still in its infancy worldwide, with testing and trialling taking place alongside small-scale deployments. We recognise that some MaaS models could require large-scale commercial, cultural and market changes. From these small-scale trials, we are starting to understand the digital infrastructure requirements for these platforms to be deployed at larger scales, along with the broader social behavioural and market changes to adjust to these new service offerings. One example of a trial in Scotland, NaviGoGo, is provided in the case study box below.

Case study: NaviGoGo

Scotland's first ever MaaS pilot, NaviGoGo, was co-designed by young people, for young people, as part of the Innovate UK funded project, Pick&Mix. The six-month pilot enabled 98 young people in Dundee and North East Fife to successfully plan, book and pay for a range of travel options.

Participants were given access to streamlined and personalised information and payment (where available) for trains, taxis, bike schemes, buses, car clubs and walking, all in one single hub. They also received personalised support for their travel planning and use via social media and contact centre.

Over half (54%) of trial participants agreed or strongly agreed that NaviGoGo made their travel easier. This figure increased to 80% of trial participants indicating their travel would be easier when bus is fully integrated into NaviGoGo.

While the commercial case continues to progress, the pilot proved to have driven demand to operators, with respondents reporting an overall increase in use of all modes of transport, including taxi, bus and train.

Government is continuing to invest in trials to support MaaS, to understand how we can unlock the potential benefits of such services. The £92 million Future Transport Zones fund will support local leaders and industry to trial new mobility services, modes and models, and to understand public attitudes towards these.

Now is also an opportune time to understand whether the regulatory environment is fit for purpose to enable these platforms to emerge, along with mitigating any unintended consequences. We can do this by building a flexible regulatory framework that works in this changing digital landscape, informed by data.

Current legislation and regulation relevant to MaaS is spread across multiple levels of government and fragmented across modes. Through this call for evidence we are inviting suggestions on where regulatory changes might be required, and whether more guidance is needed to navigate existing regulation. In the following sections, we have identified a number of areas under four themes where we wish to gain further evidence on whether future regulatory intervention is required.

Question 4.1

In your opinion, in the development of Mobility as a Service platforms, what should be the role of local authorities, central government, or other transport authorities?

Digital infrastructure is in place to support innovation

Data

MaaS business models rely upon standardised and interoperable data relating to service timetables, routes, fares and ticketing. MaaS platform providers also need to allow for payment transactions so consumers can purchase tickets for journeys offered through the platform.

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

- The Bus Services Act 2017

- The Joint Rail Open Data Action Plan
- The Rail Sector Deal
- The Local Data Action Plan.

Alongside making data more accessible, the British Standards Institute is carrying out a scoping study to map the existing data landscape and explore whether current standards are fit-for-purpose in a Future of Transport context. As new modes are developed, including micromobility, we will consider any data requirements to incorporate them into a MaaS platform.

Through the Transport Data workstream of the Future of Transport Regulatory Review, we are also seeking to understand how we can embed requirements for MaaS into wider transport data developments.

While there are a number of measures underway, we would like to understand if there are any further actions which are required to enable MaaS platform providers to develop. We would like to understand if mobility providers have experienced issues in providing data to MaaS platform providers, or if MaaS platform providers have faced challenges in integrating data across multiple modes.

Question 4.2

- a. Can you provide evidence for further measures that are required for the standardisation and interoperability of data, for example the routing, ticketing and timetabling data, to deliver Mobility as a Service?
- b. Who should lead these further measures (e.g. central government, local government, industry, or other)? Please explain why.

Question 4.3

In your opinion, is the roll out of the integrated style of ticketing required to facilitate Mobility as a Service prevented by any regulatory or commercial barriers? If so, please provide details.

A fair and open market for businesses to innovate

Competition impacts

Principle 7 of the Future of Mobility: Urban Strategy is that the marketplace for mobility must be open to stimulate innovation and give the best deal to consumers. MaaS could increase choice in mobility options for consumers by facilitating access to information on the services available to them. However, there is a risk that this market could develop features which are in fact harmful to competition.

One possible risk is that incumbent mobility providers with market power could refuse to deal with MaaS platform providers with the intention of restricting competition, limiting disruptive innovation, and preserving profits.

The emergence of MaaS platforms which connect transport consumers to mobility providers through a single interface could increase the risk of individual companies developing significant market power. There may be 'network effects' for MaaS platform providers that increase the cost to users as more consumers and mobility providers use the platform.

Network effects were also identified as a risk in the recent [report by the Digital Competition Panel](#) led by Jason Furman. These network effects could eventually cause markets to ‘tip’ towards the dominant provider(s), making it very difficult for new entrants to compete. This could also lead to the lock in of consumers, even if other providers could offer better innovations or prices. The risk of market dominance is of particular concern when MaaS platform providers with significant market power aggregate user data.

A MaaS platform provider will need to operate in compliance with competition law rules, including the Competition Act 1998 and Enterprise Act 2002. Competition law rules prohibit anti-competitive agreements such as price fixing or bid rigging, and the abuse of a dominant market position, for example excessive pricing or acting in ways that exclude rivals from competing fairly.

We would like to understand if there are any further competition concerns that could arise from MaaS that are not covered by current regulations.

Question 4.4

What competition concerns do you think Mobility as a Service might present that could be difficult to address through existing regulations?

Consumer protection

While it is important that the mobility market is open, we also recognise that MaaS platform providers have several responsibilities. When travelling, consumers expect that they are adequately protected in instances where there are disruptions to their journey which are beyond their control, and this should be no different when travelling using a MaaS product.

There are currently frameworks in place to provide protection to consumers. One example of this is the [National Rail Conditions of Travel](#), which provides terms and conditions on passenger rights to refunds and compensation.

We recognise that such frameworks have been established for single-mode rather than multi-modal journeys. Consumers may be more confident in MaaS platforms if they know that their whole journey through a MaaS platform is protected, and that they would not need to engage in discussions with multiple companies to determine who is responsible for disruption to a journey.

We wish there to be as little inconvenience as possible to consumers where disagreements occur between a MaaS platform provider and a mobility provider concerning the liability for disruption that occurs to a consumer’s journey. We are interested in any evidence to understand further whether the current framework of consumer protection is adequate.

Question 4.5

In your opinion, does the current framework for consumer protection need to be expanded to include liability for multi-modal journeys? If yes, please provide evidence.

Accessible, inclusive and safe mobility

Accessibility and inclusivity

In accordance with the Future of Mobility: Urban Strategy Principles and the Department's [Inclusive Transport Strategy](#), MaaS business models should promote inclusivity to all sectors of society. If implemented effectively, new mobility services could widen the affordability, availability and accessibility of traditional and emerging types of transport. MaaS could also improve social inclusion, such as reducing loneliness through encouraging the use of public transport and ride sharing.

We also recognise the use of MaaS platforms could present a potential risk to accessibility, particularly if MaaS platforms do not allow users to specify that they are disabled. For example, for users who require wheelchair accessible vehicles or an assistance dog on their journey, there may not necessarily be an option to communicate this with the mobility operator.

A provider of a MaaS platform will need to operate in compliance with existing legislation relevant to MaaS services, including the Consumer Rights Act 2015. Also of significant importance is equalities legislation. For example, Part 12 of the Equality Act 2010 provides legal protections for disabled transport users.

We will continue to monitor how MaaS develops to understand if there are any gaps in the current legislation. For example, two areas which could require further attention are: (a) establishing responsibility for assisting disabled people to transfer between different forms of transport, if required in a journey; and (b) ensuring the accessibility of MaaS platforms and the journeys provided is not only delivered but also enforced.

Question 4.6

Could Mobility as a Service present any particular accessibility and/or inclusivity concerns which might be difficult to address through existing regulations? If yes, please provide evidence.

Digital accessibility

Access to technology will also be an important factor for the uptake of these services as transport information, booking and payment functions move onto digital platforms. To date, most MaaS platforms have been offered to consumers via smartphone applications. It is important to consider if movement to digital methods of journey planning and payment may disadvantage some consumers.

Not all sectors of society have access to smartphone applications. Research has shown that [47% of those aged 75 and over accessed the internet over a three-month period](#), and not everyone uses digital platforms for travel planning. For example, DfT's [Public Attitudes Tracker](#) has found that 86% of smartphone users have used their phone for at least one transport planning purpose. However, the Tracker survey also found that some people are less likely to use their smartphone for transport planning purposes; specifically, people in rural areas (80% versus urban areas 88%), and people aged 65 and over (69% versus a minimum of 82% in younger people). Ultimately, consideration needs to be given to those unable to access MaaS applications, whilst also recognising that not everyone wants

Question 4.7

- a. What actions could help to ensure all sectors of the population can access Mobility as a Service applications?
- b. Who do you think should be responsible for delivering these actions (e.g. central government, local government, industry, or other)? Please explain why.
- c. What do you think government could do to encourage, incentivise or enforce the delivery of these actions?

Data privacy

With new digital business models based around data, it is important that we are aware of any potential risks to personal data and privacy. While this is important from a personal security standpoint, fears over loss of privacy could cause users to give false details or withdraw consent for use, leading to missing, inaccurate or non-representative data which in turn could reduce the quality of service provided.

Data protection privacy concerns, particularly personal, identifiable data, are protected by the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. We also encourage further evidence on whether additional intervention relating to data protection is required.

Question 4.8

In your opinion, what further action is necessary, if any, to ensure that Mobility as a Service platforms provide:

- a. Safe and appropriate use of data?
- b. Protection of an individual's information?

Impacts on the wider transport system

Modal shift

New mobility business models will influence consumer travel choices. With intelligent design and incentive structures, MaaS could reduce car ownership and move people towards active and sustainable modes. In turn, this has the potential to reduce carbon and air pollutant emissions and reduce congestion through more efficient use of road space, supporting Principles 5 and 6 of the Future of Mobility: Urban Strategy.

Additionally, MaaS platform providers will generate large amounts of data relating to the services that consumers are using. This data has the potential to enable local authorities to better understand and manage the transport network and forecast user demand, improving the transport services that underpin MaaS platforms.

There is some evidence that MaaS reduces dependency on car usage. A [survey by MaaS Global](#), based on a trial of their Whim product in Helsinki, found that users made 63% of trips via public transport following the introduction of Whim, compared to the Helsinki average where 48% of all trips are made by public transport. MaaS can also make active travel models more accessible to consumers as part of an integrated package, for example by making bike hire more prominent to users. We are aware of some MaaS business models that already do this, and will continue to gather evidence around how effective these are.

Nonetheless, there is a concern that as MaaS applications make it simpler and quicker to book and pay for transport, more convenient door-to-door transport options will compete with active travel over short distances.

Increased use of new modes and taxis or private hire vehicles could also lead to the decreased use of public transport. According to data from the Department for Transport's March 2019 [Public Attitudes Tracker](#), 36% of people who had recently used Uber said they would otherwise have taken public transport.

This could reduce the ability of public authorities to subsidise marginal services in areas of low density of demand, further exacerbating inequalities in access to transport. A shift away from public transport could also increase transport emissions and increase congestion.

One measure to influence travel choices and encourage people to use more sustainable modes could be to provide users with contextual information about their travel choices. This could include factors such as the carbon impact of different travel options, alongside the estimated journey time and cost of their journey.

As further evidence becomes available about the potential service and infrastructure impacts, we will monitor whether there is any intervention required, to maximise the shifts towards more sustainable forms of transport.

Question 4.9

- a. Can you provide any further evidence of the positive or negative impacts of MaaS on active travel and/or sustainable modes? Please provide examples.
- b. Can you provide evidence of measures that could be incorporated into MaaS platforms to encourage active travel and/or sustainable modes?

Next steps

We will consider all responses to understand what, if any, further changes to regulation may be required. Any formal proposals relating to changes in regulation will be subject to further consultation.

Given the wide range of regulation underpinning transport services, we will also consider whether guidance or a Code of Practice would be useful to clarify the roles and responsibilities for different levels of government, mobility providers and MaaS platform providers.

Question 4.10

Do you think guidance or a Code of Practice for the Mobility as a Service industry would be useful? If so, what content do you believe would be beneficial to include in a Code of Practice?

5. Wider issues

There are a number of broad themes that cut across some or all of the workstreams and modal themes in the Regulatory Review.

a) Ensuring inclusive future transport

Inclusive transport and access to opportunity

Access to transport is vital to our health, wellbeing and social cohesion, as well as to a productive economy. Transport can affect our job opportunities, lifestyle, civic participation and social connections, with potential consequences for our physical and mental health. As such, [access to transport and socio-economic inequality](#) are often closely linked.

The transport options available to us, and the extent to which we can access them, are different for everyone. Access to transport varies across the UK, and often depends on local geography and population density. It also depends on factors such as our age, health, socio-economic status or physical ability.

For some, these factors can have a disproportionately negative impact on their ability to access transport. [Drivers with mobility difficulties make 40% fewer trips](#) than the average driving population, for example, and tend to travel shorter distances. This is likely to be more often out of constraint than by choice.

There are also other factors at play. If not designed with all user groups in mind, a transport service can be affordable, accessible and reliable, but some users may not feel safe or comfortable using it. For example, [49% of women report safety concerns](#) due to travelling with strangers as a drawback of ride-sharing services.

Inclusive future transport

Technological developments such as more open data, and innovations such as connected and automated vehicles (CAVs), have the potential to benefit everyone. Lower running costs enabled by automation and the transition away from conventional fuels offer the prospect of more affordable travel. Combined with greater use of more efficient, on-demand business models, this could enable more frequent and better integrated services in currently poorly connected areas.

In the [Future of Mobility: Urban Strategy](#), the Government committed its second Principle to inclusion and accessibility, stating “The benefits of innovation in mobility must be available to all parts of the UK and all segments of society”.

One way we are seeking to implement this Principle is through the Future of Transport Regulatory Review. Across all the workstreams, we are considering the role and impact of

regulation in ensuring mobility innovation delivers benefits to everyone, including groups of people with the nine protected characteristics under the Equality Act 2010: age, disability, race, religion or belief, sex, sexual orientation, pregnancy and maternity, gender reassignment and marriage and civil partnership.

This work builds upon the ambition we set out in the Government's [Inclusive Transport Strategy](#), for disabled people to have the same access to transport as everyone else, with ease, confidence, and without extra cost.

As new technologies and services change the way we use, access, and experience transport, now is an opportunity to embed accessibility and equality at the centre of the regulatory framework for new technologies and modes of travel, whilst ensuring that current protections for all passengers are respected and preserved.

Question 5a.1

Can you provide evidence of how regulatory frameworks outside of the UK have explicitly sought to improve access to transport for people with protected characteristics?

Question 5a.2

In your opinion, how can regulation of future transport technologies and services secure equitable access to transport for people with protected characteristics? Please provide examples.

The nine protected characteristics under the Equality Act 2010 are: age, disability, race, religion or belief, sex, sexual orientation, pregnancy and maternity, gender reassignment and marriage and civil partnership.

b) Enabling trials of new modes

We are considering whether the current statutory powers to provide exemptions to transport legislation are wide enough for the safe and successful trialling of new mobility modes. This includes looking at whether additional powers might be necessary to ensure successful trials or the wider adoption of new mobility modes in towns and cities.

Establishing trials of new mobility modes in real-world settings can provide safe, innovative environments in which local and national governments and industry can plot a way to seizing opportunities presented by new technologies, whilst finding solutions for managing the potential risks. They present a crucial means of gathering the evidence we need to decide whether or not we want to legalise or regulate new technologies and services on a wider scale.

We are currently investing in real-world trialling of new mobility modes through our flagship Future Transport Zones project. The zones will demonstrate a range of new mobility services, modes and models in different environments. They will focus on testing transport innovations to improve mobility for consumers. By evaluating what works, they will provide an exportable template to allow successful initiatives to be replicated in other areas.

Existing legislation is designed to accommodate existing transport modes that are permitted for public use. There is little flexibility within current legislation to accommodate the trialling of new technologies easily and efficiently. For example, for Future Transport Zones to fulfil

their full potential, it is likely to be necessary to seek exemptions to certain regulations so that certain modes, such as electric scooters, can be lawfully trialled.

To take advantage of new innovations and trial emerging technologies easily, it may be necessary to seek exemptions from certain aspects of road traffic legislation.

Question 5b.1

In your opinion, which specific areas of road traffic law might benefit from having a statutory exemption power included to help support safe trials of transport technologies? Why have you suggested these areas?

Question 5b.2

In managing the risks of allowing exemptions to transport legislation for trials, what do you believe should be the role of:

- Local authorities?
- Combined authorities or the Greater London Authority?
- National government?
- Trialling organisations?
- Other?

c) Local leadership of new transport services

Local authorities are critical in integrating mobility services into an overall local transport picture so that their benefits are maximised and their risks managed. They already hold considerable regulatory powers over the local highway network, and are responsible for planning and delivering infrastructure and services to meet local needs.

We recognise that decisions on transport needs and deployment of new mobility services should have strong involvement from local leaders to ensure the opportunities and benefits of new services are meeting the specific needs of communities and their local environment. Enforcement at the local level will also be critical in ensuring that any regulations relating to new mobility modes are effective and meaningful.

Without proper oversight in the planning and management of the deployment of new mobility services, there is a risk that local areas lose control of strategic transport decisions and investment due to an influx of new technologies in the market. For example, there are currently few powers to prevent private operators commencing dockless bike hire schemes in local areas, potentially leading to a loss of management over highway space and local amenity. With new operators and new mobility services joining the market, there is the potential for such issues to be exacerbated if not appropriately managed.

We are interested in the potential for local areas to have increased control over managing new mobility operators in their areas, helping local and regional bodies continue to make strategic transport decisions in the face of ever-advancing technology.

The regulatory landscape for devolved matters in this area is highly complex, with single-tier and two-tier local authorities, combined authorities and the Greater London Authority (GLA) having a range of relevant responsibilities across the UK. A full [report of the UK's devolution arrangements for transport in 2017](http://www.parliament.uk) is available at www.parliament.uk. The Department for Transport is working with the Ministry of Housing, Communities and Local Government to consider the implications of this for future transport. In this call for evidence, we are seeking your views on the levels at which decisions on managing new mobility technologies and services can be made most effectively.

Question 5c.1

With regard to managing new transport technologies and services, are there powers currently held by national government which you think should be devolved to local authorities, combined authorities or the Greater London Authority? If so, please provide evidence and examples.

Question 5c.2

Where the local transport authority and the local highway authority are separate local authorities (such as in London and the combined authority areas), what should be the balance of powers and responsibilities to maximise the benefits of future transport?

Question 5c.3

In this context, what role might sub-national transport bodies most usefully play, in your opinion?

Question 5c.4

In your opinion, could any non-regulatory measures help to empower local authorities, combined authorities or the Greater London Authority to manage transport innovation? Please provide examples.

d) Further areas of focus for the Regulatory Review

Eight initial areas of focus have been identified for the Regulatory Review (see page 17). We will continually reassess the focus of the Review as new technologies and business models emerge. We would welcome feedback on any proposed new priority areas of focus for the Regulatory Review based on the scale and proximity of the potential impact if regulatory issues are not addressed.

Question 5d.1

Are there any specific, urgent areas of the regulatory framework that you feel we are not addressing through the eight workstreams already announced for the Future of Transport Regulatory Review? Please provide evidence.

6. Ongoing work beyond this call for evidence

Whilst this call for evidence focuses on three of the eight priority areas (Micromobility, Buses, taxis and private hire vehicles, and Mobility as a Service), work is ongoing in the other five workstreams of the Future of Transport Regulatory Review.

Below are highlights of the activities currently being undertaken as part of those workstreams:

Roads theme

Zero emission vehicles

The move towards ultra low and zero emission vehicles is one of the global economic trends which will enhance the UK's competitiveness and build new industries of the future.

The Government's aim is to put the UK at the forefront of the design and manufacturing of zero emission vehicles. We are consulting on bringing forward the end to the sale of new petrol and diesel cars and vans from 2040 to 2035, or earlier if a faster transition appears feasible, as well as including hybrids for the first time. As part of this consultation we are asking what the accompanying package of support will need to be to enable the transition and minimise the impacts on businesses and consumers across the UK, building on the significant demand and supply side measures already in place. We plan to conclude the consultation in the summer of 2020.

In 2019 we consulted on requiring chargepoints to be built in all new homes with a parking space, smart requirements for private chargepoints, and the introduction of green number plates to raise awareness of cleaner vehicles and increase their uptake. We have doubled funding for chargepoints on residential streets for those without off street parking facilities, and we are investing in research projects to ensure that technologies for electric vehicles are developed and brought to market as early as possible and find innovative solutions.

We are working with industry to make chargepoint data freely available so that software developers can develop the tools drivers need to easily locate and access available chargepoints. Government has powers in the Automated and Electric Vehicles Act 2018 to facilitate this and is prepared to intervene to ensure a good deal for consumers if the market is too slow to deliver improvements across the entire network. Government will publish a vision in 2020 for a core network of rapid/high-powered chargepoints along the strategic road network.

Self-driving vehicles

Connected and automated vehicles (CAVs) could improve road safety and access to transport, as well as catalyse new business models and create industrial opportunities. We are keen to ensure our regulatory framework supports the safe development of CAV technology and its safe deployment in the UK.

The [Code of Practice: Automated vehicle trialling](#) supports the safe trialling and use of automated vehicle technologies and services on public roads or in other public places in the UK. We will ensure this guidance keeps pace with developments in technology, including developing a process to support those looking to safely conduct advanced trials. Alongside our work to support advanced trials the Centre for Connected and Autonomous Vehicles (CCAV) is working with colleagues in the Department for Transport and its Motoring Agencies on a system for ensuring CAVs are safe and cyber-secure called CAVPASS (CAV Process for Assuring Safety and Security).

CCAV has also asked the Law Commission of England and Wales and the Scottish Law Commission to carry out a three-year review to prepare driving laws for self-driving vehicles. In June 2019, the Law Commissions published an [analysis of responses to their first consultation](#), which focused on the need for a safety assurance system, civil and criminal liability, and the changing role of the driver. On 16 October 2019, the Law Commissions published a [second consultation](#) looking at a new regulatory framework for highly automated road passenger services, as well as how to ensure services are accessible.

In addition, the UK government engages in international regulatory discussions on connected and automated vehicles. We are active participants in the United Nations Economic Commission for Europe's Global Forum for Road Traffic Safety (WP.1) and World Forum for Harmonization of Vehicle Regulations (WP.29). In those fora we are influencing new vehicles standards and potential changes to the rules of the road, including discussions on a potential amendment to the 1968 Vienna Convention on Road Traffic.

Maritime theme

Innovation in maritime

The Maritime 2050 strategy, published in January 2019, recognised that the use of autonomy and smart shipping technologies could lead to fundamental change for the maritime sector, creating new trade opportunities, and a more efficient and sustainable maritime industry.

To bring together academia and industry to pioneer innovative regulatory solutions for Maritime Autonomous Surface Ships, we have established the Maritime Autonomy Regulation Lab (MARLab) led by the MCA. MARLab aims to identify regulatory barriers to testing and produce guidance and frameworks that will provide clarity and support flagship projects in UK waters.

Maritime 2050 also sets out the Government's vision for clean shipping in the UK. The Clean Maritime Plan, published in July 2019, is the environmental route map of Maritime 2050, outlining the UK's pathway to zero emissions shipping and delivering on the Government's Clear Air Strategy. The route map identifies ways to tackle air pollutants and GHG emissions while securing clean growth opportunities for the UK.

Commitments in the CMP include: a call for evidence on non-tax incentives to support the transition to zero-emission shipping; a consultation on whether and how the Renewable Transport Fuel Obligation could encourage the uptake of low carbon fuels in maritime; and a Maritime Emissions Regulation Advisory Service (MERAS), in place by 2020, to provide dedicated support to innovators using zero emission propulsion technologies.

Aviation theme

Drones and future flight

We are working with industry to unlock new aviation options of moving goods and people around, support growth in the aerospace sector and wider economy whilst ensuring this is done under a safe and secure regulatory and policy framework. As well as providing new mobility solutions for consumers, these also align with our long-term zero emission and sustainability goals.

Achieving this requires the right aviation policy and regulatory frameworks. We are therefore building on the overall supportive and enabling approach of the Civil Aviation Authority (CAA) to regulating innovation in the aviation sector, helping the UK capture the benefits new technology can bring to the UK whilst ensuring regulations keep the public safe. The CAA launched the Innovation Hub in 2019, which enables innovation and accelerates adoption of new technologies in the UK. A service of the hub is the regulatory sandbox where users can test and trial innovative solutions. Seven innovative companies are already working with the hub.

The Future Flight Challenge will also move forward the adoption of technologies through developing aircraft demonstrators supporting ground infrastructure and the regulation and control system required to use them safely.

With regard to spaceflight, in March 2018 the Space Industry Act 2018 gained royal assent, becoming law and paving the way for the development of a new regulatory framework. This will pave the way for new technologies to be developed and launched from the UK.

Cross-cutting theme

Transport data

Data and digital connectivity are transforming transport through travel planning apps and digital maps. Increasing amounts of data are fuelling advances in machine learning, which enables connected and automated vehicles and predictive analytics. Data can also help improve decision making and help 'nudge' behaviours. The full benefits will only be realised by the sharing of data.

The UK has a vibrant transport data sector, including an array of SMEs, developing innovative solutions to transport problems and creating customer value. There is an opportunity for the UK to build on this expertise to be a global leader in data-enabled and digital transport. However, further innovation and growth is predicated on greater data sharing and data interoperability.

The department is delivering several data workstreams that support the Future of Transport objectives: a legislative review developing proposals for streamlining and digitising of Traffic Regulation Orders, vital for the rollout of connected and automated vehicles; bus open data regulations; work to transform Urban Traffic Control Systems to multi-modal open data platforms; exploring the feasibility of a national transport metadata catalogue; a street and

road works open data platform, and work with the British Standards Institute to explore whether data standards are fit for purpose in a Future of Transport context.

We are developing a Transport Data Strategy, not only to bring the various data workstreams together, but to set out how we can create the regulatory framework and incentives to support a healthy and vibrant transport data ecosystem where innovation flourishes through data sharing and data interoperability. The Strategy is being progressed through engagement with the transport industry, including an expert data panel.

As part of this review, we want to increase the number of third party transport datasets made open or shared; to provide a framework and ecosystem which facilitates data sharing, data use and analytics; to increase the certainty around data standards; and making better use of existing levers to encourage third parties to share their data.

Annex A: Full list of questions

A1. Please note that we do not expect you to submit evidence or views in response to every question listed if not applicable.

Question 2.1

Do you think micromobility vehicles (such as those in Figure B) should be permitted on the road? Please explain why.

Question 2.2

If you can, please provide evidence to demonstrate the potential:

- a) Benefits of micromobility vehicle use.
- b) Risks of micromobility vehicle use.

Question 2.3

If micromobility vehicles were permitted on roads, would you expect them to be used instead of:

Vehicle type	Often	Sometimes	Never
Private vehicles			
Taxi or private hire vehicles			
Public transport			
Delivery vehicles			
Cycling			
Walking			
Other (please specify)			

Question 2.4

a. In your opinion, which of the following micromobility vehicles should be permitted, if any, on roads, lower speed roads, and/or cycle lanes and cycle tracks?

- All types
- Electric scooters
- Electric skateboards

- Self-balancing vehicles
 - Electrically assisted cycle trailer
 - Segway
 - Other (please specify)
- b. Please explain your choices for using micromobility vehicles (or not) on roads and/or only lower speed roads, providing evidence where possible.
- c. Please explain your choices for using micromobility vehicles (or not) on cycle lanes and tracks, providing evidence where possible.
- d. What impact do you think the use of micromobility vehicles on cycle lines and cycle tracks would have on micromobility vehicle users or other road users?

Question 2.5

Mobility scooters and pedestrian operated street cleaning vehicles are already permitted on the footway. Should any other micromobility vehicles be permitted to use the pavement or pedestrian areas? If so, which types of devices should be permitted and in what circumstances?

Question 2.6

- a) What do you think the minimum standards for micromobility vehicles should be?
- b) Should different standards be set for different types of micromobility vehicle? Please provide evidence.

Question 2.7

Are there other vehicle design issues for micromobility that you think we should be considering? Please provide examples.

Question 2.8

In your opinion, what should the requirements be for micromobility users, with regard to:

User requirements	Like EAPCs	Like mopeds	Other requirements (please provide details)
Vehicle approval			
Vehicle registration and taxation			
Periodic vehicle testing			
User driving licence			
Insurance			
Helmet use			
Minimum age			
Speed limits			

If you believe regulating micromobility vehicles like EAPCs or like mopeds would be problematic, please explain why.

Buses, taxis and private hire vehicles

Question 3.1

Should an updated regulatory framework for flexible bus services allow for each category of service to be regulated differently? If so, how do you think it should be regulated differently?

Question 3.2

How do you think we should define the area of operation for a flexible bus service?

Question 3.3

In your opinion, does the 20 minute time window to arrive at each passenger pick-up remain appropriate? If not, how should the time window be altered?

Question 3.4

Do you think operators of flexible bus services should be required to provide real-time progress updates? Please provide evidence.

Question 3.5

In your opinion, how could the carriage of more ad-hoc bus passengers be encouraged without impacting negatively on the service received by passengers who have booked in advance?

Question 3.6

What sort of fare structure do you think should apply to flexible bus services?

Question 3.7

- a) Do you think there should be less rigid registration requirements around notice periods for flexible bus services?
- b) Which elements of the registration requirements do you think could be improved to enable flexible bus services?

Question 3.8

Do you think the Bus Service Operators Grant (BSOG) should be adjusted to accommodate the development of flexible bus services? If so, how?

Question 3.9

Do you think the record keeping requirements for flexible bus services are still appropriate? If not, what changes do you think should be made?

Question 3.10

Do you think we could use flexible bus services to improve transport in rural areas?

Question 3.11

What do you think would be the correct requirement for Disclosure and Barring Service (DBS) checks on flexible bus services?

Question 3.12

- a) What areas of the bus, taxi and private hire vehicle (PHV) framework should we consider in future stages of the Future of Transport Regulatory Review?
- b) How else, in your view, can the Government support innovation in the bus, taxi and PHV sectors?

Mobility as a Service (MaaS)

Question 4.1

In your opinion, in the development of Mobility as a Service platforms, what should be the role of local authorities, central government, or other transport authorities? Please provide details.

Question 4.2

- a) Can you provide evidence for further measures that are required for the standardisation and interoperability of data, for example the routing, ticketing and timetabling data, to deliver Mobility as a Service?
- b) Who should lead these further measures (e.g. central government, local government, industry, or other)? Please explain why.

Question 4.3

In your opinion, is the roll out of the integrated style of ticketing required to facilitate Mobility as a Service prevented by any regulatory or commercial barriers? If so, please provide details.

Question 4.4

What competition concerns do you think Mobility as a Service might present that could be difficult to address through existing regulations?

Question 4.5

In your opinion, does the current framework for consumer protection need to be expanded to include liability for multi-modal journeys? If yes, please provide evidence.

Question 4.6

Could Mobility as a Service present any particular accessibility and/or inclusivity concerns which might be difficult to address through existing regulations? If yes, please provide evidence.

Question 4.7

- a) What actions could help to ensure all sectors of the population can access Mobility as a Service applications?
- b) Who do you think should be responsible for delivering these actions (e.g. central government, local government, industry, or other)? Please explain why.
- c) What do you think government could do to encourage, incentivise or enforce the delivery of these actions?

Question 4.8

In your opinion, what further action is necessary, if any, to ensure that Mobility as a Service platforms provide:

- a) Safe and appropriate use of data?
- b) Protection of an individual's information?

Question 4.9

- a) Can you provide any further evidence of the positive or negative impacts of Mobility as a Service on active travel and/or sustainable modes? Please provide examples.
- b) Can you provide evidence of measures that could be incorporated into Mobility as a Service platforms to encourage active travel and/or sustainable modes?

Question 4.10

Do you think guidance or a Code of Practice for the Mobility as a Service industry would be useful? If so, what content do you believe would be beneficial to include in a Code of Practice?

Wider issues

Ensuring inclusive future transport

Question 5a.1

Can you provide evidence of how regulatory frameworks outside of the UK have explicitly sought to improve access to transport for people with protected characteristics?

Question 5a.2

In your opinion, how can regulation of future transport technologies and services secure equitable access to transport for people with protected characteristics? Please provide examples.

Enabling trials of new modes

Question 5b.1

In your opinion, which specific areas of road traffic law might benefit from having a statutory exemption power included to help support safe trials of transport technologies? Why have you suggested these areas?

Question 5b.2

In managing the risks of allowing exemptions to transport legislation for trials, what do you believe should be the role of:

- Local authorities?
- Combined authorities or the Greater London Authority?
- National government?
- Trialling organisations?
- Other?

Local leadership of new transport services

Question 5c.1

With regard to managing new transport technologies and services, are there powers currently held by national government which you think should be devolved to local authorities, combined authorities or the Greater London Authority? If so, please provide evidence and examples.

Question 5c.2

Where the local transport authority and the local highway authority are separate local authorities (such as in London and the Combined Authority areas), what should be the balance of powers and responsibilities to maximise the benefits of future transport?

Question 5c.3

In this context, what role might sub-national transport bodies most usefully play, in your opinion?

Question 5c.4

In your opinion, could any non-regulatory measures help to empower local authorities, combined authorities or the Greater London Authority to manage transport innovation? Please provide examples.

Question 5d.1

Are there any specific, urgent areas of the regulatory framework that you feel we are not addressing through the eight workstreams already announced for the Future of Transport Regulatory Review? Please provide evidence.

Annex B: Consultation principles

The consultation on this call for evidence is being conducted in line with the Government's key consultation principles. Further information is available at <https://www.gov.uk/government/publications/consultation-principles-guidance>

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

Consultation Co-ordinator

Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR

Email consultation@dft.gov.uk