



ADAPTING TO A CHANGING WORLD

Transport operators have played a critical role in serving society during the pandemic - ensuring key workers can get to work and citizens can access essential services.

How can they now respond to changing work and travel patterns and alleviate concerns over COVID-19?



The COVID-19 pandemic has forced us to rethink the way we work, socialise and travel. The impacts on many businesses will be felt for years to come. We have seen that companies that already had robust technology in place were able to quickly adapt to a new way of working and evolve their products and services to meet the changing needs of their customers. During this time, transport operators have continued to serve society, ensuring key workers can get to work, citizens can access essential services and the transport infrastructure remains poised to scale back up as we start to get back to relative normality.

Encouraging citizens to return to public transport will be paramount – through a ticketing service that supports flexible working patterns, is easy to use, and reduces the risk of coming into contact with COVID-19.

To help transport authorities and operators adapt their ticketing for the new normal, this white paper discusses how Account Based Ticketing on mobile can support flexible working patterns and give passengers more confidence to travel.

As we plan for the emergence from the pandemic, transport operators and authorities will be challenged with changing demands for services. **Future working patterns are likely to be very different** – with more people expected to continue to work from home on a flexible basis. This could range from almost fully home-based to one or two days in the office a week. Buying a long-duration season pass won't be an attractive option for customers that don't know their travel requirements from one week to the next.

Additionally, we are all now very aware of the risk of spreading the virus, so minimising touch points such as TVMs, cash handling and paper tickets, is one of the ways operators can help increase confidence in using public transport.

HOW CAN TRANSPORT OPERATORS AND AUTHORITIES OFFER CONTACTLESS, FLEXIBLE AND EASY TO ACCESS TICKETING THAT GIVES CUSTOMERS BEST VALUE BUT IS ALSO FULLY INCLUSIVE?

ABT, specifically ABT using a mobile app, can address many of the current challenges.

With ABT, passengers can travel first and pay later – with the best value fare calculated over the day, week, or month. In short, it allows people to travel without selecting a specific ticket beforehand, providing the flexibility to adapt to their travel needs. Travel data is sent to a back office where the ABT system analyses where the customer has travelled, on which operator, mode and service, and then allocates the best value ticket to charge to the customer's account. The customer proposition is simple; present a travel token to access services, then pay the best value fare for the services used.

This ability to travel without forward planning takes the hassle out of choosing the right ticket, as the best value fare is applied after travel, and reduces risks associated with shared touchpoints and ticketing bottlenecks. This makes it an attractive and convenient proposition for customers as it provides the flexibility to support the new normal of unpredictable working patterns.

COVID 19 has accelerated the move to reduce touch points in the ticketing journey by removing cash, TVMs and paper tickets. Combined with the ongoing expectation from customers to “do everything” with their phones, using a phone for ticketing is an obvious answer to reducing touch points. When a mobile is used as a travel token, there is no physical card for operators to deploy or fulfil, and mobile apps allow operators to make changes to services rapidly. The growth in popularity of mobile phones is clear and increasing. Anyone with a teenager will know how they are permanently attached to them. Contactless EMV bank cards can of course be used for ABT and are a flexible and convenient payment solution. However, they are not inclusive in the way a mobile application can be.

ABT ON MOBILE - BENEFITS AT A GLANCE

- **Improved passenger experience**

Passengers can access services quickly and easily with no prior planning, using an intuitive app.

- **Improved value for passengers**

Passengers always get the best value fare for their travel, giving them the confidence to use services again and again.

- **Inclusive**

Unlike many contactless solutions, using an app doesn't disadvantage the unbanked or underbanked, and concessionary fares can be applied where applicable.

- **Supports flexible work patterns**

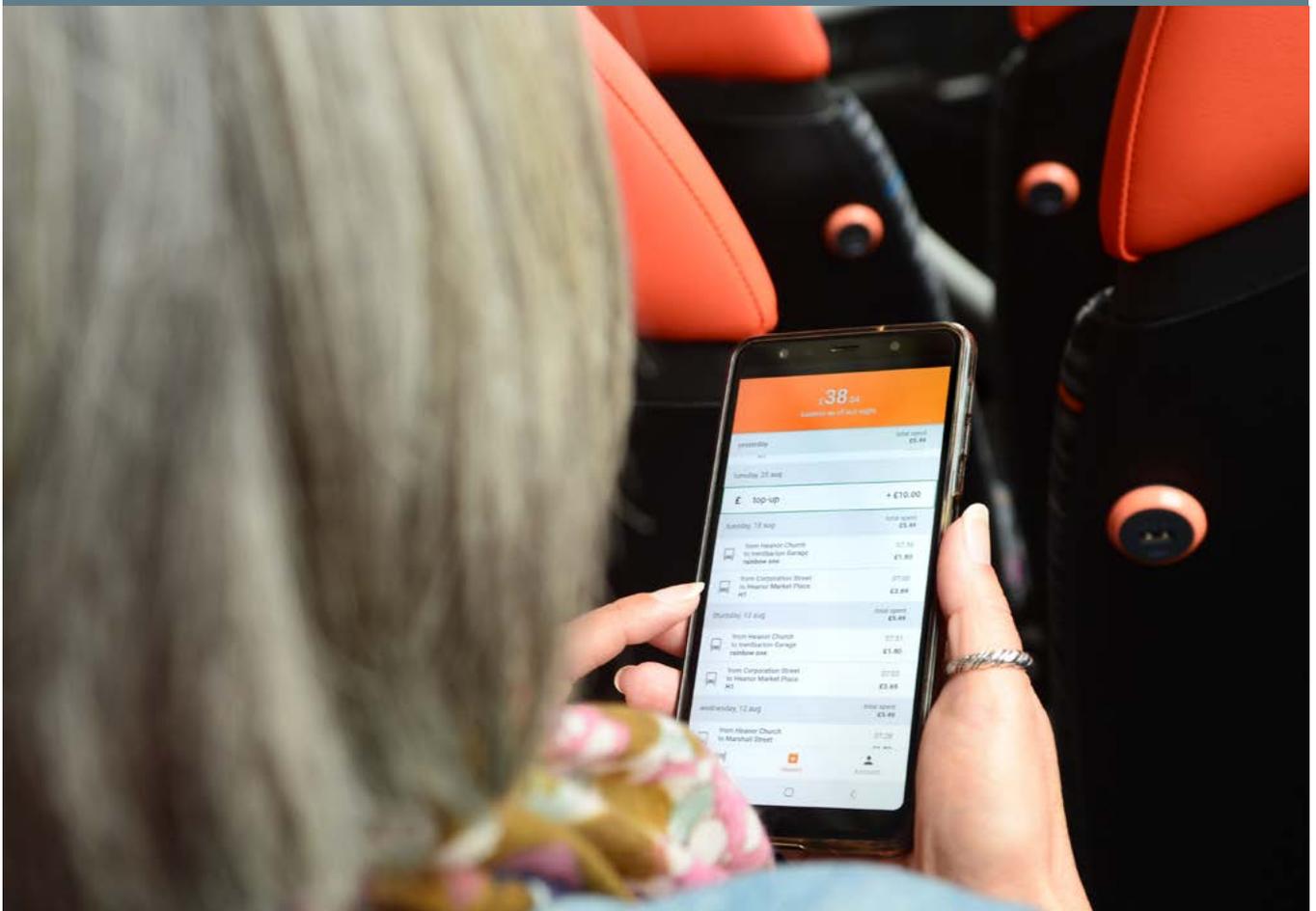
Transport organisations can make better route and capacity planning decisions based on in-depth analysis of journey data from ABT systems.

- **COVID secure**

Touch-free - with no need to use shared touch screens, or handle cash or paper tickets.

- **Major operational cost savings**

Transport authorities and operators can lower costs by reducing the need for paper ticket stock and printing costs, reducing cash handling requirements, by enabling passengers to access services using their existing mobile.



HAVING MADE THE DECISION THAT ABT PROVIDES THE TICKETING SERVICE YOU NEED, AND A MOBILE APPLICATION IS ACCESSIBLE TO MOST CITIZENS, HOW CAN YOU BRING THIS INTO LIVE SERVICE AS RAPIDLY AS POSSIBLE?

Accelerating deployment is not just about the speed of delivery of a live pilot, it's also about ensuring speedy customer adoption. To achieve rapid deployment and adoption, there are five key considerations an operator needs to address:

1. Minimise integration with validators and ETMs
2. Use a secure token that protects against fraud and liability
3. Build on a familiar brand that customers trust and understand
4. Be inclusive - cater for concessions, the unbanked and young people
5. Use existing configuration data and configurable business rules

1 MINIMISE INTEGRATION

Calculating fares for customers in an ABT back office requires information on where the customer has travelled. This information is typically captured at bus ETMs, platform validators or station gates. Integrating these devices with your ABT back office needs to be done with minimal effort for the hardware providers, so selecting an ABT solution with APIs and simple validation requirements will reduce the integration effort necessary.

2 SECURE TOKENS

A token is simply something a customer can present to authorise travel and there are many types of tokens you can use for ABT. Mobile phones can support a range of token types from custom NFC tagging to EMV and barcodes. The lowest common denominator is barcodes, as all smart phones are capable of supporting them. This technology is proven and simple to implement. Many ETMs on buses are now equipped with barcode scanners as standard, so barcodes can be quick and easy to implement. Crucially, the token, which will be unique to the customer, needs to be secured to prevent fraudulent use.

An obvious risk is that it's very easy to take a screen shot of the barcode and share it, so securing the barcode token is critical to minimise liability for operators. The best way to secure the barcode token is through dynamic barcode generation, where it changes very frequently and won't be accepted at the ETM/validator if it has expired. Clearly, the solution needs to enable dynamic barcode regeneration when the customer's phone is offline, so customers aren't inconvenienced when traveling through network dead spots.



3 A FAMILIAR BRAND

Launching ABT with an existing brand is a major benefit for operators. Building on a trusted brand, especially when offering increased convenience and flexibility, helps to achieve speedy adoption of ABT. This is because when customers have trust in a brand, for example an operator's existing smart card, they are more likely to adopt new offerings than asking them to accept something new. When deploying an ABT mobile solution, building on a familiar brand reassures customers that something they trust is improving, which will result in faster take-up and greater success.



4 BE INCLUSIVE

Many implementations of Pay As You Go (PAYG) ticketing are offered using contactless bank cards, or EMV as it's known. EMV is a strong proposition as it provides the convenience of using something the customer already has, requires no registration and (with the right ABT back office) can provide capping for daily travel. However, it's not an inclusive solution. Many banks still won't issue contactless cards to young people under 18; some people don't have bank accounts let alone bank cards; and some choose not to use contactless cards for a variety of trust and security reasons.

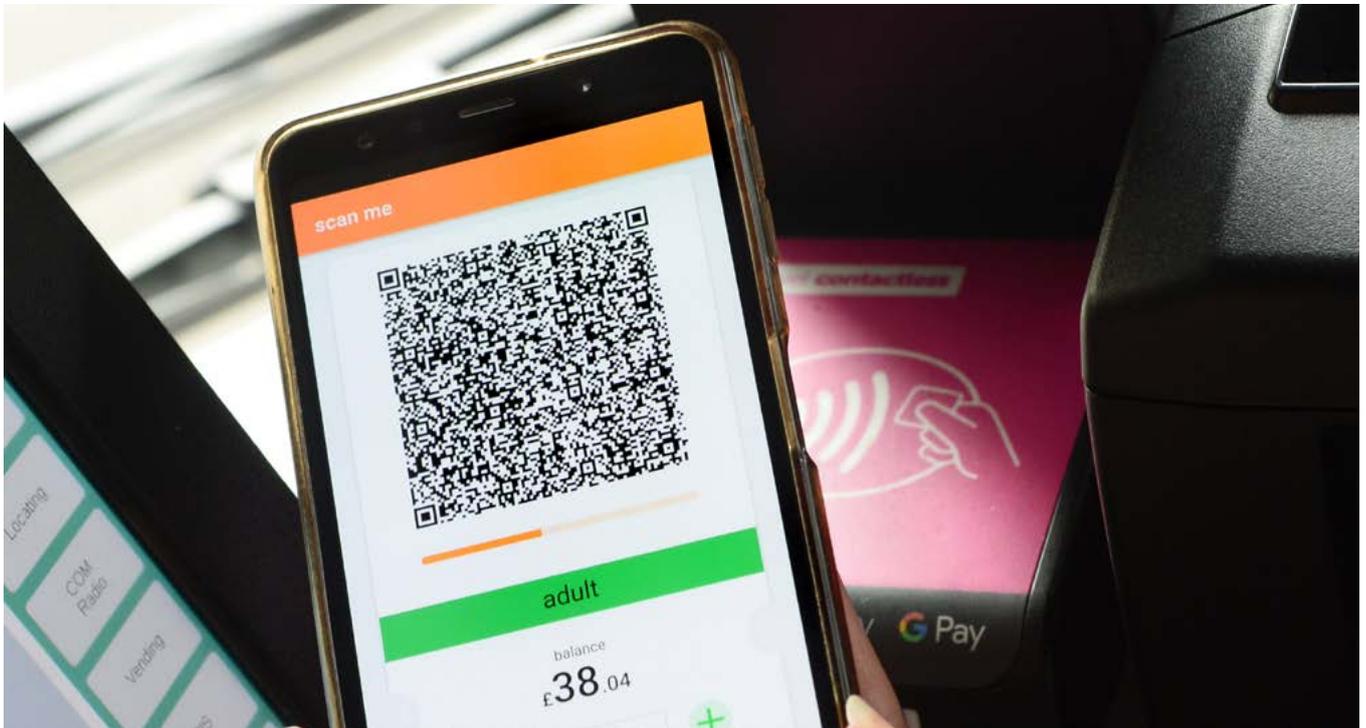
A mobile application can enable more customers to access an ABT solution and signing up to a scheme through a mobile application is a fast and familiar process to most

people. Furthermore, travel entitlement and applicable concessions can be associated with a customer account, so the customer is always charged the best fare.

By ensuring the app offers both post-pay and a pre-pay options - where money is deposited into their account and travel charges are deducted after travel, customers can still benefit from ABT even if they don't have a bank account. Customers that have a bank account are likely to prefer the convenience of setting up automatic top ups but, for some, the option of cash top ups in a travel shop will be their best option. This provides a truly inclusive solution that will encourage uptake and usage, especially when discounted ticket prices can be applied without needing to specifically ask the driver (in the case of bus travel).

5 USE EXISTING CONFIGURATION DATA AND APPLY BUSINESS RULES FOR ABT

When looking to rapidly deploy a new ABT scheme, simplify integration wherever possible. By using existing data, setting up a new ABT solution is much easier and quicker. For operators, stops, services, routes, tickets and fare tables will all be defined within the ETMs or back office ticketing system. Configuration can be automated by taking extracts from these systems and using them to populate the ABT back office. This means an entire scheme can be configured very quickly and accurately, saving time on inputting, validating and testing. If the ABT configuration is then built using business rules, making planned alternations to the way the system handles journey construction, product rating, risk/liability and best value capping, is quick to set up or change.



CONCLUSION

Building an ABT service around a mobile application offers several key benefits for operators as they try to adapt to the new normal. By designing a mobile app based on an established brand, customer adoption is likely to be high, especially as an app can be accessed by the unbanked and underbanked. Additionally, customers' travel entitlements and concessions can be linked to their account, making this simple to manage in the ABT back office. Finally, using personal mobiles reduces customers' touch points, which

helps address their concerns about COVID 19 and, therefore, supports the host of measures operators are putting in place to encourage passengers back to public transport, when restrictions are lowered.

By working with an ABT provider with established APIs, who can integrate quickly with existing ETMs, the time required to get your system up and running can be accelerated and start providing value to your customers and, importantly, revenue for you quickly.

ABOUT ACT AND FUJITSU

ABOUT ACT

ACT, a Fujitsu company, provides the technology and ticketing solutions that enables transport organisations to meet customers' changing needs, optimise operating efficiency, and boost ridership.

We have 20+ years of ticketing experience, making us a deeply trusted partner in the transport industry. Our uniquely flexible Account Based Ticketing (ABT) solutions are cloud native, delivered using our transport ticketing platform, Actora. This allows integration of new fare types, modes, payment methods and travel tokens quickly and easily – future proofing your operations and supporting new, even better customer experiences.

Our enterprise cloud platform processes billions of digital transactions every year for global transport and payments organisations including: Go Ahead Plc, Arriva Plc, First Group Plc, National Express Plc, trentbarton, The Welsh Government, Transport Scotland, GTR, Transport for Greater Manchester, Merseytravel and PayPoint Plc.

For more information, please visit www.weareACT.com.

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ABOUT FUJITSU GLOBAL

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services.

Approximately 130,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers. Fujitsu Limited (TSE:6702) reported consolidated revenues of 3.9 trillion yen (US\$35 billion) for the fiscal year ended March 31, 2020.

For more information, please see www.fujitsu.com.

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We are committed to Digital Co-creation, blending business expertise with digital technology and creating new value with ecosystem partners and customers. We enable our customers to digitally transform with connected technology services, focused on Artificial Intelligence, the Internet of Things, and Cloud - all underpinned by Security. Our customers cover both the public and private sectors, including retail, financial services, transport, manufacturing, government and defence.

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