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Intelligent Transport Systems UK
Empowering Transport Technology

Inquiry into 'Joined Up Journeys': Achieving and measuring transport integration
Intelligent Transport Systems UK Submission

About Intelligent Transport Systems UK

Intelligent Transport Systems UK (ITS UK) is the national industry association for transport technology. We provide a national platform to support the roll out of technology for a cleaner, safer and more effective transport network, both at home and abroad.

ITS UK has 190+ members, from both the private and public sector, covering all sizes and disciplines, with members working in areas like smart ticketing, mobility as a service (MaaS), integrated transport, real time passenger information, public transport services, traffic management and enforcement, demand responsive transport, road user charging, connected and autonomous vehicles, and much more.

We would be happy to provide further information on the submission provided below. If this would be of use, please email ITS UK Public Affairs & PR Executive Eduardo Pitts, at eduardo.pitts@its-uk.org.

Executive Summary
The UK can utilise technology to support a more integrated transport network. ITS UK recommends the Government delivers in the following key areas:

A commitment to an open-by-default approach to transport data
1. Include a commitment to an 'open by default' approach to data within the upcoming Transport Data Action Plan.
2. Include a commitment to an 'open by default' approach to data for Great British Railways within the upcoming Rail Reform Bill.
3. Deliver a Smart Data transport scheme, following the passing of the Data (Use and Access) Act.

Regulatory support and clarity for newer mobility options, like demand responsive transport and micromobility schemes
4. Update the regulations around Demand Responsive Transport to make it easier for local authorities to deliver future schemes.
5. Deliver a Micromobility Bill to set e-scooters on a permanent legal footing.
6. Provide clarity over the powers of different transport authorities, under the Devolution Bill, for micromobility schemes

Provide long-term funding for local authorities to invest in 'software as a service' products and integrated transport solutions
7. Provide long-term certainty of funding for local authorities to invest in data services.
8. In the short-term, the Government may wish to examine how ring-fenced funding pots can support local authorities to deliver data services over a number of years.

Establishing a Centre of Excellence to share best practice in intermodal transport data & technology
9. Explore the establishment of a mechanism to share learnings from across the UK on integrating transport services, such as a Centre of Excellence.

a**) What are the key features that make a transport system feel joined up to the user? How would 'integrated' transport look different to current services and networks?**

A transport system feels joined up when users can move between different modes (e.g. a private vehicle, bus, rail, taxi, plane, micromobility scheme, or active travel) with minimal to no barriers, in an easy and accessible way.

Often, joined up journeys require the use of technology, for example, unified, multi-modal ticketing, real-time information, journey planning or coordinated schedules between bus and rail services. Journey planning or 'mobility as a service' - where planning, booking and paying for multiple modes can be made on one platform - provides the opportunity for the user to experience different forms of transport as one, joined up journey too.

Current UK services typically operate in siloes, with separate structures, ticketing systems and timetables. All of this fragments the journey for customers and can dis-incentivise the public from using public transport or taking more environmentally friendly, or more efficient modes of transport. There are examples across the UK of where authorities have invested in technology to ensure more joined up journeys for their residents, particularly city regions working under one combined or mayoral authority.

ITS UK would suggest that an integrated system would see, for example, a user being able to use the same payment method or retailer across modes, to be able to plan their journey across modes using one platform, and the co-ordination of timetables the traveller does not have to wait for significant periods at interchanges. This remains an ambition across many parts of the UK.

b) What stops effective integration happening now, and how can these barriers be overcome?

There are a number of barriers that currently restrict integration. Many of these relate to policy, standards or regulations. Some of the key reasons are highlighted below.

Governance & Resource	**Data Sharing**
Integration, by its nature, requires collaboration across different modes and organisations. At a local level, many local transport authorities will split their departments by mode and may not have the resources or governance in place to understand how best to integrate their services. At a national level, the Department for Transport (DfT) has taken greater strides to increase collaboration across their directorships. However, greater dialogue across the larger transport authorities on integration would be valuable.	One of the key ways to deliver the experience of a more joined up transport network is by opening up data which the private sector can use to develop into applications and platforms for journey-planning. There are a number of examples of open data initiatives in transport – from the Bus Open Data Service, Rail Data Marketplace, Digital Traffic Regulation Orders (D-TROS) etc. However, this approach has so far been piecemeal – with some Arm's Length Bodies and transport authorities embracing open data more than others.

Funding & procurement	Regulation & Standards
Many of the services that could support integration (journey planning, data tools) are provided as 'software as a service' products requiring operational expenditure over a set period. Whilst many local authorities have access to capital expenditure from Government, they lack operational expenditure to invest in transport services. To be able to make use of these services, local authorities will need guaranteed funding pots, or long-term funding settlements, ringfenced for transport.	There are a number of areas where regulations and standards require updating to keep pace with technological change and new transport tech. Some examples include: • Lack of a national barcode ticket standard with bus and light rail systems lacking an interoperable standard. • On demand bus services (Demand Responsive Transport or DRT) is limited by the current regulations around Private Hire and Public Service Vehicles, impacting how these services are rolled out, where they can operate and the VAT they pay. • Confirmation of the regulatory environment for e-Scooters and e-bikes. E-Scooters are yet to be put on a formal legal footing, for example.

In (c) we set out some key recommendations for how we feel these barriers can be overcome.

c) What kinds of interventions and policy decisions are needed to provide joined up transport, including in areas beyond transport such as planning?

ITS UK recommends the following interventions to provide more joined up journeys:

1. A commitment to an open-by-default approach to transport data

There is more data being produced from our transport network than ever before, whether through connected vehicles, satellite GIS, sensors and more. However, in the public sector, this data is often not shared, even when sharing it would lead to a better, more seamless experience for the transport authority's residents and customers.

ITS UK believe that the DfT should mandate an 'open-by-default' approach to data across its Arm's Length Bodies.[1] By opening up data the public could have more information on running services, disruption, and cancellations, accessibility features, terms and conditions, and on-board amenities. This would also allow the private sector to bring different APIs together to support better journey planning tools.

The opening up and better use of data has a strong economic value. Transport for London's (TfL) Open Data Initiative costs around £1 million per annum, but has been shown to deliver £130 million per annum in benefits, with estimated journey time savings of £70 - £90 million. It was also found to have supported 500+ jobs, contributed £12 - £15

[1] Open by default means that data is made openly available to the public or stakeholders by default, unless there is a valid reason (such as privacy, security, or confidentiality) to restrict it.

million annually to London's economy and enabled the creation of 600+ transport apps, widely used by the public.[2]

In rail, the Rail Reform Bill, presented to Parliament by the Conservative Government in 2024 stipulated that Great British Railways would be committed to an 'open by default' approach to data. This can be found in the Draft Rail Reform Bill Impact Assessment on page 39. It is critical that when new legislation comes forward, this commitment remains.

The Data (Use and Access) Act, passed earlier this year, creates a framework for new "smart data" schemes in sectors like finance, which will allow individuals to share their data more securely with authorised third parties. Transport is one such sector where a smart data scheme, that mandates the sharing of data across operators, could provide a step-change in integrating transport modes, by providing all transport services on one platform for the user.

An example of where smart data has had a significant impact is Open Banking, which has developed into a way for consumers to move and manage their money and access a greater range of financial services. As a result of this smart data scheme, 82 UK firms have raised over £2 billion of private funding and created over 4,800 skilled jobs in the financial year 2022-2023. In the Department for Business and Trade's (DBT) Smart Data Roadmap set out transport as a priority sector for a smart data scheme.[3] ITS UK agrees that the industry should be a priority sector for this.

Recommendations:

1. Include a commitment to an 'open by default' approach to data within the upcoming Transport Data Action Plan.
2. Include a commitment to an 'open by default' approach to data for Great British Railways within the upcoming Rail Reform Bill.
3. Deliver a Smart Data transport scheme, following the passing of the Data (Use and Access) Act.

2. Regulatory support and clarity for newer mobility options, like demand responsive transport and micromobility schemes

Newer transport solutions, like demand responsive transport and micromobility schemes can help join up transport services for the public, but often face regulatory hurdles.

On demand bus services (DRT) can provide a vital link to plug gaps in support of fixed bus routes in rural and semi-rural areas, or in some cases replace fixed-line routes entirely. DRT schemes can:

- Encourage seamless, door-to-door travel, particularly when DRT schemes are integrated with the wider transport system or Mobility as a Service (MaaS) schemes.
- Increase public transport patronage by feeding in to the wider bus network and other public transport modes.

[2] https://content.tfl.gov.uk/deloitte-report-tfl-open-data.pdf
[3] https://www.gov.uk/government/publications/the-smart-data-roadmap-action-the-government-is-taking-in-2024-to-2025

- Create flexible bus routes driven by passenger demand data, meeting passenger needs and reducing costs through more efficient use of transport vehicles.

As highlighted by the Transport Select Committee's *Buses Connecting Communities* Report, DRT has a critical role to play. We would urge the Government to act on the report, particularly by changing the VAT rules applicable to DRT services.[4]

Micromobility schemes are an essential part of an integrated transport network, as well as a growing global market – worth £37 billion in 2020, and predicted to grow to over £169 billion by 2030.[5] However, ensuring micromobility schemes are safe, have support from local communities and have the right regulation and governance in place is increasingly pressing, in order for this form of transport to thrive.

In England, rental e-scooters are available to ride in selected local authority areas as part of the Department for Transport's national shared e-scooter trial, implemented in order to gather data on their usage, safety and environmental benefits. These trials were previously due to end in May 2024 but have been extended several times through use of Vehicle Special Orders (VSO).

However, this is not a viable long-term solution, and doesn't apply to privately owned e-scooters which remain illegal to use on public roads and spaces. A lack of dedicated regulations for e-scooters thus leaves industry uncertain about the future long-term viability of shared micromobility schemes, and the market prospects for e-scooters in general.
The Devolution Bill currently making its way through Parliament provides greater powers for strategic authorities over micromobility schemes. However, there remains a lack of clarity over how the powers of the highway's authority (usually a local authority) and the strategic authority (as the licensor) will work together.

Recommendations:

4. Update the regulations around Demand Responsive Transport to make it easier for local authorities to deliver future schemes.
5. Deliver a Micromobility Bill to set e-scooters on a permanent legal footing.
6. Provide clarity over the powers of different transport authorities, under the Devolution Bill, for micromobility schemes

3. Provide long-term funding for local authorities to invest in 'software as a service' products and integrated transport solutions

Without data, transport integration is not possible. Large transport authorities, such as regional and subnational bodies often have the capabilities to invest in their data services, but this is not often the case for local authorities.

The Government recognises in its Transport Guidance for Local Authorities that they should share their transport data and the benefits it brings in terms of operational

[4] https://committees.parliament.uk/publications/49090/documents/259775/default/
[5] https://www.local.gov.uk/publications/shared-micromobility-within-uk#:~:text=Shared%20micromobility%20provides%20short%2Dterm,trip%20or%20a%20subscription%20basis

efficiencies, improving accountability and transparency, improving collaboration, supporting strategic and economic goals and facilitating innovation.[6]

However, because Government mostly funds capital expenditure, local authorities are encouraged to buy data on an ad hoc basis for individual projects instead of building strategic data capabilities, with a well-considered and city-scale understanding of transport.

If we want to see local authorities take a more strategic approach, they will require funding for operational expenditure, to provide the capabilities to keep data services running. This expenditure would likely have a significant return on investment, as data services would reduce costs in other areas, such as by reducing the need for human monitoring of infrastructure assets.

In the long-term, this requires a change to funding models for local authorities, recognising the increasing need for recurring spend as part of building an intelligent future driven by data, systems and technology. In the short-term, the Government could look to set aside a fund, as it has done for road maintenance and potholes, to support operational expenditure of data systems and the upskilling of the local authority workforce.

Recommendations:

7. Provide long-term certainty of funding for local authorities to invest in data services.
8. In the short-term, the Government may wish to examine how ring-fenced funding pots can support local authorities to deliver data services over a number of years.

4. Establishing a Centre of Excellence to share best practice in intermodal transport data & technology – particularly as new devolved authorities set out to develop mass transit systems

For many transport authorities, there will be a knowledge gap in understanding how to go about the process of integrating their bus, rail, road and active travel networks. However, there is great practice across the UK which could be shared more effectively across authorities. There would be value in a body that provides best practice in transport integration, particularly as devolved strategic authorities develop their plans and secure greater powers over their transport networks.

ITS UK would suggest an organisation could be established to deliver this. This could look like a 'Centre of Excellence' that provides best practice, shares learnings and develops skills of transport authorities across the UK. This could help authorities understand some of the key technological levers, like smart ticketing, journey planning and MaaS too. It could also look to build consensus on critical initiatives for enabling integrated transport – for example, supporting the development of a single national barcode standard for multi-modal journeys.

Examples of other Centres of Excellence such as for buses or road decarbonisation have been shown to have a considerable impact, highlighting how this opportunity could work.

[6] https://www.gov.uk/guidance/local-authority-transport-understand-data-sharing

Recommendation:

9. Explore the establishment of a mechanism to share learnings from across the UK on integrating transport services, such as a Centre of Excellence.

d) How should transport integration and its benefits be measured and evaluated—including the impact on economic growth, decarbonisation and the Government's other 'missions'?

ITS UK suggests the following metrics could be used to appraise the benefits of integration:

- Modal shift statistics such as passenger journey records, the change in use of public vs. private transport, and subsequent environmental impact estimates.
- Social measures such as economic growth, economic wellbeing and impact on social isolation, for example.

e) How should the cost of interventions needed to deliver transport integration be assessed and appraised? Will proposed changes to methodology in the Treasury's 'Green Book', including the introduction of 'place-based business cases', change this?

Assessments of interventions should consider the benefits created for all the impacted stakeholders - in the case of transport integration, this includes passengers and transport users, transport authorities and operators and the business community supporting them.

ITS UK welcomes the review of the Treasury's 'Green Book' which currently tends to favour shovel-ready capital projects over digital infrastructure, making it harder for public bodies to defend these investments under the current framework.

The decision to implement 'place-based business cases'. This new category of business case allows for Government to appraise the strategic value of a set of projects that contribute to a wider objective in a designated area. We believe this should allow for transport integration projects and interventions to be included in more business cases, and to be better appraised when they are.

However, local transport networks will also need to fit coherently within a national framework to avoid creating "place-centric silos". Passengers require a consistent integrated experience, whether they are commuting within regions or between them – an Integrated National Transport Strategy should account for local, regional and national transport connectivity.

f) Will integration in itself deliver other benefits such as wider transport options in more places, and behaviour changes such as mode shift? What other impacts could it have?

Integration can lead to increased public transport options, mode shift, and wider economic benefits. The introduction of integrating technology such as smart ticketing systems and real time information, alongside simpler pricing structures like bus-hopper fares or fare caps, are well reported to increase and incentivise public transport.

Studies reveal that time dwelling between bus stops, which accounts for 25% - 33% of journey times,[7] can be halved by implementing contactless ticketing systems. Meanwhile, the £2 bus fare cap in England led to a 5% increase in patronage outside of London in its first 10 months,[8] and a selection of fixed-fare products in Brighton & Hove have led to an 82% post-pandemic recovery to peak patronage in 2019, with the figure expected to continue to grow.[9]

Integrated ticketing and fares lead to shorter journey time and increased patronage, evident in Brighton, but also London, New York, Madrid, Seville, and Vienna to name a few.[10] The figures from London, suggest that integration leads to a wider use of public transport options i.e. that integration will lead to more multimodal journeys, with 18% of journeys taking place across multiple modes in the capital, compared to 3% in the North West.[11]

While integrated ticketing and fare structures play a vital role, to unlock the full benefit of an integrated network, spatial policy and planning is also key. Housing and commercial developments should go in tandem with transport to provide comprehensive urban developments. Furthermore, 'Interchange zones', gateways to the public transport network that interface between transport modes and the surrounding areas, should also be optimised, as TfL has done successfully with the redevelopment of several stations.[12]

g) What is needed to ensure that integration is inclusive and meets the diverse needs of transport users? Will integration necessarily lead to better outcomes for accessibility?

Integration will not act as a 'silver bullet' for supporting an inclusive transport network. However, often integrated networks are delivered with accessibility in mind – and transport technology (such as journey planning apps that cater for specific users' needs) will help create a more accessible network.

For integrated transport networks to be accessible, the transport authorities must:

- Maintain a focus on accessibility in system design.
- Incorporate needs of disabled, elderly, and rural users.
- Continued engagement and consultation with community groups and accessibility advocates.

h) Will the meaning of integration vary across different kinds of areas and for different kinds of journeys? (such as rural and suburban areas, and inter-city journeys)

Integration will differ depending on the areas and the types of journeys. In particular, whilst major cities are often cited as examples of integrated transport, rural and suburban

[7] https://greener-vision.com/wp-content/uploads/2016/06/Prof-David-Begg-The-Impact-of-Congestion-on-Bus-Passengers-Digital-FINAL.pdf
[8] https://assets.publishing.service.gov.uk/media/681b355b9ef97b58cce3e4e0/evaluation-of-the-first-10-months-of-the-2-bus-fare-cap.pdf
[9] https://www.brighton-hove.gov.uk/sites/default/files/2025 06/8205%20Bus%20Service%20Improvement%20Plan%20new%20r18.pdf
[10] https://www.urbantransportgroup.org/system/files/general-docs/integratedticketingreportFINALOct09.pdf
[11] https://www.gov.uk/government/statistics/national-travel-survey-2024/nts-2024-mode-share-and-multi-modal-trips
[12] https://www.centreforcities.org/reader/gear-shift/how-to-increase-public-transport-use

areas (or a region with multiple, smaller conurbations) will face unique challenges for integrating their networks. In summary:

- In rural and suburban areas, integration might look at how networks incorporate demand responsive transport, first/last mile journeys to and from transport hubs, given there will be lower density over a larger area.
- Urban areas will require effective integration across modes in dense multimodal hubs, the deployment and ease of access to micromobility, and a focus on scheduling and information sharing.
- Inter-city transport will require effective collaboration and coordination across boundaries (rail, long-distance coaches, park & ride) to join up services.

It will be essential to give travellers greater choice and flexibility in how they plan and pay for their journeys. Pay As You Go (PAYG) ticketing offers convenience for those who value spontaneity and ease of use, allowing passengers to pay at the time of travel without prior commitment - ideal for frequent, low-cost, or last-minute trips.

By contrast, pre-paid options provide cost certainty and transparency, helping travellers manage expenses and adjust travel times to benefit from lower fares. Ultimately, the most effective system will integrate both PAYG and pre-paid options, ensuring that the needs of different passenger types are met through a balanced and flexible ticketing approach.

i) What lessons can be drawn from attempts to integrate transport elsewhere in the UK and around the world? What examples should the Government seek to emulate?

There are a number of examples both in the UK and overseas that the UK can look to. In all these examples there are commonalities – a focus on one smart ticketing system, a unified authority responsible for multiple modes and focus on the integration of timetabling.

London

London's experience confirms the value of a single authority, Transport for London (TfL), managing all transport modes and timetables, including oversight of fare integration, contactless payments, and real-time travel information. TfL's model underpins its high public-transport usage and multimodal nature, 27% of journeys were carried out on public transport and 18% were multimodal.[13]

Greater Manchester

Greater Manchester's Bee Network is the UK's first fully regionally controlled, London-style multimodal system, aiming to integrate buses, trams, bikes, walking and, from 2028, rail. The Bee Network App provides real time information and alerts on disruptions has been downloaded more than 850,000 times and seen over 1.8 million tickets purchased.[14]

[13] https://www.gov.uk/government/statistics/national-travel-survey-2024/nts-2024-mode-share-and-multi-modal-trips

[14] https://democracy.greatermanchester-ca.gov.uk/mgConvert2PDF.aspx?ID=36752#:~:text=Growing%20Patronage%20and%20Revenue,previous%20record%20set%20in%202019

Switzerland
Switzerland is held up as an exemplar in joined up transport. It connects trains, buses, trams and boats through a single national timetable, the Taktfahrplan (regular interval timetable). This means all modes are coordinated to meet each other, often within minutes. One ticketing network also covers all public transport nationwide, managed by the Swiss Travel System and the Tarifverbund regional fare networks. Passengers can use a single ticket or travel card for multiple modes.

Singapore
In Singapore, all public transport modes are under one integrated system operated by the Land Transport Authority (LTA). In addition, one card can be used across all modes.

ITS UK is a member of the ITS Network of Nationals, some 30 ITS representative bodies from across Europe (ITS France, ITS Germany etc.). We would be happy to engage with these bodies on behalf of the Committee to gather further information on the integrated networks developed by these countries.

Intelligent Transport Systems UK
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