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Bus Open Data - Analysis of Responses

November 2025

Contents

Summary

This publication presents the analysis of responses received to the “Scottish Bus Open Data Consultation”, which closed in Summer 2025. The consultation sought views on the scope, format, and implementation of proposed Regulations arising from the Transport (Scotland) Act 2019, aimed at improving access to bus service information through open data. Respondents included bus operators, local transport authorities, passenger representative groups, technology providers, and individual passengers. Their contributions have provided valuable insight into the practical and technical considerations that will inform the development of this proposed secondary legislation. This analysis summarises the key themes, areas of consensus, and issues raised, ensuring that the legislative framework reflects stakeholder perspectives and presents recommendations to support the delivery of accurate, accessible, and consistent bus information across Scotland.

What is Bus Open Data?

Bus Open Data (or “BOD”) means information about buses and bus routes which is published, free of charge and electronically for the benefit of passengers and interested parties. Information such as the fare for a specific journey, real time information about where the bus currently is, the route, the timetable and onboard information (such as the availability of accessible spaces) are all examples of BOD. We believe that by making this kind of information ‘open’, people will be better informed to make decisions about using public transport, for example, by being able to compare fares between two different operators, or to know where the bus currently is on a route.

The Scottish Government Open Data Strategy, defines open data in this way:

> *“Open data is non-personal and non-commercially sensitive data. Open data is easily discoverable, accessible to anyone and able to be freely used, re-used and redistributed by anyone. Open Data is data made available, via the internet, in an electronic format which supports its ready re-use, and with open licensing which allows its re-use.”*

Why did we consult on Bus Open Data?

Since 2001, Section 33 of the Transport (Scotland) Act 2001 has required Local Traffic Authorities to seek to arrange for operators of local services to share some bus service information with the public. Many operators share additional data

voluntarily to provide a better passenger experience. In 2019, the Scottish Government brought in new primary legislation for transport, the Transport (Scotland) Act 2019, which included new provisions to better define Bus Open Data, and to require it be shared for the new purpose of directly informing passengers (or potential passengers) about services. We believe that Bus Open Data is essential to make travel on public transport more accessible, and to increase patronage of public transport in Scotland. In order to bring Bus Open Data in, we must set Regulations, also known as 'Secondary Legislation', to prescribe the specific details of the scheme. This Consultation was intended to shape that detail, by taking into consideration the views of respondents, particularly those who must supply the data and those who would benefit from its use.

Your Views

We undertook a public consultation between 31 March 2025 and 21 June 2025, and invited views from individuals and organisations on our proposals. We particularly encouraged responses from passengers and their representatives, local authorities, bus operators, data experts, the Competition Markets Authority, other devolved administrations including the Department for Transport for England and their Bus Open Data service supplier. Some of the responses referred to the existing scheme which operates in England, as the only part of the UK which currently has a mandatory (legal) requirement for BOD. In order to accommodate some late running responses, we continued to accept responses for a further two-week period after the official closing date.

Our intention for the proposed Regulations is to only require bus operators to provide data where provision of that data is in the public interest, to avoid creating a burden on operators that has no practical benefit. While we acknowledge that there is an element of administrative burden in providing or hosting data for any organisation, we have similarly taken care not to frame the new requirement as exclusively a burden. The benefit of having information included in an open data set is that it is then more accessible to the public, including potential passengers and should be viewed as a means to increase potential patronage. The balance between the information that individuals would like to have, ideally in a central, accessible location, and the duty to provide that information must be carefully balanced, in line with the overall aim to make travel more accessible, affordable and available.

Our previous 2017 consultation, Local Bus Services in Scotland – Improving the Framework for Delivery, provided a high level overview of the appetite for bus open data in Scotland. It found that the majority of respondents agreed with proposals to require the operators of local services to release data on routes, timetables, punctuality and fares in a specified format.

This was part of the evidence which informed bus provisions within the 2019 Act, including the information Ministers could require by Regulation as Bus Open Data.

Responses

In total, we received seventy-six responses to this consultation. Of those who responded, forty-two respondents identified themselves as individuals and thirty-four responded on behalf of an organisation. This resulted in a fifty-five to forty-five percent split between respondent types.

A wide range of organisations responded to this consultation. Fifty percent of organisations were bodies who predominately represent the views of passengers, with a further six percent representing passengers and operators together and three percent representing passengers, operators and technical interests. Sole operator interests accounted for fifteen percent of organisational responses while sole technical interests accounted for twenty-six percent.

We grouped organisations into five categories which we used to provide context to responses, in particular where free text fields were used. These categories were; Technology Companies & Data Experts (including Consultants), Public Bodies, Charities, Interest Groups & Political Parties, the Bus Sector and Regional Transport Partnerships. Public Bodies and Technology Companies & Data Experts (including Consultants) accounted for a large majority of organisational responses, with thirty-two and twenty-six percent respectively. This was followed by Charities, Interest Groups & Political Parties, the Bus Sector and Regional Transport Partnerships, with eighteen, fifteen and nine per cent respectively.

Twelve percent of organisational responses indicated that they operate bus services, however, this does not include the response from the Confederation of Public Transport (CPT) who represent the views of over one-hundred bus and coach operators in Scotland. Although CPT represents every scale of operator, of the respondents who run bus services, all were either large-scale industry leaders or local authorities. To further attempt to engage with the views of smaller operators, we met with the Coach and Bus Association Cymru (CABAC), as there is no equivalent body for Scotland. We met to understand the views of the small to medium operators in Wales, which we reasonably consider to be not dissimilar to the experience of small to medium operators in Scotland.

Other organisations we conducted further engagement with include the Competition Markets Authority (CMA) and the Association of Transport Coordinating Officers (ATCO), who are the professional network of local authority officers who coordinate and develop passenger transport services, ensuring integration and accessibility across regions. ATCO presented valuable feedback and insight into the complexities

of rural and smaller bus operators in Scotland engaged by local authorities. We have also had valuable insights from equivalent policy teams within Transport for Wales and with the Department for Transport and their supplier of the statutory BOD system in England during normal engagement between devolved nations. The CMA had no issue with the proposals put forward by the consultation and were therefore recorded as being content with the outline proposal.

Our digital consultation platform allows respondents to withdraw consent to have their response published, and to choose between publication with or without the name of the individual submitting the response.

The organisations who submitted a response and who agreed to have their response published (with or without submitters name) were:

- Timesbus.org
- Moray Council
- Basemap
- Bus Users UK
- Vix Technology
- Mobility and Access Committee Scotland
- Aberdeenshire council
- SYSTRA Ltd.
- Glasgow City Council
- Consumer Scotland
- The Royal National Institute of Blind People (RNIB) Scotland
- Walking Scotland
- Age Scotland
- National Smart Ticketing Advisory Board - NSTAB
- Equality and Human Rights Commission
- Lothian Buses
- RTIG Inform
- Perth & Kinross Branch of the Scottish Green Party
- Get Glasgow Moving
- The South East of Scotland Transport Partnership (SEStran)
- First Bus (First Aberdeen Ltd and First Glasgow Ltd)
- Community Transport Association
- Strathclyde Partnership for Transport

S1 Type of Services

We sought opinion on our proposal to include in scope of the proposed regulations all bus services registered with the Traffic Commissioner, or the Local Authority/Regional Transport Partnership for a franchise area. This would include all commercial public bus services, either running to a fixed, regular timetable, bus services which have the option of missing out or including parts of a route e.g. demand responsive transport, and some community bus services which may or may not require a fare be paid. This would mean that some types of bus service would be outside of the scope of the legislation, for example, the majority of 'closed door' school buses, substitute buses (for example, replacement rail services) and long-distance coach services, where the stops are over fifteen miles apart.

We asked:

> **Do you agree with our approach that only services registered with the Traffic Commissioner, or within a Local Transport Authority for a franchise area, should be required to provide open data?**
>
> **If 'No', which of the following services not in scope would you like to include, with the understanding that there is no central list of these services?**

The question then listed six other types of bus service which do not require registration with the Traffic Commissioner to operate and allowed for an 'other' response. The six service types which would be out of scope were:

- Long-distance services where passengers cannot get off within fifteen miles;
- School or college bus services if the only passengers who pay fares are either studying at a school or college, supervising pupils or students, or teachers or assistants working at the school or college;
- Substitution services for railway services which have been temporarily interrupted, provided under an agreement entered into with the Secretary of State, the Scottish Ministers or the National Assembly for Wales;
- Not for profit community transfer services operated under a section 19 permit;
- Excursions or tours, except those that operate at least once a week for a period of at least six consecutive weeks;
- Free services where travel on a vehicle is not dependent on a payment of separate fares, for example some supermarkets contract operators to provide a free service to bring customers to their stores. Provided no fares are

charged and a passenger can travel on the vehicle without obligation it is likely that the service will not require to be registered.

Of the seventy-six responses received, 41% of respondents agreed with the position that only services which require registration should be in scope of the proposed Regulations. A further 9% of respondents gave no view and 50% did not agree, predominantly on the basis that some of the excluded services should be included. One individual advised that they did not agree with the proposal but gave no comment nor provided any additional information about what changes they would like to see.

Response	Percentage	Number
Agree	41	31
Don't agree	50	38
Didn't answer	9	7

Table 1: Responses to Scope of the new Regulations

Of those which did not agree with the proposal, the majority (thirty-five responses) were in favour but with an expanded list, going beyond just registered services. Within this category, thirty-five respondents wish to see long distance coach services included in scope, as did three of responses which had selected ‘agree’. Seven were keen to include school services, ten wished to include rail replacement services, two responses requested that excursions and coach tours be included, nine responses would like to include free ‘shopping centre’ type buses in scope and five responses used the ‘other’ field to clarify or expand on the list directly.

Within the ‘other’ category, one response sought the removal of Section 19 Community Transport services from scope, while another advocated for the inclusion of all types of community transport services. One response from an individual noted that whether a fare is paid does not correlate with how used or needed a service is and could keep useful information out of the public domain where it could benefit passengers. One public body requested that other modes (such as train and ferry information) be included in scope to allow for more integrated journey planning generally; and one re-stated the case for long distance coaches to be included.

> *We agree that Section 19 services should not be within scope, as the diversity of such services means it would be neither practical nor appropriate;*
>
> *- Community Transport Association*

Although they did not provide a direct response to the consultation, ATCO Scotland region subsequently met with Transport Scotland officials to discuss the views of

local authorities. ATCO raised the issue, while also caveating it as the “minority of cases”, where a local authority directly procures coaches or minibuses as school transport which would be out of scope, as a private hire arrangement. The authority then registers this as a local service, putting them back into scope, likely as a Section 22 licenced route. This occurs in rural and low population areas where a town or village may have little or no commercial provision, and registration allows anyone in that town or village to use the service, procured for another (not for profit) purpose, normally for free. As it is the local authority providing the service in those cases, it would be the local authority which is responsible for registering the route with the Traffic Commissioner, and would therefore also be responsible for providing the required information to Scottish Ministers.

“We feel that these services could benefit from having their data made accessible more widely to allow potential passengers to better understand and utilise them. We don’t believe enough people are considering long distance coaches as a travel option”….

- *A passenger group on including long distance coaches*

As the Primary legislation around BOD only applies to buses, it is not possible to use the provisions of the 2019 Act to include other transport modes at this time, however improving information about services across all modes is already a long term aim for Transport Scotland, as supported by the National Smart Ticketing Advisory Board (NSTAB).

It is clear that a large number of individuals and organisations are keen to see long distance coaches included in scope, particularly in rural areas, with one response giving examples of specific long-distance routes (Inverness to Ullapool, Glasgow to Uig, Inverness to Kinlochbervie) that provide an essential service but which might be out of scope.

Having considered the response and the case made, it is clear that long distance coaches should be included in scope. However, due to the fact that long distance services are not required to register with an overseeing body, Transport Scotland has no means to access information about the scale, number, or operations of these services, which would prevent a formal Business Regulatory Impact Assessment from being undertaken. It is not possible to set legislation where the impact of the change has not been accounted for and may result in unintended consequences.

Rather than delay this legislation to undertake that necessary baselining and engagement work, Transport Scotland will commit to undertaking that work in parallel with the current Regulations. We will then progress work to agree either voluntary information exchange with the long distance coach sector, or to include long distance coaches in future statute, once the sector has been fully mapped out.

Similarly, a small number of responses were keen to include rail replacement services in the data provided. In Scotland these would predominantly be provided by ScotRail, and we believe that through direct engagement between Transport Scotland, Scottish Rail Holdings and ScotRail, we can achieve this without having to set statute which applies to replacement services, which will allow for the information to be provided faster and more flexibly at this stage.

We will seek to proceed with statute that requires operators of 'registered' services to provide information as Bus Open Data. We will gather information about the organisations responsible for long distance coach services in Scotland, with a view to potentially adding them to statute, likely after an initial voluntary period. By the end of 2025 we will discuss the provision for rail replacement services directly with the bodies responsible to improve awareness of the data.

S2 Use and Disclosure of Information

Bus Open Data is intended to be freely available, without charge and without restrictions on its use, so that it benefits passengers and supports technological innovation of services and applications, such as third-party journey planners.

Bus operators and local transport authorities who provide and maintain the data must not place additional restrictions on its use or disclosure beyond any set by Scottish Ministers and must provide the legislated data openly and for free. Scottish Ministers similarly cannot set charges for data users to access that data.

Data users may include local transport authorities, regional transport partnerships and bus operators themselves as well as potential passengers. Bus operators may choose to incorporate the data into their own software and services to present passenger travel information in innovative ways to better inform their customers. UK Government open data licencing requires that data users acknowledge their data source, for example, data used was released by the Scottish Government (or Transport Scotland) but that the data user cannot present their service as a 'Scottish Government' (or 'Transport Scotland') product, which might be considered misleading and could lead to confusion.

Data kept by the Scottish Government (Transport Scotland) will be kept in line with existing data retention policies. We intend to keep for reference all static and some real time information around services, in accordance with section 40 of the 2019 Act.

Overall, Bus Open Data will comply with the Open Government Licence.

We asked:

> *Do you have any concerns over the use of the open data in this way?*

The question was framed as a yes/no question, with a comments box for additional information. Three respondents opted for 'don't mind' and six skipped the question altogether, indicating no strong views on the subject. A strong majority (fifty-eight respondents) had no issue with the use of the data as described. A total of eight responses did note issues with the proposal, four from individuals and four from organisations, however all eight were largely adding caveats or lessons learned to the provision of Open Data, rather than objecting to the data being open.

One response warned against collecting driver data, and another against collecting specific traveller data. **We can confirm that there are no plans to collect personal data from either passengers or transport workers under this scheme**.

The Equality and Human Rights Commission (EHRC) noted the need to have the collected data be available to a number of groups, including the digitally excluded and those for whom English is a second language. Whilst this is unlikely to apply to technical users of the information (for example, a commercial or academic application developer is unlikely to be digitally excluded) Transport Scotland's use of the information to update the Traveline Scotland App and Website, already includes accessible access. Traveline also operates a "24/7" phone line for anyone who cannot access digital information.

One response additionally supported the development of an 'appropriate use' policy where the data would be used to monitor performance of bus operators. Whilst this kind of guidance would lie outside of the legislation, it has been noted for the development of the supporting guidance covered in Section 4.

> **We will commit to making the information gathered available as 'Open Data' under the Open Government Licence. We will provide direct guidance on the context of the data, and how it is gathered, to reduce the likelihood of misinterpretation which could undermine the overall aim of making bus travel easier and more accessible.**

S3 The Prescribed Information

We sought views on what should be included in the new requirements around information about services. The type of information has been broken down across four broad categories, information about routes, stopping places and timetable data, information about fares and tickets, information about the operation of services (including real time information) and information about stopping places themselves. We also sought views on when updates to route, timetable, stopping places, fares and ticket information should be notified.

Routes, stopping places, and timetable data.

We propose that the new Regulations will require operators (or the local authority/regional transport partnerships for a franchise or directly procured service) to provide, in a digital format, their timetable(s) with information provided at bus stop level, and route data to be provided as a list of points that allow the route to be drawn with sufficient detail to follow the associated road geometry (as opposed to presuming a route between bus stops). This information needs to be provided initially and then must be kept up to date. By ‘kept up to date’ we propose that, any change must be updated not less than two weeks prior to a change taking place.

We intend to ask for the following information:

- The trading name of the operator, their licence number and National Operator Code
- Route information including the service number/name, route registration number, each bus stop called at in order
- Timetable information including the arrival and departure time at each bus stop, the days it does and does not run.

The consultation called for responses, preferably passengers or those representing passengers, to select from a list of information what they would like to know about bus services as they operate. This included a mix of timetable, route, stopping place, fare and ticket information, how to identify the bus as it approaches and allowed for an ‘other’ free text field. There were also options for ‘all of the above’ and ‘none of the above’. No responses opted for ‘None’ while twenty-five responses selected ‘all of the above’. To show this as clearly as possible the table has a second column where both ‘all’ and ‘none’ of the above have been removed as options, and all of the remaining attributes beside ‘other’ have had an additional twenty-five responses added to the total.

Attribute	Responses	Including 'All'
Who operates the service	44	69
The name or number of the services	47	72
The names of the bus stops the bus will call at, in order	46	71
The days and times the bus will arrive/depart from each bus stop	46	71
What the bus might look like	22	47
The service(s) a ticket is valid on	33	58
The ways that you can pay the fare (e.g. cash, contactless, etc)	38	63
What format the ticket will be in	22	47
The cost of the ticket	39	64
The difference in price if you bought it in another format or in another way	30	55
Where you can buy tickets	34	59
The places you will you see information about fares etc	26	51
All of the above	25	NA
None of the above	0	NA

Table 2: Breakdown of passenger wants in routes and fares information

This table shows that 91% of respondents wish to know who operates the service, 95% support knowing the name or number of the service, and 93% would like to know the days and times the bus will depart and arrive from each stop, and the names of the stops the bus will call at, in order. This being the case, we consider that the proposal to include the identifier of the operator, the route and the timetable information with regard to specific stopping places be included in the prescribed data set. Additionally, 62% of responses would like to know what the bus might look like. For some bus users, knowing the overall colour or design of a bus may be more accessible than reading number or destination displayed on the front of the bus. This is particularly relevant for visually impaired people who may be able to identify that a bus is, for example, predominately purple, long before the bus reaches the range where the number is readable.

However, it appears that community ‘crowd sourcing’ for livery types may be already able to deliver this information, and that work to investigate any existing data should be explored before setting a new legal duty.

"….the livery and other features of the bus are often fed by community-contributors, which allow for faster updates of livery changes"

- *An individual on bus recognition.*

We intend to proceed with the following list of prescribed information about routes, timetables and stopping places.

(a) the name or the trading name of the operator
(b) the National Operator Code(s) and the number of its public service vehicle operator's licence applicable to the service,
(c) the number or name of the service or proposed service,
(d) the number under which the service is registered with the Traffic Commissioner,
(e) the route of the service or proposed service, including the principal starting and finishing points
(f) the stopping places of the service or proposed service in the order of stopping,
(g) information to ensure identification of a stopping place, comprising the stop code, taken from the National Public Transport Access Nodes database,
(h) the Ordnance Survey grid reference, relevant landmarks, a topographic reference taken from the National Public Transport Gazetteer, and an indication of whether the stopping place is, or is to be, used as a timing point,
(i) the arrival and departure time at each stopping place or, where applicable, the frequency of the service,
(j) the days on which the service runs, or is to run, and any public holidays or other days on which the service does not, or will not, run,
(k) where the service is provided for the purpose of serving a school, college or other educational establishment, the dates of terms for that school, college or other educational establishment,
(l) where the service has been or is to be terminated, information about the termination.

And any changes or variations to the information as given above

Definition of Simple and Complex Fares

When looking at technical information around fares and tickets, we recognised that some information could be considered basic, or 'straightforward', while some information will be more complex to provide. For example, where the price changes depending on factors such as when you get on the bus, or how many stops you pass, compared to a set charge for a set start and end point. We therefore proposed to classify fare and ticket information as either 'simple' or 'complex' and apply separate timescales for the initial submission of this information. This also mirrors the approach taken by the Department for Transport for England, where fares information and the concept of simple and complex fares is already detailed in legislation.

We asked:

Do you agree with the proposed definitions for simple and complex fares concerning tickets?

We proposed the following definition for simple and complex fares

- Simple fare and ticket information would mean adult single and return fares and tickets, child single and return fares and tickets, group fares and tickets, period tickets, single operator fares and tickets, multi-operator fares and tickets, zonal fares and tickets, any age or time restrictions on those fares and tickets.
- Complex fare and ticket information would mean fares that vary depending on the route taken, the duration of the journey, the type and the number of passengers, the method of payment, the amount of subsequent travel undertaken in a given period, and whether or not a discount or a cap is applied to the fare.

Respondents were given the option to agree, disagree, or to be neither agree nor disagree with that statement. There were also options for 'don't know' and 'don't mind' for respondents who were passively neutral on the topic.

The main purpose of defining simple and complex fares information separately is so that for the initial upload of information, operators can provide straightforward information in the first 'upload' and only begin to share more complex fares at a later date, but to then provide information for both from then on. It would also allow for the possibility that operators are asked to provide refreshed simple fare data more or less often than complex fares information, if at some future point that becomes useful. The intention would be to bring in this definition, or a

modified definition, set separate dates for initial upload, but then require both complex and simple fares information to be provided, likely in the same format and schedule, going forward. Thirty-six of seventy-six respondents agreed that we should use this definition.

Six respondents disagreed with the proposal for a variety of reasons. One respondent disagreed as they could not see where the definition was given in the question bank, and felt the definition was therefore unclear. Another responded that operators should be required to provide information about both complex and simple fares if they offer them, which would be the case whether or not we include this definition in legislation.

Another respondent raised that there is significant variance between operators, and that in technical terms, complex fares were not actually more difficult to provide than simple fares. The same respondent noted that how the data is presented and used was of greater significance, and warned against requiring information about all possible ticket types on urban routes specifically, as there was a potential to confuse the passenger without context. A further response also raised this possibility, and noted that complex fares in practice are not commonplace. While not agreeing with the overall approach, this response did agree that the inclusion of a 'user friendly' name for ticket products would be helpful for customers. Two of the responses wanted to see the presence of a 'cap' or a journey based discounted included within the definition of simple fares.

The final response offered concern that the choice to offer complex fares over simple fares was a business decision, and therefore did not believe there was justification to delay the upload of complex fare information as a result. Six responses neither agreed nor disagreed, and two of those responses spoke about the current complexity and confusion in public transport ticketing. Four further responses either did not mind or did not know what the answer should be.

Twenty-three respondents opted to skip the question, largely individuals and non-transport operator organisations, including disability and passenger advocates

In light of the responses received, it appears sensible to proceed with this definition of complex and simple fares for the purposes of the legislation. The need for the information to be displayed with the proper context and in a way that does not confuse or mislead passengers is accepted.

Fares and Ticket Data

Fares and ticket information is essential to the public in journey planning, as well as for making informed choices and comparing travel options between providers and modes. Fares information can be used to inform journey planners allowing passengers to make decisions in advance on the cost of their journey. Information on tickets helps to make passengers aware of what potential tickets are on offer that could be used for their journey, and the scope of these tickets.

We propose asking for the following information:

- Adult single and return fares and tickets, child single and return fares and tickets, group fares and tickets, period tickets, single operator fares and tickets, multi-operator fares and tickets, zonal fares and tickets, and any age or time restrictions on those fares and tickets.
- For single and return tickets, the service(s) the ticket is valid on,
- For zonal tickets, the service numbers, routes and bus stops included in the range of the ticket,
- For all tickets, the ways that fares can be paid (cash, contactless, etc.) by ticket type,
- The ticket medium (paper, smartcard, digital, tap on/off etc.),
- For all tickets, the fares available and if they are different depending on how they are paid for or the ticket medium,
- Which tickets can be bought in advance (and whether that can be done online, or in person) and which can only be purchased on a vehicle and also;
- A ‘user friendly’ name for the ticket.

Within this category, the cost of the ticket was the most popular option for fares information, with 84% of responses requiring this information. The second most popular option at 83% was the ways you can pay for the fare, knowing ahead of using a service if you can use cash, card or require a smart card or app.

The services the ticket is valid on (76%), the price difference between ticket mediums (e.g. if paper tickets are cheaper than digital) (72%), and where you can buy tickets (78%) had broad support, and even the two least popular data sets (where you can access information about tickets and the ticket format) scored in the above 60% range.

Twenty-one responses left additional comments on what information passengers are interested in, including three groups which represent people with disabilities. These comprehensive comments have been reviewed specifically and will be passed to Transport Scotland’s Accessible travel team where the respondent has agreed to share their response in this way. Respondents also raised wanting to know if a service has step free access, if there are audio announcements at stops (service approaching), details of any access features including wheelchair and bike spaces,

and if mobility scooters are permitted onboard. There were also calls to ensure that fares data is appropriately presented, so as not to "blind the customer" with options. We believe this can be addressed with the 'user friendly' name for the fare data field.

> *"Phasing or piloting of provision of this information may provide the opportunity to check that it is working effectively for consumers. Once implemented, ongoing monitoring should ensure that the information is being captured accurately and is proving useful for consumers. This monitoring should assess if the right data is being made available, or if different data may be more beneficial to consumers"*
>
> *- Consumer Scotland*

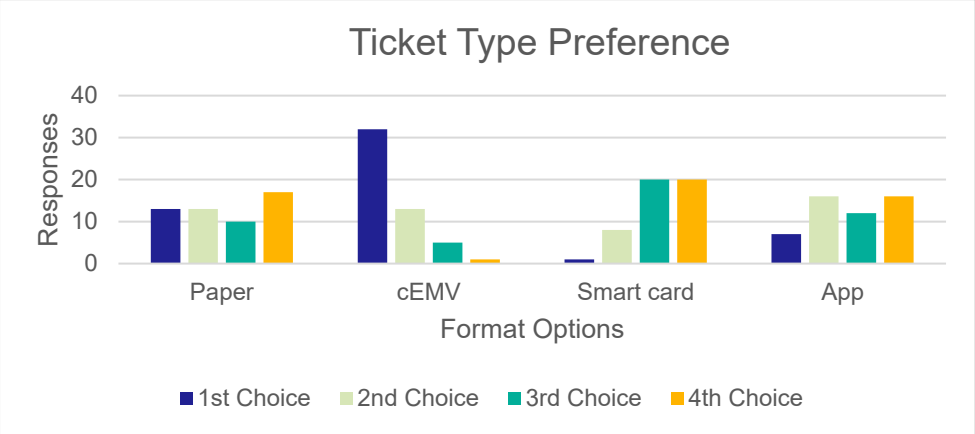
We will commit to seeking to progress legislation which includes the additional fields of 'user friendly' fare name, ticket medium, any cap or discount, and to creating supporting guidance in collaboration with bus operators. We will also engage with the sector to gather insights into how that information should be presented in context, to avoid confusing potential passengers.

In addition, we asked passengers about their preferred medium for tickets, noting that the views provided on fares and ticket information will be shaped by the respondents experience using bus services, and the ticket options actually available in their area rather than an objective view of all potential options. This consultation has also shown that there is a desire to know which payment methods a service will accept, which overlaps with the way permission to travel is granted, e.g. a service which allows you to 'tap' a bank card (including a card saved to a mobile device) to travel must therefore be able to accept contactless payments.

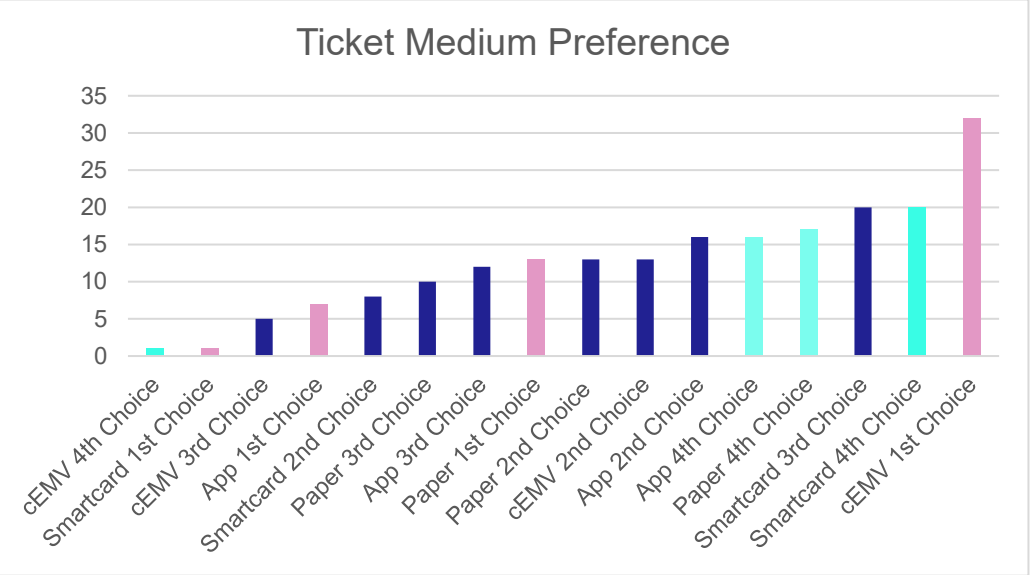
Option	Paper	cEMV	Smart card	App
1st Choice	13	32	1	7
2nd Choice	13	13	8	16
3rd Choice	10	5	20	12
4th Choice	17	1	20	16
Did not answer	23	25	27	25

Table 3: Ticket medium preferences

Two responses ranked paper as option number 1, without making any other selections. One response omitted a third place preference, and one ranked app and smartcard as equal fourth place, without ranking paper at all.



Graph 1: Ticket medium preference



Graph 2: Ticket medium preference (ranked)

When ranked between most preferred (pink bars) and least preferred (light blue bars) it is clear that there is a strong preference for bank card/app ‘tapping’ within the responses received. Similarly there is a strong preference against smart cards, which have the largest number of fourth place rankings. More responses weighting paper as a fourth choice were received than those which selected it as a first choice, albeit paper is the second highest ranking first choice medium behind ‘tapping’.

In summary, respondents were keen to be able to ‘tap’ a bank card or mobile payment, with paper as the second most desired option. Apps (mobile tickets) were a solid second and third choice ranking between paper and smart cards in popularity.

Respondents were least keen to have smart cards, with only one person ranking it as their first-choice preference.

Real time information

Real time information has the power to significantly improve the journey experience of passengers with additional access needs and can give passengers a greater level of assurance about the availability of services than assumed location information.

Real time information falls into two broad categories, 'Location Information', which means vehicle locations, live arrival and departure times from stopping places, live timetables and disruption updates, and 'Facilities and Accessibility Information', such as capacity, availability of Wi-Fi, power/charging capability and audio/visual capability.

Location Information

- Live vehicle location
- Live bus stop arrival and departure times
- Live timetables
- Live disruption updates

Facilities and Accessibility Information

- On-board capacity
- On-board wheelchair space utilisation
- On-board facilities – Wi-Fi
- On-board facilities – power/charging
- On-board facilities – toilets
- On-board facilities – audio/visual capability
- On-board facilities – payment methods
- Emissions standard of the bus

We proposed that the list of 'Location Information' above be provided as real time information in the new Regulations, with the facilities and accessibility information to follow after a sensible review period, and work to standardise how this information could be captured and reported.

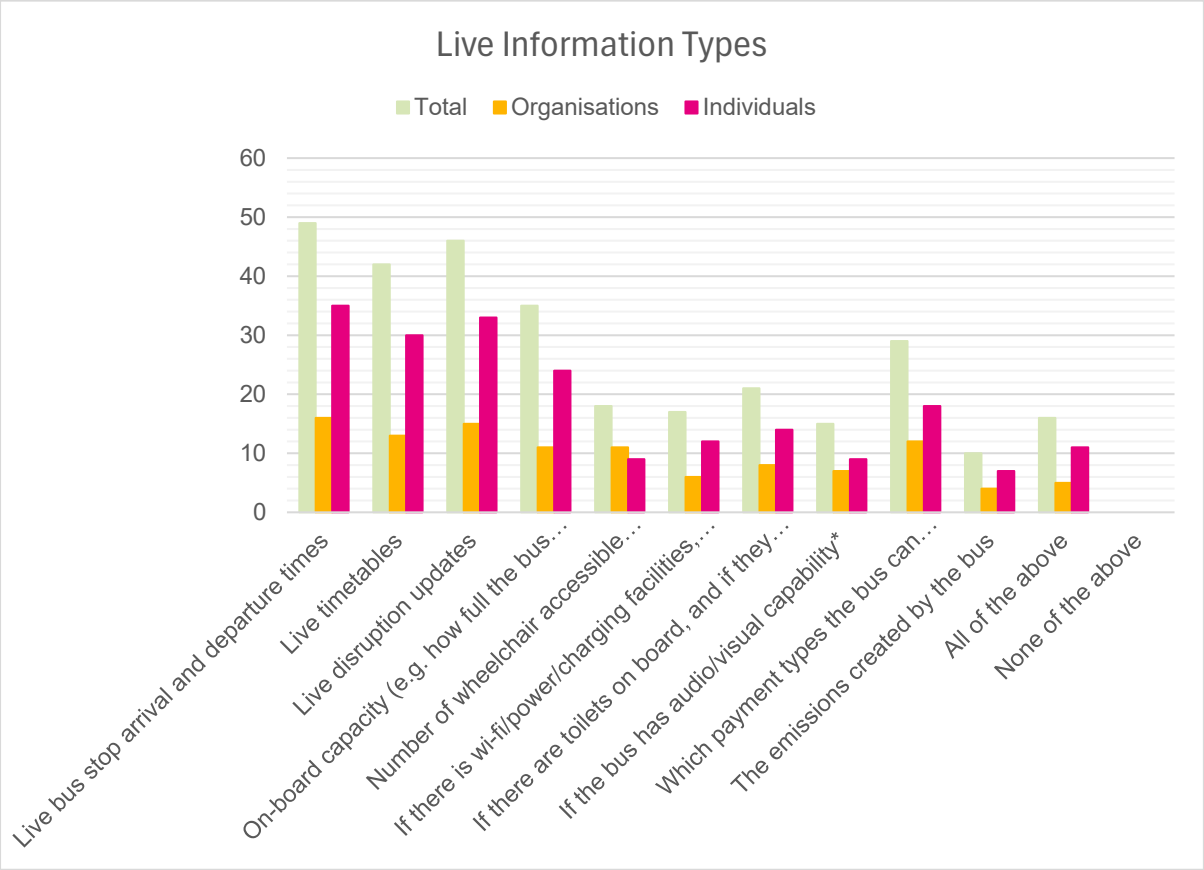
At present there is no common method of either gathering or reporting the majority of the information in the Facilities and Accessibility list. The exception to this is "on-board facilities – Payment Methods" (e.g. if a service accepts cards, or cash, or if it requires exact change only) which is currently provided voluntarily by some operators and would in practice be a relatively small dataset, as we anticipate that for an operator, the payment method will be standard across the operating fleet.

There was strong support for live or 'real-time' location information. Sixteen responses to this question left additional comments, three reiterating the need for live locations of buses, others pointing out the reliance some groups have on audio visual announcements and wheelchair spaces. Two responses pointed out that as few bus services include Wi-Fi or toilets, there is unlikely to be a lot of data gathered in this area, even where it would be useful to be aware of. Another sixteen responses (21%) felt that all the information types (All of the above) would be useful to passengers. Whilst bus emissions had least support individually, when combined with 'all of the above', there is no category which does not have a degree of support for future inclusion.

> *I would like info about availability of services with Audio announcements announcing the next bus stop. These announcements assist many people and are essential for blind people to travel with confidence independently by bus.*
>
> *– Mobility and Access Committee Scotland.*

Information Type	Total	Organisations	Individuals
Live bus stop arrival and departure times	49	16	35
Live timetables	42	13	30
Live disruption updates	46	15	33
On-board capacity (e.g. how full the bus is)	35	11	24
Number of wheelchair accessible spaces and if they are in use	18	11	9
If there is wi-fi/power/charging facilities, and if they are operational	17	6	12
If there are toilets on board, and if they are operational	21	8	14
If the bus has audio/visual capability*	15	7	9
Which payment types the bus can accept e.g. cash, contactless, card,	29	12	18
The emissions created by the bus	10	4	7
All of the above	16	5	11
None of the above	0	0	0
Other Comments	16	9	7

Table 4: Responses to questions on Information



Graph 3: Breakdown of support for live information type

From the responses given it is clear that live bus stop arrival and departure times, live timetables and disruption updates are strongly desired with over 50% of respondents requesting each (in addition to the 21% who asked for all of the above).

Both on board capacity and payments types accepted on the bus itself were equally the next most keenly sought, in particular by passengers or groups representing passengers, with thirty-five and twenty-nine responses respectively. While on board capacity does not have a common industry standard at present, the payment types accepted has a small degree of overlap with Fare and Ticket information and could be brought forward early in that category.

We will proceed with making location information mandatory as described. We will commit to exploring ways to standardise and report on facilities information in collaboration with operators, passenger groups and technical specialists

Bus Stop Information

Our consultation asked about information about bus stops, and in particular what information would be useful for the purposes of journey planning.

We asked:

> *Specifically thinking about the bus stop or stopping place of the bus, which of the following would you find useful to plan your journey, if it were available?*

Eleven responses advised that they have access needs which we described as meaning anyone who feel they require additional support when using public transport, not just those who fall within a formal definition of disability. However, of the eleven responses, five came from organisations, two of which represent people with disabilities and therefore we believe this means they represent a broader group with those with specific access needs.

Three other responses came from two public bodies and a technology provider, and we have assumed that the 'access need' in those cases is the personal experience of the individual responding to the consultation on behalf of the organisation. For the purposes of analysis, we have the views of individuals and bodies which represent disabled persons as a single group, albeit there is broad alignment with all organisation types on the information required. Of note is that the five individuals who supported having better information about accessibility features specifically accounted for 100% of the respondents who identified requiring access features as an individual.

Information	Individuals	Organisations	Total
Passenger Bus Stop Features - Accessibility features	5	8	13
Passenger Bus Stop Features - Name of the bus stop (for the purposes of finding it on a timetable)	31	11	42
Passenger Bus Stop Features - Location description	26	10	36
Passenger Bus Stop Features - All of the above	16	13	29
Passenger Bus Stop Features - Other comments	5	9	14

Table 5: Breakdown of Passenger views on bus stop information

In total thirteen specific comments were left, of which six directly referenced the NaPTAN standard and the work being done UK wide on improving the NaPTAN standard. Of these, five spoke about NaPTAN as a positive aspiration and one as a warning that NaPTAN has existing issues with accessibility features. Age Scotland, Bus Users UK and Mobility as a Service (MAAS) and one other disability advocate gave detailed information about the impact that access features have for the groups they represent, for both this specific proposed Regulation and our overall policy around bus stop information. Three responses shared concerns about 'floating' bus stops, and their impact on people with visual impairments, these will also be shared with the Transport Scotland Accessible Travel Team for further review.

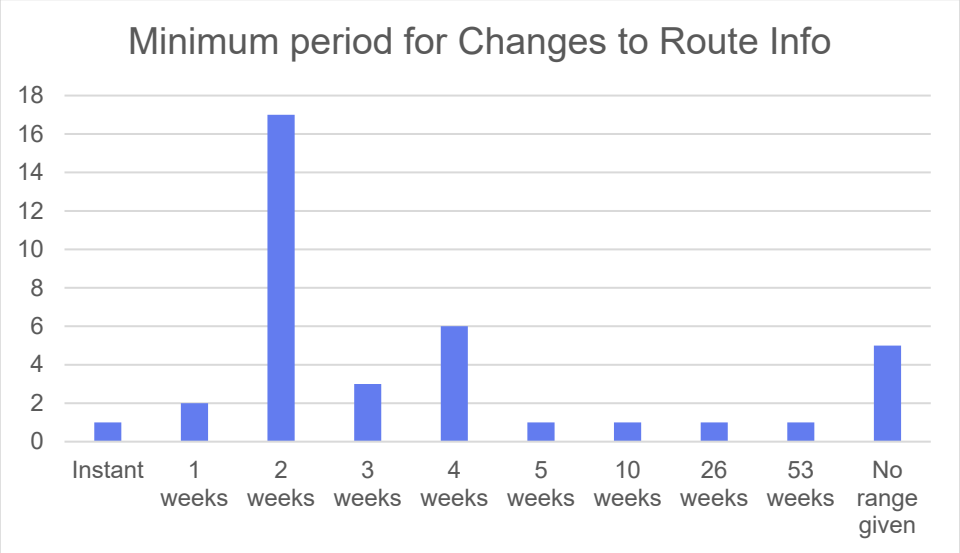
> **We will help improve the NaPTAN database by making it mandatory for Scottish local authorities to update the database, as is currently the case for English local authorities. Once the database starts receiving standardised data from Scotland, we can work with the Department for Transport to provide feedback and suggest improvements to benefit the database overall.**

Changes to Routes, stopping places, timetable, fares and tickets information.

We proposed that information about changes be provided as soon as they are known, but normally no less than two weeks before the change takes place. We also proposed that information be confirmed as still accurate every twelve months.

Sixteen responses skipped this question, and two responses disagreed with each of the proposed timescales, one stating that the proposed twelve-month check was not needed, and the other one requesting that fares be exempt, with implied support for the timescale as it applies to routes and timetables. The remainder (thirty-nine responses) agreed that there should be a legislative timescale but without unilateral agreement on what it should be, with a wide range of 'tolerable' timescales.

Looking at the upper range for suggested time periods for update, it is clear that most respondents are content with two weeks, with a small number of responses (largely individuals) looking for much shorter update periods, and a larger number (largely organisations) keen for much longer periods.



Graph 4 – Minimum period to advise of changes

Three of the responses raised the need to have sufficient time to adjust printed timetable information, and three noted the need for caveats around short notice changes in some cases, such as where a connecting service amends its timetable at short notice. Most responses were content with a two-week period (albeit some caveated this as an absolute minimum period, not a target). There is therefore sufficient justification for an operational target of notifying changes two weeks before the change comes into force.

Many of the responses discussed the longer (twenty-one day period) required by the Traffic Commissioner, which has been looked at in line with the comments on special cases of short notice updates where the change is in response to an external factor.

In context with the comments on barriers in the previous question, it would seem inappropriate to allow for enforcement action to take place if the change is due to unforeseen, external factors, however there is clearly a desire to have this information as soon as possible where it is due to a planned change. We believe that in many cases, two weeks will be an easily achieved minimum period for notifying changes, however, as the Traffic Commissioner requires a three week notification (Twenty-one days) and responses to other questions have identified the need for efficiency and alignment with other bodies, setting the period at twenty-one days seems appropriate. This would allow operators to make all their legal updates with a single date to adhere to, and would allow sufficient time for the update of paper timetables in stopping places.

A ruleset for short notice/unexpected changes will be written into guidance to allow an equivalent protection. Similarly, we anticipate that while operators become accustomed to the new requirements, there will be a high level of dialogue between Transport Scotland and operators. This being the case would negate the need to have a specific twelve month check in, which could be brought in if required in the future, but will likely not be helpful in the short term.

> **In addition to encouraging operators of all sizes to engage with Transport Scotland, we will pause development of some of the measures suggested, such as requiring a twelve-monthly check on any data submission. We propose to set the target timescale for changes to information at three weeks, (or 21 days) as the 'legal' minimum for planned changes, and 'as soon as is reasonable practicable' for urgent or unforeseen changes, with guidance detailing what this means in practice**

The Prescribed Information

In simple terms, the information required (the 'Prescribed Information') will be as follows:

TransXchange

- The trading name of the operator, their licence number and National Operator Code
- Route information including the service number/name, route registration number, each bus stop called at in order
- Timetable information including the arrival and departure time at each bus stop, the days it does and does not run.
- the number or name of the service or proposed service,
- the number under which the service is registered with the Traffic Commissioner,
- the route of the service or proposed service, including the principal starting and finishing points
- the stopping places of the service or proposed service in the order of stopping,
- information to ensure identification of a stopping place, comprising the stop code, taken from the National Public Transport Access Nodes database,
- the Ordnance Survey grid reference, relevant landmarks, a topographic reference taken from the National Public Transport Gazetteer, and an indication of whether the stopping place is, or is to be, used as a timing point,
- the arrival and departure time at each stopping place or, where applicable, the frequency of the service,
- the days on which the service runs, or is to run, and any public holidays or other days on which the service does not, or will not, run,
- where the service is provided for the purpose of serving a school, college or other educational establishment, the dates of terms for that school, college or other educational establishment,
- where the service has been or is to be terminated, information about the termination

NeTEx

- Information about adult single and return fares and tickets,
- child single and return fares and tickets
- group fares and tickets,
- period fares and tickets,
- single operator fares and tickets,
- multi-operator fares and tickets,
- zonal fares and tickets,

- any age restrictions and any time restrictions on those fares and tickets.
- The service(s) the ticket is valid on (For single and return ticket types),
- For zonal tickets, the service numbers, routes and bus stops included in the range of the ticket,
- The ways that fares can be paid (cash, contactless, etc) by ticket type,
- The ticket medium (paper, smartcard, digital, tap on/off etc),
- the fares applicable and if they are different depending on how they are paid for or the ticket medium,
- Which tickets can be bought in advance (and whether that can be done online, or in person) and which can only be purchased on a vehicle
- A 'user friendly' name for the ticket.
- For Complex fare or ticket information: how the fare varies depending on the route taken, or the duration of the journey, or the type and the number of passengers, or the method of payment, or the amount of subsequent travel undertaken in a given period, and whether or not a discount or a cap is applied to the fare.

SIRI (VM/SM)

- Live vehicle location
- Live bus stop arrival and departure times
- Live timetables
- Live disruption updates

NaPTAN

- The location of the stop;
- The stop code or the nodes code taken from the National Public Transport Access Nodes database;
- The area code, from an established list of area codes for NaPTAN;
- The Ordnance Survey grid reference;
- Any relevant landmarks;
- A topographic reference taken from the National Public Transport Gazetteer;
- Details of stop accessibility features.
  And any changes or variations to the information as given above

S4 Training, Compliance and Enforcement

Our aim for BOD is that the data is provided to the public in a consistently high standard. We recognise that these new Regulations will require many operators, local authorities, regional transport partnerships, and other actors in the travel data space, to adapt to new processes, train staff, and potentially invest in new equipment or systems to meet the new requirements.

As such, Transport Scotland intend to work collaboratively with the industry to ensure that new Regulations can be complied with. We will support industry in understanding the new requirements, any new processes they introduce and any new roles and responsibilities.

We are aware of the existence of private data consultancy firms, working predominately in England (where there is already a legal basis for BOD), who can be engaged to undertake this work, or support bodies which do not have the in-house capacity to meet this work. Although it will be possible for a third-party to support data activities, this would not alter the statutory responsibilities of individual parties. The legal duty, at all times, will remain with the bus operator or body responsible for a franchise area, or the local authority with regard to bus stop information.

Provision of standardised data to a single source will enable monitoring of statistics, issues and quality of data to best benefit passengers with accurate, complete and timely information.

As our intention is to bring useful data into the public domain, we do not intend to lead with a restrictive enforcement regime, and we plan to engage and provide guidance to bodies which will now be subject to these duties, some for the first time. The same enforcement powers available to the Traffic Commissioners for England (who oversee the enforcement of BOD in England) apply to the Traffic Commissioner for Scotland, but our approach will be to support and guide as far as possible, before raising the option of escalated action with other bodies.

> *"…Guidance, training and tools to support compliance will be necessary. Content and engagement should be tailored to the needs of Community Transport operators as part of an ongoing dialogue"*
> *CTA*

S5 Timescales

We do not intend to bring all of the new requirements in as a single exercise, which would effectively require every bus operator and transport authority to be ready to provide the information from a single date in 2026. Instead, we intend to phase the new requirements in over an agreed period. We are also aware that having the assurance of a specific date helps organisations in planning for a transition, but only where that date is firm and clear.

We therefore consulted on the proposed sequence of requirements, in order to formalise and communicate the dates by which each element will be required. The resulting legislation will also consider this, and it will be subject to the Parliamentary procedure. The timetable we proposed initially was as follows:

- April 2026, the BOD Regulations come into force, marking the start of mandatory open data duties
- October 2026, or six months after coming into force, Local Authority requirement to keep NaPTAN up to date commences
- April 2027, or twelve months after coming into force, Bus operator requirement to submit timetable data in the required standard
- October 2027, or approximately eighteen months after coming into force. Bus operator requirement to submit simple fares information
- April 2028, or twenty-four months after coming into force. Bus operator requirement to submit complex fares information and real time data in required standard

We asked:

> *Do you agree with the proposed timescales requiring the submission of the prescribed data?*

Of the responses, 43% agreed with our proposal to phase in the requirements over time, in particular, individuals, groups representing passengers and the ‘technology sector’ including data experts and ticket providers.

Of those who disagreed with this approach, the majority of respondents were individuals who believe that the proposed timescale is too long overall, and that bus operators should be largely ready to provide this information already. One respondent answered:

> *"…Real-time needs to come sooner" with "exemption for smaller or rural operators" and that "larger city-based operators ie. First/Stagecoach/Lothian/McGill's should be as soon as possible..."*
> *– An individual response*

Other respondents echoed this sentiment, expressing that they would rather real-time data introduced sooner, with an exemption criterion, with one specific response stating that they believed that even half of the proposed timescale was too long.

It is important that we do not look at provision of this information as simply a burden, but rather from a passenger-focused perspective which will increase bus patronage and promotes modal shift. For example, where a bus service is operating under a Section 22 permit, it is normally for the purpose of increasing the service provision for an area which may have low commercial coverage. In those cases, having the information about when the service runs openly available would support the case for opening up the service to the public, as more passengers would then be aware of it.

There is strong support for the proposed timescales, and we expect that bodies that do not already supply information will now begin to work towards those dates, as they will be laid formally in Parliament. We also strongly encourage earlier voluntary provision of the information in advance, in order to overcome any technical issues, which would put the body into legal non-compliance. This is not to impose an administrative burden, but rather satisfy a clear desire communicated by passengers for that information.

We received a comprehensive response from the Community Transport Association (CTA) bringing together the views of Scotland's community transport organisations. This response supports the inclusion of Section 22 permit holders in scope and raising awareness of these types of service more generally, but points out that the financial situation for most community transport providers precludes heavy investment in new technology and that in particular the provision of real time information will be a difficult duty to meet if imposed in the same way as for traditional commercial services that are already equipped with ticket machines.

Given the disproportionate impact on these largely local, often not for profit organisations, it would seem reasonable to allow a far longer period for the provision of real time information. As noted in S4, where the service is registered with the Traffic Commissioner by a local authority, the local authority is able to also provide any associated fare and timetable information and remain complaint with this duty.

The revised timetable, which also takes into account delays that may occur due to the upcoming 2026 election, is therefore as follows:

- Post summer recess 2026. The BOD Regulations come into force, marking the start of mandatory open data duties,
- Approximately six months after coming into force, Local Authority requirement to keep NaPTAN up to date commences, Bus operator requirement to submit timetable data in the required standard
- Twelve months after coming into force, or six months after the requirement to submit timetable data. Bus operator requirement to submit simple fares information
- Around eighteen months after coming into force. Bus operator requirement to submit complex fares information and real time data in required standard
- Around twenty-four months after coming into force, likely around 2031 - real time information from community transport/not for profit transport

> *"As a small Community Transport organisation run entirely by unpaid volunteers, we would wish to avoid any onerous demands on us and certainly would not want to incur any additional expenditure."*
>
> ***Stephen Sparrow, Acting Chairman, Cairn Valley Community Transport***

We will bring the requirements forward over the proposed period, which allows for a reasonable adjustment period for bodies which will be required to meet this new information duty, but who are currently not equipped to do so. Additionally, we will introduce a longer period for community or not for profit transport operators to meet the real time information duties, allowing for additional dialogue with that sector.

S6 Technical Questions

The second half of the consultation focused on more technical questions, largely centred around standard formats for data exchange. As such, we anticipated that passengers, passenger representatives and other non-technical respondents would likely opt to move past these questions without answering. Both the CitizenSpace platform, and the 'paper' Word document question bank, made clear that all respondents were welcome to respond to any question they would like to answer but were not obliged to answer every question should they choose to move past certain topics.

Seventy-six responses were made to the overall consultation, however prior to the following question on routes and timetables, we gave participants that were not interested in answering 'technical' questions the option to move past this block of questions without answering. As a result, twenty-three respondents opted not to respond, including nine individuals, eight bodies representing passengers, and two organisations within the broad group of public body respondents. For this bank of questions (the 'skippable section') any percentage figure will largely mean out of fifty-six rather than seventy-six.

Technical Questions on Routes

> **Do you agree that we should set TransXChange as the standard for timetable information timetables, stopping places and about route information?**

Bus route and timetable data in Scotland is published via the Traveline National Data Set, which is populated based on the requirements set by the Traffic Commissioner for Scotland around route registration and often lacks the detail needed for journey planning. We have proposed requiring operators to submit digital timetables with stop-level detail and route data as point lists through a standard data format, and on a standard timescale.

While most route and timetable data is currently submitted to Traveline Scotland in TransXChange 2.1 format, various formats—including outdated ones—are still used, requiring additional processing and limiting data quality, particularly where older formats have a limited number of data fields available to convey new requirements. On the basis that TransXChange is the format used in England, where BOD is already mandatory, and it is the most common format used voluntarily in Scotland, we have proposed specifying TransXchange as the standard format for Scotland.

We also asked the following additional questions on routes.

What barriers, if any, do you foresee in organisations being able to provide this information?

From the point of view of a body using, what standard(s) should data be provided in from the data hub for data consumers?

One individual opted to skip this question, but then clicked back and provided a detailed response in the free text area supporting the use of TransXchange. This has therefore been analysed as a supporting response and has increased the total number of responses for the routes section alone to fifty-seven from fifty-six

TransXchange for Routes?	Number	Percentage
Agree	39	68
Neither agree nor disagree	0	0
Disagree	9	16
Don't mind	0	0
Don't know	0	0
Not Answered	9	16

Table 6 – Views on using TransXchange for route etc information

As a result, 63% of those who chose to respond to the technical questions agreed that TransXchange is the correct format to specify for Scotland regarding uniform provision of route and timetable data. 16% opted not to answer, indicating no strong preference in the 'routes' category. A final 16% did not agree with the proposal. Of the 16% who did not agree with the general approach, many caveated their response as meaning 'largely agree' with either specific omissions or general caveats, such as:

> *"…Not entirely" would be a better response above for me…. Care is needed in designing this - just asking for thought to be given for various types of service and not one size fits all." - The Moray Council*

> *"We agree with the approach, with the important caveat that we do not believe that registered services not available to the general public should be within scope" - FirstBus*

Two further 'no' responses advised that some demand responsive transport services may have no timetable information to provide, and another called for care in how the information is displayed back to the customer.

Where a service does not run to any timetable, there is no requirement to provide information, and where a service is largely demand driven, but does have a scheduled departure/arrival time at a set stopping place, timetable information would be required for the scheduled part of the route only.

> *"Whilst we agree with the approach as outlined, this should be the minimum collected. We believe you should also include similar information for the other non-rail modes of public transport in Scotland such as ferries, tram, subway, and local air services." - NSTAB*

Open Data published under the open government licence will by its nature be accessible for use by any person, however we do not propose that the general public be informed by downloading Open Data directly and using it for day to day journey planning. Any member of the public would not be prevented from doing so, however we plan to have the information displayed in a useable and accessible format via the Traveline Scotland app and website.

We also encourage and web developers outside of government to develop new products using the information, and for those products to be used by members of the public. The information can also be used by bus operators, RTPs or other bodies to improve on their existing apps and websites, and we also encourage this use of the information.

When asked about perceived barriers, thirty-three respondents advised that they could see no or minimal barriers to providing this information or gave no response at all. Twenty-Nine respondents gave detailed views on perceived barriers from a number of perspectives. Of the twenty-four responses which provided a view on this topic, eleven noted that smaller (in some cases, small and medium) sized operators will likely have to invest in new technology or develop new skills to be able to provide the information in the correct format.

In most of these responses it was noted that larger operators or those already meeting that requirement for England will not face any particular barrier. Three responses noted that the NaPTAN database will require improvement to align bus stop names in order to have the timetable data make sense, and one response noted that there may be costs involved in off boarding legacy systems and adopting new standards for some operators.

> *"It may be costly initially to provide this data, especially for smaller operators, but I think the importance definitely trumps that concern".*
> *– An individual on barriers to confirming to a single data standard for route and timetable information.*

SPT and one ticket machine provider gave a detailed technical response to this question, which will be also be reviewed separately when looking at guidance.

On the question posed directly to potential users or 'consumers' of the data, twenty-five responses supported the use of TransXchange for this purpose. Eight supported the use of NeTEx, nineteen supported the use of GTFS, eleven opted for SIRI-PT with only two selecting ATCO CIF, one call for JESS and three for Hastus. There were a number of comments which explained the perceived differences between the standards, some in support of their use and others to advise that they should not be used due to being considered, for example, a legacy system or a proprietary system which is routinely converted to TransXchange.

We propose that timetable, route and operator information be provided in the TransXchange format. We understand that some, predominately smaller, bus operators have concerns about being ready to meet this new duty.

Technical Questions on Fares and Tickets

We propose to require fare and ticket data to be submitted in the NeTEx standard. This would align with the DfT's approach, providing cross-border consistency. We also propose that fares information be phased in over time, with simple ticket information brought in first, followed by complex ticket information, in order to give bus operators a reasonable period to put the necessary systems in place. We are aware from passengers that advising the ways a fare can be paid has strong support for inclusion, however there is variability across operators on how this information is currently displayed, for example as a standalone item or 'FAQ' within the operators own website or app. Third parties may assist with complying with this duty, but compliance will be the legal responsibility of operators (or Local Transport Authorities, such as in a franchise area). We asked the following question to seek views on this proposal

> *We propose to require the use of the NeTEx data standard for information about fares and tickets. Do you agree or disagree with this preferred standard?*

We also asked

What barriers, if any, do you foresee if legislation requires Scottish bus operators to provide information in this format?

And

From the point of view of a data user, what standard(s) should data be provided in?

In response to this question, thirty respondents opted to skip past the question entirely, while eight respondents confirmed they did not mind/had no strong opinion on the use of this standard. Thirty responses agreed with the use of NeTEx for fares information, largely citing its use in the wider UK. Only one response advised against the use of NeTEx, citing the need for input from payment service providers to provide a comprehensive dataset, and potential issues with multi-operator schemes/concessionary schemes. This means that of those that opted to answer the question, 77% were in favour of using NeTEx,

NeTEx is the most obvious choice for a standard for fares as other formats would require significant bespoke development. – RTIG Inform

In terms of barriers, eighteen responses provided additional insight, largely citing the same barriers as for route information around resource, skillset and investing in new technologies or services. Four responses suggested having either a freely available conversion or creation tool, which can output NeTEx files from other data sources. One response also noted that while TransXchange format is 'human readable' NeTEx files are exclusively machine readable and that this may be off putting for some.

For the question posed directly to data users, nine responses opted for GTFS as the most useful format to use the data in, and fifteen responses opted for NeTEx. However, within the supporting free text field, three of the responses that chose NeTEx as their preferred standard for working with the data, explained that they would prefer to have fares data in both GTFS and NeTEx format. One response cautioned against converting data supplied one format into another format for use as open data, and another noted that GTFS was inferior to NeTEx in their view.

The purpose of asking which data format data users specifically would like to receive information in is to inform any future development of internal platforms, which will likely include the Bus Open Data, but may include many types of data. It may also help inform any future changes to the Bus Open Data Regulations, particularly if there is a significant interest in the transport data set that would warrant additional development within the existing platform.

We will seek to set NeTEx as the prescribed standard for fares and ticket information, noting the concerns around the ability of smaller operators in particular to comply with this standard. The benefit of a creation tool has been noted, and this will be considered separately.

Technical Questions on Real Time Information

This consultation looked at real time information with a specific focus on location information. Location information is currently being captured in Scotland on a voluntary basis by some operators and is commonly achieved through Electronic Ticketing Machines (ETMs) already in use for the collection of fares, including mobile or handheld solutions.

Conversely, facilities and accessibility information is not something that is currently commonly captured on a real time (in use) basis. We had determined prior to this consultation that it would reasonably require a deeper review of available systems to be able to provide this information in a meaningful way, and that there is no common standard at present in either Scotland or in other devolved nations.

As a result, we have been minded to phase in the requirement to provide facilities and accessibility information over time. We intend to work with the bus sector to align on capture methods, to be affirmed in guidance, and to require information about onboard facilities and accessibility information in a common format moving towards potential future Regulations. There is clearly a strong call for this information from groups representing passengers, and particularly those with disabilities, (also confirmed by the responses to this consultation in the published responses) however it would be difficult, in terms of setting statute, to specify a duty without also prescribing the framework in which it will operate.

It should be noted that facilities and accessibility information will remain a priority for Transport Scotland, and that we will continue to move towards putting this information into the public domain, likely with future legislation.

Location Information

- Live vehicle location
- Live Bus stop arrival and departure times
- Live timetables
- Live disruption updates

We asked the following question about the provision of real time (location) information:

> *We believe that real time data should be provided in the SIRI data standard to collect more raw data and to align with English and Welsh standards. Do you agree or disagree with this approach?*

We also asked

> *What barriers, if any, do you foresee if legislation requires Scottish bus operators to provide information in this format?*

And

> *From the point of view of a data user, what standard(s) should data be provided in?*

As with the other 'technical' questions, twenty-three respondents opted to skip this question. Of the remaining fifty-six, one respondent had no strong view on the proposal to use SIRI for real time information. Forty-Four responses agreed with the proposal, largely citing the need to align with England and Wales for cross border operators and noting that this standard is commonly used for this kind of information. One response agreed but noted that GTFS-RT was an equally valid option. Only two responses disagreed with this approach, both bus operators. One recommended GTFS-RT as being proven in its ability to also handle fares information, and one which supported the move to SIRI in general, but were unable to provide more detail without being sure of the SIRI variant being proposed.

On the barriers to moving toward this standard, the feedback was similar to that given for routes and timetables and fares and tickets. Seventeen respondents provided comments, noting again that moving to a new standard may require staff or training not available within smaller operators, however there were no comments citing difficulty with the standard itself, compared to any other.

> *"Lack of technical knowledge might be an issue" - BusUsers UK*

Our understanding is that providing real time location information can be achieved through automation, and that this is something many commercially available Electronic Ticket Machines (ETMs) can offer, often as a paid for service. One response also asked for the possibility of Transport Scotland being able to convert information provided in a different standard in order to comply. For the question put to data users specifically, forty-six respondents either did not know, had no strong opinion or skipped the question. Three noted they would prefer to work with GTFS-RT and twenty-four opted for SIRI. Within this group, five respondents noted that both GTFS-RT and SIRI would be required to extract meaningful data.

As real-time information is a near continuous update, rather than a monthly, weekly or yearly update, it is important to know how often the information must be 'refreshed' while the public service vehicle is in operation. As such we asked one additional technical question on how this should be achieved.

Respondents were asked the following question:

> *We propose that real time information needs to be as close to 'real time' as possible. We would therefore like to hear your views on an acceptable feed time for location services*

And asked to choose from the options below

- Data provided within one minute while the service is in operation
- Data provided within the average time between stops on the route (For example, if the average travel time between two stops is 3 minutes, an update would be required within three minutes)
- Data provided within a timescale set by geographic location, detailed separately in guidance (For example, within one minute in a city region, but within 5 minutes in a rural area)
- Data provided within one minute, but with the possibility of exemptions set in guidance (For example, guidance could set a process to agree and identify geographic areas with low connectivity where the timescale could be longer, or could simply list agreed areas which would be automatically exempt)
- Another timescale (please provide)

Twenty-nine respondents skipped this question. Of the remaining forty-seven, seven supported a geographic model, nineteen opted for up to one minute while the bus is in operation, seven opted for another timescale (largely for provision of less than 60 seconds, such as 1s, 10s, and 30s) and four preferred a system of averaging between stops. One response was keen to ensure that operators are not penalised for dropped connectivity in 'dead spots',

> *Rural connectivity improves over time. So the rules should be adaptive. If we require rural busses to try to report every 30s they will make use of whatever connectivity is available - An Individual*

Having taken advice on how best to reflect this in statute, we are aware that there is a need for legislation to have a reasonably 'future proofed' target, however, in terms of enforcement there is room for a wider margin where the information is still valuable, and would account for intermittent gaps in coverage in more rural areas. We believe it is reasonable to encourage the provision of data but to delay any enforcement action until the point at which it is functionally no longer useful, which from the consultation appears to be at the 60s mark. We have also moved away from the approach taken for England where there is also a mandated maximum 'refresh rate' which was between 10 and 30 seconds. We therefore propose to set a target in legislation which is currently being achieved in other areas, likely around

30s, but with information in guidance framed around a minimum 60s period, which would allow for an average that accounted for ‘dead spots’ in connectivity.

We can also frame guidance around identifying these areas so they can be taken into account where necessary..

> **We will specify SIRI as the prescribed data standard for real time location information and look at standardising facilities and accessibility information as a ‘next step’ once this has been achieved. We will require that information be provided every 30 seconds while the service is in operation, but with a commitment to consider enforcement action only if information is routinely provided outwith a 60 second window. This may be revisited once the Regulations have been in place for a reasonable ‘bedding in’ period.**

Technical Questions on Stopping Places

The primary legislation on bus open data applies to local transport authorities, rather than bus operators. These are Scotland’s thirty-two local transport authorities which are part of the thirty-two unitary council authorities. The primary legislation talks about ‘stopping places’ rather than ‘bus stops’ which is the more common colloquial term. In this consultation and in the resulting secondary legislation, a stopping place means any place where a bus may stop to allow passengers to access or depart from a service, irrespective of whether there is physical infrastructure (such as a pole or shelter) present.

Local authorities UK wide currently use the NaPTAN (National Public Transport Access Nodes) data standard to submit information to the (UK) National Public Transport Access Nodes dataset, in Scotland this is currently done on a voluntary basis. The NaPTAN dataset describes the precise location of stops, stations and ports for all public transport modes, UK wide.

The legal duty to provide stopping place information will remain with the local authority, however, the information can be submitted via another body acting on their behalf, such as a Regional Transport Partnership or Transport Scotland.

Our proposal is to adopt this standard and practice and include it in statute to make it a mandatory function. This should have the effect of improving the quality of information in the dataset as the quality of information from Scotland improves, and also of having a forward benefit to other transport data sets that use NaPTAN information to include information about bus stops (or ‘stopping places’) in other

systems. NaPTAN is the foundation of most scheduling and journey planning systems using stops/port/station information, and works alongside a second dataset, the National Public Transport Gazetteer (NPTG). The NPTG is a topographic database of all cities, towns and settlements in the UK, providing a frame of reference for the NaPTAN dataset

> *Do you agree with our proposal to use the NaPTAN data standard for this information?*

We have proposed adopting the NaPTAN data standard for submission to the NaPTAN dataset. We also asked respondents if they had views on the timescales this information should be provided in, and what barriers may prevent authorities from making these updates

> *What factors, if any, could be a barrier for local transport authorities in maintaining bus stop information this way?*
>
> *How often should this information be updated? After every change, as often as possible but no less than every three months, as often as possible but no less than every twelve months, or 'other'?*

Of the fifty-six responses that opted not to skip past the 'technical' question bank, only sixteen (29%) answered this question while the remaining forty (71%) respondents opted to manually skip the question. However, of those which responded, all were in favour of using the NaPTAN standard and dataset for this function. Several responses noted the inefficiency in creating a separate 'Scotland' NaPTAN, and that it is common practice, albeit voluntary in Scotland already.

> *One data set is better than many. But it must be quick and easy to add stops. – An Individual on maintaining stopping place data*

Some responses noted improvements which would benefit the dataset overall, including work required to include accessibility information alongside other data fields, the need for locations to be refreshed to replace historic location descriptions and overall simplification of the naming conventions. This evidence will be shared with DfT colleagues for the purpose of informing improvements.

Eighteen responses shared information about perceived barriers to adopting this standard. Nine of these directly referenced potential issues with resource, both in general headcount and in having the skillset required to make the return. Two responses named specific geographical areas that would likely struggle to become complaint without specific assistance for unspecified reasons, and three responses noted the need to invest in an editing tool.

One response noted that each authority would likely have to audit their current practices and resourcing, while another noted that Gaelic names are likely to fall within ‘local knowledge’ with the implication that it would take time to transfer this information in practice.

Forty-four respondents answered the question on timescales for change, with the majority (thirty-three responses) requiring changes be made every time the authority is aware of a change having been made to a stopping place. Three responses selected the option for an alternative timescale, however of these only one provided an alternate timescale, of no less than one month from the last update. Of the other two, one described and update being required ‘after any change’ and has been included with ‘every time an authority is made aware of a change having been made’ and the other requested after any change but not less than every twelve months, and so has been included alongside ‘as often as possible but not less than every twelve months’. Five responses supported changes to be notified as often as possible but not less than every twelve months, and a further five supported updating the dataset as often as possible but no less than every three months.

There is a clear preference for the existing NaPTAN data standard to be used for stopping place information, albeit with some concern about Local Transport Authorities resource levels and in house skills to undertake this duty on a mandatory basis. There is strong support for updating the NaPTAN dataset after any change is made to stopping places, including physical attributes (changes to infrastructure) and non-physical attributes such as the name or descriptor of the location.

> **We will take forward plans to make the NaPTAN data standard the mandatory standard for local transport authority stopping place information, which must be provided to the NaPTAN data set. We will engage with local transport authorities to assess the kind of support needed to undertake this new duty, and we will include in guidance the update requirements, centred around an ‘after each change’ model. For all of the prescribed standards, we will seek to set guidance which covers practical matters around the submission of the required data**

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S7 Any Other Comments

> **"Are there any other comments you wish to provide in relation bus open data?"**

From the seventy-six responses received, forty-three opted not to leave any additional comments. Eleven individuals provided additional comments, four specifically referencing the current situation in England where BOD is mandatory. One response from an individual supported aligning with England and Wales *'as much as possible'* while another warned that we should only align where there are no known issues, but where something is not working, *'it is sensible to modify that element of the system for introduction in Scotland'.* There were also calls for greater coverage and more reliability in bus services generally, and one comment noted that much of this information is already available for trains. The need for information in multiple languages, particularly for tourists, was also raised.

Within the organisations category there were twenty-one unique responses, covering a range of views. One common theme, shared by bus operators, groups representing passengers and the two statutory advisory Boards who provided a response, was the need to have integrated data across a range of modes. There were a number of calls for better accessibility information, for example, the Institute of Blind People raised the importance of passenger information displays (PIDS), Age Scotland advised that knowing which access features ('mobility aids') were present would be valuable information to the groups they represent, as well as raising the variable operator policies around mobility scooters. One organisation representing tourism provided comprehensive information about public transport use by visitors, and how this compares to the broader UK. The opportunity to increase visitor use of public transport was considered to be able to be supported using BOD, particularly in rural areas. One passenger focused group was unsure if Transport Scotland intend to operate a similar analysis service to the DfT's 'ABOD' service, in particular *"[this organisation] feels that there is a strong case for punctuality and cancellations data to be readily accessible".* At present the same legislative basis exists for the same data sets as are collated for England, making it possible to look at these two areas if required.

Next Steps

We will progress with Regulations on the basis outlined in this document. We will now look at providing guidance in collaboration with the bus sector, and we will continue to welcome views on the topic from both individuals and organisations while this work is carried out.

Note for Respondents

Transport Scotland would like to express its sincere appreciation to the bus operators, ticket providers, data and technical experts, passengers, passenger representative groups, charities and third sector organisations, and all stakeholders who have contributed their experiences, perspectives, and evidence in relation to bus open data. These submissions have been carefully considered and have played a critical role in shaping the proposed legislative framework. The insights provided will ensure that policy development is informed by practical evidence and stakeholder expertise, and we are grateful for the time and effort invested in supporting this process. We remain committed to ongoing engagement and will continue to work collaboratively with all stakeholders as the legislation progresses, and implementation plans for guidance are developed.

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