Intelligent Transport Systems UK
Empowering Transport Technology

INTERCHANGE: ITS UK ANNUAL CONFERENCE

Intelligent Transport Playbook

Four sessions. Six cross-cutting themes. A sector ready to move from conversation to action.

April 2026

MESSAGE FROM ITS UK CHIEF EXECUTIVE

A new kind of conversation

The ITS UK Annual Conference at Interchange has become a must-attend event in the industry calendar, providing a great opportunity for the sector to share the latest thinking, insights and experiences in transport technology.

This year, ITS UK tried something different at the event. As the voice of this sector, ITS UK works to represent it, advocate for it and make the case for its value. And to do that well, we need to understand what the sector is genuinely thinking.

That is what we set out to create at this year's Interchange. For the first time, alongside the expert panels and presentations our members rightly value, we introduced dedicated delegate discussion sessions — spaces designed for nothing other than honest conversation. No slides, no formal structure, no predetermined outputs. Just the right people, given the time and space to talk to each other.

The results speak for themselves. What you are holding is the summary of those discussions – the sector's priorities, its challenges and its aims ahead.

After events like our Conference, it can be all too easy to forget the insights shared. This document aims to capture the industry's views and act as a playbook for future action. It shows ITS UK doing what it does best: connecting people, developing insight and turning it into something the whole sector can use.

We hope you enjoyed the Conference and find this document a valuable resource in identifying the priorities, opportunities and challenges for the ITS sector going forward.

Thank you very much for your time.

Max Sugarman
Chief Executive, ITS UK

FOREWORD

From discussion to reality

Thank you for attending Interchange, and for the generosity with which you shared your expertise, your challenges and your thinking. The quality of conversation across all four sessions was genuinely impressive. What is captured in this playbook belongs to everyone who took part — it is the community's work.

Many of the themes in these pages will feel familiar. Organisations may quite reasonably read them and think: we are already working on that, and in many cases they would be right. But is it worth exploring why the same themes keep surfacing, even among organisations that are actively addressing them.

When the same themes keep resurfacing, even among organisations that are actively addressing them, it should not be taken as a sign that something is not working. In fact, it usually means one of four things:

- The work is happening, but visibility and shared understanding has not yet caught up with the reality on the ground.
- Progress is real in some places but not yet joined up or widespread enough to shift the dial at scale.
- The approach is right, but the pace or scale could be accelerated.
- There is untapped potential to learn from others and connect existing work to bigger outcomes.

None of that is a criticism of what organisations are doing. It is an invitation to consider what the next phase of progress might look like, and how we move forward together rather than in parallel.

What is genuinely impressive about our sector is its realism. The consistent emphasis on incremental pilots, supervised-to-unsupervised pathways, trust-building through small steps and careful data trials reflects deep awareness of operational risk, safety imperatives, low-margin realities and the complexity of legacy systems. What can look like caution from the outside is, on closer inspection, thoughtful engineering culture. That rigour is something to be proud of, and it is a real competitive advantage when deployed well.

We also demonstrate strong, consistent alignment on user needs and inclusivity, an area where other sectors have sometimes had to learn the hard way after technology-first missteps. The appetite for evidence-based advocacy and knowledge sharing through our Forums is growing. Together, these qualities position the sector well for progress that is sustainable, credible, and genuinely impactful, not just rapid.

Where perhaps we can push further is on the question of momentum. Incrementalism may be the preferred approach for many of the challenges we face and for the trust that we need to build. But can it work best when paired with a clear sense of direction and a willingness to quantify what we are working towards, including the cost of moving more slowly than we could. Missed productivity gains, continued congestion costs, growing supply chain vulnerability: these are real numbers, and making them visible strengthens the case for investment and action.

Is there also more we can do to look outward, at what other UK sectors have navigated, at what our international peers are doing, and at what we can learn without having to rediscover it ourselves? The sector is doing more good work than it tends to give itself credit for. Sharing that work more visibly is both an opportunity and a responsibility.

So, the question I want to leave with you is this: how do we take our natural strength in careful, evidence-based progress and pair it with more deliberate collective momentum? The discussions at Interchange showed a sector that knows what it wants to achieve. This playbook is an attempt to keep that energy alive and point it in a useful direction.

The themes from Interchange are being taken into the relevant ITS UK Forums. Our hope is that the Forums can play a real role in keeping this thinking alive through events: connecting people working on similar problems, surfacing evidence that already exists, and helping good ideas travel faster across the community. That is a realistic and genuinely valuable contribution from a member-led industry organisation — and we are grateful to everyone who gives their time to make it happen.

We thank you again for your time, your openness and your commitment to this sector. All three are what make events like the ITS UK Annual Conference worth having.

Rachael Quinn
Industry & Strategy Advisor, ITS UK

CROSS-CUTTING THEMES

Six things the sector kept coming back to

Four sessions, dozens of organisations and conversations. Six themes came up consistently, across tables, regardless of whether the topic was data, roads, intelligent mobility or freight - a signal worth taking seriously. These are not the only things that matter, but they are things the sector kept returning to, suggesting they are where the greatest shared opportunity for progress lies:

1. **Data as the critical enabler**
2. **User-centric inclusivity**
3. **Procurement and incentive reform**
4. **Standards and infrastructure readiness**
5. **Deliberate incremental progress**
6. **The need for stronger cross-sector governance**

1 Data as the Critical Enabler

Every session. Every table. The same conversation.

Data came up in every discussion, in some form, without exception. Not as an abstract aspiration but as a concrete operational problem: data that is siloed, inconsistently formatted, commercially locked, architecturally fragmented or simply not trusted enough to act on.

The sector broadly agrees that better data sharing would improve outcomes across every dimension, from road safety to freight resilience to inclusive service design. The barriers are not technical. They are commercial, cultural, legal and governance related. Desensitised data structures, clear ownership of specification standards, simple quality grading approaches and incremental sharing trials all featured as practical routes forward.

The question of what digital twins are and what they can deliver sits alongside this. It generates genuine interest and genuine confusion in equal measure. Delegates felt that, without a shared definition and a common approach to data architecture, most digital twin work stays bespoke and hard to replicate.

2 User-Centric Inclusivity

Physical layer first. Digital layer second. Always.

This sector talks about users more thoughtfully than most. There is consistent awareness that technology which works beautifully for some users can actively exclude others, and a genuine commitment to designing systems that serve everyone, not just the easiest majority.

The principle that emerged most clearly: physical access first, digital enhancement second. Before an app or a contactless reader can be useful, the step-free access, the audio announcement and the legible signage have to work. That sequencing matters and it needs to be embedded in procurement, not assumed.

Alongside this, two specific points that deserve to stay on the agenda: around 6% of the UK population is unbanked, which is a design constraint for any digital payment or ticketing system. And inclusivity by retrofit is significantly more expensive, and usually less effective, than inclusivity by design.

3 Procurement and Incentive Reform

The frameworks were built for a different era.

Procurement came up as a barrier in every session. The language varied but the diagnosis was consistent: risk-averse processes, lowest-cost bias, box-ticking specifications and limited capacity to manage innovative or partnership-based approaches.

The frustration is not with rigour. It is with rigidity. Frameworks designed to prevent waste can, if poorly calibrated, prevent progress. Technology is moving faster than the procurement processes designed to buy it.

The priorities are practical: earlier supplier engagement, outcome-based evaluation criteria, innovation allowances, incentive frameworks that reward data sharing, and model clauses that make flexible procurement easier to adopt. None of these require a wholesale overhaul of the system. They require targeted adjustment and the willingness to share what works.

4 Standards and Infrastructure Readiness

Interoperability is easier to say than to do.

Fragmented standards, competing vendor ecosystems and inconsistent technical maturity create compounding interoperability problems that no single organisation can resolve alone. The result is a sector where digital investments frequently cannot communicate with each other, and where the absence of a common baseline elevates risk across safety, cyber and environmental dimensions.

Infrastructure readiness is a related challenge, particularly in the context of connected and automated vehicles. AVs depend on road markings, signage and asset condition in ways that human drivers do not. The Automated Vehicles Act 2024 creates a framework but does not resolve the question of who is responsible for maintaining infrastructure to a standard suitable for AV operation.

The digital signage opportunity is real and underexplored: information visible to automated systems regardless of physical infrastructure condition opens up new design possibilities for road management that the sector has only begun to think through.

5 Deliberate Incremental Progress

Caution is a genuine strength. Paired with pace, it becomes a competitive advantage.

The consistent preference for incremental approaches, supervised pilots, small-scale trials and evidence-gathering before scaling reflects operational wisdom. This sector works with real infrastructure, real safety consequences and real communities, so getting it right matters.

The opportunity is to be more deliberate about pace alongside process. Identifying which elements can move faster, quantifying the benefits of progress alongside the risks of moving, and setting visible milestones that demonstrate momentum, would strengthen the case for investment and help the sector show the progress it is already making.

Pairing the sector's natural rigour with more targeted fast-track mechanisms, where evidence already exists and risk is well-understood, is where the greatest acceleration is possible.

6 Stronger Cross-Sector Governance

Coordination, knowledge sharing and the question of who convenes what.

The discussions at Interchange surfaced an appetite for better coordination across the sector: translating national directives into workable local delivery, resolving data ownership and specification questions, aligning on standards, and building the kind of trust between organisations that enables genuine collaboration.

The ITS UK Forums are one part of the picture. They are volunteer-led communities, run by elected committees from our membership, that typically convene once a year around knowledge sharing and subject matter expertise. They are a genuine and committed community, and communities can shape norms, surface evidence and create conditions for progress that formal structures sometimes find harder to achieve.

Looking at the themes from Interchange, there is a real opportunity for the Forums to play a more active role in keeping momentum alive between events: curating case studies, connecting organisations working on similar problems, and helping the sector learn faster from what is already working. That is both a realistic ask and, if done well, a genuinely valuable one.

The wider questions around policy alignment, funding structures and cross-sector accountability require broader engagement beyond the Forums alone. Naming that clearly is the first step toward building the right structures to address it.

SESSION ONE

Digital Transport

From Talking to Doing: Digitalising Transport on the Terms that Matter

Delegate Discussion: *"What are the challenges of digitalising transport and how can we solve them?"*

The Mood in the Room

One moment from this session captured something a delegate wrote in capitals on a flip chart: 'We talk too much and do too little'. It was constructive recognition rather than criticism. This session had genuine energy and a clear appetite to move to action.

Overview

The sector understands what digital tools can deliver, and in many cases are already delivering it; better efficiency, safer journeys, smarter assets, meaningful environmental gains. What this session explored is how to accelerate that progress: how to close the gap between what is working in some places and what is working everywhere, and how to move from individual initiatives to joined-up, visible momentum.

Conversations ranged across data governance and quality, procurement culture, leadership skills, standards and the relationship between national policy and local delivery. There was real optimism too, about the next generation coming into the sector, about AI used well, and about the confidence that comes from sharing evidence of what works.

1 Data: The Unlocked Room

Quality, architecture, ownership and the courage to share

Core Challenge

Data is the connective tissue of a digitalised transport system, and right now, much of it is locked away, poorly formatted, inconsistently governed, or simply not fit for purpose. The discussion identified several distinct problems that tend to get bundled together but each need their own attention.

The architecture problem: Some data is always-on and live; other data sits in local systems and needs batching or blending before it is useful. Without a clear plan for storage, interpretation and management, raw data stays raw.

The quality problem: Standards are fragmented, accuracy varies, fitness for purpose is rarely defined upfront, and place-based resolution is often inadequate. Delegates pointed to the value of a simple, recognised data quality grade or stamp, a consistent signal that a dataset meets a defined threshold.

The ownership problem: Who owns the specification of data requirements? Technology providers? Government? Standards bodies? Until that question is answered, interoperability stays aspirational.

The sharing problem: Data that could improve system-wide efficiency is held back by commercial sensitivity, IP concerns or a lack of trust. The principle is broadly accepted, but the mechanisms to act on it safely and consistently are still catching up.

Digital twins got specific attention. The concept generates both interest and confusion. Delegates noted it means different things to different people, full implementation is rare, and outputs are only as good as the data going in. Without a common approach to data management, most digital twin work remains bespoke and hard to scale.

ACTIONABLE INSIGHTS

Public Sector Bodies	Private Sector Organisations
• Map your internal data holdings, quality, format and architecture gaps, before starting any sharing programme. • Pilot anonymised data sharing with a trusted partner under clear governance rules. Start small and build from there. • Apply a simple data quality grading approach in your procurement and contracts. Make the standard visible. • Tackle the ownership question: identify who holds accountability for data specification in your area and test it.	• Look hard at the commercial case for selective data release. Aggregated journey patterns can demonstrate mutual benefit and open doors. • Invest in data architecture and interpretation capability. Raw data without a management plan is a liability, not an asset. • Adopt minimum data standards in supplier agreements and be explicit about legacy system compatibility in every bid. • Participate in anonymised data sharing trials. Building the evidence base helps the commercial case stick.

> **For the ITS UK Digital Transport Forum:** This is a natural area for knowledge exchange at Forum events: what data sharing approaches are working, where the barriers are most acute, and what a simple quality grading framework could look like in practice. A shared definition of digital twins, developed through member discussion, would also help reduce the confusion that is currently slowing uptake.

2 Procurement: The Innovation Bottleneck

Rigid processes and the case for a different approach

Core Challenge

Procurement came up across multiple sessions as an area with real room for improvement, and importantly, one where practical changes are within reach. The root causes are well-known: risk aversion, lowest-cost bias, specifications that are hard to get right, limited procurement capacity, and the challenge of integrating new solutions with legacy systems embedded in operations.

Technology is moving faster than some of the frameworks designed to procure it. The opportunity is to update those frameworks in targeted ways, building in more flexibility, earlier supplier engagement and outcomes-based evaluation, without losing the rigour that public procurement rightly requires.

A practical gap worth addressing: origin, destination and journey purpose data, the building blocks of good network planning, are still not required as standard in most ticketing or service

contracts. Smartcard and mobile-derived feeds offer real potential but remain inconsistently specified.

ACTIONABLE INSIGHTS

Public Sector Bodies	Private Sector Organisations
• Build genuine flexibility into procurement: innovation allowances, outcome-based criteria, or ring-fenced innovation budgets that sit outside standard tender rules. • Bring suppliers in earlier. Co-defining the need before a formal process starts produces better specifications and fewer surprises. • Require origin, destination and journey purpose data as standard in new ticketing and service contracts. • Use a policy-rich area like school transport or SEN provision to test a more flexible, evidence-led procurement approach.	• Make the case on total value, not just upfront cost: integration capability, ongoing support, data standards compliance and long-term partnership are all differentiators worth articulating. • Create proof-of-concept opportunities deliberately. They are the most effective way to build the evidence that unlocks bigger contracts. • Get involved in market engagement processes early and help public sector clients articulate what they actually need. • Be explicit about legacy system compatibility. It is the barrier buyers consistently raise.

> **For the ITS UK Digital Transport Forum:** Forum events are a good venue for sharing model procurement approaches and the case studies that show why they work. Members with experience of outcome-based or flexible procurement have practical knowledge the rest of the sector would benefit from hearing.

3 People, Culture and Skills

The human infrastructure that digital transformation actually runs on

Core Challenge

Digital transformation succeeds or stalls on people as much as technology. The tools exist. The use cases are proven in many places. The opportunity is to build the capability, at leadership and procurement level especially, to choose, implement and sustain digital programmes with confidence.

There are two dimensions to this. First, digital literacy: decision-makers who can evaluate proposals confidently, challenge suppliers effectively and translate modelling outputs into operational decisions are a significant asset. Developing that capability systematically, rather than relying on individuals, is a structural investment worth making.

Second, culture and continuity. Organisations where staff are genuinely engaged with digital change, not just asked to comply with it, sustain progress better. Staff stability on digital programmes matters more than it tends to get credit for.

On talent: young people entering the sector bring digital nativity and adaptability that, paired with domain knowledge from experienced practitioners, is a genuinely powerful combination. Investing in those relationships now will pay dividends for years.

ACTIONABLE INSIGHTS

Public Sector Bodies	Private Sector Organisations
• Invest in digital training for decision-makers and procurement teams. Ground it in real use cases, not abstract modelling. • Protect staff continuity on digital programmes. Turnover can slow momentum and knowledge. • Build clear pathways for digitally native early career talent into meaningful roles. • Share wins internally and quickly. Evidence of what works can shift culture faster.	• Position your digital expertise and knowledge-sharing capability as a differentiator in bids, not a footnote. • Invest in translating technical capability into language non-technical clients can act on. • Treat early careers engagement, mentoring and cross-sector networks as strategic investment, not box-ticking. • Share case studies honestly, including where things went wrong. Real accounts can help build trust.

For the ITS UK Digital Transport Forum, Early Careers Group and Project ROUTE: Forums and Groups can play a connecting role here: surfacing where digital literacy resources already exist, highlighting organisations doing interesting things on early careers, and creating the spaces where experienced and early career professionals can learn from each other. Much of this is about connection rather than creation.

4 Standards, Interoperability and Technical Maturity

The infrastructure beneath the infrastructure

Core Challenge

Fragmented standards, competing vendor ecosystems, inconsistent assurance and uneven technical maturity create interoperability problems that no single organisation can fix alone. Well-intentioned digital investments end up unable to talk to each other, legacy systems constrain new deployments invisibly, and safety, cyber and environmental risks are elevated by the lack of a common baseline.

Delegates identified five specific dimensions: data integrity and quality assurance; accuracy; fitness for purpose and resolution; availability, including whether standards like NaPTAN and NeTEx are genuinely current; and spatial granularity. Progress on one does not automatically fix the others.

There is also a modelling gap worth naming: the people making operational decisions are not always working in line with the assumptions in the models that inform strategy. Making modelling outputs more accessible and relevant to those who act on them is an underappreciated part of this challenge.

ACTIONABLE INSIGHTS

Public Sector Bodies	Private Sector Organisations
• Put interoperability requirements, maintenance obligations and data quality standards explicitly into contracts as a specification.	• Be transparent on standards compliance and legacy compatibility.

• Require clear documentation of data origin, refresh rates and known limitations from all suppliers. • Support cross-sector working groups that bring public bodies, operators and standards bodies to the same table. • Close the modelling gap: require that outputs are presented in formats for operational decision-makers.	• Invest in the translation layer between technical capability and operational usability. • Engage in standards development proactively. Standards shaped by the sector are more likely to work in practice. • Help build a common data quality language so buyers and suppliers can set shared expectations from the start.

For the ITS UK Digital Transport Forum: Standards and interoperability questions are well-suited to Forum discussion: where are the specific friction points, which standards bodies are most relevant, and what are members already doing to navigate the gaps?

5 Policy, Governance and Funding

Joining up ambition, accountability and delivery

Core Challenge

The gap between national policy ambition and local delivery capacity is coming across as one of the sector's most stubborn problems. National directives on digitalisation, decarbonisation, cyber resilience and safety create real compliance demands, but the funding, capacity and flexibility to meet them rarely arrives in proportion.

The compliance burden is multiplying. Environmental requirements, safety certification, code of connection obligations and Cyber Essentials are all legitimate asks. But landing simultaneously, without coordinated support, they overwhelm teams already under pressure. The answer is not lower standards. It is the structural support that makes meeting them achievable.

Delegates were direct about bureaucracy. Cutting through unnecessary process is not anti-governance. It is a reasonable request for governance that is proportionate, joined up and focused on outcomes rather than process. More flexibility around frameworks and faster responsiveness to technological change are requirements, not preferences.

Case Study Spotlight: School Transport as a Policy Test

School transport came up as a useful example. It sits at the intersection of policy complexity, data quality and inclusion, with SEN requirements, asset utilisation and demand variation all in one place. The question delegates asked was a good one: what if we got the policy right first, and then used digital tools to support better decisions and more flexible asset use? That sequencing, policy clarity before technology deployment, is a useful discipline far beyond school transport.

One access point that deserves to be said plainly: a contingent of the UK population is unbanked. In a system increasingly built around digital payments and app-based services, this needs to be considered from day one, not retrofitted later.

ACTIONABLE INSIGHTS

Public Sector Bodies	Private Sector Organisations

• Use policy-rich areas like school transport and SEN provision to demonstrate how digital tools can support better decisions. • Advocate for ring-fenced funding that recognises compliance demands as a package: sustainability, cyber and safety together, not in separate silos. • Build governance structures that can actually keep pace with the technology they are governing. • Treat analogue access as a service obligation.	• Identify policy barriers in client conversations and come with observations and solutions. • Align your offer to decarbonisation, cyber and safety goals as these are the levers most likely to unlock funding. • Help clients build the governance capability to sustain digital programmes after go-live. • Contribute costed evidence to advocacy efforts. Specific numbers about friction and cost can be far more persuasive than general concerns.

> **For the ITS UK Digital Transport Forum and Advocacy and Public Affairs Group:** The evidence base for advocacy does not need to be built from scratch. It exists in the experience of members. The Forum and the Advocacy Group can play a role in collating and amplifying that evidence so it reaches government and funders in a form they can act on.

A Final Note on Session One: AI and the Next Generation

Two themes from this session point forward rather than back.

AI came up not as a headline but as an undercurrent. Delegates were balanced: AI can accelerate progress or create new risk, depending on how it is deployed and whether the data foundations are sound. Fix the foundations first, and AI becomes an amplifier. Skip that step, and it compounds existing problems.

On the next generation: Young people were named as an opportunity, not just a pipeline. Digital nativity paired with deep domain knowledge is a genuinely powerful combination. Investing in those relationships through mentoring, real career pathways and early inclusion in decision-making may be one of the highest-return things the sector can do right now.

SESSION TWO

Intelligent Mobility

If Users Are Not at the Centre, the System Will Not Work

Delegate Discussion: *"What are our priorities and how can we make that happen?"*

Overview

Intelligent mobility is not just a technology story. It is a story about whether the transport system works for everyone, and right now, for too many people, it does not. This session focused on what it will take to create a genuinely integrated and inclusive UK transport system: one that reduces car dependency where appropriate, connects communities effectively, and puts the user, all users, at the heart of how decisions get made.

The priorities that emerged were grounded and practical. Consult more widely and more honestly. Get inclusivity right from the start, not as a retrofit. Put users inside procurement, not outside it. Define what good really looks like and share that definition openly. And tackle the barriers that prevent national ambition from becoming local delivery.

1 Widespread Consultation for Better Feedback

Asking more people, more often, and actually using what they say

Core Perspective

Consultation in transport too often means a statutory notice, a short window and a response rate that does not reflect the communities affected. To design systems that genuinely work for everyone, we need a different approach: broader, more continuous, and built into how decisions are made rather than bolted on at the end.

The priority is not just more consultation. It is better consultation. That means reaching people who do not normally respond, capturing qualitative feedback alongside data, and making it clear that what people say does shape what gets built and thus creating trust in that process.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Embed structured, ongoing consultation into local planning and procurement cycles, not as a one-off exercise but as a continuous feedback loop. • Actively reach underrepresented groups. If the consultation reflects only those who already engage, it is not representative. • Close the loop publicly. Show communities how their input shaped decisions to build lasting trust.	• Contribute data, user testing insights and real-world usage evidence to consultation processes. Operational data is valuable context. • Design products and services with user feedback built into development cycles, not just pre-launch research. • Support public sector partners in reaching harder-to-engage groups to help improve outcomes for everyone.

For the Intelligent Mobility Forum: Consultation frameworks and toolkits that have worked well in practice are exactly the kind of knowledge that needs to be encouraged. Members who have tested different engagement approaches have something concrete to share.

2 Inclusivity: Retrofit versus Inception

Getting it right from the start costs less than fixing it later

Core Perspective

One of the clearest principles to come out of this session: physical layer first, digital layer second. Before an app, a contactless reader or a real-time display can be useful, the physical infrastructure has to work. Step-free access, audio-visual aids, clear signage, adequate lighting. These are the foundation of inclusivity.

The retrofit versus inception debate is real and important. Retrofitting accessibility into existing systems is costly, disruptive and can be incomplete. Designing inclusivity in from the start is cheaper, more effective and produces better outcomes for all users, not just those with specific access needs.

Delegates specifically flagged the need to work with expert groups and charities, organisations like NCAT and the Society for the Blind, and to consult affected communities on edge cases, not just mainstream use cases. The system needs to work for the hardest journeys, not just the easiest ones.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Audit existing infrastructure for accessibility gaps and prioritise retrofit programmes. Physical access first, digital enhancements alongside. • Set inclusive design as a baseline requirement in all new scheme specifications, not an optional criterion. • Build in review cycles to ensure accessibility standards keep pace with changing user needs and technology.	• Design new solutions with inclusivity embedded from the concept stage. Consider who, what, how and where access is needed, and model for edge cases. • Proactively engage with disability organisations, accessibility charities and affected user groups during development. • View accessibility as a design quality standard that improves the product for everyone.

For the Intelligent Mobility Forum & SafetyTech Forum: Bringing in voices from organisations like NCAT and the Society for the Blind as contributors to Forum discussions would enrich the conversation significantly. The Forum is well placed to make those connections and ensure inclusive design stays on the agenda, not just in the guidance documents.

3 User-Centric Collaboration in Procurement

Users belong inside the process, not outside it

Core Perspective

The flip charts were direct: the user should be at the heart of procurement. Not considered at the end. Not consulted once a specification is already written. At the heart of it, from the start.

This is a cultural as much as a procedural shift. Procurement processes in transport have historically been driven by cost, compliance and technical specification. User need, what the service actually has to do for real people, has often been treated as an assumption rather than a defined requirement. The result is systems that work on paper but frustrate in practice.

User-centric procurement means involving people in defining what is needed, not just evaluating what has been proposed. It means weighting user experience outcomes in tender evaluation. And it means creating space for co-design, where operators, suppliers and users develop solutions together rather than in sequence.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Require user-centric criteria in all tenders. Define what good user outcomes look like before writing the specification. • Involve users in specification development, not just review. Their input at the front end prevents expensive corrections later. • Weight user experience as a core evaluation factor in bid assessment, not a secondary consideration.	• Demonstrate how your solution puts users first. Make that case clearly and specifically in bids. • Seek co-design opportunities. Developing solutions with users and operators, not just for them, produces better and more durable outcomes. • Share user research and real-world usage data with procurement teams to support effective specifications.

> **For the Intelligent Mobility Forum and International Promotion Group:** Members who have tested user-centric procurement approaches, here or internationally, have practical experience worth sharing. This is a good place to surface what has worked, what has not, and what others can adapt for their own contexts.

4 Defining and Sharing What Good Looks Like

You cannot improve what you have not defined

Core Perspective

A recurring frustration: organisations are working hard towards integration and inclusivity without a shared definition of what success looks like. Every organisation develops its own benchmarks. Progress is difficult to compare. Learning is slow to spread.

Defining what good looks like and sharing that definition openly would do several things at once. It would give procurement teams clearer criteria. It would give suppliers a consistent target. It would give users a basis on which to hold systems to account. And it would allow the sector to learn faster from the examples that are working.

This is not about imposing uniformity, local context matters. But there is a difference between appropriate local variation and unnecessary reinvention of the wheel. Shared benchmarks, openly published case studies and regular cross-sector review are practical and achievable steps.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Develop and publish local benchmarks for integrated, inclusive transport. Make them visible so others can learn from and build on them. • Contribute actively to cross-sector reviews and working groups because your experience, including what has not worked, is valuable. • Create internal review mechanisms to ensure definitions of success stay current as technology and user needs evolve.	• Contribute case studies and real performance data. Openly shared evidence builds sector confidence and raises the bar for everyone. • Align your solution metrics to emerging sector benchmarks to help make evaluation easier and it demonstrates commitment to shared standards. • Participate in forum-led review processes and help keep best practice definitions relevant and grounded in operational reality.

> **For the Intelligent Mobility Forum:** What does good integrated inclusive transport really look like in practice? Forum events could usefully focus on real examples from members, rather than principles in the abstract. A running collection of case studies, updated through the community, would give the sector something to point to and learn from.

5 Overcoming the Barriers

National ambition needs local enablement to mean anything

Core Perspective

Two distinct but related barriers: the gap between government directives and local delivery, and the persistent problem of data quality for decision-making.

On policy: National directives arrive at local level without the funding, flexibility or practical guidance needed to act on them. Local priorities and national requirements do not always align. Procurement rules constrain the kind of innovative, partnership-based approaches that integrated mobility requires.

On data: High quality information for transport planning is hard to obtain. Qualitative insight is often missing entirely. Low reliability means a lot of data needs filtering before it is usable. And there is a specific frustration with inaccurate inputs that nonetheless achieve operational purposes: a driver selecting an end stop that delivers the correct fare but does not generate accurate journey data. Operational convenience and data quality are not always the same thing.

The Second Car Test

What would it take for people to feel confident getting rid of their second car? It is a useful stress test for integrated mobility. If a system cannot answer that question convincingly, it is probably not yet integrated or reliable enough. It also reframes the conversation from technology delivery to genuine behaviour change, which is ultimately what the sector is working towards.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Map the gaps between national directives and local delivery capacity and highlight in conversations with government. • Address procurement rules that block innovative or partnership-based approaches. Make the case for flexibility with evidence. • Use pilot programmes to test latent demand before committing to full-service deployment. Small tests can produce real learning. • Consider where autonomous connections could serve routes that conventional services cannot make viable.	• Improve data accuracy at the point of capture, not just in post-processing. Operational convenience and data quality need to be designed to work together. • Provide qualitative insight alongside operational data. Numbers alone rarely tell the full story of how a service is performing. • Support public sector partners in testing incremental approaches. Be a reliable partner through the introductory period, not just at launch. • Quantify the behaviour change case. Help clients understand what good integrated mobility needs to deliver to shift car dependency.

For the Intelligent Mobility Forum: Data quality and policy alignment are both areas where member experience varies considerably. Forum discussions that surface what is working in specific local contexts, and why, would help organisations that are still finding their way through the same problems.

SESSION THREE

Future Roads

The Road Ahead: Earning the Right to Go Unsupervised

Delegate Discussion: *"What is the future of our roads and connected and automated mobility?"*

Overview

This session was one of the most technically rich of the day, and also one of the most honest about how much is still unresolved. Connected and automated mobility is no longer a distant prospect. Supervised deployments are expected from 2026. The question is no longer whether AVs will be on UK roads, but how we manage the transition responsibly: who oversees what, how infrastructure keeps pace, what data gets shared and with whom, and how we build the evidence base that justifies each step from supervised to unsupervised operation.

The flip charts captured a wide-ranging discussion: the supervised-to-unsupervised pathway mapped against robotaxis, freight, shuttles, rural connections and personal vehicles; the two-way relationship between AV deployment and road safety audits; the gap between V2V proximity alerts and genuinely useful real-time connectivity; the data confusion caused by device heartbeats falsely indicating vehicle presence; and the unresolved question of who is responsible for maintaining the road markings and signage that AVs depend on. Behind all of it, a consistent message of the need for funding.

1 Human Oversight: Local or Remote?

Someone must be responsible. The question is where they sit.

Core Perspective

Where human intelligence and oversight resides, on the vehicle, locally, or remotely centralised, is one of the most consequential questions the sector faces. It is not just a technical design choice. It shapes liability, incident response, public trust and regulatory compliance under the Automated Vehicles Act 2024.

Local or on-vehicle oversight offers faster response and resilience to connectivity failure. Remote or centralised oversight offers scalability and consistency but introduces latency and dependency on robust communications infrastructure. Most real-world deployments will likely require a hybrid model, and the boundaries between human and automated decision-making will need to be explicit, documented and tested.

The AV Act 2024 establishes a framework, but secondary legislation is still emerging. Organisations that wait for full regulatory clarity before engaging with these questions will be behind. The time to work through oversight models is in pilots and safety audits, not after incidents.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Use pilots and safety audits to test different oversight models, local vs remote, human vs automated, and document what works under what conditions. • Engage with emerging secondary legislation under the AV Act 2024 proactively. Do not wait for full regulatory clarity before designing oversight into your systems. • Consider how oversight models interact with liability frameworks. Ambiguity creates risk for everyone.	• Design systems with explicit, tested boundaries for human intervention, including what triggers a handover, how long it takes, and what happens if it fails. • Build fallback mechanisms into all automated systems. Edge cases are not edge cases in practice; they are where most incidents occur. • Draw on international benchmarks and emerging best practice from other jurisdictions where supervised AV deployments are generating real data.

> **For the Future Roads Forum and International Promotion Group:** Oversight frameworks for automated systems are developing quickly in other jurisdictions. Forum sessions that bring in international perspectives alongside member experience would help the sector understand where the UK sits, what is being learned elsewhere, and where the secondary legislation is likely to land.

2 Connectivity Beyond Proximity

From 'I'm 3m in front of you' to 'there's congestion 100m ahead'

Core Perspective

The flip charts posed this directly: is there a place for true vehicle-to-vehicle connectivity that goes beyond proximity warnings? The answer from the room was yes, but getting there requires a step change in ambition and infrastructure.

Current V2V and V2I deployments are largely reactive and short-range. The real value of connected mobility lies in proactive, longer-range information sharing: congestion 100 metres ahead, roadworks around a corner, a broken-down vehicle on the carriageway, a temporary lane closure that has not yet made it onto any map.

A specific and underappreciated problem was named: the integration of temporary road change information into decision-making and mapping systems. Works information, contraflows, temporary signals. These are exactly the conditions under which AVs and connected systems are most likely to struggle, and now the data pipeline from site to system is slow and inconsistent.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Prioritise infrastructure investment that supports extended-range V2V and V2I connectivity, not just proximity-based systems.	• Develop protocols for richer, longer-range data exchange that go beyond position broadcasting. Address latency, security and interoperability as baseline requirements.

• Fix the temporary roadworks data pipeline. Works information needs to reach mapping and decision-making systems faster and more reliably. This is a solvable problem. • Explore edge computing deployment to enable real-time local decisions without full dependence on centralised connectivity.	• Build temporary road change integration into your systems. If your AV or connected service cannot handle an unexpected contraflow, that is a safety issue. • Invest in the use cases that demonstrate the value of extended connectivity. Freight corridor optimisation and urban safety applications are strong starting points.

For the Future Roads Forum: Connectivity standards and the temporary roadworks data problem are both concrete enough to anchor a focused Forum discussion. Members working on these issues in practice are the right people to share what they have tried and where the real blockers are.

3 Data Transparency, Sharing and Confidentiality

Who collected it, who can see it, and what is it actually telling you?

Core Perspective

Data collected by technology platforms underpins a significant amount of transport decision-making in the UK. Yet questions about format, refresh rates, equity of access, privacy protections and the handling of sensitive or confidential information remain largely unresolved.

A specific and practical problem was named: device heartbeat data. When a device broadcasts its location at regular intervals, it can appear to indicate the presence of a vehicle or person where none exists. Planning decisions and operational responses based on this data can be systematically wrong in ways that are difficult to detect. Validating heartbeat accuracy is not a niche technical concern. It is a data quality issue with real operational consequences.

The broader principle is one the sector keeps returning to: data is only as useful as it is trustworthy. Transparency about provenance, refresh rates, known limitations and access conditions is the foundation of informed decision-making.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Require transparent data policies from all providers in procurement and pilot agreements: format, refresh rate, access terms and known limitations as standard. • Address the heartbeat data problem specifically. Work with suppliers to validate accuracy and flag where data may be systematically misleading. • Ensure equitable access to third-party data. If some operators or authorities cannot access the same data as others, the system cannot function fairly.	• Implement clear data governance and pseudonymisation where personal data is involved. Document it and make it visible to procurement teams. • Build and publish mechanisms for validating heartbeat data accuracy. This is a quality assurance issue, not just a technical one. • Be transparent about what your data can and cannot tell users. Overstating data quality is a short-term commercial decision with long-term trust consequences.

For the Future Roads Forum: Data transparency and the heartbeat accuracy issue are practical, specific topics that Forum members can speak to from direct experience. Surfacing that experience and connecting it to the wider policy conversation about third-party data governance, is exactly where a Forum can add value.

4 Infrastructure: Maintenance, Signage and the AV Act Gap

AVs need roads that work. The Act does not say who must make that happen.

Core Perspective

AVs depend on road markings, signage and asset condition in ways that human drivers do not. A faded lane marking that a human driver interprets through context and experience may cause an AV to behave unpredictably or fail to function safely. This creates a new kind of pressure on road maintenance, and potentially a useful incentive to improve it.

The catch is in the legislation. The Automated Vehicles Act 2024 does not place explicit responsibility on road operators to maintain infrastructure to a standard suitable for AV operation. This is a gap the sector needs to engage with, because without clear accountability, maintenance standards will vary and AVs will encounter conditions they cannot handle.

The flip charts also flagged a genuinely interesting opportunity: digital signage visible to AVs regardless of whether it is visible to human drivers. This opens up a new design space for road information that does not depend on physical infrastructure being perfectly maintained.

The Two-Way Relationship

One of the sharper observations from the session: how would the introduction of AVs influence road safety audits, and vice versa? AV deployment creates new audit requirements. But road safety audit standards, if updated to reflect AV needs, could in turn improve the quality and consistency of physical infrastructure for all road users. The interaction between these two systems deserves dedicated attention.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Review maintenance standards in light of AV requirements and begin the conversation about where accountability for AV-suitable infrastructure sits. • Explore digital signage as a complement to physical infrastructure, both for AV operation and for human drivers in temporary or variable conditions. • Include AV compatibility in road safety audit frameworks and use pilot deployments to test the interaction between audit standards and AV performance.	• Incorporate infrastructure condition awareness into AV systems. Do not assume road markings and signage will be at the standard your system was designed for. • Contribute to safety audits and infrastructure assessments. Operational data from AV deployments is valuable evidence for maintenance planning. • Develop pothole and surface defect detection capability as part of AV sensor systems. This data has value beyond the vehicle itself.

For the Future Roads Forum and SafetyTech Forum: The AV Act maintenance accountability gap and the digital signage opportunity are both topics where member knowledge, from road operators, technology providers and local authorities, would make for a rich Forum event.

5 Incremental Pathways: From Supervised to Unsupervised

2026 to 2030: earning the right to go further

Core Perspective

The roadmap from the flip charts was clear and grounded. Starting from 2026: supervised eyes-on deployments, moving to supervised eyes-off, then to unsupervised, with data from real-world operation feeding each transition. Use cases mapped to the pathway: robotaxis and freight/logistics first, then shuttles and rural connections, finally personal and consumer vehicles by 2030. Data being what makes each step possible.

This is sensible sequencing. Logistics and freight offer controlled environments, clear economic cases and operators with the capability and appetite to manage supervised deployments carefully. Rural connections are important from an equity and inclusion perspective, and autonomous services could reach communities that conventional economics make unviable.

The consistent message from the room: incremental but deliberate. Do not rush the transition. Earn each step with evidence. But do not use caution as a reason to stay still. The sector that gathers the most real-world data from well-managed pilots will be best placed to lead.

Show Me the Money

The flip charts were direct about funding. Logistics, pre-defined routes, ports and proving grounds were all identified as areas where investment needs to follow ambition. Safety, construction and road maintenance were listed alongside. The technology roadmap and the funding roadmap need to be developed together.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Support supervised pilots across a range of settings: urban freight, rural communities, defined passenger corridors, and design them to generate evidence, not just demonstrate capability. • Plan for rural connectivity from the start of AV strategy development. Do not leave it as a phase two consideration. • Align funding mechanisms with progress: logistics and freight first, moving towards personal applications.	• Focus initial commercial deployments on use cases with the clearest safety and economic cases: freight corridors, defined urban routes, port and logistics environments. • Design pilots to generate data that supports the next transition. Every supervised deployment should be building the evidence base for unsupervised operation. • Engage with rural use cases seriously. The commercial model is harder, but the social value is significant.

For the Future Roads Forum: Case studies from supervised AV deployments, however early-stage, are exactly the kind of material that Forum events can be collecting and sharing. Members with pilots underway should be encouraged to bring their real-world findings, not just their polished outcomes.

SESSION FOUR

Freight, Logistics & Maritime

Data Is the Starting Point. Trust Is the Hard Part.

Delegate Discussion: *"How can we work together to transform and improve resilience in freight, logistics and maritime?"*

Overview

Freight, logistics and maritime sit at the backbone of the UK economy. When they work well, most people do not notice. When they do not, as recent years have demonstrated, the consequences are felt fast and widely. Improving resilience in this sector is not an operational nicety, it is an economic and strategic necessity.

This session was tightly focused. Data emerged clearly as the central enabler of better resilience and efficiency, alongside a clear-eyed assessment of what makes sharing difficult in practice. Much valuable data is currently held within individual organisations, protected by IP considerations and competitive dynamics that are entirely understandable. Anti-competitive legislation adds further complexity. And low-margin operators, who stand to benefit most from shared intelligence, need a compelling and credible commercial case before they can justify participation.

The flip charts from this session were frank about all of this and also pointed to a way through. The analogy that stood out: building trust through small, lower-risk trials is not so different from how the NHS shifted public behaviour at scale through NHS 111, video GP appointments and pharmacist-led diagnoses. None of those changes happened overnight. All of them required a credible first step, a positive experience, and visible evidence that it worked. The same logic applies here.

Three themes emerged, each building on the last. Unlock the data. Make the case that sharing pays. Build trust through trials.

1 Data Access and Open Structures

Valuable data exists. The challenge is unlocking it without giving away the store.

Core Perspective

The logistics and freight sector generates vast amounts of operationally valuable data: routing, dwell times, port throughput, vehicle utilisation, supply chain sequencing. Most of it stays where it is generated. The reasons are understandable: commercial sensitivity, IP protection and, in some cases, genuine legal constraint under anti-competitive regulations.

But the cost of that siloing is real. System-wide inefficiencies that coordinated data could solve persist because no single operator has the full picture. Resilience planning that requires cross-operator visibility is hampered. And the public interest case for better supply chain data goes unmet.

The concept of desensitised or open data structures is the most promising route through this. The idea is not to strip data of its commercial value, but to release it in a form that serves

system-wide purposes without revealing the competitive detail that operators legitimately want to protect. Getting the format right, preserving accuracy and timeliness while removing sensitivity, is the practical challenge. It is solvable, but it requires collaboration to design and test.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Review procurement and data policies to identify where desensitised sharing would serve the public interest and is currently being blocked by process rather than genuine risk. • Work with the sector to develop data sharing frameworks that are legally robust under anti-competitive regulations. This barrier needs legal as well as operational input. • Test open data formats in controlled environments, starting with non-sensitive operational data, before scaling to more commercially significant datasets.	• Map your own data assets and identify what could be released in desensitised form without meaningful commercial loss. The answer might be more than expected. • Engage with format development actively. Data standards shaped by operators are more likely to preserve what matters commercially while releasing what is genuinely useful. • Start with the data you are most comfortable sharing and build from there. Perfect should not be the enemy of good enough to start.

> **For the Freight, Logistics & Maritime Forum and International Promotion Group:** The data format and desensitisation question is something members across the supply chain are grappling with individually. A Forum event that brings together operators, technology providers and legal perspectives on what is possible under anti-competitive law would help the sector make faster progress than each organisation working through it alone.

2 Incentives and the Risk-Reward Balance

Low-margin operators will share data when the upside is clear and the downside is managed

Core Perspective

The freight and logistics sector operates on thin margins. That is a fact that shapes every commercial decision, including decisions about data sharing. An operator running at 2-3% margin does not take risks without a clear and compelling reason. The case for data sharing, however strong in theory, needs to be made in terms that connect directly to operational cost, revenue and resilience.

The good news is that the case can be made. Better routing, reduced delays, improved load utilisation, faster incident response, stronger supply chain resilience. These are all quantifiable benefits that coordinated data enables. The challenge is that most operators have not seen them quantified for their specific context, and so the abstract promise of data sharing does not overcome the very concrete risk of exposing commercially sensitive information.

Incentive design matters here. Grants, contracts and regulatory frameworks that explicitly recognise and reward data sharing contributions could shift the calculation meaningfully. So could sector-level evidence, real numbers from real deployments, that demonstrates the return on participation. The flip charts were direct: the reward from sharing needs to be clearly and demonstrably higher than the risk. Until that case is made convincingly, caution will win.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Design incentive frameworks in grants and contracts that explicitly recognise data sharing contributions as a valued input, not just an obligation. • Commission or support the development of sector-specific evidence on the operational and financial returns from data sharing. Generic claims do not move low-margin operators. • Align data sharing requirements with measurable outcomes. If operators can see the connection between what they contribute and what they get back, participation increases.	• Quantify the internal benefits of data sharing: routing efficiency, delay reduction, resilience improvement. Make those numbers visible in conversations with partners and clients. • Build the commercial case for participation before asking others to join. If you cannot articulate why sharing benefits your own operation, it will be hard to persuade anyone else. • Share outcome data from your own data-sharing experiences, positive and negative. The sector needs real evidence, not promotional material.

> **For the Freight, Logistics & Maritime Forum and International Promotion Group:** The commercial case for data sharing is the thing that will unlock participation from low-margin operators. Forum sessions that feature real evidence, from members who have done it and can show the numbers, will do more to shift the sector than any amount of general advocacy.

3 Building Trust Through Incremental Trials

Start small, demonstrate value, scale when trust is earned

Core Perspective

Building trust between organisations in a competitive sector takes time and requires the right conditions. That is not unusual, and it is not a reason for pessimism. It does mean that the pathway to meaningful data sharing needs to be gradual, well-designed and grounded in visible, verifiable outcomes that demonstrate value to those who participate.

The NHS analogy from the flip chart is worth a deeper look. The NHS did not shift public behaviour around remote consultations and pharmacist-led care by launching a national programme and hoping people would follow. It ran controlled pilots, demonstrated safety and quality, built visible evidence of positive outcomes, and scaled from there. Small trials, limited partners, anonymised datasets, transparent evaluation, and then, when trust is demonstrated, scale.

The NHS Parallel

NHS 111, video GP appointments, pharmacist-led diagnoses. All of these required the public to change well-established behaviour and trust a new model. None of them succeeded through mandate alone. They succeeded because the evidence was visible, the experience was positive, and the benefits were tangible. The freight and logistics sector faces the same trust-building challenge. The tools are different but the approach is the same.

Targeted corridors and port hinterlands are natural starting points for trials. They are operationally bounded, have clear performance metrics, and involve a manageable number of stakeholders. Anonymised datasets reduce the commercial exposure of early participation. And transparent evaluation, publishing what worked, what did not, and why, is what builds the confidence of operators who are watching from the sidelines.

The consistent message from across this session and others was the same: find the trial that is small enough to be low-risk and significant enough to generate useful evidence, run it well, and share what you learn.

ACTIONABLE PRIORITIES

Public Sector Bodies	Private Sector Organisations
• Identify and support two or three targeted corridor or port hinterland trials where the conditions are right: bounded geography, willing operators, clear metrics. • Design trials with transparent evaluation built in from the start. Publish outcomes, including failures. This can help build sector-wide confidence. • Scale only when trust is demonstrated. Resist the temptation to rush to national programmes before the evidence base is solid.	• Engage in pilots that start with anonymised datasets and a limited number of partners. Lower the stakes at the beginning to make participation easier. • Commit to transparent evaluation. If a trial does not deliver the expected benefits, say so. Honest reporting builds more trust than selective success stories. • Use trial participation as a signal to the rest of the sector. Early movers in trust-based data sharing can set the standard and shape the norms.

> **For the Freight, Logistics & Maritime Forum:** The Forum is well placed to be the neutral space where trial outcomes get shared openly, including the ones that did not go as planned. That kind of honest knowledge exchange is harder to do commercially and easier to do through a member community. It is where the Forum can genuinely accelerate trust-building across the sector.

What Comes Next

The discussions from Interchange are being taken into the relevant ITS UK Forums. Each of the four sessions has a natural connection: the Digital Transport Forum, the Intelligent Mobility Forum, the Future Roads Forum, the Freight, Logistics and Maritime Forum and the SafetyTech Forum (whilst this did not have its own specific session, safety was shot-through all discussions throughout the two days).

These Forums are member-led communities and are the right places for the sector to keep thinking together, share what is working, and maintain the connections that make progress possible between the bigger set-piece moments.

Your continued involvement matters. Whether through a case study, a working group conversation, a pilot proposal or simply staying connected to the people you met at Interchange, that is how ideas become actions and actions become change.

Be part of the conversation: www.its-uk.org | contact@its-uk.org