

# Dumbing-down of smart ticketing?

Did vested interests of bus companies block the path to a workable MaaS system in the north? Or is that 'complete nonsense and an urban myth'? **Mark Smulian** reports

**W**ho killed the Abbott? It sounds like a question in Cluedo, but this Abbott was not an ecclesiastic in the library with an iron bar but the back office system for an all-embracing smart transport ticket for northern England.

How and why it hit the buffers (or bus equivalent) is disputed, but the fate of Transport for the North's (TfN) Project Abbott shows just how complicated it can be to implement a multi-operator and multi-modal smart ticket system.

Multi-operator and multi-modal schemes are individually complex enough, and, while doing both at once is desirable, the technical and commercial challenges become even more formidable.

The best known multi-modal smart ticket is the Transport for London (TfL) Oyster. But TfL had an advantage. It already controlled London's buses and London Underground trains, and later the overground ones.

It could simply require these systems to accept Oyster, though it had to negotiate with National Rail franchise holders to include trains.

Transport authorities elsewhere must contend with myriad bus operators – some of which may already have their own ticketing systems – plus rail firms and any light rail operations, never mind adding taxis, bicycle hire and any of the other possibilities of Mobility as a Service (MaaS).

Project Abbott would have been the back office that carried out the vital apportionment of revenue between operators from users of a colossal smart ticket system embracing buses and trains across TfN's area of the north-east, north-west and Yorkshire and the Humber.

There are conflicting views on why it has failed, which perhaps illustrate why the differing perspectives of participants in a smart ticketing system must be accommodated for it to work.

Jeremy Acklam, TfN integrated and smart travel director, says: "We believe public transport should be easy to use and pay for, and that the north's passengers should be able to travel with confidence using ticketing options that suit their needs."

"We continue work at pace on the revised approach to integrated and smart travel, which, in light of the way the Covid-19 pandemic has changed travel behaviours, is more important than ever."

"Alongside our members, the

Department for Transport (DfT), local transport authority partners, bus, tram and rail operators, and other industry bodies, we are considering the best options for the digital infrastructure that will support our ambitions for smart travel across the north of England."

Project Abbott was killed off last January when TfN's board concluded that consultations with partners and public transport operators showed the growing prevalence of single bus operator contactless services had evolved to the extent that a central back office might no longer be practical.

With the bus industry having committed to develop multi-operator contactless capped payments systems as part of the Confederation of Passenger Transport (CPT) 'moving forward together' initiative, TfN decided to focus on ensuring that rail and tram systems had enabled contactless payments using supplier EMV's technology, with a view to integrating these with buses at some future date.

The CPT initiative calls on the DfT to "endorse bus operators as the preferred delivery partners of government for smart ticketing solutions based on our proven track record of successful project implementation", a statement that might raise eyebrows in the rail sector.

Less contentiously, it says bus operators should have access to the same data as other providers of integrated transport. ➤

## ABOUT THE AUTHOR

**Mark Smulian** is a freelance journalist specialising in local government, law, travel, transport, housing, construction and planning. He has featured in a wide range of publications including the *Local Government Chronicle*, *Civil Service*

*World*, *Law Society Gazette* and the *Sunday Telegraph*. He is also a former editor of *Housing Today* and news editor at *Inside Housing* and *Surveyor*.

► In return the industry offers to deliver contactless, multi-operator, price-capped, daily and weekly tickets in major urban areas by 2022 and to provide data that would encourage the development of MaaS with online and mobile ticketing and real-time information for passengers.

TfN has a £150 million integrated and smart travel programme, and is developing contactless payment on rail to cover the three main regional operators – Northern, Trans Pennine Express and Merseyrail.

It is talking to the DfT and industry body the Rail Delivery Group to understand how this might form part of a wider national scheme.

TfN is also seeking approval to spend money from the ringfenced budget originally intended for Abbott to extend the 'flexi season' tickets initiative across the north, which, it says, is a key part of encouraging people back to the railways during a Covid-19 recovery.

'Tap-in tap-out' systems have been installed by TfN at 90 stations and it has moved most season tickets from paper to smart cards.

It will also work with local authorities to develop local smart ticketing schemes – including integration with buses – that could eventually combine into multi-operator, multi-modal smart ticketing.

► **Nexus' Pop smart ticket currently operates in the Tyne & Wear area**

► **Stagecoach's 'Smart' ticket supports contactless payments on its entire fleet**

**90**

**Stations have had 'tap-in-tap-out' systems installed**

There could also be a £4.5m bid to extend the TfN Open Data Hub to include data sets such as bus crowdedness and occupancy; it already provides local transport authorities with a way to share timely digital travel information with passengers.

Some think Abbott's demise arose mainly from bus operators wanting their own systems.

Stephen Bellamy, fares and revenues manager at Nexus, says: "TfN did want smart tickets that would work on buses and anything from Merseyrail via the Trans Pennine Express to the Tyne & Wear metro but that was scuppered by the bus operators who wanted to do their own thing."

"Transdev in Yorkshire trialled their own card and that played quite a big part in killing off the idea for the regional card."

Transdev did not respond to a request for comment, but a Stagecoach spokesperson says the idea that bus operators killed off Abbott was "complete nonsense and an urban myth", and says the company participates in several multi-operator schemes including in Greater Manchester, South Yorkshire, Tyne and Wear, Merseyside and Oxford.

The spokesperson says: "Research shows that fare simplification can improve customer perception of value for money and help drive increased patronage."



"Stagecoach is progressing work on single operator day and weekly fares capping using contactless payment technology. We are also working with other operators to progress multi-operator bus and tram fares capping."

Stagecoach says contactless payment covers its entire fleet and this gives it the platform to introduce multi-operator price-capped tickets in urban areas around the country.

Martin Dean, Go-Ahead managing director of bus development, thinks, in retrospect, that Abbott was over-ambitious.

He explains: "What we see now is rail operators installing the hardware and then seeing if we could bring (buses and rail) together to get to a multi-operator arrangement, and then multi-modal. It is a bit of a mistake to try to do this too comprehensively from the start, but, if it can be set up, other operators can link into it later."

The Government is favourably disposed to smart ticketing, if with a dearth of information on what it hopes to see happen. There are, though, plenty of examples of tickets with varying degrees of 'smartness'.

Bellamy says: "We have a smart ticket called Pop which is a bit like Oyster, and have season tickets and pay-as-you-go on a smart card, but the bus operators want to issue their own smart cards or move to contactless."



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**BEN LAWSON, ENTERPRISE**

Pop can be used on the Tyne & Wear Metro – which also accepts contactless payments – plus all Arriva, Go North East and Stagecoach bus services across the north-east and on the Shields ferry, but not on trains, although before the pandemic Northern Rail was trialling a smart card.

"Bus operators still want their own smart card, so there could be different ones for Pop, Northern and bus operators," Bellamy says.

There is also Network One Ticketing, which works on the same services as Pop plus the Sunderland to Blaydon rail service but is paper-based and must be shown when changing mode or vehicle.

Joining rail to either system is "a little further down the line, but Northern Rail being on multi-modal ticketing is possible and Northern is open to discussions," Bellamy adds.

He wonders whether the pandemic, which has seen train services effectively taken over by the DfT and left bus operators more reliant on public money, might even give the state sufficient influence to drive the adoption of smart tickets.

"Covid-19 has had a huge impact on bus

operators and the support we now give them from the public sector may give a little more leverage over them as we are shelling out a lot of money," Bellamy says.

"I think it does provide opportunities for development of multi-modal pay-as-you-go but there is a cost involved with both operators' ticket machines and with Metro ticketing infrastructure; you're looking at not far off a seven-figure sum, which we don't have in this region."

"From the DfT, the action needed is on the bus side, which it could push more on smart ticketing."

Dean thinks it is "a bit of a myth that there are no multi-operator smart tickets outside London", but many remain paper-based and converting these to smart tickets might be less than straightforward.

He says: "There are many paper-based multi-modal schemes such as Plus Bus where you can add a bus journey onto a rail one and that generates £4.5m a year for our element of the journey."

"There is Network Ticketing in the north-east and we've had a multi-operator scheme in Oxford since 2010 with

► **TfL's Oyster card integrates many forms of travel in the capital**

Stagecoach, which was brokered by Oxfordshire County Council, where you can buy a ticket and use it on either operator's services as we have a number of common routes."

Karen Coventry, commercial director of Stagecoach in Oxfordshire and Oxford Tube, says fares from the Oxford partnership go to a third party which apportions revenue from a pot between participants, which also includes local operator Thames Travel.

In the Oxford scheme, operators provide sales and patronage information to an independent 'referee' who also has access to their ticketing data.

The 'referee' then provides a settlement showing the amounts due to and from operators. Coventry says: "I think we will be looking increasingly to apps as that is where the public expects to find facilities now, to just show their phone on buses or have them read. There may, though, be issues with smaller operators not having the technology."

Dean thinks paper-based schemes could transition to smart ones as many operators use ticket machines that can read bar codes, so using those could be at least a short-term fix if not strictly 'smart'.

The reason such a fix might be needed goes back to the issues in Abbott's demise. Dean explains: "Like with National Rail, where different operators are involved, you buy a ticket and the software apportions it between operators."

"It was difficult to get to implementation even though we worked with TfN for three years because there were difficulties with the timescale and with the cost of unified back office, which is the software being developed and got working, not the staffing as it would only employ a few people. The software issues were quite significant."

"Also, if you are running with multiple operators you need to agree fares with all the operators involved. Fortunately, we have the exemption from the Competition and

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► Markets Authority which allows competitors to talk when, in most situations, they could not."

Faced with these complications promoters might, understandably, shy away from involving anything beyond buses and trains.

Ben Lawson, vice-president strategy for Europe at vehicle hire firm Enterprise, has got plenty of ideas about how smart ticketing might work in a MaaS situation.

Enterprise offers "basically anything with four or more wheels" from a small electric car to a Lamborghini, Lawson says.

While demand among bus passengers to switch to a Lamborghini might be limited, Lawson says: "We work with bus and train operators to try to provide multi-modal access and have a strong interest in using technology to provide that flexibility.

"For example, someone might take a train from one city to another and then use a car for the last part of the journey, and they can do that on a smart system by taking a car available for hire at a station, or they may prefer to use a bike for part of the journey."

Swift cards in the West Midlands – which work on buses, trains and trams, is the first integrated system with which Enterprise has been involved, having been unable to join Oyster as TfL reserves that to itself.

"In the West Midlands there is the advantage that you can now travel somewhere by rail then take a car or vice versa," he says.

Lawson thinks MaaS offers not just commercial advantages to a company such as his, but also public environmental benefits.

"If people own a car they will buy the largest one they can afford even if they don't need a car that size every day," he says.

"But it might be they could use a bus five days a week for work and just use the car for longer journeys. MaaS can be used like a car club, and it will find the best transport choice for any journey across a city."

He notes that a decade ago someone travelling between two cities would have used a map but will now turn to a sat-nav that not only shows the way but 'knows' where the hold-ups are.

"There are probably thousands of

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▲ In 2017, 46% of passengers preferred to use paper tickets to travel and a further 40% want to continue to do so in the future

23% prefer to use apps to buy tickets

different combinations of ways to get from one place in a city to another and an app can tell you, say, whether it's best to go by bus, or where to get a car when you arrive in a city," Lawson says.

"If I go to a city on business I may take the train but when I arrive I have no idea of the local buses – and bus timetables are notoriously hieroglyphics – but an app can show that clearly and one ticket could be used for payment."

What then holds development of MaaS and smart payments back?

"It's partly a question of whether owners want to open up their systems to other operators. For example, TfL does not do that with Oyster as that is a system in which all the revenue goes to TfL," he says.

"App programme interface (API) is important in allowing a card from one provider access to services from another and some providers do not want to do that and so have a closed system."

This is more of an issue in the UK than the rest of Europe because there are multiple bus operators outside London "and if I get a bus for £5 with one operator, another may charge me £5 again whereas TfL can set

Oyster to allow as many bus journeys as it wants to offer from a single fare", he says.

In some cases there is a hardware problem, as if a 'touch out' is required it must be on something compatible with other payment systems.

There are also fears over hidden bias in software. Apps must be 'neutral' that is "you don't want an app that, say, always recommends a taxi; they should be neutral or set for some policy goal like encouraging active travel", Lawson says.

Despite some of the problems with differing smart system in the same area, Lawson sees signs for hope.

"Five years ago everyone wanted their own system, but now it is better understood that we have issues of air quality and congestion in cities and ownership of cars is a large part of that, but if you just use a car as and when it's needed you reduce that," he says.

Dean says he keeps an eye on MaaS developments for Go-Ahead but finds "it seems to have gone a bit quiet with the pandemic".

He adds: "You need the software to work, but it's more a commercial question of how money is apportioned between operators and modes if you have car hire, taxis, cycle hire and so on in there.

"Do you give the taxi operator the full cost of the journey on certain routes, or all of them? Is it an attractive offer to the public if the area's largest taxi firm is not involved?"

"If you have say a £3-a-day cap how does that work if someone makes two journeys of £1.40 and they have 20p left? Does the operator of their third journey get 20p or an equal share of the £3?"

Bellamy declares himself a MaaS sceptic as "there seem to be a lot of costs, and getting just the buses involved in smart ticketing is difficult enough. I see contactless as the way to drive change".

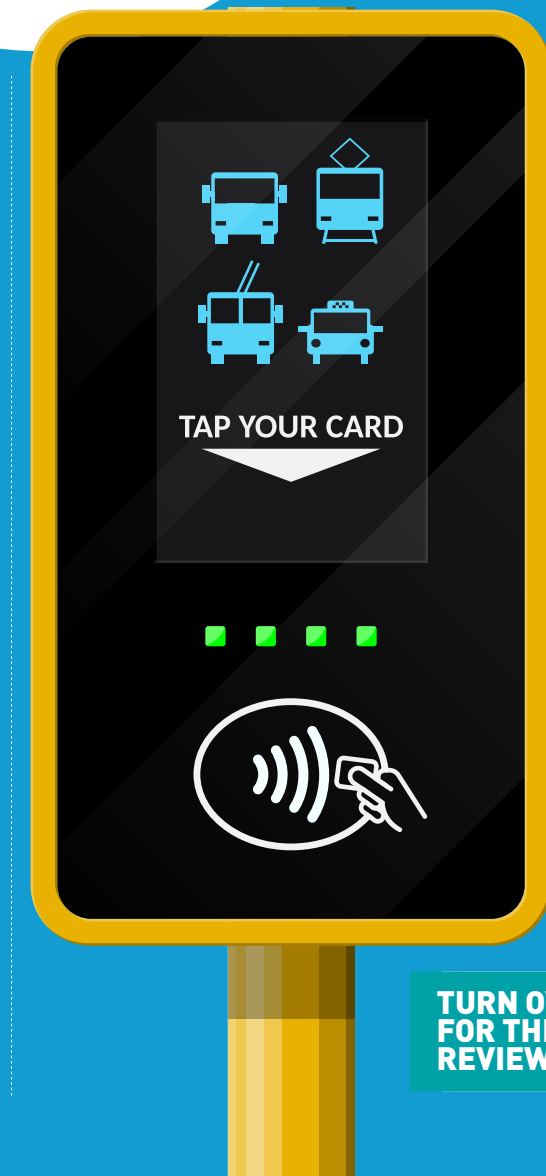


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STEPHEN BELLAMY, NEXUS

26% prefer an Oyster-type of card

◀ Enterprise is involved with Swift's integrated system having failed to join Oyster and TfL



Contactless payment took off somewhat slowly after its UK launch in 2007 until Covid-19 made people wary of cash, but is the public really waiting with bated breath for smart tickets?

Research by accountancy firm PWC in 2017 found 46% of passengers used paper tickets and 40% wished to continue to do so.

Apps, smart phones, systems such as Apple Pay and contactless were preferred by only 23% in all, though 26% would prefer a specific smart card such as Oyster.

PWC observed at the time: "What becomes most apparent from this year's results is that there is a need to increase communication and explanation to customers about the benefits of smart ticketing and to ensure that the various forms of smart provide the functionality that customers truly want."

It recommended that systems be kept simple for users, provide tangible benefits and communicate these clearly.

Project Abbott's demise came because the scheme needed the participation of operators who – for varied reasons – ultimately did not want to take part.

Apportionment of revenue is not the sort of thing the public notices or which get transport authority members into local newspapers.

But it is vital for operators and they will understandably not join a system if they lack the confidence it will give them correct payments, or, indeed, even if it will but this appears to be less money than their own system would generate.

The technology is there, and the helpful shove given to contactless by the pandemic may be useful, but getting operators, modes and authorities all facing the same way will, inevitably, be difficult. **ST**

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