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Bus Back Better Support Programme

Support Package 1: Fares and Ticketing

March 2023

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Bus Back Better Support Programme

Support Package 1: Fares and Ticketing

March 2023

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Abbreviations

Term	Definition
BSIP	Bus Service Improvement Plan
CMA	Competition and Markets Authority
DfT	Department for Transport
EEH	England's Economic Heartland
EP	Enhanced Partnership
EV	Electric Vehicle
LA	Local Authority
LTA	Local Transport Authority
NCT	Nottingham City Transport
NCTS	National Concessionary Travel Scheme
STB	Sub-National Transport Bodies
TAG	Transport Analysis Guidance
TCA	Travel Concession Authority
TE	Transport East
TfSE	Transport for the South East

1 Introduction

This technical note is one of a series produced as part of the joint project commissioned by three Sub-National Transport Bodies (STBs), England's Economic Heartland (EEH), Transport East (TE) and Transport for the South East (TfSE), to help support Local Transport Authorities deliver the government's National Bus Strategy for England ('Bus Back Better'). To deliver this strategy, the government has invited Local Transport Authorities (LTAs) and bus operators to formally collaborate and work with stakeholders and bus users to identify, and then implement, initiatives that will improve bus services and attract new users. It is envisaged that these improvements will be delivered through Bus Service Improvement Plans (BSIPs), Enhanced Partnership (EP) schemes, and franchising.

1.1 Background

The Department for Transport (DfT) has identified some additional funding to support its key priorities. There are four areas where STBs could undertake further work:

- **Decarbonisation:** Helping the DfT and Local Authorities (LAs) to implement the commitments made in the Transport Decarbonisation Plan.
- **Buses:** Helping LAs to deliver on the commitments in Bus Back Better and develop an effective intra-regional bus network.
- **Electric Vehicle (EV) Infrastructure Strategy:** Assisting LAs in the rollout of EV infrastructure, potentially through regional strategies.
- **Local Authority Capability:** Playing a role in building capability within resource- constrained LAs, to help them in the planning and delivery of local transport.

Three STBs, EEH, TE and TfSE, have joined forces to deliver a package of work to assist LTAs within the three regions with the delivery of their BSIPs and implementation of their EPs. The LTAs are:

- **England's Economic Heartland:** Bedford, Buckinghamshire, Cambridgeshire, Central Bedfordshire*, Hertfordshire*, Luton*, Milton Keynes, North Northamptonshire, Oxfordshire*, Peterborough, Swindon, West Northamptonshire.
- **Transport East:** Norfolk*, Suffolk, Essex, Southend-on-Sea, Thurrock.
- **Transport for the South East:** Bracknell Forest, Brighton & Hove*, East Sussex*, Hampshire, Isle of Wight, Kent*, Medway, Portsmouth*, Reading*, Slough, Southampton, Surrey, Windsor & Maidenhead, Wokingham, West Berkshire*, West Sussex*.

(* indicates an LTA that has received BSIP funding)

The project supports all the LTAs whether they have received DfT funding for their BSIPs or not.

The project is split into two stages. The initial stage of the project – **triage and prioritisation** – ran from August to December 2022. It took stock of LTAs' current progress in delivering the BSIPs and scoped the work programme for future delivery activities. Online workshops were held in September 2022 and provided a forum for LTAs and bus operators to discuss their aspirations and explore themes, priorities, challenges, and potential solutions. The project is ensuring that opportunities for technical pieces of work that would benefit multiple authorities are identified and progressed.

The second stage of the project – **implementation** – involves the delivery of support packages for the following topics that were identified during Stage 1:

- Support Package 1: Fares and Ticketing
- Support Package 2: Data Analysis, Monitoring and Evaluation
- Support Package 3: Low Cost and Quick Win Solutions
- Support Package 4: Building a Strong Case
- Support Package 5: Infrastructure and Road Space
- Support Package 6: Demand Responsive Transport
- Support Package 7: Rural Hubs and Integration
- Support Package 8: Funding Mechanisms
- Support Package 9: Collaborative Working
- Support Package 10: Marketing
- Support Package 11: Alternative Fuels and Low Emission Vehicles

Support will be delivered using a mix of channels, including webinars, toolkits and guidance, case studies and one to one support. It will also include establishing bus forums in each of the three STB areas to promote efficiency, avoid duplication of effort, share knowledge and best practice, and identify where joint working would be productive. The technical work will be undertaken to collate evidence and research. The emphasis will be on a regional approach so that common themes can be identified but localised assistance will be available to improve capacity in LTAs and provide specialist inputs regarding local issues.

1.1.1 Intended outputs and outcomes

Project Outputs: Improved delivery of BSIPs and EPs, and support to LTAs who have not received government funding in the current round. This will include:

- Enhanced evidence base through research papers on prioritised knowledge gaps.
- Knowledge sharing within and between STBs and their constituent members and between the public and private sectors.
- Better resourced LTAs through prioritised third-party support, provided in targeted areas.

Project Outcomes: These outputs will seek results in outcomes aligned to the National Bus Strategy including:

- Increased patronage.
- Enhanced accessibility and social inclusion.
- Reduced carbon emissions and improved public health.
- More commercially sustainable bus networks.

TfSE is managing the project on behalf of the three STBs. A consultant consortium of Mott MacDonald and Arup is delivering the project. A Steering Group has been established, comprising the DfT, the three STBs, representatives from some of the LTAs, and Mott MacDonald and Arup.

1.2 Overview

This technical note forms part of Support Package 1: Fares and Ticketing. It aims to help LTAs gain a better understanding of the fares and ticketing arrangements that are likely to work in practice and share knowledge of those that have been effective for other authorities. Fares and ticketing schemes may include a range of different approaches such as addressing fare levels, simplifying fare structure, and implementing marketing campaigns.

This note is set out as follows:

- **Section 2** provides an overview of the key policy and regulation issues that are relevant to fares and ticketing, and outlines some high-level challenges when implementing changes.

- **Section 3** explores different opportunities for changing fare levels and fare structures, as well as opportunities for simplifying payments and ticketing.
- **Section 4** looks at ways of better integrating bus fares with fares for other modes of transport.
- **Section 5** explores key considerations for bus operators when undertaking their revenue modelling processes.
- **Section 6** presents key considerations relevant to the development of a business case for a fares and ticketing scheme.
- **Section 7** summarises key advice to LTAs and operators.
- **Section 8** presents case study summaries of a sample of fares and ticketing schemes implemented across England.

2 Overview of Fares and Ticketing

2.1 Background

According to the Department for Transport's National Bus Strategy, Bus Back Better, the average bus fare in England rose by 403% between 1987 and 2020. This increase is significantly higher for bus than for other modes, with rail fares rising by 325% and motoring costs by 163% over the same period. This has probably made travel by bus less attractive to consumers, depressed bus patronage levels, and undermined opportunities for promoting modal shift to non-car modes.

Furthermore, it can be argued that bus passengers are presented with too much choice when it comes to selecting the right fare. Operators in the same area often offer different daily, weekly and monthly tickets with different terms of validity, which can be confusing to the consumer (especially new bus users or visitors to an area) and make it difficult for the consumer to identify the option that provides best value. Similarly, these tickets are often only available on one operator's services. The complexity of fare structures can be a barrier to bus travel and put off potential users who may be concerned about fares being too high, not having the correct fare, or be overwhelmed by the number of options and feel unable to make an informed choice¹.

2.2 Policy and Regulation

The National Bus Strategy, which was published in March 2021, sets out the government's ambitions for fares and ticketing. Going forward, the government wishes to see:

- **Lower fares:** This will help attract new passengers, and therefore also help rejuvenate town centres, foster social inclusion, and contribute to a greener future.
- **Flat fares:** This should be a standard approach in urban areas. The introduction of flat fares speeds up the boarding process, and therefore journey times, and makes it easier for current and future passengers to understand the best fare.
- **Fare capping:** Daily capping, common tickets and passes should be available on services irrespective of operator running the service.
- **Multi-operator ticketing:** Government wishes to see multi-operator ticketing across the country, covering all bus services.
- **Simplicity:** Tickets and fares should be simple and easy to understand for current and prospective passengers.
- **Contactless payment:** All bus operators should accept contactless payment, whilst still accepting cash payment so that certain groups are not excluded.
- **Interconnectivity:** A new ticket should not be required when interchanging between buses, and easy through-ticketing should be available between bus operators and modes, such as rail / metro.
- **Youth fares:** Initiatives targeted at this user group should be considered.

To help combat cost of living pressures, the government has recently announced the introduction of a £2 bus fare cap on single bus tickets on most services in England, outside London, from January to March 2023². The cap is expected to save passengers around 30% of

¹ DfT, The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England (2009) - <https://cambridge.blob.core.windows.net/public/ldf/coredocs/RD-T-050.pdf>

² DfT, £2 bus fare cap across England to save passengers money (2022) - <https://www.gov.uk/government/news/2-bus-fare-cap-across-england-to-save-passengers-money>

the ticket price every time they travel. If the initiative is successful in increasing bus use while not impacting operator revenues, there may be future opportunities for extending this scheme.

2.3 Challenges

Many challenges can materialise when it comes to improving fares and ticketing. The key challenges are summarised below, with more detail provided throughout this technical note.

- **Legislation:** The Bus Services Act (2017) presented LTAs with greater powers and made EPs a statutory arrangement. EPs, however, require operators and LTAs to work together to implement any change with fare setting. This is often a complex area due to its potential impact on operator revenue. In addition, the scope of EPs vary across LTAs.
- **Competition law:** UK legislation requires that there is fair market competition for all operators. This means that interventions that give one operator a competitive advantage over another may be at risk of legal action. This can make it difficult to change fares, simplify them, and/or make them consistent. This is particularly challenging when implementing multi-operator ticketing schemes. Despite the formation of EPs, there are still potential legal risks for LTAs and uncertainty about compliance.
- **Cross-border difficulties:** Some bus services can span multiple LTAs, which introduces added complexities in setting fare levels and simplifying fare structures. Different LTAs may have different technologies, fare capping rules and management systems in place.
- **Impact on revenue for operators:** Any change to fare levels and fare structures will directly impact operator revenue unless they are directly subsidised by public funding. As a result, operators may resist proposals to change.
- **Short-term interventions:** Whilst short-term interventions on the market (such as the £2 bus fare cap) may temporarily increase patronage and attract new bus users, such schemes often cost a lot to implement and raise expectations, whilst the effects can be short-lived.

3 Setting Fare Levels and Fare Structures

This section covers different aspects of the ticketing and payment processes, including:

- **Fare levels:** fare levels refer to the price of the tickets and it addresses the issue of how affordability for users is balanced against revenue for operators.
- **Fare structures:** fare structures refer to the types of tickets available, rather than the price of the tickets. Potential improvements that can be made in fare structures are explored here.
- **Simplifying payments and ticketing:** potential solutions are explored from the perspective of both users and operators.

3.1 Fare Levels

Fare levels need to strike a balance between affordability – the price that users are willing or able to pay – against revenue. Annual ticket revenue needs to be sufficient to cover or exceed annual operating costs for a service to be regarded as being commercially viable. The technology of issuing and verifying ticket transactions has improved significantly over recent years and now provides useful and detailed data. However, pricing can be complex, with multiple products and product variations, which means that forecasting revenue is much more than simply multiplying the number of users by an average fare.

Table 1 sets out key considerations that LTAs and operators should take into account when setting fare levels.

Table 1: Key considerations in setting fare levels

Consideration	Details
Inflation	<p>Bus fares have risen sharply in relation to standard measures of inflation as shown in Figure 1. This increase has been particularly acute in metropolitan areas.</p> <p>Figure 1: Local bus fares index³ (at current prices), England 1995 to 2021 (March 2005 = 100)</p> <p>Bus demand elasticities are variable and difficult to predict. That said, any increase in fares usually result in fewer users. This then creates a situation in which fewer passengers pay greater fares and the market is set for decline. To reverse this, lower fares can be expected to be more attractive to users, but this approach is highly risky because the revenue still needs to exceed operating costs.</p>

³ DfT, Costs, fares and revenue (BUS04) Table BUS0405a (2022) - <https://www.gov.uk/government/statistical-data-sets/bus04-costs-fares-and-revenue>

Consideration	Details
	<p>Additionally, long term demand growth is contingent in fare stability. Reducing fares for a short time is unlikely to lead to long term change unless prices can be stabilised at lower levels. If fares are unaffordable, people will buy cars and are then lost to bus for the foreseeable future.</p> <hr/> <p>If external prices and inflation remain constant, then there is scope to find an equilibrium between low demand/high prices or high demand/low prices.</p> <hr/>
Fare revenue as main source of income	<p>For commercial routes, fare revenue is the main source of income for the operator. If operating costs rise due to rising prices of labour and fuel, then fares have to increase to cover these costs. Substantial cost increases need substantial price rises which will discourage use. Other sources of income are likely to remain unchanged such as advertising revenue.</p> <p>On non-commercial routes, increases in operating costs generally require subsidies to be increased to cover these costs.</p> <hr/> <p>When costs rise, operators are faced with little alternative than to increase fares.</p> <hr/>
Season tickets and customer loyalty	<p>Season tickets (weekly/monthly/annual) are generally applicable to a single operator, unless offered directly through LTA administered schemes. Where there is more than one operator operating services along the same route, season tickets can be used to instil customer loyalty.</p> <hr/> <p>With the standardisation of fares and cooperation between operators through EPs, multi-operator season tickets should be available, preferably with single operator ticketing deleted.</p> <hr/>
Cash and non-cash transactions	<p>The use of cash incurs higher costs to operators in its handling (cashing up, counting, secure dispatch) than the use of contactless payments. It can also delay buses at bus stops while the transactions take place, especially if users are unfamiliar with fares. In London, the cash option is no longer available. However, some users may not have a bank account with a contactless card or be able to pre-purchase smart cards or simply prefer to pay with cash.</p> <hr/> <p>Operators should retain cash transactions if there is evidence that users will not be able or willing to use services without. Where cash transactions can be eliminated, services can benefit from improved journey times with reduced dwell times at stops. This could be reinforced by highlighting the advantages of non-cash transactions, such as automatic capping that is only applied for non-cash transactions.</p> <hr/>
Concessionary travel	<p>The National Concessionary Travel Scheme (NCTS) is a statutory requirement. However, LTAs do not always receive sufficient government funding to cover the cost of NCTS journeys and often need to find adequate funding from other sources (e.g., funding that would otherwise be directed to bus service support). However, evidence shows that the proportion of bus users returning post-pandemic is lower for NCTS passengers than farepayers, mainly attributed to the fear of catching Covid-19 on a bus. Also, reimbursement rates (based on typical adult single fares) are expected to decline over time with the revenue difference to be compensated for by operators.</p> <hr/>

Consideration	Details
	<p>NCTS users should be supported in returning to bus use, particularly when there are health and wellbeing benefits. The discretionary elements could be reviewed e.g., the time of day at which they apply. The decline in reimbursement rates remains a problem when compounded by other funding pressures.</p>
Simplicity	<p>Many ticket options and pricing are not widely understood with multiple variants e.g. 'DayRider', 'DayRider Plus', 'DayRider gold' and similar. There is a lack of consistency in season ticket prices e.g., quarterly or thirteen-week tickets, school term tickets and similar.</p> <p>Ideally, government would like to see a simplification of the range of tickets, prices, and applicability to relevant operators.</p>
Child fares	<p>There is inconsistency of pricing and applicability e.g., the discount varies by LTA area (e.g., half adult fare, two thirds or three quarters with variants by time of day and day of week) or operator. Also, the threshold for an adult fare is inconsistent across operators and may range between 16 and 21 years. Additional verification is often required to validate a passengers' fare e.g., photocards or proof of age.</p> <p>Clear and consistent definition between LTAs. It may also be desirable to remove all proof of evidence and the introduction of a flat child fare; this works on the principle of lower price with more users to generate more revenue overall. Extending the age requirement (for example to 20 years) supports bus use by students and young workers. There is also scope for family/group tickets rather than simply adding adult and child fares which can be expensive and unattractive.</p>
Attracting new users	<p>Potential users cannot always easily find out about fare offers. Even where this information is available, it is not easily understood with multiple variants, terms, and conditions.</p> <p>Pricing should be easy to understand and attractive to potential users e.g. group tickets. Many other purchases are marketed on price and attracting first time users should be the focus.</p>

CORNWALL'S FARE DISCOUNT

Fare discounts will generate patronage and revenue that will support lower fares over the longer-term
 – Cornwall Council

Fare discounts on bus services are effective in generating increased patronage, but there needs to be a focus on its sustainability. In April 2022, Cornwall introduced a fare scheme that reduces its bus fares up to 40%. Following its implementation, Cornwall highlighted the need for a good data collection method to provide a good evidence base to ensure that the assumption that lower fares can lead to increased revenue opportunity is verified. This can help LTAs balance the aim of revenue increase for operators and the provision of quality bus services at affordable prices for the public.

3.2 Fare Structures

The National Bus Strategy notes that customers are too often presented with a confusing variety of tickets, which are difficult to understand and are often focussed on the operator's ease of delivery rather than customer utility. In general, it is recommended that fare structures are as simple as possible. Table 2 details the key considerations that operators should bear in mind when setting a fare structure for a bus service. The overarching aim is to make ticketing as simple and easy possible to help generate a positive image of bus use and ultimately attract, and retain, new users.

Table 2: Key considerations for bus fare structures

Consideration	Details
Simpler structures	<p>There are numerous products and many variations on a core ticket that may not provide best value for users.</p> <hr/> <p>The simplest range includes point-to-point singles and possibly returns, day tickets and season tickets (week/7-day, month, quarter, year). Add-ons should be avoided where possible apart from established arrangements, and should be multi-modal, multi-operator and multi-journey. Single operator tickets should be supplemented by multi-operator tickets because the offer should be focussed towards bus travel as a whole, rather a sub-set of bus travel.</p>
New offers	<p>Ticket options have not kept pace with external changes, such as working patterns.</p> <hr/> <p>Possible new offers could include zonal or flat fares, possibly by time of day e.g., evenings. Timed tickets would help people making journeys on more than one bus. In this case, timing could be for up to one hour after issue with one fare rather than two. Although this tends to reduce revenue, it should generate more users as was the case for London when the Hopper fare was introduced. Carnet-type tickets would help people who make irregular journeys e.g., part time workers who no longer work five days per week. Group tickets can help to support families and others making the same journey e.g., up to five people at a discounted price</p>

Consideration	Details
Format	<p>Different formats offer different prices, and each has advantages and disadvantages.</p> <hr/> <p>All formats should be available to enable users to select the most appropriate. Contactless transactions have risen in popularity due to their convenience, noting the Covid-related need to avoid cash payment. The economy in general has moved towards easier payment methods and pre-payment helps to speed up transactions and therefore bus journey times. Smart cards continue to play a role for selected areas and for concessionary journeys, mainly.</p> <hr/>
Generating more users	<p>New formats for tickets do not generate any more revenue unless new users are generated and merely offset cost savings by reducing cash transactions, facilitating reduced fares for electronic formats.</p> <hr/> <p>BSIPs are intended to generate more bus use by every means available. New types of tickets can contribute to growth if marketed and promoted appropriately. Smart card, contactless and mobile phone payment enables integration with other transport and wider applications including cycle and scooter hire schemes, taxis and private hire vehicles and can also apply to car parking tickets and possibly retail opportunities and advertising. Multi-modal tickets could extend not just to local trains but ferries, scheduled coach services and community transport. For example, National Express tickets are now available via Uber in addition to pre-booked private hire vehicles.</p> <hr/>
Risks	<p>Simplifying fare structures may reduce revenue unless new users are found.</p> <hr/> <p>Simplifying ticket structures may reduce revenue on certain types of ticket. However, as with fare levels, the concept is to increase the number of users so that overall revenue increases over time. There is an element of risk if this is not achieved but only if the number of users is constant. Understanding why individuals choose to use bus services is important to establish what fare options would be appropriate for particular journey purposes and times of day/days of week hence survey information and user engagement is important.</p> <hr/>

3.3 Simplifying Payments and Ticketing

Payment transactions on buses have become much easier in recent years thanks to the roll-out of contactless card payment, mobile phone ticketing, and smart cards systems. These offer a faster and more convenient way for users to pay for their journeys, resulting in speedier boarding, reduced dwell times at bus stops, and, ultimately, a more efficient bus network. Most operators have retained cash transactions to avoid excluding some users, although the proportion of cash transactions has declined substantially, especially during and following the Covid-19 pandemic (when cash handling was universally discouraged).

Although most buses accept smart cards/mobile-tickets/contactless, there remain many ways in which transactions can be improved, as payment arrangements is just one aspect of bus use that potential users find challenging. Possible improvements to fares and ticketing are presented below from the perspective of users in Table 3 and from the perspective of operators in Table 4.

Table 3: Possible improvements to fares and ticketing from the users' view

Consideration	Details
Payment methods	<p>Traditional cash transactions can be slow and are sometimes susceptible to fraud by passengers and staff. Awareness of other payment types is limited.</p>
	<p>The majority of buses across England are capable of issuing and/or reading tickets via various media:</p> <ul style="list-style-type: none"> • Contactless debit and credit cards using physical cards and NFC-enabled technology on smartphones such as Apple Pay and Google Pay. • Smart cards, availability is limited depending on geography but usually includes concessionary tickets under the NCTS for England. • Mobile phone tickets add to the capabilities of smartphones by creating e-tickets which can also provide timetable information, real time locations for buses and the level of occupancy of approaching buses. • Cash transactions are generally available but involve longer boarding times and incur handling charges for drivers to cash up at the end of a shift and for cash handling at the depot.
Pre-journey price information	<p>Finding out about ticket prices in advance of a journey can be difficult due to an absence of reliable information or the complexity of the offer and fare variations.</p>
	<p>Ticket pricing information should be available on operator websites and apps. All too often the price is unknown until the user is on the bus, a result of this being extended dwell times while negotiation takes place. Ideally potential users should be fully informed before they decide to make the bus journey.</p>
Multiple tickets	<p>Where a transfer from one bus to another is required to complete a journey, or when a journey comprises a bus in combination with another mode, more than one ticket is needed. This is uncoordinated and can cost more compared with a single payment for the whole journey.</p>
	<p>Thanks to recent improvements in ticket machine technology, it should be possible to time stamp a ticket so that it can be used on another bus with a specified time, usually one hour. This requires the purchase of a transfer ticket at a price less than that of separate transactions.</p>
Simplicity	<p>The range of tickets can be confusing to less experienced users. This is off-putting and can result in overcharging. For example, return tickets may be priced at only marginally more than a single ticket and a ticket for all day travel may be cheaper than a return ticket.</p>
	<p>Simplifying fare structures can help to overcome the challenges of finding the right ticket.</p>

Consideration	Details
Coordination	<p>It is likely that there is more than one operator providing services in a given area. Tickets are not usually interchangeable apart from specific area-wide arrangements, which confuses users and complicates journeys.</p> <hr/> <p>Multi-operator tickets could be introduced to ensure pricing is coordinated, and all return, day and season tickets are accepted on any bus, regardless of operator. Note that in some areas, this arrangement became available during the pandemic but has subsequently returned to their original arrangements post-covid.</p> <hr/>

Table 4: Possible improvements to fares and ticketing from the operators' view

Consideration	Details
System incompatibility	<p>Different ticketing systems do not enable ticket validation or data entry.</p> <hr/> <p>Many operators have now adopted similar ticket technologies, particularly systems that are modular but share common functionality. Over time, all machines should be capable of reading m-tickets, contactless cards, and smart cards, regardless of where they were issued.</p> <hr/>
Multi-operator agreements	<p>Multi-operator tickets can be agreed, although under current competition regulations, operators are (understandably) not allowed to create pricing cartels. This can be overcome through EPs with joint agreement(s) on pricing. Where these are implemented, it is common for operators to choose to retain their legacy tickets (i.e., tickets that are offered prior to multi-operator ticketing arrangements) in parallel. Ideally, these should be phased out in the interests of simplicity.</p> <p>It can be challenging to apportion revenue under these arrangements because:</p> <ul style="list-style-type: none"> • The operator through which the ticket is purchased usually retains all the revenue even if other operators are used during a journey. • Different operators often charge different fares for the same journey so agreement on price is needed. Multi-modal tickets can be difficult to agree upon, notably between bus and train, as train fares tend to be higher and therefore complicate the setting of fare levels and revenue allocation. • Some form of transaction control is needed to ensure that revenue is fairly allocated. • Some operators may not provide the origin or destination of a journey e.g. a ferry provider where most, if not all, users have to get to the point of embarkation on a multi-modal journey. The revenue allocation to that intermediate operator needs to be agreed. <hr/> <p>An equitable approach to revenue allocation needs to be agreed by the EP participants, and this should be based on actual and forecast revenue data. Additionally, a suitable back-office system needs to be available in order to keep track of revenue, and allocate based on the agreed distribution. Given the sensitivities of commercial operation, this may require independent advice to whom?.</p> <hr/>

Consideration	Details
Revenue risk	<p>Bus operators are protective of their established revenue streams and may be unwilling to try other pricing strategies or collaborate with others on ticket initiatives.</p> <p>Where BSIP funding is available, fare initiatives can be underwritten for a fixed period so that operator revenue is not compromised. However, there is a balance to be struck between prices that are attractive to users and the revenue obtained. To overcome this, pricing should be part of the wider approach in which improved services attract more users with the potential for more revenue, nullifying the financial risk.</p>

CORNWALL'S PUBLIC AND SHADOW FARES

As part of its multi-operator agreement, Cornwall County Council created a dual fare system which consists of a public fare, the fare that is advertised to public users, and a shadow fare, the agreed fare between the LTA and operators. This shadow fare is higher than the public fare and is used to avoid impacting operators' revenue as changes are implemented. The LTA pays the difference between the public fare and the shadow fare to the operator. For example, if a journey from A to B has a public fare of £2 but has a shadow fare of £2.50, Cornwall County Council will reimburse the difference between the two fares to the operator.

Both fares are reviewed regularly to keep up with external economic factors such as cost increases and inflation. Both operators and LTAs must acknowledge that there is an inherent risk in this system, specifically in cases where there are pressures to keep both fares constant despite the cost increase. To mitigate this risk, revenue modelling can be used to account for the sensitivity and variability of both these fares to ensure equitable reimbursement and revenue apportionment between operators.

4 Fare Integration with Other Modes

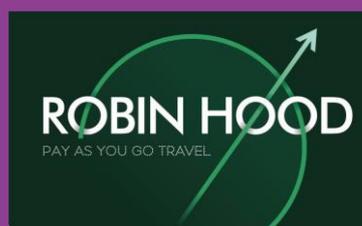
4.1 Overview

Integrating bus tickets with other modes of transport can facilitate multi-modal sustainable journeys. An integrated ticket could allow passengers to pay for all parts of their journey in one ticket – be it by bus, tram, train, ferry, e-bike, or e-scooter. Furthermore, removing the need to buy multiple separate tickets should increase the simplicity for prospective passengers and, in turn, increase the attractiveness of sustainable travel compared to the car.

There are many examples of integrated ticketing schemes across the UK, notably in its largest cities such as London’s Oyster card. Some schemes cover certain modes, e.g. bus and train, while others allow passengers to travel within certain travel zones or time windows across modes. This can help to improve regional connectivity.

NOTTINGHAM’S ROBIN HOOD CARD

The card can be used on bus, tram and local train and can be topped up at the machines by bus stops or using the mobile phone app.



4.2 Benefits

Removing the requirement to buy multiple separate tickets increases the simplicity for prospective passengers and could result in an increase in sustainable journeys. A survey undertaken in 2019 indicated 56% of passengers would use public transport more if there was a ticket that could be used across all modes⁴. A smart ticketing and payment platform can be adopted for integrated ticketing schemes, allowing passenger fares to automatically be deducted from a pre-payment card or contactless payment. Integrated ticketing could also offer discounted journeys for multi-modal journeys, for instance journeys undertaken in a given time period or zonal area.

4.3 Key Considerations

There are many key points to consider when exploring the possibility of introducing an integrated ticketing scheme in an area, as listed in Table 5.

Table 5: Key considerations for integrating bus fares with other modes

Consideration	Details
Stakeholder coordination	It can be difficult to coordinate multiple stakeholders (e.g., LTAs, operators, suppliers) who have competing interests / concerns. It is therefore essential that good relationships are built and that a potential scheme has a high-level of support from the outset. It may also fall to the LTA to help co-ordinate stakeholders and mitigate any concerns.
Time	It can also take a long time to co-ordinate stakeholders and devise a scheme that everyone is happy to sign up to. As such, there can be a risk that schemes never get off the ground.

⁴ [Integrated and Smart Travel | Transport for the North - Transport for the North](#)

Consideration	Details
Data confidentiality / data sharing	Operators may not be willing to share their data with other operators, or other third parties, as such data can give insights into commercially sensitive information.
Financial distribution	There is a need to ensure that the revenue from multi-operator ticketing is distributed in a fair manner.
Compatibility of ticketing systems	Sometimes the available technology can act as a barrier to implementing a scheme, with different ticketing systems used by different modes or operators not being easily compatible. In such instances, both time and cost penalties must be overcome.

LEICESTER'S MULTI-OPERATOR TICKET

Leicester City Council realised when launching its multi-operator ticketing offer that many bus users prefer buying the integrated tickets on the bus itself. This can be a challenge from a technological perspective as it means that the QR codes and scanners on each bus have to be aligned. Furthermore, if the different operators are using different apps, as is the case in Leicester, to create truly integrated ticketing, operators had to display information about all the other available tickets on their own apps. This is an extra step that was not foreseen by the operators when launching the multi-ticketing offer. It is therefore a lesson learnt that if integrated ticketing is being considered, authorities need to be mindful of the specific context within which they sit to ensure all details are ironed out before the launching of new offers.



Figure 2: On board payment system in Leicester (Source: Ticketer)

5 Revenue Modelling

5.1 Overview

Bus company revenue comes from a combination of passenger revenue, contract revenue and other revenue. The definitions of the different types of revenue are as follows:

- **Passenger revenue:** This mainly consists of commercial and concessionary scheme reimbursement revenue. Commercial passenger revenue relates to ticket sales and travel cards that enable passengers to use the travel services. Concessionary reimbursement is revenue received under NCTS, where public bodies, such as local authorities, provide reimbursement with a performance obligation to transport certain eligible passengers free of charge.
- **Contract revenue:** This relates to the revenue generated from services contracted by and paid for by LTAs. Other contracts may be in place e.g. student bus services and private directly-awarded home to school contract services, although these are not covered by the National Bus Strategy.
- **Other revenue:** This relates to revenue from ancillary services such as rail replacement bus services, maintenance, and cleaning. Non-fare revenue also includes advertising and other sources e.g. bus station departure charges or rent of commercial space e.g. kiosks at bus stations in some instances where premises are owned and maintained by operators.

Today, the transport landscape in the UK is rapidly and dramatically changing because of changes to the economy, lifestyles, technology, and public policy (all accelerated by the Covid-19 pandemic). These changes have implications on the revenue of bus services. Revenue modelling is a crucial step for bus operators to understand the sources of their income as well as the flow of the income. Modelling can help optimise fare levels that do not burden users, maintain commercial sustainability of the bus network, and reflect the nature of bus services as public goods. This section will explore key considerations for bus operators when undertaking their revenue modelling process, specifically passenger revenue as it makes up the larger portion of revenue for bus companies.

5.2 Key Considerations

Table 6 lists several key considerations for revenue modelling of passenger revenue.

Table 6: Key considerations for passenger revenue modelling

Consideration	Details
Fare structure	<p>The variety of ticketing and fare structures offered by bus operators may present a challenge in modelling revenue. Rates for adults, children and concession pass holders differ, as well as single ticket, weekly tickets and other types of season passes. For example, Ipswich Buses has a range of fare options including 43 ticket types. Each ticket type will have its own yield, earnings per kilometre/mile – a number that is expected to be lower than a single ticket price. Consequently, simply equating revenue as a product of an “average” ticket price across all types of tickets and number of journeys made in the modelling process will not accurately reflect the revenue collected during operation.</p> <p>Weekly or season ticket holders present an additional challenge in modelling for revenue per journey as there is no direct relationship between number of journeys and fare level. Different users buying the same weekly or season ticket may have a widely different number of journeys made on the same ticket. The greater the number of journeys made on one ticket, the lower the yield, i.e. the earnings per kilometre/mile.</p>

Consideration	Details
Concession tickets	<p>The Concessionary Bus Travel Act 2007 guarantees free local bus travel to eligible older people and eligible disabled people on off-peak bus services anywhere in England. Section 149 and 150 of the Transport Act 2000 make provision for the reimbursement of operators that provide the concession by the Travel Concession Authority (TCA). The objective of the reimbursement is that the operator should be left 'no better, no worse off' due to concessionary travel schemes, ensuring that operators are fully compensated for the service they provide but do not receive any hidden subsidy.</p> <p>However, reimbursement is done at sub-national level and often there is an element of negotiation in determining the rate of reimbursement for the concessionary journeys. Additionally, despite being a statutory requirement for bus operators, there is often insufficient funds provided by central government leading to authorities using other funding sources for the reimbursement, such as from revenue support for marginal services. Covid-19 also adversely impacted the reimbursement scheme as the rates of reimbursements to the bus operators were frozen and were not allowed to increase. Inflation post-Covid-19 has generally caused bus operating costs to increase, leading to an increasingly marginal yield especially in areas with a high proportion of concessionary travel.</p> <p>These changes that have occurred in recent years adds a layer of difficulty when modelling concessionary revenue, noting that the number of concessionary users has not recovered to the same extent as other users.</p>
Demand projection	<p>Demand for bus services is not constant during a year, or constant year on year. Therefore, there is often a need to model demand alongside modelling revenue to enable a more accurate projection.</p> <p>However, projecting demand into the future is inherently difficult. Demand for bus services varies greatly depending on a number of factors, even daily weather. Due to demand volatility, the longer the time period of the data used to model, the more reliable the data will be. In addition, unprecedented global phenomena of Covid-19, has exacerbated the complexity of revenue modelling as there has been a total shift in 'normal demand'. As the world recovers from the pandemic, there is not enough data yet to determine the new levels of normal demand. Post-Covid-19 recovery varies spatially across the country. Latest estimates⁵ by the DfT state that bus boardings outside of London have recovered to 81% of the volume observed pre-Covid-19, but it can vary at each locality. Shifts in demand for work-related travel and shopping are expected to have lasting effects and suppress demand for bus use. All these shifts in demand increase the sensitivity of revenue modelling and must be considered by operators.</p>
Risk aversion to experimentation	<p>Covid-19 exposed serious issues in the resilience of the bus service network and the vulnerability of the bus industry to a reduction in patronage and fare-box revenue. Many operators were adversely impacted by the pandemic – passenger revenue dropped, frequencies and routes cut, and staff furloughed as operators attempted to make ends meet with the support of government grants.</p> <p>The Covid-19 recovery pathway is still uncertain. As it has yet to be modelled accurately, operators have become more cautious in making changes to their operations that might adversely impact existing demand. There is acknowledgment that Covid-19 will bring about changes to people's travel habits with surveys in the industry demonstrating that bus travels after lockdown reduced dramatically during lockdown and has not returned to pre-pandemic levels.⁶ This, in turn, leads to bus operators becoming increasingly risk averse to experimenting with fares and ticketing, especially if they already have a steady revenue stream. Operators are less likely to drop fares in trials, for example, to see impacts on demand. Impacts on bus demand from the recent £2 fare cap introduced by the government will be interesting to observe.</p> <p>In addition, cost increases are affecting all operators severely, notably labour and fuel costs representing the majority of operating costs, exacerbated by driver shortages which is undermining reliability.</p>

⁵ DfT, Domestic Transport Usage by Mode (2022) - <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic/domestic-transport-usage-by-mode>

⁶ DfT, National Travel Survey, NTS0308 (2022) - <https://www.gov.uk/government/statistical-data-sets/nts03-modal-comparisons>

6 Business Case for Implementing Schemes

6.1 Overview

Considered scoping, thorough planning, and justified costing are critical aspects to successfully delivering any new fares and ticketing scheme. Business case processes provide decision makers and stakeholders with a proven framework for achieving these aspects and a means to provide adequate justification for implementing a scheme. Depending on the proposal, the business case production may follow individual business (operator) structures, value for money proposals (LA funding streams) or the DfT rules (DfT schemes – for example through BSIPs). Overall, preparing a business case in line with the five case model set out in The Green Book (Figure 3) will position the proposal for thorough assessment and ultimately a higher likelihood of implementation success.

Figure 3: The five case model (The Green Book, 2022 (update), HM Treasury)

Strategic dimension	What is the case for change, including the rationale for intervention? What is the current situation? What is to be done? What outcomes are expected? How do these fit with wider government policies and objectives?
Economic dimension	What is the net value to society (the social value) of the intervention compared to continuing with Business As Usual? What are the risks and their costs, and how are they best managed? Which option reflects the optimal net value to society?
Commercial dimension	Can a realistic and credible commercial deal be struck? Who will manage which risks?
Financial dimension	What is the impact of the proposal on the public sector budget in terms of the total cost of both capital and revenue?
Management dimension	Are there realistic and robust delivery plans? How can the proposal be delivered?

For general guidance on the preparation of transport business cases, refer to the following:

- The Green Book – Central Government Guidance on Appraisal and Evaluation, HM Treasury, 2022 (update), [The Green Book \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/green-book-2022.pdf)
- Transport Business Case Guidance, DfT, 2022 (update), [Transport business case guidance – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/transport-business-case-guidance-2022.pdf)
- Transport Analysis Guidance (TAG), DfT, 2022 (update), [Transport analysis guidance – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/transport-analysis-guidance-2022.pdf)
- TAG Data Book, DfT, 2022 (update), [TAG data book – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/tag-data-book-2022.pdf)
- TAG Uncertainty Toolkit, DfT, 2022, [TAG uncertainty toolkit \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/tag-uncertainty-toolkit-2022.pdf)
- Managing Public Money, HM Treasury, 2022 (update), [Managing public money – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/managing-public-money-2022.pdf)
- The Magenta Book – Appraisal Methods, HM Treasury, 2020 (update), [The Magenta Book – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/magenta-book-2020.pdf)
- The Aqua Book – Analytical and Modelling Quality, HM Treasury, 2015, [The Aqua Book: guidance on producing quality analysis for government – GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/106427/aqua-book-2015.pdf)

There is considerable uncertainty about how the bus system will evolve in the future, particularly following the disruption of Covid-19, as well as the potential for emerging trends in behaviour, technology, and decarbonisation. To ensure decision-making is resilient to future uncertainty, it is critically important that scheme sponsors understand how the outcomes of proposals may differ under different assumptions about the future. The TAG Uncertainty Toolkit introduced a set of seven standardised scenarios – known as Common Analytical Scenarios – which incorporate national level uncertainties that have been developed by the DfT for use in forecasting and appraisal for DfT proposals. Regardless of whether the business case is being prepared for the DfT, these scenarios can be a useful guide for what to consider (and how to) in terms of uncertainty in scheme proposal planning.

6.2 Key Considerations

Ticketing is considered a service characteristic or ‘soft measure’ in the context of bus intervention appraisal. The economic values associated with these are less well established compared to ‘hard measures’ such as travel time savings. The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England (DfT, 2009)⁷ provides a useful summary of the importance of these ‘soft measures’ in determining bus patronage trends and an evidence base for estimates of their economic value. The DfT report provides suggested economic values of simplified ticketing, based on a series of models that assess the impact on bus demand. The Transport Analysis Guidance (TAG) segmented value for bus users of 0.84 minutes as a result of simplified ticketing was derived from the elasticity-based demand model referred to in the report.

Beyond this, teasing out the specific benefits of investment in fares and ticketing schemes is difficult and often requires considerable investment in planning and administration. Such arrangements need long term funding and organisational stability if the benefits are to be maintained. With this in mind, the remainder of this section outlines specific considerations related to fares and ticketing that could be useful to consider or incorporate into a business case for a scheme. Table 7 lists key considerations for prior to business case development and Table 8 includes key considerations for during business case development. Support Package 4: Building a Strong Case also provides useful information on how to make an effective case to local politicians and communities on the benefits of bus improvements.

Table 7: Key considerations prior to business case development

Consideration	Details
Strategic relevance	Is your initiative strategically relevant and in alignment with the National Bus Strategy? If not, other initiatives should be considered before business case preparation commences. The strategic case and social value of proposals is increasingly an important part of the appraisal process.
Intent of initiative	Are you clear on the intent of your initiative? For example, increased patronage, increased revenue, increased passenger satisfaction, support modal shift, support faster boarding times, reduction in fare evasion, reduction in transaction and administration costs, etc.
Who will lead?	Who (LTA/operator) is going to take the lead on implementing and delivering the initiative? The roles of each stakeholder need to be clearly defined.
Evidence / data requirements	What robust evidence will you collect to support the business case for your initiative? Do you have mechanisms in place to allow this data collection? What timeframes are required to collect adequate evidence?

⁷ DfT, The Role of Soft Measures in Influencing Patronage Growth and Modal Split in the Bus Market in England (2009) - <https://cambridge.blob.core.windows.net/public/ldf/coredocs/RD-T-050.pdf>

Consideration	Details
Neighbouring LTAs	Does your initiative impact neighbouring LTAs? Early engagement can support a cooperative relationship and identify mutual benefits of the initiative.
Operator response to initiative	[For LTAs] – Will your initiative be received negatively by operators? Engage operators early to clearly communicate the intent of the initiative and where possible co-design the initiative with operators to achieve maximum acceptance.
Operator environment	[For LTAs] – What is your operator environment? 1-2 main operators, mix of small-medium operators, etc.? With this in mind: <ul style="list-style-type: none"> • How will your initiative ensure fair market competition for all operators, irrespective of size and ability to afford more advanced systems? • How will you get your biggest operator to support your initiative? • Will you be required to subsidise smaller operators for a fully integrated multi-operator ticket scheme? • Is there an opportunity to grow the market with your initiative? • Could the biggest operator take the lead and then the initiative be rolled out across smaller operators once some experience has been gained and lessons learnt?
Deal-breakers	[For operators] – Are there any deal breakers that will prevent you from utilising the scheme initiative? Communicate these to the LTA early.
Must-haves	[For operators] – Are there specific aspects that you want or need incorporated into the scheme initiative that would benefit your operation? If so, then communicate these to the LTA early.

Table 8: Key considerations during business case development

Consideration	Details
Revenue	Will your initiative increase revenue? Calculate the increase using revenue modelling techniques.
Patronage	Will your initiative increase patronage? Calculate the increase using revenue modelling techniques.
Benefits realisation	When will your initiative provide benefits? The realisation of these may be different for operators, LTAs and the community. Specify each where possible. The benefits of integrated ticketing, for example, may plateau and tail off over the long-term.
Measuring success	How will the success of the scheme be measured? Set expectations for all stakeholders.
Evidence / data	Have you collected robust evidence to support the business case for your initiative? Use case studies and the TAG for guidance.
Trials	Could you incorporate trials as part of the business case to test different variants of the initiative? The trials themselves may still require a business case but the reduced scale may provide opportunity for scheme refinement prior to major investment.
Using the EP	How could an EP be used to assist with the development and success of the initiative? Refer to The National Bus Strategy Delivering Bus Service Improvement Plans using an Enhanced Partnership Guidance (DfT, 2021) ⁸ , for guidance.

⁸ DfT, The National Bus Strategy Delivering Bus Service Improvement Plans using an Enhanced Partnership – Guidance (2021) -

Consideration	Details
TAG data book	Have you consulted the TAG data book methodology for estimating the social impacts of bus projects? There are also other more qualitative mechanisms to lift the profile of soft measure bus improvements, including: the public sector equality duty (the Equality Act 2010 requires public bodies to have due regard to “advance equality of opportunity between people who share a protected characteristic and those who do not”. Considering that groups with protected characteristics are more likely to be reliant on buses, it is crucial to ensure a social value lens is applied to bus improvement planning and decision making); the Local Government Act 2000 part 1 (an LTA can take any steps which they consider are likely to promote or improve the economic, social or environmental well-being of their local community, subject to the restrictions contained in the Act).
Administrative aspects of initiative	Who (LTA/operator) is going to manage administrative aspects of the scheme – especially if it involves multi-operator ticketing? Clearly define the roles of each stakeholder.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002507/national-bus-strategy.pdf

7 Key Advice

Fares and ticketing has been a challenging subject for most LTAs. The result has been a lack of coordination between operators, inconsistent fares for users between neighbouring operators, and inertia from operators who naturally defend their current fare revenue rather than promote change. Technological advancement has also tended to be a barrier to progress due to complexity and cost. However, the EP process has the potential to assist with overcoming these concerns.

Across all areas, EPs should consider how LTA measures can improve bus ticketing simplicity and affordability. To support this, operators should look to invest in on-board equipment and enhancements to enable capping. In the short-term, they should aim for low cost, quick wins such as mutual acceptance of paper-based tickets, barcodes, etc. Refer to Support Package 3: Low Cost and Quick Win Solutions for more practical advice on these options. In the longer-term, smart, multi-operator capping should be the goal.

7.1 Learning From Experience

Below is a summary of key learnings, based on the experiences of a number of LTAs, that would be useful to consider when looking to develop a fares and ticketing scheme.

- **Simpler payment:** Experience shows that a larger customer base is achieved if payment can be made in advance at a variety of outlets (pre-purchase online, through apps, at selected shops, etc.) as well as on the bus. Smart card technology is largely being superseded by debit/credit card and mobile phone transactions because potential users already carry the means to make payments. This has been a significant benefit to bus users (simplicity) and operators (quicker transactions) with the added benefit of providing data for diagnostics about journeys made and the people making them. Improving the means of payment is a key part of the overall requirement and most operators currently accept multi-media transactions. While smart cards have been ‘leap-frogged’ in favour of other means of payment, they may retain a role for concessionary, home-to-school and other types of payment.
- **Simpler fares:** Simplified fares can be marketed successfully, particularly if the cheapest fare option is automated and daily fares are capped. The technology is available to achieve the back office working but the fares themselves need to be simpler to offer a more manageable number of ticket type options. This is closely linked to marketing – for example, £1 evening fares, group prices, a day price cap, etc.
- **Ticketing technology:** All operators should have compatible ticketing systems. The back office function can be complex and may represent a barrier to progress given the start-up cost and ongoing maintenance liability. However, the advantage of an LTA-managed system is the data feed and coordination. An alternative is to use a system established elsewhere, whereby all functionality is contracted to another provider with the payment of a handling fee. This is low risk and could be an initial step if a longer term separate back office is envisaged. The DfT has outlined that LTAs and operators should assume that a technical solution is available and should not seek to develop this independently, hence this may be easier to achieve than might first appear. The preference for a single multi-operator IT solution is stemming from the following benefits:
 - Reduces complexity for users and providers, therefore promoting increased uptake.
 - Provides greater strength in a single business case.
 - Allows for the development of common advice and guidance.
 - Generates data that can be used for network planning.

- **New data:** Every transaction can be included in the analysis of tickets bought (where, when and how) which informs the ticketing structure and fare levels. This is invaluable for network planning and offers a significant advantage compared with current arrangements, particularly if combined with passenger satisfaction/attitude surveys.
- **Effective operator engagement:** Operators play an important role in ensuring scheme success. Operators should be engaged and be part of the scheme design alongside the LTA. This can help LTAs understand their concerns and build compelling cases to encourage collaboration. LTAs can use these insights to design agreements that enable long-term collaboration with mechanisms that ensure continuous engagement and motivation between all parties.
- **Understanding bus users:** Bus users' knowledge of, and comprehension of, fares and ticketing schemes is critical. It is important to get feedback from passengers so that schemes can be improved to elevate the user experience. Feedback can be collected from surveys or data collected using mobile technology.
- **Agile project management:** In designing schemes, it is important to ensure clear scoping and definition of the intended scheme outcomes and the roles and responsibilities across the LTA and operators. Projects must be managed with a long-term perspective to ensure sustainability of schemes. An agile approach can be taken to address risks, unforeseen circumstances and changing priorities.
- **Wider area context:** To further enhance the bus user experience, LTAs should consider schemes that are offered in neighbouring areas. This can help create more cohesive schemes that enable seamless journeys between neighbouring areas. However, it is important to consider the geographical and political contexts of these areas when designing cross-border schemes.
- **Simple processes:** Simple revenue allocation and reimbursement processes between LTAs and operators are key to ensuring scheme success. An overly complicated scheme may not be understood which may jeopardise the scheme's effectiveness. LTAs must strive to ensure the process is as simple, fair, and logical as possible.
- **Effective marketing:** An effective marketing strategy can help convince new users to use the bus. To create effective marketing materials, the fare structure must be simplified first. Marketing should not only be done during the introduction of the scheme, but also throughout its operation. Effective marketing incorporates feedback from users and evolves as the scheme progresses. Support Package 10: Marketing, provides targeted advice on this.

7.2 Roles and Responsibilities

To enable collaboration in EPs, clear roles and responsibilities must be set out between the LTA and operators regarding fares and ticketing. Whilst some division of roles and responsibilities may be context-dependent, this sub-section sets out the best practice breakdown of roles and responsibilities of the LTA and the operator in delivering fares and ticketing schemes. Bus users' knowledge and comprehension of fares and ticketing schemes is also critical. It is important to get feedback from passengers so that schemes can be improved to elevate the user experience. Feedback can be collected from surveys or data collected using mobile technology.

- **LTA:** The key role of LTAs is to plan for schemes and provide leadership in driving schemes forward. Although fare setting is a matter for operators, LTAs can offer advice across their area and adjacent LTA areas so that a comprehensive and effective fares structure can be adopted. LTAs are also responsible for designing the administration and governance framework under which these schemes would operate. They also oversee monitoring and evaluation as the schemes are implemented.

- **Operators:** The key role of operators is to be willing to collaborate with the LTAs to deliver improvements to their ticketing and fares structures and processes. Operators must identify and clearly communicate any concerns so that innovative solutions can be identified with the LTAs to deliver improved ticketing experience. A clear vision of what new ticketing will achieve need to be shared with a view to attracting new users by simplifying fares and offering attractive ticket options.

7.3 Key Tasks

LTAs are best placed to develop ticketing systems because they are not operator-specific. Operators may express reluctance to collaborate between themselves, but if it can be demonstrated that improvements are helping to increase demand and revenue, then the scheme can be rolled out successfully. A timeline and budget should be set from the outset, building on the monitoring undertaken throughout and revenue estimation to show the impact of successive improvements. All operators need to understand that improved ticketing and payment systems are advantageous and that revenue risk to them is minimised. More specifically, a revenue reduction due to reduced prices in the interests of simplicity should be outweighed by an increased number of users so that overall revenue is increased.

LTAs, through EPs, should set out how to achieve a fully functioning multi-operator ticketing system, acting as the coordinator for system specification, liaison between operators, assessing the effects of changes and overseeing reimbursement and customer reactions. There is likely to be a need to coordinate with adjacent areas which is best achieved through LTAs. This programme can be developed in stages – for example, revised fares, multi-operator, area-wide, multi-model (train, cycle hire, etc.). Changes need to be monitored carefully throughout to ensure that the optimal course is being adopted.

Figure 4 is an overview of the steps involved in the development and implementation of a fares and ticketing scheme. The specific details that sit within each of the steps will be context-dependent. Approval to proceed to the next stage is critical at three of the steps:

- **EP agreement:** Following engagement with operators.
- **Scheme approval:** Following business case preparation.
- **Action approval:** Before implementing action plan.

Figure 4: Process overview of the development and implementation of a fares and ticketing scheme

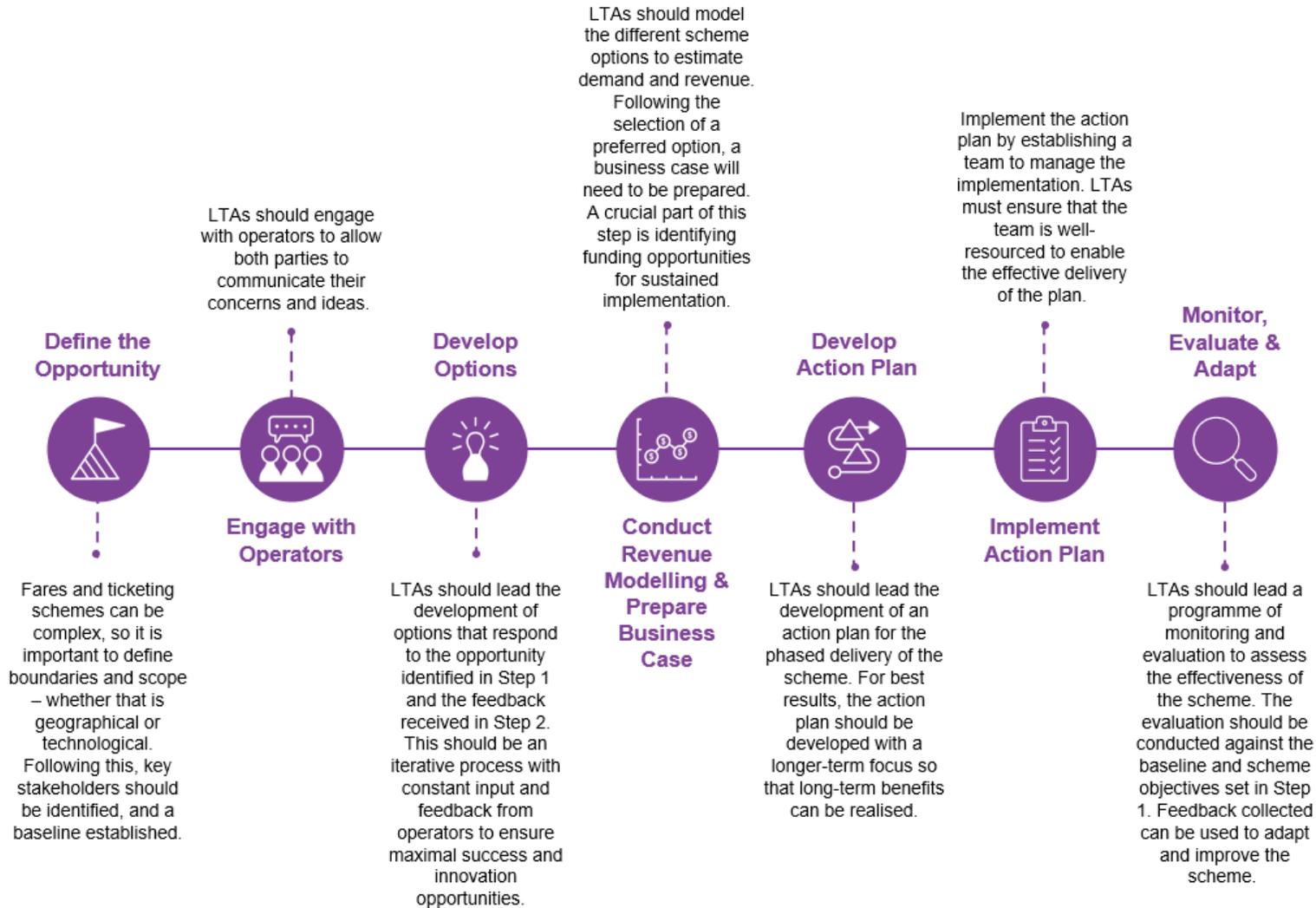
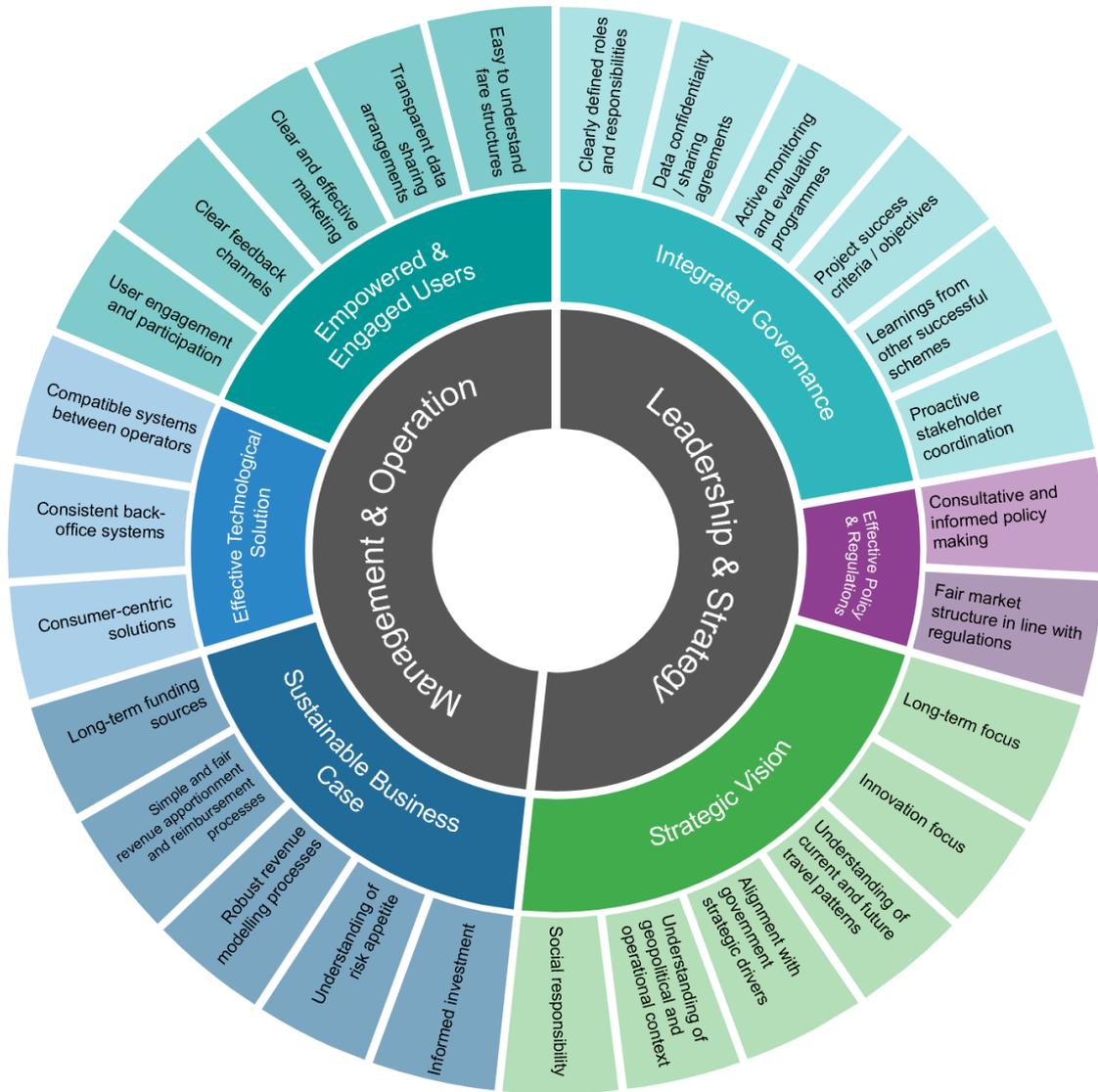


Figure 5 illustrates a useful framework for LTAs to reference when evaluating their fares and ticketing scheme. The framework is centred around two key themes:

- **Leadership and Strategy:** The alignment of policy, practices, and informed decision making within and between stakeholders. This ensures the stability and sustainability of the scheme.
- **Management and Operation:** Best-practice approaches to management and operations, including a focus on people, planning for long-term sustainability and incorporating new technologies, data and adaptive processes for managing back-office systems.

These themes each have three objectives which define what is needed to achieve a successful fares and ticketing scheme. Implementing a successful scheme requires effective leadership with a clear **strategic vision**, enforced by **effective regulation**. This requires **integrated governance** involving government, regulators, planners and operators. In tandem, it will require action not just by the LTA and operators, but by **users** and technology providers. It will also require a forward-looking approach that forecasts sustainable benefits through a **business case**, and accounts for the increased pace of new **technological solutions**. The relative importance of each objective will be different for different contexts; however, it is expected that an aspect of each will be important in all contexts. We have identified 27 indicators that add further definition to the objectives and indicate the critical factors that contribute towards a successful scheme.

Figure 5: Fares and ticketing framework



8 Case Studies

The following section provides case study summaries of a sample of fares and ticketing schemes implemented across England:

- **The Robin Hood Card (Nottingham):** An example of a comprehensive multi-modal and multi-operator ticketing scheme.
- **Bus Fares Pilot (Cornwall):** An example of a new scheme aiming to achieve the principle of fare discount generating patronage and revenue to support lower fares over the longer-term.
- **Flexi Card (Leicester):** An example of a new multi-operator ticketing scheme with no dominant operator.
- **Swift Card (West Midlands):** An example of an established (10-years) multi-operator ticketing scheme with a dominant operator.

The case studies were selected based on their varied scale, approach and context – in terms of urban/rural setting, market spread/competitiveness of operators and period of operation. The differing nature of the schemes should make the implementation principles and lessons learnt transferrable and useful for the different LTAs in the EEH/TE/TfSE areas. When reviewing these case studies, it is critical to reflect on the geography and market environment they are implemented in.

In alignment with the aims of Bus Back Better – to lower and simpler fares – all four case studies either examine fare capping, the simplification of fare structures or multi-operator ticketing.

Comprehensive Multi-Modal and Multi-Operator Ticketing – Nottingham

Scheme Name

Robin Hood Card

LTAs Involved

Nottingham City Council

Nottinghamshire County Council

Operators Involved

Nottingham City Transport (NCT, a municipally majority owned operator), Trentbarton, Kinchbus, Linkbuses / CT4N, Stagecoach, East Midlands Railway, Cross Country Trains, EMR, Marshalls, NottsBus Connect

Area of Service

Urban/Rural

Period of Operation

2010 – present (previously the Kangaroo Card)

Pay As You Go system established in 2018



Overview and History

The **Robin Hood Card** is a specifically developed, pre-payment, smartcard that can be used on buses, trams and local trains within the Nottingham area. Top-up machines are available at bus stops across Nottingham and there is also a mobile app (Robin Hood Ticketing) for paying and topping up cards. The daily cap is £5.70.

The Robin Hood Card was based on previous products including a scratch card approach, and the Kangaroo Card – an all-day unlimited travel ticket for bus, trams and local East Midlands and Cross-Country rail services.

Geographical and Operational Context

The location of Nottingham – with Derby being 12 miles away and Leicester 15 miles away – means there is little cross-boundary competition. This made it easier for Nottingham to control the factors involved in the process to enable a multi operator agreement. NCT was involved in a consortium which operated NET Tram Line 1. However, as Line 2 is operated by other operators, there was a need for multi-operator ticketing on the tram. This helped strengthen the business case for multi-modal ticketing. The realisation of this business case was helped further through NCT having 70% of the market share, along with a large hinterland market (while the city has a population of 400,000, up to 1.5 million come in for work purposes).



Utilising New Technology

The Robin Hood Ticketing app was developed to enable users to plan their journeys and add money to their Robin Hood Card. The app had been planned for some time, but its development was accelerated by Covid-19. When this app was first released, 85% of passengers continued using the ticket machines for top-ups and other functions. However, after a marketing campaign, there is now a 50/50 split between use of the ticket machines and the app. This suggests there is demand for the app, but for the time being, a dual approach is needed to cater for all payment preferences.

Process Operationalisation

Operator reimbursement: Reimbursement is apportioned by operator mileage for every ticket sold. This removes the penalty for operators whose services run at times of low demand.

Competition: The scheme has not raised issues with the Competition and Markets Authority (CMA) with all operators being willing to participate.

Marketing: A Robin Hood Operators Group and Robin Hood Marketing Group collaborate on marketing delivery and strategic positioning of the scheme. To reach potential passengers, Nottingham City Council has found the most effective promotion channels to be social media and signage at bus stops.

Market Influence and Yield

- Robin Hood Card use makes up about 25% of the current ticket market in Nottingham.
- The daily cap is the same as the operators' daily cap.

Local Perceptions

Nottingham City Council has found favourable ratings from passenger feedback surveys. This is largely due to:

- Increased options for travel.
- Decreased journey times (achieved through the greater frequency of available options).

Challenges

- Nottingham City Council manages the administration of the scheme, including issuing cards, and back-office management including apportionment and reimbursement. This is resource-intensive and therefore costly. Building an administration fee into the scheme would be beneficial to the LTA, but it has been difficult to get traction on such a solution.
- There are no formal mechanisms to hold the system in place, meaning that there needs to be negotiation to enable the process to function on a continuous basis. Having a more consistent agreed process would likely reduce challenges in this area.
- Due to the impact of Covid-19 on the public bus sector, it is challenging to source objective data showing the effectiveness of the Robin Hood Card to date. However, the fact that nearly half of all public transport users in Nottingham have adopted the card suggests it is seen as an attractive and convenient product.

Key Lessons

- It is critical to understand if there is a need for multi-operator ticketing in the market and what the level of market engagement would be. There needs to be a clear business case for operators.
- There should be clear mechanisms for ensuring continuous participation over set periods of time. These mechanisms need to be clearly set-out in a framework where there are robust contractual agreements arranged.
- To deliver this type of scheme it is important to establish an agreement with operators early on, which should include a clear voting mechanism between LTAs and operators for decision making.
- Ensure the distribution of revenue mechanism is clear, logical, and fair. In markets with operators of different sizes, it must be ensured that the market share of small operators is protected.
- Ensure administration costs are built into the ticket prices so that this is covered equitably.
- Nottingham used funds from the DfT to help with infrastructure and integration works. This was essential for testing and helped to remove barriers for operators making it easier for them, contributing to increased buy-in. So, spending money on this development is advisable.
- The scheme is more likely to be successful if there is limited competition from similar products in neighbouring authorities.
- Operator engagement is particularly important to ensure that all those who are involved can see what the benefits are and that the sharing of these benefits are fair.
- When going through the early stages of app development it is important to think about user testing and the mechanisms for payment collect-on - when the app went live there were issues with payment issues and input error.

Bus Fares Pilot – Cornwall

Scheme Name

Bus Fares Pilot

LTAs Involved

Cornwall County Council

Operators Involved

First South West, Go Cornwall Bus, Hopleys, OTS, Travel Cornwall, Stagecoach

Area of Service

Rural

Period of Operation

April 2022 – present



Overview and History

Cornwall County Council was awarded £23.5M by the DfT to deliver a **Bus Fares Pilot** over four years. It has the goal to increase bus usage by 10% across the county. The scheme reduces bus fares by up to 40%, meaning adult bus passengers pay, on average, one-third less for their fares now than before the pilot. It is the only pre-BSIP funded fares scheme.

The aim of the pilot is to generate patronage through fare discounts and to support lower fares over the longer-term. The fare levels and fare structure needs to be sustainable to ensure the longevity of the scheme even after the external funding ends. Simplified tickets and fares are key to ensuring that the public can understand the new products offered by the scheme.

The scheme implements a cap on daily and weekly fares. Passengers are required to tap on when they get on the bus and tap off when they alight. Based on this they are automatically charged the correct fare for the journey that has been travelled. Regardless of the number of journeys taken, customers will not pay more than £5 per day and no more than £20 per week.

The 'any ticket, any bus' programme, which made tickets interchangeable between Cornwall's bus companies, was a precursor to the pilot. It was through this that operators started to accept the tickets from other operators.

Prior to the launch of the pilot in April 2022, a significant amount of effort was invested in negotiating with operators to agree how the scheme would be delivered and which fares would be included. Through this process it became clear that a multi-operator ticket would not be feasible, as this would likely generate premiums that would result in higher fares.

Geographical and Operational Context

The focus of the pilot is only on journeys that take place exclusively within Cornwall. However, it should be noted that only a small number of cross-border routes exist within the county.

Cornwall is a rural county which can be challenging for the bus supply/demand balance. Cornwall County Council subsidises around 50% of the bus network mileage – a similar revenue-spend to some of the large city regions. The general bus services support is in excess of £10M a year before consideration of concessionary fares and school services.

Cornwall has an aging population and significant pockets of deprivation and rural isolation. The role of bus, and its affordability, is therefore significant in the area.

The devolution deal of 2015 committed much needed capital investment which, when coupled with funding awarded from the Local Growth Fund, helped create a one ticketing platform across operators, among a host of wider public transport improvements (One Public Transport System for Cornwall). Prior to Covid-19, Cornwall was one of the few authorities where bus patronage was growing.

Go Ahead is the main operator in Cornwall. It was awarded an eight-year contract in 2020 for the Council's supported local bus services.

Due to the levels of discounting required there was a need to spend significant time with operators. Five single and return fare bands were developed, along with a suite of town zone, countywide and period products. Particular focus was given to the Cornwall-wide day ticket as it was considered high in cost (£15 before January 2022, £9 January-March 2022 and reduced further to £5 at the start of the Bus Fares Pilot in April 2022).

Comprehensive and Regularly Refreshed Marketing

The pilot has involved a large promotional campaign. Launched with over 50 stakeholders, it involved a combination of traditional advertising on the back of buses, television campaigns and use of the local press. Communication of new fares was simplified – i.e. daily prices only – even if some alternative (non-scheme) fares were slightly cheaper. This was done under the assumption that simple communication of fares is more effective than focusing on user sensitivity to fare levels. Campaigns have extended beyond simply promoting the changes in fares, but to also include targeted information, for example, how to use the bus aimed at non-bus users.

Every quarter the campaign has been refreshed to tell people about the changes and prompt more engagement. Feedback gathered from online surveys has shown that the public response to the pilot has been positive, and that they value the clarity of the campaign's messaging.



Process Operationalisation

Operator reimbursement: Operators are currently reimbursed in line with the agreed shadow fares. These fares are higher than the fares that the public pay (the pilot budget currently pays the difference) based on the agreement that for the first year of the pilot, operators should be no better or no worse off. This situation is not sustainable in the long run, and so Cornwall County Council plans to reduce the reimbursement paid to operators per journey to reflect the nature of the scheme generating more ticket sales and thus more revenue.

Operators have a multi-operator agreement between themselves whereby First and Go Ahead review what tickets they have each accepted and then distribute the revenue as required. The other smaller operators work under the Go Cornwall Bus contract so this simple arrangement is feasible.

Commercial arrangements: The shadow fares need to be agreed on an annual basis. Due to the complexity of these agreements, Cornwall County Council received specialised legal support. The EP ties the operators to participate in the scheme.

Ticketing: Under the 'Tap and Cap' concept, bus users can use contactless payments via tapping being used ensuring they are not charged more than £5 per day or £20 per week. 'Tap and Cap' is available on any bus across the county.

One integrated ticketing platform was delivered in 2017 which involved the same ticket machines and back-office operations.

Early Indications / Issues

- Patronage is recovering at a greater rate compared to the national average.
- The number of fare payers is growing and continues to grow. On-bus ticket sales are growing.
- Nearly 1.5 million tickets have been sold in the first two quarters. However, Cornwall is a popular tourism destination

Local Perceptions

- Cornwall completed early focus group work that demonstrated initial support for the scheme and the slogan.
- People described 'any ticket any bus' as a game-changer due to the ability to use tickets across operators, making bus travel a more attractive method of transport.

and the impact of seasonality on patronage is important to ascertain.

- Passengers have benefited from an average discount of 36% (equating to a saving £2.7M in total in the first six months of the pilot).
- The current disparity between public facing and shadow fares needs to be reduced in order to make the scheme sustainable.
- With no proper baseline due to the impacts of Covid-19 and a network change in March 2020 there is a need to wait for a full year's data for more informed conclusions to be made.
- Since the pilot was implemented, there has been a higher yield of day tickets. The assumption is that some people are switching to day tickets but greater analysis is needed.

- Future focus group work examine general attitudes to ticketing types and how people want to / are willing to pay for tickets.
- The £5 day ticket is considered a significant improvement in fares. One operator was previously charging £15 for the equivalent ticket.



Challenges

- In order for the different bus operators to be able to work together to accept one another's' tickets and simplify the fares for all customers across Cornwall, a review of over 10,000 fares options on over 200 bus services was required.
- There were challenges associated with achieving the right level of discount and there was an element of estimation needed to conclude on what the right level would be.
- There is considerable back-office work that needs to be completed and resourcing needed for all the data analysis requirements in the scheme. The volume of data that needs to be distilled and analysed requires consultant support (delivery partner) to Cornwall.
- Much of the operator engagement happened before the development of the National Bus Strategy. This led to some complexities regarding developing the deployment baseline for the programme due to a lack of data sharing.

Key Lessons

- Hold quarterly review meetings to enable lessons learnt to be captured continuously and adaptations to be made more rapidly.
- Smaller operators work under contract to Go Cornwall bus. This simplified the operator environment that Cornwall needs to manage and makes the administration of the scheme much simpler.
- Marketing needs to follow one clearly communicated plan that is centrally orchestrated, with all parties involved.
- Discussions with operators may need to go beyond the local teams to group level to ensure that there is commitment from operators' central teams.
- Carefully plan the scheme as there is a lot of groundwork that needs to be done to ensure all parties can be aligned.
- Do not underestimate the amount of work that needs to be done regarding data analysis and the requirements around this.

- Consider the relevance of authority boundaries. In Cornwall, a hard boundary was used because of political and commercial challenges. These challenges are likely to be more apparent for authorities with networks that cross into other authorities' boundaries.
- Infrequent re-tendering for services reduces risks associated with operator agreement.

**MAKE
BIG
SAVINGS
BY BUS**

ANY BUS, ANY ROUTE*

**REDUCTIONS
ACROSS MOST FARES!**

BROUGHT TO YOU BY

**Transport
for Cornwall**
Karyans rag Kernow

*Exclusions apply including Park and Rides, and privately contracted journeys.

Multi-Operator Ticketing with No Dominant Operator – Leicester

Scheme Name

Multi-Operator Ticketing
Family Flexi Day

LTAs Involved

Leicester City Council

Operators Involved

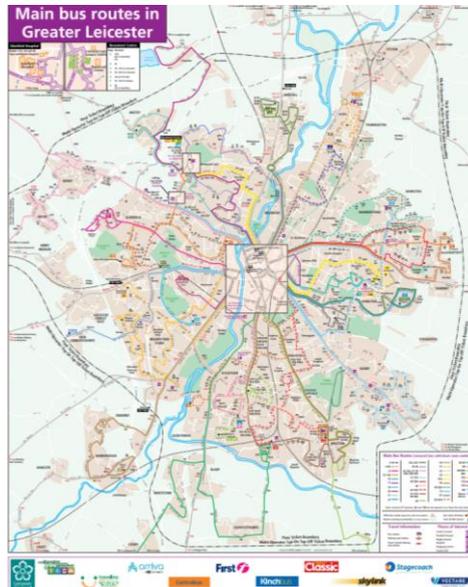
Arriva, Centrebus, First, Vectare

Area of Service

Urban

Period of Operation

March 2022 – present



Overview and History

The **Leicester multi-operator ticketing scheme** allows passengers to travel on any bus service in the Leicester Flexi area using Arriva, Centrebus, First, or Vectare services. The EP was a key mechanism for creating the multi-operator scheme.

In 2019, prior to forming the EP, Leicester had an existing multi-operator ticketing scheme, Flexi. Flexi had a small number of products - daily and weekly tickets - and there were limited channels for use of the associated smart card. Further, Flexi had high premiums and had an outdated reimbursement method. There was, therefore, a recognised need to further develop this product. Leicester City Council established a three-year (2020-2022) multi-operator ticketing roadmap which set out a list of priorities.

In addition to the multi-operator ticket, a **Family Flexi Day** ticket has been implemented. It costs £8 during school holidays and £10 at all other times. The ticket allows up to two adults and three children (up to the age of 16) unlimited day travel anywhere in the Flexi Area. The project is one of the first to be rolled out by the Leicester Buses Partnership.

Geographical and Operational Context

Leicester has a competitive bus market, with no dominant operator. There is also quite a lot of competition between operators on shared corridors, so a key aim of bus service improvements in Leicester is to better integrate the network and operators.

A lot of the local employment is located outside Leicester city centre and the bus network operates in a hub-and-spoke model. This results in people going into the city centre and then back out again to access jobs. These journeys are numerous but there can be limited numbers of passengers on the buses, meaning that there is a lot of empty capacity that is not being used.



Utilising New Technology

For the operators involved in the scheme tap-on and tap-off can be used. This means that fares are calculated based on individual journeys and will not exceed the cap.

Family Flexi Day tickets can be bought from the participating operators' (Arriva, Centrebus, First and Vectare) ticketing apps but there is not a shared app across all operators.

The technology providers for the scheme are Littlepay and Ticketer. Ticketer provides on-vehicle equipment that captures tap-ons and tap-offs, and it then calculates and delivers the journey value using Littlepay. The back-office platform then aggregates tap-ons and tap-offs, applies caps set by individual operators, and delivers a broker service to manage multi-operator capping layered over each the Arriva Midlands, Centrebus and First Leicester fare structures.

The development of the scheme came through work that operators had been doing separately so it made sense to have an approach that organically evolved rather than trying to create a centralised approach.

Process Operationalisation

Operator reimbursement: Post-pay multi-operator reimbursement checks, after the passenger has paid if the cap has been exceeded. It gives the passenger a refund at the end of the week if they exceed the daily or weekly cap. Operator reimbursement is calculated based on the proportion of passenger trips with that operator as a % of their cap cost. There is currently no consideration for graduated fares, so the length of a trip is not taken into consideration. The only negative feedback from operators on the reimbursement process has been the time to receive the money. Delays are due to the non-standardised format of usage data.

Competition: The scheme is compliant with the ticketing exemption elements of competition laws. These were all examined comprehensively with assurance provided to operators.

Marketing: Social media and bus stop signage have been the main promotional techniques employed. Due to the market environment, there are many different messages shared through different operators. Therefore, to ensure clarity of messaging the focus has been on how these different messages can be used to promote the scheme as opposed to trying to create a unified new message which might contradict with other messages.

Market Influence and Yield

- 24,000 journeys made, saving passengers £54,000.
- 2.74 average trips per day using the multi-operator ticket. This is higher than the national average of ~2.
- 11% of the market is on the multi-operator cap.
- Fare revenue doubled due to usage. However how much of this is attributable to decreases in single operator ticketing still needs to be clarified.
- From operators where data has been sourced thus far, the decrease in single operator journeys has been outweighed by increases in multi-operator journeys.

Local Perceptions

- It has been difficult to get across to people – multiple messages (different capping, different tickets, different purchase options, etc.).
- Positive views from the public on elements such as the Family Flexi Day. There still needs to be further surveys to collect more of this data.



Challenges

- The lack of a dominant operator can make creating a multi-operator ticketing offer more difficult as there is not one key operator who, once onboard with the initiative, can prompt a domino effect. However, the lack of a dominant operator makes the need for a multi-operator ticket paramount.
- Graduated fares can make things complicated with different operators having different zone boundaries. This means that tap-off technology is unavoidable.
- Some operators wanted to retain the existing premium. Negotiation was required to reduce it and there remain challenges around bringing this down further.
- The £8 summer ticket was very successful but there is concerns that this could lead to reduced revenue out of school holiday times. As such, expansion of this has not been able to happen.
- There are differences in opinions between operators on what the premiums should be.

Key Lessons

- Don't treat ticketing as a siloed issue. Instead, treat it as part of an integrated strategy.
- The management of reimbursement processes and legalities/management of scheme is critical.
- Ensure that the definition of single operator ticketing is consistent across each operator, e.g. defining child users.
- Getting a range of stakeholders involved in the communications for the scheme helps it to feel less centralised which gives operators more of a feeling of individual ownership and influence.
- Agree a simple deliverable roadmap over two to three years. This is useful to form the basis of an action plan and it mitigates the continuation risks when key personnel leave the LTA or operator.
- Capitalise on any initiatives or good practice already in place by operators through engagement.
- Focus on multi-operator before multi-modal as the complexity involved with multi-modal can dilute the quality of the multi-operator offer.
- Focus on ensuring the reimbursement process is simple and works for all. This is important to provide timely cashflow to operators.
- Have a flexible legal framework that can adapt to commercial changes.
- Focus on ensuring there is continuous promotion of the products so that passengers remain aware of the scheme and of any changes.



Multi-Operator Ticketing with a Dominant Operator – West Midlands

Scheme Name

Swift

LTAs Involved

West Midlands Combined Authority,
Herefordshire County Council (Other
Authorities have worked with the West
Midlands to develop Swift)

Operators Involved

Arriva, Banga buses, Chaserider, Diamond,
Discount Travel, Johnsons Coach and Bus,
Keys Cars, Landflight, Let's Go/Travel
Express, RK Travel, National Express West
Midlands, Stagecoach, Walsall Community
Transport.

Area of Service

Urban

Period of Operation

2012 – present



Overview and History

Swift is the smart ticketing scheme for public transport in the West Midlands. A smartcard is used instead of a paper ticket and can be used on buses and `trams and certain trains and parking. There are three different types of Swift card: Swift photocards for adult, child and student, Swift Go that automatically works out the best fare for bus and tram travels, and pay as you go Swift card that can be topped up and used instead of cash.

The system was first launched in 2012. However, whilst the scheme was accepted on 20 operators in the area, the largest operator, National Express, was not involved. This resulted in the scheme experiencing a slow start. National Express did decide to get involved a year later, enabling a wider range of ticket options on Swift. It was then that the scheme was able to develop a cap on the fares and moved from being card-based to being account-based.

A comprehensive retail network supports the Swift operations. There are over 1000 pay zone outlets for topping credits throughout the area.

The advent of new payment methods, such as contactless bank cards, facilitated new offerings in the ticketing scheme. Since 2022, operators now accept contactless bank cards as a payment method alongside the Swift cards. Whilst the proportion of contactless card users is growing, there is currently no intention of phasing out Swift cards completely as there seems to still be a significant market for the Swift cards especially for children, those without a bank account and those who prefer to have a separate card for transport costs.

The ticketing schemes in the West Midlands are constantly evolving as technology, society, and travel pattern changes. Previously, the scheme offers caps for one day, three days and seven days, starting on the first day of bus and tram travels. Recently, they launched a cap for best value fare. For example, where travels are made on five consecutive days, the system will pick the best three days fare value cap, which may not necessarily be the first three days. West Midlands is also planning to roll out Swift to beyond the public transport

sphere as a wider payment option, to include car parking and cycle hire. This would increase utility of the card and enable West Midlands to collect more data to understand better non-public transport users. They are also now having a 'bonfire of tickets' where 3000 different types of tickets are rationalised down to 12.

Geographical and Operational Context

Swift is England's largest fare scheme outside of London. The West Midlands is a large conurbation which means that there is a clear market boundary and that most individuals would complete all their journeys within the area. In 2019, Swift was rolled out further afield, extending out into Hereford, Milton Keynes, and Cannock.

There are some people who travel into and out of neighbouring areas, which is why West Midlands is currently looking at further expanding Swift and multi-operator ticketing schemes into neighbouring counties. In its efforts so far, West Midlands has found that implementing consistent technology services across borders has been relatively straightforward, but creating a shared ticketing approach has been more challenging. In addition, the tap on but no tap off approach that is used on buses makes it challenging to demarcate zones.

Within the West Midlands, one operator controls 95% of the market, which means that this operator has a significant influence on how the market can be shaped.



Catalysing Behaviour Change

Through Swift, the West Midlands can utilise data which can help it influence behaviour change. For instance, it is possible to identify the groups of bus users who were travelling by bus before Covid-19 and who were not. This insight can then be used to inform efforts to get these groups back onto the bus to increase patronage.

The West Midlands received £35m of BSIP funding, specifically to help target bus usage recovery among less regular users. Approaches that have been taken include introducing targeted discounts to attract new and returning users, with a key focus on sustained offers that can help drive a programme of sustained behaviour change. Meanwhile, there are also outreach programmes in place to reach those about whom there is less information. These may include those with affordability and social issues that may act as barriers to public transport usage. Efforts are being focused to reduce these barriers. Particularly, there has been a recent focus on refugees and those in the care system, where the West Midlands conducted outreach work with organisations that operate in these spaces.

Additionally, as Swift is expanding into car parking and cycle hire services, the West Midlands is looking to specifically target these non-bus users to encourage behaviour change and get them onto buses.

Process Operationalisation

Operator reimbursement: When a single operator's ticket is sold on Swift, the operator gets all the revenue minus commission. For multi-operator tickets, the revenue goes into a "pot" and the reimbursement is based on the number of journeys that form that revenue. Reimbursement is therefore distributed as percentage of number of journeys from the pot. For multi-modal tickets, there is an agreed distribution percentage between buses and trams.

Competition: With one operator having control of 95% of the market, competition issues are less relevant in the West Midlands. As Swift is conceptually an electronic wallet, it does not attract any of the competition issues. However, multi-operator tickets are subject to competition and market issues such as those highlighted by the CMA. The West Midlands conducts constant engagement with the many operators and CMA itself to ensure that any competition issues are being addressed. The upcoming reduction in the number of ticket types will mean no operators would release their own tickets which may raise some competition-related issues, requiring further engagement with the CMA.

Marketing: The West Midlands has identified that the most effective method of promotion is by word of mouth amongst users. Signage on buses is the main method through which marketing messages are communicated. These messages are then communicated further afield by bus users. The reduction of 3000 types of tickets to 12 provides an opportunity for the West Midlands to launch a significant marketing campaign.

Reducing identification barriers: The West Midlands continuously assesses its products to identify barriers to bus usage. One such barrier is the requirement for photos on the Swift Photocards. The West Midlands is attempting to eliminate the usage of photos on cards for all users, except for those who might receive significant benefits, like users under the NCTS. This simplifies the ticketing process, and can help encourage bus patronage improvements by showing trust in its customers.

Market Influence and Yield

- It is difficult to understand the impact of Swift on bus demand due to the impact of the pandemic. However, Swift has recovered more quickly than the general market in general suggesting its effectiveness in helping demand recovery.
- 1 in 4 journeys before the pandemic were on Swift; now it's 1 in 3.
- More data with less extraneous variables is needed to fully understand the impact on yield.

Local Perceptions

- In a survey conducted to understand customer satisfaction in 2022, 90% of customers answered that they were satisfied, 16–24-year-olds seem to like it most.
- A survey on Swift Go found 96% were very satisfied. The only negative comments were about wanting Swift to become more multi-modal and incorporate local trains.

Challenges

- The operators in the past have been hesitant towards multi-operator ticketing.
- There is currently no focus on interoperability of contactless payments between operators – i.e., each operator has different tap on technology so capping cannot be applied automatically. Therefore, there is considerable back-office work that needs to be done to make the calculations for capping.
- There is feedback about the value of integrating local rail with Swift. However, it has not been possible to implement any integration due to lack of facilities to sell Swift tickets at stations and the lack of gates or card readers at many stations.

Key Lessons

- It is important to understand the win-wins when engaging with operators. Understanding and articulating how operators would benefit from schemes would ensure a compelling case is made to operators.
- Changes in the West Midlands occurred over a 10-year period. Many small steps have been taken to create the scheme as it is currently. Therefore, it is critical that local authorities take a long-term view to ensure scheme success.
- Project management and risk management are key in planning and implementing a fares and ticketing scheme. For example, processes to procure the relevant suppliers must be rigorous and agile to ensure a stable procurement supply.
- Scheme resourcing is also important – getting the right resource on the scheme help the scheme's success. It is important to also resource the scheme well. The West Midlands had a team of 30 people to manage and oversee its ticketing scheme.
- Programmes and feedback should be user-focused. Understanding user experience is key to ensure that products are developed to deliver improved user journey experience which will eventually improve bus patronage.
- Having operators on board was useful to understand the negative perceptions they may have on a scheme. These insights helped identify methods to address those concerns. In the West Midlands, the data collected during the one-year experience of the scheme in the beginning was helpful in addressing and convincing National Express to join the scheme.



Appendices

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A. Frequently asked questions

The table below summarises responses to key questions received from LTAs and operators throughout the engagement phases of this Support Package. The responses are not intended to be universally applicable to all contexts. In several cases, the responses are presented as a generalised narrative to widen their relevance to LTAs and operators. A wide number of factors – including (but not limited to) the market and operator environment, the strategic aims of each LTA, funding availability, and local context – will all have a bearing on how individual LTAs and operators could respond to the specific challenges and queries laid out below.

The questions have been grouped into the following categories:

- Setting fare levels and fare structures;
- Revenue modelling;
- Business case for implementing schemes; and
- Initiative or scheme-specific questions.

A.1 Setting fare levels and fare structures

Question	Response
Is there an underlying tension between bus as a social service and the need for commercial viability and passenger growth?	<p>In many cases, yes, but perceptions differ. There is often conflicting views on how bus services should be treated. Some consider it a social service, while others consider it a commercial enterprise. This often stems from the limited funding availability to support all types of social services. LTAs are sometimes pressured to treat supported bus services as commercial enterprises. This ultimately results in councillors being reluctant to spend money on routes that have a high cost per passenger due to budget pressures. This especially discriminates against rural areas as there is a low density catchment but greater need for bus services.</p> <p>Conversations with several LTAs indicated that it is beneficial to manage supported services differently to commercial services. The commercial operators are facing increasing costs of operation and require increasing external support to maintain viability. Sometimes, this is addressed by creating a service that is both commercial and supported, where commercial services are run in the middle of the route and in peak hours, but supported services are run on the fringes and at off peak times.</p>
To what extent have operators been more inclined to market/sell their own tickets over and above a multi-operator ticket that they agreed to create?	<p>Most operators retain their own products when a multi-operator ticket is introduced, usually at a reduced price compared to the multi-operator ticket which has a premium associated with it. This minimises risk to operators but adds to a complex ticket offer, particularly if the multi-operator ticket is suppressed due to having too many products. There is often reluctance to commit to a multi-operator ticket alone due to uncertainty about the revenue allocation process.</p> <p>One potential solution to this is to make multi-operator tickets the same price as single operators' tickets by removing the premium. While it is acknowledged that multi-operator tickets will incur more administrative costs, the plan is to make multi-operator ticket so attractive that it will eventually make the overall market, and hence revenue, larger.</p> <p>This is a risk for operators and LTAs to consider. Small operators are less likely to sign up to a multi-operator scheme, compared to a larger operator, due to the potential upfront costs of new equipment, staff training, changes to business processes, etc. LTAs and larger operators need to collaborate to find ways to include smaller operators as ultimately, if a better (more simple and integrated)</p>

Question	Response
	<p>product is offered, more people will get on the bus, generating more revenue for all parties involved.</p> <p>There is also the issue of drivers being prone to offering single operator tickets citing its lower prices. To address this, drivers should sell the ticket that best meets the users' needs at the best price which may be the operator's own product. If this option were to be removed and the pricing changed, multi-operator tickets could be sold more widely, provided that the revenue for each operator matches or exceeds its current revenue generated by sales of its own tickets. It is suggested that efforts are made to promote multi-operator tickets a condition of EPs.</p>
<p>How do LTAs and operators decide fare discounts that are offered?</p> <p>Has any research been done on what kind of discount should be offered with the view to increase passenger volumes?</p>	<p>There has yet to be any published research done on understanding which discount type generates the most passenger growth. Fare discounts are usually agreed locally and are based on local circumstances. Conversations with bus operators also indicate that there is not enough data to determine which discount will generate the most passenger growth. Historically, there were theoretical approaches to elasticity, but they are less reliable following the Covid-19 pandemic and the impacts this had to the number of people using buses in England.</p> <p>There is, however, some anecdotal evidence. West Sussex County Council, for example, previously implemented a fare discount scheme for young people. Evidence suggests that the scheme was successful – so successful that the increase in patronage exceeded the operator's capacity to deliver. As a result, the County Council was requested to contribute to the provision of buses to ensure delivery of service. The scheme was introduced in 2008 and was discontinued in stages between 2012-2015, due to lack of funding. Following the availability of funding through BSIP, the County Council has decided to target this age group again. Data will be collected and reviewed to determine if this is the best market group to target.</p> <p>Legally, only operators can set fares. However, in establishing EPs, operators can voluntarily agree to the fare level set by the partnership. There needs to be a balance in cost management and fare affordability. Fare affordability is very context specific, and there needs to be some market research done to understand local affordability levels. While offering a lower fare level can entice people to use the bus, it must be highlighted that offering lower fares without generating more users will not be beneficial for the business. As such, on top of fare level, operators and LTAs must also tackle fare structure simplification to entice new bus users. Ultimately, the goal is to grow the market and get more bus users.</p>
<p>To get child tickets, some operators require passengers to show ID and proof that they live in the area. This is unnecessarily complicated and will not encourage parents to use the bus with children. How do we address this?</p>	<p>Some processes that have been put in place to obtain reduced fares are unnecessarily complicated and should be simplified. Reading Borough Council addressed this issue by removing identity checks for child fares and simplifying the fare to £1 – i.e. any child to get on the bus pays £1. The response to this change was so positive that it has reportedly become more profitable for the operators. This indicates that simplifying child fares can help encourage parents to bring their children on the bus. Standardising child fares across LTAs is a step forward in this simplification, particularly for bus journeys that cross borders.</p> <p>It is acknowledged that sometimes people older than 'children' are misusing the fare discount. The impact of this loss is minimal, however, as ultimately, it is still getting people on the bus and paying a fare.</p>
<p>Operators are resorting to lower ticketing technology due to increasing cost. What can we do about this?</p>	<p>Some local bus services have no ticketing equipment. The cost of ticket machines development is being borne by ticket machine providers and this cost is being passed on to operators. As a result, ticket machine charges are increasing and becoming unaffordable to operators.</p> <p>However, compatibility between different operators' ticketing systems is needed to ensure that universal ticketing and reimbursement is possible. Where this requires new equipment, larger operators have greater purchasing power than small and medium-sized operators. This is difficult to overcome (as state aid</p>

Question	Response
	<p>rules apply to direct funding) but an EP may be able to fund this, subject to all parties agreeing (which may require similar spend for other operators).</p> <p>Regarding back-office functions, rather than starting from scratch, it is possible to add-on to an established system. Swift in the West Midlands, for example, allows this and provides all the necessary functions in return for a handling charge. Developed by Transport for the West Midlands, Swift brings together a range of travel cards under a common name. This reduced spend and risk and could be an initial step or a longer-term solution.</p> <p>Please refer to the case study in Section Error! Reference source not found. of this technical note for more details on the Swift ticketing system.</p>
<p>There have been some concerns held by LTAs and operators on implementing fares and ticketing schemes and potential clashes with laws related to competition. What can we do under the current regulations?</p>	<p>Concerns from LTAs and operators regarding potential clashes with laws related to competition are justified. Bus Back Better is currently government guidance only and does not specify what is legal and what is not.</p> <p>Despite this, there are LTAs and operators that have managed to implement fares and ticketing schemes without being challenged by the Competition and Markets Authority (CMA).</p> <p>LTAs and operators that appear to have succeeded in managing these risks have told us that this success is partly due to their constant engagement with the CMA to ensure all steps that they have taken are legal to avoid potential prosecution.</p>
<p>Is there a space for a regional fare agreement or system?</p>	<p>Possibly, depending on the circumstances. This could help overcome cross-border issues between LTAs and would simplify the offer for users.</p> <p>However, there are other potential issues that may arise with a regional fare system, including:</p> <ul style="list-style-type: none"> • More difficult to negotiate with operators over a wider area. • More complex revenue allocation arrangement. • Small and medium-sized operator influence is further diluted. • Compatibility of ticketing systems. • Coordination of marketing.

A.2 Revenue modelling

Question	Response
<p>Is there a standard fare elasticity factor that is used for revenue modelling?</p>	<p>There is no standard generation factor that can be used for modelling. Any factors used for modelling are highly context-dependent, particularly following the Covid-19 pandemic and the impact that this had on bus patronage across England.</p>
<p>Is anyone doing the deep research on the responsiveness of demand for bus services to price?</p>	<p>There is research being done, however price elasticity varies very much by location, so broad research is not always applicable.</p> <p>Bus patronage was severely disrupted by the Covid-19 pandemic but for many years demand has been trending downwards, except where significant effort has been made to improve the offer and to redesign services to meet emerging demands.</p> <p>A balance needs to be found between price and revenue, i.e. attracting users while making adequate revenue. With rising operating costs, this has been difficult to achieve for all but the most profitable services. This shows that the commercial model for providing services no longer functions.</p> <p>Further, reducing the price of slow, infrequent bus services will not ensure success. If we can find a way of making bus services faster, that can potentially reduce overall operational costs, which can be passed onto the consumer, further stimulating demand.</p>

Question	Response
	The current difficulties could be overcome by imaginative pricing, strong marketing and ensuring that the offer does what potential users need. This is the means through which growth in the market and revenue can be achieved.

A.3 Business case for implementing schemes

Question	Response
Small operators are of the view that single operator tickets are more commercially beneficial. How do we prove that multi-operating ticket is beneficial for them?	<p>The concept of a multi-operator, integrated ticket is to grow the market by making bus use easier for everyone.</p> <p>The difficulty is setting the right price that both appeals to users and generates more revenue to be distributed among participating operators. This tends to favour larger operators because they are likely to sell more tickets. If the revenue allocation process favours smaller operators then they will be more likely to participate.</p> <p>Introducing compatible ticketing systems also tends to work in favour of larger operators because smaller operators do not necessarily have funds in place to purchase new equipment.</p>
Will the commercial bus market step up with data and an entrepreneurial approach?	<p>Bus operations generate a large volume of data. The challenge for the commercial bus market is to identify how to use it to the best effect. Bus journey data provides the robust evidence required for business cases to justify changes to service provision based on proven popular services, ticket types, routes, etc. The data is also useful to inform consultation as it can identify demographic groups that are not currently using existing bus services.</p> <p>Taking an entrepreneurial approach requires experimentation. There tends to be resistance to change on the part of operators because they need to defend their established revenue. This has restricted speculative pricing and services because this carries revenue risk.</p> <p>To overcome this, there needs to be clear evidence that a package of changes or new services will generate more revenue. This evidence can be provided by case studies or commissioning new initiatives. Experimentation is more feasible when there is funding and grants available to act as a buffer for any potential revenue losses to operators because of more risky business decisions.</p> <p>Transdev, the operators of the Harrogate Bus Company, have been surveying their customers for over 12 months and regularly review the results to find new ways to improve its service. The details on patronage growth and other customer feedback they have captured throughout this process has enabled them to respond pragmatically. For instance, they have seen growth on their service 'The 36', between Ripon, Harrogate and Leeds as a result of the £2 fare cap and so they have responded by returning <i>The 36</i> to its pre-pandemic frequency.</p>

A.4 Initiative/scheme-specific

Question	Response
Have Cornwall's passenger numbers grown by enough to pay for the reduced fares [referring to the Cornwall Bus Fares Pilot]? What will happen once the funding for the scheme ends?	<p>The Bus Fares Pilot in Cornwall began in April 2022 and is still ongoing. Cornwall Council is in the process of collecting data to evaluate the success of the scheme (data has been requested from Cornwall). This data will inform the 'exit strategy' development from the fare subsidy. Insights so far include:</p> <ul style="list-style-type: none"> Patronage is recovering at a greater rate compared to the national average (x% in Cornwall versus y% nationally). The number of fare payers is growing and continues to grow. On-bus ticket sales are growing.

Question	Response
Some regional smart card products have had low uptake e.g., Solent Go travelcard. How do we address this?	<ul style="list-style-type: none"> • The current disparity between public facing and shadow fares needs to be reduced in order to make the scheme sustainable. • Since the pilot was implemented, there has been a higher yield of day tickets. The assumption is that some people are switching to day tickets but greater analysis is needed. <p>To ensure the scheme is sustainable long-term, Cornwall Council plan to progressively reduce the reimbursement paid to operators per journey to reflect the nature of the scheme generating more ticket sales and thus more revenue.</p> <p>Please refer to the case study in Section Error! Reference source not found. of this technical note for more details on the bus fares pilot in Cornwall.</p>
The government is currently implementing a fares scheme where the fares are capped to £2. What might be the long-term effects of this scheme? Has it encouraged more people to get on the bus? What will happen when the experiment stops?	<p>One of the key issues with some regional smart cards is the communication strategies that were in place to promote the product. Often, information about the product is only available if consumers know about it enough to search for the information themselves. As such, communication strategies should be put in place to ensure those that are most likely to benefit from it know about the product. A deeper understanding on how communications are being received by the public, if they even receive them at all, can help shed light on how to improve communication strategies.</p> <p>The Solent travelcard has been in place for some years, but uptake has been very limited. This is due to a lack of awareness of it, complicated process to obtain the card, and the retention of various operator tickets. For example, the travelcard needs to be applied for online and then it is sent by post.</p> <p>The travelcard covers a wide area including Southampton and Portsmouth, each of which has its own travelcard, plus a wider area including Winchester and Havant. Upgrading the travelcard for immediate use, consolidating the different travelcards, and ensuring a worthwhile revenue allocation process and pricing would help sell the product.</p> <p>There is currently no official data available on the impacts of the £2 cap fare scheme. It is also not clear whether the data being collected will allow for this level of analysis. For example, whether the scheme has attracted new bus users, or whether the three month trial is long enough to make meaningful insights from the data.</p> <p>Transdev-operated buses in Harrogate have been surveying their customers and the results so far indicate that the £2 fare deal is “attracting drivers faced with high prices at the pumps to leave their cars at home and choose our buses for work and leisure journeys. The £2 single fare has helped to generate 11% growth in customer numbers on some of our most popular routes”.</p> <p>The scheme has raised the profile of buses, which is beneficial to bus networks. It has however, come at a time when bus services are under considerable operational pressures driven by labour shortages and operating cost inflation. This means that any new bus users as a result of the scheme are potentially not seeing bus services at their best.</p>
How was Brighton and Hove's integrated ticketing system implemented across multiple operators? In particular, how was the agreement for other operators to issue and accept tickets of the main commercial provider, Brighton & Hove Buses, agreed?	<p>Brighton and Hove's multi-operator smart e-card system was introduced in August 2015. It was one of the major initiatives of their quality bus partnership which was a voluntary partnership between Brighton and Hove Buses, Stagecoach and two smaller operators to work together to increase patronage and improve bus infrastructure.</p> <p>There was a lot of negotiation – the main difficulty was agreeing the amount per ticket to be reimbursed to the operators of their supported services when they accepted a Brighton and Hove Buses ticket.</p> <p>Go Ahead group (the operator of Brighton and Hove Buses) provided a very enthusiastic member of their head office staff to ensure the necessary complex back-office systems were robust and it has worked well over the years.</p>

Question	Response
	<p>During the Covid-19 pandemic, some fixed price contracts were changed to revenue guarantee contracts. Reimbursement rate is reviewed annually.</p> <p>Key challenges:</p> <ul style="list-style-type: none">• The main other commercial operator, Stagecoach, chose not to participate. Their two routes are not part of the integrated network. At the time of agreement, they had incompatible systems.• Contactless payment (i.e. tap on, tap off with a bank card) was introduced by Brighton and Hove Buses but that has not been integrated into the multi-operator ticketing system.• The smart card is generally regarded as old technology now. It is clunky to introduce changes to it and there can be difficulties (failures) for the user if they have different types of tickets.
<p>What is the mechanism to determine revenue sharing in Brighton and Hove?</p>	<p>For the multi operator smart key card, the operators are reimbursed per transaction on a monthly basis based on the average yield on the key card across all sales. The current rate is 0.9p in the £.</p> <p>Brighton and Hove haven't previously taken into account the cost of sale (e.g. bank transaction charges, share of travel shop sales costs, etc) but may do so in the future. Operators used to be charged a management fee but since other operators have moved to Ticketer, this is not charged anymore.</p> <p>The key card operators are B&H buses, Big Lemon CIC and Compass Travel Ltd. Stagecoach are not part of the arrangement.</p>
<p>Do systems like Swift allow passengers to buy a one off, one day multi-modal ticket by contactless from any operator (including small ones)?</p>	<p>Swift is the smart ticketing scheme to pay for public transport in the West Midlands. A Swift card is a smartcard you use instead of a paper ticket where you can load season tickets and pay as you go credit onto. There are flexible Swift card options depending on how and when you travel:</p> <ul style="list-style-type: none">• Swift photocard - a Swift card for adult, child, and student season tickets.• Swift Go - a Swift card that automatically works out the best fare for your bus and tram travel so you do not need to buy a ticket.• Pay as you go Swift card - a Swift card you top up and use instead of cash to pay for tickets on buses and trams. <p>A difficulty is that rail is not currently well integrated with Swift (only N-Network tickets are available to purchase using Swift). Swift is being developed so it can be used on new modes of transport. For example, hiring a bike or paying for car parking.</p> <p>Please refer to the case study in Section 8 of this technical note for more details on Swift.</p>
<p>What is happening with 'Project Coral'?</p>	<p>Project Coral is an industry approach to cost-effectively deliver multi-operator capped (daily or weekly) ticketing nationally. It will allow a passenger to take a bus anywhere in the UK using contactless technology and they will only pay a capped amount, with the right revenue going back to the right operator. BSIP funding (to fund the back office and on-board technology) has been directed to Project Coral to ensure the whole country benefits from it.</p> <p>DfT had been presented business cases from both TfWM and Project Coral in early 2021. It was suggested to both parties that they may be working towards a common goal and a collaborative venture may be beneficial. During the summer of 2021 – both parties met to discuss objectives, governance and obstacles. An agreement was reached to work together on the development of a specification and to procure a solution. TfWM have agreed to fund the CAPEX with OPEX eventually being provided via the operators.</p> <p>Further information from DfT can be requested via Basecamp.</p>

