

Buses Connecting Communities Transport Select Committee Inquiry Submission from Intelligent Transport Systems UK

1. About Intelligent Transport Systems UK

- 1.1 Intelligent Transport Systems UK (ITS UK) is the national membership 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.
- 1.2 ITS UK has 175+ members, from both the private and public sector, and covering all sizes and disciplines, with members working in areas like demand responsive transport, road user charging, mobility as a service (MaaS), traffic management and enforcement, integrated transport, connected and autonomous vehicles, public transport services, smart ticketing and much more. More information on ITS UK and the intelligent transport sector can be found at www.its-uk.org
- 1.3 ITS UK welcomes the launch of this inquiry. We have provided a set of four Key Recommendations, for the better uptake of Demand Responsive Transport (DRT), highlighting the role DRT can play within an integrated transport network. We have also provided a summary of other innovations and technologies that the Committee may wish to examine within its inquiry.
- 1.4 We would be happy to provide further information the submission provided below, please email **ITS UK Public Affairs & PR Executive Eduardo Pitts**, at eduardo.pitts@its-uk.org.

Summary of Recommendations

- A. Remove the VAT on DRT services using Private Hire Vehicles as part of the HMRC review of VAT for ride hailing operators.
- B. Encourage local authorities to take on innovative approaches to public transport. Set up long term funding frameworks for DRT, that move the sector beyond trials.
- C. Shift to output-based contracts to ensure DRT is being evaluated on effective metrics.
- D. Include DRT within the Integrated National Transport Strategy and work with other modes, bus operators and transport authorities to improve data access.

2. Background

- 2.1 Buses play a key role in a multi-modal transport network. They provide an affordable alternative to private vehicles for local and regional journeys, and are especially key to ‘first and last mile’ journeys that link to other transport modes.
- 2.2 DRT is an innovative approach to public transport that utilises technology to provide dynamic, on-demand bus services for local communities. DRT is particularly effective in providing a public transport link for those with limited transport alternatives, such as in rural areas.



- 2.3 DRT utilises technology to establish dynamic, on-demand networks, enabling passengers to book rides on-the-go or schedule trips in advance, thereby offering a highly adaptable and efficient public transport solution, especially in areas with limited transport alternatives. In some areas, these services can be a more sustainable alternative to underutilised fixed route buses and help reduce traffic through modal shift.
- 2.4 It is important to note that there is not one form of DRT, and that schemes differ across the country, as well as internationally. A report by Interreg of DRT operations in central Europe identifies four different applications of DRT¹, which we have summarised below:
- **Route deviation with fixed stops (including route extension);** The vehicle operates on a fixed route, but can stop at any location or at stops along the route if passengers have requested;
 - **Point deviation with fixed stops:** The DRT service operates within a zone and there may or may not be predefined initial and final terminals within this zone;
 - **Destination Demand-Responsive Transport:** The service is specifically designed to transport passengers to a single destination. This is also known as ‘hub and spoke’ model, as it may be the DRT services takes passengers to a fixed route bus service for an onward journey; and
 - **Pure Demand-Responsive Transport:** Fully flexible routes and variable driving schedules based on the specific needs of passengers.
- 2.5 Ridesharing services also play a key role with the DRT ecosystem. A mixed public/private fleet model, using both DRT and ridesharing services, can support ride fulfilment performance targets during periods of high demand and reduce costs per ride during periods of low demand. When demand for DRT exceeds the capacity of available vehicles, or when demand is so low that deploying vehicles is not cost-effective, ridesharing services can step in to handle the necessary trips. This approach ensures that service commitments are met while maintaining an efficient cost per ride.
- 2.6 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:
- Decarbonise through the use of smaller vehicles with a lower environmental footprint, particularly in rural transport networks where average seat load is much lower than in urban areas.
 - 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.
 - Create flexible bus routes driven by passenger demand data, meeting passenger needs and reducing costs through more efficient use of transport vehicles.
 - Support investment, jobs and economic growth by improving ease and access to travel.

Case Study: Milton Keynes

Milton Keynes Council aimed to replace underperforming subsidised bus routes with a more efficient, cost-effective, and environmentally-friendly transport solution. The goal was to improve service accessibility, reduce operational costs, and contribute to the city’s sustainability goals by integrating electric vehicles into the service.

¹ https://www.interreg-central.eu/wp-content/uploads/2024/07/D2.1.1_Analysis-report-on-DRT-digital-and-operational-innovations-in-CE.pdf



Launched in April 2021, the MK Connect DRT service delivered the following outcomes:

- **Improved Service:** Average wait times were reduced to under 30 minutes, compared to the previous 60-minute headways of fixed bus routes.
- **Cost Savings:** The initiative saved the Council £1 million annually by optimising operations and replacing low-performing routes.
- **Environmental Impact:** The use of electric vehicles and shared rides led to a 14% reduction in carbon emissions in 2021, showcasing how a DRT scheme can contribute to reducing private car usage and promoting sustainable mobility.

Source: Via

2.7 The Government has funded a number of DRT schemes across the country, through the Rural Mobility Fund and Bus Service Improvement Plans (BSIP), although the number of schemes in the UK lags behind European counterparts.

2.8 In the UK, 15 local authorities (LAs) outside London were awarded funding to run DRT pilot schemes between April 2021 and March 2025 as part of the £20m Rural Mobility Fund. This funding runs from April 2021 to March 2025. In September 2024, the Government published its interim evaluation of the RMF, with the report highlighting “that DRT services can be implemented to serve less populated areas, as well as detailing examples of good practice and lessons learnt when doing so, but a fuller assessment would be needed to ascertain whether they achieve wider objectives”.²

3. VAT on DRT Services

3.1 ITS UK is calling for a change in VAT rules, which is impeding the growth of DRT in the UK. Current rules mean transport authorities are incentivised to buy larger, 10+ seater vehicles for DRT schemes, as smaller, more carbon-efficient vehicles have VAT applied to fares. This makes DRT schemes more expensive for local authorities, as it means higher purchase, operation and maintenance costs, as well as reducing the environmental benefit of DRT schemes.

3.2 The reason for this is that Public Service Vehicles (PSV), defined by law as having 10 seats or more, benefit from a zero-rated VAT exemption, whereas Private Hire Vehicle (PHVs) do not. Any DRT scheme that uses smaller vehicles falls within PHV rules and therefore is subject to VAT on fares.

3.3 Given that DRT is currently used to supplement local fixed-line public transport networks as well as providing first-mile or last-mile service for others, applying VAT to fares for parts of a public transport service adds unnecessary complexity for passengers and operators alike. It also makes DRT the only form of public transport to which VAT is applicable, given that fixed route bus and rail services are VAT exempt.

3.4 The current rules also lead to higher cost, meaning less value for taxpayers from these schemes. This is because local authorities usually opt for larger vehicles, which in turn entails significantly higher purchase, operation and maintenance costs as well as resulting in a higher environmental footprint. Furthermore, the continued shortage of bus and heavy vehicle drivers

² <https://assets.publishing.service.gov.uk/media/64e8a7e97af6dd001368efc9/rural-mobility-fund-evaluation-interim-report.pdf>



in the UK is unnecessarily exacerbated since the smaller vehicles require a standard driving license for which the pool of drivers is much larger.

- 3.5 This issue could be resolved by an amendment to the Value Added Tax Act, a move that we believe would not require primary legislation and would be relatively simple to implement. We also believe this tax change would have little to no impact on tax receipts, given many authorities do not use PHVs for DRT due to the VAT implications.
- 3.6 In April 2024, HMRC launched a consultation on the VAT Treatment of Private Hire Vehicles³. The consultation included a section inviting thoughts on targeted interventions for consumers, such as zero-rating VAT on DRT, as well as on disabled person's bus passes, Bus Service Operators Grant (BSOG) and community transport provisions. The consultation closed in August 2024, with Government yet to set out next steps. ITS UK would urge that Government move forward with a change in VAT rules when setting out the next steps of the consultation process.
- 3.7 In the longer term, there may be reasons to place DRT on its own regulatory footing or to make further legislative changes that could support the more effective roll out and ensure this PHV/PSV distinction does not impact future schemes. For example, LAs could be enabled to register as DRT regions with added clauses that permit operators within the area (including the authority) to have greater freedom to adapt the offer to customer needs, to work in cooperation and bring some agility to the network, that current bus regulations currently limit. There could also be benefits in integrating DRT into the network in the case of a combined authority, by standardising things like ticketing, journey planner, apps and back offices.

Recommendation A: Remove the VAT on DRT services using Private Hire Vehicles as part of the HMRC review of VAT for ride hailing operators.

4. Certainty for DRT Projects & Output-Based Contracts

- 4.1 DRT schemes throughout the country face uncertain funding environments. Funding through the RMF, which will end in March 2025, has helped launch many successful trials, but without stipulations for longer term contracts, DRT providers do not have certainty for future programmes, and have less incentive to invest in service delivery. For local authorities, the £955 million bus funding announced in December 2024, for 2025 to 2026, is welcome. However, it is unclear how much of this funding may be used by LAs to deliver DRT schemes.⁴
- 4.2 Dedicated long-term funding allocations for Local Authorities is required, supporting them to deliver DRT schemes that have certainty for the future. Without certainty, or limited funding in future, the quality of services may reduce, as schemes are modified to comprise larger areas or reduce the size of the fleet, for example. Given the planning, marketing and technology implementation required to implement any DRT scheme, there is also sense in placing current trials on a permanent footing, so that those local authorities currently operating services do not have to start again should a trial be wound down.

³ <https://www.gov.uk/government/consultations/consultation-on-the-vat-treatment-of-private-hire-vehicles>

⁴ <https://www.gov.uk/government/publications/bus-service-improvement-plans-local-transport-authority-allocations/total-combined-bus-funding-allocations-2025-to-2026>



- 4.3 Transport for London currently award 5-year contracts with a potential two-year performance related extension. Replicating this model used for bus contracts in London for DRT operators would replicate common practice for DRT in neighbouring European schemes, granting certainty and continuity to providers and Local Authorities alike.

Recommendation B: Encourage local authorities to take on innovative approaches to public transport. Set up long term funding frameworks for DRT, that move the sector beyond trials.

Case Study: Dallas Fort

Implementing DRT within the larger transport network yielded success in the Dallas Fort Worth metropolitan area, where 24% of jobs and 28% of residents were located half-mile or more away from a bus stop or a railway station - making first and last mile journeys particularly difficult. Faced with declining fixed route ridership, a DRT scheme was implemented with the goal of providing a reliable service, seamlessly integrated to other parts of the wider transport network. This scheme drew on innovative approaches to supplement the DRT fleet, 1. By using subsidised ride hailing taxis to provide access to a fleet of drivers and vehicles when required at no fixed cost - ensuring reliability (mixed fleet model) 2. By emphasising the integration of this DRT service on a digital mobility platform, creating trust in the service through reliable end-to-end journey planning, ticket payment, and a positive user experience. From 2023-2024, the scheme increased its ridership by 10%, the largest growth of public transit in Texas, realised a 25% modal shift from private cars, and increased public transport coverage by 50% while reducing the number of fixed route bus stops by 30%.

Source: Uber Transit

5. Output-based Contracts and Effective Metrics

- 5.1 A shift to output-based contracts for DRT schemes, that set out high level goals for communities, rather than specific inputs for a contract, would see more effective schemes delivered. For example, contracts could focus on the number of passengers able to get to their destination in a given time, rather than kilometres operated, would be a far more effective measurement.
- 5.2 Evaluating DRT on purely traditional metrics, or KPIs applied to other modes of public transport, can provide an incomplete picture of DRT benefits. In particular, DRT has often been criticised for being expensive for cost per passenger, but this often does not factor in that DRT is operating in rural, low-density areas. Instead, a metric such as cost per-passenger per-kilometre can show how DRT services are delivering cost-effectively. KPIs, such as 'cost per-passenger per-kilometre travelled', 'cost per community served' and journey times, will be far more effective measures of schemes than simply cost per journey.
- 5.3 From a passenger's perspective, the most important success metric for DRT is whether their ride booking is accepted and delivered within the operational constraints of the scheme. This represents a key measure of a successful DRT service. There are instances where a passenger's request is considered fulfilled even if the proposed ride occurs sometime after the originally requested time. However, to build passenger confidence in DRT services, measurement metrics



should prioritise journey reliability. Ride fulfilment metrics should also focus on delivering rides as close as possible to the passenger's requested time.

Case Study: North East Hertfordshire

Journey time, frequency, and flexibility measurements can show in some cases that DRT provides a transport service that yields higher value to those in rural areas. Data from a DRT scheme introduced in North East Hertfordshire, a highly car dependent area with a low population density, in which only a fifth of people had access to an hourly service or better, revealed how an 84-minute fixed route bus journey was cut to 32 minutes on DRT, potentially making the difference between securing jobs, access to schools or making health appointments on time. This very same scheme, provided access to public transport for 4,000 people who previously had no access, whilst also enabling journeys that were previously impossible or required lengthy connections. The ability for passengers to pre-book DRT services, also allowed for a higher degree of reliability, over time this could be key to encourage modal shifts from the private car, whilst addressing macro-societal issues such as an ageing population that will increasingly become unable to drive.

Source: Padam Mobility

- 5.4 Whilst technology can open up transport services like DRT, the industry is cognisant to the fact that technology must not exclude those who may not have the digital skills or access to use them. Many DRT providers therefore also offer a 'dial-in' service wherein passengers can call and book, as well as using an app. Local Authorities should look to liaise with providers to set out how DRT services operate ride bookings and how resources are distributed to operate 'dial-in' or app bookings.

Recommendation C: Shift to output-based contracts to ensure DRT is being evaluated on effective metrics.

6. DRT as part of a multi-modal transport network

- 6.1 In order to best utilise DRT services, and improve connectivity in rural communities, integration and coordination with fixed line transport services and transport hubs is key. DRT services should be considered as a part of the larger multimodal transport network, helping support seamless end to end journeys for passengers.
- 6.2 The development of the Integrated National Transport Strategy should include existing DRT schemes and the strategic development of new ones in its plan of a single national vision for transport in England. This will also require consideration of the role of DRT within the Bus Services Bill, and ensuring LAs are able to effectively include DRT services as they shift to new contractual relationships with operators.
- 6.3 Cross-boundary services can be an issue for DRT providers. Because DRT routes are not fixed, journeys that take place across local authority boundaries are at times unclear on where they draw funding from e.g. Gloucestershire's transport hubs are in neighbouring counties and can't be serviced by a DRT provider. 'Grey areas', where boundaries are uncertain, should crowd fund from both local authorities, monitoring the flow of travel to distribute the cost fairly.



- 6.4 However, collaboration between neighbouring authorities is also possible and does happen with a number of schemes around the UK. In practice this may mean neighbouring authorities sharing back offices or coordinating to deliver services. When deploying a DRT scheme, Government should draw on successful case studies to establish additional guidance for neighbouring authorities with schemes that cross authority boundaries.
- 6.5 One of the biggest barriers for the better integration of DRT services is the limited access to data, both with fixed route bus networks and other modes, such as rail. As the RMF Interim Evaluation Report highlights, there are a number of data gaps for current DRT schemes, including across fares and ticketing, other bus services and for key destinations.⁵
- 6.6 Data is vital, as DRT routes are ever-evolving and rely on the data they collect through their platforms but also on data from the wider network. There are current data platforms that provide information for bus services, most notably the Bus Open Data Service (BODS), as well as platforms for other modes, like the Rail Data Marketplace. Yet, often this data may not be provided in real-time, so may have less benefits for the live operations of DRT services. Furthermore, differing data standards across modes make utilising this information for multi-modal journeys difficult.
- 6.7 Going forward, the Government should work with local authorities to ensure they have access to the data analytics they need in order to make their DRT services as effective as possible. Through the INTS, the Bus Services Bill, and the planned review of the Transport Data Strategy, DfT should consider how data from different modes can be used to support multi-modal journeys, looking at issues around standardisation, frequency and access.

Recommendation D: Include DRT within the Integrated National Transport Strategy and work with other modes, bus operators and transport authorities to improve data access.

7. Other technological considerations for bus services

7.1 In this submission, ITS UK has primarily focused on DRT services, given their relevance to the rural mobility. However, there are a number of other technologies that could support the uptake of bus services, that we would invite the Committee to consider:

- **Smart ticketing:** Smart ticketing has the opportunity to provide easier access for passengers, and the technology could support multi-modal journeys. The smart ticketing market is currently highly disparate, both between rail and bus, but also across different regions and authorities, with different public transport services having different providers. This makes interoperability difficult, and particularly provides a challenge when looking to better integrate services across different regions.

Going forward, Government has a key role in supporting the standardisation of smart ticketing data so non-commercial data is open to all. There should also be a focus on developing cross-modal data standards for smart ticketing systems. There may also be an opportunity for payment providers to front the operational equipment costs, thereby

⁵ Page 25, <https://assets.publishing.service.gov.uk/media/64e8a7e97af6dd001368efc9/rural-mobility-fund-evaluation-interim-report.pdf>



providing a more cost-effective method for local authorities to implement smart ticketing systems.⁶

- **Mobility as a Service: The UK Government define Mobility as a Service (MaaS) as** “platforms [that] integrate and analyse data from multiple modes of transport, such as rail, bus, taxi and cycle hire, to offer choice in journey planning to consumers.”⁷ MaaS is an essential component in providing a joined-up, seamless transport network. Whilst the Government has funded MaaS projects across the UK, most notably through the Future Transport Zone Programme and the Scottish MaaS Investment Fund, there is scope for the UK to think more strategically about the implementation of MaaS. MaaS requires scale to see the full benefits, and could play a vital role in increasing awareness and access to bus services.
- **Traffic Management:** Critically, bus services will not be effective without traffic management solutions that provide regular and on-time journeys. Through the use of roadside technology, data analytics and AI, the ITS industry can effectively understand the use of the road network and ensure traffic operations prioritise bus services, should a local authority wish to.

This technology could be rolled out further across the UK. In November 2023, the Government cancelled the Intelligent Traffic Management Fund (ITMF), a £20 million pot of funding for local authorities to work with traffic management suppliers to explore innovation in the market. We believe this decision should be re-evaluated, with consideration of how this innovation fund could be used to support public transport and active travel.⁸

- **Digital Twins:** DRT is a good example of how the use of data is vital to the delivery of a service in a bespoke, efficient and timely manner - providing a high-quality passenger experience. A digital twin is a virtual model that uses real-time data to explore real-world situations, helping to better inform operators in decision making. As the Government, Local Authorities and transport bodies explore the use of digital twins in their transport networks, data from DRT and indeed all public transport services should be fed in, with potential benefits for reliability, safety, decarbonisation and mitigating disruption on the network.
- **Connected and Automated Mobility:** The Automated Vehicles Act, passed in May 2024, provides a pathway for the regulated roll out of self-driving vehicles on UK roads. There is an opportunity for automating bus services and public transport, with automated buses already trailed in Edinburgh, Sunderland, Belfast and Oxfordshire. The industry is currently awaiting secondary legislation, following the Act passing into law, but due consideration should be given as to how the bus sector could benefit from this technology.

Intelligent Transport Systems UK
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⁶ For more information, see: <https://www.its-uk.org/publications/its-uk-crown-commercial-service-smart-ticketing-roundtable-summary/>

⁷ <https://www.gov.uk/government/publications/mobility-as-a-service-maas-code-of-practice/mobility-as-a-service-code-of-practice#ambition>

⁸ <https://www.its-uk.org/cancellation-of-intelligent-traffic-management-fund-is-hugely-missed-opportunity/>

