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Lord Selborne  
The House of Lords Science and Technology Select Committee  
House of Lords  
London  
SW1A 0AA

Copied to Anna Murphy – Clerk.  
Emailed to: [murphya@parliament.uk](mailto:murphya@parliament.uk)

26 October 2016

Dear Lord Selborne

## **Driverless Vehicles**

The British Parking Association (BPA) welcomes your inquiry regarding driverless vehicles. As the largest professional parking association in Europe we represent around 690 organisations by promoting and influencing the best interests of these members and the parking and traffic management sector throughout the UK and Europe. These organisations are many and varied and include manufacturers, car park operators, local authorities, health authorities, universities and higher education facilities, airports, railway stations, shopping centres, theme parks, construction companies, learning providers and consultants. We have 250 local authorities amongst our members.

For more information about the BPA please see the [endnote](#).

Accessibility continues to underpin economic regeneration, as shown in the BPA's [Master Plan for Parking](#). Our response provides proposals on how encouraging innovation and investment, and the fair and effective use of technology will improve the delivery and management of parking services for the benefit of all.

Our response to your specific questions is provided in the [Appendix](#).

Technology is revolutionising the way people travel, and we want to drive innovation, investment and social responsibility in the parking profession. Parking policy has a major influence on people's travel decisions and therefore on how people move and become mobile. Proper and effective traffic management is vital in our towns and cities and as society evolves and the likelihood of congestion increases, it is important to encourage public acceptance of advances and innovations in new technology helping to deliver parking solutions and services which enable a mobile society.

With the majority of trips starting or ending with parking, parking must be at the heart of future mobility discussions as we prepare for a future increasingly dependent and driven by technology.

## **Research into technology and innovation in parking**

The BPA has identified a need to explore the various opportunities in technology as well as potential threats and challenges that face the parking profession and those working within it. There is little doubt that we are witnessing a major shift which will transport us from what is perceived by many motorists as a relatively fragmented way of delivering parking services to something which is consistent, simpler, aided by technology and where practitioners and providers can deliver a much more holistic service that benefits everyone.

The BPA is keen to connect emerging technology to people's mobility aspirations through developing new parking policy. The BPA has formed a new group of parking and transport experts to explore these exciting and yet thought-provoking opportunities, commissioning research to identify trends in future intelligent mobility.

Our report Parking 20:20 follows research commissioned to explore the future of parking and intelligent mobility. Conducted by Imperial College Graduate Justus Loebler, the report identifies seven key areas where the BPA's efforts must be directed:

- Data and Apps
- Payment
- Integration
- Real-Time Data
- Shared Mobility and Car Clubs
- Electric Vehicle Charging
- Autonomous Vehicles

The research seeks to identify the future role of parking and the impact of changes in technology and mobility, pointing to changes in the way that parking services are being managed and delivered.

The future of parking will change rapidly over the coming years and new products and services will enter the market, disrupting many aspects of the parking profession. As the leading association for parking professionals, the BPA is committed to supporting our members, and helping to identify the opportunities and threats that change and innovation will bring to the sector.

Taking action in fields such as data integration, innovation in payment processes, autonomous and electric vehicles will ensure parking is at the heart of future mobility discussion and that the parking profession is well prepared for the future. The research suggests that despite the majority of trips starting or ending with parking, the parking profession needs progressive integration with the rest of the Transport Network. We therefore want to ensure that the parking profession and the services it provides are integral to the Government's National Innovation Plan in order to create holistic transport policies that meet local needs and address environmental concerns.

We believe that by establishing links to other stakeholders including, but not limited to, intelligent mobility groups, mobile phone companies, car manufacturers, intelligent transport providers, academia, government, local authorities, health trusts and the private sector, we can together build a policy consensus and ensure that the parking profession is integrated with the rest of the Transport Network.

The BPA will be conducting further research to focus on establishing progressive standards for the usage of new technology within the parking sector. Also, it will showcase where the parking profession has an important impact on the development and deployment of future intelligent mobility.

For example data is seen as an important area, covering three of the seven areas identified as a priority in the Parking 20:20 research (Data & Apps, Integration and Real-Time Data). To provide a better service for the consumer operators need to access real-time data. This data needs to be accurate and useful. To ensure this the BPA will be exploring opportunities to establish a standard in terms of criteria for a format for the collection and presentation of parking data.

The type of technology to utilise and how the public, businesses, and local government access the data will significantly alter the provision of parking as we know it. What it will look like ultimately depend on everyone working together to provide an exceptional experience for the end user.

The BPA are keen to research and be involved in work on autonomous vehicles to ensure that parking operators are up to date and providing the best possible service to their customers.

### **Camera technology in parking**

Much of the work we have done demonstrates that there is a need for local authorities and private operators managing parking to be flexible in how they manage their car parks where they make a charge. One of the most effective ways of making it easier for motorists to park without the stress of having to worry about how long they are parking is to embrace new technology and the increasing use in the private sector of automatic number plate recognition (ANPR) which enables motorists to park without paying, to stay as long as they like but to make payment either on their return or online within, say, 24 hours. This is the same principle as applies to London's congestion charging scheme and the governments' Dart-charge on the Dartford crossing.

Driverless cars will be connected to other technologies, and to streamline the journey furthermore there will be the opportunity to connect the vehicle with camera technology in car parks.

However, local authorities do not have the powers to use ANPR in this way, the Deregulation Act placed restrictions on the use of CCTV by local authorities operating Civil Enforcement Powers under the Traffic Management Act.

Surveillance cameras play an important role in the management and use of parking facilities. We set out in our [Master Plan](#) that it is important that the use of cameras and surveillance technologies is fair and responsible, in accordance with Data Protection rules, and providing benefits to operators and motorists, with protocols in place to identify unfair or inappropriate enforcement activity.

Cameras (CCTV and ANPR) are useful tools to properly manage parking and Government should not ban them but should properly regulate their use for specific, locally-defined

purposes. In some areas where the use of a Civil Enforcement Officer is not practical the use of cameras can be helpful.

We urge the government to revisit this issue as part of this discussion and to recognise the value such technology brings particularly to users in pre-booking technology, paying on departure and improved access for people with disabilities, and most particularly in relation to hard pressed traders and shopkeepers who rely on trade from car-borne customers in many UK towns and cities.

Safeguards need to be put in place to ensure such technology is not used simply for enforcement but as much technology is readily used in private car parks we believe local authorities should be able to use it too.

### **Driverless cars as an enabler**

Parking services impact on everyone, for people who travel about, regardless of their mode of transport, few things impact on people's daily lives more so than parking services. Even pedestrians can be affected by poorly parked vehicles, obstruction of footways, dropped kerbs road crossings and junctions and parking at bus stops can impede access to public transport services.

Technology is an enabler of equality and improved access and services in parking. The use of ANPR in car parks in particular is a technology which enables the delivery of many new customer friendly systems and improves accessibility for the elderly and disabled motorists by enabling hands free entry and exit and the use of internet based pre-booking systems and parking accounts.

Driverless cars may provide further improvements to access and travel for disabled motorists and elderly motorists. Disabled people may be unable to drive. Elderly people may be judged unfit to drive. Others may simply not want to drive or be concerned about their ability to do so.

Without the need to operate the vehicle either at all or for long periods or perhaps as much as they do now, driverless cars could ensure equality and enhance their quality of life.

### **Consistency in parking rules and regulations**

Driverless cars will need to understand parking rules and regulations to park themselves. With the vehicle programmed to carry out a minimum risk manoeuvre such as pulling over to a safe parking place, if the driver is no longer in control, then the vehicle must be able to identify a safe parking place and understand parking terms and conditions.

Autonomous vehicles necessitate the consistency of signage across the country to ensure the cars understand the rules.

The legislative framework for managing parking needs to be carefully examined to ensure it can continue for the best of the community. Liability for parking offences needs to be defined in the instance of autonomous vehicles, where driver liability would come into question.

Currently there is confusion for motorists when faced with parking tickets. On private land, parking is often managed by private parking companies who issue their own parking tickets. The rules about issuing these tickets are different to the rules about tickets issued by local authorities. Mainly private parking tickets, parking charge notices, are issued on the grounds of 'breach of contract', local authorities issue parking tickets, officially called 'Penalty Charge Notices', which are of course 'regulated' by traffic law.

In 2007 the BPA established its Approved Operator Scheme to ensure that its members involved in managing parking on private land behaved responsibly and complied with the Code of Practice which was established in consultation with other stakeholders including motorists and consumer representatives including people with disabilities, motorists, consumer organisations, vehicle hire companies and freight operators as well as AOS members. Abiding by a code of practice helps businesses ensuring fair treatment of the motorist and high professional standards of conduct. The BPA continues to raise standards, over recent years, seven companies have been expelled for serious breaches of the code.

In addition the BPA and its approved operator member companies have established POPLA, the Parking on Private Land Appeals service<sup>i</sup>, which came into being at the same time as The Protection of Freedoms Act in 2012 and since its launch over 65,000 appeals have been submitted. This is the equivalent of 1% of all parking charge notices issued on private land and compares favourably with the levels of appeal to the statutory traffic penalty tribunals in London and in England and Wales. POPLA is judicially independent, with an Independent Scrutiny Board guaranteeing absolute independence.

As time has moved on we believe that there is a need for government to introduce some light touch regulation to ensure that standards in this sector continue to rise and you will see from the [enclosed document](#) that we are proposing the establishment of a standard setting body accountable to the Government but at no cost to it which would ensure a consistent set of standards across the sector.

We also believe that there should be a single appeals service to serve quick, easy and free independent redress to motorists. This change will become all the more important when cars need to understand the rules.

## **Conclusion**

The BPA is always very willing to work with government to develop car parking policy and the Association is at your disposal to assist with any further information, advice or support in relation to this very important area of public policy. We would be delighted to give oral evidence of best practice in the parking community if it was helpful to the Committee and inquiry.

We hope you will find these comments of interest. The BPA is ready to work with the government to achieve these desired aims and we look forward to discussing with you how we can assist in taking these issues forward.

Please do not hesitate to contact my colleague Kathryn Shipman by emailing [consultations@britishparking.co.uk](mailto:consultations@britishparking.co.uk) or calling 01444 447 317 if you require any further information.

Yours sincerely



**Patrick Troy**  
**Chief Executive**

## **Appendix**

### **Impacts and benefits**

#### **1. What are the potential applications for autonomous vehicles?**

Driverless vehicles are a new technology and countless opportunities have not yet been explored.

We believe in the first instance HGVs and the commercial sector will take on driverless vehicles. Freight trains could be provided, using connected autonomous vehicles providing quicker and more efficient transportation of goods.

Driverless buses could provide better and more frequent services, especially in rural locations.

Driverless cars would be accessed and used more as taxis and car sharing vehicles than as bought personal property as they are now.

#### **2. What are the potential user benefits and disadvantages from the deployment of autonomous vehicles?**

Possible advantages include more free time for everyone and improved safety of both motorists and pedestrians. As we have explained above improved access for the elderly and disabled people.

We could see a reduction in emissions due to quicker, smarter journeys and the easing of congestion with the vehicles ensuring optimal usage of road capacity.

The vehicles in combination with smart technologies could reduce labour costs while boosting equipment and facility productivity.

Disadvantages could include in the short term a feeling of lack of control for many motorists, that initially could cause a slow take up and problems caused by motorists taking back control from the vehicle.

#### **4. How much is known about public attitudes to autonomous vehicles?**

Little is known about the public attitudes and the potential take up of autonomous vehicles.

We held a poll on our website in early 2015, the question was 'Are driverless cars the future of motoring?' It identified that out of 220 respondents 86 said there was 'no chance', 57 said 'definitely, with the remainder of respondents unsure.

However the Millennial Generation (covers people born between the 1980's and the year 2000) make up a large proportion of the population. This generation has been shaped by the technological revolution that occurred throughout their youth. They, as does every new-born child now, grew up with technology, so being connected and tech savvy is in their DNA. Equipped with the latest technology and gadgets, they are online and connected 24/7, 365 days a year.

They expect technology in every aspect of their lives, and we believe will welcome autonomous vehicles.

## **5. What is the scale of the market opportunity for autonomous vehicles?**

Autonomous vehicles will impact our members and the wider parking profession directly.

We estimate there are 17,000 – 20,000 parking facilities across the UK and the parking profession employs approximately 82,000 people of whom the vast majority (72,000) are employed in the private sector<sup>1</sup>.

The size and value of the businesses supporting parking operators is unknown as we do not know the size of the support sector, just as we do not know the number of operators thus it is impossible to quantify readily. Companies evolve continuously, for example BMW et al are developing self-parking vehicles, and camera technology companies are developing systems to support parking management, just as Visa is processing more and more payments for parking operators.

Autonomous vehicles will also impact on roads and the traffic management infrastructure.

## **Creating an enabling environment**

### *Research and development*

## **6. Is the scale of current and planned demonstration facilities for autonomous vehicles sufficiently broad and ambitious?**

We know that connected and autonomous vehicles are already being developed and tested. There are several UK cities already testing autonomous vehicles, including:

- UK Autodrive, based in Milton Keynes and Coventry
- The University of the West of England campus in June 2016, with subsequent trials to follow in Bristol City Centre
- Drive Me London, a private scheme with plans to unleash a fleet of self-driving Volvos on public roads in London
- GATEway (Greenwich Automated Transport Environment)
- Jaguar Land Rover has said it will create a fleet of more than 100 research vehicles over the next four years to test autonomous and connected technology, with the first

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<sup>1</sup> [BPA and Skyblue Research, The Size and Shape of the UK Parking Profession, 2013](#)

hitting the streets later this year. They plan to test the vehicles near its headquarters in Whitley, Coventry

We understand that the Department for Transport (DfT) Code of Practice for how driverless cars should be tested on UK roads is useful and encouraging.

We own Europe's largest trade exhibition for parking, Parkex, last year we invited a connected police car to the event and hope to invite more demonstrators in the future.

**7. Is the Government doing enough to fund research and development on autonomous vehicles, and to stimulate others to do so? Should it be doing more to coordinate UK actions?**

We have found that parking is often forgotten about, despite having a major influence on people's travel decisions and therefore on how people move and become mobile.

The Government could do more to provide more information on different funding streams for businesses or associations to fund research in this area and could improve the way they connect organisations interested in this area.

**8. How effective are Innovate UK and the CCAV in this area?**

The BPA began working with Innovate UK in 2015 to ensure that parking was part of the discussion. The organisations have been helpful leaders in this field, however they could do more to join up the conversations and get as many organisations involved as possible.

**9. Is the environment for small and medium-sized enterprises (SMEs) working in this sector sufficiently enabling?**

The BPA receives many requests from small enterprises for introductions to local authorities to test and use their new innovations. However local authorities have little time and funds to try new technology out.

We think Government should be helping local authorities to develop and improve their services through new technology and should provide them with funding to test new technology and help small enterprises.

To enable the discussion we have created the Parking 20:20 group to ensure all of this interested and working in innovation and technology can network and join up the conversation.

*Real world operation*

**10. Will successful deployment of autonomous vehicles require changes to digital or physical infrastructure?**

We are sure that autonomous vehicles will affect the altering of car park structures to ensure they cater for the vehicle's needs, however the BPA believes it will be a chicken and egg conundrum, that will require careful assistance and wide sharing of best practice examples.

Autonomous vehicles; For example, self-parking autonomous vehicles do not require open-door space for dropping off passengers when parked, allowing them to occupy parking spaces that are 15 percent tighter.



We could also witness less demand for parking as a result of autonomous vehicles if they become more like car sharing vehicles and are in use for longer periods than they are parked.

Britain's many aging car parks need to be assessed and refurbished to accommodate autonomous vehicles.. Funds should be made available by owners and operators to ensure car parks are properly serviced and maintained.

We believe that good quality, well designed and properly maintained car parks can contribute significantly to the prosperity of Britain's towns and cities. The lack of investment could significantly reduce visitors to the car parks and of course to the high street.

We replied to the Department for Transport's consultation on *Driverless vehicles: connected and autonomous technologies*, specifically addressing their suggestion of remote control parking. We outlined that the driver will need to get out of the vehicle and, using a mobile device command it to automatically drive itself into, or out of, a parking space the car park structure may need to be altered to provide a place for the driver to stand.

The cost of these changes may be vast and cannot be undertaken by car park operators immediately.

**11. How might a move from current levels of highly automated vehicles to their extensive deployment best be managed? What do you see as the key milestones?**

The BPA believes autonomous vehicle take up will start with industrial fleets.

We believe take up by the public may be harder and should start with pilots with funding to help local authorities and companies make vital changes to structures and market it to the public. The key findings of the pilots can then be shared and the process rolled out to the rest of the UK.

**12. Does the Government have an effective approach on data and cybersecurity in this sector?**

Government need to look at regulations to support other technology in parking too. Cameras (CCTV and ANPR) are useful tools to properly manage parking and Government should not ban them but should properly regulate their use for specific, locally-defined purposes. In some areas where the use of a Civil Enforcement Officer is not practical the use of cameras can be helpful.

As explained above data is seen as an important area, covering three of the seven areas identified as a priority in the BPA's Parking 20:20 research. To provide a better service for the consumer operators need to access real-time data. The BPA will be exploring opportunities to establish a standard in terms of criteria for a format for the collection and presentation of parking data.

**13. Are further revisions needed to insurance, regulation and legislation in the UK to create an enabling environment for autonomous vehicles?**

As explained above regulators need to play a role in establishing progressive standards for the usage of new technology within the parking sector. This will showcase where the parking profession has an important impact on the development and deployment of future intelligent mobility.

Driverless cars will need to understand parking rules and regulations to park themselves. With the vehicle programmed to carry out a minimum risk manoeuvre such as pulling over to a safe parking place, if the driver is no longer in control, then the vehicle must be able to identify a safe parking place and understand parking terms and conditions.

Autonomous vehicles necessitate the consistency of signage across the country to ensure the cars understand the rules.

The legislative framework for managing parking needs to be carefully examined to ensure it can continue for the best of the community. Liability for parking offences needs to be defined in the instance of autonomous vehicles, where driver liability would come into question.

The current regime for parking on private land is confusing for motorists and will be for autonomous cars too.

We believe that there is a need for government to introduce some light touch regulation to introduce a single standard setting body, a single code of practice and a single appeals service to serve quick, easy and free independent redress to motorists.

#### **14. What, if any, ethical issues need to be addressed in the substitution of human judgement in the control of vehicles by algorithms and Artificial Intelligence?**

It is essential to ensure that the technology does not impair things rather than improve things. For example good parking management is vital to ensure that parking facilities remain accessible and provide access to town and city centres. This technology has the potential to cause congestion in the car park, either by many drivers taking back control when believing they have identified hazards, or by cars operating at very low speeds and stopping when they identify hazards.

#### *Wider governance*

#### **15. What does the proposed Modern Transport Bill need to deliver?**

It will be necessary to make revisions to the Highway Code to accommodate automated vehicle technologies; we want to see changes in the waiting and parking (238 to 252 of The Highway Code rules).

Autonomous vehicles will need to fully understand parking rules, when the Bill identifies the 'higher standard of 'driving' demanded of vehicles operating in an automated mode than would be expected of a conventional driver'. Government will need to bring in some changes to private parking before this particular Bill is passed to ensure all of it is much easier for motorists and now cars to understand.

#### **16. How effective is the UK's education system in delivering people with the right skills to support the autonomous vehicles sector?**

To ensure the safety of motorists and pedestrians the BPA believes that autonomous vehicles may necessitate changes to the driving test or a new test to ensure those using the vehicles are fully equipped to use them and understand how they work.

It is also obvious that with the roll out of autonomous vehicles proper training for mechanics is necessary to ensure that the vehicles are properly maintained and safe on our roads.

**17. Is the Government's strategy and work in this area sufficiently wide-reaching? Does it take into account the opportunities that autonomous vehicles offer in a wide range of areas, not just on the road?**

We have found that parking is often forgotten about, despite having a major influence on people's travel decisions and therefore on how people move and become mobile.

The Government could do more to provide more information on different funding streams for businesses or associations to fund research in this area and could improve the way they connect organisations interested in this area.

To enable the discussion for our members and stakeholders we have created the Parking 20:20 group to ensure all of this interested and working in innovation and technology can network and join up the conversation.

## **Endnote**

### **About the British Parking Association:**

The British Parking Association (BPA) is the largest professional association in Europe, representing around 690 organisations in the parking and traffic management profession. Our members include manufacturers, learning providers, consultants, local authorities, car park operators, including those managing parking on private land such as retail parks, healthcare facilities, universities and railway stations. We have 144 members managing parking on private land and 250 local authority members. We provide our members with knowledge and a range of benefits and resources that assist them in their day to day work.

As the recognised authority within the parking profession, we represent, promote and influence the best interests of the parking and traffic management profession throughout the UK and Europe. We also manage initiatives for the sector including the Safer Parking Scheme (on behalf of the Association of Chief Police Officers), the Approved Operator Scheme (for those managing parking on private, unregulated land) and our stakeholder engagement group, the Parking Forum.

We place the consumer at the heart of our thinking and as the recognised authority in parking we actively represent and promote the sector by advancing knowledge, raising standards and professionalism, and using our influence to deliver excellence for the benefit of all.

For more information regarding us here at the BPA, please click [here](#).

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<sup>i</sup> The processes of POPLA

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The motorist has 28 days to appeal to POPLA from an operator's rejection of their representations. This is for POPLA to decide and will then feed back to the BPA to investigate any breaches identified. POPLA operates as an independent resolution for non-statutory parking charges. POPLA is independent of all parties to appeals, including the operator and the BPA.

Once the appeal is lodged, the operator has 28 days to submit evidence they allege proves the breach. POPLA is free to the motorist.