Using flexible pricing to boost ridership

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The pandemic has accelerated the move towards smart ticketing and contactless travel on rail networks across Europe and all over the world. The challenge now is to use the technology to offer customers attractive pricing packages.

As we lurch towards a recovery from the coronavirus pandemic, cities are coming back to life. Travellers are returning to public transport, which is good news for operators who saw ridership decline by as much as 90%. Globally, ridership is back to 80% of 2019 levels and rising.

It is clear that trains and buses need to be at the forefront of urban recovery. Research by the World Resources Institute suggests that a thriving public transport network is crucial for a host of social, economic, and environmental reasons. It should be providing sustainable and equitable access to jobs, education, healthcare, shopping and entertainment, quite apart from the emissions reduction and decarbonisation benefits in the fight against climate change.

But how do we get people back on the train? More and more operators are looking at pricing initiatives to drive public transport use. It is time for bold thinking.

Check-in, be-out

Price is one of the most significant factors affecting customer satisfaction in public transport, and the rigid fare collection models used in the past are not up to the challenges of today. In an on-demand, pay-as-you-go world, consumers expect convenient, app-based services and payment on the basis of consumption.

Since Fairtiq's app-based check-in, be-out fare collection technology was launched in Switzerland in 2016, it has been used for more than 65 million journeys. Ease of use has resulted in high customer satisfaction, and since March 2018 the system has been available nationwide. It has also been adopted by 60 operators across Europe. As no fixed equipment is required, it

can be introduced quickly with minimal disruption and low up-front costs.

The basic concept as adopted by Swiss Federal Railways and other Swiss transport operators is simple — passengers arriving at a stop or station start their 'journey' by checking in on the app. The system follows their progress across multiple modes and vehicles until they reach their destination. The SmartStop function detects when they stop travelling and automatically ends the trip after 5 min unless they select an option to continue. Users are charged the lowest possible price for their trip, whether it is single or multi-leg, potentially involving more than one operator, each with its own pricing policy.

65 million

journeys have been made using Fairtiq's app since it was launched in Switzerland in 2016

We have seen a rapid uptake in use since the start of the pandemic, as the mobile application means that passengers do not have to queue at ticket machines, buy tickets from a driver or use cash, helping to provide a fully contactless experience.

Riders' needs have changed

Operators in many countries have reported significant changes in commuting as a result of the pandemic. While future travel patterns are still uncertain, it is clear that the traditional 'nine-to-five' working day is disappearing. There has been a major shift to working from home in many sectors, and even with a return to the office a hybrid working model has become the norm. A recent survey found that 42% of companies were planning 'significant' investment in changing their working practices to support a hybrid workforce in the next 12 to 18 months, while another 47% envisaged some change.

In this unpredictable environment, public transport authorities and operators can no longer rely on time-based peak fares based on pre-pandemic travel patterns. People may not know how many days they will go to their office each month; the same goes for students and other once-regular travellers.

But they still want fares that are transparent, fair, and sensible. Commuters are less willing to buy period passes without knowing how many days they will be travelling, but they do not want to be penalised with higher fares as a result.

Capping and discounts

Combining pay-as-you-go with daily, weekly and monthly fare caps is one way to ensure that riders only pay for what they use.

In Switzerland, Aargau operator A-Welle has implemented a 'soft cap', which gives passengers a credit if usage in one month exceeds a given threshold, in the form of a discount off the following month's travel. This encourages customer loyalty.

Nouvelle-Aquitaine region worked with SNCF's TER business to provide users with an alternative to a fixed-price monthly pass, calculating the price on basis of actual consumption during the period.

Occitanie region is working with the French national operator to attract riders by offering progressive discounts, adopting a model used by mobile phone operators and subscription television networks. A campaign was launched to attract 16 to 26-year olds to take the train. Qualifying new riders received a 50% discount for their first 10 trips, and the next 10 were free. All trips after the first 20 earned a 10% credit for use the following month. The result was a 35% increase in travel by the target age group.

Distance-based fares

Urban transport operators typically use flat or zonal fares, but longer-distance travel can be priced dynamically.

Some German operators are now using 'e-fares' to rethink distance-based pricing. Nordrhein-Westfalen's transport ministry launched eezy.nrw in conjunction with all the public transport associations in the *Land*. Each association sets its own low base fare (to make short trips affordable) plus a per-km rate and a cap for trips within its boundaries. The ministry then added a statewide cap to ensure that longer trips across multiple operators were competitively priced. The eezy.nrw pilot project began with 12 000 riders, but the feedback was so positive that it has now been expanded to all 18 million inhabitants.

A similar scheme in München sees riders paying a base price of €1·10 per trip plus €0·30 per km. There are daily caps of €7·90 or €11·90 depending on the longest individual trip.

UK inter-city train operators have been using dynamic pricing for many years, while others are increasingly doing so. Before the pandemic, UITP was exploring dynamic pricing as a way of managing capacity on urban trains and buses, using real-time crowding data and pricing to try and flatten peak demand.

The UITP report also acknowledges the potential implications for public health. Where the technology permits, train, metro and bus operators have

Because the app is mobile-phone based, there is no need to install physical equipment on the vehicles or at stops.

Fig 1. The total number of Fairtiq trips per month has increased significantly since the coronavirus pandemic.

started to show predicted train occupancy in their trip planners.

In the San Francisco Bay Area, the BART Perks programme offered small cash rewards to metro users who travel at off-peak times; 10% of the targeted riders made the change. One Swiss transport authority is now planning to use flexible pricing to spread peak demand.

Partnership opportunities

In a more agile world, transport operators have the ability to set 'micro-fares' for different scenarios, supporting institutional partnerships with major employers and other organisations aimed at boosting ridership.

Such initiatives could include the provision of location-based discounts when riders check in at participating businesses, universities or hospitals, or targeted discounts for hotel guests, conference delegates and people attending concerts or sporting events,

for example. Credits could be provided for residents in specific communities or discount rates for low-income or mobility-impaired people.
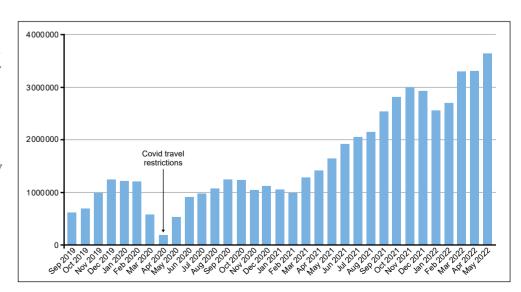
Better data, better decisions

The ability to trial these kinds of flexible pricing strategies is facilitated by the use of advanced fare collection technologies.

Fare structures have traditionally evolved organically over time as a mix of legacy decisions, inertia and concern about revenue loss as a result of changes. Boardings and alightings were hard to track because there was no mechanism to identify the locations. User and non-user surveys could also be unreliable, as people rarely do what they say they will.

Cloud-based fare collection platforms can provide the fine-grained, behaviour-based data that planners need to gauge the impact of their promotions quickly. This allows rapid testing with far less disruption.

The German government's recent €9 promotion, for example, reportedly required an army of programmers to spend weeks coding the fares into ticket vending machines and booking office systems. By contrast, an app-based offer could be implemented virtually and communicated directly to users as they travel, along with a request for feedback.

Riders using a check-in, check-out app should be able to travel with the confidence that they will get the best price on offer, thanks to the AI-enabled algorithms behind the scenes that build a highly accurate picture of each trip. And those same algorithms will provide the operators with a wealth of actionable data to inform better decision-making. ⬤

While the branding may vary between operators, the swipe to check in functionality is easy to use, and customers can be confident that they will get the best fare on offer for their journey.