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D3.3.3 Report on digitalization and business innovation trends in DRT and integrated mobility industries

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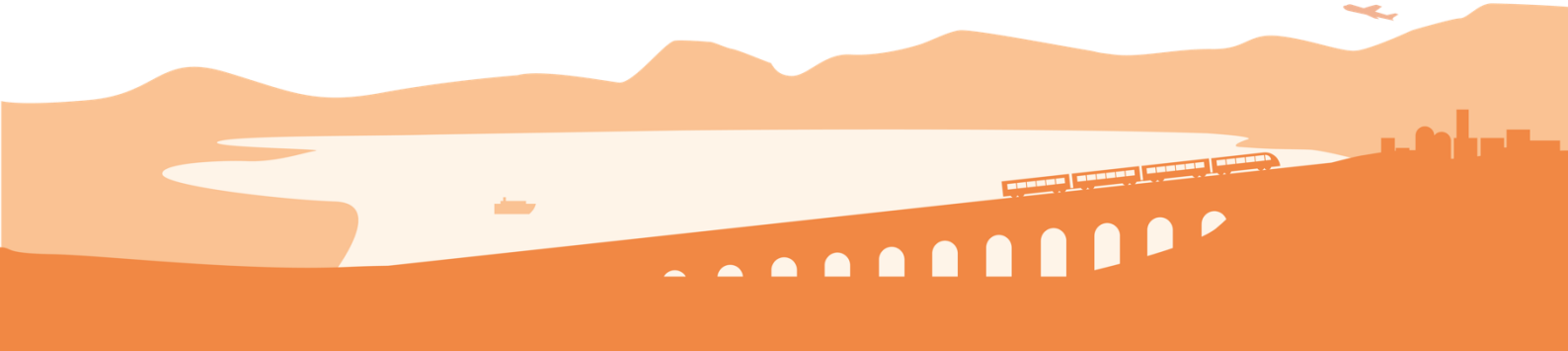

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1. Executive summary

The territory of central Europe is characterised by uneven transport connections and mobility opportunities, across and within regions, between urbanized contexts and rural and peripheral areas.

The project's common challenge is to improve accessibility and connectivity in CE peripheral and rural areas through better integration of public transport networks with Demand Responsive Transport (DRT) services, building on joint development and implementation of governance, planning, digital and operational innovations.

DREAM_PACE aims at developing innovative Demand Responsive Transport (DRT) concepts for peripheral and rural areas, complementing regional mobility networks to improve connectivity, sustainability, inclusiveness.

The project will improve DRT planning and delivery capacities of public authorities and operators.

A new generation of DRT services will become functional and integral part of regional mobility networks, enhancing accessibility for citizens, territorial cohesion and social inclusion.

In order to do this, the contribution of technology and service providers is fundamental in order to implement DRT concepts able to exploit the benefits of the most recent technological and operational innovations delivering services responding to the needs of citizens and communities.

This report provides an overview of the current policy, market, technological, and business landscape shaping DRT and integrated mobility industries. This overview also directly leverages the lessons learned from the continuous interactions and exchanges between the DREAM_PACE Tech and Business Community and PPs (for further details on the interactions between the Tech and Business Community and the project, please see also deliverable D3.3.2 “Report on actions accompanying the development of pilot activities”).

The analysis highlights how the broader transformation of the mobility sector is being driven by decarbonisation objectives, digitalisation processes, changing mobility behaviours, and the increasing demand for seamless and integrated transport services. European policy frameworks, including the Sustainable and Smart Mobility Strategy, the EU Urban Mobility Framework, and the revised Multimodal Travel Information Services (MMTIS) Regulation, are creating favourable conditions for the development of interoperable and digitally integrated mobility systems.

The report also identifies the main market drivers supporting DRT deployment, including sustainability pressures, service flexibility needs, technological maturity, and increasing user expectations regarding digital mobility services. At the same time, important barriers remain, particularly concerning financial sustainability, institutional fragmentation, interoperability, data governance, digital inclusion, and the difficulty of scaling pilot projects into long-term operational services.

An updated overview of the DRT sector confirms that DRT should not be understood as a single transport model, but rather as a flexible set of operational solutions that can be adapted to different territorial contexts and mobility needs. Increasingly, DRT services are evolving as integrated components of wider mobility ecosystems, connected with public transport networks, MaaS platforms, digital ticketing systems, and multimodal journey planning tools.

The report further analyses the main digitalisation trends currently shaping the sector, including artificial intelligence, dynamic routing and optimisation tools, real-time data platforms, mobile customer interfaces, digital twins, electrification, and cybersecurity solutions. In parallel, important business innovation trends are emerging, such as ecosystem-based mobility models, public-private partnerships, platform business models, innovative procurement approaches, and new forms of socially oriented and corporate mobility services.

Overall, the analysis highlights that the future development of DRT and integrated mobility systems will increasingly depend on the ability of stakeholders to combine technological innovation with integrated governance, interoperable digital infrastructures, sustainable business models, and inclusive service design. In this perspective, DREAM_PACE can play a strategic role in supporting knowledge exchange, reducing fragmentation, identifying transferable practices, and fostering the transition toward scalable and territorially adaptable mobility solutions capable of addressing future social, environmental, and operational challenges.

2. Introduction

Demand-Responsive Transport (DRT) and integrated mobility services have moved from the margins of transport innovation to a central position in the transition toward more sustainable, inclusive, and digitally enabled mobility systems. Across Europe and internationally, transport authorities, operators, technology providers and platform companies are experimenting with service models that combine public transport logics with real-time demand management, app-based booking, integrated ticketing, and multimodal journey planning. This evolution is closely linked to broader policy goals relating to decarbonisation, territorial cohesion, accessibility, digitalisation, and efficient use of public resources.

Within this context, the present report provides a strategic framing for business and technology developments relevant to the the findings of the DREAM_PACE project, where a Community composed by relevant stakeholders active in the field of DRT technology and business innovations at EU and global level, has supported project activities with expertise and insights on innovation trends and successful cases.

The deliverable reviews the policy and market environment, outlines the state of the art in DRT and integrated mobility, analyses the main digitalisation and business innovation trends, and proposes a strategic approach consistent with DREAM_PACE principles, objectives and actions.

DRT should not be viewed as an isolated transport product, but rather as a configurable service layer within wider mobility systems. In rural and peri-urban contexts, DRT can improve accessibility where fixed-route services are difficult to sustain. In urban contexts, it can strengthen first- and last-mile connections, complement rail and bus networks, or support targeted user groups such as elderly passengers, persons with reduced mobility, shift workers, and people travelling at off-peak times. However, the literature and practical experience also show that DRT only creates public value when it is carefully integrated into network planning, tariff systems, digital infrastructure, and governance arrangements.

3. Policy and market context

3.1. The European and global market mobility transition

The policy background for DRT and integrated mobility is shaped by the wider transformation of transport systems. At European level, the European Green Deal and the Sustainable and Smart Mobility Strategy position transport as a central field for achieving decarbonisation, resilience and digital transformation. The European Commission has stated that transport emissions need to fall by 90% by 2050 if the EU is to meet its climate objectives, while also maintaining a system that is accessible, safe, affordable and competitive. This creates a strong rationale for smarter service models, better use of data and stronger multimodal integration.

At global level, the same pressures are visible, though they play out differently across contexts. Metropolitan areas face congestion, emissions, fragmentation of modes and user expectations for seamless digital services. Rural and low-density territories face a different challenge: ensuring minimum service levels in a cost-effective way. In both contexts, DRT is increasingly seen as a means to adapt transport supply to heterogeneous and time-varying demand. OECD/ITF work on on-demand public transport reflects this shift by describing DRT as bookable public transport that can replace or complement fixed-route services when traditional models are inefficient or poorly matched to demand patterns.

The wider transformation is also behavioural. Users increasingly expect transport to function like a service ecosystem rather than a set of disconnected modes. They expect real-time information, digital booking, transparent fares, reliability, convenience and flexibility. These expectations have helped make concepts such as MaaS and integrated mobility more influential in both policy and business discourse (Karlsson et al., 2022; Alonso-González et al., 2024).

3.2. EU regulatory and strategic frameworks

The European regulatory environment is increasingly relevant to DRT and integrated mobility, especially where services depend on data exchange, multimodal information, integrated ticketing and user-facing digital interfaces.

A first important reference is the **Sustainable and Smart Mobility Strategy** of the European Commission (2021), which frames the green and digital transformation of EU transport and highlights smart, connected and inclusive mobility as key objectives. The strategy also announced reforms concerning data access and multimodal mobility services.

A second important reference is the **EU Urban Mobility Framework**, which calls for urban mobility systems that are safe, accessible, inclusive, affordable, smart, resilient and emission-free. While not specific to DRT, the framework creates a policy environment in which flexible, demand-led and digitally integrated mobility solutions are highly relevant, especially when they contribute to public transport attractiveness and inclusion.

A third major element concerns data and multimodal digital mobility regulation. The revised **Delegated Regulation (EU) 2024/490**, updating the earlier MMTIS framework, is particularly relevant because it strengthens requirements concerning the accessibility of dynamic travel and traffic datasets. For DRT and integrated mobility actors, this is significant: service integration depends on the discoverability, quality and exchange of data on routes, stops, availability, prices, accessibility conditions and real-time operational status. In parallel, the ongoing debate around **Multimodal Digital Mobility Services (MDMS)** reflects the growing importance of fair access, platform regulation, non-discriminatory distribution and consumer rights in multimodal digital ecosystems.

Together, these policy developments point in one direction: mobility innovation is no longer just about introducing new vehicles or apps. It is increasingly about creating interoperable, user-centred and publicly aligned mobility systems, supported by shared digital infrastructures and fit-for-purpose governance.

3.3. Main market drivers and barriers for DRT and integrated mobility

Several **structural drivers** are accelerating interest in DRT and integrated mobility.

Decarbonisation and sustainability pressures: Public authorities need to reduce emissions while preserving accessibility. DRT can help optimise vehicle occupancy, reduce unnecessary circulation in low-demand contexts and support shifts away from private car dependency when integrated with wider public transport systems.

Service flexibility and territorial inclusion: Traditional fixed-route services can underperform in low-density, dispersed or temporally variable demand environments. DRT offers a more flexible option in rural, peri-urban and suburban contexts, and can address gaps in first- and last-mile provision.

Digital maturity: The spread of smartphones, cloud computing, geolocation, real-time routing and API-based integration has lowered the operational barriers that once limited demand-responsive services. What was previously difficult and expensive to coordinate can now be managed with far greater speed and precision.

User experience expectations: Travellers increasingly compare public mobility services not only with conventional public transport, but also with digital consumer platforms. Reliability, transparency, booking convenience and integrated payment therefore matter more than before.

Innovation funding and experimentation: European programmes, national innovation funds and municipal pilot budgets have created opportunities to test DRT and MaaS solutions. Although not all pilots have scaled, they have expanded the practical knowledge base.

However, the growing momentum behind DRT and integrated mobility should not obscure the significant **barriers** that still limit large-scale deployment and long-term sustainability.

Economic sustainability remains one of the biggest challenges. Many services are operationally feasible but financially fragile. DRT often performs well in terms of service quality or social inclusion, but not always in terms of farebox recovery or scale economics. This is particularly true when services are designed as stand-alone pilots without integration into wider transport planning.

Institutional fragmentation is another major barrier. Transport authorities, operators, municipalities, digital providers and data intermediaries often work under different incentives, standards and governance arrangements. This slows integration.

Interoperability and data governance are still unresolved in many markets. Even where data exists, it may be incomplete, proprietary, low quality or not shared under workable conditions.

User acceptance and inclusiveness also matter. Research shows that public acceptance depends not only on technical performance but also on trust, ease of use, social legitimacy and clear value compared to existing alternatives. Digital-only service models risk excluding people with limited digital access or lower confidence in app-based systems.

Scaling from pilots to durable services remains difficult. Many initiatives demonstrate promise at pilot level, while struggle to move into stable long-term service models due to procurement limitations, unclear performance indicators, fragmented ownership of results or insufficient business model clarity.

4. DRT and integrated Mobility, an updated state of the art

DRT generally refers to passenger transport services where routes, schedules or stop patterns are adapted to user demand rather than fixed in advance in the same way as conventional public transport. The service may be door-to-door, stop-to-stop, corner-to-corner, zonal or feeder-based. Bookings may be made through apps, call centres, websites or hybrid channels.

The literature underlines that DRT is not one homogeneous model. Rather, it includes a spectrum of operational configurations, such as fully dynamic ride-pooling services, semi-flexible route deviation models, feeder services linked to rail or bus hubs, paratransit services, rural mobility services and urban microtransit solutions (Buics et al., 2024; Paddeu et al., 2024). This diversity is strategically important. It means that the business case, public value and technical requirements of DRT depend heavily on context. A rural public service DRT model will differ significantly from an urban microtransit pilot or a platform-mediated employee shuttle.

The state of the art in DRT increasingly involves integration into wider mobility systems rather than isolated service design. Integration may occur at different levels:

- Information integration, where users can see DRT options within journey planners.
- Booking integration, where DRT can be reserved through the same interface as other modes.
- Ticketing/payment integration, where fares are aligned or payable within a single account.
- Operational integration, where DRT acts as a feeder or extension to public transport.
- Institutional integration, where DRT is planned and governed as part of regional mobility policy.

This logic aligns with MaaS thinking, which defines mobility as a service accessible through a single digital interface combining public and private modes according to user needs. Yet the experience of the past decade shows that integration is easier to describe conceptually than to realise institutionally.

MaaS literature repeatedly notes that technical integration does not automatically produce viable ecosystems. Successful integrated mobility requires incentives, trust, governance, contractual clarity and viable revenue-sharing arrangements.

4.1. Main DRT deployment models

A useful way to describe the current state of the art in DRT and integrated mobility is through deployment typologies, as these make it possible to distinguish between different operational models, territorial contexts, governance arrangements, and service objectives. Analysing DRT through typologies helps clarify how innovation patterns vary across urban, peri-urban and rural environments, as well as how technologies, business models and levels of integration are adapted to specific mobility needs and demand conditions.

Rural and low-density DRT
These services respond to sparse settlement patterns and low demand volumes. Their value proposition often includes social inclusion, access to services, and efficient allocation of public transport resources. They may replace underused fixed routes or provide feeder functions to main corridors.

Urban and suburban feeder DRT
These services are typically designed to connect neighbourhoods, business parks or peripheral areas to rail, metro or trunk bus networks. Their performance depends on integration with timetables, tariffs and interchange quality.

Targeted user-segment DRT
Some services focus on elderly users, persons with disabilities, shift workers, school transport or health-related mobility. These schemes can deliver strong social value but often require tailored service design and strong coordination with public agencies.

Platform-led microtransit or pooled on-demand services
These models are more technology intensive and often framed in innovation or startup language. They may generate strong visibility but face tougher questions on public interest, regulation and long-term viability if not embedded in public transport strategies.

4.2. The stakeholder ecosystem

The DRT and integrated mobility ecosystem include a complex and highly interconnected set of actors whose roles, responsibilities, and interests often overlap across technological, operational, regulatory, and commercial dimensions. The effectiveness and scalability of DRT services increasingly depend on the capacity of these stakeholders to cooperate within integrated mobility ecosystems, share data and digital infrastructures, align governance frameworks, and jointly contribute to the development of user-centred and interoperable transport solutions.

Transport authorities and municipalities play a central role in defining mobility policies, regulating service provision, financing operations, and ensuring that DRT solutions contribute to broader public transport and sustainability objectives.

Public transport operators are increasingly integrating DRT services into existing transport networks in order to improve first- and last-mile connectivity, optimize service coverage, and enhance operational flexibility.

Technology providers and software developers supply the digital infrastructure required for DRT operations, including booking platforms, routing algorithms, data analytics systems, and real-time passenger information tools.

Mobility platforms and MaaS operators facilitate the integration of multiple transport services within unified digital ecosystems, enabling users to plan, book, and pay for multimodal journeys through a single interface.

Telecommunications, cloud service providers, and data intermediaries support the storage, exchange, and processing of large volumes of mobility data, which are essential for real-time operations and interoperability between services.

Vehicle manufacturers and fleet providers contribute to the deployment of more sustainable and technologically advanced fleets, including electric, connected, and potentially automated vehicles adapted to flexible transport operations.

Research organisations, universities, and innovation networks support experimentation, impact assessment, and knowledge transfer by analysing operational experiences and identifying emerging trends and best practices.

Users, local communities, and civil society organisations are essential stakeholders in ensuring that DRT and integrated mobility services remain accessible, inclusive, user-oriented, and aligned with real mobility needs across different territories and population groups.

5. Digitalisation trends

Digitalization is one of the main drivers transforming DRT and integrated mobility systems, enabling more flexible, data-driven, and user-oriented transport services. Recent technological developments are reshaping how mobility services are planned, operated, integrated, and accessed, while also creating new opportunities for efficiency, sustainability, and multimodal coordination. At the same time, the growing reliance on digital infrastructures raises important challenges related to interoperability, cybersecurity, data governance, and digital inclusion (Calabrò et al., 2024; UITP, 2025).

Within the DRT sector, digital innovation increasingly supports the transition from static and route-based transport models toward dynamic and demand-responsive mobility ecosystems. Technologies such as artificial intelligence, cloud computing, real-time data platforms, mobile applications, and digital integration tools are becoming central elements of both operational management and customer experience.

5.1. Artificial Intelligence, Optimisation and Dynamic routing

A central digitalisation trend in DRT is the increasing use of algorithmic tools to predict demand, pool requests, optimise routes and manage dispatching in real time. These tools are essential because DRT performance depends on balancing often competing goals such as minimising waiting times, limiting detours, maintaining acceptable occupancy and controlling operating costs.

The most relevant use cases include:

- Demand forecasting based on historical and contextual data.
- Dynamic vehicle assignment.
- Ride pooling and detour management.
- Service area and stop optimisation.
- Predictive repositioning of vehicles.
- Scenario simulation for planning and policy testing.

For DREAM_PACE, **the strategic implication is that digital intelligence should be seen as an enabler of service quality and efficiency, but not as a substitute for sound service design**. Poorly designed service areas, weak network integration or unclear user value propositions cannot be solved by algorithms alone.

5.2. Real-time data platforms and Open interfaces

DRT and integrated mobility depend on data environments that allow multiple actors to exchange and use information in near real time. This includes vehicle location, booking status, travel times, disruptions, availability and fare information. The spread of APIs and cloud-native architectures has facilitated faster integration across services (European Commission, 2024; European Commission JRC, 2024). At the same time, the importance of open or standardised interfaces has increased. When platforms are closed or data is not made accessible in usable formats, multimodal integration remains superficial (UITP, 2024).

The relevance of the revised **EU Multimodal Travel Information Services (MMTIS) framework** is therefore high. **By strengthening expectations around dynamic data accessibility, the EU is creating conditions for more interoperable service environments.** For DRT providers, this may increase both opportunities and compliance requirements. For authorities, it increases the need to think strategically about data governance, procurement specifications and platform neutrality.

5.3. Mobile interfaces, Booking channels and Customer experience

The smartphone has become the default gateway to many DRT and integrated mobility services. App-based interfaces allow users to book, track, pay and evaluate journeys. In integrated mobility contexts, they can also compare multimodal options by price, duration or environmental footprint (Karlsson et al., 2022). However, the literature and practical experience caution against digital determinism. App-based service design can improve convenience for many users, but it may also create exclusion risks for people who lack smartphones, digital confidence or stable connectivity (Weikl and Bogenberger, 2024). Inclusive DRT therefore requires hybrid access channels such as call centres, simplified interfaces, accessible design and support for assisted booking.

This point is strategically important for DREAM_PACE because **inclusive mobility is not merely a social add-on. It is a condition for public legitimacy and broad adoption.**

5.4. Further digital trends shaping the future of DRT

Digital Twins, Simulation and Planning Tools
Digital twins and simulation environments are becoming more relevant in mobility planning. In DRT contexts, they can support service design, scenario testing and impact assessment before deployment. Examples include testing different fleet sizes, zoning strategies, booking rules, integration scenarios or passenger demand assumptions.
Although these tools are not yet uniformly mainstream across all local authorities, their strategic importance is growing. They can reduce the risks of under-designed pilots, improve procurement intelligence and help stakeholders compare service configurations before committing operational budgets.

Connected, Electric and Potentially Automated Fleets
Digitalisation trends intersect with vehicle technology trends. Many DRT services are being deployed with low-emission or electric vehicles, especially where authorities want flexible mobility to align with climate targets. In the longer term, connected and automated vehicle developments may affect DRT by changing operating economics, service reliability and safety management.
However, it is important not to overstate short-term automation impacts. In the present planning horizon, the most consequential technology shifts for DRT are still digital dispatching, integration platforms, electrification planning and better data-driven service management.

Cybersecurity, Privacy and Trust
As mobility services become more data intensive, cybersecurity and privacy are no longer peripheral topics. DRT services process personal travel data, location data, account details and often sensitive accessibility-related information. Service resilience also depends on the security of operational platforms and communications infrastructure.
Compliance with data protection rules such as GDPR is essential, but trust goes beyond legal compliance. Users and public authorities need confidence that digital systems are reliable, transparent and resilient. For this reason, future strategies should include privacy-by-design and security-by-design principles, not only service functionality.

6. Business innovation trends

Alongside technological evolution, DRT and integrated mobility systems are also undergoing significant business and organisational transformation. The emergence of digital mobility ecosystems is changing traditional relationships between public authorities, transport operators, technology providers, and users, while creating new forms of collaboration, service provision, and value creation. In this context, innovation increasingly concerns not only technologies, but also governance models, partnership structures, procurement approaches, and revenue-generation mechanisms (Alonso-González et al., 2024; MaaS Alliance, 2025).

Recent developments show a progressive transition from isolated transport services toward integrated and platform-based mobility models, where coordination between multiple actors becomes a key factor for operational efficiency and customer experience. At the same time, DRT services are increasingly expected to balance economic sustainability with broader public objectives such as accessibility, territorial cohesion, social inclusion, and environmental sustainability (UITP, 2024; Paddeu et al., 2024).

Within this evolving landscape, business innovation plays a crucial role in enabling the scalability and long-term viability of DRT and integrated mobility solutions.

6.1. From Single-Service provision to Mobility Ecosystems, Public-Private Partnerships and Collaborative models

One of the most important business innovation trends is the move away from single-service provision toward ecosystem thinking. In traditional public transport, operators often focused on their own route networks and service contracts. **In integrated mobility, value is increasingly created through coordination across services, data flows, user accounts and distribution channels.** Public authorities must therefore increasingly redefine their role from direct service controller toward ecosystem steward while still safeguarding public interest.

Public-private partnerships are especially relevant in DRT because few actors can independently provide all necessary capabilities. Public authorities may define service objectives, subsidy frameworks and accessibility conditions. Operators may run fleets and staff operations. Technology firms may provide routing software, apps, dispatching systems and analytics.

The quality of these partnerships matters more than their existence alone. **Strong partnerships are characterised by clear allocation of roles, shared KPIs, realistic expectations about performance, and procurement models that support adaptation over time.** Weak partnerships, by contrast, often lead to pilot fatigue, unclear ownership of data, and misalignment between social value goals and commercial incentives.

6.2. Platform Business models, MaaS Economics, Procurement and Contracting

The MaaS literature has repeatedly shown that technical feasibility does not automatically translate into business viability (Karlsson et al., 2022; Alonso-González et al., 2024). Several monetisation logics are visible in the market, including transaction commissions, subscription models, software-as-a-service fees, public service contracts and data-driven services. Yet most evidence suggests that **profitability remains difficult when user volumes are low, integration is partial, or platform control is fragmented** (MaaS Alliance, 2024; UITP, 2025). This is one reason why many successful schemes rely on public-sector anchoring or strong integration with existing public transport systems.

Business innovation is not limited to private-sector entrepreneurship. It also includes innovation in procurement and contracting. For DRT, this is crucial because the design of contracts can either enable or stifle service improvement.

Traditional public transport procurement may be poorly suited to highly adaptive services. DRT often requires space for iterative optimisation, data sharing obligations, service-quality monitoring in real time, and flexible adjustment of operating parameters. Contracts therefore need to specify not only outputs, but also collaboration practices, access to operational data, customer service requirements and learning mechanisms.

This is a promising field for DREAM_PACE because **many authorities still lack practical frameworks for procuring digitally enabled, integrated mobility services without becoming locked into proprietary systems**.

6.3. Inclusion, Accessibility and the Social business case

An important business innovation trend is the recognition that value creation in mobility must include social value. DRT may not always outperform fixed-route services on purely commercial metrics, but it may generate substantial public value by improving accessibility, reducing transport poverty, enabling labour market participation or supporting ageing populations.

This implies that **evaluation frameworks should move beyond narrow cost-per-trip metrics**. More holistic KPIs may include accessibility gains, modal shift, avoided emissions, user satisfaction, service reliability, territorial coverage and inclusion effects. Such wider metrics are particularly relevant in public-interest mobility innovation.

6.4. Corporate and Institutional mobility services

A more recent trend in the broader mobility ecosystem is the development of corporate mobility and targeted B2B mobility packages. MaaS Alliance discussions around Corporate Mobility as a Service suggest that companies are increasingly exploring integrated mobility packages for employees as a way to reduce parking demand, improve commuting options and support sustainability goals.

This trend is relevant for DRT because **employee transport in business parks, campuses, industrial areas and peri-urban employment zones is often a weak point in conventional public transport networks**. Tailored DRT solutions may therefore play a role in corporate mobility packages or employer-supported mobility services.

7. Conclusions and recommendations

The evolution of DRT and integrated mobility industries reflects a larger structural change in transport: the move from static, mode-specific systems toward dynamic, data-enabled and user-oriented mobility ecosystems. DRT has a particularly important role in this transition because it can address one of the hardest problems in transport planning, namely: how to provide accessible and efficient service where conventional fixed-route models are poorly matched to demand.

At the same time, the analysis confirms that DRT is not a universal solution and should not be pursued as a fashionable technology category in its own right. Its value depends on context, integration, governance quality and realistic business design. The strongest opportunities lie where DRT complements rather than competes with the wider public transport system, and where digital tools are used to solve clearly defined mobility problems.

For DREAM_PACE, the main opportunity is to act as a strategic connector between technology developments, business innovation and practical deployment conditions. The project can contribute by helping stakeholders interpret current trends, identify transferable models, reduce fragmentation and move from isolated experimentation to more coherent innovation pathways.

On this basis, the report proposes the following recommendations:

1. Treat DRT as part of integrated mobility system design, not as a stand-alone innovation niche.
2. Prioritise interoperability, data governance and openness as enabling conditions for scale.
3. Support business and procurement innovation alongside technical innovation.
4. Adopt broader evaluation frameworks that include accessibility, inclusion and public value.
5. Build a typology of cases and implementation conditions to support transferability across territories.

Overall, the analysis suggests that the future development of the DRT ecosystem will increasingly depend on the capacity of stakeholders to combine technological innovation with integrated governance, interoperable digital infrastructures, sustainable business models, and inclusive service design, while moving from isolated pilot experiences toward scalable and territorially adaptable mobility solutions capable of responding to evolving social, environmental, and operational challenges.

8. References

DREAM_PACE project sources

1) DREAM_PACE Application Form, Version 3.0. 2025.
2) DREAM_PACE D1.1.1 “Report on governance and planning for public transport, mobility innovations and DRT in CE Regions”. 2023.
3) DREAM_PACE D1.1.2 “State of the art report on governance structures and planning processes for DRT in the pilot areas”. 2024.
4) DREAM_PACE D1.1.3_” Development scenarios for DRT innovative governance and planning approaches”. 2024.
5) DREAM_PACE D2.1.1 “Analysis report on DRT digital and operational innovations in CE Regions and engaged areas”. 2023.
6) DREAM_PACE D2.1.2 “State of the art report on digital and operational approaches for DRT in the pilot areas”. 2024.
7) DREAM_PACE D2.1.3 “Development scenarios for DRT innovative digital and operational approaches”. 2024.
8) DREAM_PACE D1.3.3 “Final report pilot 1.1: governance and planning model for integrated DRT public transport”. 2025.
9) DREAM_PACE D1.4.3 “Final report pilot 1.2: governance and planning model for integrated DRT-public transport”. 2025.
10) DREAM_PACE D2.3.3 “Final report pilot 2.1: DRT digital /operational model improving existing DRT networks responsiveness”. 2025.
11) DREAM_PACE D2.4.3 “Final report pilot 2.2: experimental DRT service model in a new regulatory framework”. 2026.
12) DREAM_PACE D3.1.1 “Methodological background for the design of DRT integrated solutions”. 2023.
13) DREAM_PACE D3.1.2 “DRT strategy draft and setup of the consultation process”. 2024.
14) DREAM_PACE D3.1.3 “Topic guide DRT 3.0 in Sustainable Urban Mobility Plans (SUMPs)”. 2026.
15) DREAM_PACE D3.2.2 “Report on strategy setting workshops for action plans' implementation”. 2025
16) DREAM_PACE D3.2.3 “Final Action plans and take up”. 2026.
17) DREAM_PACE D3.3.1 “Report on set up and development of community and measures to animate the debate on DRT trends”. 2025.
18) DREAM_PACE D3.3.2 “Report on actions accompanying the development of pilot activities”. 2025.

Policy and institutional sources

19) European Commission. “Sustainable and Smart Mobility Strategy – putting European transport on track for the future”. 2020.
20) European Commission. “The new EU Urban Mobility Framework”. 2021.
21) European Commission. “Delegated Regulation (EU) 2024/490 amending Delegated Regulation (EU) 2017/1926 with regard to EU-wide multimodal travel information services”. 2024
22) European Parliament Research Service. “Sustainable and smart mobility strategy”. 2021

23) European Commission Joint Research Centre. “Digitalisation Pathways for Sustainable Mobility Systems”. 2024.

24) OECD/International Transport Forum. “Innovative Mobility and On-Demand Public Transport”. 2024.

Academic and professional literature

25) Alonso-González, M.J., Cats, O., and Hoogendoorn-Lanser, S.. “Emerging governance models for Mobility as a Service ecosystems”. Transport Policy. 2024.

26) Buics, L., Prayogo, A., and Balassa, B.E.. “The role of demand-responsive transport systems in sustainable urban mobility: a systematic literature review and stakeholder analysis”. Engineering Proceedings, 79(1), 40. 2024.

27) Calabrò, G., De Marco, A., and Mangano, G.. “Artificial intelligence and optimization in demand-responsive transport systems: trends and implementation challenges”. Transportation Research Procedia. 2024.

28) EIT Urban Mobility. “Scaling Demand Responsive Transport in Europe: Lessons from Urban and Rural Deployments”. 2024.

29) EIT Urban Mobility. “On-Demand and Flexible Mobility Services in European Regions”. 2025.

30) European Mobility Data Space initiative reports. 2024–2025.

31) Haglund, N., Mladenović, M.N., Kujala, R., Weckström, C., and Saramäki, J..” Where did Kutsuplus drive us? Ex post evaluation of on-demand micro-transit pilot in the Helsinki capital region”. Research in Transportation Business & Management, 32, 100390. 2019.

32) Karlsson, I.M., Sochor, J., and Strömberg, H.. “Literature review of mobility as a service”. Sustainability, 14(14), 8962. 2022.

33) MaaS Alliance. “Corporate Mobility as a Service and Integrated Mobility Ecosystems”. 2024.

34) MaaS Alliance. “Mobility Integration and Digital Service Innovation”. 2025.

35) Paddeu, D., Parkhurst, G., and Shergold, I.. “Demand-responsive transport and rural accessibility transitions in Europe”. Journal of Transport Geography. 2024.

36) UITP. “On-Demand Mobility and Integrated Public Transport Systems”. 2024.

37) UITP. “Integrated Mobility and Digital Public Transport Ecosystems”. 2025.

38) UITP. “Digitalization and Innovation Trends in Public and Shared Mobility”. 2025.

39) Weikl, S., and Bogenberger, K.. “Public acceptance and behavioural factors in shared and on-demand mobility services”. Transportation Research Part A. 2025.

40) POLIS Network. “Demand Responsive Transport and Urban-Rural Accessibility”. 2024.