The Politics and Power Games in Implementing Mobility as a Service

One of the dividends of the rapid developments in information technology has been the emergence of the concept of Mobility as a Service (MaaS) in the form of the integration of multi modal information, ticketing and payment systems. Although the idea of integrated transport systems is long established, and has often been frustrated by events, Maas apparently offers the opportunity for a new level of seamless door-to-door mobility by using just one platform and a single payment. The service can therefore be pay-as-you-go, or mobility packages based on an individual's travel needs. Potentially, a wide range of modes can be integrated into MaaS, including not only established public transport operations, but also such services as peer-to-peer car sharing, car clubs, bike hire, demand responsive transport, and taxis, including innovations such as ride-hailing apps.

Until now, however, the centre of attention in the development of Maas has generally been on the technological and organisational elements, with little focus on how we implement MaaS politically, and how it will be governed and regulated. Yet much will depend on these political elements, which exist on several different levels. Firstly, as many attempts to produce integrated transport systems in the past have discovered, there is the basic problem of bringing together a wide range of modes and individual operators, each interest with its own priorities, values and policy aims. Can we bring these interests together, or will a power struggle ensue, in which there will be winners and losers?

Secondly, will private sector interests dominate the process of facilitating MaaS systems, or will public authorities and regulators be able to assert themselves, and hold sway between the range of operators? In this context, it is significant that two of the most prominent MaaS experiments in the UK involve public-private partnerships. In the West Midlands, the Combined Authority is partnering the Finnish private sector operator Maas Global (one of the MaaS pioneers) in employing the latter's Whim app to bring together a number of operators, while in Manchester the MaaS research project is sponsored by Transport for Greater Manchester and delivered by consultants Atkins. Given the high stakes potentially available in the development of MaaS systems, including not only financial resources, but also the ability to shift mobility patterns, will public authorities retain control of implementation processes and shape them to their policy needs and priorities, or will MaaS be controlled by commercial large scale mobility operators?

Thirdly, as MaaS systems develop, so they can have a dynamic of their own. Thus the introduction of autonomous vehicles can have a profound impact on both transport operators and land use patterns. How will MaaS adapt to these technological developments, and again who will be the winners and losers? The implication of Maas is also that the development of integrated mobility packages will result in reductions in car ownership. How will the vehicle manufacturers respond to these changes, and will they themselves emerge as key players in the MaaS power games? In addition, the character of MaaS is that it will generate large amounts of valuable data in terms of travel patterns and public preferences, and control of this data as a highly prized resource is likely to generate intense power battles. An understanding of the politics and power games of MaaS is therefore crucial in gaining insights into how it will actually develop in practice.

Regulating MaaS

One of the few attempts to address the important questions of Maas governance and regulation is the report by consultants KPMG: *Reimagine Places: Mobility as a Service.* At the heart of the report is the concept of the Maas Requirements Index, which it argues is a mechanism by which transport and local authorities, operators and other mobility providers can understand the regulatory, governance, and technology operating models that will be required to deliver strategic objectives for local and regional transport. The idea behind the Index is therefore that there is no one size fits all model for MaaS implementation, but that a range of factors will have to be considered in deciding the degree of regulation required. It recognises that private operators and authorities have different objectives, and as with any regulated market, the task is to hold them in tension with each other, establishing conditions in which the best outcomes for each player are achieved, while optimising the user experience.

A range of factors is considered in determining a location's position on the Index. These include: complexity of modal choice; level of congestion; crowding on public transport; air quality; resilience to disruption and delay; public health; the need to provide concessionary mobility; and the need to provide mobility services to facilitate economic development. Consequently, in some areas with relatively low scores on the Index an open market may be allowed, while for those with slightly higher scores light MaaS regulation will be required. However, in those cities with high scores, and offering huge complexity in modal choice, substantial regulation will be required, with the Maas scheme being operated by the authority itself, and private sector suppliers working under the authority's scheme, or private schemes being tightly governed by the authority in respect of pricing and service provision. The implication of the Index is therefore that in large cities the public sector will be in control of MaaS, while in smaller cities and towns the private sector can be allowed to hold control. The Index might therefore represent an ideal type of Maas implementation, but in the real world there are likely to be many political obstacles and power battles involved in actually bringing it about.

Integration and the 'Uber Problem'

Perhaps the most prominent example of the likely problems for regulators in bringing about integrated MaaS systems, and of the power games involved, is provided by the ride-hailing app Uber. As a disruptive innovator, Uber has grown worldwide with enormous speed since being founded in 2009, with a culture of fierce independence that has acutely antagonised regulators and competitors. Is it possible to successfully regulate Uber, and integrate it into Maas systems?

Ben Foulser, author of the KPMG report, and head of transport and infrastructure technology, acknowledges Uber's role as a disruptive innovator, but believes that, over time, it can be absorbed into MaaS. From the disruptive point of view, Foulser cites the example of London, where he argues that Uber has had an adverse effect on bus services: "We don't have concrete evidence, but we believe that Uber has cannibalised the bus market in London. This has contributed to congestion, and pollution problems caused by the large increase in private hire vehicles generally, the category to which Uber belongs." He adds: "This creates a vicious circle, as increases

in private hire vehicles aggravate congestion, and so further reduce bus patronage. The problem is compounded by the fact that it is not the concessionary customers who use private hire, it's the fare paying customers, whose patronage the buses require to be commercially viable. Given the high capital cost of buses, and of fleet management and engineering, the loss of patronage can have a big impact on the ability of buses to run commercially. Meanwhile, Uber can continue to run at a loss, backed by its large investment funds."

There is little evidence here of the type of integration required for MaaS, but Foulser argues that there is a need to put in place a regulatory framework that enables transport authorities to leverage systems, and not just create competition between Uber and other transport modes. In support of this argument, he points out that Uber itself is perceiving how it can become better integrated with other providers: "Uber did some analysis in London of its night time services, and found that its vehicles moved from central London to the suburbs to cater for first mile-last mile integration with underground services. In this respect, the increase in underground night time services has benefited Uber." He adds: "I think Uber is coming round to understanding the role it can play here – one of augmentation, not competition.

In September 2017, the Uber operating licence was revoked by regulator Transport for London, chiefly on the grounds of safety and security issues. Uber has acknowledged that it has made mistakes, and in an attempt to win back its licence is adopting a more conciliatory tone. In this respect, a willingness to become better integrated into TfL services could be one means of offering an olive branch. In this context, Michael Hurwitz, TfL's director of transport innovation, has stated that new mobility services could be integrated into TfL's payment platforms if the service providers agree to deliver their services in ways that are consistent with TfL's objectives. He added that this raised some interesting questions, including what could you demand of an additional service in order to be part of the overall TfL family (LTT, 10 Nov)? Ben Foulser believes that, in a regulated environment, Uber would be compelled to accept the regulator's authority, and gives an example: "The authority could stipulate the number of vehicles for its road space. Uber might have one thousand trips in a particular period, but the authority would say you could only fulfil five hundred of those. The authority can be a lot more dynamic about what it allows."

Advantages of Large Authorities

Ben Foulser stresses that developing a regulatory framework for MaaS is likely to be more practical for large authorities, and one of the reasons that the private sector is likely to hold sway in smaller areas is because of the lack of necessary resources within the local authority: "MaaS itself is likely to be more commercially viable in densely populated areas, but the bigger city authorities are also more likely to have the resources in terms of expertise and finance to assert themselves in regulating MaaS. We're seeing now that local authorities in London, the West Midlands, and Newcastle have established innovation teams, and are putting time and effort into it." In contrast, he believes that the smaller authorities will require external help: "The smaller local authorities don't have the manpower and are cash strapped. It will be much more difficult for them to take on the responsibilities of regulating MaaS. That's where the Department for Transport needs to step in. They have an important

role in helping with advice and training for the smaller authorities, so that they can understand which levers they can pull to make MaaS effective."

Foulser also believes that the smaller local authorities can learn from the experience gained in the large urban areas, although he argues that it would not be appropriate to have the same regulatory framework for each city: "The character of London and Manchester, for example, is very different from cities such as Norwich and Exeter. The important thing that integrated mobility systems such as MaaS can help us to do is to stop thinking about how we respond to our city's needs, and instead focus on what we want our city to be. MaaS can have important effects on land use patterns, and can open up new possibilities in terms of planning."

Foulser argues that the introduction of autonomous vehicles will assist in the development of MaaS systems, but also offers major planning challenges: "You could say that autonomous vehicles are the natural evolution of Uber style services, and that Uber can be seen as an autonomous vehicle with a driver. Take the driver out, and you've saved sixty per cent of the cost of running that vehicle, so it will be even cheaper and more attractive to use." He continues: "It means that I can work in that vehicle, and so I might be prepared to sit in it for two hours in the morning, and therefore live further outside the city centre than I do at present, because I'm not losing work time in commuting. People would therefore be changing the way they interact with the infrastructure, and this raises a number of considerations, not just about the impacts it could have on public transport systems, but also in terms of its effects on land use patterns and the economies of cities. It will therefore also have significant impacts on MaaS systems."

Turning MaaS into Reality

In implementing MaaS, regulatory authorities will have difficult political choices, particularly if a range of objectives is sought. For example, public transport operators might resist being directed about when and where to run their services. However, Ben Foulser argues that a well regulated MaaS system can be effective in changing travel behaviour: "MaaS does offer a great opportunity for local authorities, but only if it is constructed and regulated in a way that achieves the balance they are looking for. For example, as a local authority, I don't want to prevent making it easier for people to use single occupancy vehicles such as taxis. At the same time, I don't want to see increases in congestion and public transport subsidies. I also want people to get out of their cars and walk. If MaaS is implemented well, then we can have the ability to influence behaviours through such things as tax subsidies, customer information that works, and dynamic licensing of vehicles such as supplying modes when demand is needed."

Nevertheless, Foulser acknowledges that there are dangers in imposing strict regulatory systems, and that it is important to leave scope for innovation: "We are basically a small government country in the UK. At the moment, the general atmosphere surrounding MaaS is to encourage innovation. We don't want to be in a situation where we dictate services and say what people can and cannot do. We need to provide a framework that encourages innovation." He continues: "The best thing is for the local community to decide its own priorities, such as placing an emphasis on improving air quality by reducing congestion. It's also important to give the private

sector operators the scope to come up with solutions, but within a framework that works for the whole eco system."

Foulser concedes, however, that actually implementing large scale Maas systems involves difficult political negotiations, and that the precedents are not necessarily encouraging: "MaaS is not so much about the mode of transport used, but about the commercial deals and governance requirements. This is the reason, for example, why there have never been regional integrated ticketing programmes, and also no national pay as you go scheme, even though we have been trying to introduce one for fifteen years." Foulser also points out that the introduction of complex MaaS systems could cause disputes with operators over revenue allocation: "How revenues are allocated could become a nightmare for operators. For example, if I purchase a mobility package and then don't use it, or use only part of it, will it roll over for the following months? Can I get credit on it? What will be the revenue implications for each operator involved? When does the operator actually get the money? There are huge revenue recognition issues here?"

The Future of the Private Car

One further important player in the politics of MaaS is the motor vehicle manufacturers. Implicit in the development of integrated MaaS systems is that door-to-door mobility packages will reduce the incentive to own a car, particularly within urban areas. It is highly significant that the large motor manufacturers have themselves accepted the trend away from ownership, and are re-branding themselves as mobility providers, with extensive investments in car sharing, car clubs, vehicle hire and leasing, and ride-hailing apps. The manufacturers therefore have the potential to become a prominent feature of MaaS systems, and possess the financial resources and expertise to carry great political weight in the priorities adopted by a MaaS system.

Ben Foulser believes that the development of MaaS will see a decrease in car ownership, but that the significance of this should not be exaggerated: "I don't think people need cars as much as they think they do. It is significant that fewer people under the age of twenty-five now possess driving licences. At the same time, I think there will always be a need for car ownership. To use my own example, I have two young children, and in my car have child seats, buggies, and everything under the sun. It is like a moveable garage, and I'm not going to give that up."

Foulser argues that a reduction in car ownership will not necessarily emerge as a principal objective of MaaS: "I think it will be a factor in the policy framework rather than a main objective. Above all, it's important to have a commercially viable MaaS system. If we can combine that with sustainability then we are on to a winner. One effect of that could be a reduction in car ownership. Foulser concludes that, politically, it is vital for all the parties involved to sign up to the overall objectives: "What we need to do is for everyone to focus on the local policy objectives, including the promotion of active travel, reducing congestion, and improving pedestrian mobility. We can then take things up to another level. I believe everyone wants these higher objectives."