

# Contents

<b>Foreword and Overview</b>	<b>5</b>
<b>Executive Summary</b>	<b>7</b>
Context	7
Key themes	7
A positive view of Mobility as a Service	7
Summary	8
<b>Mobility as a Service in Context</b>	<b>9</b>
A snapshot of the top 10 transport and navigation apps downloaded to iOS operating systems in the UK for late May 2018	10
A snapshot of the top transport and mapping apps on Google Play	10
<b>Annual Survey of Mobility as a Service</b>	<b>13</b>
Survey participants	13
<b>Transport practitioners and the essential functions and modes of Mobility as a Service</b>	<b>14</b>
Word cloud	14
Essential functions of Mobility as a Service	14
<b>Essential Modes of Mobility as a Service</b>	<b>17</b>
<b>Case Studies: Integration of modes</b>	<b>20</b>
Trav.ly	20
Uber	20
Whim	21
<b>Case Studies: New modes</b>	<b>22</b>
Bikeshare: nextbike	22
Carpooling: Faxi	23
Microtransit: ArrivaClick, Ford Chariot, ViaVan, MyFirstMile	24
<b>Mobility as a Service: Opportunity or Threat?</b>	<b>25</b>
<b>Impacts of Mobility as a Service on transport and society</b>	<b>25</b>
<b>Impacts of Mobility as a Service on Transport Demand</b>	<b>28</b>
Increasing demand for public transport	28
Decreasing demand for roads and associated infrastructure apart from EV charging	30
Decreasing demand for personal car based travel but increasing demand for 'pay per use' car travel including ride hailing, car clubs and car rental	32
An increase in demand for active travel infrastructure and bike share schemes	35
People were less certain about the impacts on community and other transport services	36
<b>Case Studies: Social and environmental impacts</b>	<b>37</b>
Case Study: Project Onwards, supporting people retiring from driving	38
Case Study: Spitsmijden, changing driving behaviour around traffic disruption	39

<b>London – Oyster and a sea of shared transport</b>	<b>40</b>
Case Study: ViaVan	41
<b>Mobility as a Service plans, expectations and barriers</b>	<b>42</b>
Are you actively planning or developing a Mobility as a Service project?	43
Impacts on organisations	44
Ranked Barriers to Mobility as a Service	46
<b>Case Studies: Business case</b>	<b>47</b>
Market Growth: NaviGogo	47
Market Growth: TfGM MaaS proof of concept trial	48
Market Growth: UbiGo	49
Increasing efficiency: Helsinki Business Hub	49
Increasing efficiency: Vamooz	49
<b>Case Studies: Enabling Mobility as a Service</b>	<b>50</b>
Masabi	50
City of Aarhus	51
Payment agreements	51
MCard	51
<b>Open Data</b>	<b>52</b>
Open data and operator types	53
<b>Governance, policy and the vision for Mobility as a Service</b>	<b>55</b>
<b>Governance</b>	<b>55</b>
<b>Policy</b>	<b>56</b>
PTV Group findings	56
<b>Vision</b>	<b>58</b>
<b>The Future</b>	<b>59</b>
Illustrative quotes	60
Pick one of the images to represent how you think Mobility as a Service will develop	60
<b>Contributors</b>	<b>61</b>
<b>Bibliography</b>	<b>62</b>
<b>References</b>	<b>63</b>

## Foreword and Overview

This is the second Annual Survey of Mobility as a Service published by Landor LINKS, in which we look at developments in this quickly evolving field since the launch of the publication in 2017.

The intention of this series is to assess both the emergent concept of MaaS, and how it is being understood, pursued and responded to by different parties, and to record the development of individual elements of MaaS-type schemes and systems that promote and facilitate multi-modal, user-centric and flexible choices and purchases of travel facilities by consumers.

The implicit question we seek to address for all those with an interest in the sector is whether, and if so when, there will be a major reshaping of the travel and mobility marketplace in which the consumer's perspective will change fundamentally from the current mode-by-mode 'search and book' model, to a solution-based marketplace addressing individuals' overall mobility needs.

Advocates believe this will be intrinsically beneficial and arguably inevitable, in the modern digitally-driven world.

Over the last year the profile of Mobility as a Service as a concept in the UK has undoubtedly been raised further in both professional and media circles.

Significantly, the Transport Committee of the UK Parliament launched a public inquiry into Mobility as a Service, in November 2017 and has heard evidence from a wide range of organisations and individuals with interest in the field. Its conclusions are expected later this year. Perhaps even more importantly, the Government included the future of mobility (with a clear focus on MaaS) in its core group of four 'Grand Challenges' established in the industrial strategy to improve people's lives, increase the country's productivity and put the UK at the forefront of the industries of the future. It believes achieving its ambitions in this field will help meet the needs of an ageing society, capitalise on strengths in artificial intelligence and data, and support clean growth.

In its Future Mobility call for evidence issues at the end of July (closing date 10th September), the government identified shared mobility developments, data connectivity, changing consumer attitudes and new business models (including MaaS) as key trends and a new regulatory framework as an important element to allow positive change as the route towards "easy payment mechanising, real-time information and a more responsible and seamless public transport service" that "could reduce car ownership or move people towards public transport".

On the ground in the major metropolitan areas of England, there have been a number of steps by the transport authorities to further embrace and encourage MaaS concepts.

Notably, the launch of Whim in the West Midlands, marked the first MaaS platform to integrate a broad range of modes and made headlines with its micro house installed on a parking space to provide a strong visual for the possibilities that reducing car dependence allows.

In London, where there has arguably been the most established movement towards genuinely integrated presentation and facilitation of a total transport system to users over recent years, there continues to be an interesting discussion on what the next steps towards a broader MaaS offer should be. More unconventional forms of shared transport continue to become available, yet sit outside the established TfL regulatory framework and single Oyster contactless-based payment system.

TfL's suspension of Uber's licence - since renewed for 15 years in the courts has been probably the highest profile story about any new mobility platform. Decisions on the authorisation and regulation of similar schemes, including the wave of new, dockless, bike share schemes and novel competitors to Uber like ViaVan and Ford Chariot have also had their fair share of media coverage around the country. As have innovative demand-responsive and taxibus public transport schemes like Arriva's Click project, launched in Sittingbourne and now being extended to Merseyside.

There has been strong interest in Scotland in a national level policy framework for Mobility as a Service with government and industry support for MaaS Scotland. Effectively Scotland has some of the most advanced test beds for MaaS in the world and this year the case studies in our MaaS survey reflect that.

Whilst there are some interesting individual developments in Wales with innovators such as the Riversimple Rasa – a subscription-based hydrogen fuelled car, ticketing for Arriva Trains Wales and the successful launch of Nextbike in Cardiff, there is not yet a systemic approach to MaaS as a sector.

The survey this year concentrates more on developments in projects and real world impacts than on ideas, expectations and opinions. Emerging themes are much stronger as activity in the field has developed – and this year the narrative is focused on drawing together these themes rather than anthologising a number of individual voices with divergent views on the topic.

This does not mean that there are not differences in perceptions and expectations. They are, however, solidifying around real world examples, outturns, issues and challenges rather than dealing with the more conceptual approaches and aspirational thinking about a coming new world of integrated mobility which were more relevant last year.

There remains optimism about MaaS, and a belief it should consist of integrated journey planning and payment and that, like last year, the most important modes are public transport, cycling and walking. There is more emphasis this year on taxis. We have also taken the opportunity to ask additional questions about open data and visions of MaaS.

The Survey is conducted within a broader context of developments within the transport and travel sector, and in society more generally. There is growing evidence (like the work of the commission on travel demand) that future travellers will be less car-oriented, more mode neutral and open to fusing their travel activity, happy to game their options but in general be intolerant of multiple interfaces and transactions, preferring to make buying decision through a single intermediary relationship. That latter expectation could perhaps be the crucial prompt to both the true arrival of MaaS, and the commercial prize that achieving it might reward any determined enterprise wanting to be the consumer's access point of choice to the personal travel marketplace.

In this context automotive industry investment in novel technology and new business models moving away from the vehicle 'build and sell' tradition is at an all time high. A considerable range of initiatives by both the major motor manufacturers themselves and associate enterprises is exploring the MaaS commercial space. Whilst public transport might be seen to be well-placed to move into the same business space, they have appeared more concerned with managing financial pressures within their existing portfolios. Their struggles in this regard may lead to major rethinks of their approach and the opportunities offered by technology and potential new business opportunities, or maybe them falling prey to changes of ownership by those better equipped to make such a transition. Either that, or even greater challenges to their existing business by disruptive new entrants from outside the sector, and with a range of backgrounds in the digital eco-system. The names are now familiar: Google, Amazon, Apple, Uber et al. Not to mention disruptors in the financial services, payments and online consumer/transactions sectors who are eyeing up the volume activity that mobility services can offer them.

In some respects all this is unsurprising. We live in a time of unprecedented change in the expectations and behaviours of individuals in society, and in the disruptive influences brought to bear in the worlds of business and other fields of economic and social life. Against this scenario, the regulatory framework in which these matters are playing out seems fragmented and ill adapted to responding to the authorisation of new services and appropriate consumer protection. Whilst the nature of disruptors is to adopt a 'move fast and break things' approach this is not possible for incumbent operators – often dependent on subsidies and with services defined by franchises, operating licences and established regulatory frameworks – to respond in kind.

Government and public authorities often seem well behind the game and their interventions are built on partial perceptions of both what is happening and what is needed from them, with dangers of mistakes and the wasteful application of resources to create frameworks and systems that may be out of date before they are even delivered.

However, whilst there is a desperate need to create better regulatory parity and a level playing field for both new and legacy operators, there are also gaps to fill in what the market wants to provide, and the way different elements of the overall transport offer are integrated. The emerging evidence is that those operators prepared to place their journey planning, booking and ticketing into broader linked systems – or at least provide easy interfaces – will grow their markets, rather than putting their existing revenues at risk. The public generally responds well to the improved offer, and increasingly expects new, flexible and customer-centric approaches to transport provision, as familiar to them in other sectors.

The movement of the individual planets, and their relationship to one another, in this transport galaxy is undoubtedly in flux. The wider driving forces of the orchestration of this universe remain shrouded in a good deal of mystery, however complex. The astronomers look on, but can they predict where it is all going to end? Will there be a MaaS 'big bang' sometime soon?

We look forward to continuing to monitor activity in this space and to reporting on our further observations next year. There is unlikely to be a shortage of developments to record, and quite possibly some further major new market and policy interventions.

**Peter Stonham**  
Editorial Director  
Londor LINKS/LTT

# Executive Summary

## Context

Travel in the UK is a large – but not rapidly expanding – market. Individuals have reduced the amount they travel and the ways in which they organise and pay for them have changed.

New mobility modes and services have emerged – and whilst they currently account for a small percentage of the annual market, their ability to grow rapidly – particularly with the generations born after 1980 - enables this sector to have a much greater impact in the future, allowing disruptive companies to enter the market and attract new revenue streams.

There is evidence that future travellers will be more mode neutral and open to fusing their travel activity, happy to game their options but in general intolerant of multiple interfaces and transactions, preferring to make buying decision through a single intermediary relationship.

Mobility as a Service is an emerging term with multiple definitions which largely fall within a catch-all set of new digital, demand-driven, transport, innovative services and multi-modal integrations. Examples which fall into this set include smart transport solutions aimed at driving down car use, innovative (and simplified) transport purchasing models, new services that are multi-modal at their outset and those which start with a single mode and add additional modes to their offer.

At the same time the automotive industry is investing heavily in novel technology and new business models. Public transport operators, meanwhile, are struggling to reinvent their offering in this arena. They are experiencing fault lines in their business models and deteriorating financial performance. There are threats from disruptive new entrants from technology and transport – from Apple to Uber – along with parallel disruption in the banking and online consumer/transactions sectors.

Whilst the nature of disruptors is to adopt a ‘move fast and break things’ approach it is not possible for incumbent operators – often dependent on subsidies and with services defined by franchises and operating licences – to respond in kind.

The emergent successful services will be shaped by a number of factors – including investment in and development of disrupter technologies; how these relate to existing transport, automotive and tech industries and how they relate to regulatory frameworks as these evolve.

## Key themes

### A positive view of Mobility as a Service

Survey participants view Mobility as a Service as something that will change transport for the better. They anticipate that it will provide people with integrated journey planning and ticketing – primarily combining public transport, walking, cycling and taxis. They expect this vision of Mobility as a Service to have positive impacts on congestion and air quality.

### Planners vs Operators

However, this year the survey threw into sharp relief the difference in attitudes between transport authorities (and those that work with them) and transport providers. The most significant is that the transport planners expect public transport to form the core of Mobility as a Service, but public transport operators are not fully convinced of the business case, and are concerned about costs.

### Regulation

Survey respondents from all groups expressed a desire for policy and regulation at national and local level to shape the mobility services provided. This includes specific comments about sharing data, ensuring that pricing works to facilitate joined up journeys and that ticketing works on mobile.

There was strong consensus that all modes should be required to share their data – including autonomous shared vehicles, bike share and on demand shared transport.

Current regulations are lagging behind the innovation within the sector – with no regulatory parity between services which are increasingly converging (in the eyes and experience of the consumer) as lines blur between buses, minibuses, taxis and indeed cars.

The plethora of legislative frameworks based on vehicle type rather than function is not likely to play out well. Whilst the Bus Services Bill is a step forward in some respects, this convergence means the legislation could be out of date before it is even delivered. With this in mind, any future legislation needs to be considered carefully to ensure regulatory parity for new and legacy whilst allowing innovation in the field.

## Summary

It is clear that whilst transport planners see the potential for Mobility as a Service to improve transport, the concept is still being drawn in different directions by commercial realities.

The emerging evidence is that those operators prepared to integrate their journey planning, booking and ticketing into broader linked systems – and at the very least provide easy interfaces - will grow their markets, rather than putting their existing revenues at risk. The public generally responds well to the improved offer, and increasingly expects new, flexible and customer-centric approaches to transport provision, as familiar to them in other sectors.

The overwhelming message is that Mobility as a Service needs vision – from government, operators and others delivering transport systems.

Whilst evidence of the potential for Mobility as a Service emerges, its development will be shaped by policy and regulatory frameworks as well as commercial service development.