TRANSPORT
SCOTLAND
CÒMHDHAIL ALBA

Smart, Digital, Integrated Ticketing and Payments

Delivery Strategy 2024

Contents

Cabinet Secretary foreword

> **Modernising transport is crucial in driving forward a greener, fairer Scotland, enhancing equality, increasing opportunity, and supporting communities.**

Building on our smart ticketing achievements, we want to go further to support improvements to the **availability**, **affordability**, and **accessibility** of public transport and ticketing. We will work with stakeholders to enhance the consistency and interoperability of smart and integrated ticketing, improve the quality and availability of travel information to support better integrated journey planning and we will continue to advance the national concessionary travel scheme's technology.

Since publishing the smart ticketing delivery strategy in 2018, collaborative working with transport authorities and operators has delivered a significant range of enhancements, from new digital platforms to universal smartcards, modernising concessionary ferry travel, extending free bus travel to young people aged 5 to 21, supporting provision of contactless payment onto 98% of bus services, and further development of regional ticketing schemes.

We have also begun introducing smart ticketing measures from the Transport (Scotland) Act 2019 (the "2019 Act"), and established the National Smart Ticketing Advisory Board (NSTAB), comprising of operators, transport authorities, users, and technical experts, to advise on the future of smart ticketing in Scotland, and on a technological standard for smart ticketing.

This refreshed 2024 smart ticketing strategy complements my wider transport priorities and provides a new, clear vision:

> **To increase the use of sustainable public transport by providing smart and integrated ticketing, payment, and journey planning data enhancements, contributing to a healthier, fairer and more prosperous Scotland.**

Informed by industry engagement, public feedback and evolution in technology, it supports the National Transport Strategy, delivery of the Fair Fares Review and contributes to the target to reduce car use by 20% by 2030.

The strategy also reflects on the challenges to progression and the impact of changes to travel patterns influenced by the Covid pandemic. It sets out the roadmap for improving smart, integrated ticketing and payment across Scotland over the next

ten years, so that together we can realise the vision and support a healthier, fairer and more prosperous Scotland.

Fiona Hyslop, Cabinet Secretary for Transport

Executive summary

> ## Our vision:
>
> **"To increase the use of sustainable public transport by providing smart and integrated ticketing, payment, and journey planning data enhancements, contributing to a healthier, fairer and more prosperous Scotland."**

Our refreshed vision reflects the work already delivered to date by the Scottish Government, local transport authorities and operators, to enable smart ticketing and payment across the public transport network. It now sets forth the aspirations and actions to take this further, to encourage the use of more sustainable public transport by addressing ticketing and payment barriers that have arisen with the adoption of different technologies, and the change of travel patterns following the Covid pandemic that means passengers' demands have changed. The actions support wider Scottish Government policies to improve the **availability**, **affordability** and **accessibility** of public transport.

To do this Transport Scotland propose a series of short, medium and long-term activities over the next ten years, focusing on establishing the right foundations and working with industry partners and public bodies, to progress the modernisation of both integrated smart ticketing and payment, and the provision of digital travel data across Scotland, with a consistent approach.

Over the short term, Transport Scotland will introduce legislation from the 2019 Act on ticketing arrangements and schemes, for use by authorities and operators, and support the work of NSTAB to advise on the future of smart ticketing and improvements to smart ticketing schemes in Scotland. To improve integrated journey planning and data standardisation, new Digital Travel Data Services will be introduced and a consultation on bus open data legislation will be held. The Mobility as a Service (MaaS) Investment Fund pilot projects will be evaluated to ascertain next steps for this concept, the concessionary travel scheme will continue to modernise providing improved concessionary journey data, and the feasibility study to understand options to provide a digital platform for concessionary travel will be completed.

In the medium term, the advice from NSTAB regarding the specification of technological standards for smart ticketing will be considered, and the feasibility of a new national integrated ticketing system for public transport in Scotland will be progressed, taking into account any future necessary legislation. Ferry concessionary travel will be rolled out on a smart platform between the mainland and

eligible islands on the west coast, the options for a digital concessionary platform pilot will be acted upon, if the feasibility study indications are positive. Additionally, legislation from the 2019 Act on information provision and open data will be introduced to improve travel data and journey planning.

In the long term, following introduction of the smart ticketing and open data elements from the 2019 Act, including those relating to a technological standard, Transport Scotland will work with local transport authorities to continuously enhance their integrated ticketing schemes, ensuring that they keep pace with evolving technology, grow their geographic and modal reach, and utilise the technological standard for smart ticketing and any new national integrated ticketing system. In addition, Transport Scotland will work with operators to comply with open data legislation from the 2019 Act and as the current Digital Travel Data Services contract will be drawing to a close, will commence procurement activity for the following service provision.

These actions encapsulate the vision and epitomise the key principles, to not only provide a more consistent experience when using smart ticketing and payment, but also make access to public transport easier and more inclusive.

Vision, principles, and strategic context

Delivery strategy vision

The vision focuses the direction of the development of smart and integrated ticketing and payment, alongside improved digital journey planning services in Scotland, supporting wider government policy.

> **"Increase use of sustainable public transport by providing smart and integrated ticketing, payment, and journey planning data enhancements, contributing to a healthier, fairer and more prosperous Scotland."**

The role of Transport Scotland

Transport Scotland's role is to enable and support the vision, to deliver a simple, consistent smart travel experience across all public transport modes, and help to improve the **availability**, **affordability** and **accessibility** of public transport. Transport Scotland will work with stakeholders to develop policy and deliver projects to further support the development of smart, digital, and integrated ticketing and journey planning in Scotland, building on progress the public transport sector and transport authorities are already making, as well as addressing the ticketing barriers that impact people looking to use public transport.

This means working with authorities and operators to enhance the interoperability, consistency and reach of smart technology, when the market or technology isn't fully delivering for passengers; empowering authorities and operators to develop their own regional smart and integrated ticketing, and exploring progression of a national integrated ticketing system if required; driving forward travel data and journey planning innovation; providing technical support for the National Concessionary Travel Scheme; and delivering ticketing and travel data measures as detailed in the 2019 Act to support modernisation of public transport ticketing.

This work improves access to public transport and supports the delivery of commitments in the second National Transport Strategy (NTS2), the second Strategic Transport Projects Review (STPR2), and wider Scottish Government policy including the Fair Fares Review, 20% reduction in car use, and Best Start, Bright Futures (the plan to tackle child poverty), amongst others.

To guide our role, the strategy sets forward a number of principles to underpin the vision and delivery strategy.

Delivery strategy principles

The vision is underpinned by three core principles that are intended to remain relevant in a rapidly evolving technological landscape. Smart and integrated ticketing, payment, and journey planning data should:

Be more available, simple and consistent

- The **availability** of tickets should be maintained or improved from a passenger's perspective.
- There should be minimal barriers to purchasing tickets, and the scope of their use should be intuitive and logical.
- There should be consistent payment, retail and validation of tickets across operators and modes, to provide a simplified customer experience.
- Operators and local transport authorities should work together to make multi-operator and multi-modal travel simpler.
- Consistent technology across operators to increase simplification, efficiencies, and support technical systems integration.
- Journey information should provide the data that users need to be best informed and confident about their journey.
- Journey planning data should enable integrated door-to-door journeys and be openly available to enhance awareness of transport options.
- There should be consistent data standards to support efficient data sharing and processing.

Be accessible and inclusive

- Smart ticketing should help to improve **accessibility** of ticket retail and use.
- There should be minimal steps to accessing tickets, and the experience should be intuitive and logical.
- Smart infrastructure should allow the introduction of tickets that provide more benefits, travel and fare opportunities to passengers.
- Tickets, including promotional tickets, should be available to as many people as possible and not exclude those who do not have access or wish to use to smart or digital platforms.
- Journey planning systems should be accessible, in logical formats and on accessible platforms.
- Data that enhances accessibility of transport should be openly available.

Promote affordable travel

- Smart ticketing should support more **affordable** travel, supporting discounts, promotions and best-fare calculations.

- Integrated ticketing should enable cost effective journeys to be made that include multiple operators or modes.
- Journey planning should provide better fares information to enable people to choose affordable travel.

Policy context

National Transport Strategy 2

The NTS2 sets out an ambitious and compelling vision for our transport system for the next twenty years – to reduce inequalities, take climate action, help deliver economic growth, and improve our health and wellbeing.

Smart, digital and integrated ticketing and travel data can help to tackle barriers to public transport connectivity and accessibility, improve the quality and availability of information to enable everyone to make more sustainable transport choices, drive innovation, deliver value for money for businesses and passengers, and support a transport system that includes and promotes active travel choices.

Strategic Transport Projects Review 2

STPR2 provides an overview of transport investment, mainly infrastructure and other behavioural change recommendations, which are required to deliver the NTS2 priorities. The STPR2 recommends building on the interventions and new services delivered under the 2018 smart and integrated ticketing delivery strategy to continue with the support and ongoing delivery of fully integrated smart ticketing and payment services across all public transport modes, to support increased use of sustainable modes.

It also recommends that pilot schemes involving Digital Demand Responsive Transport and MaaS draw on innovative solutions, international best practice and smart technologies. These schemes will help to establish whether scarce existing resources could be better utilised across the public network, home to school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routeing.

Transport (Scotland) Act 2019

The 2019 Act makes a number of amendments to the Transport (Scotland) Act 2001. It includes measures to enhance the delivery of smart ticketing and travel data in Scotland, including provision to establish NSTAB, which commenced operation in

2023. The Act allows for the setting of a smart ticketing technological standard, introduces provision to enhance the operation of regional ticketing arrangements and schemes across Scotland, and strengthens the powers of **local transport authorities** to ensure that these arrangements and schemes meet public need. The Act also includes provision to introduce legislation on bus open data, which is intended to provide high quality and more extensive fares, ticketing, accessibility and real time information to the public.

The Fair Fares Review

The Scottish Government published its Fair Fares Review in March 2024. The Review sets out a number of short and medium to longer term actions to ensure that a sustainable and integrated approach is taken to public transport fares, supporting the future long-term viability of a public transport system that is more accessible, available, and affordable for people throughout Scotland. Smart, digital, and integrated ticketing and travel data is key to its success, and this delivery strategy complements the delivery of the Fair Fares Review recommendations.

In particular the Fair Fares Review recommends the development of a national integrated ticketing system, and notes requirements for advice from NSTAB on the national technological standard to improve smart ticketing integration between modes.

Islands Connectivity Plan, target to reduce car use, and tackling child poverty

The draft Islands Connectivity Plan was published in early 2024, and sets out how ferry services, supported by other transport modes, will be delivered, and strengthened, working towards a long-term vision, and supported by clear priorities and defined outcomes for people and places. It includes developing smart and integrated ticketing and travel information.

The Scottish Government has a plan to reduce car kilometres by 20% by 2030. With regards to ticketing, this includes establishing NSTAB, the delivery of the next generation travel data system to enhance journey planning services and establishing bus open data standards.

Additionally, the climate change action plan includes actions to tackle climate change with a suite of new policies on transport, including increasing the number of electric vehicle chargers, and land use. In particular, it includes the development of a new national integrated ticketing system for public transport in Scotland across all modes

of transport to enable a system that can be used for all elements of a journey, with a first step of publishing a new smart ticketing delivery strategy in 2024, alongside the business case for introducing national and/or regional integrated fare structures.

Finally, the Best Start, Bright Futures Tackling Child Poverty Delivery Plan sets out actions to tackle child poverty. In relation to transport, the plan includes the action: "to improve the connectivity of public transport, we are procuring the next generation digital travel data systems needed for users to plan their journey across all public transport … helping parents and carers to get where they need to go."

The journey so far

The value of smart & integrated ticketing

The Scottish Government believes that investment in smart ticketing delivers a return on its objectives, due to its potential to reduce inequalities, support climate action and economic growth, and improve our health and wellbeing through increased use of sustainable public transport.

Simplifying the approach to ticketing and payment provision, and by providing the same experience for the customer, whether travelling on bus, train, ferry or light rail, for single or multi-modal journeys, mitigates the complexity for the passenger, which in turn, can support modal shift.

Smart ticketing and payment may also have the ability to provide increased certainty over costs and affordability of public transport by facilitating automatic fare capping within and between operators, as well as generally making using public transport easier to use and more accessible. It offers travellers choice in how they pay for their travel, which in turn can attract greater patronage. Smart ticketing also improves journey record accuracy in the Scottish Government's concessionary travel scheme, helping to maintain the integrity of it, and for operators, smart ticketing can reduce queuing, enable quicker boarding times and can help make services more efficient.

Better journey planning and public transport open data can assist with modal shift and support economic growth, by providing consistent, integrated travel information, enabling digital booking and retail services, bringing improved passenger confidence and satisfaction.

Smart and Integrated Ticketing Survey 2023

Transport Scotland ran a public survey in spring 2023 to inform the development of this delivery strategy and to understand views on integrated ticketing, smart ticketing and payment types, journey planning and MaaS. It was distributed through social media, internal communication channels, and shared further by local news websites, community councils and schools. In total, there were 1,029 responses to the survey, providing insight that:

- Most respondents would like to use digital ticketing and Tap On (Tap Off) payments in future (64% and 56% respectively)

- 63% had used a smartcard for public transport in the past. 58% of these were not aware that any one smartcard could be used across multiple transport modes and operators

- Bus/coach and train users were the groups most satisfied with smart ticketing (61% and 60% respectively)

- Most popular factors to increase smart-ticketing use are simplicity, ease of set up, and reliability

- 64% of National Concessionary Travel Scheme respondents would like access to it on their smartphone

- 91% of respondents agreed that value for money would be likely to increase their use of integrated tickets

- The most highly valued features of a journey-planning app would be real-time travel information and live disruption alerts

Smart ticketing in Scotland

Smart travel is about providing modern, digital, or electronic options for tickets and/or payment when travelling on public transport, meeting passenger expectations for modern services. "Smart ticketing and payment" is the umbrella term for non-paper and non-cash ticketing and payment for transport. Further details on Scotland's smart ticketing estate can be found on the smarttravel.scot website.

Smartcard

There are over two million interoperable smartcards currently in circulation in Scotland

Scotland's existing interoperable smart ticketing system is provided on ITSO. ITSO is the specification for most smartcards on public transport in Scotland. This uses chipped plastic cards that can store electronic 'smart' travel tickets. You can pre-purchase your travel tickets at a range of outlets (depending on your travel choice) including online, on board, or at ticket vending machines and load these onto the smartcard. The National Entitlement Card (NEC) is an ITSO smartcard and is used

for the National Concessionary Travel Schemes. Smartcards can be used on bus, rail, tram, subway, ferry and air services. Smartcards can be obtained from operators or from www.getyournec.scot.

Mobile App:

> **Mobile tickets now account for 40% of tickets on ScotRail services (June 2024)**

Bus, rail, ferry, air and tram operators offer mobile ticketing. An app is downloaded onto a smartphone, from which the user can purchase, store and use their ticket. Often the ticket is provided as a barcode so it can be validated.

Digital ticketing with barcodes is becoming more common in Scotland and complements contactless payment by providing a smart platform that can be used for pre-purchased tickets, such as day tickets. For example, ScotRail introduced digital tickets in 2021 and, in Glasgow, the multi-operator Tripper ticket was made available to purchase through operators' own mobile apps in 2023. Within a couple of months of Tripper's launch on mobile, sales increased five-fold with mobile ticket sales representing 80% of purchases (with 20% on smartcard) demonstrating the popularity of both mobile tickets and multi-operator travel options.

Contactless Payments:

Contactless is a method of payment where payment is made using a bankcard without the need to enter a pin number. The contactless card is tapped against a terminal to pay for transactions, which is possible up to a limit, currently £100. This method of payment is becoming more prevalent on public transport. The purpose is to speed up boarding and increase convenience to both the passenger and the transport operator.

With support from the Scottish Government, contactless payment is now available on nearly all buses in Scotland. There are three different ticketing models; the most common, and on almost all buses in Scotland, is using contactless to purchase a physical paper ticket, and in some areas, contactless is used for Account Based Ticketing, for automatic fare capping and payment collected after travel. Another use of contactless is not yet used in Scotland but allows a pre-bought ticket (e.g. season ticket) or discount to be registered against the bankcard, which is recognised when the card is tapped.

Other modes, such as rail and ferry, use contactless for simple pre travel ticket purchasing at ticket outlets. The Glasgow subway is also set to introduce Tap In Tap Out contactless across its network.

Account Based Ticketing (ABT)

ABT is a type of ticket and payment system where a user taps or scans a token for travel (i.e. contactless bankcard/barcode/smartcard). The back-office system then records the journeys taken over a period (usually a day but can be weekly or other assigned time) resulting in the user being automatically charged for the most suitable ticket. ABT provides for automatic fare capping and is available on Lothian Buses in Edinburgh, and First Bus in Glasgow and Aberdeen. SPT is installing contactless Tap In Tap Out ABT on the subway, and Edinburgh Trams is integrating with Lothian Buses' ABT system to provide automatic integrated fare capping.

This is the method used for travel on Transport for London (TfL) services, with contactless bankcard (either physical or digital card) or Oyster smartcard as the tokens. If ABT is in operation between different operators, generally a third-party system collects the 'taps' and establishes the revenue for each participating operator.

Integrated ticketing in Scotland

Commercial integrated ticketing products are primarily developed by operators but can be developed in agreement with local transport authorities. Sections 28 to 32 of the Transport (Scotland) Act 2001 (the "2001 Act") require local transport authorities to keep under consideration what ticketing arrangements are needed in their area. The 2001 Act gives authorities a power to make ticketing arrangements through voluntary agreement with operators, or ticketing schemes whereby operators are required to put the ticketing arrangements in place. The 2019 Act contains provisions which, once commenced, will enhance these local transport authority duties so that ticketing arrangements and schemes can include connecting rail and ferry services with the agreement of the operators, and require ticketing schemes to be smart.

Figure 1 shows the extent of some larger integrated tickets available in Scotland, mostly providing integrated bus-to-bus travel, with ZoneCard including rail, bus and subway within its boundaries. The map includes Grasshopper in the Aberdeenshire area, ABC in Dundee and east Fife, One-Ticket across south east Scotland, ZoneCard in the SPT area, Tripper and Roundabout in Glasgow, and Ridacard in Edinburgh. The map also shows rail and sail routes from Aberdeen, Ullapool, Oban and around the Clyde, and PlusBus tickets at 16 towns and cities in Scotland. All

offer tickets valid from one day up to a week, with some offering annual integrated tickets. These tickets are all offered on smartcard, with some available digitally.

Zonal Integrated Tickets in Scotland

Grasshopper (Paper & smartcard) – bus	
One-Ticket (Digital app) – bus & rail	
ZoneCard (Paper & smartcard) – bus, rail & subway	
Tripper (Digital app & smartcard) – bus	
Roundabout (Paper) – rail & subway	
ABC (Paper & smartcard) – bus	
Lothian Ridacard (Smartcard) – bus & tram	
PlusBus (Paper & smartcard) – bus & rail	
Rail & Sail ferry routes (Paper) – bus & ferry	

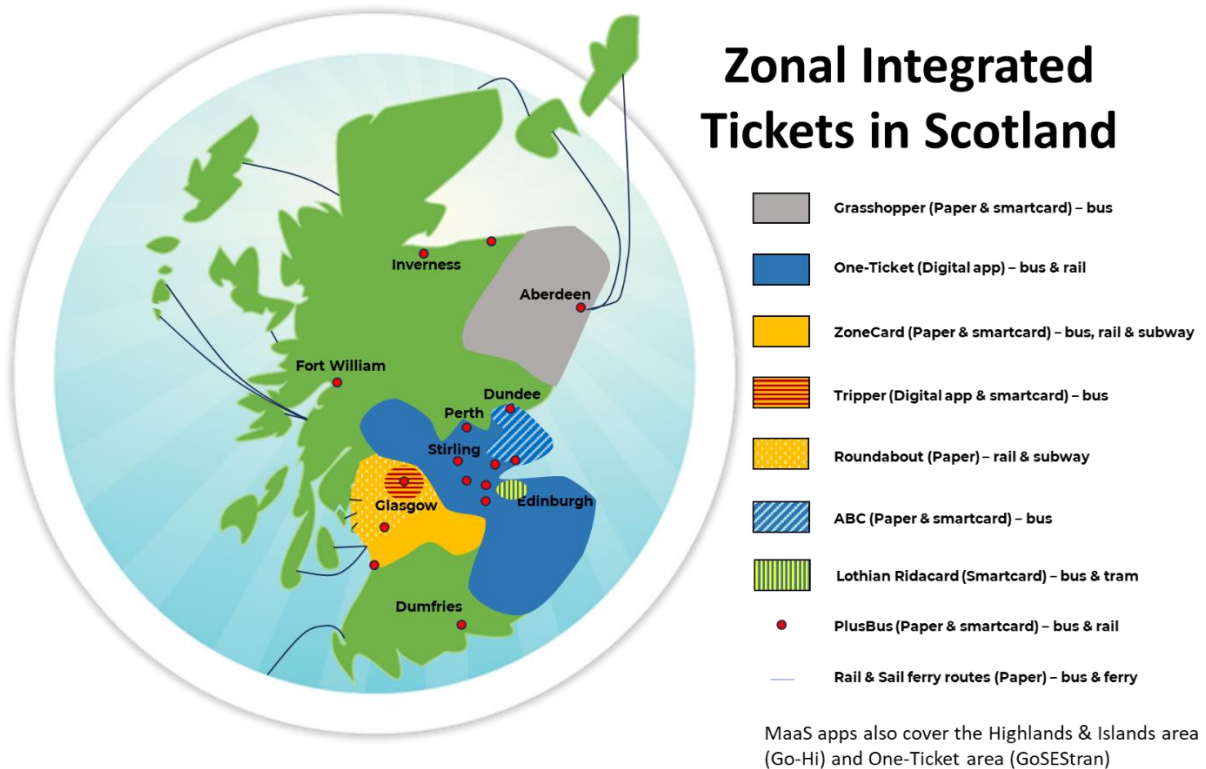MaaS apps also cover the Highlands & Islands area (Go-Hi) and One-Ticket area (GoSEStran)

Figure 1: Map showing the extent of some of the integrated ticketing products available in Scotland in 2024.

Bus and rail tickets are available in specific locations or on specific routes and include PlusBus, RailBus, One-Ticket, Borders Explorer, and the Rail & City Bus Tour ticket. ScotRail also retail the 'Spirit of Scotland' ticket, which can be downloaded as a mobile pass, and provides unlimited travel on rail, connecting bus, subway and tram routes. PlusBus (a bus ticket added to a rail journey) is available on a smartcard in some locations.

Bus and ferry tickets are offered between Scotland and Northern Ireland and there are examples of buses that travel on ferries with passenger only needing to purchase the bus ticket, including the 506 and 507 routes that travel on the Corran Ferry.

Rail & Sail tickets are offered between ScotRail, CalMac, NorthLink and Stena Line and provide through-ticket travel for most connecting services.

Risks and challenges

The commercial transport market in Scotland: The bus industry operates as a deregulated market where each operator has their own commercial objectives to manage when developing new smart technologies and integrated tickets. Therefore, operators have invested in systems that meet their requirements, and do not necessarily for future multi-modal aspirations, or are working with legacy systems that cannot be upgraded simply, which means ticketing technology is often incompatible without extensive upgrades.

The Scottish Government does not have the power to direct the types of smart and integrated ticketing in use or on offer across all modes and operators. However, bringing into force the remaining provisions of the 2019 Act will enhance the powers of local transport authorities and the Scottish Ministers in relation to smart and integrated ticketing and a technological standard.

Additionally, as most rail and ferry services are managed via contract with, or owned by, the Scottish Government there are opportunities to influence operators to provide a consistent and joined up approach for passengers.

Availability of suppliers: Overuse of one supplier can lead to delays in roll out and increase the risk of the supplier's customers being locked into their specific product network. This can also cause a lack of competition, impacting the natural market dynamics. Bringing in smart ticketing technological standards, and use of open data standards, should help to open up the market for more flexibility and competition.

Rapid development of non-standardised technology: Whilst interoperable smartcard technology is available on most operators, popularity of contactless payments and digital barcode / QR codes has rapidly grown in recent years. However, there are currently no national multi-modal standards for digital barcode / QR ticketing or contactless payment across operators, which has limited integration of ticketing to date where operators are using different ticket machines and back-office providers with their own standards. Work is now progressing in the UK to enable universal barcodes.

This differing technology can bring disparity across the public transport network and confusion over ticket types. There is a balance to be struck between investing in new technologies across all modes to achieve long-term interoperability and familiarity for the passenger, whilst also remaining dynamic and flexible to grasp new opportunities, such as beacon, Bluetooth technology and location-based (GPS) ticketing and payment solutions, such as those being introduced in Denmark.

Expense: Smart ticketing technology can be expensive, particularly if requiring extensive new infrastructure such as ticket machines, ticket gates and back-office software. For example, on rail alone, the expansion of London's Tap In Tap Out system to an extra 53 railway stations has been awarded £20 million by the Department for Transport (DfT), and £360 million has been earmarked for providing Tap In Tap Out across 700 English stations (DfT, 2023 and 2021). Feasibility studies, business cases, pilots and identification of intervention options will help to ensure value for money.

Finances: As a result of economic conditions, including from the impact of Covid and inflation, the financial situation of the Scottish Government is significantly challenged and this shows no sign of improvement in the foreseeable future. This reduces the funding available for projects to commence or continue and therefore all activities outlined in this strategy will be subject to strict value for money assessments and budgetary availability.

Reduced passenger numbers can also have an impact of the ability of operators to invest in new technology, which can lead to older ticket machines having their life extended. Whilst this can be more efficient for the operators, it can affect the rate at which tickets are modernised and the ability to integrate technology between operators.

Public investment for the commercial market: The Scottish Government must adhere to subsidy and competition laws when investing in technology or services for commercial operators in a de-regulated marketplace. To mitigate this risk, before any financial support or procurement commences, a full assessment of the rationale for intervention must be conducted to confirm value for taxpayers and the necessary role of the Scottish Government.

Fares simplification: Developments in smart and integrated ticketing would be boosted if fares were simplified and more consistent across Scotland, with coordination of commercial ticketing between operators. As such, the Fair Fares Review has recommended that options be considered and a business case developed for introducing a national and/or regional integrated ticket and fare structure. This work, along with that undertaken by NSTAB, must be considered in line with smart ticketing activity as a key dependency.

Opportunities

There are new opportunities emerging to help support improvements to ticketing and travel data, better supporting the availability, affordability and accessibility of travel:

The consistency of ticketing and technology opens up new opportunities for ticketing: NSTAB was established in 2023, bringing together key stakeholders to advise on technological standards for smart ticketing. Agreeing a technological standard to ensure these technologies can work together could not only drive down costs and improve integration, but will help to drive increase ticketing consistency, help improve ticket availability for customers, allow customers to use the smart platform they prefer to use, and be key to truly achieving the Scottish Government's vision for smart and integrated ticketing across Scotland.

There are also opportunities to be gained from ongoing work identifying a universal approach for barcode and contactless standards for ticketing. Improvements in mobile connectivity is also making mobile ticketing and payment more reliable and more available across Scotland.

Cost of living crisis places greater emphasis on best value: With passengers feeling increased cost pressures as a result of inflation, being reassured that they are always paying the best fare is vital. Therefore, smart ticketing that allows for automatic fare capping, such as Account Based Ticketing, is popular with passengers and currently being introduced by more operators, but it is not evenly spread across Scotland.

Greater awareness of fares also helps to combat poverty by enabling more cost-effective journeys to be taken and highlights the need for consistency of ticket pricing across different smart ticketing platforms and mediums to help improve cost predictability. Introducing standards for bus open data will help to increase the consistency and availability of bus information, including on fares, helping to improve the cost transparency of public transport, and enable passengers to make journeys that suit their requirements.

Helping accessibility: Smart ticketing can make transport more accessible to more users. Ultimately, having greater smart ticketing choice to suit personal needs, including advancements such as use of pay as you go or debit accounts linked to discounts, or more flexible tickets on offer to suit customer needs, or digital mobile apps meeting accessibility requirements, should help to improve the accessibility of ticketing for all users.

Changing marketplace: With free bus travel extended to young people, the user demographics of the National Concessionary Travel Scheme has been altered, and as such, the expectations of what and how it should be delivered have also changed. Identifying ways to further improve how people access and use the concessionary scheme is essential to ensure that the scheme delivers high satisfaction to its users.

Changing work patterns as a result of Covid has impacted season ticket sales contributing to the decline in smartcard usage for pre-purchase tickets. There has also been an upswing in use of contactless technology to avoid contagion from cash handling. Both these have further stimulated the growth of the availability of contactless and digital platforms and resulted in new tickets being introduced such as flexi tickets.

Achievements since 2018

Transport (Scotland) Act 2019 – National Smart Ticketing Advisory Board: NSTAB was established in 2023 and has commenced advising the Scottish Ministers on the future of smart ticketing in Scotland, including on a national technological standard for smart ticketing to enhance the foundation for smart integrated ticketing in Scotland, making smart ticketing more consistent and convenient for passengers.

NSTAB is comprised of operators of different modes, local transport authorities, regional transport partnerships, user and accessibility groups, and technical experts. NSTAB's first three-year work programme was published in 2024, and annual reports will be completed to monitor the board's progress. You can read more about NSTAB here - National Smart Ticketing Advisory Board | Transport Scotland

Rollout of smart ferry concessionary travel between the mainland and Orkney and Shetland: Following a soft launch in October 2023, smart ferry concessions were rolled out for all users on services to Orkney and Shetland in 2024. Concessionary ferry travel vouchers had only been available in a paper format and this project reduced process and costs, provided journey records, improved customer experience and brought Orkney and Shetland ferry concessionary travel in line with other modes.

Contactless Bank Cards: In 2018 the £1.1 million Smart Pay Grant Fund was launched, supported by the European Regional Development Fund, which enabled operators to accept contactless payment on buses. The fund closed in December 2022 and now 98% of buses in Scotland accept contactless payment, making it significantly easier for passengers to use buses. This also provides the infrastructure to allow fare capping on buses, should operators aspire to do so.

Smart Pay Grant Fund enabled almost 10 million contactless payments on buses between February 2019 and June 2024

Interoperability: Since 2019, people across Scotland can use just one ITSO smartcard for journeys across multiple modes and operators. Working together with operators to enable the technology it means that, for example, a ScotRail smart ticket can be loaded onto a National Entitlement Card or operator smartcard and has reduced the number of paper tickets and plastic smartcards being produced. On SPT subway in 2022/23, more than 780,000 journeys were made using third-party smartcards.

Mobility as a Service: In June 2019, the three year, £2 million MaaS Investment Fund (MIF) launched to test the viability of MaaS in Scotland, creating solutions to address known transport issues. Funds were awarded to HITRANS, Tactran, Dundee City Council, the University of St Andrews and SEStran. The MIF supported innovative, digital data-driven solutions, to provide people with better travel information, booking and payment for tickets, and easier access to simple and flexible transport options, with the goal of increasing sustainable travel. All pilots completed by late 2023, and findings will be used to inform future MaaS policy.

Young Persons Free Bus Travel Scheme: Free bus travel is available for those with a *saltire*card on the grounds of age (60+), or disability, and since January 2022 all residents in Scotland under the age of 22. Now, nearly half of Scotland's population has access to free bus travel using the ITSO smartcard platform.

Introduction of the Transport Scot Pass Collect App: In 2022 the Transport Scot Pass Collect App launched, aligning with the rollout of the Under 22s free bus travel scheme. The app allows existing, eligible concessionary cardholders to load the Young Persons Free Bus travel onto their smartcard, without having to apply for a new one. This app was enhanced in 2023 to enable ferry concession vouchers to be downloaded for eligible Orkney and Shetland islanders. The app has enabled over a total of 40,000 concessionary products to be downloaded to date, including for concessionary bus and ferry travel.

European Regional Development Fund (ERDF): Transport Scotland was successful in gaining funding from the ERDF Low Carbon Travel and Transport Challenge Fund. As part of this fund, a target of demonstrating 130.8 million additional commercial smart journeys by the end of 2023 was set.

611 million additional smart journeys were recorded between February 2016 and January 2024, enabled by ERDF

Account Based Ticketing: ScotRail delivered an Account Based Ticketing pilot in January 2019 using ITSO smartcards linked to the customer's bank account, allowing for tap in/tap out and automatic fare charging, although ultimately did not present good value for money due to required level of investment in legacy infrastructure across the estate. Following advancement in technology, ScotRail will commence a trial using a mobile app and barcode 'check in, check out' system which seeks to improve passenger convenience, but compared to the previous trial, looks to have lower operating costs.

Commercial ticketing services: Transport Scotland supported smaller bus operators and NorthLink Ferries to implement smartcards for their commercial smart tickets and a 'pay as you go' e-purse. Some of these are still in operation, although now contactless payment and mobile tickets have become more popular, this has reduced the need for some commercial smartcard products.

ITSO technical enhancements: In 2023 work commenced to enhance the data being received from concessionary travel transactions, providing better data on boarding and alighting locations to help improve the reimbursement process. This is due to complete in 2024.

Local authority support services: A mobile app was developed and piloted in Renfrewshire and Falkirk during 2019 which provided the local authority the ability to load local concessionary bus travel tickets onto Young Scot smartcards. This solution improved social mobility by delivering targeted local smart-entitlements to tackle inequalities, improve attainment and challenge rural poverty without stigma.

Capacity information: In September 2021 and in response to Covid, Transport Scotland completed the 'How Busy is My Bus' project where over 60% of bus operators provided data indicating on-board seating capacity information for passengers to improve their ability to plan their journey more effectively and travel safely.

Covid Track & Trace: Transport Scotland tested the implementation of QR codes on public transport as part of the NHS Scotland Test and Protect contact tracing scheme during the Covid pandemic. This allowed passengers to 'check in' when boarding public transport and be notified if they have been near to a person testing positive for the virus, advising them to self-isolate to reduce spreading infection.

COP26: In October 2021, the COP26 Travel Pass was delivered which gave all delegates and volunteers free public travel during the COP26 conference period. This COP26 interoperable, multi-modal smartcard was issued to over 28,000 delegates, enabling over 141,000 journeys across the central belt on bus, rail, tram, and subway.

The delivery strategy

Transport Scotland will create a ticketing and transport data environment that supports integrated journeys, is easy and accessible to use, and keeps customers up to date and well informed about their journeys. We will do this by providing enhanced smart and integrated ticketing powers for Ministers and local transport authorities, improved industry collaboration, consistent and interoperable smart ticketing, and increased open travel data. We will also continue to improve and maintain the integrity of the national concessionary travel schemes.

To maximise success, Transport Scotland will work closely with operators, transport authorities and industry, allowing us to deliver our vision, contributing to a healthier, fairer and more prosperous Scotland.

The delivery of the activities contained in this strategy are subject to completion of feasibility studies, business cases and availability of funding.

Smart and integrated ticketing policy

Smart ticketing continues to evolve at a significant rate due to technological advancements. This strategy's activities are therefore flexible to take advantage of opportunities, whilst setting a framework to oversee the development of smart and integrated ticketing and travel data.

The establishment of NSTAB will provide Scottish Ministers with collaborative advice from industry, passengers, authorities and experts on the strategic development of smart ticketing and on a national technological standard for smart ticketing. NSTAB will seek to enhance the interoperability, accessibility and consistency of smart ticketing for passengers and contribute to the work outlined in this strategy.

The introduction of 2019 Act measures will enhance the Scottish Ministers' and local authority duties and powers with regards to ticketing arrangements and schemes, so these can include more modes and operate across more of Scotland. This will complement other bus provisions such as bus partnerships and franchising, supporting the introduction of more local integrated ticketing, across more modes. By encouraging transport authorities to work together, and across regions, the scope and benefits of their existing and new ticketing arrangements and schemes can be maximised.

Transport Scotland will also work closely with the operators, industry and local transport authorities to grow integrated smart ticketing across Scotland, both geographically and across more modes, providing more convenient payment and

ticketing services to passengers. This includes exploring options for a new national integrated ticketing system that could be adopted by operators and local transport authorities to improve smart integrated ticketing across operators and modes.

Short term

> **To gather collaborative advice to inform the future of smart ticketing in Scotland, we will sponsor the new National Smart Ticketing Advisory Board**

NSTAB will continue to be sponsored by Transport Scotland and will oversee the delivery of their Work Programme. NSTAB's programme aims to deliver a range of advice on the strategic development of smart ticketing in Scotland, technological standard(s), and on the implementation of remaining 2019 Act smart ticketing measures. NSTAB will consider quick wins, and low, medium, and high-level intervention opportunities to increase the accessibility, technical interoperability and value for money of smart ticketing in Scotland. It will also consider enhancement opportunities for smart integrated ticketing arrangements and schemes, so they deliver a better ticketing experience for the customer. Transport Scotland provides the secretariat support function for NSTAB, as well as sponsorship, and has a representative on the Board.

> **To improve the powers available to local transport authorities and Ministers and support growth of smart and integrated ticketing in Scotland, we will commence ticketing measures from the 2019 Act**

Sections 41, 44, 45, 46, 47 and 48 of the 2019 Act will be commenced, and guidance developed together with NSTAB and key stakeholders will be issued to encourage local transport authorities to work collectively to develop best practice ticketing schemes that meet local needs, include more modes and services, and utilise modern, consistent ticketing technology.

Section 41 includes enhancing the duty on local transport authorities to consider what ticketing arrangements are needed on connecting rail and ferry services in addition to bus services. Section 44 includes a requirement that any ticketing scheme must be smart and comply with the national technological standard for smart ticketing, and section 45 confers a power on the Scottish Ministers to direct local transport authorities to use their powers in relation to ticketing schemes. Section 46 will require local transport authorities to produce annual reports on ticketing arrangements and schemes and section 48 provides for the issuing of guidance

associated with the ticketing measures of the 2019 Act to support their introduction and development.

> **To explore how we can build on the 2019 Act and NSTAB, and further support better smart and integrated ticketing infrastructure, we will develop options and recommendations for a new national integrated ticketing system**

Working with NSTAB, a scope of work will be developed to identify and explore options to introduce a national integrated ticketing system. This will include a feasibility study on developing a multi-modal Account Based Ticketing approach in Scotland.

Progress being made elsewhere in the UK, and internationally, will be reviewed, and this will be used to understand the best approach for Scotland and the Scottish Government. This study could include consideration of legislation requirements, market constraints or required support to enable operators to introduce the required ticketing or back-office system technology (to replace or work with legacy technology) and advise on how to build on existing integrated tickets in operation in Scotland.

Medium term

> **Building from NSTAB's advice, and to improve the consistency and interoperability of smart ticketing technology, we will consider the specification of a technological standard(s) for smart ticketing**

Section 42 of the 2019 Act provides the power for Scottish Ministers to specify and publish a technological standard for the implementation and operation of smart ticketing arrangements. Following the advice from NSTAB on technological standards and implications for Scotland, Ministers will consider the appropriate subsequent course of action and may choose to specify a standard that already exists and has been published elsewhere or specify a new one.

Ticketing schemes, made under Section 31 of the 2001 Act, must comply with the standard, but beyond this the intention is to work closely with operators, transport authorities and suppliers so the standard is adopted more widely in Scotland.

A technological standard is also intended to provide inclusive smart ticketing option(s) that also consider unbanked and non-digital customers.

> **Building on any specification of technological standards, and to confirm how we will enable smart and integrated ticketing, we will deliver the business case for a national integrated ticketing system for public transport in Scotland, including determining legislative requirements**

Informed by advice from NSTAB on the future of smart ticketing in Scotland and on technological standards, a business case will be developed to understand costs, timescales, legal requirements and benefits of delivering a national integrated ticketing system in Scotland, recommending possible next steps.

A national integrated ticketing system is intended to deliver a system that operators and local transport authorities could use that would allow smart, digital or contactless tickets or payments to be used for travel across Scotland. This reflects passengers' preference to travel without having to think about a ticket for each leg of the journey. In order to maximise benefit, operators would be encouraged to participate in a system that, for example, could offer multi-modal fare capping or post-journey payment.

Long term

> **Following the business case, and to deliver better smart integrated ticketing, we will introduce the new national integrated ticketing system for public transport in Scotland (subject to the business case and the availability of funding)**

Subject to the legislative requirements, funding, and the recommendation and outcome of the new national integrated ticketing system business case, next steps will be determined, working together with NSTAB, operators and transport authorities. This could include investment and procurement, as well as introduction and adoption of any new national integrated ticketing system, to best maximise benefits for passengers.

> **To continuously enhance ticketing arrangements and schemes, we will work closely with local transport authorities and operators, maximising the benefits of any new technology, system and legislation**

Following introduction of any technological standard(s), measures from the 2019 Act on smart ticketing and any new national integrated ticketing system, Transport

Scotland will provide continued business as usual support for the operation of these measures, including working closely with operators, local transport authorities, regional transport partnerships and users.

Operators and local transport authorities will be encouraged to continuously enhance their integrated ticketing schemes, ensuring that they keep pace with evolving technology, grow their geographic and modal reach, and utilise the technological standard for smart ticketing and any new national integrated ticketing system. This will mean more people in Scotland benefit from integrated ticketing and technology and provide simpler ticketing to integrate with MaaS and any other third party ticketing platforms.

Concessionary travel improvements

Transport Scotland will deliver continuous improvement of the National Concessionary Travel Schemes so the schemes remain technologically up to date, meet customer expectations, ensure public services are modern and efficient, and provide quality journey data to maintain and protect the integrity of the concessionary schemes. The physical smart infrastructure and the back-office reimbursement software of the National Concessionary Travel Scheme will also require updating to cope with any policy changes, the expiration of contracts and necessary technological upgrades.

Short term

> **To identify how to improve the accessibility of the concessionary travel scheme, we will complete a feasibility study on its potential future smart platforms, including on a smartphone**

A feasibility study identifying the potential future digital technology options for the National Concessionary Travel Scheme will be concluded in 2024. Feedback has indicated a desire for the concessionary travel scheme to be provided on a mobile platform, and so this study is considering the smart platforms that could be used for concessionary travel, including mobile, contactless, and other barcode and 'blended' solutions to enhance the scheme's operation, satisfaction, and accessibility.

Medium – long term

> **To improve the quality of data, customer experience, and integrity of the concessionary ferry travel, we will rollout smart ferry concessionary travel between the mainland and eligible islands on the west coast**

Smart ferry concessionary travel on services between the mainland and eligible islands on the west coast will be introduced, considering the lessons learned from the introduction of the smart platform for concessionary ferry travel for Orkney and Shetland in 2023.

To enhance the accessibility and experience of the concessionary travel scheme, we will act on the feasibility study on the future potential digital platform for concessionary travel

Recommendations on the conclusions of the feasibility study on the future smart platform for the National Concessionary Travel Scheme will be provided, including further development and option appraisal, and potential pilot project, subject to funding.

Travel data & journey planning

Transport Scotland will introduce new digital travel data services and regulations under the 2019 Act relating to bus open data, so better information is available on timetables, fares, and real-time information. This will support third party journey planning platforms, such as MaaS or Google, though provision of robust, quality data. This will also include supporting work to set out the future strategy for MaaS in Scotland, to improve integrated journey planning, booking and payment.

Short term

> **To provide enhanced fares, real-time, disruption, and accessibility data, we will introduce a new Digital Travel Data Service to enhance journey planning information for Traveline Scotland and third parties, and prepare the service for open data legislation**

Following the award of a new Digital Travel Data Services contract in spring 2023, Transport Scotland will continue to enhance the data service for Traveline Scotland and third-party journey planners to provide enhanced fares, real-time, disruption, and accessibility data.

Working to Digital Scotland Service Standards and based on a user centred design approach, we will work with the Digital Travel Data Services supplier and Traveline Scotland to ensure customer benefits are realised. Improvements will see new data fed into the system which will be provided in an open data format to third party users. As more data becomes available the service will continue to be enhanced, aligning with the work on open data and information provision policy and legislation.

This project will also deliver a new look website and mobile app for Traveline Scotland, meeting WCAG (Web Content Accessibility Guidelines) 2.2 standards.

> **To build on the Digital Travel Data Service and develop legislation under the 2019 Act, we will run a consultation and commence development of policy and regulations to require provision of standardised and open data on bus service timetable, real time and fares information**

Transport Scotland will run a consultation regarding the implementation of section 40 of the 2019 Act, which provides Scottish Ministers with the power to introduce

regulations to require information about local bus services (including bus open data) to improve the availability and standard of passenger journey planning information. This includes information about routes, timetable, stopping places, fares, and tickets; and information about the operation of services including real time information about services. The intention is that this will complement the bus open data policy in England, so cross-border operators are not unfairly affected.

Although not in the Act, the intention is to work together with modes other than bus, such as ferry and rail, to also provide data in the required formats. In advance of legislation, Transport Scotland will undertake consultation and engagement to seek to understand how best to enhance the range, amount, and quality of voluntary data being provided by operators and other data providers.

> **To understand the success of the Mobility as a Service Investment Fund pilot projects, we will complete an evaluation of the pilots to inform future MaaS policy.**

The review of the MaaS Investment Fund pilots, commenced in late 2023, will be completed to inform the Scottish Government's future MaaS policy. This review will determine the success of the pilots by measuring against key performance indicators such as popularity of use, types of journeys booked, whether increased sustainable travel has been achieved and the longer-term sustainability of the projects. This review will be completed in 2024/25.

Medium term

> **Following the consultation, and to require bus operators to provide open data on timetable, real time and fares information to improve the awareness and accessibility of public transport, we will introduce regulations under Section 40 of the 2019 Act**

Following the consultation on public transport open data and information provision, legislation will be introduced setting out the processes and data standards to be used for the enhancement of passenger information across Scotland. Transport Scotland will work closely with operators, authorities, the Traffic Commissioner and passengers in the process so that this is introduced successfully.

> **To continuously improve the Traveline Scotland journey planning web and app services for passengers, using our user centred design approach, we will continue to build on the Digital Travel Data Services and the benefits provided by bus open data legislation**

Following the launch of the Digital Travel Data Services in 2024, and the new Traveline Scotland website and app, Transport Scotland will continue to work with operators to enhance the quality and provision of travel data being provided to the service. This will include preparing the service for forthcoming open data legislation.

> **To identify how to support integrated journey planning, booking, payment and ticketing, we will develop our long-term plan for Mobility as a Service**

The review of the MaaS pilots will help identify the next policy steps for MaaS in Scotland. Work will continue to support MaaS Scotland and other key stakeholders to improve their integration with MaaS platforms, and derive benefit from bus open data and information provision legislation that will provide enhanced fares, real time and timetable information. MaaS can complement developments in smart ticketing by providing avenues for pre-purchased tickets.

Long term

> **To further enhance integrated passenger information for Traveline Scotland and third parties and continuously enhance journey planning in Scotland, a recommendation on the potential renewal of the Digital Travel Data Service contract will be delivered, and we will work with operators and other key stakeholders to comply with bus open data legislation**

The Digital Travel Data Service contract, which commenced in 2023, will be scheduled for renewal and a recommendation to further build on the enhanced data services provided, including from the introduction of bus open data and information provision legislation will be determined. This will seek to ensure that the data service continues to deliver for users and uses latest technologies and data standards.

Transport Scotland will continue to work closely with operators, and other stakeholders, so that they can comply with open data legislation, helping to deliver nation-wide, high quality and accurate bus service information to the public.

Cross-cutting

> **To improve the accessibility, availability, affordability and quality of public transport, we will support delivery of the Fair Fares Review recommendations**

We will support delivery of the smart and integrated ticketing related recommendations in the Fair Fares Review, including enhancing the concessionary travel scheme, proposals for flat fares or reduced fares on zonal integrated travel, encouraging and proposing enhancements of integrated ticketing including development of a national integrated ticketing system, and sponsoring NSTAB.

> **To deliver ticketing and travel data enhancements on our ferry services, we will support development of the new Clyde & Hebrides Ferry Services contract and the new Northern Isles Ferry Services contract, including working with operators to develop digital integrated tickets, such as Rail & Sail.**

Transport Scotland will incorporate requirements into the new Clyde & Hebrides Ferry Services contract and the new Northern Isles Ferry Services contract, which will enhance ferry smart ticketing, improve integration with other modes, and integration with MaaS platforms.

The draft Islands Connectivity Plan (ICP) sets out the intention to improve collaborative working between CalMac and ScotRail, including on the development of digital integrated tickets, such as for Rail & Sail. The ICP also sets an action to assess current levels of integration through a baseline study, including investigating smart ticketing, with more integration across modes, and how travel information can be improved.

Annex
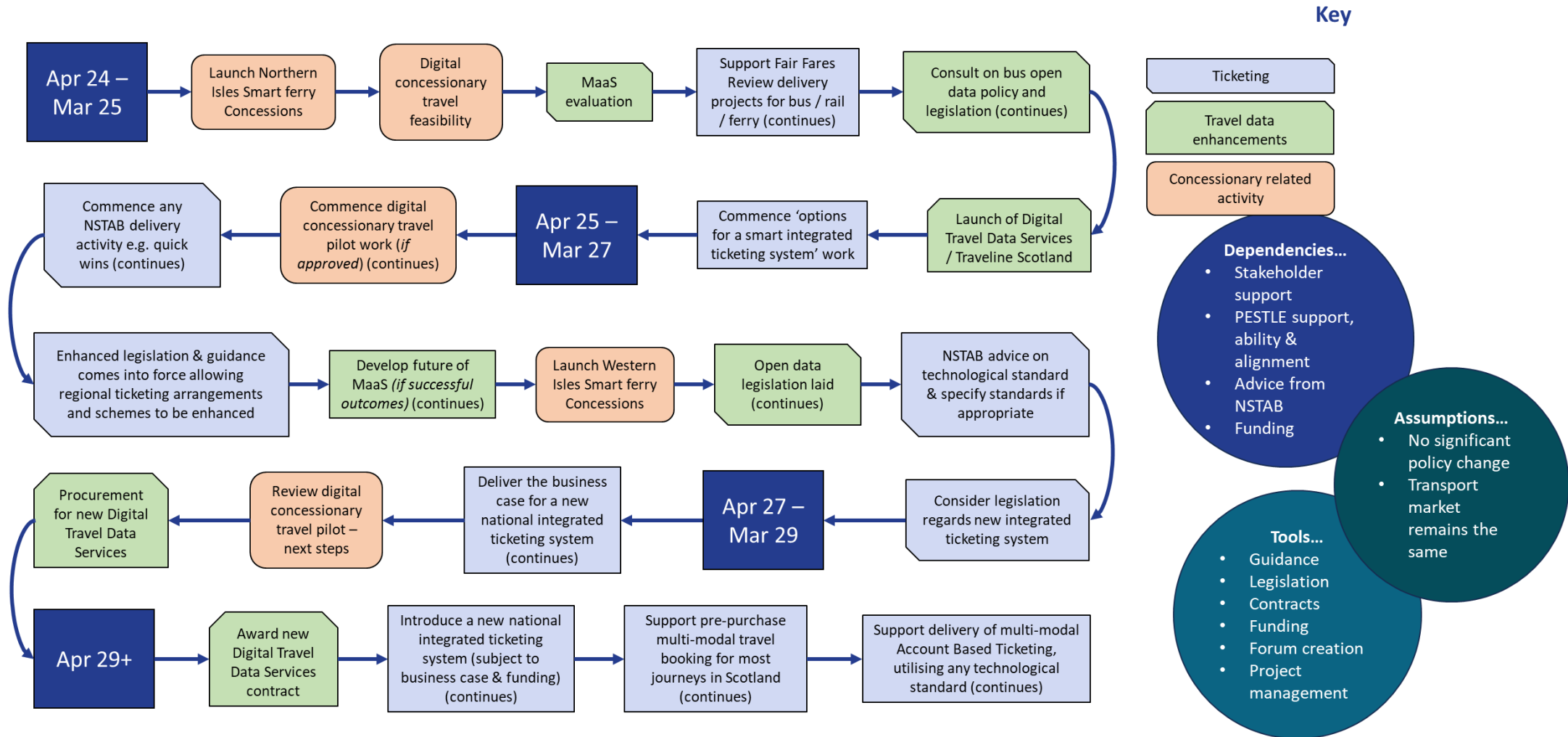
Annex A: Delivery strategy: activities to outcomes
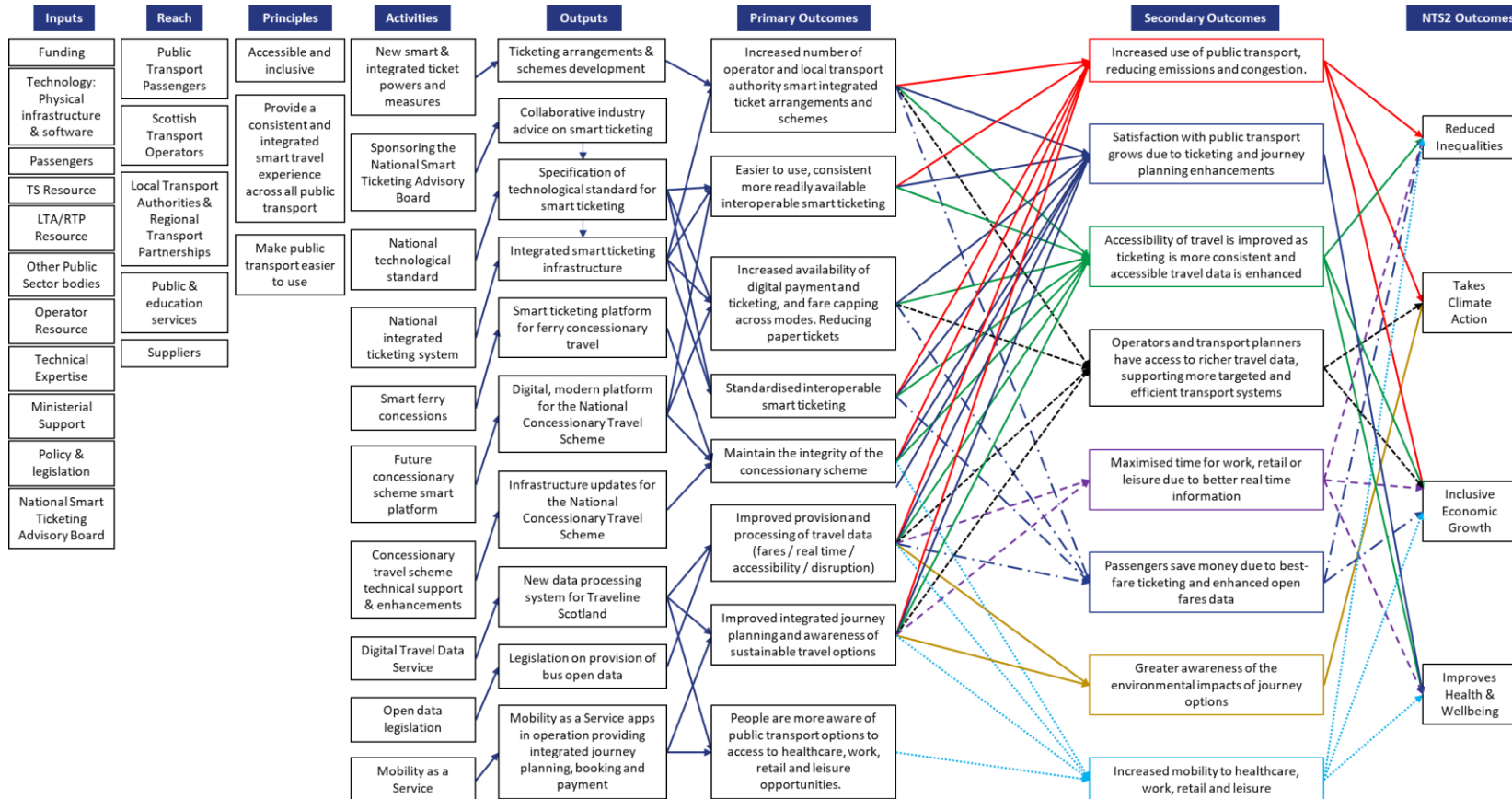
Annex A is a diagram outlining the inputs, stakeholders, principles, activities, outputs, primary and secondary outcomes and how these link to the NTS2 outcomes. The primary outcomes include increased integrated ticketing arrangements and schemes, easier to use smart ticketing, better journey planning and increased awareness of services.

Annex B: Roadmap to national smart integrated ticketing

Key

Apr 24 – Mar 25 → Launch Northern Isles Smart ferry Concessions → Digital concessionary travel feasibility → MaaS evaluation → Support Fair Fares Review delivery projects for bus / rail / ferry (continues) → Consult on bus open data policy and legislation (continues)

Commence any NSTAB delivery activity e.g. quick wins (continues) ← Commence digital concessionary travel pilot work (*if approved*) (continues) ← **Apr 25 – Mar 27** ← Commence 'options for a smart integrated ticketing system' work ← Launch of Digital Travel Data Services / Traveline Scotland

Enhanced legislation & guidance comes into force allowing regional ticketing arrangements and schemes to be enhanced → Develop future of MaaS (*if successful outcomes*) (continues) → Launch Western Isles Smart ferry Concessions → Open data legislation laid (continues) → NSTAB advice on technological standard & specify standards if appropriate

Procurement for new Digital Travel Data Services ← Review digital concessionary travel pilot – next steps ← Deliver the business case for a new national integrated ticketing system (continues) ← **Apr 27 – Mar 29** ← Consider legislation regards new integrated ticketing system

Apr 29+ → Award new Digital Travel Data Services contract → Introduce a new national integrated ticketing system (subject to business case & funding) (continues) → Support pre-purchase multi-modal travel booking for most journeys in Scotland (continues) → Support delivery of multi-modal Account Based Ticketing, utilising any technological standard (continues)

Key:
- Ticketing
- Travel data enhancements
- Concessionary related activity

Dependencies…
- Stakeholder support
- PESTLE support, ability & alignment
- Advice from NSTAB
- Funding

Assumptions…
- No significant policy change
- Transport market remains the same

Tools…
- Guidance
- Legislation
- Contracts
- Funding
- Forum creation
- Project management

Annex B is a flowchart summarising the delivery of the smart delivery strategy activities, as detailed in section 5. The diagram also includes key dependencies such as stakeholder support, advice from NSTAB and funding. Assumptions include no significant change in policy and that the transport market remains the same. Finally, tools include guidance, legislation, contracts, funding, forum creation and project management.

Annex C: Glossary

Account Based Ticketing (ABT)

This is a type of ticket and payment where a user taps or scans a smart token (see below for smart token) when using public transport. The journey is then logged in a back-office system over a fixed period (usually a day) resulting in the user being automatically charged for the most suitable ticket.

Back-office system

There are different types of back office systems, but for this document, the main function is to securely communicate (electronically) journey data details from the mode of transport (such as from the ticket machine on board a bus, or a train station gate) to a centralised system to enable calculation of journey payment or travel history to the relevant operator or e-purse provider. The Transport Scotland back-office system is called HOPS (Host Operator Processing System).

Contactless card payments (cEMV)

Refers to contactless bank card payment, where a PIN does not need to be provided for transactions below £100. Actual acronym is Europay, Mastercard and Visa (the three companies that originally created the standard).

Infrastructure

The equipment used for the ticketing system, for example ticket gates, machines on board buses, devices used by conductors to check tickets, ticket machines at stations, as well as back-office systems.

Integrated ticketing

A ticket or ticketing system that works across modes and operators. These can also be paper based.

Interoperable / interoperability

Smart ticketing that is useable across different transport operators and modes (often subject to commercial agreements). Any smart media (e.g. barcode, ITSO smartcards, cEMV) can be used as an interoperable token.

ITSO

ITSO is a not-for-profit organisation that oversees technical, standardisation and interoperable smart ticketing services for the UK. It is supported by the UK Government, and

ITSO is a technical platform on which interoperable smart ticketing and e-purse schemes can be built. The national concessionary travel schemes across the UK are based on this technology. ITSO 2.1.4 is the current standard required for a smart ticketing service, although a new standard 2.1.5 has just been announced.

Mobility as a Service (MaaS)

MaaS provides a platform to provide a one stop shop for integrated journey planning, booking and payment. MaaS can be tailored to particular markets, such as access to sporting events, healthcare or tourist sites, in order to improve sustainable access options. MaaS can also provide a platform to link modes together in one app, such as bike share schemes, Demand Responsive Transport (DRT), and scheduled bus and rail services.

Multi-modal

Can be used on different modes of transport, for example on train, ferry and bus.

Multi-operator

Can be used on more than one operator, but for one mode of transport (for example with buses this could be across Stagecoach, First, McGill's etc).

National concessionary travel scheme(s)

The Transport Scotland national concessionary scheme provides under 22-year-olds, over 60-year-olds and people with a disability with free bus travel. Additional schemes include discounted or free travel on ferry, air and rail in Scotland, for more see www.transport.gov.scot/concessions

National Entitlement Card (NEC)

The National Entitlement Card, is an electronic chipped smartcard used by the National Concessionary Travel Scheme(s) in Scotland as a token for free or discounted travel. With a photo included on the card it can be provided for identity, and also is used to provide smart travel data for reimbursement purposes using the ITSO specification schema.

National Smart Ticketing Advisory Board (NSTAB)

An advisory group introduced by the Transport (Scotland) Act 2019 and appointed by the Scottish Ministers. The group consists of operators, transport authorities, user groups and technical experts, advising Ministers on the future of smart ticketing in Scotland.

Open data

This is data which is accessible to anyone free of charge. In the transport context, this could include timetable, fares or real time data provided by operators.

Barcode

The overarching term for data represented visually, usually as lines and / or squares, which can be read and interpreted by machines. These are also known as QR codes. These can be static (non-changeable) or dynamic, which allows tracking and customisation.

Smart

Non-paper and cashless travel using a smart platform – this includes micro-chipped smartcard or host card emulation (HCE) on a mobile phone, mobile app ticket using barcode or QR code, or contactless payment (card or mobile phone) as a token for travel purposes.

Smartcard

A micro-chipped card that stores your travel ticket or retains monetary credit to be deducted on use.

Smart platform

Similar to infrastructure (see above) and system (see below), and in the context of this document, this refers to any electronic or digital product or service that can interact with a smart ticket or smart payment. This could include a mobile app, an online system or website, electronic ticketing machines etc.

Smart ticketing

An electronic 'smart' travel ticket loaded on a micro-chipped card or mobile phone or another device.

Smart ticketing system

A system that enables the use of an electronic ticket(s) or payment via a smart platform integrated with a back-office system for travel. These can also be multi-modal and multi-operator.

Smart Payment

Use of contactless payment for either one-off payment of a ticket, or as a token identity for travel with payment taken after travel (usually at the end of the day).

Ticketing Arrangement

A voluntary agreement between operators (and sometimes with local transport authorities) that allows a ticket to be bought through a single transaction that allows a person to make multiple journeys, either with one operator or between different operators of local services. Examples in Scotland include Grasshopper, Tripper, One-Ticket, ABC and ZoneCard.

Ticketing scheme

A ticketing scheme is a scheme under which operators of local services in the scheme are required to make and implement ticketing arrangements.

Token

When used in the context of smart ticketing this is a singular term that groups together the various types of smart ticketing, such as smartcard, smartphone, contactless bankcard, mobile app ticket etc.

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