



TAXI!

**ISSUES AND OPTIONS
FOR CITY REGION TAXI AND
PRIVATE HIRE VEHICLE POLICY**





The Urban Transport Group

represents the seven strategic transport bodies which between them serve more than twenty million people in Greater Manchester (Transport for Greater Manchester), Liverpool City Region (Merseytravel), London (Transport for London), Sheffield City Region (South Yorkshire Passenger Transport Executive), the North East (North East Combined Authority), West Midlands (Transport for West Midlands) and West Yorkshire (West Yorkshire Combined Authority). The Urban Transport Group is also a wider professional network with associate members in Strathclyde, Bristol and the West of England, Tees Valley and Nottingham.

CONTENTS

1	Executive summary	4
2	The nature of the taxi and private hire markets	5
3	The legislative and policy framework for the taxi and PH sectors	10
4	The case for a strategic approach to taxis and PHVs by transport authorities	18
5	Issues and options for a strategic approach to taxis and PHVs	32
6	A reformed national framework for taxi and PHV policy	38
7	Conclusion	40
8	Acknowledgements & references.....	41

EXECUTIVE SUMMARY

1

- 1.1** Taxis and Private Hire Vehicles (PHVs) play an important and growing role in transport provision. They also have a significant impact on wider urban public policy goals and challenges including air quality and carbon emissions; public safety; the urban realm; traffic congestion; and social inclusion.
- 1.2** The taxi and PHV markets are growing and changing. Significantly they are on the front line of transformative social and technological change, and where new business models are being introduced, driven by a new breed of Transportation Network Companies. From York to New York and all around the world, taxi markets are being transformed. Indeed, in the future it's possible that these markets could also be first in line for automation as well as play a key role in a shift to 'Mobility as a Service' where transport transitions to becoming shared and on demand.
- 1.3** Yet despite this, the role of taxi and private hire services are often neglected (both nationally and locally) in wider strategic transport planning. And at the same time the sector is subject to a regulatory framework that is complex, contested and struggles to cope with a rapidly changing world.
- 1.4** In short, taxi and PHV policy has been in the 'too difficult' basket at both national and, in many cases, local level, for too long and with rising concerns over air quality, public safety, congestion, the implications of technological change – as well as conflict between new and incumbent providers - the time is right for a more strategic approach to be taken.
- 1.5** In this report, which focuses on England, we seek to provide a framework for this process by:
- Showing how the taxi and private hire sector is changing and growing;
 - Summarising the current legal framework for taxis and PHVs and the issues that arise from it;
 - Showing how changes in the taxi and private hire sector relate to a series of wider public policy goals;
 - Providing examples of the approach that cities in the UK and the wider world have taken to influence or direct their local taxi markets (either across the board or in relation to particular issues like environmental impact or public safety).
- 1.6** In doing so, we make the case for a more strategic approach to the sector coupled with legislative reform.
- 1.7** Having said that this report does not seek to recommend any one approach that all transport authorities should adopt for their local taxi and private hire sector. In a fast changing sector it is right that different authorities should be free to adopt their own policies which reflect local circumstances, priorities and aspirations. Instead what the report does is seek to inform the basis for those decisions.
- 1.8** However, we also make the case for the Government to do its part by making key reforms to the national legal framework for taxis and PHVs.

THE NATURE OF THE TAXI AND PRIVATE HIRE MARKETS

2

- 2.1** The taxi and private hire (PH) markets in England have a diverse and complicated make up. For the purposes of this report we describe these markets as being made up of two different legal models and three different types of operation.
- Taxis, or 'hackney carriages', which are licensed to operate from ranks, and can be hailed on-street;
 - Private Hire Vehicles (PHVs), which must be booked; and
 - A third type of operation is a new, app-based, business model, including Uber and others, often referred to as Transportation Network Companies (TNCs) which in the UK normally operate under the legal framework which applies to PHVs (however this can be a contested area which we explore later in this report).
- 2.2** Table one provides more details on the distinguishing features of taxis and PHVs.
- 2.3** Demand responsive transport (DRT), such as 'dial-a-ride' services, which are typically used by specific groups, such as the elderly or those with mobility difficulties, have some similarities to PHVs operation. And some TNC type operations by bus operators, look a lot like DRT but are licensed through PHV legislation, thus further blurring the lines. However, to keep this report focussed we will not explore issues around DRT services in any detail.

- 2.4** As of 2017, there were just over 80,000 licensed taxis in England and Wales, of which 21,300 were in London. There were 210,000 licensed PHVs in England and Wales, of which nearly 88,000 were in London (DfT, 2017e, TAXI0101). Figure one shows the taxi and PHV markets in England's metropolitan areas. This demonstrates the variability between regions with some areas having a greater share of taxis to PHVs.

DISTINGUISHING BETWEEN TAXIS AND PHVs

Characteristics of Taxis:

- Can ply for hire and be hailed on-street or from a taxi rank
- Can be pre-booked through a radio circuit (the radio network used for taxi bookings such as 'Dial a Cab') or smartphone app (Hailo or Gett)
- Fares tend to be regulated
- Fares are calculated by meter (taximeter)
- Vehicles are often wheelchair accessible with additional accessibility features

Characteristics of PHVs:

- All journeys must be booked through a licensed private hire operator
- Cannot 'ply for hire' or use taxi ranks
- Fares tend to be unregulated, although fares are typically distance based
- Wide range of vehicles available, including minicabs, chauffeur and executive cars, limousines

Table one – Distinguishing factors between taxis and PHVs

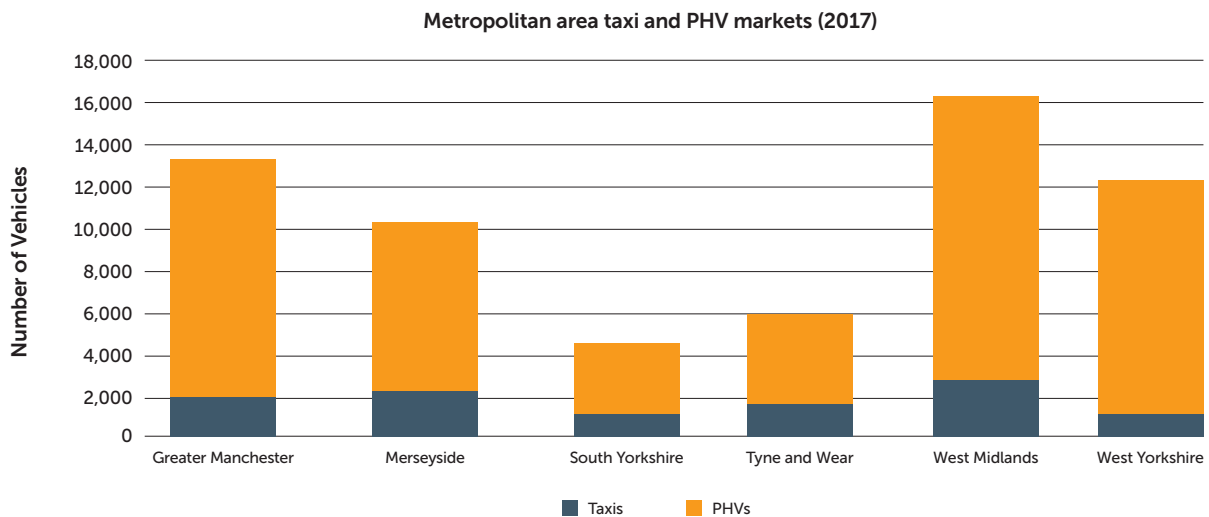


Figure one – Taxi and PHV markets in England’s metropolitan areas. *Source: DfT Statistics Table TAXI0104 (DfT, 2017e)*

- 2.5** Figure two shows the numbers of taxis and PHVs in England and Wales since 2005 and demonstrates the rapid growth in PHVs in the city regions since 2013. Within the metropolitan areas, outside London, there were 63,000 licensed taxis and PHVs in 2017 (DfT, 2017e, Table0104). In the West Midlands, there has been a 45% increase in licensed PHVs since 2015 (*ibid.*).
- 2.6** More recent data is available for taxi and PHV licensing in London and shows a 78% increase in PHV driver licences since 2013/14 (TfL, 2017a). Over the same time period, there has been a 19% reduction in the number of PHV operators in London (*ibid.*). On average, there is now one PHV in London for every one hundred people (DfT, 2017e). Both of these trends are likely associated with the growth of new entrant TNCs in the capital.
- 2.7** Taxis and PHVs are an important component of the transport system, with people in England making an average of 10 trips per year by taxi or PHV in 2014, compared to an average of around 60 trips by bus (DfT, 2016, NTS Table 0303). While this represents a small proportion of the overall trips made (around 1%), taxis and PHVs are often taken when and where other transport alternatives are not available, such as late at night or to destinations which are not served by the public transport network.
- 2.8** Taxis and PHVs are also more heavily used by socially disadvantaged groups due to a lack of alternative transport options (Lucas et al, 2016). Taxi trips make up an average mode share of 1.2% in their sample; for elderly persons this rises to 1.5%, for unemployed persons 1.7% and for those with mobility difficulties 3% (*ibid.*).
- 2.9** The national average fare for a two mile taxi journey is £5.75 as of January 2017, with the highest fares at Luton Airport (£9.20) (PHTM, 2017a). Table two shows the average fare for a two mile taxi journey in England’s city regions.

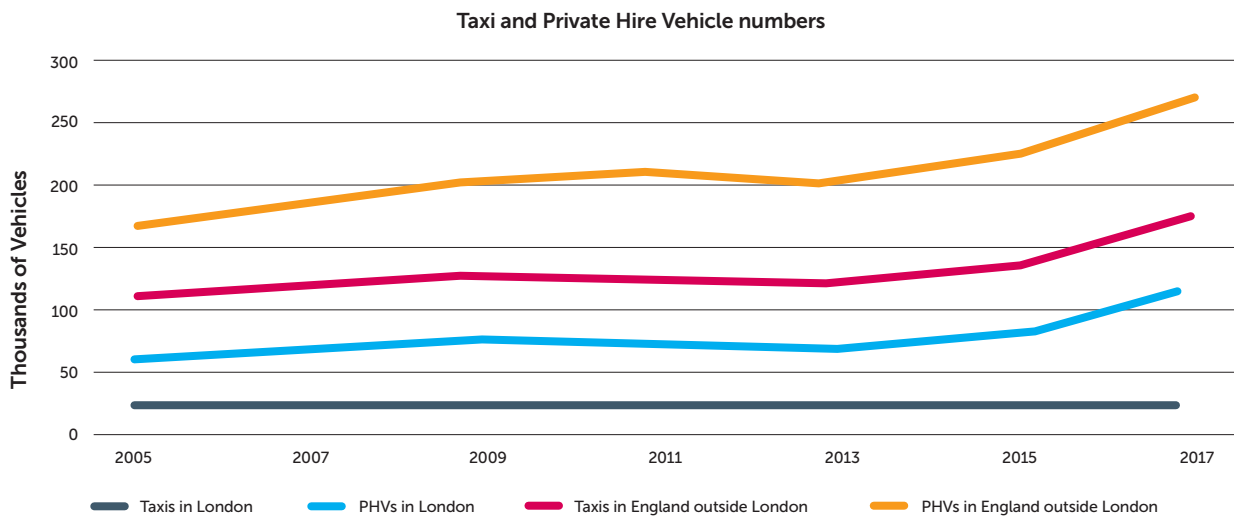


Figure two – Numbers of Taxis and PHVs. Source: DfT Taxi Statistics, 2017e, Table TAXI0101

2.10 Taxis and PHVs also play an important role in local authority procured transport, particularly for home to school travel, social care and non-emergency patient transport where there isn't a suitable public transport alternative. The scale of use of taxis and PHVs by the public sector, and associated costs, is not known (as the evidence base is weak), but is likely to be significant.

2.11 It's also important to note that the taxi and PHV markets can vary considerably in different places, both in terms of the local licensing regime (an issue we discuss in Section three) but also in the degree of competition. In some areas the market may be dominated by a single large operator whereas in others there can be many small local providers.

AREA	AVERAGE FARE FOR A 2 MILE TAXI JOURNEY
Greater Manchester	£5.54
London	£7.20
Merseyside	£4.80
Tyne and Wear	£5.34
South Yorkshire	£5.28
West Midlands	£5.96
West Yorkshire	£5.35

Table two – Average taxi fares for a two mile journey in England's city regions

THE ARRIVAL OF TRANSPORTATION NETWORK COMPANIES (TNCs) IN THE TAXI AND PH MARKET

WHAT?

There are a number of emerging business models, particularly mobile app based transport services, which are disrupting the traditional taxi and PHV sectors. These are referred to by some as Transportation Network Companies (TNCs) defined as 'firms that match drivers to passengers using an online-enabled app' (Meaney, 2014).

In the UK, TNCs are licensed under PH driver, vehicle and operator regulations.

WHO?

There are a number of TNC players, but the largest global TNC is Uber, valued at \$60 billion at the end of 2015 (Forbes, 2015). They have attracted a wide range of venture capital backers.

TNC type approaches are being adopted by existing taxi and PHV operators, as well as bus operators in the UK. For example Stagecoach in the North East has launched an 'Uber-style app'.

WHERE?

Uber now operates in over 600 cities worldwide, including 20 UK cities (Uber, 2017).

Lyft, Uber's largest global rival, has yet to enter the UK market.

Other TNC type operations have emerged in the UK at a local level, such as the Stagecoach app and 'Slide' in Bristol (www.slidebristol.com, LTT, 2016).

Our intention is to make Uber so efficient [and] cars so highly utilized that for most people it is cheaper than owning a car.

Uber's former CEO on Twitter in 2015
(The Telegraph, 2016)

WHY DO TNCs MATTER?

The growth in TNC operations, both globally and in the UK, has been dramatic over recent years. While there are no definitive figures for this growth, recent data for taxi and PHV licensing in London shows a growth in PHV driver licences of 78% between 2013/4 and 2017 and a reduction in the number of PHV operators (TfL, 2017). These trends are likely associated with the growth in TNC operations in the capital. Therefore they are clearly important players in the urban mobility landscape and must be considered accordingly.

TNCs also have ambitions beyond the taxi and PH markets. Uber are currently developing autonomous vehicles, with the goal of delivering a driverless fleet by 2030 (Goddin, 2015). They are beginning trials of autonomous vehicles in Pittsburgh, Pennsylvania, with the goal to be cheaper per mile than a standard car (Wong, 2016). Lyft are also working on driverless cars in collaboration with General Motors (Newcomer, 2016).

THE CASE FOR TNCs

- TNCs offer convenience and ease of use for consumers
- The presence of TNCs within a city offers greater consumer choice
- Use of an app creates security of payments, a record of vehicle location at all times and identifies the driver to the passenger
- Greater flexibility offered by TNCs reduces the need for private car ownership
- TNCs offer flexible employment opportunities
- TNCs are able to fill in the gaps in the public transport network, serving locations that might not be covered or offering services outside the times of traditional public transport

THE CASE AGAINST TNCs

- TNCs' operating models mean that pricing does not always reflect costs. This unfair competition can undermine or eliminate existing PHV operators, leading to TNC market dominance
- TNCs lock urban mobility into a car dependent system
- Artificially low fares can undercut existing public transport systems
- Their model for employment, drivers being self-employed partners, does not provide secure jobs with suitable employee benefits such as sick pay, holidays etc.
- The increased number of vehicles associated with TNCs' operation contribute to worsening congestion and associated problems such as poor air quality
- Flouting and gaming of the locally determined, and democratically accountable, regulatory frameworks for taxi and PH provision
- Tax arrangements which circumvent national and local regimes

EMBRACE, ADAPT OR BAN? HOW HAVE DIFFERENT CITIES, REGIONS AND COUNTRIES MANAGED TNCs?

Altamonte Springs, Florida

Uber trips are being subsidised as part of a \$500,000 pilot scheme. Trips within the city boundary are offered a 20% discount rising to 25% for trips starting or ending at the local light rail station (Sission, 2016). This supports transit use.

Colorado

Lyft have been working with transit agencies in the USA, including in Centennial, Colorado, to develop partnerships where local governments can subsidise Lyft trip fares (Brustein, 2016). This aims to increase transit ridership and meet social inclusion objectives.

Brazil

New regulations in Brazil will give city authorities the power to authorise or refuse Uber's operations. The new legislation will also enable authorities to collect taxes and require employee benefits for drivers (PHTM, May 2017).

Denmark

Increasingly tight regulations around vehicle standards and employment rights led Uber to withdraw from Denmark in April 2017 (PHTM, May 2017).

Italy

In April 2017 Italy issued a nationwide ban on Uber, citing unfair competition from the TNC (Statt, 2017).

THE LEGISLATIVE AND POLICY FRAMEWORK FOR THE TAXI AND PH SECTORS

3.1 The primary difference between taxis and PHVs, in a legal and regulatory sense, is that PHVs must be booked, whereas taxis can be hired on the street and may ply for hire at taxi ranks. However as set out earlier in this report the legal framework which underpins this primary distinction is complex and contested. The regime for London is also different to the rest of the country. There is also considerable leeway for local variation outside of London as the national minimum standards are generally low but local councils are able to set higher standards for licensing where they see fit. This is further complicated by the fact that vehicles and drivers licenced in one area can operate in other areas (which may have different licence conditions) and that enforcement of licence conditions can only be carried out by the authority that provided the licence.

LICENSING OF TAXIS, PHVS, THEIR DRIVERS AND OPERATORS

England and Wales outside London

3.2 In England and Wales, taxis and their drivers are licensed by local councils, as the licensing authorities, under the Town Police Clauses Act 1847 or that Act as amended by the Local Government (Miscellaneous Provisions) Act 1976. PHVs, drivers and operators are licensed under the 1976 Act (Butcher, 2015).

3.3 For taxi and PHV drivers, the only national statutory requirement is that applicants are deemed a 'fit and proper person' (HM Government, 1976). Best practice guidance suggests that this is established through a criminal records check but this is not mandatory (DfT, 2010). Table three provides more details about the requirements that licensing authorities may place on drivers of taxis and PHVs including medical conditions, topographical knowledge and disability awareness training, however these are options for local specification rather than a mandatory requirement.

3.4 In order to obtain a PH operator licence a person must be deemed 'fit and proper' to hold an operator licence (HM Government, 1976). Operator licences are issued for no more than five years (ibid).

3.5 Vehicles used for taxi and PHV operation must meet wider legal requirements for roadworthiness. For PHVs the licensing authority should be satisfied that the vehicle is:

- Suitable in type, size and design for use as a PHV;
- Not of such design and appearance to lead any person to believe that the vehicle is a hackney carriage;
- In a suitable mechanical condition;
- Safe; and
- Comfortable (HM Government, 1976).

Specifications for vehicles used as taxis are set locally, they may be the traditional London black cabs or other vehicles, and there are often requirements around the colours of vehicles so they are easily recognisable as taxis.

3

	TAXI	PRIVATE HIRE
Criminal records	Drivers must be deemed a 'fit and proper person'. This is usually established through an enhanced criminal record check however there is no statutory requirement for a criminal record check.	
Disability awareness training	No statutory requirement however 32% of licensing authorities require disability awareness training for taxi drivers and 28% require it for PHV drivers (DfT, 2015a, TAXI0106).	
Topographic knowledge	<p>In London, taxi drivers must take 'The Knowledge' test, an extensive topographical examination.</p> <p>Outside London, topographical tests can be made a requirement by the licensing authority</p>	<p>Topographical skills assessment required within London.</p> <p>Outside London, topographical skills tests can be made a requirement by the licensing authority</p>
Medical	<p>In London, Group 2 standard of medical fitness to drive required for both taxi and PHV drivers.</p> <p>Outside London this is an optional specification although Group 2 is recommended by DfT as best practice.</p>	
Enhanced driver training	No statutory requirement, some areas do require additional driver training though this is not a requirement in London. Some licensing authorities require drivers to pass a driving test in a licensed taxi or PHV.	
Safeguarding	Some licensing authorities require drivers to undergo safeguarding training, though this is not a requirement in London	
Age	<p>In London, taxi and PHV drivers must be aged 21 or over, with no upper age limit.</p> <p>Outside London there is no statutory requirement on age limit.</p>	
Other	n/a	In London, an English language test has been introduced for PHV drivers

Table three – What is regulated and what is not? - Drivers

- 3.6 The DfT provides additional guidance in relation to the interpretation of these legal requirements (DfT, 2010).
- 3.7 Councils are able to limit the number of licenses for taxis (not for PHVs) under Section 37 of the 1847 Act (Butcher, 2014). Section 16 of the 1985 Transport Act amended this to require authorities to prove that there is no significant unmet demand before refusing a licence in order to restrict numbers of taxis (HM Government, 1985; Butcher, 2014).

London

- 3.8 Within London, taxis and PH services are licensed by TfL, rather than borough councils, as is the case elsewhere. Because TfL are both the licensing authority and the strategic transport body it allows taxi and PHV licensing measures to contribute to wider strategic transport goals, such as improving air quality.

- 3.9 Taxis and their drivers are licensed under the Metropolitan Public Carriage Act 1869 and London Cab Order 1934 (Butcher, 2015). TfL also sets the standards for taxi vehicles, drivers and fare levels (ibid.).
- 3.10 PHVs, drivers and operators are licensed by TfL under the Private Hire Vehicles (London) Act 1988 (Butcher, 2015).
- 3.11 TfL, unlike other licensing authorities outside London, does not have the powers to limit numbers of taxi licenses (Butcher, 2015).
- 3.12 London is active in using its licensing powers and other policy levers over the taxi sector. In 2016, TfL produced a taxi and PHV action plan to help raise standards and improve taxi and PH services in the capital. The plan included 27 measures under five key themes:
 - Enhancing public safety;
 - New initiatives for the taxi trade;
 - Delivering the greenest taxi fleet in the world;
 - Lobbying for additional powers; and
 - Improving engagement with TfL.

	TAXI	PRIVATE HIRE
Vehicle standards	<p>Within London, taxis must meet the Metropolitan Conditions of Fitness, which state turning circle, vehicle length and partition between passenger and driver compartments. Vehicles must be less than 15 years old. The introduction of ULEZ will impose additional requirements.</p> <p>Outside London vehicle standards are locally set including colour, emission standards etc. 70% of authorities impose an age limit on taxis (DfT, 2015a, TAXI0106).</p>	<p>Within London, PHV vehicles must be no older than five years and meet Euro 4 emission standards for a new license, and be no older than 10 years for existing licensees. The introduction of ULEZ will impose additional requirements.</p> <p>Outside London detailed requirements are set locally but vehicles must be suitable, safe and comfortable according to the 1976 Act. 66% of licensing authorities impose an age limit on PHVs (DfT, 2015a, TAXI0106).</p>
Vehicle accessibility	<p>Within London, taxis must be wheelchair accessible. Outside London, just under 60% of authorities require that at least part of the taxi fleet is wheelchair accessible (DfT, 2015a, TAXI0106).</p>	<p>No requirements.</p>

Table four – What is regulated and what is not? - Vehicles

3.13 We will discuss the reasoning behind, and implications of, some of these measures later in the report.

3.14 In London, a new 'Ultra Low Emission Zone' (ULEZ) will be implemented from September 2019, with changes to the vehicle licensing requirements for taxis and PHVs coming into force from January 2018 (TfL, 2016a). The main features of the new taxi and PHV requirements in relation to ULEZ are that from 1st January 2018 all newly licensed taxis must be Zero Emissions Capable (ZEC) and from 1st January 2023 all newly licensed PHVs (of any age) will need to be ZEC.

Enforcement

3.15 The licensing authority is also responsible for enforcement of licence conditions. They can suspend or revoke licences and refuse their renewal where drivers and operators have not met expectations or have breached licensing conditions¹ (Butcher, 2015; Law Commission, 2014).

3.16 Licensing authorities are also able to bring criminal charges against offending drivers (*ibid.*).

3.17 However, it is important to note that licensing officers are only able to enforce against drivers, vehicles and operators licensed within their own area, and have no powers of enforcement against those licensed elsewhere (*ibid.*). This leads to problems relating to cross border hiring which are discussed further in this section and Section Four.

Best Practice Guidance

3.18 The DfT produces best practice guidance for taxi licensing authorities to support them in developing their licensing policies at a local level and in interpreting the ambiguities in the relevant legislation. However the guidance stops short of prescription leaving the onus on licensing authorities to set any more detailed requirements beyond the national legal minimums as they see fit.

3.19 Other organisations provide wider guidance on taxi and PHV licensing best practice, including the Local Government Association (LGA, 2015). The Low Carbon Vehicle Partnership (LowCVP) also provides some guidance on reducing emissions from the taxi and PHV fleets (LowCVP, 2015).

The 2015 Deregulation Act

3.20 The 2015 Deregulation Act amended the standard duration for taxi and PHV driver licences to three years, and five years for PHV operator licences. It also allowed PHV operators to subcontract a PHV booking to another operator who can be located in a different licensing district (Butcher, 2015).

3.21 The option of subcontracting was intended to allow operators to more effectively meet passenger needs and grow their businesses (Butcher 2015). The Law Commission review (see below) also supported this, although they also recognised the need to reform enforcement regulation to allow officers to enforce vehicles not licensed within their own areas (Law Commission, 2014).

3.22 This decision to allow PHV operators to subcontract bookings has been criticised by some for removing control and choice from passengers and encouraging problematic cross-border hiring activities (Neal, 2016).

¹ It should be noted that, at the time of writing, TfL has taken the decision not to re-issue Uber's operating licence in London on the basis that they are not 'fit and proper' to operate (TfL, 2017c). However this is subject to legal challenge by Uber.

The Law Commission review of taxi and PHV services

- 3.23** In 2011-12 the Law Commission, at the request of the DfT, examined the legislative framework for taxis and PHVs. The subsequent report, published in 2014, made 84 recommendations. Their key argument was to retain the two-tier system of licensing for taxis and PH, but to shift the power balance from the local to the national.
- 3.24** For PH, they recommended that national standards were set with no local conditions. However, they recommended that licensing authorities retain powers to set taxi standards above a national statutory minimum.
- 3.25** Other key recommendations made by the Law Commission include mandatory disability awareness training; allowing licensing officers to undertake enforcement activities on vehicles from outside their licensing area; and a statutory definition of 'pre-booking'.

Key issues that arise from the current legal framework

- 3.26** The key issues that arise from the current legislative and regulatory framework, and which underpin much of the debate on the future of sector, are:
- Standards, controls and enforcement in relation to the licensing of drivers, vehicles and operators;
 - Where responsibility for licensing sits;
 - Whether or not the current legislation is fit for purpose in an era of rapid technological change and when new models for the use of hired and shared vehicles are emerging.

Standards, controls and enforcement

- 3.27** As we have shown, the existing legislative and regulatory framework has grown up in an incremental way over the years. There is a national framework which sets out relatively low baseline requirements and standards for taxi and PHV provision and operation outside London and a relatively high degree of autonomy for local authorities to set higher local standards, or not, as they see fit.
- 3.28** This has the advantage of allowing individual areas to set standards in line with their own aspirations and circumstances. For example in areas where there are issues around air quality (such as in a large city) standards can be set which may not be so imperative for rural areas. Similarly, a large urban area may wish to set relatively demanding standards for where there are monopoly operators which are well resourced. However in a more rural area served by multiple small operators (including one or two vehicle family firms) on low margins such standards may not be relevant or achievable.
- 3.29** At the same time the low national baseline standards can limit progress in key areas, like accessibility for people with disabilities.
- 3.30** The balance between national standards and local autonomy is complicated by the fact that vehicles licensed in one local authority area can also operate in another local authority area. This means that a vehicle that is licensed in an area which sets low standards for entry (in terms of vehicle, driver and operator licensing conditions) can operate in an area which sets much higher standards.

3.31 This in turn can lead to:

- A variability in the standards that taxi and PHV users experience in any given area;
- A race to the bottom given that taxi and PHV providers can seek licences in areas with the lowest standards; and
- Risks to users from taxi and PHVs licenced in areas with the lowest and laxest standards.

3.32 The scale of the cross border licencing issue is illustrated by Rossendale (Lancashire) which has seen a huge growth in its numbers of licensed taxis and PHVs. It now has the highest number of taxis and PHVs per 1,000 people, at 32, (the next highest is Uttlesford at 18 taxis and PHVs per 1,000 people) compared with the average figure for England of five per 1,000 people (DfT, 2017e, TAXI0105). These vehicles are often seen operating outside the area where they were licenced. However recently Rossendale Borough Council has taken steps to address this issue by tightening up on license conditions specifically to deter the licencing of vehicles in the area if they are not going to be predominantly used there (BBC, 2016a).

3.33 At present, enforcement represents a challenge for licencing authorities, as they are only able to undertake enforcement action on vehicles and drivers licenced in their own areas. Therefore, there may be vehicles operating across borders, which do not meet locally set standards and requirements, but over which licencing and enforcement officers have no powers.

Where licencing sits

3.34 In London taxi and PH licencing is at the city region level, whereas elsewhere in England it is at the local council level. Having taxi licencing at the city region level in London means that it sits alongside wider strategic transport planning (including London's strategic highways, bus, tube and some urban rail services) as well as other relevant policy areas including public safety and air quality. A practical example of the benefits of this approach is that of air quality, where the introduction of an ULEZ and other air quality policies has been fully coordinated with changes to the taxi and PHV licencing regime alongside wider policies on improving and investing in the taxi and PHV sectors.

3.35 In other city regions (even where there is a Combined Authority (or Mayoral Combined Authority) and a city region-wide strategic transport Authority) responsibility for taxi and PHV licencing sits at a lower tier.

The illustration below shows how, despite being part of a wider combined authority in Greater Manchester, the four example districts have different pricing and policies for PH licences².

Transformative technological change and new business models

3.36 Rapid technological change is transforming the taxi and PH sectors, whereas the current legislative framework has grown organically from initial legislation to regulate horse drawn carriages in London, into the patchwork of legislation we have to date.

² Fees correct May 2017, taken from www.bolton.gov.uk/website/Documents/LICENSING%20Fees%20AND%20CHARGES.pdf; <https://wigan.gov.uk/Business/Licensing-Permits-Registrations/Taxi-licence-fees.aspx>; www.bury.gov.uk/index.aspx?articleid=10980; www.manchester.gov.uk/info/20094/taxis_and_privatehire/7157/taxi_licence_fees



- 3.37** New business models create challenges for the legislative and policy framework though, in the UK, TNC new entrants have tended to be licensed through the existing PH legislation. However, differences in the ways that they operate raise issues which include:
- Whether booking a vehicle through an app equates to 'pre-booking' (for which there is no statutory definition) or is a kind of virtual hail, thus circumventing the need for a PH to be booked;
 - The scale of operation by new entrants, without local offices and premises, and the global nature of TNCs mean that they can often seem faceless to both licensing authorities and consumers;
 - Cross border hiring issues, which are not confined to TNC operation, but the national and global nature of these new entrants enhance the problem and associated enforcement issues;
 - The pace of change in this dimension of the taxi and PH market creates a challenge for legislation and regulatory requirements to keep up;

- The scale of the growth in vehicles associated with TNCs is challenging for both licensing authorities and strategic transport bodies, and licensing authorities have no powers to limit the number of PH vehicles licensed;
- Technology can be used to circumvent licence requirements, such as the example of Uber's use of the Greyball software, which was used to 'thwart regulators' (della Cava, 2017).

3.38 The Law Commission review sought to reform the taxi sector, but the pace of change since their proposals in 2014, and the lack of government response in the interim, means that their recommendations risk being overtaken by events.

3.39 In addition, there are disputes around the employment of drivers on TNC platforms and the Taylor review into modern working practices highlighted that "we should be clearer about how to distinguish workers from those who are legitimately self-employed" (Taylor et al, 2017). This is explored further in Sections Four and Five.

THE CASE FOR A STRATEGIC APPROACH TO TAXIS AND PHVS BY TRANSPORT AUTHORITIES

4.1 In this report we have shown how the taxi market is growing and changing, as well as the issues and disputes that arise from the existing legislative and regulatory framework.

4.2 In this section we make the case for a strategic approach to taxi and PH policy by transport authorities by setting out the way in which the markets have impacts not only on transport goals but also on wider public policy goals of sub-national authorities.

CONGESTION

4.3 Congestion is a challenge in many city regions. A study by the Centre for Economics and Business Research (Cebr) found that, in 2013, congestion cost the UK economy £20.5 billion, or the equivalent of 0.7% of GDP (Cebr, 2014). Around 60% of this cost falls on households through increased fuel consumption and wasted time, with the remainder falling on businesses, leading to higher prices.

4.4 Congestion is most severe on local roads, with DfT data showing that traffic delays are eight times greater on English Local Authority 'A' roads in urban areas than on the Strategic Road Network (DfT, 2017a). Congestion also tends to be worse in urban areas (ibid.).

4.5 Depending on local circumstances taxis and PHVs can both contribute to congestion, by increasing the numbers of vehicles on already congested streets, but also help to alleviate congestion, through supporting the public transport network and reducing the need for individuals to own and use private cars.

4.6 Table five shows how taxi and PHV numbers are increasing and thus potentially contributing to traffic levels, although the magnitude of the increase varies between city regions (DfT, 2017e).

	Taxis	PHVs	Total	% change since 2013
Greater Manchester	2,146	11,246	13,392	12%
Greater London ³	21,300	87,409	108,709	51%
Merseyside	2,252	8,277	10,529	16%
Tyne and Wear	1,169	3,479	4,648	9%
South Yorkshire	1,748	4,282	6,030	13%
West Midlands	3,226	13,012	16,238	36%
West Yorkshire	1,183	11,261	12,444	22%

Table five – Numbers of Taxi and PHVs in England's city regions and the increase between 2013 and 2017 (DfT, 2017e)

³ In Greater London, taxi numbers have decreased by 868 since 2013, so all growth is in PHVs

4

- 4.7** The evidence on the extent to which growth in PHV traffic (resulting from the rise of TNC operations in particular) is contributing to congestion is still emerging. The impacts are also likely to be different in different cities. Some TNCs argue that they primarily benefit travellers outside peak times and for journeys where public transport is not so readily available. Others have argued that, taking the long view, increased access to taxis, PHVs and new business models for shared mobility, could help to reduce car ownership and increase public transport use, which would have benefits for congestion (APTA, 2016).
- 4.8** However a number of city authorities, which have experienced rapid growth in PHV traffic, have expressed concern about the impact on congestion.
- 4.9** KMPG argue that the large increase in the number of PHVs in London has increased congestion (KMPG, 2017). In London, one in four vehicles entering the congestion charging zone is now a taxi or PHV (Inrix, 2016b). Taxis and PHVs in London have historically been exempt from congestion charging in the city, however some, including the taxi trade, have argued that PHVs should now be subject to the charge.
- 4.10** In San Francisco, TNCs are being blamed for worsening congestion, as the numbers of vehicles operated by TNCs are now estimated at 45,000, far surpassing the city's 1,800 taxis (Keeling, 2016).
- 4.11** The New York City Mayor's Office conducted a study of the role of TNCs in congestion, concluding that TNCs contribute to overall congestion but that recent increases in congestion were primarily driven by freight, construction and record levels of tourism (NYC Office of the Mayor, 2016). However, they also noted that TNC growth could to increase congestion in the future (ibid.). Schaller (2017) showed that the growth of TNCs in New York City is contributing to congestion and undermining public transport, with ridership of buses declining in particular.

AIR QUALITY AND CARBON EMISSIONS

- 4.12 Dealing with poor air quality, and cutting carbon emissions from transport, are significant challenges for our city regions.
- 4.13 In 2015, transport accounted for 29% of the UK’s carbon emissions, with road transport making up the most significant source of these emissions (DECC, 2016).
- 4.14 There are a number of pollutants which road transport is responsible for and which contribute to poor air quality including particulate matter (PM, PM10 and PM2.5), oxides of nitrogen (NOx), benzene and carbon monoxide (CO) (Defra, 2011). These pollutants are harmful to human health and are subject to EU limits, with fines for exceeding these limits, which are imposed on local authorities. Cities are currently not meeting the EU legal limits, and there have been a series of legal challenges in the UK related to poor air quality. A recent World Health Organisation report found that air in 44 UK cities and towns had dangerous levels of PM2.5 (Massey, 2017).

- 4.15 Taxis and PHVs have an annual average mileage of over 30,000 miles and Figure three shows how this varies between regions (insureTaxi, 2016). At present, most taxis are diesel fuelled, with PHV vehicles being a more diverse mix of petrol, diesel and hybrid cars.
- 4.16 It is forecast that in London, by 2020, taxis will contribute 18% of NOx emissions and PHVs will contribute 4% (TfL, 2015a).
- 4.17 The contribution that taxis and PHVs make to air pollution depends on the vehicle fleet make up, in terms of fuel and the age of vehicles. As explained in Section three, licensing authorities have the ability to impose age limits on taxis and PHVs, as well as more stringent emission related standards. In London, there is a 10 year age limit for PHVs and a 15 year age limit for taxis. Outside London, requirements vary between authorities, with 65% of authorities in England imposing an age limit for taxis and 63% for PHVs (DfT, 2017e, TAXI1016).

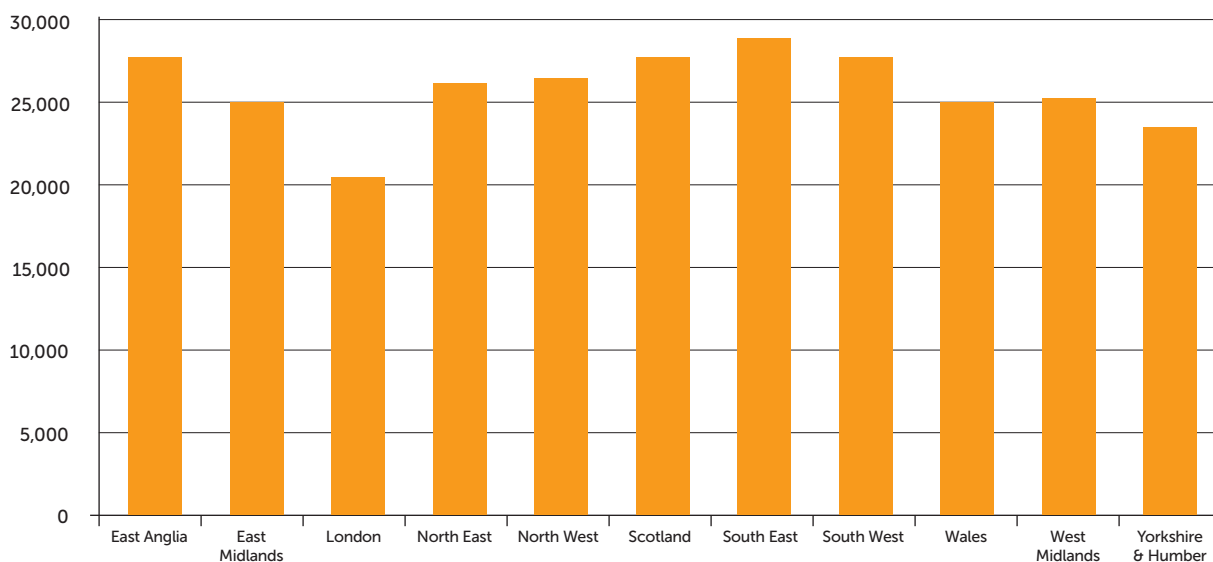


Figure three – Annual mileage for taxis and PHVs (insureTaxi, 2016)

4.18 In Nottingham, for example, an age limit is placed on PHVs, but not on taxis. This has resulted in the average age of a PHV being 6 years, and 11.5 years for taxis. Figure four shows the age of taxis (hackney carriages) and PHV in Nottingham (Nottingham City Council, 2017).

4.19 Figure five shows the Euro emission standards for taxis and PHVs in Nottingham, demonstrating the improved emission standards for PHVs, likely driven by the age limits imposed on this section of the market in the city (Nottingham City Council, 2017).

4.20 Section six examines some of the options available for transport authorities in developing strategies for the taxi and PH markets, including approaches to tackling the challenges of carbon emissions and poor air quality associated with taxis and PHVs.

PUBLIC SAFETY

4.21 There are a range of public safety issues in relation to the taxi and PHV markets. This includes challenges around personal security for both passengers and drivers, and the safe operation of vehicles.

4.22 Enforcement for licensed taxis and PHVs is conducted by the licensing authority, which within London is TfL, and outside is the local council. Enforcement is a challenging area for taxi licensing authorities, as licensing officers do not have the power to search vehicles, although they can inspect them. In addition, they are only able to take action against drivers and vehicles licensed by them, therefore cross-border usage is problematic (LGA, 2015).

Road safety

4.23 For the taxi and PHV markets, vehicles must be of an appropriate standard of roadworthiness, with licensing authorities able to set specific standards. However the low and general national baseline can lead to inconsistencies in standards between regions.

4.24 Local authorities are able to require that drivers of taxis and PHVs take an enhanced driving test. The DVSA use to provide an enhanced test for taxi and PH drivers however they have now withdrawn this but other providers are available for further training (DVSA, 2016).

4.25 A range of safe urban driving courses have been developed for professional drivers working in cities across transport sectors. These are often used as part of freight operator accreditation schemes, and in some cases could be appropriate for drivers working in the taxi and PH markets.

4.26 Within the EU, taxis make up between 10 and 20% of urban traffic, but are only involved in 1% of all road traffic accidents, suggesting that they represent a safer mode choice than other options (IRU, 2017).

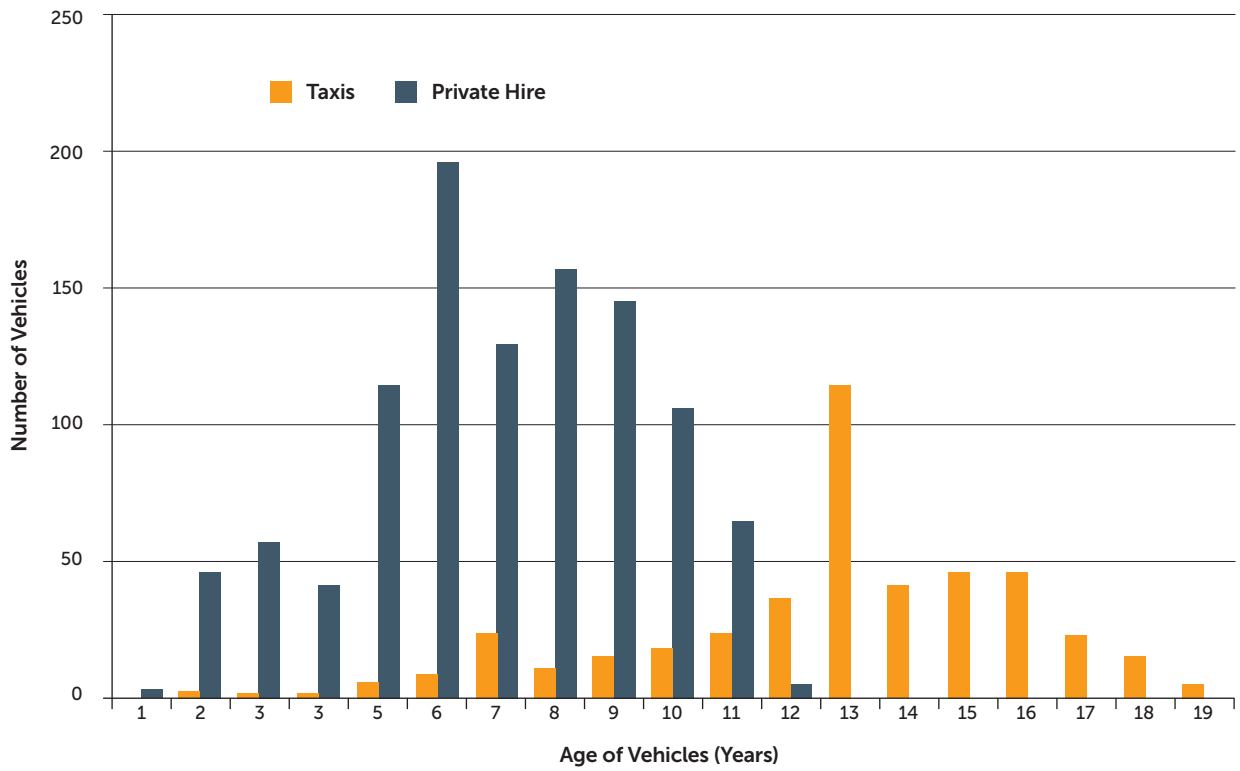


Figure four – Taxi and Private Hire Vehicle Age comparison (Nottingham City Council, 2017)

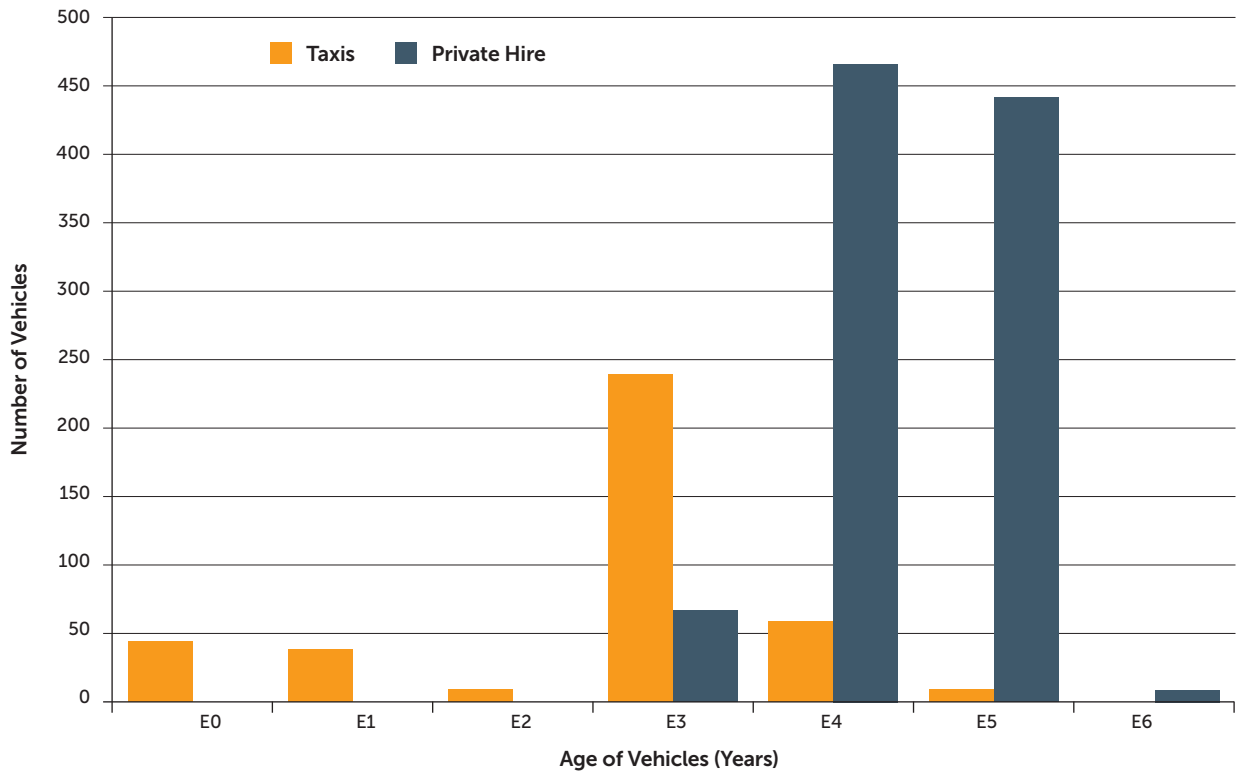


Figure five – The Euro Emission Profile of the Taxi and Private Hire Fleet in Nottingham (Nottingham City Council, 2017)

Crime

- 4.27** Reducing crime and the fear of crime is a key policy goal of any city. Crime issues in relation to the taxi and PHV sectors can include:
- Assaults on passengers;
 - Exploitation of vulnerable groups;
 - Assaults on drivers;
 - Links between the taxi and PH sector and organised crime; and
 - The availability of taxi and/or PHVs in order to reach a destination safely.
- 4.28** Assaults on passengers using taxis or PHVs is a major concern for the sector. In London, there were 136 reported rapes or sexual assaults by PH drivers in 2015, although it should be recognised that millions of taxi and PH journeys are undertaken every year without incident by the city's 100,000 PH drivers and 24,000 taxi drivers (TfL, 2017b). TfL are introducing new measures to enhance public safety which are discussed in Section Five.
- 4.29** Safeguarding has risen up the agenda for the taxi and PH markets due to recent exposure of incidents involving exploitation of vulnerable people such as those in Rochdale and Rotherham. The LGA provides clear guidance for licensing officers on ensuring safeguarding needs are met (LGA, 2015).

- 4.30** A serious case review of reports of child sex exploitation in Buckinghamshire recommended that a national database of licenced taxi and PH drivers should be introduced, in order to make it easier to identify those with a criminal past (BBC, 2017a). The proposal was supported by the Licensed Taxi Drivers Association, who said there was also a need for national standards including mandatory criminal record checks (ibid.). The LGA has commissioned the development of a national database of taxi and PHV licence refusals and revocations, which should help licensing authorities identify individuals who are seeking a licence when they have been refused one elsewhere (LGA, 2017).
- 4.31** Drivers in the taxi and PH markets are more exposed to violence than the average worker, exacerbated by working alone, at night and often carrying passengers who are intoxicated, which places risks on their personal safety (European Agency for Safety and Health at Work, 2010).
- 4.32** A 2013/14 survey identified that 83% of London taxi passengers felt that they should be able to pay by card for their journey (TfL, 2015) and it is recognised that cashless payments are more secure for both drivers and passengers. As of October 2016, all licensed London taxis drivers were required to accept card payments (TfL, 2016d). The shift to card payments could help to reduce crime against drivers, as they will no longer have to hold so much cash which can make them vulnerable to robbery.
- 4.33** There are a number of options available for reducing incidence of crime related to the taxi and PH markets, and for improving public safety. These are discussed in Section five of the report.

EQUALITY, ACCESSIBILITY AND SOCIAL INCLUSION

4.34 Equality, accessibility and social inclusion are all important issues for the taxi and PHV markets for a number of reasons including the fact that many low income groups and those with mobility impairments are often reliant on taxis and PHV for travel. In addition, there are equality and inclusion concerns around workers' rights in the taxi and PHV sectors and for emerging business models.

Accessibility

4.35 Taxis and PHVs are an important lifeline for those with additional accessibility requirements who may find it difficult to use conventional public transport or to make journeys on foot or by bike. Disability charity Scope found that disabled people are 67% more reliant on taxis and PHVs than non-disabled people (Scope, 2015).

4.36 In many areas, including London, taxis must be wheelchair accessible. 63% of local authorities have a requirement that taxis are wheelchair accessible and within the city regions 94% have a wheelchair accessibility requirement in all or part of the taxi fleet (DfT, 2017e, TAXI0106). However, PHVs are not often required to be wheelchair accessible. For example, in London, only 486 PHVs are designated as wheelchair accessible vehicles as of September 2017. This could raise issues for accessibility, as numbers of taxis are falling and PHVs are increasing dramatically.

4.37 Some have raised concerns around the increasing dominance of TNCs and the impact this will have on accessible vehicles. Uber have now sought to address this issue to some extent by launching 'UberACCESS' in London, Manchester and Birmingham, which allows users of the platform to book wheelchair accessible vehicles and offers a lower cost option than a conventional hackney carriage (Uber, 2017b).

4.38 In 2014, three quarters of wheelchair users reported negative experiences in using taxis and PHVs and two thirds of wheelchair users say that they have been overcharged by a taxi or PHV because of their wheelchair (Extra Costs Commission, 2015).

4.39 From 6th April 2017, it became a legal requirement for taxi and private hire drivers, operating a wheelchair accessible vehicle, to transport wheelchair users in their wheelchair, provide passengers in wheelchairs with appropriate assistance and to charge wheelchair users the same as non-wheelchair users (DfT, 2017b). Drivers could be fined up to £1000 if they refuse (ibid.). However, enforcement of the law requires licensing authorities to have a designated list of wheelchair accessible vehicles, and at present only 11% of authorities have this list (Paulley, 2017). A further 45% are producing a list, but that leaves 44% of authorities who have yet to commit to producing such a list (ibid). DfT guidance recommends that authorities produce a list of wheelchair accessible taxis and PHVs by October 2017 (DfT, 2017d).

4.40 The carriage of assistance dogs is another area where taxis and PHVs play an important role and the 2010 Equality Act prohibits service providers, including taxis and PHVs, from discriminating against those who require an assistance dog (Bennett and Desai, 2016).

4.41 44% of assistance dog owners surveyed by Guide Dogs had been refused access to a taxi or PHV within the preceding year, with reasons given including religious or cultural beliefs and cleanliness (Guide Dogs, 2015). Many organisations, including Guide Dogs, have called for mandatory disability equality training and increased penalties for those who refuse to carry assistance dogs, it is already a criminal offence to refuse to carry an assistance dog (Bennett and Desai, 2016).

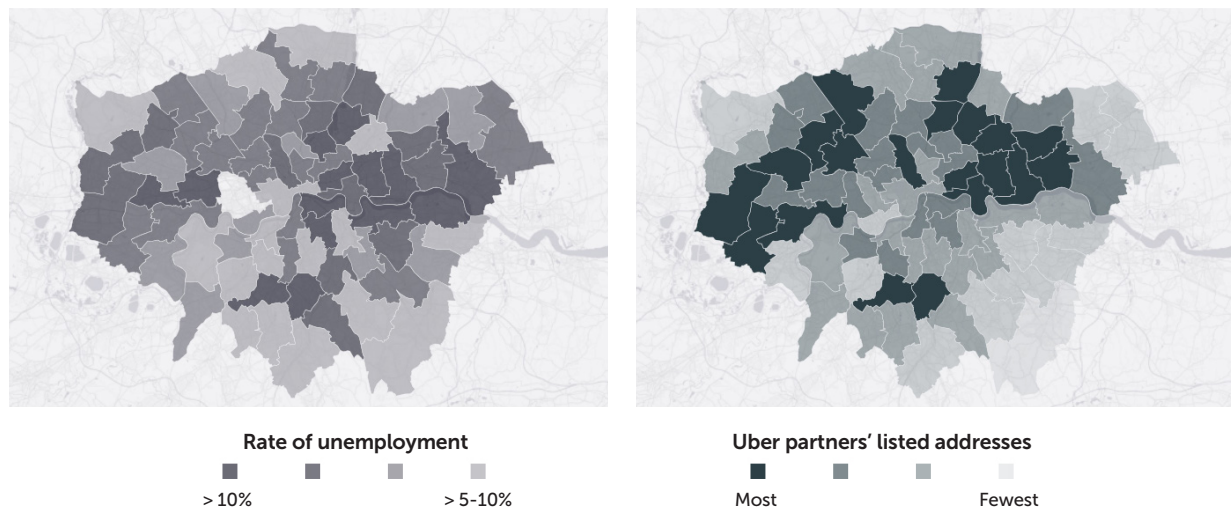


Figure six – Rate of unemployment in London on the left and Uber partner locations on the right (Uber, 2017a)

4.42 Disability awareness training is an area where some authorities have introduced requirements as part of the licensing process and others have not. 93 authorities have a requirement for disability awareness training for taxi drivers (30%) and 75 have requirements for PHV drivers (24%) (LGA, 2015).

Diversity

4.43 The taxi and PH sectors provide a significant source of employment for Black, Asian and Minority Ethnic (BAME) people. Taxi drivers (including PH) and chauffeurs represent the most diverse occupation in the UK, with almost a quarter being ethnically Pakistani, according to a report by Policy Exchange (Norrie, 2017). 21% of drivers are non-UK nationals in 2016/17, a large increase from 8% in 2006/07 (DfT, 2017e).

4.44 97% of taxi and PH drivers were male in 2016/17 (DfT, 2017e).

4.45 The PH sector has been seen as particularly attractive to men in the Pakistani community because it offers the opportunity to be your own boss, while having low barriers to entry, including language requirements (Sarkar, 2013).

4.46 Given the large numbers of BAME people working in the taxi and PH sectors, the potential impact of job losses due to autonomous vehicles (discussed further in this section) could hit these communities particularly hard, and the social inclusion impacts of automation need to be considered.

Low income groups

- 4.47** Taxis and PHVs help to connect low income groups with employment opportunities, particularly in areas where public transport is not readily available. This can include access to peripheral housing estates, shift work and business, distribution and industrial parks on the edge of urban areas. In addition, the taxi and PH markets create employment opportunities which might not otherwise exist.
- 4.48** As of 2017, the taxi and PH markets employed over 367,000 people in England and Wales as licensed drivers alone, with 80,000 of these in metropolitan areas excluding London (DfT, 2017e, TAXI0104).
- 4.49** Figure six shows the location of Uber partners addresses and the rates of unemployment in London, suggesting that they are providing economic opportunities in areas with high unemployment (Uber, 2017a).
- 4.50** Lucas et al showed that for unemployed people, taxi and PH makes up a 1.7% mode share, compared to the average of 1.2% for their sample as a whole (Lucas et al, 2016).
- 4.51** The 2011 census showed that on average 0.5% of travel to work is by taxi or PHV (ONS, 2014). Of the five areas with the highest mode share of taxi / PHV for travel to work (greater than 0.98%), four (Knowsley, Blackburn with Darwen, Hartlepool and Rochdale) are in the 20 most deprived areas in England according to the English Indices of Deprivation, with Kensington and Chelsea being the other (DCLG, 2015). This suggests that taxis and PHVs are connecting people in some of the most deprived areas with employment opportunities, although the age of the census data means that current transformation in the taxi and PH sectors is not captured.

Working conditions and rights

- 4.52** Issues in relation to taxi and PHV driver working conditions include:
- Job insecurity;
 - Pay and conditions (including working hours, holidays, sick leave); and
 - Occupational health.
- 4.53** A study of taxi drivers in San Francisco found that drivers were at risk of musculoskeletal disorders and other poor health conditions associated with sedentary lifestyles, and were at increased risk of stress due to insecure working conditions and long hours (Burgel et al, 2012).
- 4.54** An EU study found that there were several health concerns for those working in the taxi and PH sectors, including physical risks associated with vibration, manual handling and sitting for long periods of time; chemical and biological risks associated with exposure to pollutants and; psychosocial risks including stress and personal safety (European Agency for Safety and Health at Work, 2010). Meanwhile a study for Birmingham City Council found that taxi and bus drivers are exposed to three times more pollution than anyone else (Birmingham City Council, 2016).
- 4.55** Additional concerns relate to the rise of the TNCs and new business models. Some of these concerns are not unique to the taxi and PH sectors but also relate more widely to the 'gig economy'

- 4.56** Uber, and other new business models, tend to operate on the basis that their drivers or 'partners' are self-employed, meaning that they have not had to meet conditions of workers' rights (BBC, 2016b). This is an issue for those working for platforms in the gig economy as they are not entitled to holidays, sick pay and pension contributions. However, the platform operators would argue that this approach offers flexibility for their partners and allows their costs to remain low.
- 4.57** The GMB union recently won an employment tribunal against Uber, which found that they had been acting unlawfully by not providing basic rights, including minimum wage, holiday pay and breaks (GMB, 2016). Uber are appealing against this decision.
- 4.58** During evidence to the Work and Pensions Committee inquiry into self-employment and the gig economy, some Uber drivers explained how they were working more than 60 hours a week in order to cover the costs of their vehicles, but were still claiming housing benefit due to low income (Butler S, 2017 and Work and Pensions Select Committee, 2017).
- 4.59** The UK Government commissioned an independent review into modern employment practices (Department for Business, Energy and Industrial Strategy, 2016). The resulting report suggested that "we should be clearer about how to distinguish workers from those who are legitimately self-employed" (Taylor et al, 2017) however disputes continue to arise.
- 4.60** In New York, 14,000 Uber and Lyft drivers recently petitioned to become unionised, citing concerns that "Lyft and Uber don't listen to drivers" (Rivoli, 2016). While taxi and PHV drivers in the UK have union representation through a number of major general unions and specific unions, those who work for emerging business models may not have union representation.

URBAN REALM AND IDENTITY

- 4.61** Cities are seeking to improve their urban realm in order to create environments that are attractive places to live, work and visit (Urban Transport Group, 2016a). As part of this, use of streets and allocation of road space is being re-examined and historic prioritisation of motorised travel being called into question.
- 4.62** As space for motorised traffic reduces and space for people increases this raises issues for taxi and PHV policy in two ways. The first is the priority that is given to taxis and PHVs on the road space in relation to other road users and modes (including buses, cycling, freight and logistics vehicles, trams, private cars and motorbikes). The taxi and PHV sectors argue that they should be given priority and that by not doing so the viability of the service they provide is undermined through longer journey times. However other sectors can also make a strong case (for example bus operators argue that buses can carry many more people in a single vehicle and thus priority for bus services is a more efficient use of available road space).
- 4.63** Examples in London of conflict between competing priorities for road space include:
- Changes to Bank Junction in London to remove cars, taxis, PHVs and lorries in order to reduce accidents and improve pedestrian safety (Wynn, 2016);
 - Opposition to the changes to road allocation in Camden, making Tavistock Place one way to motorised traffic with cycle lanes in both directions (Gillett, 2016); and
 - Opposition to the cycle superhighway plans (Clarke, 2015).

- 4.64** The second issue is access to urban centres for drop off and pick up, especially when those centres have been either partially or entirely closed to motorised traffic. Without thinking through taxi and PHV access to new urban realm schemes that prioritise people over traffic, there can be issues around access for people with disabilities who rely on taxis and PHVs and displacement of drop off and pick up to inappropriate locations that contribute to congestion or risk causing road accidents.
- 4.65** There are also wider issues around provision for drop off and pick up at key generators of taxi and PHV traffic like railway stations, hospitals, visitor attractions and so on. Poor quality provision can lead to chaotic pick up and drop off provision which can lead to congestion, poor air quality, danger for drivers and pedestrians and a generally unattractive environment. Having clear guidance on the provision of taxi and PH facilities at key locations ensures accessibility, and TfL include facilities in the design of public realm for stations (TfL, 2015b).
- 4.66** The quality, consistency and look of taxi and PHV fleets also plays a key role in the wider look and feel of a city. Especially when many first time visitors will be taking a taxi or PHV on arrival and their experience of that vehicle will be part of their first impression of a city.
- 4.67** There is no better example of this than London's black cabs which are one of the most well-known symbols of the capital, one reason why TfL's Taxi and Private Hire Action Plan recognises this and places importance on protecting the trade and maintaining their presence, while reducing their environmental impact (TfL, 2016c).

RELATIONSHIP WITH PUBLIC TRANSPORT

- 4.68** The relationship between public transport and taxis and PHVs (particularly in the light of emerging business models) is complicated, with the taxi and PH markets and public transport having the potential to both challenge and complement each other.
- 4.69** Where TNCs offer artificially low fares, subsidised by venture capital backing, it is possible that they could draw passengers away from the public transport network and undermine their long term sustainability.
- 4.70** In the West Midlands, bus patronage fell 3% in the 12 months to November 2016, with bus operators reporting that Uber had impacted on the number of trips, particularly in the evenings (LTT, 2017).
- 4.71** As highlighted earlier, increased traffic associated with the taxi and PH markets, and TNCs in particular, could lead to increases in congestion which has high costs for the economy. In addition, increased congestion slows down journey times on public transport, making the mode choice less attractive and further undermining the service.
- 4.72** KPMG argue that the low costs offered by Uber in London, combined with increased congestion due to large numbers of PHVs slowing down bus speeds, have resulted in the effect of Uber being to 'cannibalise the bus market' (KPMG, 2017).
- 4.73** The implications of this could include fewer services which impacts most on socially excluded groups who are reliant on bus services.

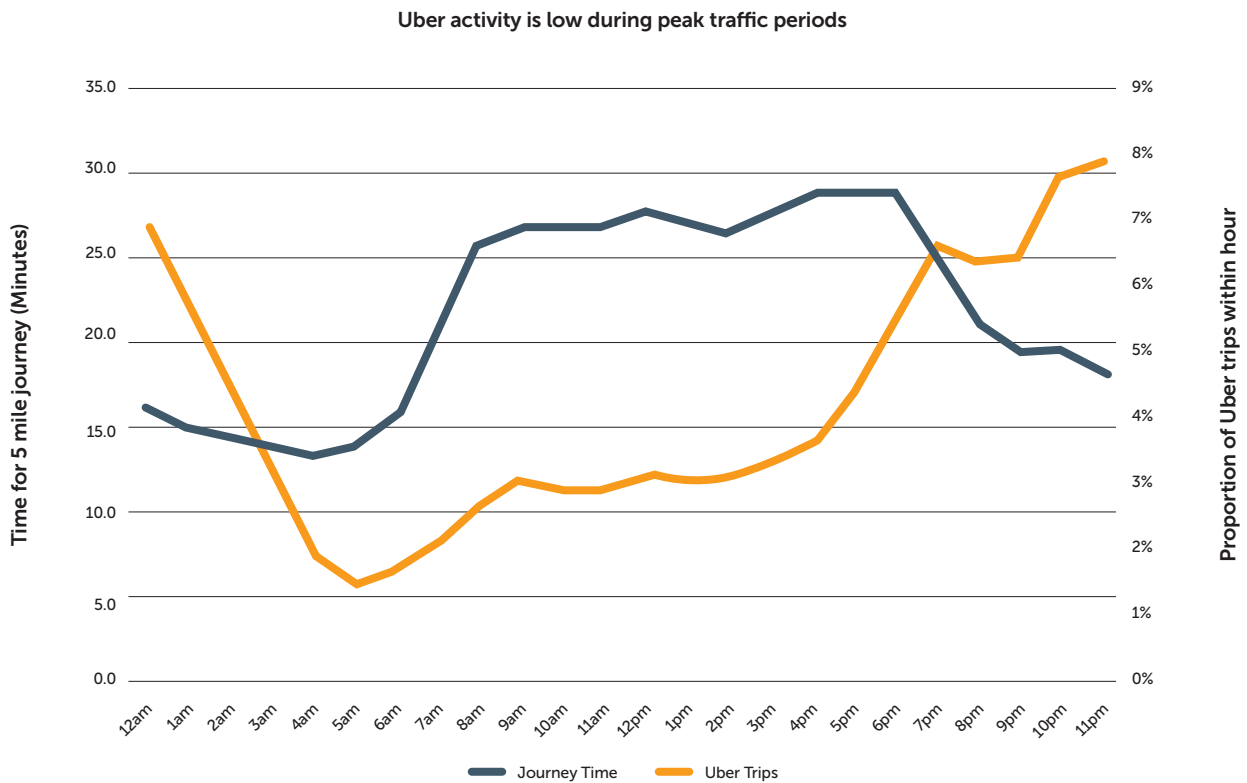


Figure seven – Uber activity, Source: Uber Newsroom (2016a); Inrix (2016)

4.74 Conversely, the taxi and PH markets can complement existing public transport services through providing effective feeder services, and filling in gaps where conventional public transport services are unavailable, such as at night.

4.75 Figure seven, from Uber, suggests that in London most of their journeys are happening outside the conventional transport peaks, with a quarter of trips taking place between 12am and 5am. This suggests that they may be complementing the public transport network in some cases, though they may still be contributing to congestion at other times of day.

4.76 There are options available for transport authorities and public transport providers to work with TNCs and form alliances and partnerships to try and overcome some of these challenges and to work together in a more strategic way. There are also examples of innovations that have been adopted by public transport operators to respond effectively to the potential loss of patronage as a result of competition from TNCs. Some examples of these are provided in the Section Five.

DATA

- 4.77** Data is important to transport authorities in order to make effective decisions about transport strategy and to deal with issues, such as disruption, as they arise (Urban Transport Group, 2016b). Transport authorities are also generators and custodians of huge volumes of data. Data relevant to the taxi and PHV sectors includes information on traffic flows and disruption.
- 4.78** TNCs are also generating large volumes of data about travel demand and operating performance. Some of this data could be useful for transport planning by local authorities. For example in relation to demand for services, traffic disruption and the wider performance of the highway networks.
- 4.79** Some data issues go beyond operational and strategic transport planning – for example data that relates to public safety (e.g. crime incidents and criminal records).
- 4.80** Issues that arise around data include to what extent transport authorities and taxi operators share data and on what basis. This also relates to issues around trust and privacy on personal data, the quality and compatibility of data, the capacity and skills available to use data effectively and the costs of generating and managing data.
- 4.81** Some of these issues have manifested themselves in positive and negative ways in different cities including:
- TfL has opened up their data to 5,000 registered developers which has resulted in hundreds of apps (Urban Transport Group, 2016b). This data is then available to innovators, including TNCs.
 - Uber are now opening up some up their anonymised trip data in order to aid urban planning, with initial partnerships in Washington DC and Sydney (Uber Movement, 2017).
 - Questions have been raised about whether TNCs go far enough in protecting driver and customer data, with major data breaches at Uber in 2015 and 2017, and there are ethical questions around large corporations holding detailed personal information (BBC, 2017b).
- 4.82** Access to, and opening up of, data is also an important step in enabling further innovations in transport, including MaaS and connected and autonomous vehicles (CAVs).

MOBILITY AS A SERVICE (MAAS)

- 4.83** MaaS has been defined as platforms where “users are offered various door-to-door options for their journeys based on a monthly subscription model for all their mobility needs, offering customers the best value for their specific requirements and project partners better visibility for their services” (UITP, 2016).
- 4.84** Taxis and PHVs will be an important component in any MaaS offering which is going to be attractive to the consumer as they can provide the flexibility within a wider MaaS package, allowing users to make spontaneous decisions about when and how they travel when public transport is not suitable.
- 4.85** MaaS could bring real benefits to consumers and cities because it can enable streamlined, simple, multi-modal travel. At the same time, a MaaS model that directly or indirectly promoted motorised single occupancy vehicles over public transport and active travel could have negative consequences in a host of ways, including for public health, congestion and air quality.
- 4.86** Considering how MaaS might evolve in our cities, and what role taxis and PHVs might play in it, is therefore important for transport authorities.

CONNECTED AND AUTONOMOUS VEHICLES

4.87 The taxi and PH sectors could be an early adopter of CAVs for a number of reasons. Firstly, taxis and PHVs are making short trips in a relatively constrained area, and this would make it easier to become more connected and autonomous than for some other vehicles (such as private cars) given the more limited range. Secondly, because some TNCs are also heavily involved in developing autonomous vehicles as a means of dramatically reducing operating costs through driverless taxis, as well as increasing revenues through patenting technologies. Some argue that there is an extra urgency around the development of CAVs as this is the only route into profit from the operating losses they currently sustain (Edwards, 2017; Goodin, 2015).

4.88 This is not a report about CAVs – a subject which also goes well beyond taxis and PHVs. However, there are several relevant issues including:

- Safety and security (including hacking risks);
- Economic inclusion impacts of loss of driver jobs and on local taxi and PHV businesses;
- Route to market dominance for large corporations who fund and patent the technology; and,
- Interaction with public transport network and MaaS offers.

4.89 There are a number of issues which are relevant to transport authorities in the short to medium term including:

- The extent to which an area may wish to involve itself in trials with all their attendant risks and benefits; and,
- To what extent the physical infrastructure of the local highway network and traffic control centres can be made ready for more CAVs.

TAXIBOTS

The ITF conducted a study of the impact of shared autonomous vehicles, known as "TaxiBots". They found that, when TaxiBots were coupled with a high capacity public transport system, 9 out of 10 cars could be removed in a medium sized European city, while delivering the same levels of mobility (ITF, 2015). However, the report also suggests that the use of a shared fleet of autonomous vehicles could result in increased vehicle km travelled and will compete with public transport and traditional taxi and PH services, perhaps having welfare and labour market impacts (ibid.).

A study by Burns et al (2013) found that with a fleet of 9,000 autonomous vehicles, Uber could replace every taxicab in New York City, with a wait time of 36 seconds and a cost of \$0.50 per mile (quoted in Goodin, 2015). As of 2014, there were 13,437 medallions issued in New York City, giving the right to run a yellow taxi (NYC Taxi and Limousine Commission, 2014).

ISSUES AND OPTIONS FOR A STRATEGIC APPROACH TO TAXIS AND PHVs

5.1 This report so far has shown the importance of the taxi and PH markets for overall transport policy, but also for a range of other public policy objectives, from social inclusion to cleaner air, an improved urban realm and realising the benefits of transformative technological change.

5.2 It has also explained the key role that local authorities have in the taxi and PH licensing system within the wider context of a problematic national framework for taxi and PH regulation.

5.3 In this section we set out how different transport authorities in the UK, and internationally, have implemented policy on taxi and PH services which aims to ensure a good service for customers, whilst at the same time seeking to meet wider public policy goals for urban areas.

ADDRESSING SPECIFIC ISSUES

Congestion

5.4 The contribution of taxis and PH to congestion remains disputed, but there are a number of measures that authorities can take to combat congestion, which could have impacts on the taxi and PH markets including:

- Encouraging use of the taxi and PH sectors can help to reduce the need for private car ownership, which in turn can have positive impacts for congestion;
- Allowing taxis and/or PH to use bus lanes can improve traffic flow for these vehicles, but could have negative consequences for bus journey times, so would need to be considered with caution;

- Adoption of CAVs into the taxi and PH fleets could have positive impacts on congestion, as they are able to use the road space more efficiently, however, large numbers of empty running CAVs could also have negative impacts; and
- Road user charging can be used to influence the extent and nature of congestion, and it is possible to include or exempt taxis and PHVs from charging in order to influence the volumes of these vehicles and their potential impact on traffic congestion.

Air quality and carbon emissions

5.5 There are a number of tools available for transport authorities to address emissions from the taxi and PH sectors including regulatory measures such as clean air zones (CAZ) and Low Emission Zones (LEZ) as well as non-regulatory measures, such as supporting the take up of low emission vehicles in the taxi and PH sectors.

Regulatory

5.6 The Government released its air quality strategy in July 2017 setting out plans for measures to reduce NO₂ emissions in 29 cities, however it has been widely criticised for a lack of detail on the measures that will be used. This follows the earlier mandating of five cities (Birmingham, Leeds, Nottingham, Southampton and Derby) to implement Clean Air Zones, which will require vehicle owners to pay to enter the zone if they do not meet the required emission standards (Defra, 2015).



5

There are different classes of CAZ but all include taxis and PHVs. The aim of the CAZ is to discourage the most polluting vehicles from travelling into the cities and charge those which still enter the zone, and this will include taxis and PHVs (Environment, Food and Rural Affairs Committee, 2016). Further CAZs may follow as a result of the Government's air quality strategy but the nature of these in terms of which vehicles will be allowed to enter the zones and whether they will charge for access is currently unknown.

5.7 In London, a new 'Ultra Low Emission Zone' (ULEZ) will be implemented from 2019, with changes to the vehicle licensing requirements for taxis and PHVs coming into force from January 2018 (TfL, 2016a). Details of the standards can be found in Section three.

5.8 There are a number of support mechanisms in place to help drivers make the transition to these zero-emission capable vehicles in London. These include:

- Grants of up to £3,000, on top of the government's plug-in car grant, towards the purchase of a zero-emission capable taxi from mid-2017 to 2020.
- A voluntary decommissioning scheme from mid-2017 to 2020, which will provide a payment of up to £5,000 for owners of taxis between 10 and 15 years old, in order to remove the oldest vehicles from the fleet.
- In addition, TfL are working to deliver 300 rapid charge points by 2020 to support the electrification of taxi and PHV fleets (TfL, 2016b).

- Zero-emission capable taxis are now being manufactured, including the London Electric Vehicle Company (formerly London Taxi Company)'s TX5 plug-in petrol hybrid vehicle, which is being built at a brand new facility in the West Midlands, and the Metrocab range extended electric vehicle.

5.9 Under the current licensing framework, authorities have the powers to set age limits on vehicles licensed as taxis and PHVs, which can help to improve air quality and reduce carbon emissions.

Non regulatory

5.10 As well as the regulatory measures available to improve the environmental impact of the taxi and PH markets, there are additional measures that can improve emissions of pollutants from the vehicle fleet. Below are some examples of how cities in the UK are approaching this.

- Birmingham are retrofitting 63 hackney carriage diesel vehicles to run on LPG, in collaboration with Autogas, in order to reduce NOx emissions and meet the CAZ requirements. The conversion costs around £8,000 per vehicle, and the costs are recouped in about 2 years (Eminton, 2016).
- Cambridge are consulting on a number of measures to reduce the environmental impact of their taxis and PHV fleets including reduction or waiving of license fees for EVs, the creation of an electric only taxi rank and the provision of rapid charging infrastructure for exclusive use by taxis (Cambridge City Council, 2016).

- York was one of the first cities in the UK to introduce incentives for low emission vehicles in taxi fleets in 2013, by offering support for the purchase of hybrid or electric vehicles. One in ten taxi and PHVs in York is a hybrid or electric vehicle, and the council are now streamlining their low emission taxi policy in order to continue to improve air quality in the city (iTravelYork, 2016).
- Wigan Council offer a £20 discount in their 12 month license fee for taxis and PHVs that emit less than 150 gCO²/km or are LPG fuelled and a 50% discount on the license fee (which is £293 a year for a PHV) for plug in vehicles (Wigan Council, 2016; Low Carbon Vehicle Partnership, 2015).

5.11 LowCVP are examining options for setting criteria for a 'low emission taxi', in order to support their uptake. In their 2015 guide for local measures to support uptake of low carbon vehicles, they suggested a number of measures for taxis and PHVs, including some of the measures highlighted above such as low emission rank facilities and reduced license fees for lower emission vehicles (LowCVP, 2015).

5.12 Eco-driver training represents one approach to improving the fuel consumption of vehicles, and this involves training drivers to accelerate, brake and change gear in an efficient way, which reduces emissions from vehicles. A study by the RSA found that after training, taxi drivers drove 20% more efficiently than their baseline, saving around £1,146 per driver per year (Rowson and Young, 2011). Some authorities have proposed compulsory eco-driver training as part of wider taxi and PH driver training.

Enhancing public safety

5.13 A range of safety and enforcement issues related to the taxi and PH markets have been highlighted in this report, and this section makes some suggestions of how local authorities can enhance public safety.

5.14 TfL's 2016 Taxi and Private Hire Action Plan sets out a number of measures to enhance public safety including, but not limited to:

- Increasing numbers of on-street compliance officers;
- Working with the DfT to produce national guidance on ridesharing;
- Requiring PH drivers to pass an advanced driving test;
- Displaying customer complaints procedures in PHVs; and
- Exploring additional training for taxi and PH drivers including first aid training and behaviour awareness training (TfL, 2016c).

5.15 With regards to public safety, enhanced safeguarding training is an area that can offer opportunities for improving awareness of potential exploitation of vulnerable groups. Scarborough Borough Council, working with their local police force, developed mandatory safeguarding training for their taxi drivers, as part of the licensing process (LGA, 2015), and other councils are examining options for this too. Additional partnership arrangements may be necessary for effective safeguarding, such as social and children's services.

5.16 Oxford City Council dedicate a section of their licence application pack to safeguarding information with support from the NWG network, a charity that works to protect vulnerable children and young people (Oxford City Council, 2016).

5.17 In Ireland, the National Transport Authority keeps an electronic register of taxi driver and vehicle details, and these are available to passengers through the Driver Check App (ETSC, 2016). This allows passengers to check the licence details of the driver, including photo ID and that they are licensed for that specific vehicle, and the details can be forwarded to friends or family as a further record of the journey (ibid.). This demonstrates an innovative use of technology to address passenger safety concerns.

Urban realm and identity

5.18 Investing in good urban realm, which prioritises accessibility for all, can support the taxi and PH sectors, and maximise their contribution to connectivity. Provision of pick up and set down facilities, as well as taxi ranks at interchanges, is important.

5.19 TfL's Station Public Realm Design Guidance suggests that creating clear views and accurate, simple wayfinding can improve transport interchanges, and this includes accessing taxi and PH services (TfL, 2015b).

5.20 Maintaining the historic taxi trade, which in cities like London is an iconic part of the city's identity, is important, and TfL have sought to support the taxi trade through their Taxi and PH Action Plan (2016c). It may be necessary in other cities and regions to support their taxi trade as the PH sector grows with new TNC entrants.

5.21 It will be important to consider how any potential growth of CAVs in the taxi and PH sectors could impact on urban realm and the need for urban realm to adapt to a more autonomous future.

Approaches to TNCs

5.22 This report has shown some of the potential advantages and challenges associated with the current transformation taking place in the taxi and PH sectors. There is a great deal of uncertainty in how this will evolve in the coming years and a range of approaches have been taken by cities in meeting the rapid changes in the sectors. This section attempts to highlight some of these and demonstrate the different ways that transport authorities are responding. This picks up on policy areas addressing equality and worker's rights and the relationship between TNCs and public transport.

5.23 Authorities at the city, region and national scale around the world have taken very different approaches to the management of TNCs, from bans, through to coming to an accommodation, partnerships and laissez faire approaches.

5.24 Cities that have maintained a ban on Uber include Barcelona, Vancouver, and Frankfurt, as well as most other German cities (Roberts, 2016; Uber, 2016).

5.25 The reasons for banning ride sharing vary between areas, with some aiming to protect incumbent taxi operators, e.g. Buffalo, New York (Roberts, 2016) and others having concerns over the safety of ride-sharing operations. Further reasons to manage the rise of TNCs in cities include concerns around congestion, breaches of the local regulatory framework as well as ethical and safety concerns.

5.26 In Queensland, Australia, TNCs including Uber were banned for several years but as of September 2016 the services are now legalised (McKinnell et al, 2016). The Queensland government will establish a AUS\$26.7 million hardship fund for struggling cabbies and increase fines for soliciting and touting (ibid.). The idea of hardship funds offers one opportunity for transport authorities to support incumbent operators who have been undercut by new entrants.

- 5.27** In the USA, Uber has been partnering with some city authorities to support existing public transport services. In Altamonte Springs, Florida, the city is subsidising rides within the city boundaries, after failing to get funding for a demand responsive bus service. The \$500,000 pilot scheme offers a 20% subsidy for trips within the city boundary and 25% if the trip begins or ends at the local light rail station (Sisson, 2016).
- 5.28** Section Two provided more detail on where authorities have either banned, adapted or embraced TNCs.
- 5.29** There is an emerging, and growing debate around the gig and sharing economy. Arguments for more ethical, socialised and democratic alternatives are gaining ground and there are examples of such approaches around the world.
- 5.30** For example Téo, a Canadian company, claims to be a new kind of taxi company, with environmental and social goals. They operate a fleet of electric vehicles including Nissan Leaf, Kia Soul and Tesla vehicles. Normally, licences in Montreal are allocated to a single vehicle, but Téo are part of a pilot project allowing permits for multiple vehicles, more applicable to an electric fleet where vehicles will be charging some of the time. Téo hire professionally licensed drivers who are paid a fixed salary for a 40 hour week, in order to improve wages and reduce long working hours (Vachon, 2016).
- 5.31** Customer service is also important to Téo, with drivers providing a professional service and wearing a uniform and a rating system being in place. The vehicles also have wifi and phone charging points.
- 5.32** In Austin, Texas, a number of alternative TNCs emerged when Uber and Lyft pulled out of the city for a period of time. One of these, 'Ride Austin', is a not for profit version of ride share, and takes a fixed fee from drivers, rather than a percentage of the fare. However, when Uber and Lyft returned to the Austin market their bookings dropped 55% and several of the other alternatives that emerged have folded (Lee, 2017).
- 5.33** A project by the New Economics Foundation, and supported by Nesta, has been working with PH drivers in Leeds and Bradford to explore a co-operative model for an app-based service (Nesta, 2017).

MaaS, data and technology

- 5.34** MaaS approaches offer an opportunity for transport authorities to engage with a range of transport providers, including TNCs, in order to develop platforms for multimodal travel subscription services.
- 5.35** Transport for West Midlands is working with MaaS Global and transport operators to facilitate the development of 'Whim', an app that offers multimodal travel subscriptions. The initial pilot will run for twelve months with 500 customers in the West Midlands. The MaaS platform will encourage people to use transport other than private cars, provide journey information and handle payments (TfWM, 2016).
- 5.36** The Hanover Mobility Shop is a platform run by the public transport operator 'üstra' on behalf on the Greater Hanover Transport Association. Launched in 2016, the platform allows users to book journeys directly for public transport and taxis, which are then invoiced monthly, as well offering subscriptions and memberships that include car-sharing (UITP, 2017).

5.37 Opening up and sharing of transport data is key to stimulating innovation in the sector and capitalising on the potential of new technology (Urban Transport Group, 2016b). Transport authorities can support innovation through this process, but also by engaging with others who open up their data. Uber has begun sharing data with city authorities, in Washington DC and Sydney, and this could offer opportunities to collaborate.

5.38 The UK Government has supported development of CAVs through innovation funding over recent years. A number of transport authorities have been awarded funding for CAV testing infrastructure (DfT, 2017f) including TfL and TfWM. By engaging with the development of CAV technology, authorities can shape the trajectory of their take up and roll out, as well as being prepared for the disruption that the new technology could bring.

Overarching strategic approaches

5.39 Section three showed the issues that arise from the current licensing framework for the taxi and PH markets, with local licensing authorities having considerable influence over the markets. Options that different areas have or could adopt include:

- Moving licensing powers from local authorities to a higher tier of governance, in order to integrate licensing policy with wider strategic transport planning;
- Joint approaches and collaboration between licensing areas; or
- Setting of higher standards for licensing.

5.40 In London, taxi and PH licensing powers are held by TfL, the strategic transport authority, which has allowed licensing policy and requirements to contribute to wider policy goals, such as the introduction of the ULEZ.

5.41 In the Liverpool City Region there is a 'Taxi Forum' which brings together multiple stakeholders in the trade to share concerns and work towards common objectives. They have focused on professionalising the taxi and PHV sectors and a key area for joint working has been around delivery of safeguarding training, an important issue for the sector.

5.42 The LGA provides guidance on partnership working and joint authorisation of licensing officers, which allows enforcement to work beyond authority borders (LGA, 2015).

Additional mechanisms for influencing the taxi and PH markets

5.43 Transport authorities directly procure a range of transport services, some of which are provided by taxis and PHVs, such as some education transport. Through the requirements set for these tendered services, specific features and standards could be mandated, such as vehicle accessibility and emissions standards.

A REFORMED NATIONAL FRAMEWORK FOR TAXI AND PHV POLICY

6.1 This report shows that there is much that sub-national governments can already do to take a more strategic approach to the taxi and PH sectors. However sub-national governments operate within national legislation for the sector which is not fit for purpose.

6.2 This report is not primarily about the legal framework for the taxi and PH sectors and does not seek to arrive at a consensus view from all local authorities and relevant sub-national bodies on precisely how all aspects of the legal framework might change.

6.3 However we do believe there are a number of changes which would address some of the key issues raised in this report including those on public safety, air quality, congestion and the quality of service for passengers.

6.4 These changes include:

- **Statutory national minimum standards for the licensing of taxis, PHVs, their drivers and operators.** This is necessary to avoid a race to the bottom in terms of standards and should particularly focus on ensuring public safety. A criminal record check should be a statutory requirement for taxi and PH driver licences and mandatory disability awareness and safeguarding training would improve safety and support professionalisation of the sectors. National minimum standards should set a reasonable baseline for all licensing regimes, be they for rural or urban areas, and should be applicable and reasonable for operators of all sizes, from small family firms to multi-national corporations.

Beyond this national baseline, licensing authorities should be free to set higher standards where they see fit. For example, in a large urban area, licensing authorities may wish to set vehicle requirements which support air quality improvements. The introduction of national minimum standards is supported by the LGA and the All-Party Parliamentary Group for Taxis (LGA, 2017; APPG for Taxis, 2017). The Law Commission also recommended national minimum standards for PHV licensing (Law Commission, 2014), however, we argue that authorities should still have the powers to go beyond the statutory minimum.

- **Licensing officers should be able to undertake enforcement action against any taxi or PHV operating within their authority area, no matter where the vehicle is licensed.** Under current legislation, this is not possible, as officers are only able to take enforcement action against vehicles licensed within their own area. The LGA have suggested that allowing licensing officers to enforce any taxi or PHV operating within their area would contribute to improving public safety (LGA, 2017). The Law Commission report also recommended that enforcement officers should be able to take action against any taxi or PHV operating within their authority area (Law Commission, 2014).

6

- **Clear, statutory definitions of ‘plying for hire’ and ‘pre-booked services’**, as the current lack of clarity leads to ambiguity and challenges for enforcement, particularly in the light of TNC new entrants (requested by TfL as part of the taxi and PH action plan, TfL, 2016c).
- **Introducing a requirement that taxis and PH journeys start or end in the area for which the driver and vehicle are licensed**, in order to reduce problematic cross-border hiring (requested by TfL as part of the taxi and PH action plan, TfL, 2016c). Under the current legislation, cross-border hiring creates challenges for enforcement, as well as undermining the local licensing regime which may have more stringent vehicle and driver licensing requirements.
- **Giving authorities the powers to limit the number of PHV and PH driver licences issued**. At present, TfL have no powers to limit taxi or PH numbers, authorities outside London have the powers to limit taxi licences only. Given the rapid growth in PH numbers over recent years, and associated challenges such as congestion, allowing authorities to place appropriate limits on the numbers of PH licences issued would give greater potential to manage growth in the sector and contribute to wider policy goals.

6.5 These changes to the national framework for the licensing of taxis and PH services would help to tackle the race to the bottom on licensing standards and improve the ability of licensing authorities to deliver effective enforcement, thus improving public safety. However, these recommendations would still facilitate local decision making for the taxi and PH sectors and enable taxi and PH licensing to deliver wider benefits for public policy goals, such as congestion alleviation and improving air quality.

CONCLUSION

7

- 7.1** Transformative technological and social change, and the rise of new business models, is unleashing huge growth in PHV traffic. This has major implications for congestion, the viability of bus services and the shape of future urban transport provision. This report has sought to make the case for a more strategic approach to the taxi and PH sectors in order to deal with these challenges. These sectors have been overlooked in the past and the rapid transformations taking place mean that it is more important than ever to integrate the taxi and PH markets into wider transport planning and strategy.
- 7.2** Engaging with the taxi and PH sectors also offers the opportunity to help in addressing a range of public policy goals and challenges as demonstrated throughout this report.
- 7.3** Key questions to consider in developing a taxi and PH strategy for a city region should include:
- How can the taxi and PH sectors contribute to delivering wider public policy goals, such as inclusive growth, improved urban realm and reducing congestion and air pollution?
 - What role can the taxi and PH sectors play in connecting people to opportunities and integrating with wider public transport networks?
 - How can issues around public safety and the taxi and PH sectors be addressed effectively in order to deliver a safe and reliable service?
 - What should the balance be between taxis (Hackney carriages or black cabs), PHVs and TNC new entrants, and how can this be achieved?
- 7.4** This report has sought to provide a framework for addressing these issues (with good practice examples that can be drawn upon). It does not however suggest there is a 'one size fits all' solution as each city region will need to take into account local circumstances and aspirations. However, it is the contention of this report that the taxi and PH sectors should be within the mainstream of wider transport strategies rather than disconnected from them.

ACKNOWLEDGEMENTS & REFERENCES

8

ACKNOWLEDGEMENTS

Thank you to representatives from our members and organisations across the sector more widely for the conversations that have informed this work and providing comments on earlier drafts of the report.

REFERENCES

- All-Party Parliamentary Group for Taxis (2017) Lessons from London: *The future of the UK taxi trade*, [online] http://www.appgtaxis.org/appg_report
- American Public Transportation Association, (2016) Shared Mobility and the Transformation of Public Transit [online] <https://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf>
- BBC (2017a) Child sex exploitation report suggests taxi driver database, [online] <http://www.bbc.co.uk/news/uk-england-beds-bucks-herts-39519906>
- BBC (2017b) Uber agrees to 20 years of privacy audits to settle FTC charges, [online] <http://www.bbc.co.uk/news/technology-40946680>
- BBC (2016a) Rossendale stricter taxi licence rules will 'force drivers to quit' [online] <http://www.bbc.co.uk/news/uk-england-lancashire-37999146>
- BBC (2016b) Uber drivers win key employment case, [online] <http://www.bbc.co.uk/news/business-37802386>
- Bennett O and Desai P, (2016) Assistance dogs: issues, House of Commons Briefing Paper No.7668, [online] <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7668>
- Birmingham City Council (2016) Effects of Air Pollution [online] https://www.birmingham.gov.uk/info/20076/pollution/1051/clean_air_zones
- Burgel BJ, Gillen M, and Castle White M, (2012) Health and Safety Strategies of Urban Taxi Drivers, in *Journal of Urban Health*, Vol.89 (4), pp.717-722
- Brustein J, (2016), Uber and Lyft Want to Replace Public Buses, Bloomberg [online] <https://www.bloomberg.com/news/articles/2016-08-15/uber-and-lyft-want-to-replace-public-buses>
- Burns L, Jordan W and Scarborough B (2013) Transforming personal mobility, Columbia University, [online] <http://sustainablemobility.ei.columbia.edu/files/2012/12/Transforming-Personal-Mobility-Jan-27-20132.pdf>
- Butcher, L. (2015) Taxi and private hire vehicle licensing, House of Commons Briefing paper, [online] <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN02005>
- Butcher L (2014) Taxis: quantity restrictions, House of Commons briefing note, [online] <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN02772>
- Butler, S (2017) Uber driver tells MPs: I work 90 hours but still need to claim benefits, in *The Guardian*, [online] <https://www.theguardian.com/business/2017/feb/06/uber-driver-mps-select-committee-minimum-wage>
- Cambridge City Council, (2016), Encouraging the Shift to Low Emission Taxis, [online] <http://democracy.cambridge.gov.uk/documents/s34713/ESC%20Report%20June%202016%20-%20Encouraging%20the%20Shift%20to%20Low%20Emission%20Taxis%20-%20.pdf>
- Centre for Economics and Business Research (2014) The future economic and environmental costs of gridlock in 2030 – An assessment of the direct and indirect economic and environmental costs of idling in road traffic congestion to households in the UK, France, Germany and the USA, [online] https://www.cebr.com/wp-content/uploads/2015/08/INRIX_costs-of-congestion_Cebr-report_v5_FINAL.pdf
- Clarke (2015) Taxi chief says cyclists are like the "ISIS of London" in *Cycling Weekly*, [online] <http://www.cyclingweekly.co.uk/news/latest-news/taxi-chief-says-cyclists-isis-london-156201>
- della Cava, M (2017) Uber admits its ghost driver 'Greyball' tool was used to thwart regulators, vows to stop, *USA Today* [online] <https://www.usatoday.com/story/tech/talkingtech/2017/03/08/uber-stop-using-greyball-target-regulators/98930282/>
- Department for Business, Energy and Industrial Strategy (2016) Taylor review on modern employment practices launches, press release, [online] <https://www.gov.uk/government/news/taylor-review-on-modern-employment-practices-launches>
- Department for Communities and Local Government (2015) English indices of deprivation 2015 [online] <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>
- Department for Energy and Climate Change (2016) Provisional estimates of UK Greenhouse Gas emissions for 2015, including quarterly emissions for 4th quarter 2015, [online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/511684/20160331_2015_Provisional_Emissions_Statistics.pdf
- Department for Environment Food & Rural Affairs (2017) New air quality plan published for consultation, press release [online] <https://www.gov.uk/government/news/new-air-quality-plan-published-for-consultation>
- Department for Environment Food & Rural Affairs (2015) Improving air quality in the UK – Tackling nitrogen dioxide in our towns and cities, [online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486636/air-plan-2015-overview-document.pdf
- Department for Environment, Food & Rural Affairs (2011) What are the causes of air pollution [online] https://uk-air.defra.gov.uk/assets/documents/What_are_the_causes_of_Air_Pollution.pdf
- Department for Transport (2017a) Road congestion and travel times – dataset [online] <https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics>
- Department for Transport (2017b) Law change demands equal treatment for disabled taxi users, [online] <https://www.gov.uk/government/news/law-change-demands-equal-treatment-for-disabled-taxi-users>
- Department for Transport (2017c) Vehicle Technology and Aviation Bill, [online] <https://www.gov.uk/government/collections/vehicle-technology-and-aviation-bill>
- Department for Transport (2017d) Access for wheelchair users to taxis and private hire vehicles, [online] <https://www.gov.uk/government/publications/access-for-wheelchair-users-to-taxis-and-private-hire-vehicles>
- Department for Transport (2017e) Taxi Statistics, [online] <https://www.gov.uk/government/collections/taxi-statistics>
- Department for Transport (2017f) Winners of £51 million government competition to develop world-leading self-driving car testing infrastructure unveiled, press release [online] <https://www.gov.uk/government/news/winners-of-51-million-government-competition-to-develop-world-leading-self-driving-car-testing-infrastructure-unveiled>

- Department for Transport (2016) National Travel Survey Table 0303 – Average number of trips (trip rates) by main mode: England [online] <https://www.gov.uk/government/statistical-data-sets/nts03-modal-comparisons>
- Department for Transport (2010) Taxi and Private Hire Vehicle Licensing: Best Practice Guidance [online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212554/taxi-private-hire-licensing-guide.pdf
- Driver and Vehicle Standards Agency (2016) DVSA taxi driving tests to end in December 2016, [online] <https://www.gov.uk/government/news/dvsa-taxi-driving-tests-to-end-in-december-2016>
- Edwards J (2015) In the long run, Uber will cut 40,000 jobs in London, Business Insider [online] <http://uk.businessinsider.com/the-london-uber-ban-and-driverless-cars-2017-9>
- Eminton S, (2016), Birmingham switching 63 diesel cabs to LPG [online] <http://www.airqualitynews.com/2016/05/06/birmingham-switching-63-diesel-cabs-lpg/>
- Environment, Food and Rural Affairs Committee (2016) Air Quality Report, [online] <http://www.publications.parliament.uk/pa/cm201516/cmselect/cmenvfru/479/47902.htm>
- European Agency for Safety and Health at Work, (2010), Taxi drivers' safety and health: A European review of good practice guidelines [online] https://osha.europa.eu/en/publications/literature_reviews/taxi-drivers-safety.pdf/view
- European Transport Safety Council (2016) Making Taxis Safer – Managing road risks for taxi drivers, their passengers and other road users, [online] http://etsc.eu/wp-content/uploads/TAXI_report_final.pdf
- Extra Costs Commission (2015) Driving down the extra costs disabled people face – Final report, [online] <http://www.scope.org.uk/Scope/media/Interim-report/Extra-Costs-Commission-Final-Report.pdf>
- Forbes (2015) At \$68 Billion Valuation, Uber Will Be Bigger Than GM, Ford, And Honda, [online] <http://www.forbes.com/sites/liyanchen/2015/12/04/at-68-billion-valuation-uber-will-be-bigger-than-gm-ford-and-honda/#6ce3f04b5858>
- GMB (2016) GMB Wins Monumental Victory in Employment Case Against Uber, press release [online] <http://www.gmb.org.uk/newsroom/GMB-wins-uber-case>
- Gillett F (2016) Cyclists and taxi drivers clash over Tavistock Place cycle lane as trial ends, in Evening Standard, [online] <http://www.standard.co.uk/news/london/cyclists-and-taxi-drivers-clash-over-tavistock-place-cycle-lane-as-trial-ends-a3373186.html>
- Goddin P (2015) Uber's plan for self-driving cars bigger than its taxi disruption, [online] Mobility Lab <http://mobilitylab.org/2015/08/18/ubers-plan-for-self-driving-cars-bigger-than-its-taxi-disruption/>
- Greenwood and Wattal, (2016), Show Me The Way To Go Home: An Empirical Investigation of Ride Sharing and Alcohol Related Motor Vehicle Homicide, Fox School of Business Research Paper No.15-054 [online] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2557612
- Guide Dogs (2015) Access All Areas Executive Summary, [online] <https://www.guidedogs.org.uk/media/7868387/access-all-areas-executive-summary.pdf>
- HM Government (1985) The Transport Act Part I, Taxis and Hire Cars – Section 16 Taxi licensing control of numbers [online] <http://www.legislation.gov.uk/ukpga/1985/67/section/16>
- HM Government (1982) Civic Government Act – Section 21 Offences [online] <http://www.legislation.gov.uk/ukpga/1982/45/section/21>
- HM Government (1976) Local Government (Miscellaneous Provisions) Act 1976 – Part II Hackney Carriages and Private Hire Vehicles [online] <http://www.legislation.gov.uk/ukpga/1976/57/part/II>
- Inrix (2016) London: Why Car Traffic is Down, but Congestion is Up, [online] <http://inrix.com/londoncongestion/>
- insureTaxi (2016) Taxi Driver Survey 2016, [online] <https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/>
- International Road Transport Unit (2017) Taxis [online] <https://www.iru.org/taxi>
- International Transport Forum (2015) Urban Mobility System Upgrade – How shared self-driving cars could change city traffic [online] http://www.itf-oecd.org/sites/default/files/docs/15cpb_self-drivingcars.pdf
- iTravelYork, (2016), City of York Council's newly approved taxi licensing policy aims to cut pollution for York's fleet, [online] <http://www.itravelyork.info/news/city-of-york-councils-newly-approved-taxi-licensing-policy-aims-to-cut-poll>
- Keeling, B (2016) Uber and Lyft to blame for SF's terrible traffic, Curbed [online] <https://sf.curbed.com/2016/12/12/13927488/uber-lyft-traffic-san-francisco>
- KPMG, (2017), Reimagine Places: Mobility as a Service, [online] https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2017/08/reimagine_places_maas.pdf
- Law Commission (2014) Reforming the law of taxi and private hire services, [online] http://www.lawcom.gov.uk/wp-content/uploads/2015/03/cp203_taxi-and-private-hire-services_summary.pdf
- Lee D, (2017) What happened in the city that banned Uber? BBC News [online] <http://www.bbc.co.uk/news/technology-41450980>
- Local Government Association (2017) LGA Briefing Debate on the future of Taxi and Private Hire Vehicles (PHV), House of Commons, [online] <https://www.local.gov.uk/sites/default/files/documents/Future%20of%20the%20Taxi%20Trade%20-%20Westminster%20Hall%20Debate%20-%2020July%2018%202017.pdf>
- Local Government Association (2015), Taxi and PHV Licensing – Councillors' Handbook (England and Wales), [online] https://www.local.gov.uk/sites/default/files/documents/10.9%20Councillor%20Handbook%20-%20Taxi%20and%20PHV%20Licensing_November_2017.pdf
- Local Transport Today (2017) Uber 'partly to blame for bus ridership fall', [online] <https://www.transportxtoday.com/publications/local-transport-today/news/52820/uber-partly-to-blame-for-bus-ridership-fall->
- Local Transport Today (2016) On-demand ride-share launches in Bristol, in Local Transport Today, 5th August – 18th August 2016
- Low Carbon Vehicle Partnership, (2015) Local measures to encourage the uptake of low emission vehicles – Good practice summary guide, produced by Urban Foresight, London
- Lucas K, Bates J, Moore J and Carrasco J A, (2016) Modelling the relationship between travel behaviours and social disadvantage, in Transportation Research Part A: Policy and Practice, Vol.85, pp.157-173
- Martin A (2016), Putting drivers back at the wheel of Uber, New Economics Foundation http://neweconomics.org/uber-putting-drivers-back-at-the-wheel/?_sf_s=uber
- Massey, (2017) Air in 44 UK cities and towns too dangerous to breathe, UN pollution report finds, in The Independent, [online] <http://www.independent.co.uk/news/uk/home-news/air-pollution-uk-worst-places-towns-cities-london-too-dangerous-to-breathe-un-who-report-a8028566.html>
- McKinnell J, Cartwright D and Grant M, (2016) Queensland cabbies to be paid out for Uber change [online] <http://www.news.com.au/finance/business/travel/queensland-cabbies-to-be-paid-out-for-uber-change/news-story/4a64be7c7088704340377824ef706250>
- Meaney A (2014) Is the ride right? Transportation network companies and taxicabs, [online] <http://www.oxera.com/Latest-Thinking/Agenda/2014/Is-the-ride-right-Transportation-network-companies.aspx>
- Neal J (2016) Unite the Union on current issues in taxi policy, e-mail communication
- Nesta, (2017) Share Lab Driver Co-op <https://www.nesta.org.uk/sharelab-fund-meet-grantees/driver-co-op>
- Newcomer E, (2016), GM Invests \$500 Million in Lyft [online] <http://www.bloomberg.com/news/articles/2016-01-04/gm-invests-500-million-in-lyft-to-bolster-alliance-against-uber>
- New York City, Taxi & Limousine Commission (2014) Taxicab Factbook [online] http://www.nyc.gov/html/tlc/downloads/pdf/2014_taxicab_fact_book.pdf
- New York City Office of the Mayor (2016) For-Hire Vehicle Transportation Study, [online] <http://www1.nyc.gov/assets/operations/downloads/pdf/For-Hire-Vehicle-Transportation-Study.pdf>
- Nottingham City Council (2017) Hackney Carriage and Private Hire Vehicle Strategy 2017-2020, [online] <http://www.nottinghamcity.gov.uk/media/456172/taxi-strategy-feb17.pdf>
- Office National Statistics (2014) Method of Travel to Work (2001 specification) QS703EW, [online] <http://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?opt=3&theme=8&subgrp=>

- Oxford City Council. (2016). Safeguarding children and vulnerable people – information for Taxi Drivers, [online] https://www.oxford.gov.uk/info/20178/drivers/95/safeguarding_children_and_vulnerable_people_-_information_for_taxi_drivers
- Paulley, D (2017) Licensing authorities' approach to the Equality Act 2010 provisions on taxi wheelchair discrimination, [online] <https://www.kingqueen.org.uk/wp-content/uploads/2017/07/Licensing-authorities%E2%80%9999-approach-to-the-Equality-Act-2010-provisions-on-taxi-wheelchair-discrimination.pdf>
- Norrie R. (2017) The two sides of diversity, report by Policy Exchange, [online] <https://policyexchange.org.uk/wp-content/uploads/2017/03/The-two-sides-of-diversity-2.pdf>
- Private Hire & Taxi Monthly. (2017a), National Fares Tables, Taxi & Private Hire Monthly, January 2017, [online] <http://edition.pagesuite-professional.co.uk/launch.aspx?eid=a1aae81c-7ff2-470e-9752-64e7d8119801>
- Private Hire and Taxi Monthly. (2017b), Uber update International, pp.50-51 [online] <http://edition.pagesuite-professional.co.uk/launch.aspx?eid=3bc21c88-9c1e-4a84-8424-be5094f5547c>
- Rivoli, D. (2016), More than 14,000 Uber, Lyft drivers sign petition to unionize, Daily News New York, [online] <http://www.nydailynews.com/new-york/queens/14-000-uber-lyft-drivers-sign-petition-unionize-article-1.2809423>
- Roberts J (2016) These 5 Famous Cities Still Don't Have Uber, [online] <http://fortune.com/2016/04/12/5-cities-without-uber/>
- Rowson J and Young, J (2011) Cabbies, Costs and Climate Change – An engaged approach to fuel efficient behaviour, project by the Royal Society of Arts [online] <https://www.thersa.org/globalassets/pdfs/blogs/cabbies-costs-and-climate-change.pdf>
- Sarkar.M. (2013) 'Employment challenges faced by British Pakistani men and why a quarter of them work as taxi drivers - choice or constraint?' Unpublished Dissertation for Master of Human Resource Management, University of Leeds, UK
- Schaller B. (2017) Unsustainable? The Growth of App-Based Ride Services and Traffic, Travel and the Future of New York City, [online] <http://schallerconsult.com/rideservices/unsustainable.pdf>
- Scope (2015) Driving down the costs of taxis and private hire vehicles for disabled people [online] <https://blog.scope.org.uk/2015/10/23/driving-down-the-cost-of-taxis-and-private-hire-vehicles-for-disabled-people/>
- Sission P. (2016) This US City is Subsidizing Uber – Here's Why, [online] <http://www.curbed.com/2016/3/22/11285802/uber-transportation-subsidy-altamonte-spring>
- Statt N (2017), Italy issues a nationwide Uber ban, [online] <https://www.theverge.com/2017/4/7/15226400/uber-italy-ban-court-ruling>
- Taylor M, Marsh G, Nicol D and Broadbent P. (2017) Good Work: The Taylor Review of Modern Working Practices, [online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/627671/good-work-taylor-review-modern-working-practices-rg.pdf
- The Telegraph (2016) What is Uber and what should I think about the controversies? [online] <http://www.telegraph.co.uk/better/technology/what-is-uber-and-what-should-i-think-about-the-controversies/>
- Transport for London (2017a), Licensing information, [online] <https://tfl.gov.uk/info-for/taxis-and-private-hire/licensing/licensing-information> date accessed 07/02/2017
- Transport for London (2017b) TPH journey-related sexual offences, [online] <https://tfl.gov.uk/corporate/safety-and-security/security-on-the-network/tph-related-sexual-offences#on-this-page-0>
- Transport for London (2017c) Licensing decision on Uber London Limited, press release 22/09/2017 [online] <https://tfl.gov.uk/info-for/media/press-releases/2017/september/licensing-decision-on-uber-london-limited>
- Transport for London (2016a) ULEZ information for Private Hire Vehicles (PHV), [online] <http://content.tfl.gov.uk/ulez-information-for-private-hire-vehicles.pdf>
- Transport for London (2016b) ULEZ requirements for taxi and private hire vehicles, [online] <https://tfl.gov.uk/modes/driving/ultra-low-emission-zone/taxi-and-private-hire-requirements?intcmp=35073#on-this-page-0>
- Transport for London (2016c) Taxi and Private Hire Vehicle Action Plan [online] <http://content.tfl.gov.uk/taxi-and-private-hire-action-plan-2016.pdf>
- Transport for London (2016d) Card payments to be accepted in every black cab [press release, online] <https://tfl.gov.uk/info-for/media/press-releases/2016/february/card-payments-to-be-accepted-in-every-black-cab>
- Transport for London (2015a) Provisional Taxi and Private Hire Strategy 2015, [online] <http://content.tfl.gov.uk/taxi-and-private-hire-strategy2.pdf>
- Transport for London (2015b) Station public realm design guidance, [online] <http://content.tfl.gov.uk/station-public-realm-design-guidance.pdf>
- Transport for West Midlands (2016) Travelling on a Whim – West Midlands to pioneer new smartphone transport system, [online] <https://www.tfwm.org.uk/news/travelling-on-a-whim-west-midlands-to-pioneer-new-smartphone-transport-system/>
- Uber (2017a) Helping Cities [online] <https://www.uber.com/en-GB/helping-cities/>
- Uber (2017b) Forward-facing, forward thinking: introducing uberACCESS, [online] <https://www.uber.com/en-GB/blog/uber-access-2/>
- Uber (2016) Cities [online] <https://www.uber.com/cities/>
- Uber Movement (2017) Uber Movement [online] <https://movement.uber.com/cities>
- Uber Newsroom (2016a) The question of congestion, [online] <https://newsroom.uber.com/uk/the-question-of-congestion/>
- UITP (2017) Public Transport Trends 2017, [online] <http://www.uitp.org/public-transport-trends>
- UITP (2016) Mobility as a service: an alternative to owning a car, [online] <http://www.uitp.org/news/maas-finland>
- Urban Transport Group (2016a) The Case for Active Travel – How walking and cycling can support more vibrant urban economies, [online] http://www.urbantransportgroup.org/system/files/general-docs/The%20Case%20for%20Active%20Travel_0.pdf
- Urban Transport Group (2016b) Getting Smart on Data [online] <http://www.urbantransportgroup.org/resources/types/reports/getting-smart-data>
- Vachon J (2016) Téo, presentation to the Mobility Intelligence Taxi and Mobility Update, [online] <http://www.mobilityintell.com/taxi-mobility-update-presentations/>
- Wigan Council, Taxi Licensing Fees – 2016/17 Fees and Charges, [online] <https://www.wigan.gov.uk/Business/Licensing-Permits-Registrations/Taxi-licence-fees.aspx>
- Wong JC (2016) 'We're just rentals': Uber drivers ask where they fit in a self-driving future, [online] The Guardian, https://www.theguardian.com/technology/2016/aug/19/uber-self-driving-pittsburgh-what-drivers-think?CMP=share_btn_tw
- Work and Pensions Select Committee, (2017) Self-employment and the gig economy inquiry, [online] <http://www.parliament.uk/business/committees/committees-a-z/commons-select/work-and-pensions-committee/inquiries/parliament-2015/self-employment-gig-economy-16-17/>
- Wynn N (2016) Cars and lorries to be banned from Bank junction cycle collision blackspot in London, in Cycling Weekly, [online] <http://www.cyclingweekly.co.uk/news/latest-news/cars-lorries-banned-cycle-accident-blackspot-london-302986#eYTIQHGFf9YTJuAQ.99>



Wellington House,
40-50 Wellington Street,
Leeds LS1 2DE

T 0113 251 7204
E info@urbantransportgroup.org
www.urbantransportgroup.org

