

Making MaaS appealing

The digital element of mobility as a service is comparatively easy. Among the most difficult are how to regulate MaaS and address the vested interests of current operators, reports **Beate Kubitz**



An app that means you can go anywhere? It's a compelling vision. But, under closer inspection, mobility as a service (MaaS) presents a degree of complexity that seems to have stymied progress towards that vision in the UK.

While it sounds complex, it turns out that the digital element is absolutely the easiest thing about MaaS. Beneath the digital platform lurks a complex bubbling cauldron of conundrums – regulation (and its absence), operator interests, data silos, policy decisions, hopes, fears and dreams for what we really want from mobility.

Martin Tugwell, programme director, England's Economic Heartland, says: "There's a danger in thinking MaaS is just about smart ticketing when there are wider questions to be addressed. Such as: What choices do we need to provide people? What outcomes are we looking to achieve?"

"We know we have a problem with carbon (a legal requirement to achieve net zero by 2050) and we know people are travelling longer distances so we need to think

broadly. We need to take into account the implications for transport out of Covid. The rise in e-commerce, businesses (both public and private) shifting services to digital and significant parts of the economy moving to more flexible and hybrid work.

"There is an opportunity to do things differently. MaaS needs to be about place-making, taking account of retail and employment trends. We need to understand what people are looking for, not just what they use at the moment."

It's a constant dialectic that threads through discussion of MaaS. MaaS is seen as a way to shape behaviour as well as a very practical way to provide alternatives to the car or, at least, provide information about alternatives to the private car. It's also a way to understand what people want, where they would like to go and a potential solution to an otherwise fragmented understanding of what people want to do and why.

Daniel Ruiz, strategic adviser and former Zencic CEO, says: "The MaaS acronym, as a catch-all, isn't always helpful. It means different things to different people. Mobility is a

system of systems. It hasn't been possible to join them, but now we have mechanisms to do so, and opportunity to slot in different modes like bikes, demand-responsive transport (DRT) etc.

"But it's not about the app, it's about the best value proposition, convenience. It's about showing people who are quite prepared to drive for many hours the value of a well-designed multimodal combination, a train or bus journey, and how travelling differently stacks up better in productivity and environmental terms."

The one thing that everyone seems to agree on is that it's not taken hold in the UK or brought the potential benefits which appear possible. While we can see examples of multimodal platforms and provision adopted by global cities – from Berlin's Jelbi app to the Sydney Opal card – trials in the UK have been more limited and short-lived.

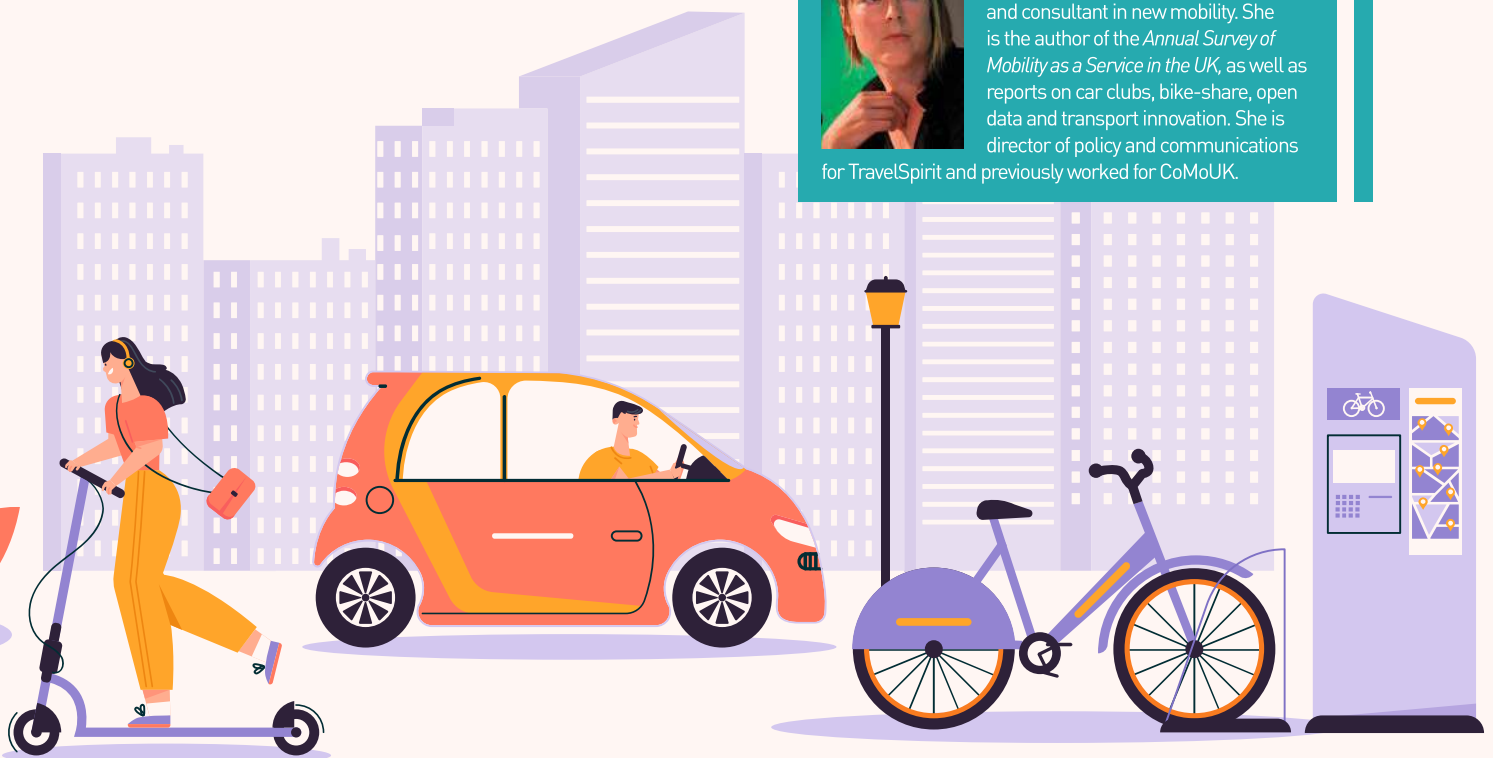
FIRST LIVE TRIAL

The West Midlands was the first area to conduct a live mobility as a service trial through MaaS Global's Whim app. This was run ►



ABOUT THE AUTHOR

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▶ as a purely commercial service, effectively reselling tickets and shared transport use through the app. The stumbling block was deriving an income for the app providers – without discounted ticket purchasing there was very little or no margin to pay for the provision of the app and its back office (from the system itself to credit card processing fees).

Chris Lane, head of transport innovation, Transport for West Midlands (TfWM), says: “We learned a lot from the trial. We found out three things – first how hard it was to put together all the services; second that people really liked the service; but third, it couldn’t be run as a purely commercial service.”

The West Midlands’ head start can still be put to use as the area continues to develop as a Future Transport Zone. The main thing, for Lane, is to look at behaviour change; why people make mobility decisions, what will change those decisions and which changes will stick.

There’s a lot of complex work going on. The newly launched mobility credits scheme in Coventry encourages residents to scrap their older, higher emission cars in return for £3,000 worth of mobility credits to cover the costs of alternative transport including buses, trains, taxis, and Enterprise car club and car hire vehicles. New mobility trials are also underway with scooters, bike share and DRT.

“The mobility credits trial will enable us to monitor what initiatives stick – and create a formula for the rest of the West Midlands,” Lane says.

Meanwhile, the MaaS work will continue, built on the Swift transport ticketing smart card and payment platform (which now has several hundred thousand customers). The ‘front end’ is out to tender at present, to enable the move to account-based ticketing and payment for public and private (or shared) transport.

“There are a lot of moving parts. One single solution is a way off, but we’re trying to create layers that all move in the same direction, to get to a best value and multimodal offer,” Lane adds.

“Our ultimate goal of capped, best value services for the area will take time.”

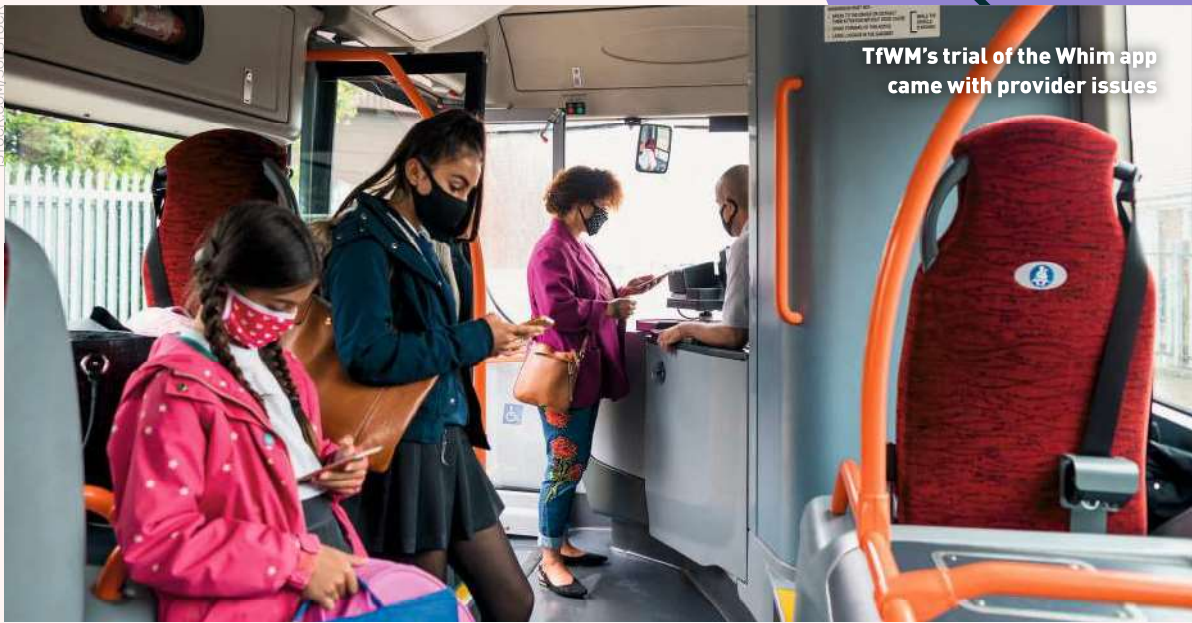
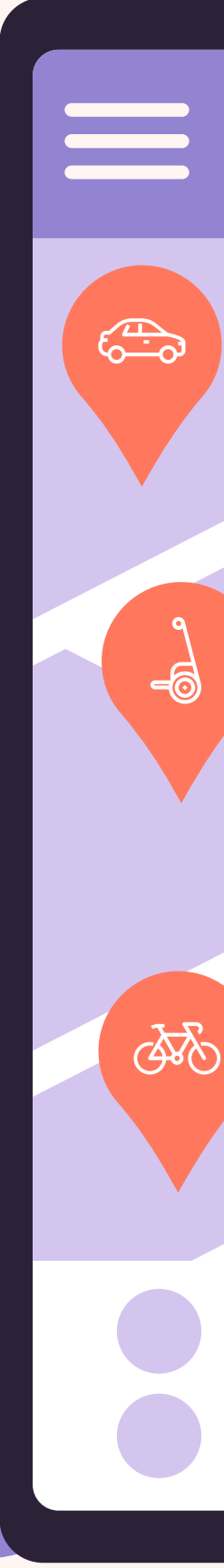
TICKETING AND DATA

There are several emerging issues (besides the business model for the platform). Among them ticketing and data stand out. The issues that surround them are very much the product of the existing transport network and, to a certain extent, deregulation of train and bus (outside London). The issues frustrate the capacity for insight into peoples’ needs and desires – and how to meet them sustainably.

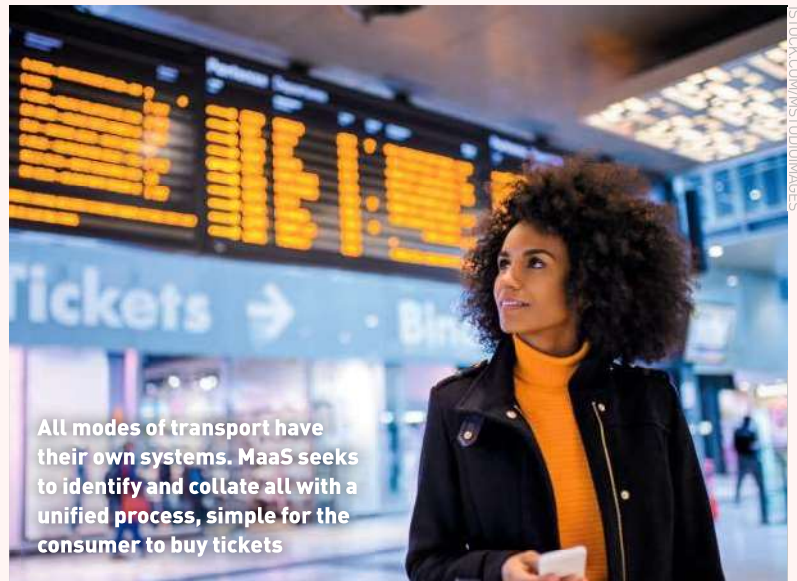
Tugwell says: “Business models for public transport have treated modes as competitors rather than offering choice. We need to think about how we treat public

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All modes of transport have their own systems. MaaS seeks to identify and collate all with a unified process, simple for the consumer to buy tickets

transport and include the private sector as a single system.

“We need to be thinking about data sets – how do we start that shift? How can we have customer insight to anticipate demand?”

But there is a chicken and egg issue here. The existing business models mean it’s difficult to create the kind of platform that provides simplicity for customers and insight into the potential use of the network if access was simple. But, without the insights into the potential markets that MaaS could create, it’s hard to change the business models. And, at present, absolutely nothing is simple about the fares and ticketing which sit ‘below’ the user interface.

Martin Howell, transport director at Worldline says: “The problem is fragmentation; everyone doing their own thing – for instance buses all have contactless payments – so data is sitting in silos and there’s no critical mass to do something transformative with it.

“People are used to complete simplicity online (and, indeed, anywhere) but we don’t see this in transport. As a case in point, the complexity and archaic systems in rail ticketing means we still have booking offices. We need to change archaic rules on pricing to make fares transparent.”

The launch of the national bus strategy (see also page 10) may provide the impetus to make some of those changes – and simplify the offer so that it works within a MaaS framework. It could be the start of changing the landscape. The strategy demands an end to complex ticketing fragmented between operators. If it can also bring data

out of silos and reveal information about both the trips people are making and those that they would like to make it will really change the information available.

“We have an opportunity to reform now. It’s not going to be about tinkering, there’s a need to change the way it’s priced and sold to flow better,” Howell says.

The potential for combining data to provide powerful insights is great. However, Ruiz points out: “Operators worry about giving up data, that they might lose out. We need to be able to provide safe ways to allow data to be used without companies losing its value.

“Within mobility we have the Convex marketplace which has just been launched to ingest data from many sources and allow its safe use without giving up its value.”

This is a potential model for broader MaaS applications, but, with backers from within the automotive industry it’s still early days to see whether it will persuade a wider group of operators to participate.

While data is still inaccessible, authorities are resorting to old school research – from focus groups in the West Midlands to Mosaic data in England’s Heartland – to try to anticipate demand and model the potential for MaaS.

JOINED UP EXPERIENCE

Transport for Greater Manchester (TfGM) ran an early trial which showed that people would appreciate and use a more joined-up experience of transport. A team created a MaaS experience for a small cohort with specific traveller pro- ➔



► files to see how they would respond to better journey planning information and provision of services. However, while initial results were positive, translating that learning into larger projects or even an area-wide system has been slow. Lockdown and a reduction in public transport use is partly the reason.

One of the more successful trials was the iMove project, trialling MaaS as an employee benefit for the Manchester Airport Group and using Fleet on Demand's Mobbleo platform. The benefit to the employer was to reduce the staff parking requirements and free up valuable parking resources (increasing revenue from parking fees) as well as enabling the switch to more sustainable modes.

iMove created a travel pass through the app through which staff could book jour-

neys. The back office would collect fares and pay TfGM. The platform incorporated public transport, DRT and car club.

The product works in theory and people will use it. However, behind the interface, the ticketing was still fragmented with traditional operators working the same way they always have. The suspicion is they see no incentive to innovate given they have an established market share. On the other hand, newer, less traditional operators, are prepared to invest in making their booking and payment back offices work with different platforms as they see the potential for increasing their profile and customer base through MaaS apps.

Sam Li, TfGM senior innovation officer, says: "One of the barriers to MaaS is that it's hard to create seamless ticketing with traditional public transport operators. New

modes are generally designed for digital, so they are easier to incorporate."

Manchester was also part of the MaaS4EU project, which did a lot of work around financing a subscription package. The finding in the UK was that there's no incentive for bus and rail to provide lower price tickets for resale so the monthly subscription price was coming out too high to be attractive. Rather than developing a city-wide platform at this stage, TfGM has followed up on the positive learning from engaging with employers.

"Moving forward, we wanted to extend iMove and target employers," Li says. "We created a simplified offer for Media City which combined public transport with DRT for the final mile. This used a journey planner developed with the University of Wolverhampton and incorporated capped Uber fares as the DRT provision. The Uber booking was not fully integrated, however, using a deep link rather than full integration in the platform (reflecting reservations about data sharing at operator level).

"While the platform has been little used because of lockdown, there will be an opportunity now to really engage with businesses about the future of work and the future of mobility and how they interact."

REGULATION

There are complex questions about the frameworks for MaaS emerging from the trials that have taken place. While purely commercial offerings have not been successful, what role do (and should) authorities have? Who has control of journey planners and what mix of results should

Case study: Netherlands

A joint venture of rail and light rail providers in the Netherlands – Netherlands Railways (NS) and urban rail operators in The Hague (HTM) and Rotterdam (RET) recently contracted Siemens to provide a countrywide, intelligent MaaS platform. The MaaS platform (to be delivered in the autumn) will allow providers to integrate travel planning.

The app is a response to changing behaviour during the pandemic and a recognition that patterns of work, study and travel have become more flexible: in time, place and choice of means of transport. The project is intended to lower the threshold to plan, book and pay for a trip with multiple modes of transport.

The platform is being developed as an open

ecosystem connected to the core partners' existing apps. Other mobility providers are invited to join the platform to provide their services – so that travelling by public transport, bicycle sharing, car, scooter and taxi, can be better connected and more convenient.

It's hoped that mobility providers can increase the profile of their services, better tailor them to the needs of travellers, and also optimise their fleet management benefits.

The technology platform for the app is provided by HaCon, which has already provided other multimodal services in Europe and the US. The 'MinRejseplan' platform, coordinated by Denmark's national trip planner Rejseplanen,

integrates demand-responsive transport, taxis and car pooling into rural school bus services in the country.

In California, the Bay Area Rapid Transit (BART) provides a seamless, multimodal door-to-door travel experience including real-time information via web and native apps for iOS and Android. It integrates transit data from more than 30 operators in the nine Bay Area counties, including buses, trains, ferries and cable cars.

In addition, the BART Trip Planner goes beyond just public transportation, by featuring walking, bicycling and car routes, in order to give users a realistic comparison of options.

they offer? What solutions should there be and who should own them?

TfGM has been working on a meta-journey planner. Society-wide we have found that machine learning encodes the biases of those that programme it. This also needs to be discussed in the context of journey planning.

Li says: "We've been working with the University of Wolverhampton on an artificial intelligence (AI) application that amalgamates journey planners. But we've found that this begs the question of who has de facto control? We need to think about what options are offered. How do we configure the algorithm to chose which routes are recommended? Should we only offer options that are in line with city objectives? This comes down to us wondering whether there should be regulation of journey planners (and by extension, MaaS platforms)?"

Likewise, how a platform is delivered needs consideration – through websites, apps or smartcards or even just a debit card (as with Oyster)?

This is an issue for ensuring equitable access for all. Limiting MaaS to an app can exclude already excluded groups (the unbanked and those without smart phones or who have difficulty keeping them topped up with data). In the West Midlands operators are linking smart cards to a back office to create a 'mobility credit card'. This, effectively, works like a debit card that can be loaded either with cash or by bank transfer and only be used to buy transport.

Within the West Midlands the transport provision includes taxis among a broad offer of providers. This can be used to layer into a solution that works for people – keeping a simple transport budget in one place, useable across modes.

For Tugwell, the move to regard separate smart cards as the optimal solution may have been superseded.

"There's been a policy drive to 'one card that does anything';" he says. "But during lockdown we've seen an acceleration in the use of contactless."

Sorting out simple ticketing and capped fares through existing debit cards - effectively be a wider adoption of a London-style system – could be a more intuitive system for users.

However London's Oyster works within Transport for London (TfL) regulatory powers under which it collects bus, underground and light rail fares and contracts operators to provide regulated services. The cost of connecting newer mobility to this system has proved challenging thus far.

There are broader issues too. Platforms and apps should not be considered in isolation.

Tugwell argues they need to be considered in context, with the policies around transport, from land use and investment, connectivity as well as mobility.

"MaaS needs to be about placemaking," he says. "We need to look at other ways of meeting needs too, for instance reducing the need to travel through provision of fibre connectivity or deciding where stations should be sited to ensure easy access by active travel."

Despite the trials and progress, there's a sense of frustration in the field, that MaaS is not going far, fast in the UK, and that opportunities are being missed. Howell says: "There's no central government leadership, no MaaS czar. There's also fragmentation and duplication of effort. It's being left to regions and operators, therefore, without setting standards at a global level"

While this may be true at present, changes in transport and patterns of working and travel have happened at warp speed over the past year.

While MaaS schemes in the UK thus far have been 'learning experiences' the new transport landscape presents opportunities for these lessons to be put into practice. [ST](#)

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