

FAIRTIQ

Specifying the next generation of mobile ticketing

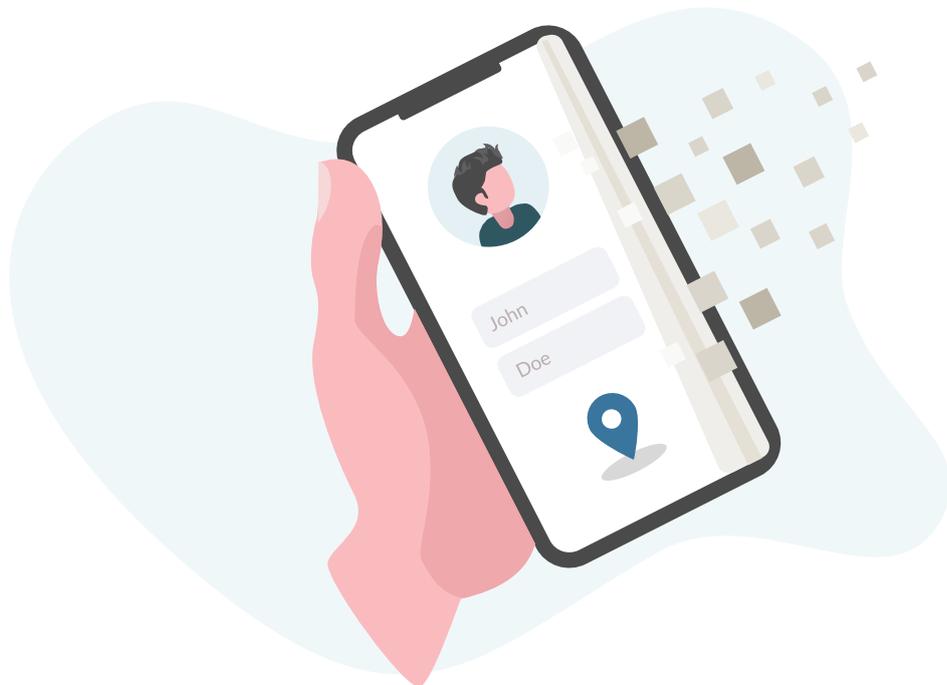


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Introduction

One of the key issues to encouraging riders to return to public transport and attracting new customers is to make the experience easier, and especially ticketing. It has recently been identified in the UK that as many as a third of people that don't use public transport cite the complexities of making sure they have the right and best ticket as the main reason. Governments around the world now see improved ticketing as a key issue to increasing passenger numbers.

Many years ago, closed loop card systems like the London Oyster system led the way for advanced ticketing solutions. More recently, these systems have been enhanced to accept any contactless bank card which increases flexibility. This historical success has led many commentators by default to the view that the "London Style - Tap-on, Tap-off" solution is the only way to improve the customer experience of ticketing. However, these systems can be complex, expensive, slow to implement, and not realistic for small to midsize authorities and operators.

Spotlight on the UK

The Williams Shapps Plan for Rail and Bus Back Better - National Bus Strategy see improved ticketing as a key enabler for attracting passengers and the recovery of public transport services.



Great British Railways will simplify the current confusing mass of tickets, standardising mobile and online ticketing, and bringing an end to the need to queue for paper tickets.

Williams Shapps Plan for Rail



Our ambition is for an integrated ticketing approach to allow you to buy a through journey for local bus, rail and metro with a single tap on your smartphone.

Bus Back Better - National Bus Strategy



In 2022, are there simpler, nimbler ways to address the ticketing challenge?

Since the late 1990s, the Swiss public transport industry has been considering the introduction of a nationwide smartcard-based system. However, all the proposals failed due to the cost, complexity and disruption of the hardware infrastructure that would have had to be built. A team of Swiss entrepreneurs, public transport, ticketing and IT experts continued to consider the key question (below) as this would enable a superior customer experience to be delivered more flexibly, quickly, and at an affordable price.

“How close to the Smartcard Tap-on, Tap-off or Be-in, Be-out (BIBO) customer experience can we get, without ANY hardware in vehicles and/or stations?”

Over the last six years, the team has resolved many of the challenges and proved that leveraging the smartphone technology that’s already in most pockets can provide the same user experience at a much lower cost. The solution is called FAIRTIQ. In Switzerland, FAIRTIQ allows public transport users to ride from anywhere to anywhere in the country on the networks of over 250 operators of rail, tram, bus, ferry and cable cars - the vast majority of services offered. Over 60 million journeys have been completed since it was launched in 2016 and deployed nationally in 2018. Switzerland has leapfrogged the card-based Tap-on, Tap-off model and saved millions of Swiss Francs by not installing ticketing hardware that would have become redundant for modern BIBO systems.

As value for money becomes entrenched as a priority, many cities and regions throughout the world are facing the same challenge:



...we must avoid the trap of spending money on yesterday's technology.

Changing Track by the Centre for Policy Studies



Is cloud ticketing the future?

In May 2022 the UK Centre for Policy Studies published a Pointmaker titled - “Changing Track - How to rescue the railways after the pandemic”. It says ”One of the most important issues to address is the incoherent smart ticket offering facing the consumer, which is both unnecessarily expensive and incomplete.”

It goes on to say, “The London Oyster programme was created at a time when physical hardware was the only option (2003), but a modern ‘ticket in the cloud’ solution would prove to be substantially cheaper.”



“The cloud option also allows for decades of advancement and improvement going forward as passenger behaviour, infrastructure and expectations change, not to mention new innovations and offers from operators.”

Changing Track by the Centre for Policy Studies



[Link to the full report from the Centre of Policy Studies - Page 6 for Ticketing](#)

“How do we quickly improve the ticketing experience to grow ridership and revenue at a lower cost?”

To assist authorities and operators facing the same challenge, we are pleased to share our experience of many successful implementations and trials throughout Switzerland, Germany, Austria, France, Belgium and the UK.

The following table is a summary of some of the key features to consider when specifying a next generation ticketing solution. We have also included a table that highlights features that in our experience leads to unnecessary complexity and cost.

Key features to consider for successful next generation mobile ticketing

Feature	Benefit
<p>Check-in, be-out with accurate journey mapping.</p>	<ul style="list-style-type: none"> • Just like tap-on, tap-off but without the complex, bespoke central system and hardware fleet: Be-out technology provides all the benefits without the hassle and cost impact of missed tap-offs. • Encourages people to use public transport. Ease of use removes barriers for infrequent users. A third of users did not regularly use public transportation due to the complexity of knowing how to buy the right ticket. • Enables new types of fares like distance-based fares even on local bus-based systems. • Enables targeted fare schemes focused on specific destinations, like employers, shopping centres and sports facilities, opening the door to 3rd-party sponsorships and new sources of revenue for public transport. • Provides systematic origin and destination data for all trips.
<p>Hardware free</p>	<p>This technology allows smartphones to do all the work, and obviates the need for any operator-side hardware. Significant cost savings from:</p> <ul style="list-style-type: none"> • Capital • Maintenance and cleaning • Connection costs • Lost revenue from defective equipment • Vandalism <p>Improves the passenger experience as no queueing at TVM's, Gates or Validators. "Makes Public Transport Easy"</p>
<p>Inclusive User Experience</p>	<p>A simple user interface and experience that can be used by all age groups.</p>
<p>Software-as-a-Service (SaaS)</p>	<ul style="list-style-type: none"> • Fast to implement • No long contractual commitment - no supplier "lock-in" • Start with a small (low cost) trial for a small number of passengers and extend based on passenger feedback and usage • Driven by best practice • Consistent across geographies - facilitates travel • Access to continuous improvement with costs shared among client agencies and operators • Risk/Reward payment model for operators with joint marketing to increase ridership

Key features to consider for successful next generation mobile ticketing

Feature	Benefit
Origin and destination data for every trip	<p>New insights to help plan and optimise the transport network:</p> <ul style="list-style-type: none"> • Actual trips made • Usage patterns (full view of trip chains) • Impacts of pricing and service changes • Preferred connection points • Impacts of construction at interchange points • Time spent transferring (can be used to inform the type of amenities to be installed)
Postpaid experience	<p>Postpaid charging relieves the customer from tying up funds and makes onboarding and actual transactions smoother and faster.</p>
Flexible fare engine and best fare calculator	<ul style="list-style-type: none"> • Automatic selection of the right/best fare based on the actual travel pattern • Capping relieves customers from having to preload and tie up funds, and adapts to actual trip patterns, without guessing consumption in advance • Ability to implement desired fares out of the box • Fares targeted to ability and willingness to pay can be more economically efficient and help optimise revenue: fares that are too low result in foregone revenue, while fares that are too high suppress demand. • Future-friendly: support for new options that better match ability and willingness to pay • Supports fares and transactions for multi-operator trips • Easy to reconfigure • Time of day and specific location (stops or stations) are uniquely granular and enable micro-targeted fare policy overlays
Account-based ticketing	<ul style="list-style-type: none"> • Enables direct communication with customers to solicit their feedback and target offers to increase revenue and ridership • Facilitates customer service

Key features to consider for successful next generation mobile ticketing

Feature	Benefit
Advanced back-office fraud prevention and management	<ul style="list-style-type: none"> • Revenue protection without face to face conflict
Support for business partnerships based on time, location and eligibility	<ul style="list-style-type: none"> • Unique features to bring new ridership sources of revenue to public transport • Lower barrier to entry for sponsors (pay only for trips made) • Guarantee of corporate support can help the business case for new services • Urban policy benefits - traffic and emissions reductions in targeted areas
Ability to view journey history on a mobile phone and refer journeys to customer care	<ul style="list-style-type: none"> • User control and reassurance • Build trust in digital technology • Cost savings from not having to staff a call centre
Separation of business travel and personal travel with PDF receipts sent to the user	<ul style="list-style-type: none"> • Ease of expensing and record-keeping - each trip is itemised with time and location and separately costed
In-app surveys	<ul style="list-style-type: none"> • Geo-located sentiment capture from users for a more accurate view of user perception.
Open systems approach with full software development Kit (SDK)	<ul style="list-style-type: none"> • Enables seamless integration with local Apps or MaaS • Enables Be-In, Be-out to operate as an additional sales channel alongside existing and other alternatives
Quick and easy deployment of “Friends & Family” and Public trials	<ul style="list-style-type: none"> • Enables the technology to be proved in the specific region and existing systems landscape • Enables new fare structures to be trialled and the results assessed prior to wider roll-out and major financial commitment • Evaluates public acceptance and support prior to major financial commitment • Facilitates quick, easy and seamless deployment of production systems built on lessons learnt during trials • No need to do things sequentially, you can trial FAIRTIQ while you are procuring a central system

Requirements that tend to lead to unnecessary complexity and cost

Requirement	Rationale for omission or risk of inclusion
E-purse	<p>We have found that customers do not value pre-paying for a service they may not use for some time or not at all. However, pre-loaded vouchers may be useful.</p> <ul style="list-style-type: none"> • Less attractive to customers • Triggers regulatory requirements
Reverse compatibility with legacy NFC validators	<ul style="list-style-type: none"> • Unnecessary cost due to the limited lifespan of this equipment. • Continued industry-wide limitations related to compatibility with Apple devices.
Combination of trip planner and ticketing	<ul style="list-style-type: none"> • Cost and relevance of duplicating free trip planners (Google, Apple, Transit, Citymapper, Moovit etc) • An alternative is to consider an SDK - FAIRTIQ embedded in an existing app.
MaaS support beyond public transport	<ul style="list-style-type: none"> • Lack of actual user reluctance to using different apps to meet their mobility needs • Lack of interest by private providers in losing a direct connection with the customer • Lack of actual readiness and market demand. • Lack of combined fare products due to vastly different public and private sector business models (e.g. difficulty in providing multimodal capping)
Offline check-in	<ul style="list-style-type: none"> • Impact on fraud and revenue protection can suffer from skipping validity checks
Support for advance sale of period pass products	<ul style="list-style-type: none"> • Increasing trend towards capping • User friendliness of capping
White label app	<ul style="list-style-type: none"> • A new app is required in each city • Cost impact of maintaining multiple apps
Hardware Beacons	<ul style="list-style-type: none"> • Unnecessary cost, the vehicle/service which the traveller is using can be identified WITHOUT the installation of beacons.

For more information

Additional resources and case studies are available on our website at www.fairtiq.com. We regularly attend and speak at transport conferences and exhibitions so please come and say hello.

If you would like to discuss your plans and needs on an individual basis, please contact sales@fairtiq.com

Learn more



The logo for FAIRTIQ is centered on the page. It consists of the word "FAIRTIQ" in a bold, red, sans-serif font. The letter "Q" is stylized with a white dot and a red outline, resembling a small mechanical component or a stylized letter. The logo is framed by two horizontal red lines that have a wavy, undulating shape in the center, creating a tunnel-like effect around the text.

FAIRTIQ