Future of mobility call for evidence

Page 2: Organisation or individual

Q1. Are you responding:

on behalf of an organisation?

Page 3: Organisation details

Q2. Organisation name

British Parking Association

Q3. What type of organisation are you responding for?

Other:
Membership organisation

Page 4: Future of Urban Mobility Strategy – emerging technologies

Q4. We have identified in our call for evidence the main technologies and trends that we believe will affect urban mobility in the coming decades. Are there any missing?

The Government acknowledges the main technologies and trends in our view. Technology is revolutionising the way people travel, and we want to drive innovation, investment and social responsibility in the parking profession. Proper and effective traffic management is vital in our towns and cities and as society evolves, it's important to encourage public acceptance of advances and innovations in new technology.

However, while the report acknowledges there are unknowns surrounding the development of technology, it assumes car ownership and use, will decline which "could lead to a reduction in the number of parking spaces". However, it is far from certain new technology will result in reduced car usage. Alternative fuels merely change the power supply of the vehicles with no bearing on ownership and use models. Further, if Mobility as a Service (MaaS) is adopted as the report suggests, while ownership patterns may alter they may not necessarily reduce the demand for vehicles on the roads.

With the emergence of these new technologies and ideas, the Government must decide what its priorities are. This in turn will help shape the development of the new technologies:

• altering car ownership and use models, by promoting a deviation away from the 'peak periods', otherwise shared use vehicles will still be used at the same time, so traffic will not decrease as predicted at these peak times.
• providing for alternative fuels, navigation and guidance systems and congestion management, or
• a combination of these and other priorities.

We explore these issues and others in more detail below. Parking policies and congestion management have the potential to alter ownership and use models.

Q5. We want our urban infrastructure to support these trends and deliver benefits to society. What changes are required to urban infrastructure?

The BPA suggest the following changes are necessary to support the development of these trends.

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Electric vehicle charging points
Electric vehicles will require a charging network at least the equivalent to that already in place for petrol and diesel-powered vehicles. For that to happen the current 6,000 public charging points in the UK, will need to be substantially expanded and go beyond the existing focus on city centres, large fuel retailers, airports or other commercial centres. The Automatic and Electric Vehicle Bill went some way to encouraging charge point installation for large fuel retailers such as motorway stops, but people are more likely to need destination charging at, for example car parks, given EV usage is more likely to be short distance in nature. Furthermore, many motorists want to have charging capabilities at their home to charge their vehicle overnight. To provide that expanded network requires significant investment in power generation infrastructure, transmission equipment (powerlines) and battery storage technology. and incentives to car manufacturers to reduce the price of the new EV's currently too high for most motorists.

Vehicle to Grid technology and contactless charging imbedded in on street parking are further areas where investment could support EV uptake - this needs a national strategy approach, for drivers to experience a seamless experience free from range anxiety.

Parking Structures
Electric Vehicles, Ultra-Low emission vehicles (ULEVs) or Automated Vehicles will impact on the shape of parking structures and their features. Some parking operators have already installed electric charging points. The BPA believes there will need to be significant assistance, wide sharing of best practice, and probably expenditure to prepare the existing structures for the changes that new technology is going to require. For example:

• Electric vehicles may require slightly longer or wider parking bays for vehicles to allow for the space taken up by the charging points. Need to resolve the use of hard wired charging and promote wireless charging which would be safer.

• Self-parking automated vehicles may not require open-door space for alighting passengers when parked, perhaps allowing them to occupy narrower parking spaces. In our response the DfT's consultation on Remote control parking and motorway assist: proposals for amending regulations and the Highway Code, we outlined that if drivers need to get out of the vehicle to allow it to park, or use a mobile device to command it to park, it may require the redesign of the parking structure to provide a place for the driver to stand safely.

• We have been concerned for some time about Britain's many aging car parks and the lack of investment in some areas, leading to the potential for premature closure or risk of structural failure. For example all car parks need to be assessed and many refurbished, which is an opportunity to make changes to them to accommodate autonomous vehicles.

• The cost of these changes may be high and cannot be undertaken by car park operators immediately.
Connected Vehicles
The development and deployment of connected vehicles on our streets will require the expansion of a range of supporting technologies and process, most of these will require some form of government support:

• an extension of wireless connectivity is needed to enable the vehicles to communicate with one another in real time on our streets. This requires investment in the wireless connected network; a full-fibre broadband network How far can this go in a city? Even now with superfast internet, a lot of internet users simultaneously using WiFi, slow the network down. For an autonomous vehicle that could be fatal.

• Need to ensure internet speeds keep up with number and type of users.

• Ground, wall or ceiling mounted sensors will be needed to capture parking occupancy information. While this is expensive enough in off-street parking, in on-street parking it presents other issues as sensors generally need to be built into the road surface. Sensors are not needed if all vehicles are chipped/connected. It is essential all new vehicles are chipped in the future. This is a bit like getting rid of cash though. Older vehicles will not be chipped unless forced to.

• In the rapidly evolving world of Connected Vehicles and parking apps, the current disjointed and inconsistent system of parking and traffic regulation orders (TROs) is a significant obstacle to developers aiming to operate on a national/UK wide level. Furthermore, there is a lack of coherence with emerging European and international approaches. There are a growing number of travel and transport services,

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businesses and organisations who are interested in having access to TRO data, such as data companies, parking app developers, digital map makers and Connected Vehicle manufacturers. Digitising TRO data is vital for the development of their technologies. Thus, a new national / UK standard is required to simplify matters for all involved. The BPA, Ordinance Survey and Geoplace are well positioned to support this process through their collaboarative project on developing digital standards for TRO awaiting DfT approval currently.

ANPR
The Government should revisit the use of camera technology in parking management. One of the most effective ways of making it easier for motorists to park without causing long queues or congestion is to embrace new technology, for example using automatic number plate recognition (ANPR). The increasing use of ANPR in the private sector allows motorists to park without paying, or to stay for as long as they like and pay either on their return or online within, say, 24 hours. This ANPR is also good for accessibility and is supported by Disabled Motoring UK (DMUK); barrier car parks are almost impossible for those less able. Technology should be encouraged to improve accessibility.

This is the same principle as applies to London's congestion charging scheme and the governments' Dart-charge on the Dartford crossing. It is often referred to as 'park now; pay later' and overcomes the limitations of conventional pay and display systems which requires motorists to predict how long they intend to stay; often this limits the time people stay in a high street or prevents them from spontaneously extending their stay. Using this technology parking operators can improve the management of parking and improve the economy through better access for motorists and reduced congestion.

However, LAs do not have the powers to use ANPR in this way, as the Deregulation Act placed additional restrictions on the use of CCTV by local authorities operating Civil Enforcement Powers under the Traffic Management Act. This is counter-intuitive as the Government is trying to promote technological solutions to problems and encourage innovation and new technology. We urge Government to revisit this issue and recognise the value such technology brings, particularly to users in pre-booking technology, paying on departure and improved access for people with disabilities (as supported by DMUK). CCTV technology is used in private car parks and we believe LAs should be able to use it too.

Q6. What evidence do you have to enhance our overview of the impacts of these trends on cities and their use of urban space? Are any impacts missing?

The research on the environmental impact of these trends is currently patchy, although with regard to developing Smart parking technology analysis of the The SFPark initiative in San Francisco (combining intelligent traffic management, dynamic pricing and Smart parking solutions by using sensor technology on a big scale) highlights the significant potential of smart parking to benefit the environment. The project reduced the time it took to find spaces (through less circling) by 45 percent, with a knock-on 30 percent reduction in vehicle miles driven and greenhouse gas emissions. There needs to be funding of similar research to accompany any mobility initiatives if we are to evidence claims they provide significant environmental benefits

Page 5: Future of Urban Mobility Strategy - role of government

Q7. What possible market failures might emerging technologies and trends give rise to that could require intervention by government?

Emerging technologies might cause the premature closure of parking facilities resulting in a further shortfall in available parking space leading to increases in congestion as vehicles search for a parking space. Even under the conditions of widescale adoption of Mobility as a Service (MaaS) a reduction in available parking spaces may lead to greater congestion as vehicles are forced to search for somewhere to park rather than find a parking space quickly. Our research shows 30 percent of city traffic is looking for parking space at any one time.

Assuming the adoption of MaaS, a reduction in private ownership and true smart cars, we may see a reduction in penalty charge notices, while this will be welcomed by many it will no doubt seriously concern

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Local Government. Parking revenue is used to support Local Government investment in transport and parking related activities. The reduction of this source of income may result in a race to the bottom as LA's sell parking facilities and reduce enforcement to reduce costs and reallocate resources to other operations.

In the private sector, the reduction in penalty charge notices, while welcomed by many may force car park operators to increase ticket prices to fund the site, it may result in job losses and the fewer parking operators as they maybe unable to operate. All this raises the issue of how parking will be managed and funded effectively in the absence of the companies that do it currently.

As a further point much of the technology that is in development or is in process of being deployed relies on using individual's personal data. As recent stories in the media have revealed there are a range of legitimate concerns surrounding the use of personal data. Many motorists may be unwilling and/or unable to use of the technology on offer to make non-cash payments for parking, resulting in a system which is not as efficient.

The demise of many park and ride sites is due to the lack of transport infrastructure from the site to the city centre and the lack of accessibility, which puts people off using them. Research is needed to investigate why park and ride is not working in many places and what is needed to ensure its success.

Q8. We are committed to a transport network that works for everyone. What role should government play in helping ensure that future transport technologies and services are developed in an inclusive manner?

Consult with all relevant sectors, their relevant trade bodies and professional associations to gain insight and understanding of the challenges faced and solutions being considered and developed.

Q9. How can government ensure that future urban transport systems support people's wellbeing and flourishing, healthy communities?

Ensure that solutions and systems are designed in relation to a specific real-world need or requirement; work with all stakeholders, communities and people to understand what these are rather than building systems that may have little or no benefit to the majority of people, or have a negative impact on the problem trying to be addressed.

A BPA study of 2000 drivers found 44 percent found parking a stressful experience, where we spend on average four days a year looking for spaces to park. The combination of sophisticated parking apps, intelligent parking management and data integration could significantly reduce this frustrating experience. Smart parking initiatives offer numerous benefits to citizens and businesses alike. Drivers are more likely to visit local and distant retail and entertainment places when the hassle of finding spaces is handled by their app or connected vehicle. Parking operators also benefit through more efficient use of their capacity using intelligent management programmes with dynamic pricing to make the most of the peaks and troughs in demand.

Q10. What role should government play in understanding, shaping and responding to public attitudes to emerging technologies and services?

We recommend the Government work with both public and private stakeholders to understand the limitations and capabilities of the technology as it's being developed. Once an understanding has been reached we recommend the Government run a national information campaign so the public are adequately informed. This in turn is likely to encourage other aspects of the private and public sector to get involved.

The UK parking technology market is highly fragmented, in particular for parking payment apps due to the

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many companies in this area. On the one hand a diverse market is no bad thing, in terms of stimulating innovation through competition, however this scenario poses challenges in terms of impeding growth through issues in network integration and security. A key issue for all EU counties is the 'battle for the kerbside', which is becoming increasingly acute with the rise in demand for delivery services related to online purchasing. Where ownership of a parking space, both on and off-street, is in the hands of many different public and private bodies, increased collaboration and harmonisation is needed to overcome obstacles in this complex environment.

Initiatives in data harmonisation such as those being developed by the Alliance for Parking Data Standards and the BPA TRO working group, collaboration with Geoplace and Ordinance Survey will help to address these challenges. Individual countries also need to address specific issues such as the disparities between public and private regulation of ANPR technology as found in the UK. Open market conditions are needed to support a more seamless experience for customers. In the UK the exclusive tie in local authorities have, through expensive procurement processes, to individual mobile payment parking solutions poses a headache for consumers needing several apps cater for different authorities, and stifles competition in the market at the national and international level.

Q11. What changes do you expect to the mobility-related labour market? How can government best support people and businesses affected by these changes?

Technology and automation may naturally require less human involvement as tasks or functions are programmed to be carried out by computers. Conversely, the type of role may evolve with more technical expertise required to carry out such programming or operate more advanced technology. Appropriate training and development is therefore vital to ensure that businesses and their staff are able to meet the changing needs of their customers and the technology used to service them.

Q12. What other actions should government prioritise to help people, businesses and cities prepare for the future?

We recommend the Government give people and businesses, both the information and the time to prepare for the changes that will happen in the mobility-related transport market. To (a) support continued productivity (b) the growth of clean transport and (c) help transport innovation. One way to support businesses is through continued grant funding.

Page 6: Future of Mobility Grand Challenge – fostering innovation

Q13. Which 'missions' in the areas we have identified could be most effective in driving innovation and investment? Please refer to the criteria suggested in paragraph 2.6.

The Safer Street mission
Liveable Cities: We note this mission makes a big assumption; that shared use of automated vehicles could allow the removal of the majority of parking spaces from city centres. The reality is we do not know what the outcome might be. Each journey made by a shared use automated vehicle will need to be parked somewhere. It is equally possible that adoption of shared automated vehicles could increase the number of cars.

The APPG on SMART Cities has been active in promoting most of the missions listed, however this initiative is in a state of flux following the Chair Ian Stewart stepping down to take up position as Assistant Whip. A timely re-establishment of this important imitative would help push forward these missions.

Q14. How should government funding be targeted to help UK innovators build and scale transport solutions?

Funding should be targeted nationwide and in particular in more rural locations where technology such as automated vehicles could present a lifeline and new opportunities for certain demographics by creating connectivity and accessibility solutions which did not previously exist.

Q15. Which laws or regulations not currently being addressed need to be amended or created to help harness the benefits and mitigate any risks associated with new transport technologies or services?

Digitisation of Traffic Regulation Orders:
We urge the Government to simplify the process for LAs to establish and operate Traffic Regulation Orders (TROs). TRO's are the basis for local traffic and parking management. Currently the system is fragmented as each local authority operates their own subtly different procedures based on their own interpretation of the TRO regulations. The legislation underpinning a TRO is the Road Traffic Regulation Act 1984. Due to the now dynamic nature of the transport sector, it is not appropriate for such an important aspect of traffic management to be defined by such old legislation.

Clear, concise and uniform standards are urgently needed for what is and is not permissible on streets, to avoid confusion and unnecessary hassle for the public and businesses. It is also essential to digitise TROs so smart vehicles, sat navs and apps can understand them i.e. be uploaded to the internet and process the information. Alternative transport and even drones will also need TROs in a digital format. If the parking and traffic regulations are not distilled into a format that these systems can understand then there is a high risk they will not be able function fully.

The BPA is already working with other stakeholders in the transport sector to create a data infrastructure to underpin the creation of an ecosystem to provide solutions to these problems. DfT should be the focal point of these efforts and include Welsh Government and Transport Scotland and Ireland, either through funding or coordinating activities to enable resulting standards to be disseminated and adopted. The successful implementation of this work will greatly assist innovation and drive economic growth.

ANPR:
As mentioned, the development of a truly smart transport network requires a level playing field between the private and public sector, particularly on parking and traffic enforcement. LAs need to be able to use ANPR camera technology in the same way the private sector can as it is currently counter-intuitive to the Government's aim to promote technological solutions to problems and encourage innovation and new technology.

We urge government to revisit this issue and recognise the value ANPR technology brings particularly to users in pre-booking technology, paying on departure and improved access for people with disabilities. Such technology is used in private car parks and we believe LAs should be able to use it too. Currently it is anti-competitive, as LA's cannot use dynamic charging where instant changes to tariffs depending on supply and demand could be applied. For example, in times of few visitors, reduce the tariffs or even give free parking to increase footfall. The private sector can already do this.

The Traffic Management Act 2008 - persistent penalty charge notice evaders
There are powers within the TMA to deal with persistent evaders of penalty charge notices (PCN) but this legislation needs the offending vehicle to be in contravention at the time of action. This means a PCN must be on the vehicle windscreen and only this one PCN can be recovered.
If the vehicle has a name and address with the DVLA after six months a Warrant of Control is obtained by the local authority and enforcement agents can recover the debt. However typically only 25% of these PCNS are paid and the remaining 75% of debts written off.
Many thousands of cases don't reach this stage because there is no (or incorrect/incomplete) keeper information held by the DVLA. This results in a significant cost to those councils and these drivers can continue to park unlawfully, and in many cases avoid paying road tax, insurance and may not have an MOT. This is not only unsafe but recent research shows local authorities in England are owed over £500m per year. London councils tried, and were unable to rectify this through the implementation of the London Councils and Transport for London Act 2008, however the code of practice for this legislation has been deemed unworkable, therefore this legislation has never been used. Since 2008 the problem of persistent evaders has grown.
We are in discussion with London councils on updates urgently needed to the current contraventions

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codes in the UK. This needs to be delegated and simplified so instant changes can be made. Current legislation in England alone is flawed.

Q16. How could the experience of working with local and / or national regulators be improved for transport innovators?

Harmonising Legal Powers:
Currently there are legal differences across the country between what local authorities are able to do. We recommend harmonising what local authorities are able to do across England and Wales. For example, the Government could extend the provisions of the London Local Authorities and Transport for London Act 2003 and implement Part 6 of the Traffic Management Act 2004 for all local authorities. This will ensure that contraventions involving pavement (footway) parking, one-way streets, cycle and bus lanes are consistently and properly managed everywhere. It will allow local authorities to better manage our streets, reduce congestion, improve air quality, and help the Police Service to focus on vehicle safety. The Government could also harmonise moving contraventions as currently Wales has but England does not.

Q17. What further actions should government prioritise for resolving barriers to data sharing and use in the mobility sector while protecting privacy and security?

We recommend the Government, help to standardise TRO data, the way it is held and platforms that data is stored on made available to all and legislative requirements so that innovators can create the simplest, uniform, traffic management systems possible.

Q18. Do you have any further suggestions or comments on the subject of this call for evidence?

Just to reiterate, in our view the overarching priority is for the Government to standardise TROs and requiring them to be digitised, and for LA's to have the same legal powers to use ANPR technology as the private sector.

Dynamic charging is an area that could take off with the digitisation of TROs. For example, AppyParking is an online app which allows drivers to have access to street maps that detail kerbside parking restrictions (TROs) and gives the drivers the option of frictionless payment using sensors.