International Transport Forum

Delivering Accessibility that Works

Summary and Conclusions

202 Roundtable

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The International Transport Forum

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Executive summary

Main findings

Accessible transport enables persons with disabilities to travel independently throughout the journey by removing physical obstacles in vehicles and infrastructure, as well as organisational and informational barriers. Clearing these barriers unlocks equal and inclusive access to employment, education, healthcare, and social participation.

The benefits of accessible transport are socially and economically significant, given that over one billion people live with disabilities worldwide. Enabling accessibility ensures dignity and inclusion, fuels economic growth and future-proofs systems for ageing populations. Accessible transport is not only beneficial to persons with disabilities but is a fundamental issue of travel and comfort for everyone.

Governments and transport authorities have improved accessible vehicles, design standards and public awareness over decades, showing that change is possible. One commonly cited reason is that accessibility is still treated as a technical add-on rather than a core system requirement, resulting in patchwork fixes that fail to meet user needs. An attitudinal barrier reinforces this: accessibility is often viewed as secondary, or relevant only to a small group, rather than as a basic condition for a usable transport system. At the same time, decision makers face a wide range of challenges when attempting to deliver accessible transport systems, including fragmented governance and unclear institutional responsibilities, financial and resource constraints, legacy infrastructure and costly retrofits, limited training and inadequate maintenance and monitoring.

Despite these challenges, authorities worldwide have advanced accessibility through targeted interventions and creative problem-solving. We find that success stories showcase important principles and concrete examples of how practitioners can promote accessibility. At a systems level, authorities have addressed fragmented responsibilities, resource constraints, and slow progress by establishing durable funding and financing frameworks, clearer governance and accountability arrangements, and formalised co-creation processes, alongside programmes to build institutional capacity. At a more immediate, practical level, they have focused on ensuring accessibility is reliable in day-to-day service by providing training, embedding accessibility checks into routine operations and maintenance (including monitoring and contingency planning), and improving wayfinding, design, and information so that journeys are usable, legible, and more independent in real-world conditions.

Recommendations

Adopt and apply universal design principles to achieve accessible transport environments and ensure proper implementation through routine maintenance and monitoring

Universal design principles should be adopted from the outset in transport environments by integrating intuitive wayfinding (e.g., multimodal cues, consistent signage), accessible layouts (step-free routes, minimised sensory overload), and operations that allow persons with disabilities to travel spontaneously and independently. These principles reach their full significance when applied through participatory methodologies. Routine maintenance and monitoring, as seen in the Netherlands, are crucial to ensuring that these principles are well implemented: preventive inspections, real-time technologies, and contingency protocols for failures prevent accessibility-critical assets such as lifts or tactile paving from degrading into barriers. Even in legacy systems or constrained budgets, incremental upgrades during scheduled maintenance cycles, such as announcements or ramps, progressively embed universal design without major capital investment. This is evident in the case study from Portugal, which shows that accessibility can still be improved even within budgetary constraints.

Establish and sustain co-creation processes with disabled persons to embed lived experience in transport systems

Whether designing transport services and operations or developing accessibility training programmes, by keeping community members with lived experience in the loop, policymakers are more likely to deliver a truly inclusive transport system. Since accessibility challenges evolve with changes in mobility patterns and demographic shifts, and new solutions become available with emerging technologies, co-creation should be continuous, not episodic: persons with disabilities should be engaged from the beginning of a project through implementation. This iterative co-creation process ensures that the system meets the needs of diverse users. Collaborative processes adopted in Spain, Portugal, South Africa, Ireland, and India demonstrate how more inclusive systems and practices could be designed. Training programmes co-designed and delivered by persons with lived experience for transport professionals and other stakeholders ensure that the content addresses real-world challenges and fosters deeper understanding and empathy among trainees.

Create governance structures and frameworks that guide co-ordinated action, with clarified roles and sustained training to enable operationalisation

While governments can protect the rights of persons with disabilities through legislation, they also need to establish additional mechanisms to address common gaps in policy implementation. More specifically, policymakers should design frameworks that clarify who is accountable for delivering each accessibility element, who maintains it, what staff training is required and how often it happens, and how operators will work with the community. Legal anchors can be an effective tool for achieving high-level co-ordination: constitutional clauses and detailed accessibility acts help align stakeholders by creating binding obligations, as demonstrated in the case study of South Africa. However, these legal obligations need to be translated into more detailed roles and responsibilities to ensure implementation. This can be achieved through well-designed service contracts, concessions, and local governance mechanisms that specify the exact functions each stakeholder undertakes, as seen in case studies from France, Azerbaijan, and Sweden. Importantly, to sustain these mechanisms over time, each relevant staff member must be fully capable of performing the required roles effectively and compassionately. For this reason, adequate and continuous training must be specified as an integral part of these governance structures.

Make accessibility financially viable and commercially attractive using financial instruments and procurement

When funding transport projects, accessibility should be integrated into procurement processes. As infrastructure decisions lock in decades-long accessibility outcomes, early procurement integration prevents inefficient spending by "baking" universal design into tenders. This can also help public authorities align private investment with accessibility goals. Contracts should include performance indicators (such as the number of accessible bus stops), accompanied not only by fines for failing to meet accessibility standards but also by bonuses for exceeding them, to help ensure accessibility is maintained in operations and service delivery. Policymakers can design schemes that help private operators capitalise on the commercial benefits of serving a growing segment of the population by increasing footfall in commercial spaces near transport hubs and boosting ticket revenue. Case studies explored in this report including examples from Japan, Mexico, Sub-Saharan Africa, Sweden, and the Netherlands.

Introduction

The World Health Organization defines disability as “an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and that individual’s contextual factors (environmental and personal factors)” (WHO, 2011). At least 15% of the global population lives with some disability. As of 2025, this means roughly 1.3 billion people globally live with a disability, a figure expected to rise to 2 billion by 2050, with 80% in developing regions (World Health Organization, 2011).

When we account for caregivers, older persons and those with temporary disabilities, it becomes clear that accessible mobility is a basic need for many. Being able to travel independently determines access to work, education, healthcare, and social life, yet persons with disabilities continue to face significant difficulties worldwide. It is estimated that accessibility gaps reduce journeys by 30-50% for persons with disabilities compared to the general population (World Health Organization, n.d.). While progress is being made globally, many travellers still face physical, informational, and attitudinal barriers. This issue persists across countries and contexts, even where formal commitments to accessibility exist.

Many governments and transport authorities have made real progress, including adopting accessible vehicles, new infrastructure design standards, and increased awareness. Yet progress is often slow and inconsistent, indicating that accessibility is still often seen as a secondary consideration rather than a basic service requirement. As aptly put by the Roundtable keynote speaker, Stephanie Cadieux, Canada’s first Chief Accessibility Officer, “complex change can happen fast when it’s a priority” (see Box 1 for more context).

Part of the problem is that accessibility (and who it serves) is often misunderstood. Too often, it is shaped by assumptions about disability rather than by the actual realities of people. This results in partial solutions that may address specific barriers, but do not create an accessible overall journey. To achieve a truly accessible journey for all, the paradigm must shift from viewing accessibility as a technical add-on to viewing it as an integral feature “baked" into every functioning transport system.

The sections that follow clarify what accessibility entails, why it matters, who it serves, and demonstrate what can be done to improve the lives of all travellers.

What is accessibility and accessible design?

Accessibility is what enables persons with disabilities to live independently and participate fully in society. It refers to the level at which the characteristics and functionalities of products, devices, services, systems, and environments enable persons with disabilities to have equal opportunities to participate in all aspects of life (United Nations, n.d.). Accessibility in the transport context refers to the degree to which persons with disabilities can independently arrive at, enter, use and navigate the whole journey. This requires removing physical, operational, organisational, technological and informational barriers across vehicles, infrastructure and services so that persons with sensory, cognitive, and physical impairments can travel safely and confidently (The World Bank, 2022a).

While “accessibility” is a concrete outcome, achieving it involves multiple approaches. One commonly cited approach is universal design.

Universal design principles

Universal design is defined in the UN Convention on the Rights of Persons with Disabilities as "the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design" (Centre for Excellence in Universal Design, n.d.).

Universal design is focused on seven key principles:

1. Equitable use: Provide persons with different abilities access to the same experience, rather than a main version for some and a separate version for others. For example, a metro station with step-free access at every entrance makes it easy for wheelchair users, travellers with strollers and older persons to use the same path as everyone else.
2. Flexibility in use: Offer multiple valid ways to use something so people can adapt it to their preferences or abilities. For instance, ticketing systems that let users choose between vending machines and mobile apps.
3. Simple and intuitive use: Make the system easy to understand regardless of prior experience, language level or cognitive load. A good system removes unnecessary complexity, aligns with user expectations and presents information in a clear hierarchy. In other words, people can use it without training. A transport example is a station layout where colours and symbols are consistent across maps, platforms and vehicles, allowing people with low literacy or language barriers to navigate easily.
4. Perceptible information: Present information in a manner that people in different conditions and with different sensory abilities can perceive it. That usually means combining visual, auditory and tactile cues. For example, a bus station with both visual countdown screens and clear audio announcements for bus arrivals provides travellers with hearing or visual impairments the same experience as other passengers.
5. Tolerance for error: Minimise the likelihood and impact of mistakes, especially when errors could pose safety risks, cause exclusion, or result in high costs for users. Concrete measures include layouts that steer people away from hazards, clear warnings and "fail safe" behaviour so accidental actions do not have severe consequences. For example, tactile edge tiles and wide safe-waiting zones prevent visually impaired or distracted travellers from stepping too close to the platform edge.
6. Low physical effort: Build a system that can be used comfortably without unnecessary strain or fatigue. It should allow reasonable forces on controls, limited repetitive actions and avoid long periods of sustained effort. For instance, the use of automatic doors and ample seating options to enable older adults to move through stations without fatigue.
7. Appropriate size and space for use: Provide enough space and the right layout so that people with different body sizes, postures and mobility aids can use them. For example, providing wide fare-gate aisles that allow wheelchair users, people with assistance and guide dogs, and travellers with large luggage or strollers to enter the station easily without having to request staff assistance.

Why is accessibility important?

Compliance and enforcement of legal obligations and international commitments

Legal obligations at the national and regional level as well as international commitments, such as the UN's Convention on the Rights of Persons with Disabilities (CRPD), which was adopted by 68 of the ITF's member countries (United Nations, n.d.), and the European Accessibility Act, establish accessibility as a core duty of policymakers, considering it as a human right in itself (United Nations, 2014). Such legal tools, as well as specifying (technical) guidelines and norms mandate that products and services across sectors be accessible, including in the transport sector (European Commission, n.d.; Government of Canada, 2026).

Regulations often provide detailed accessibility requirements for public transport vehicles, stations, ticketing systems and pedestrian facilities (U.S. Department of Transportation, 2025). Municipalities and other authorities operationalise these obligations at the city level by making step-free access, accessible information, and barrier-free routes a condition for obtaining permits, concessions, or operating licences on different territorial levels (United Nations, 2020).

Many countries have anti-discrimination legislation in place. This means that physically or digitally inaccessible public services and infrastructure are defined as a form of discrimination against people with disabilities, exposing service providers to legal action from citizens and organisations. For example, in Austria, disputes concerning accessibility are primarily handled through a mandatory extrajudicial arbitration procedure ("*Schlichtungsverfahren*"), designed to be a low-threshold, free-of-charge process to resolve discrimination issues (Government of Austria, 2025). Since the Austrian Federal Disability Equality Act came into effect in 2006, more than 1,000 conciliation procedures have been conducted, and settlements have been reached in more than 40% of cases (Government of Austria, n.d.).

Promoting economic growth, dignity, quality of life and social inclusion

When more people with disabilities can reliably access jobs, education, healthcare, and other services, they are more likely to work and lead active lives (WHO, 2011). This not only reduces poverty risks but also increases feelings of dignity and self-esteem by enabling people to live more independently and engage more fully in the community (World Health Organization, n.d.-a). Accessible vehicles, stations and streets also support tourism and local businesses by attracting more customers (ITF, 2017). At the same time, inclusive design reduces the effort and stress of travelling and is associated with better physical and mental health and higher overall life satisfaction (Claudel R. Mwaka et al., 2023). As disability is closely linked to financial vulnerability, public institutions often need to step in more strongly to prevent exclusion, especially when both happen at the same time (Bascom and Christensen, 2017).

Responding to changing users and evolving mobility needs

Demographic changes are reshaping accessibility needs as the share of older adults ages 65 and older grows. UN projections indicate that this group will double between 2019 and 2050 (Nations et al., 2019), which means that the prevalence of disabilities linked to ageing and chronic disease is also expected to rise (WHO, 2011). This makes accessible transport not just a disability issue, but a long-term structural requirement for ageing, urbanising societies (Frye, 2011; ITDP, 2024; ITF, 2017)

Who uses accessible transport systems?

Accessible transport must serve a wide range of users whose needs often go beyond what is visible. While universal design features benefit everyone, certain groups require more attention when planning inclusive mobility systems. These include persons with permanent physical, sensory, cognitive, or psychosocial disabilities, as well as individuals with temporary limitations such as injuries, pregnancy, travelling with luggage, or caring for young children. Importantly, accessibility cannot focus only on the most visible disabilities, such as wheelchair users or blind passengers. Many barriers arise from less visible conditions, such as neurodiversity, chronic illness, and environmental and social constraints. The specific limitations and requirements of each group are discussed in more detail below.

- Physical disability: Individuals with a limited ability to walk, stand, or climb steps (ITF, 2024a). Persons with limited mobility may require step-free access at stations, lifts large enough for wheelchairs, level boarding between platforms and vehicles, non-slip surfaces and accessible toilets.
- Sensory, cognitive, and invisible disabilities: Individuals whose needs arise from reduced vision or blindness, hearing loss, cognitive or intellectual disabilities, psychosocial disabilities or chronic illnesses that are not immediately visible (United Nations, 2014). Persons with sensory disabilities may require tactile paving and detectable guidance for navigation, audio and visual announcements, high-contrast signage, simple, multimodal, and intuitive wayfinding, quiet or low-sensory environments, and intuitive layouts that reduce stress. Persons with cognitive or intellectual disabilities, psychosocial disabilities, or neurodivergent persons with conditions such as autism or ADHD may require environments that reduce sensory overload and provide clear, predictable information. People with reduced or suppressed immune systems may additionally need measures that minimise infection risk, such as good ventilation, cleaning routines and options to avoid crowded spaces.
- Age: Older adults may experience changes in balance, vision, hearing, and reaction time, which increase reliance on accessible, predictable travel environments (Frye, 2011). Older adults require frequent seating, escalators or lifts, good lighting, large, high-contrast information displays, longer crossing times, and non-slip walking surfaces to travel comfortably and confidently.
- Temporary limitations: Individuals who face short-term mobility constraints, such as pregnant women, persons caring for children, carrying heavy luggage and strollers, or recovering from injuries. Persons with such temporary limitations may require wide gates, ramps instead of stairs, good lighting, step-free routes, priority seating, and level boarding.

What challenges and barriers do decision makers face in delivering accessible transport systems?

Even when the needs of the target audiences are well understood, implementing accessible transport systems is complex. Challenges include gaps in standards, fragmented or inconsistent regulations, limitations in data availability and quality, weaknesses in digital accessibility, and persistent barriers in first- and last-mile connectivity. While all these issues matter, some obstacles recur more consistently across countries, governance levels, and transport modes. Based on discussions with ITF stakeholders, several of these barriers are particularly persistent and consequential. The most significant pain points we identified are outlined and discussed in more detail below.

- Inadequate maintenance and operations: Even when accessibility legislation exists, its interpretation and implementation vary, and monitoring and maintenance mechanisms are often weak. This results in uneven compliance and slow progress across different modes and regions. Operators may meet vehicle accessibility requirements on paper, but real-world features such as audio announcements or lifts are often out of service.
- Legacy infrastructure and costly retrofits: Older transport systems make retrofits technically complex and expensive. For example, installing lifts in deep metro stations often requires major structural changes and long service closures.
- Financial and resource constraints: Accessibility investments often compete with other transport priorities, which can delay implementation or limit the scope of accessible features. For instance, a city may purchase low-floor buses but lack the budget to adapt bus stops, leaving the bus network difficult for passengers with limited mobility to access.
- Fragmented governance and unclear institutional responsibilities: When responsibilities for planning, funding, regulating, and maintaining accessibility are split across national ministries, regional transport authorities, and municipalities, no single body is accountable for delivering a seamless, accessible system.
- Limited expertise and training: Authorities and operators may lack specialised knowledge of universal design principles required to provide a door-to-door accessible journey. For instance, staff responsible for procuring ticket machines may not be trained to evaluate accessibility features such as tactile interfaces or screen contrast.

Report scope

The above barriers were discussed in depth during an ITF Roundtable. This two-day expert event was held in Paris and brought together practitioners, policymakers, operators and researchers to discuss what it takes to deliver accessibility that works. Discussions focused on case studies that successfully overcame the challenges mentioned above. The Chair played a central role in shaping the discussion, keeping sessions focused on practical takeaways, drawing connections across themes, and synthesising key messages into a coherent set of conclusions.

The report is largely based on the case studies presented in the Roundtable and is organised around five thematic chapters. Each chapter addresses a specific barrier to implementing accessible transport systems and focuses on recommendations and good practices shared by participants, illustrated through the case studies. Together, these chapters provide a practical framework for decision makers to strengthen accessibility planning and delivery.

The report focuses mainly on transport services provided by transport authorities, in particular public transport, shared mobility services and active mobility infrastructure.

Figure 1. Discussions at the Roundtable

Source: OECD

What this report aims to do

The report aims to support decision makers in addressing the main barriers that prevent accessibility from becoming a standard and routine part of transport planning and delivery. It does so by first introducing the best practices and recommendations we endorse and then demonstrating how they are materialised through case studies from around the world. Despite legacy systems, fragmented responsibilities, or tight budgets, the practitioners in the featured case studies advanced accessibility by deploying targeted interventions and demonstrating creative problem-solving. By focusing on what has worked in practice, this report aims to provide transport leaders with inspiring, achievable examples. At the same time, these examples should not be read as a simple recipe for achieving accessible transport. Where accessibility gaps are deep or long-standing, substantial funding, sustained institutional commitment and time may still be needed to bring systems up to an acceptable standard. When these are not feasible, thoughtful efforts can lead to significantly more accessible transport systems (Durand, et al., 2023).

What is not included in the report and why

This report does not aim to cover all barriers policymakers face when delivering accessible transport systems or reiterate international accessibility standards. The scope is intentionally selective, focusing on the challenges most consistently raised by Roundtable participants and other stakeholders as the most urgent and actionable.

Extensive technical work on standards, specifications and compliance frameworks already exists, including national accessibility legislation, CRPD guidance (United Nations, 2014), WHO and World Bank accessibility frameworks (The World Bank, 2022a; WHO, n.d.) and numerous design manuals that provide detailed

requirements for infrastructure, vehicles and digital systems. Rather than repeating or expanding on these resources, this report seeks to complement them.

The report also does not attempt to provide a quantified assessment of the effectiveness, cost-effectiveness or transferability of each measure discussed. In many cases, comparable data are limited, outcomes depend heavily on local institutional and operational conditions, and practices that work well in one setting may not deliver the same results in another. The aim is therefore not to offer a ranked list of proven interventions or a universal formula, but to highlight practical approaches that have shown promise in different contexts and may help decision makers identify options relevant to their own systems.

Readers interested in exploring related publications from the ITF are encouraged to refer to previous work on the improved accessibility for motorists with disabilities (Federation Internationale de l'Automobile, n.d), economic benefits of accessibility (ITF, 2017), accessible systems for all travellers (ITF, 2024a), accessible mobility for older persons (Frye, 2015), invisible disabilities (ITF, 2009) and shared mobility (ITF, 2017)

Operations and maintenance

What are operations and maintenance?

Operations and maintenance are the connective tissue between design intent and lived experience. They determine whether accessibility features remain available and reliable over time. In this chapter, we distinguish between these two functions and examine their specific role in sustaining accessible transport systems.

Operations

Operations refer to the day-to-day organisation, management and delivery of transport services. From an accessibility perspective, this includes how information is communicated, how disruptions are handled, and how staff provide assistance.

For accessibility-related infrastructure, operational decisions determine, for example, whether staff are welcoming and trained to assist users with different needs, and whether alternative solutions are provided when systems fail. Functional infrastructure is not enough if communication with travellers is poor: uncertainty and lack of information during disruptions are among the most painful barriers faced by travellers with disabilities (Office of Rail and Road, 2024).

Maintenance

While operations concern how services are delivered in real time, maintenance focuses on asset and infrastructure conditions throughout their lifecycle. From an accessibility perspective, maintenance determines whether the relevant equipment remains functional and safe over time.

Accessibility features are often more sensitive to failures than other assets: poorly maintained stairs may still be usable, while a poorly maintained lift results in a complete shutdown. Eroded tactile paving, misaligned ramps, or unreliable audio announcements not only reduce comfort but also create safety risks for many travellers who rely on these measures.

Authorities also recognise that accessibility-critical assets should receive priority in maintenance regimes. These measures range from preventive inspections and fast repair timelines to maintaining sufficient spare parts and using real-time monitoring technologies (Office of Rail and Road, 2024; UK Department of Transport, n.d.).

Why are operations and maintenance essential for delivering accessibility that works?

When accessibility features work as expected, and failures are rare and quickly addressed, people can travel with confidence. This is crucial for building credibility and trust, since rapid repairs and transparent communication signal that accessibility is a part of the service, not an afterthought. Over time, this consistency builds confidence in the system.

Proper operations and maintenance keep transport systems accessible over time. Whereas infrastructure upgrade is periodic, tending to it is a continuous effort. Embedding accessibility into operations and maintenance ensures that even older transport systems support the needs of everyone.

Good practice and recommendations

Apply standards and guidelines as the floor but not the ceiling

Accessibility standards and technical guidelines set the baseline, but they do not guarantee that people can travel without barriers. Good practice starts when standards are part of the operations routine. This means requirements that are clear, specific, and enforceable. Including accessibility in concession agreements and service contracts (e.g. lift availability) makes it a measurable component of service delivery. Contracts grounded in periodic evaluations and projections of future demand can also ensure that contractual frameworks evolve in line with changing needs and move beyond a reactive model.

Well-written contracts spell out what matters most to the policymakers behind them. So, if they set targets for accessibility-critical assets and processes (e.g., lifts) and include incentives and penalties, the message that accessibility matters comes across. A good practice is also to encourage operators to maintain assets before they break down, through routine reporting, external checks, and open performance monitoring (UK Department of Transport, n.d.). In fact, good contracts also reward operators who go beyond the minimum. This can be achieved through bonuses or giving extra weight in future procurements to companies with strong accessibility performance. That helps operators prioritise preventive maintenance, focusing on accessible features. It also changes the dynamic: accessibility becomes something operators compete on, not just something they comply with.

Contracts grounded in periodic evaluations and projections of future demand can also ensure that contractual frameworks evolve in line with changing needs and move beyond a reactive model.

Embed accessibility into routine maintenance and monitoring

Accessibility should be an integral part of routine maintenance rather than an exceptional activity. Good practice means making accessibility checks part of everyday work. This means prioritising accessibility-critical components and using monitoring tools to catch issues early and minimise downtime.

Contingency planning matters as much. Complex systems are bound to fail occasionally, but if a protocol exists for every type of failure, travellers will not be left without viable travel options. Transparent communication, staff availability, and real-time public information on the status of accessibility features support informed decision-making by users and reduce uncertainty.

Leverage incremental upgrades to deliver improvements in accessibility

Accessibility improvements do not always demand massive capital investment. Small, targeted upgrades can yield results when they fit into existing maintenance cycles and budgets. Service providers can adjust existing vehicles, renew audio-visual announcements, or refresh tactile paving during scheduled resurfacing. Done well and thoughtfully, these steps improve access at relatively low cost, as the case studies below illustrate.

A phased approach can also be valuable, since gradual improvements help service providers focus on the most important elements of the system, and test these before scaling up. Over time, these incremental measures help ensure that accessibility is not neglected, even if full system renewal is years away.

Clarify roles and responsibilities across the system

Good practice starts with a simple question: Who is responsible for what? Responsibilities for the upkeep, monitoring, and repair of accessibility features (such as broken ramps or lifts) need to be defined across infrastructure managers, operators, and public authorities. This kind of clarity reduces delays, closes gaps and supports a co-ordinated response when something fails.

Role clarity also needs to be reflected in governance and contracts, so that accessibility maintenance is planned, funded, and delivered regularly. This reinforces accessibility as a shared, ongoing responsibility and helps avoid a purely reactive system that only responds after complaints or incidents.

Case studies

Case study from the Netherlands: Accountability mechanisms across maintenance tasks

Split responsibilities across stakeholders requires coordination

A key element in the way Dutch rail systems operate is that the responsibilities of different actors are split between different actors, including for accessibility-critical assets:

- ProRail, a government-owned company, is responsible for asset management and (re)development of station-based infrastructure (lifts, escalators, accessible toilets, etc.).
- Nederlandse Spoorwegen (NS) is split into two entities: NS Stations and NS Reizigers (NS Travellers). NS Stations is responsible for the day-to-day management and maintenance of stations.
- The Dutch Ministry of Infrastructure and Water Management grants the main railway network concession, defines performance requirements and monitors compliance.

While there is a division of roles, there is some overlap that can create difficulties, especially when an authority, such as a municipality, attempts to identify an appropriate point of contact for a specific issue (Government of Netherlands, 2020). This also means that when an accessibility related failure occurs, the responsible party is not always immediately identifiable.

Preventive maintenance alongside real-time monitoring

ProRail conducts monthly manual inspections of all station lifts. Recently, the company has equipped approximately 400 lifts with sensors that report malfunctions in real time. These sensors enable fault detection within hours rather than days. As a result, the number of lifts out of service for more than a week fell from around 11 to just 3 over the year (ProRail, 2025).

In addition, NS performs daily cleaning and weekly deep cleaning of trains, while bus operators conduct regular driver checks of ramps, with additional inspections following incidents. This way, accessibility maintenance is part of routine maintenance processes rather than a reactive response to complaints.

Concession contracts and KPIs that make accessibility performance enforceable

In the Netherlands, failure to deliver accessible and independent transport services is not seen as a technical fault but as a failure of service quality and respect for users. This view is evident in concession agreements, which tie accessibility to clear results. The Bestuursakkoord Toegankelijkheid is a 2022–2032

administrative agreement between government bodies, public transport authorities and operators (including the rail sector), and disability organisations. It includes commitments to improve public transport accessibility (The Dutch Parliament, 2022). This administrative agreement sets out long-term objectives for lifts, toilets and broader accessibility upgrades, and defines the outcomes to be achieved. Within this framework, operators and infrastructure managers are formally committed to KPIs such as asset availability, response times and service continuity.

However, implementation remains heavily constrained by funding. A study commissioned by the central government estimates that decentralised public transport authorities would require approximately EUR 800 million (excluding VAT) to fulfil the agreement, of which around EUR 760 million relates to the adaptation of bus and tram stops. This level of financing is currently unavailable from either the central government or the decentralised authorities themselves, creating a significant gap between policy ambition and delivery capacity (Dutch Ministry of Infrastructure and the Environment, 2023).

Although the Bestuursakkoord Toegankelijkheid does not establish fines or bonus mechanisms, it sets shared accessibility objectives that authorities can translate into concrete implementation programmes, particularly for bus and tram stops. For example, the province of Utrecht has set annual targets to increase the share of accessible stops and is responsible for delivering these upgrades (ProRail, n.d.).

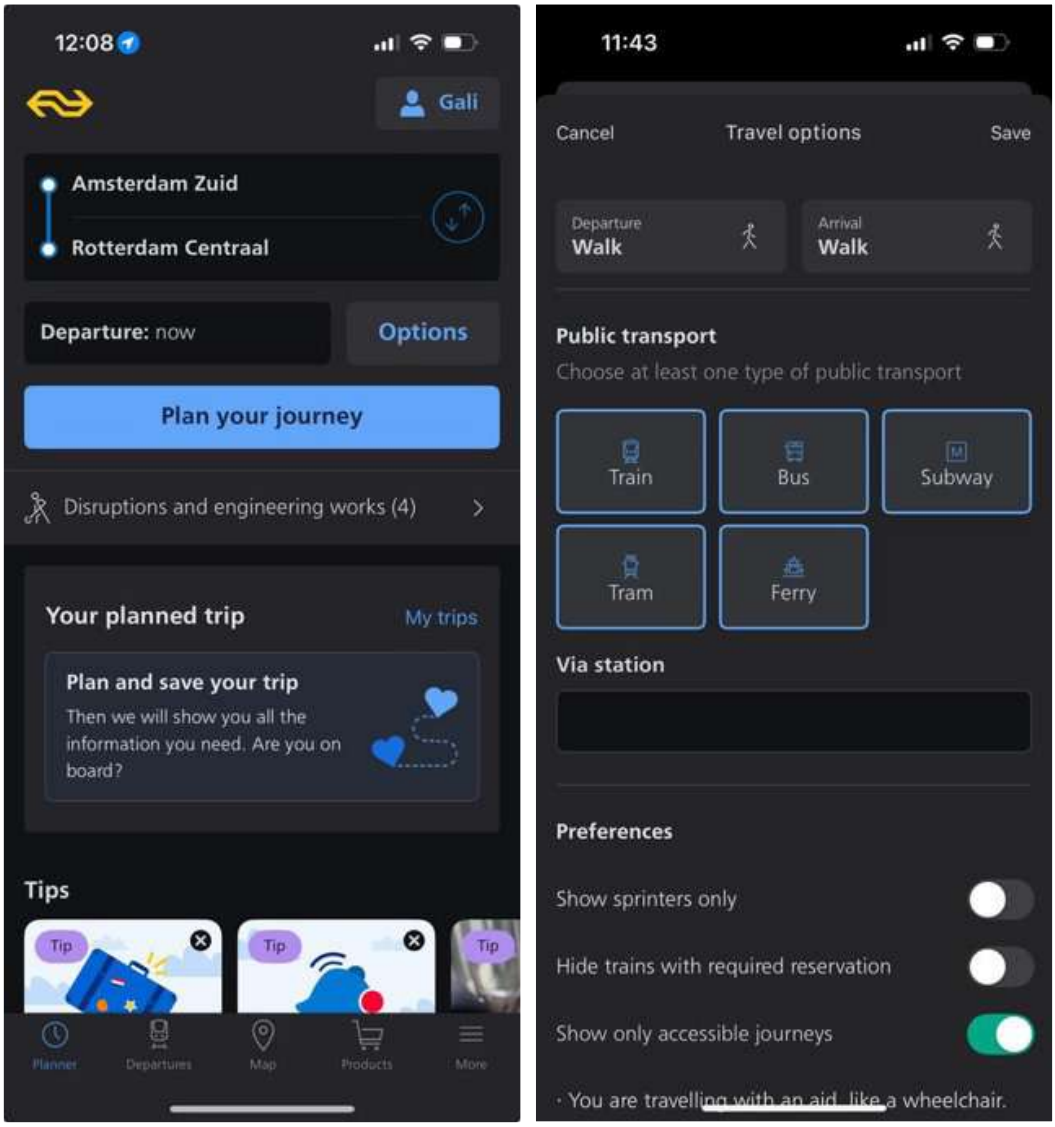
Financial incentives and penalties exist in Dutch rail concessions and apply to general service-quality KPIs such as punctuality, reliability, and passenger satisfaction. Accessibility obligations are monitored, and since 2024, ProRail has introduced a KPI on lift availability, following recurring issues with defective lifts. Overall, accessibility challenges are more prominent in bus and tram networks than in the heavy rail system (Province of Utrecht, 2024).

Transparency and contingency planning as part of everyday operations

Data on lift malfunctions is made available by ProRail as real-time open data, and efforts are made to integrate it into journey planners, such as the NS app. In the NS app, travellers can see which lifts are long-term out of service (see Figure 2), while real-time coverage is currently under development. Travellers can filter accessible journeys and see which train models are operating (some models are more accessible than others, so passengers can consider this when planning their trip). This kind of granular information reduces uncertainty and supports independent travel.

When failures do occur, contingency measures are clearly defined. If an outage prevents access, ProRail must provide an accessible alternative, such as a taxi, at its own expense. This ensures that accessibility failures do not become cancelled journeys. Equally important, this means that the burden of finding an immediate solution (i.e., an alternative travel mode) and fixing the problem in the medium run (i.e., reporting the accessibility failure) is not placed on passengers, but rather on service providers.

Figure 2. Screenshots of the official NS app showing accessible journeys



Source: Roundtable presentation by Gali FREUND

Case study from Comboios de Portugal, Portugal: Accessibility maintenance of older assets and constrained investment

The case of Comboios de Portugal (CP), the national rail operator, is highly relevant to operators facing ageing fleets and fragmented infrastructure ownership. While replacing rolling stock was not feasible, public expectations regarding accessibility put pressure on CP to make its trains more accessible.

To overcome the gap between public expectations and operational constraints, CP has delivered real improvements in accessibility through incremental upgrades to its rail fleet, achieved through routine maintenance cycles.

Accessibility as part of routine maintenance and refurbishment process

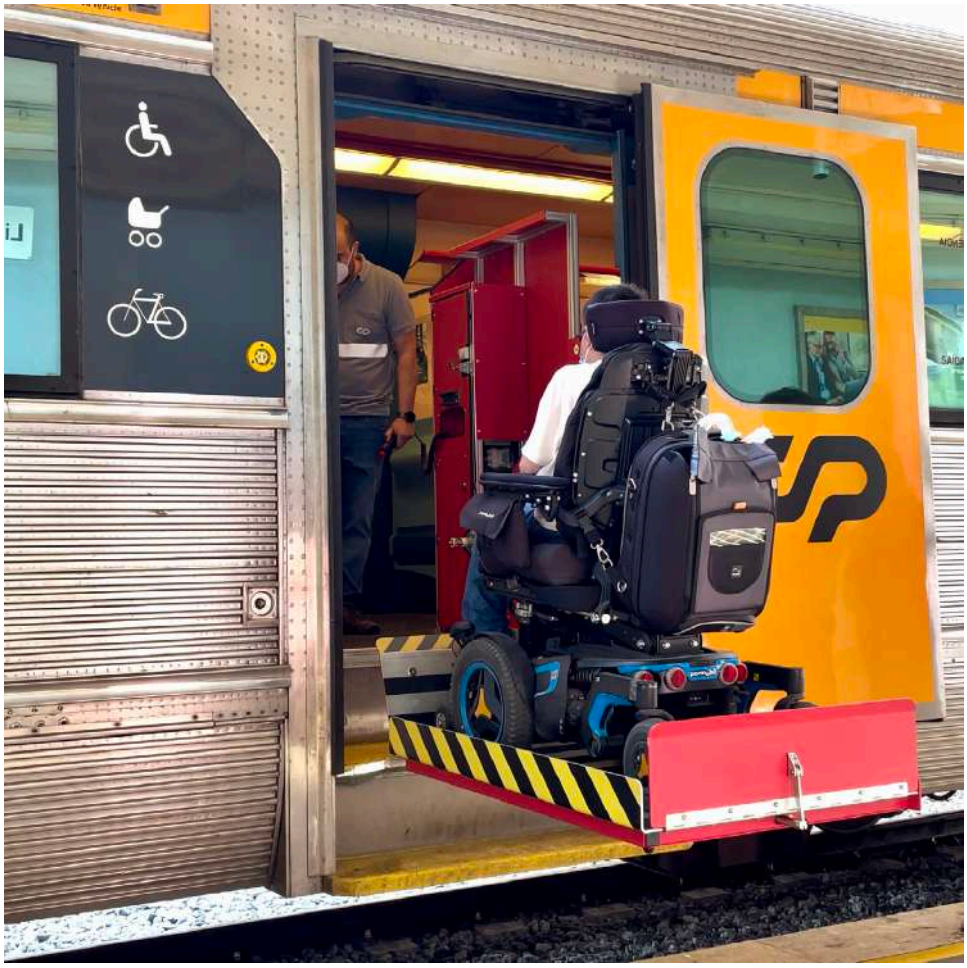
The ageing rolling stock needs to be regularly maintained to avoid mechanical and structural issues. CP uses these maintenance windows to upgrade the trains and equip them with accessible features such as ramps and lifting platforms. This way, accessibility is "baked in" to an existing maintenance process, which occurs regularly. This integration also carries important meaning for company culture and organisational priorities, as it normalises accessibility as a core maintenance requirement rather than a nice-to-have.

Improvements through incremental (yet consistent) upgrades

As mentioned earlier, CP does not own or manage the train stations where it operates, so all accessibility improvements are focused solely on rolling stock. While this may sound simple, upgrading train models such as the Class 2240 regional trains, which date back to 1970, requires multiple refurbishment cycles because they were built without accessibility features. Over time, CP progressively installed onboard portable ramps (later replaced by wheelchair lifts) and universal toilets on this train model. This way, CP onboard staff can deploy ramps or lifting platforms to assist passengers in boarding the train, while avoiding the time delays and co-ordination challenges with infrastructure managers at various stations (see Figure 3).

Overall, to date, CP has upgraded 52 class 2240 lifts using a budget of EUR 2 million (not including previous upgrades). These trains now serve 216 stations (compared to 139 before the upgrades), providing many more people with accessible travel options (Comboios de Portugal, 2025).

Figure 3. An upgraded Class 2240 train car made accessible



Source: Roundtable presentation by Diogo MARTINS

Human involvement ensures the accessible travel loop is closed

In addition to the technical upgrades to the trains, CP also provides boarding and alighting assistance called Integrated Mobility Service (SIM). CP staff are trained to deploy the appropriate accessibility equipment and provide passengers with the necessary support to ensure safe, easy travel.

Based on CP internal figures, in 2024, requests for SIM assistance increased by 27% compared to the previous year and by 23% for services operated by Class 2240 trains. These metrics are seen as a sign of adoption by passengers with disabilities, who can be confident they will have adequate access to the train.

Wayfinding and design

What are wayfinding and design?

Accessibility is not only about providing accessible infrastructure but also creating an environment that allows everyone to travel with confidence. For many persons with disabilities, travelling independently becomes an unfeasible ordeal if there is no continuous, step-free, and accessible route connecting to the multimodal hub or station; if the station layout is confusing; if signage is inconsistent; or if noise and light levels are too high. Many of the universal design principles discussed earlier become more evident in this context.

To better understand these key details, we turn to two related but distinct concepts: wayfinding and design.

Wayfinding

Passini (1984) defines wayfinding as a spatial problem-solving process. Simply put, people who are navigating an unfamiliar environment use various cues to reach their destination. To help them succeed, service providers can enhance environmental cues by providing information and signage. The extent of the information presented and its ease of understanding without prior knowledge strongly influence travellers' stress levels. This is particularly crucial for travellers with disabilities, as they may depend on such information to get around. Indeed, persons with disabilities have repeatedly voiced that complex wayfinding is a barrier to using public transport independently (Almoshaogeh et al., 2025).

A *good layout* that facilitates wayfinding is almost synonymous with an *accessible layout* – the main difference is that navigation in poorly designed environments may be impossible for persons with disabilities, but only inconvenient for other travellers.

Good (and accessible) wayfinding layouts are based on the core principles of universal design and include elements such as consistent visual language, simple symbols and terminology (Passini, 1984), and abundant and reliable displays of maps and information in predictable locations (Li et al., 2023). Importantly, these cues must be presented using multimodal means, such as tactile walking-surface indicators, tactile signage and audible announcements (Department for Transport, 2021). This also includes real-time audio and visual announcements, which reduce the stress and uncertainty associated with waiting times (ECMT, 2006). In addition to improving environmental support for wayfinding, service providers can create digital tools to assist with indoor navigation (Almoshaogeh et al., 2025).

Together, these elements simplify wayfinding for all users and remove mental and physical barriers for persons with disabilities.

Design

While wayfinding focuses on *shaping how people understand and perceive* the environment, design focuses on *shaping how people move* through it (Passini, 1996). In other words, design focuses on how easily people can physically reach their destination. To improve design, service providers may remove obstacles and create layouts that require little effort. Physical barriers that exclude persons with limited mobility are often evident, but it is also important to consider psychological and cognitive barriers that may exclude neurodiverse persons. For instance, very loud or visually confusing spaces can trigger stress for individuals with autism, making it impossible for them to move in such an overstimulating environment (Finnigan, 2024).

Critical design elements include circulation routes, gradients, surfaces, lighting and acoustics. Once more, universal design outlines the principles that help achieve such environments and ensure that persons with disabilities can move freely (for London, n.d.). Accessible layouts take into consideration various mobility, sensory and cognitive limitations and produce a design that does not turn these into obstacles when moving around (American Public Transportation Association, 2020). These include intuitive circulation routes, clearly marked exits, step-free access, seating areas, minimised noise and glare, and more.

Why are wayfinding and design essential for delivering accessibility that works?

To achieve a truly accessible transport system, the whole journey must accommodate the needs of all travellers. While policymakers and operators often focus on vehicles or stations, the connecting segments between the origin and destination are equally important. If travellers cannot locate or reach any segment of the journey safely, the chain is broken.

For many travellers, the ability to orient themselves, locate facilities and manage sensory demands is as important as physical access. When both are addressed, accessibility moves beyond compliance to become a lived, reliable experience that supports independent travel and participation in everyday life.

Wayfinding and design provide an important lens through which service providers can evaluate whether the transport system is truly accessible or merely compliant with legal standards.

Good practice and recommendations

Close the accessible travel chain from door-to-door

As previously mentioned, the connective elements of the travel environment often get overlooked when planning and implementing accessibility measures. One reason is that responsibility for the various segments is typically distributed among several stakeholders. To avoid situations where some journey segments "slip between the cracks" of institutional responsibilities, transport authorities should establish a mechanism to regularly review all elements of the travel chain, including pavements, kerbs, station entrances and exits, and other connecting spaces. One way to achieve this is to extend accessibility standards to include design and wayfinding features, or to create shared planning frameworks among stakeholders. This is illustrated in Costa Rica, where efforts under the National Active Mobility Plan recognise that deployment of low-floor vehicles is insufficient if surrounding infrastructure, such as sidewalks, prevents autonomous access. This can contribute to a continuous, unified travel environment that helps all travellers navigate and move predictably. In this context, it is worth reiterating that the continuity of travel chains includes information on potential breakdowns along the chain, which should be communicated across multiple channels to travellers.

Account for invisible disabilities

Good practice involves creating accessible spaces for both persons with evident disabilities (wheelchair users, people who are blind or visually impaired) as well as persons with non-visible disabilities (cognitive, emotional, and sensory impairments). This includes providing clear, consistent, and redundant information; using visual, tactile, and auditory modes; managing lighting and acoustics; and avoiding layouts that require effort or human assistance for complex tasks. These elements are crucial for reducing errors, which both increases stress levels and potentially creates safety hazards.

Accounting for invisible disabilities, therefore, requires expanding the definition of accessibility: rather than focusing solely on physical features and infrastructure, planners should also consider more abstract concepts, such as the user experiences of diverse audiences, particularly individuals with invisible disabilities. This shift will promote confident, independent travel for people whose needs are not immediately apparent and improve the overall experience for everyone.

Plan for spontaneity rather than requiring booking and assisted travel

When travellers are required to book a journey hours or days in advance, everyone loses the ability to travel spontaneously. Yet these constraints fall especially heavily on travellers with disabilities, who are more likely to face such requirements and have fewer alternatives. This limited flexibility is not just inconvenient- it can limit participation in labour markets and hurt social life. Moreover, it sends an underlying message that persons with disabilities require "special treatment" and extra attention from service providers. This may impose a conscious or unconscious burden on travellers, who must adapt to the transport system's limitations rather than designing a system that accommodates normal travel for people with disabilities.

In practice, allowing for spontaneity often means adjusting the layout of an environment to facilitate easy wayfinding and movement in transport hubs and facilities. These include features such as ample physical and digital information, level boarding, ramps and any other element that can replace staff assistance. Real-time information on lift availability disruptions and alternative accessible routes helps passengers to adjust their journey as needed. Whenever space allows, passive mobility solutions such as ramps or level

platforms should be prioritised over electrically operated devices, so as to reduce maintenance burden and ensure consistent and resilient operability.

Prioritising accessibility for spontaneous travel sends a clear signal that travelling with disabilities is ordinary, not exceptional, and should be treated as an everyday activity rather than a special case. It affirms the freedom of people with disabilities to make plans, change them when necessary, and travel without administrative overhead or additional gatekeeping.

That said, independence should not be interpreted as the absence of staff support. Some passengers, with or without disabilities, may still want or need direct assistance. The aim should be to make spontaneous and independent travel possible, while ensuring that trained and available staff remain present for those who need support (Durand et al., 2023).

Co-create continuously rather than "consult once"

When planning and implementing large, complex projects such as transport systems, important details can be overlooked, especially when the design process is disconnected from the experience. This holds particularly true in the context of wayfinding and design, which involve a series of cumulative steps. Thus, travellers with disabilities rely heavily on small but important cues along the way to reach their destination. These cues, including sign placement, terminology, lighting, contrast, tactile cues, etc., are prone to poor execution if the exact needs and uses of these facilities are not fully understood by the people designing and implementing them. Therefore, user experience in the real world is crucial for building truly accessible transport facilities.

Continuous co-creation is especially valuable when user needs diverge. For instance, trade-offs may be needed between tactile guidance and ease of movement, or between information availability and visual clutter. When transport authorities engage diverse user groups in continuous dialogue, they are more likely to find a compromise acceptable to persons with different disabilities.

Moreover, user input should not be a one-time measure, since challenges are dynamic: new technologies, changing demographics, network upgrades, and shifting travel patterns require ongoing accessibility adaptations. Good practice, therefore, involves treating co-creation as an iterative process through design reviews, usability testing, pilots, and field trials. By moving from isolated consultations to ongoing co-creation, authorities can ensure that wayfinding and design remain responsive over time, while strengthening trust.

Case studies

Case study from Lorient Agglomération and Someware, France: Designing a connected and legible pedestrian network

Lorient Agglomération is a French inter-municipal authority (EPCI) that brings together Lorient and 25 surrounding communes to manage shared local services and development, including transport and urban planning. Over the past decade, Lorient Agglomération has developed one of the most comprehensive solutions to pedestrian accessibility in France. Starting with an effort to improve everyday mobility for residents with disabilities, Lorient's approach grew into a comprehensive information system that allows users to plan and execute their journeys independently. This progress can also be traced back to the governance model based on an inter-municipal accessibility commission, which has maintained accessibility objectives over time and across administrative boundaries.

Granular street-level data as the basis for door-to-door accessibility

One of the core characteristics of this approach is closing the accessible travel chain beyond vehicles and stops, in other words, the first and the last mile of the journey. To understand the conditions pedestrians face at scale, it is imperative to collect data on sidewalk conditions, particularly those connected to major transport hubs. To this end, a tool called Acceslibre Mobilités was created. Financed by the French Ministry of Transport and developed by Someware, an accessibility-focused software company, Acceslibre Mobilités enables a detailed accessibility assessment for every city.

This tool is based on a detailed pedestrian pathway graph that maps and digitises, at a granular level, sidewalks, crossings, slopes, street widths, surface conditions and other accessibility-relevant features. Much of the data are collected manually, but street imagery and LIDAR processing are integral to the collection. The digital model is aligned with the NeTEx Accessibility standard, a European data specification that enables consistent exchange of accessibility information across transport and urban systems. By aligning with the NeTEx standard, pedestrian data can be easily used across different municipalities, operators, planners and digital services. This tool allows a systematic view of accessibility gaps and supports co-ordinated investment across departments responsible for streets, public works and transport infrastructure.

Wayfinding as infrastructure, not an add-on

Lorient's work demonstrates that wayfinding can be treated as an infrastructure. Building on the pedestrian network model discussed above, a suite of digital tools was developed together with Someware to improve accessibility. One example is the HITinéraire: an accessible journey planner app that translates complex accessibility data into usable route guidance (see Figure 4). This allows residents to view street-level accessibility, compare route options based on their specific mobility needs and receive information about barriers before travelling.

A key feature is the integration of temporary obstacles, such as weekly markets, garbage collection days, or major events, alongside permanent accessibility features. The system also allows users to report obstacles, which keeps the data aligned with changing real-world conditions. Knowing what to expect along one's route and avoiding obstacles reduces uncertainty and supports confident navigation for users who depend on a clear path.

Naturally, keeping this information relevant requires ongoing data collection and validation. Lorient supports data updates through centralised data management, regular audits, and clear processes for incorporating municipal updates and user feedback.

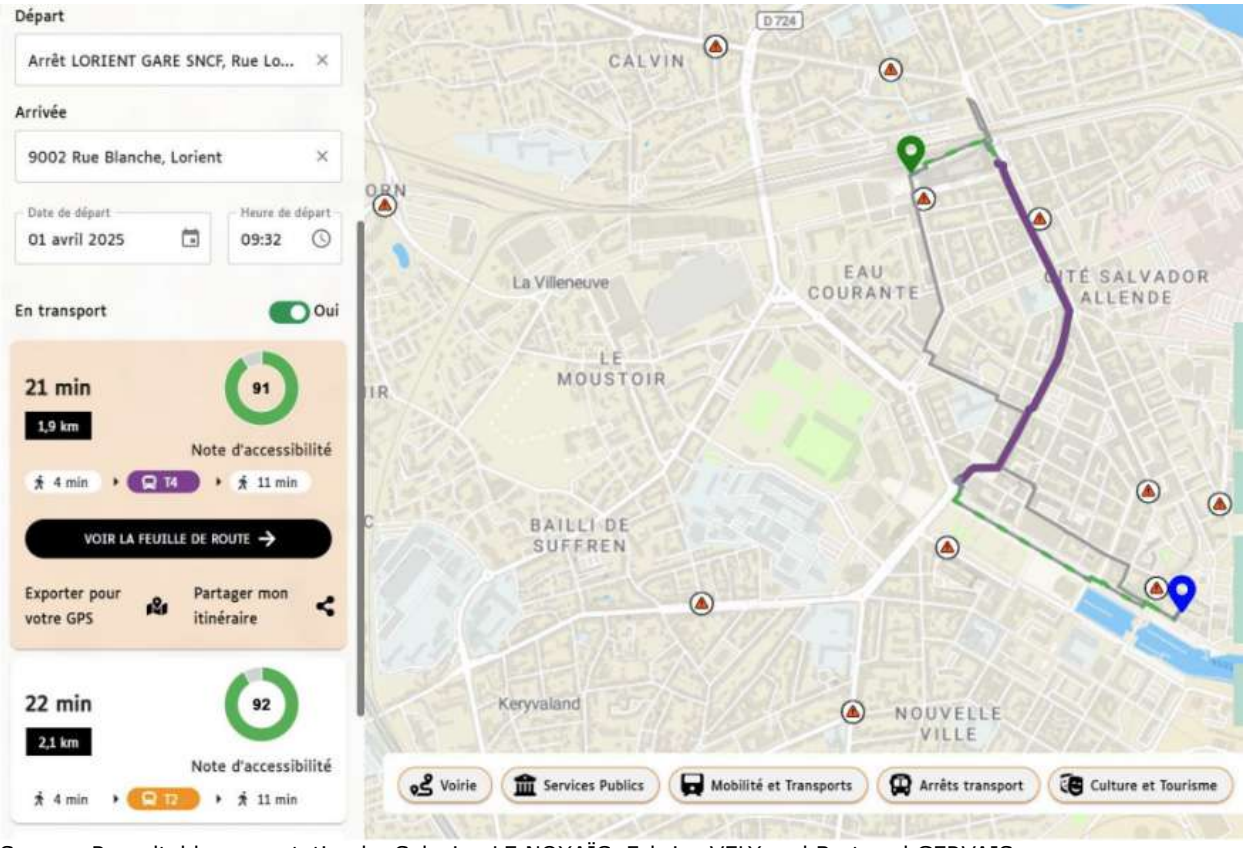
Multiple stakeholders as co-creators of an accessible system

Lorient's pedestrian database relies heavily on residents' input. To facilitate user feedback, a survey called Walkable City was developed. The survey asks respondents to rate their satisfaction with the walkability of city streets and includes questions about greenery, the availability of benches and pedestrian safety.

This continuous co-creation is also reflected in Lorient's decision-making processes: disability organisations, residents, and municipal staff contribute to defining priorities, validating data, and testing tools in different settings. This has helped identify different user needs and driven system upgrades. According to Lorient officials, the tool serves more than 1 200 journeys per month in their accessible journey-planning app. It is expected soon to support 300 000-400 000 journeys, once integrated with the local transport operator's app and website.

This case shows that co-created digital maps accompanied by well-designed applications can build confidence among people with disabilities without requiring major infrastructure investments.

Figure 4. A screenshot of HITinéraire



Source: Roundtable presentation by Sylvaine LE NOXAÏC, Fabrice VELY and Bertrand GERVAIS

Case study from Portugal and Spain: Inclusive design in rolling stock development through co-creation

Recent rolling stock procurement programmes in Portugal and Spain illustrate how a national approach to design expectations, procurement criteria, and engagement with disability organisations can drive genuinely inclusive outcomes.

The case study focuses on an approach by Alstom, a multinational company that designs and manufactures trains and rail systems. The company demonstrates how manufacturers can integrate inclusive design principles into every stage of train development, from strategic vision to engineering details. Rather than treating accessibility as compliance with standards, Alstom frames it as part of the broader passenger experience, emphasising dignity and independence.

A focus on passenger experience, not on mere compliance

A defining feature of Alstom's approach is its attention to customer experience, which explicitly includes all customers, regardless of their travelling abilities. This means that when designing trains, engineers must also pay attention to comfort, safety, lighting, ergonomics, noise, wayfinding and inclusiveness, in addition to standard technical requirements. The emphasis is not only on whether a journey is technically accessible, but on how it is perceived by travellers before, during and after travel.

The focus on subjective experience and perception means that the company is not satisfied with a design that is universally accessible unless it also *feels* accessible to end users. This nuanced distinction is critical since a feature may meet all accessibility requirements yet feel exclusionary if it is segregating, stressful or difficult to use. For example, placing a wheelchair space alongside bicycles, luggage and strollers may be technically compliant, but it can create an unpleasant experience for the wheelchair user, who is likely to feel isolated or feel they are seated in a storage area. These insights inform design decisions on spatial layout, circulation, lighting and the arrangement of priority areas on Alstom trains, ensuring a dignified travel experience for all passengers.

Early co-creation facilitates design decisions

Most rolling stock projects must comply with a complex mix of international, national and regional accessibility regulations. In this case, accessibility requirements are met and extended through the early involvement of user associations, foundations, and accessibility experts. Co-creation activities include field studies, interviews, mock-ups, virtual reality testing, and iterative prototype reviews. One particularly meaningful co-operation of Alstom is with Fundación ONCE, a Spanish non-profit foundation that promotes the social and labour-market inclusion of persons with disabilities. Over the past six years, this co-operation has borne many fruits, including research on wayfinding in stations and video analytics to detect wheelchair users in trains.

Importantly, these interventions occur before designs are finalised, enabling meaningful changes rather than retrofits. Early involvement also helps identify perceptual and behavioural barriers that users report, but regulations do not capture. For instance, while regulations usually do not delve into specific requirements for wayfinding, how people experience crowding, interpret cues or navigate shared spaces greatly influences perceived accessibility.

Autonomy is the goal, not assisted travel

New train models aim to allow independent boarding, circulation, and alighting, in line with good practice in planning for independence, as this reduces reliance on advance booking or staff assistance. For example, high-speed rolling stock such as the Avelia Horizon includes features that allow wheelchair users to board and move through the train autonomously, thanks to wider corridors, doors that align with platform height, horizontal gap fillers, interior lifts, and ergonomic controls designed for ease of use (see Figure 5). Vertical levelling systems further adjust train height to the platform within seconds, minimising vertical and horizontal gaps. This supports fast, intuitive level boarding for all passengers, including those with mobility impairments, and reduces operator dwell times. Crucially, it also reduces the feeling (frequently expressed by travellers with disabilities) of being "in the way" or inconveniencing others during boarding and alighting.

Figure 5: Assistance-free access, Avelia Horizon double-deck high-speed train

Source: Alstom website

Wayfinding, predictability and sensory comfort on board

Alstom uses design and wayfinding to make journeys feel more intuitive and less stressful. By using dynamic, informative lighting scenarios that adapt to the trip's phase (approaching station, terminus), doors and paths are highlighted, allowing passengers to prepare for boarding or exiting earlier and with less effort. Features like guides at stairs, doors, and gangways highlight areas that require the passenger's attention, reducing uncertainty and the likelihood of falls.

Funding and financing accessibility

What are funding and financing?

Often, extensive accessibility infrastructure upgrades require large capital investments upfront and over the life cycle of the infrastructure. Therefore, it is important to clarify as early as possible which organisations are responsible for raising capital and covering operational costs. We distinguish between initial capital and ongoing costs using two terms: financing and funding (ITF, 2024b).

Financing

We define "financing" as the raising of upfront capital needed to pay for the transport project's initial infrastructure investments (C40 Cities Climate Leadership Group, 2025; ITF, 2024b; Tirachini, Hörcher and Verhoef, 2023). Since up-front capital needs in transport (rolling stock, stations, renovations) tend to be large, fare revenues of ongoing budgets usually cannot cover them. For this reason, financing is often achieved through debt or additional capital raising.

Funding

We define "funding" as the income streams used to repay the initial capital and ongoing costs associated with operating the transport system on a daily basis (C40 Cities Climate Leadership Group, 2025). This includes the project's ability to generate a sufficient revenue stream over its lifetime (and if not, to find alternative budget sources), to pay these costs. This was summarised in previous ITF work using the following equation (ITF, 2024b):

Funding requirement = capital investment + return on capital + operating costs + maintenance costs

Without stable funding, systems are likely to deteriorate over time, as operations, maintenance, staff, energy, and network extensions all require ongoing resources.

Why is it essential to secure funding and financing early on to deliver accessibility that works?

Having a clear financing and funding plan from the outset is critical because, without sufficient and stable resources, systems are likely to deteriorate over time, especially when costs for operations, maintenance, staff, energy, and network extensions are not accounted for. Moreover, regarding accessibility features, early financing and funding frameworks are even more crucial, as delayed responses often lead to retrofitting of existing designs, which are usually significantly more costly than building accessible systems from the outset (ECMT, 2006). When funding is uncertain, accessibility improvements are among the first elements to be cut or postponed.

When public authorities make early financial commitments, operators and other service providers can plan for long-term maintenance, staffing decisions, and equipment upgrades, which determine how accessibility is delivered in practice. An additional benefit of early clarity on financing and funding responsibilities is that it reduces fragmentation between agencies and reduces the chances of duplication and gaps.

Good practice and recommendations

Make accessibility a commercial interest

On average, public transport fares cover 20-40% of total operating costs (C40 Cities Climate Leadership Group, n.d.); however, in some instances, it is possible to make transport services economically viable. Making accessibility a commercial interest means structuring incentives so that transport operators, developers, and other private actors receive a clear value proposition tied to the development of public transport services, especially advantages in investing in barrier-free transport (for instance, increased revenues from commercial activity). The key point is to demonstrate that accessibility measures can increase passenger numbers and reduce fixed costs (ITF, 2017a). For instance, the United Kingdom's Access for All programme, step-free access and related station upgrades produced an overall benefit-cost ratio of 2.4. Some stations, such as Vauxhall, even achieved a return on investment of 11.3. This is explained by induced trips by many who previously could not travel (ITF, 2017c).

Where relevant, public authorities can emphasise potential benefits tied to transport hubs: in countries where rail and metro operators manage integrated, barrier-free real estate stations, increased footfall into commercial space raises rental values and boosts on-site retail performance. Public authorities can make the value of accessible transport clearer through procurement frameworks that score accessibility as a criterion or link operational bonuses to accessibility performance, as discussed in more detail in the next subsection.

Embed accessibility funding and financing in procurement processes

Because transport infrastructure decisions shape accessibility realities for decades, inefficient use of public funds can have long-lasting consequences which are sometimes impossible to undo. For this reason, we recommend embedding accessibility requirements directly into procurement processes: not only does the procurement process take place at the very beginning of a project's life (allowing for a clear division of financing and funding responsibilities early on), but it is also a strong lever that public authorities can pull to improve accessibility. When done correctly, public authorities can ensure universal design principles are embedded as an integral part of service level agreements: by explicitly stating universal design requirements in tenders, bidders can include accessibility costs in their pricing, securing funding over the life cycle of the project.

Make use of big events and opportunities to finance accessibility

International sports events, cultural festivals, global summits and large music events may not be transport-oriented by design, but often require cities to renovate their transport systems, which may include upgrading mobility standards. This creates a rare window of opportunity in which political attention and budgets align in favour of accessibility investment. For instance, an event such as the Olympic Games can serve as a lever to secure financing to make metro stations more accessible to serve the massive crowds it attracts.

Another key aspect of big events is the strict deadline they entail. This can condense administrative processes that might take years into mere weeks or months. This is particularly relevant for accessibility financing and implementation, which often lag.

Transport agencies should therefore actively anticipate upcoming events and prepare an "accessibility standby plan" that includes proposed inclusive designs. Once a relevant event is scheduled, the public

authority can align its plan with the timelines and actively advocate for a portion of the funds that become available.

Case studies

Case study from Japan: Characteristics of financing barrier-free urban rail

Legal frameworks for encouraging funding and implementation of barrier-free design

The concept of barrier-free design, similar to universal design, is defined in Japan as "the removal of obstacles that prevent people with disabilities from fully participating in everyday activities" (MLIT, 2005).

This concept has been strongly promoted in Japan, where, based on the Barrier Free Act (Ministry of Justice, 1970), accessibility of transportation is stipulated in the Barrier-Free Act (MLIT, 2016). The act states that all citizens (with or without disabilities) are entitled to dignity and obliges public authorities to take legislative and financial measures to this end by gradually, but consistently, making their facilities accessible to everyone. In this context, barrier-free transport is defined by legal standards and implementation guidelines issued by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). This includes legal standards and guidelines on various topics such as step-free routes between station entrances and platforms, lifts and ramps, tactile guidance blocks, accessible toilets, platform screen doors, and vehicle design requirements (MLIT, 2018). This legal framework also plays an important role in the way accessible infrastructure is funded.

Accessibility funding models in commercially viable settings

Japan's urban rail sector is built around a profit system established by the Railway Business Act, under which some operators are private companies that generally operate without subsidies (the same applies to Metro Public Corporation) (Takahiko Saito, 1997). In other words, the urban rail system's revenues allow it to function as a viable commercial business, as fares cover all operating costs. Operators are also responsible for developing and managing the retail activities around their rail lines. Since housing and commercial projects around stations can generate considerable revenue streams, the development decisions are based on land value capture (Miki and Ieda, 2020). This means that operators are incentivised to invest in creating attractive train stations, as high footfall aligns with their business strategy. In the context of an ageing society with an increasing number of persons with disabilities, a successful station must also be accessible to attract travellers.

Thanks to these conditions, accessibility is seen as a business interest rather than a regulatory obligation. While the strong legal frameworks underpinning this setting are quite unique to Japan, other countries (or cities) can also learn from this example. More specifically, in contexts where operators benefit directly from increased ridership and higher land or retail values, similar incentives can be put into place through performance-based contracts or integrated station development, since accessibility can be financially sustainable.

Clearly, this model is more appropriate to high-density urban environments. In regional lines in Japan, a different model is applied to achieve an accessible transport system. Across Japan, national subsidy schemes finance a third of the cost of lifts, accessible toilets, tactile paving, and platform screen doors (Local Governments also finance a third; the rest is paid by operators from fare revenue). However, local railway companies are often not profitable and are unable to invest the required operator's share. Thus, to ensure balanced progress of accessibility improvements, national public authorities should consider

employing a mixed approach that combines operator incentives in high-demand areas with complementary national financing.

Case studies from World Bank projects in Sub-Saharan Africa: Financing models that deliver universal access

How the World Bank helps finance disability-inclusive transport

The World Bank's approach combines concessional and sovereign lending through the International Development Association (IDA/IBRD), co-financing with other development partners, technical assistance, and global commitments to disability inclusion.

One particularly important device in the context of accessibility is the commitment to ensure that all World Bank-financed urban mobility projects are disability-inclusive by 2025 (The World Bank, 2018, 2025). Additionally, the Bank funds and disseminates guidance which helps translate universal design principles into procurable technical specifications (The World Bank, 2007, 2024). For instance, the World Bank supports global co-ordination platforms such as Sustainable Mobility for All (SuM4All), which also includes metrics to evaluate accessibility in policy and investment decisions (The World Bank, n.d.). Its approach to sustainable transport and mobility is centred around making transport universally accessible, efficient, safe, and green. As part of Commitment 6 on accessible transport in the World Bank's Ten Commitments on disability-inclusive development, a Global Roadmap of Action was developed by over 50 global transport actors.

The Universal Access theme is one of its five core themes, and the Global Roadmap proposes actionable recommendations on accessible transport for persons with disabilities. The Transportation for Everyone rating system, part of the SuM4All initiative, evaluates mobility and accessibility options for transport projects and helps identify gaps and opportunities to improve accessibility. It recognises a diverse range of factors that affect accessibility, among them, Accessibility Factor 7, on Universal Design, which assesses the ability of transportation systems to accommodate people with diverse needs (The World Bank, 2015).

The Transport Global Practice has promoted disability inclusion through World Bank-funded projects in many regions for over 15 years. The exact components vary by region and include analytical work, guidance reports, assessment tools, and technical assistance to governments to improve accessibility in specific projects.

The following short examples illustrate how these mechanisms translate into funding and financing choices on the ground. Additional examples are presented in Annex B.

Dakar, Senegal: Blended finance and concession design that integrates accessibility into the basis of the project

A Bus Rapid Transit (BRT) pilot project was implemented to improve travel conditions in the Greater Dakar area through quick, safe, reliable and sustainable public transport to around 320 000 people (The World Bank, 2022b). From its very early stages, the project was designed to address social inequalities by including specific accessibility features to address the mobility needs of women, children, older persons, and persons with disabilities. Planned access measures included level boarding at all station platforms (as well as ramp access to the station), pedestrian infrastructure built or retrofitted along the corridor, and well-lit stations to provide safer and easier access. A social assessment helped measure the specific mobility needs and risks of passengers, including persons with disabilities, persons living in poverty, women, schoolchildren, and older persons. Consultations with these groups are planned on a continuous basis throughout the

project to ensure that the construction and operation of the BRT are inclusive and address identified accessibility obstacles.

By bearing accessibility in mind from the outset, decision makers were able to integrate it into the financing process, ensuring that all infrastructure is built with accessibility at its core and not negotiated after the fact as an extra cost.

Figure 6. A newly built BRT station in Dakar

Source: World Bank Website/ CETUD – Conseil Exécutif des Transports Urbains Durables

Dar es Salaam, Tanzania: Phased investment and corridor-based funding

In Tanzania, under the Second Central Transport Corridor (CTCP2) (P103633), the World Bank supported the government to implement the first phase of the BRT system in Dar es Salaam. The Dar BRT started operating in May 2016, albeit at an interim level, with 140 buses out of 305 required to become fully operational. It was implemented with universal-access features to address the needs of women, children, older persons, and persons with disabilities, including level boarding and alighting with bus and station platforms at the same level (900 mm above ground level), pedestrian bridges with ramps that enable people with limited mobility to reach raised, well protected walkways and cycle lanes, and raised zebra crossings (speed humps) that allow pedestrians to cross mixed traffic safely. The BRT has a high-level platform that enables passengers inside a station/terminal to board at level entry without climbing stairs.

The Dar es Salaam Urban Transport Improvement Project (DUTP) (P150937) 2017 supports the implementation of the BRT phases 3 and 4 with Universal Access features. These phases were financed in stages under the Central Transport Corridor Project and subsequent urban transport operations, combining sovereign lending with government co-financing (United Republic of Tanzania, 2014). Because stations and

platforms were funded as part of the core investment, accessibility features were less exposed to later budget pressures.

Figure 7. Level boarding at a BRT station in Dar es Salaam

Source: World Bank Website/ Hendri Lombard

Ghana: Using analytical funding and planning finance to anchor accessibility in investment decisions

In Ghana, the World Bank conducted Advisory Services and Analytics (ASA) (P168073) on urban mobility, focusing on mobility challenges in three Ghanaian cities, Accra, Kumasi, and Tamale. It was designed to address key challenges experienced by persons with disabilities in accessing transport. The activity, Streets as Drivers of Green Growth and Urban Prosperity in Africa, financed by the Korean Green Growth Trust Fund, reviewed pedestrian mobility action plans for five cities in Africa and supported the review of accessibility standards for pedestrian environments. The rationale for this investment is that improved access and mobility are crucial to reducing poverty and can facilitate the participation of persons with disabilities in economic, social, and political processes. Physical accessibility also benefits people who may experience mobility barriers more generally, such as older persons, children and pregnant women.

This Ghanaian example shows that even when investments in diagnostic measures are limited, accessibility audits and mobility assessments can still be conducted and influence future transport spending, increasing the likelihood that accessibility is not ignored (Arroyo-Arroyo, 2021).

Case study from Monterrey, Mexico: FIFA World Cup as an opportunity to advance the Metrorrey system and accessible transport in the city

Monterrey, the capital of Nuevo León in northern Mexico, is currently undergoing rapid advancements in transport accessibility. A catalyst for this process is the 2026 FIFA World Cup. To prepare for the event, the

state government created a dedicated budget to accelerate the construction of new monorail lines, improve access to the airport, upgrade trains and feeder buses, and enhance accessibility at existing metro stations. Thanks to the political attention this event has received and the time pressure created by tight deadlines, the city of Monterrey was able to use state budgets to quickly implement national programmes into contracts and service contracts. Below, we explore some of the creative and innovative solutions the city applied to improve accessibility in this setting.

An interesting characteristic of Monterrey's strategy is the simultaneous focus on several components of the transport system using different financing streams. This diversified portfolio includes examples such as the expansion of feeder buses from 2 routes to 32 in a short period of 5 years, alongside the refurbishment of buses using the metro's annual state budget, as well as the purchase of 348 new electric low-floor buses (equipped with ramps and 2 wheelchair spaces) paid by private companies with service contracts. The financing for the monorail expansion was made possible through the World Cup budget (granted by the state Department of Mobility).

These extensive upgrades also allowed the city to introduce another change, which is usually politically challenging: fare adjustments. After nearly two decades without fare rises, fares were slowly increased. Within the new pricing scheme, older persons, students and persons with disabilities will pay lower rates than other travellers. One of the reasons this much-needed fare adjustment was enabled by the FIFA World Cup is that this reform required a legislative change by the State Congress, which received priority under these circumstances. The additional revenues generated were used to improve user experience, particularly for travellers with disabilities, through new ticketing machines and electronic payment systems.

The World Cup's visibility contributed to the prioritisation of accessibility in the case of Monterrey, similarly to other examples from the Olympic Games in London 2012 and Rio 2016. The benefits such events can provide to daily users last long after the final match has been played.

Co-ordination and collaboration

What are co-ordination and collaboration?

Transport planning, implementation and governance in many cases remain fragmented, with decision-making capacity stretched across a diversity of actors and organisations at various administrative levels, with different roles, mandates and goals (Hrelja et al., 2017). The spread of responsibilities to address problems leads to multiple responses that, in the absence of co-ordination and collaboration, can lack coherence and integration (Cairney and Toomey, 2024). This holds especially true for accessible transport, which tends to be more vulnerable to these issues because if one element of the travel chain is broken, the entire journey becomes inaccessible. The next sections discuss how these issues can be mitigated through different mechanisms of co-ordination and collaboration.

Co-ordination

Co-ordination focuses on aligning the actions of different organisations. This includes establishing governance structures and procedures that define the roles and responsibilities of different actors, ensuring that decisions are consistent across the board (Hrelja et al., 2017). While these practices can and should be formalised in legal or regulatory frameworks, this is usually not enough since co-ordination requires an ongoing process of synchronisation: as plans, standards and strategies evolve, the specifics of the tasks and responsibilities need to be discussed continuously (OECD, 2015).

Collaboration

Collaboration is defined as an effort of independent organisations to overcome problems with collective action (Hrelja et al., 2016). While co-ordination focuses on aligning high-level rules, standards and responsibilities, we use the term collaboration to describe the actual processes through which day-to-day interactions between actors are enabled, allowing them to reach common objectives. This process involves the establishment of joint rules and structures that govern the relationship and behaviour of organisations (such as the channels through which information is exchanged or priorities are determined) and requires the development of trust among actors (Hrelja et al., 2017; Paulsson et al., 2018). These details may seem overly specific, but in complex (and distributed) policy environments, they are crucial for long-lasting and successful decision-making (Emerson, Nabatchi and Balogh, 2012; Paulsson et al., 2018).

Constitutional acts and guiding frameworks can form the basis for the joining up of national, regional and local governments, transport providers and other key stakeholders, where joint rules and structures establish a foundation for working together towards a shared vision.

In the context of accessibility, collaboration does not stop at the boundaries of formal institutions, as the participation of those with lived experience provides invaluable input. The development of truly accessible transportation systems cannot take place without adequate collaboration with organisations representing persons with disabilities. Through structured, ongoing co-creation with these groups, universal design principles are more likely to be applied consistently and correctly, and solutions and interventions will better fit end users' actual needs.

Why are co-ordination and collaboration essential for delivering accessibility that works?

Accessibility cannot be delivered through isolated interventions – it depends on a sequence of interdependent decisions made by different actors over time, across planning, design, procurement, construction and operation.

When co-ordination and collaboration are weak early in this process, accessibility gaps tend to become embedded in infrastructure, standards, and contracts, making them costly and politically difficult to reverse later (Cairney and Toomey, 2024). This results in a disconnected system, where the integration and connection between various modes of transport on a given journey (for example, from sidewalks that meet bus stops, to taking the bus to a rail station) become disjointed. Without systematic coherence, accessibility features are implemented inconsistently and inefficiently, which is particularly undesirable given limited budgets.

Coupled with the systemic underrepresentation of persons with disabilities in the planning process, it significantly hinders the creation of accessible transport systems. Against this backdrop, collaboration, with an emphasis on meaningful engagement, becomes central to the delivery of transport systems that are accessible to all.

Good practice and recommendations

Establish a legal framework that anchors co-ordination between national, regional and local actions

Constitutional acts and frameworks unite national, regional, and local governments, transport providers, and key stakeholders under joint rules and structures to pursue a shared vision. When a legal anchor for accessibility is established, it acts as a collective declaration to protect the rights and ensure the participation of persons with disabilities. In a way, this facilitates a shift in the burden of advocacy from the individual to an obligation on those who design and implement public services to do so (United Nations, 2013).

Embedding accessibility within the constitution or in the development of national laws facilitates collaboration and co-ordination by creating legally binding obligations that can lead to the development of new or adoption of existing guidelines or standards (European Union, 2019; United Nations, n.d.). When paired with standards, acts and legal frameworks provide an impetus for key actors to invest in accessibility infrastructure, encouraging broader adoption and co-ordination in integrating accessible design principles. When set at a national level, compliance can eliminate inconsistencies in providing accessible transport systems at the regional and local levels.

Providing overarching standards, such as embedding accessibility in constitutional acts and national frameworks, can promote a holistic approach, complement bottom-up approaches, and facilitate collective governance (Box 1). They can be effective means of supporting accessibility by establishing standards and mainstreaming accessibility across all policies and services (United Nations, 2013).

Establishing legal anchors needs to come with enforcement and accountability mechanisms, thereby ensuring adherence to standards and commitments. These frameworks can facilitate the creation of monitoring bodies and social audits. When representative organisations for persons with disabilities are involved, this can strengthen the participation of those with lived experience and facilitate continuous

improvement and a responsive, accessible transport system. In Costa Rica, for example, Law 7600 requires equal access to public services. However, those rights only become real when national technical standards for accessibility and universal design, such as the Normas Técnicas de Accesibilidad e Inclusión, are applied.

Institutionalise collaboration across levels of implementation partners

The legal steps described above provide a strong basis for establishing a formal framework that ensures the actions of all relevant partners are compatible. To complement such co-ordination structures, additional mechanisms are needed to ensure that high-level accessibility commitments are translated into productive collaboration protocols and workflows.

Collaboration mechanisms can be grounded among national, regional and local authorities through joint planning forums, decision-making committees, periodic reviews of system performance, collective budget decisions, shared instruments and reporting templates. The specifics of these mechanisms (i.e., when, where and how they take place) could be institutionalised rather than ad hoc. By defining regular meeting schedules, clear roles and shared responsibilities, collaboration mechanisms are more likely to be sustained over time, as they reduce reliance on personal relationships across political and administrative changes. This creates the conditions for trust between the parties, giving them regular, predictable moments to surface gaps and work out solutions together.

By explicitly integrating accessibility into the agenda of these procedures, it is more likely that universal design planning and execution will be delivered coherently and holistically rather than as a collection of isolated improvements (Box 2).

Case studies

Case study from Skåne, Sweden: Co-ordinated accessibility through a regional design manual

Skånetrafiken is the regional public transport authority for Skåne County, Sweden, but shares responsibilities with other stakeholders. While Skånetrafiken oversees the planning, procurement, and marketing of public transport across 33 municipalities through contracts with operators (operating approximately 46 000 bus and train trips every day), local municipalities and the Swedish Transport Administration (Trafikverket) are responsible for the infrastructure.

About half of Skånetrafiken's budget comes from fares, and the rest is funded through regional and local taxation (rather than national government transfers). Because municipalities and Trafikverket finance and maintain infrastructure, while Skånetrafiken procures and oversees services, close and structured collaboration is essential.

Skånetrafiken has embedded accessibility within a clear regional policy framework. The Transport Provision Programme 2025-2035 establishes accessibility as a core component of sustainable mobility (together with other elements such as proximity and resource efficiency). Importantly, these principles are translated into measurable targets, including the objective that at least 90% of public transport stops and stop locations with more than 15 daily boardings are to be fully accessible by 2030 (interim target 80% by 2030). These common targets for regional, municipal and national actors help focus efforts in the same direction and reduce the risk of misalignment across planning, procurement and infrastructure investment.

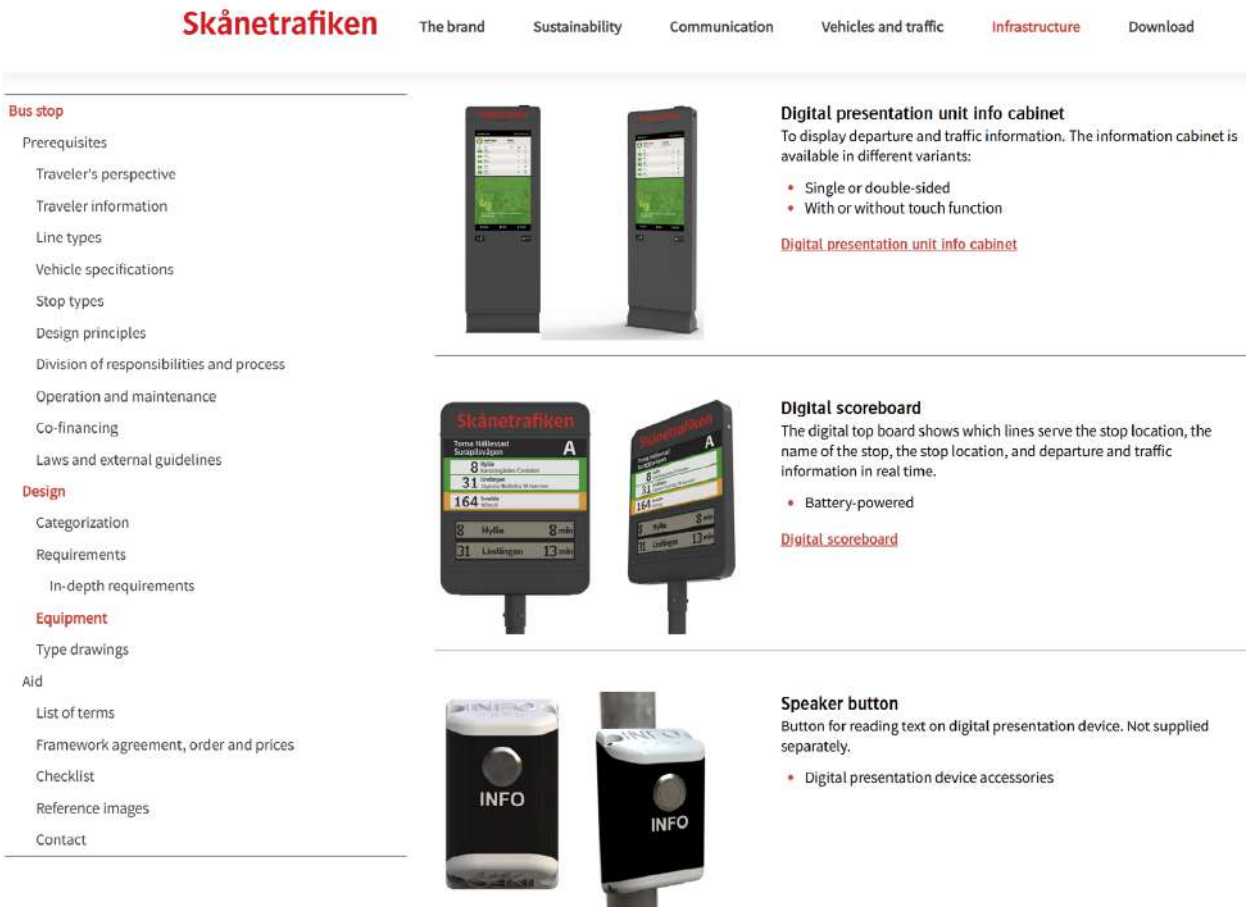
The design manual as a binding co-ordination framework

The design manual functions as a formal co-ordination instrument and is embedded in procurement and planning procedures. Although it is not legally binding as a statutory requirement, the fact that compliance with the manual is integrated into contracts and governance forums across actors makes it practically binding.

Design specifications for vehicles, stops, stations, and wayfinding are based on universal design principles, ensuring accessibility features are integral to assets and passenger communication. The design manual does not treat these different assets as stand-alone elements, but rather it takes a holistic view from the passenger's perspective: stops, vehicles and interchanges are planned as interdependent components of the travel chain. Travel nodes that include a transition between walking, cycling (or wheelchair use), and public transport are given greater attention to facilitate a smooth transition for passengers. This allows municipalities to prioritise investments in key nodes and is particularly consequential in smaller towns with at least 300 inhabitants, which must have at least one fully accessible stop. The manual's guidelines address both the refurbishment of existing assets and the requirements for new assets, thereby ensuring operational continuity.

Importantly, some core accessibility elements are fixed to ensure systemwide consistency, but Skånetrafiken prioritises flexibility over excessive regulation: municipalities can "pick and mix" from the manual to find solutions that fit their local public transport needs. This balance between standardisation and customisability fosters collaboration while preventing inconsistency from the user's perspective. By embedding accessibility into daily practice, it has become routine for all stakeholders. This "accessibility as a routine" approach allows decisions to converge to a common design language, even though municipalities finance local infrastructure, Skånetrafiken procures vehicles and services, and the Trafikverket manages rail assets.

Figure 8. Examples of digital traveller information equipment from the design manual



Source: Skånetrafiken website

Delivering accessibility through sustained collaboration mechanisms across stakeholders

Skånetrafiken seeks to have an inclusive public transport system, accessible and usable for all citizens, and for trips to be perceived as safe and secure, particularly by children, adolescents and older persons. To this end, it holds regular one-to-one meetings with municipalities, as well as group meetings organised around four geographic areas in Skåne. In larger cities with urban bus systems, these forums gather local elected officials, civil servants (responsible for planning, operations, and communication), and operators to discuss short- and long-term planning visions.

The development and refinement of design specifications also reflect continuous collaboration and user involvement. Bus design is guided by a Nordic specification (Bus Nordic), developed jointly with manufacturers, other public transport authorities, operators and a user forum representing people with different needs. Local adaptations are discussed with a regional user group. For new regional and local trains, design requirements are defined during preparatory procurement phases and tested in practice with users, focusing on boarding and alighting, manoeuvrability, toilets, seating and dedicated spaces. While procurement confidentiality limits disclosure at later stages, municipalities are involved up to a defined point, allowing input before competitive procedures require separation.

Combined, all the above measures are a good example of how authorities can reduce fragmentation in the delivery of accessible public transport, even without strict co-operation legal frameworks. Providing clear targets alongside a practical mechanism to achieve them can go a long way in obtaining a well-aligned transport system.

Box 1. Keeping accessibility "top of mind": the role of Canada's Chief Accessibility Officer

Stephanie Cadieux is Canada's first Chief Accessibility Officer a role which was created as part of the Accessible Canada Act (2019). The Act's goal is to attain a barrier-free Canada by 2040, by obligating various governmental systems to map and eliminate accessibility barriers, especially in federally regulated areas such as transport.

The Chief Accessibility Officer has the mandate to act as an independent advisor to the responsible Minister, and to monitor and report on progress towards these objectives, whether in existing or emerging areas that require government action. The CAO also helps bring cohesion across federal departments and regulated entities by convening, challenging, and championing accessibility.

In the Roundtable discussion, Cadieux highlighted that one of the reasons creating a truly accessible transport is a persistent challenge is because responsibilities span multiple jurisdictions and actors. Moreover, she pointed out that accessibility is still too often treated as a "nice to have" rather than as an essential component of the system. Her priorities are putting in place practical enablers of co-ordination that make accessibility stick. This includes mandatory training, better data, accessibility funding, and in some cases stronger regulation (as a floor, not a ceiling). She also pointed to the role standards can play, mentioning Accessibility Standards Canada's work on an Accessible Travel Journey guide and standard development.

Case study from George, South Africa: The constitution as a co-ordination mechanism

The city of George in South Africa is an interesting example of how high-level national legal commitments can be converted into local accessibility solutions (Almalki, 2016).

National legal and funding frameworks as instruments of co-ordination

The joining-up of national, regional and local authorities in deploying integrated transport networks with a focus on accessibility is supported by constitutional guarantees and acts in South Africa. Accessibility is embedded at the highest level of governance: it is reflected within the Constitution of South Africa and the Promotion of Equality and Prevention of Unfair Discrimination Act – mandating public and private bodies to remove obstacles and make necessary adjustments so persons with disabilities can participate equally in society (South African Government, 1996; South African Human Rights Commission, 2023). The National Land Transport Act of 2009 (NLTA) enables the government to set requirements and establish goals for vehicles to accommodate the needs of targeted categories of passengers, and to produce universal access plans for all modes of public transport (Republic of South Africa, 2009).

The NLTA plays a key role in the development of the public transport system in George, as it requires local planning authorities to develop transport plans that integrate universal access (Republic of South Africa, 2009). These demands are accompanied by financing schemes such as the Public Transport Network Grant. To secure financing, cities must compete by demonstrating how their proposed plans meet universal design

criteria. This process, which obliges municipalities to focus on accessibility to receive financing, promotes a co-ordinated approach across regions.

Importantly, this also fosters municipalities' active outreach to persons with disabilities, as their involvement in the planning process increases the likelihood that the plan will meet the requirements.

From national mandate to local practice: Community-centred delivery in GO GEORGE

The City of George has developed an accessible public transport service, in part due to an emphasis on collaboration and engagement with key stakeholders.

With financing from the Public Transport Network Grant, the municipality set out to develop an accessible bus system tailored to its local context. Due to spatial and geographical limitations that prevented the development of a BRT system, George chose a distributed kerbside bus system, known as GO GEORGE. This approach helped the city serve dense, historically underserved low-income townships. These areas could not have been reached by high-capacity infrastructure, yet small (and fully accessible) buses work well in this constrained environment. This approach allowed the city to create a network of stops distributed in disconnected areas, rather than a limited number of high-capacity corridors.

Co-creation at the heart of the bus network planning process

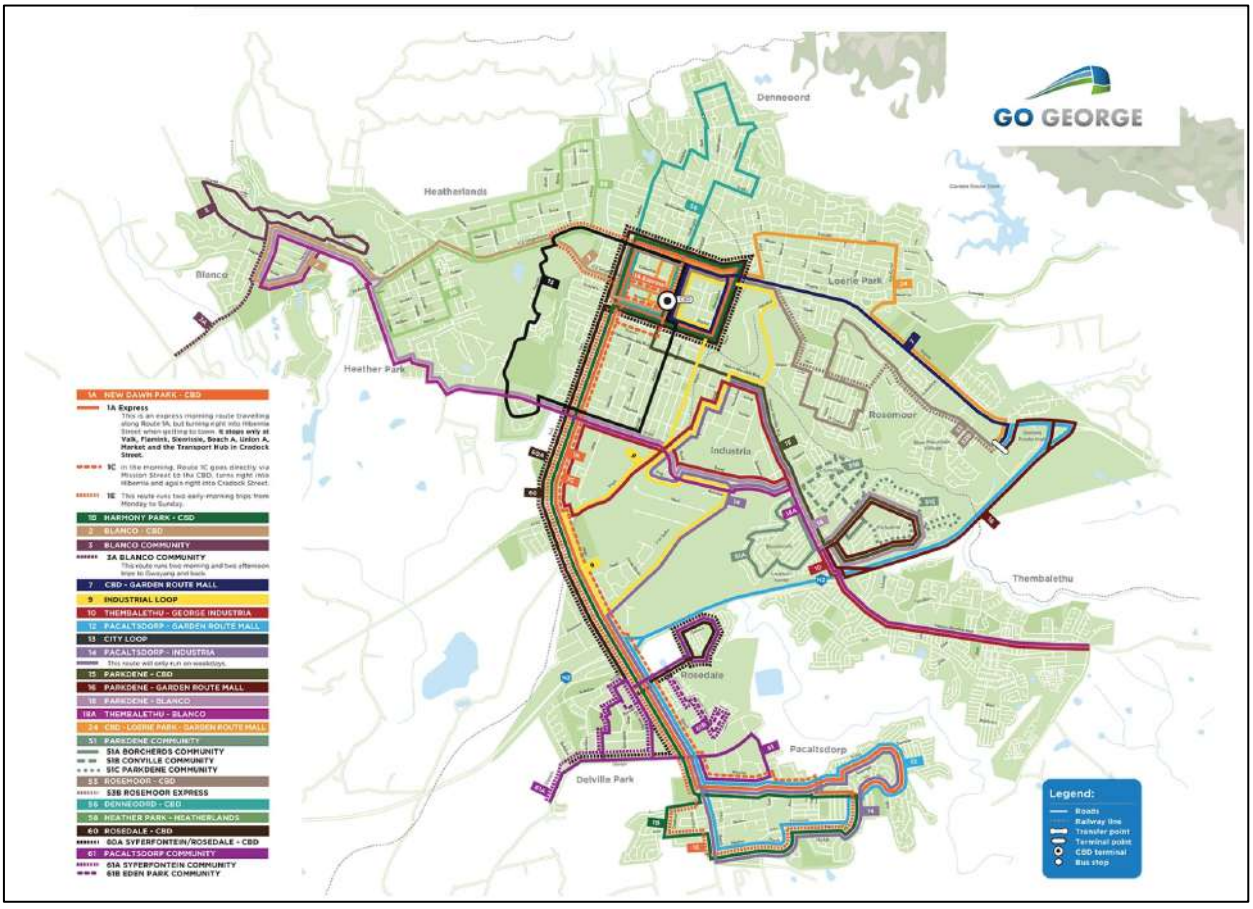
In the early years of the bus network service, the local and regional (provincial) authorities hosted town hall sessions with the communities, including their local political leadership (Council ward committees and ward Councillors). These sessions were used to inform residents about proposed changes and gather their input. Before the service was implemented, there were community open days and formal public participation processes, providing opportunities for written comments.

The design and development of the public bus network were also guided by a series of quality-of-life measures established in collaboration with residents, including persons with disabilities. The annual GO GEORGE Macro Transport and Socio-Economic Study (MTSES) includes a Passenger Satisfaction Survey, which opens the city a window into the experience of passengers with disabilities. The feedback is also used to assess progress and required improvements towards an accessible public transport system, as it measures access to bus stops, on-board access, pathway accessibility and accessibility to vendor premises.

Recent findings demonstrate the need for a more holistic approach. While respondents are very satisfied with access to vehicles and stops, they rate pedestrian access to stops lower, revealing co-ordination challenges at the interface between transport services and public space. Thanks to such insights, renewed collaboration with actors responsible for sidewalks and local infrastructure is prioritised.

This type of prolonged, genuine community engagement has helped build acceptance of new routes and improved outcomes.

Figure 9. Map of GO GEORGE Bus network



Source: Go George website

Case study from Japan: Standards and structured participation as co-ordination mechanisms

Building on the Barrier-Free Act, this case focuses on how Japan operationalises national commitments through binding standards, structured planning requirements and well-defined participation. Together, these mechanisms have led to consistent progress, despite the complexity of the Japanese transport system.

Using binding standards to align action across the transport system

As previously mentioned, Japan's Barrier-Free Act places a shared responsibility on national and local governments to deliver accessible transport systems. High-level principles and commitments are converted into technical standards that local governments and service providers must comply with, such as Guidelines for Better Barrier-Free Public Transportation and Japan's Universal Design 2020 Action Plan (MLIT, 2022). This includes very detailed accessibility specifications, such as step-free routes, tactile guidance, toilet and ticket gate widths, vehicle layouts, and more. Such exhaustive, detail-oriented guidance on construction and upgrades means that accessibility is built into the system and that expensive retrofits can be avoided.

Since the development of guidelines and principles to establish accessible travel, noticeable improvements have been made. In 2023, 79.2% of trains were assessed to have space to accommodate wheelchair users,

while significant improvements have also been made to ensure that ticket gates, elevators, and toilets are accessible.

These national standards and requirements cascade through a network of institutions with clearly defined roles. Regional authorities co-ordinate area-wide barrier-free plans to ensure that national standards are met at points where local transportation networks connect (e.g., intercity rail terminals), facilitating seamless integration. Local governments prepare municipal barrier-free plans, identifying priority districts and routes that will be developed to meet accessibility standards (MLIT, 2019). Operators then implement the physical measures (e.g., retrofitting stations, purchasing rolling stock with wheelchair spaces, and installing modified ticket gates) in accordance with the standards. To ensure compliance trickles down through the system, operators are required to submit an annual plan to MLIT detailing measures that support accessibility (e.g., facility maintenance, passenger support, provision of information, education, and staff training).

Institutionalising co-creation in local accessibility planning

The progress seen in Japan is due in part to an emphasis on citizens' active participation. In particular, the Barrier-Free Act requires that the creation and implementation of plans and policies at the municipal level are informed by consultation and discussion with a dedicated council the municipalities are obliged to create. These councils consist of (1) relevant municipal actors, (2) transport facility managers, public safety bodies, etc., and (3) elderly persons, persons with disabilities and academic experts.

Councils are involved in diagnosing barriers through on-site walk-throughs and setting priorities. Moreover, the councils' role is not limited to advisory tasks: policies and plans are evaluated every five years at meetings composed of such council members. This kind of structure is well ingrained at the local level, helping retain focus across administrative changes.

Case study from Azerbaijan: Co-ordinated governance and procurement as levers for accessible transport

Until recently, transport policy in Azerbaijan was characterised by fragmented decision making. Different actors pursued parallel strategies with limited alignment. Bus operators focused on maximising profit. Taxi operators invested in attracting users from other modes of transportation. Rail, metro and road authorities planned largely within their own silos. The absence of a shared vision or system-wide targets made it difficult to address congestion or consistently advance accessibility.

This changed in 2023 with the launch of a national mobility transformation project and the subsequent creation of a Transport Council. Chaired by the Minister of Digital Development and Transport, the council brings together the railway, the metro, the Land and Transport Agency overseeing bus operations, the police under the Ministry of Internal Affairs, and other relevant public bodies. It has a mandate to improve travel flow to reduce congestion and operates as a forum for shared strategy and joint decision making across modes. Through the council, a common direction was agreed that prioritised a shift from private car use toward public transport, supported by co-ordinated investments across the network.

In line with this shared framework, various important actions have been approved, including a larger bus fleet, the extension of the metro network, and the expansion of the rail fleet. As this forum oversees decision making across modes, a holistic view of the transport system is taken: plans consider how bus, metro, and rail services can complement one another, including interchanges and first- and last-mile connections. Moreover, a parallel "pedestrian stream" project focused on uninterrupted pedestrian

corridors and green walking routes, since walkability plays an important role in inclusive access to public transport.

In January 2025, by a Decree of the President of the Republic of Azerbaijan, the "State Programme for the Improvement of Transport Infrastructure in Baku City and Surrounding Areas for 2025–2030" was approved. The action plan arising from the Decree aims to ensure that urban mobility is organised in a safe, accessible and sustainable manner. Within the framework of these measures, the modernisation of road and transport infrastructure, the enhancement of public transport efficiency, the improvement of pedestrian infrastructure, the introduction of digital solutions, and the optimisation of traffic management are envisaged.

Accessibility is also included in public procurement processes. International standards, notably UNECE Regulation R107, were adopted as a baseline requirement, covering features such as wheelchair spaces and ramp specifications. Accessibility is not seen as a niche consideration; it is treated like any other important feature, scored as a criterion in the technical evaluation. This creates a strong incentive for bus manufacturers to go beyond the minimum requirements, as higher accessibility performance translates into higher tender scores.

Azerbaijan's experience shows how governance structures enable co-ordination across modes when procurement rules align with policy accessibility commitments.

Box 2. Co-creating accessible transport with the disability community: A perspective from the European Disability Forum

"Persons with disabilities know better than anyone else the impact of badly designed transport systems. While advocacy over recent decades has led to greater awareness, stronger legislation and increased investment, many barriers persist in daily journeys, and levels of transport accessibility continue to vary widely between and within countries.

Accessibility is too complex and fragmented for one stakeholder to achieve on its own, so effective collaboration and co-ordination between actors is required. Public authorities provide the legal framework and funding, transport operators design and deliver services, vehicle manufacturers design and build vehicles and infrastructure, accessibility experts contribute technical expertise, and persons with disabilities provide their lived experience. From our experience, when accessibility is not a priority for those taking key decisions, accessibility experts and persons with disabilities are often consulted too late, which frequently results in inaccessible transport solutions.

The good news is that we already have good practices that address this challenge. Notable examples include the setting up of user panels, the establishment of contacts with disability organisations and accessibility experts and the creation of disability advisory bodies. All these mechanisms allow transport stakeholders to co-ordinate and co-operate with organisations of persons with disabilities, which are key actors in the accessibility chain.

The European Disability Forum recently published a report on air travel, which provides an illustrative example (European Disability Forum, 2025). In several European countries, disability advisory bodies have been established to discuss air-transport-related issues with organisations of persons with disabilities, travel agencies, airport managers and industry representatives. Similar structures also exist within some airlines and airports, enabling stakeholders to jointly address challenges, make improvements, implement legislation and discuss new initiatives.

Getting the disability community onboard can benefit transport stakeholders in many ways, for instance, participants can help in identifying barriers and prioritising actions when resources are limited.

If we want to move from mere consultation to real involvement, we need to focus on changing collaboration mechanism from ad-hoc contacts or late consultations to permanent co-ordination structures. Moreover, change also needs to be accompanied by a cultural change within organisation by providing disability awareness and training to all their employees and placing accessibility issues in a prominent role inside transport organisations.

The motto of the disability movement is clear*: Nothing about us without us."*

Author: Daniel Casas Ballester, Accessibility Policy Officer (European Disability Forum)

Training and capacity building

What are training and capacity building?

Training

We define training as a planned and systematic set of learning activities aimed at improving the job-relevant knowledge, skills and attitudes of professionals involved in the planning, design, operation and regulation of transport systems (Salas et al., 2012). This includes both technical knowledge related to accessibility standards, design requirements, and legal obligations, as well as practical abilities such as conducting accessibility audits, and, perhaps most importantly, soft skills that foster positive interactions with users with disabilities (Salas et al., 2012).

It refers to the specific skill sets and knowledge of staff members such as planners, engineers, managers, ticket vendors and cleaning personnel. The actions of each of these roles (and many others) have a direct impact on the well-being and the experience of users with disabilities.

Capacity Building

Unlike training, which focuses on the development of individual abilities, we use "capacity building" to describe the transport system's overall capabilities (Vigar and Healey, 2002). In the context of accessibility, this includes the organisational capability to plan, implement and maintain policies and services over time that create an inclusive transport system.

At the organisational level, capacity building refers to the underlying learning processes, norms, attitudes, leadership support and routines that foster the ability to deliver universal access.

Training is a necessary component of capacity building, but it is not enough on its own. Unless the skills of trained staff members are reinforced through organisational structures that allow them to apply what they have learned, the impact of the training will remain limited (Baldwin and Ford, 1988; Burke and Hutchins, 2007). Capacity building, therefore, goes beyond providing individual workers with skills and concerns, creating the right organisational and institutional conditions so that accessibility considerations can be embedded across the transport travel chain.

Why are training and capacity building essential for delivering accessibility that works?

Numerous examples worldwide demonstrate that even the well-intentioned accessible transport facilities and services often fall short. This failure is due in part to design, construction and operation carried out without sufficient awareness or understanding of the diverse needs of persons with disabilities (Frye, 2019). In fact, inadequately designed infrastructure, coupled with negative experiences related to service and assistance, constitute some of the greatest barriers to the accessibility of transport systems for persons with disabilities (Mwaka, Best, Cunningham, et al., 2023). Drivers or staff may unknowingly put a passenger's safety at risk or cause significant stress by unintentionally overlooking their needs or condition. In such cases, for example, improving staff awareness and knowledge is essential (Duri & Luke, 2025).

Therefore, everyone involved in the design, delivery, and operation of transport infrastructure and pedestrian environment requires targeted training- from decision-makers, architects, road engineers, and

planners to senior managers, transport operators and those directly in contact with the public. Integrating disability and accessibility considerations into planning, transport planning and architecture curricula is imperative; equally vital is ongoing training for system operators and government officials. A clear understanding of inclusive transport concepts and the role that stakeholders play in its success is crucial.

Despite this, many countries still do not include accessibility training as a condition of employment or qualification in the transport sector. Embedding universal accessibility education into professional training programmes and fostering sustained dialogue between practitioners and persons with disabilities can enhance the development and implementation of transport services and infrastructure that better meet the needs of all users (Institute for Transportation & Development Policy (ITDP), 2025).

Good practice and recommendations

Establish a national training framework for ministries, operators, engineers, architects, and other transport professionals

Embedding accessibility training within existing accreditation and formal learning systems can be the first step to reducing the above-described training gap. From technical professionals to operational staff and those in daily contact with the public, all stakeholders need specialised training to foster an understanding of the meaning of accessible and inclusive transport and the part they play in making it work (Frye, 2019; Institute for Transportation & Development Policy (ITDP), 2025).

The uptake of training can be promoted through national training programmes that mandate accessibility-related competencies for ministries, transport authorities, operators, engineers, architects, planners, and other relevant professionals.

Accessibility training can be role-specific and delivered at different career stages, starting from formal education and qualification to in-service professional development courses. It is critical that training itself includes a various elements such as what barriers faced by persons with disabilities, how to deal with unexpected situations should an accident or emergency arise; information on all different types of disability and how it affects ability to travel, including hidden disabilities; communication skills when actively engaging with persons with disabilities, particularly those with hearing impairment or learning disabilities; and suggestions for removing barriers faced by people with disabilities (e.g., use of ramps and equipment). This is particularly crucial for training decision makers and leaders of key organisations, as these individuals can promote company-wide change and enhance capacity-building.

Ensure training is continuous, certified and cascaded across organisations

Critically, training is not to be treated as a “one-time only” event (Duri and Luke, 2025; Frye, 2019; Transport Scotland, n.d.). Training frameworks should be established with an emphasis on certification, renewal, and cascade: certify staff, require periodic refreshers, and develop master trainers who mentor teams and contractors (Frye, 2019; Transport Scotland, n.d.). Training could be refreshed as a certification requirement at regular intervals. This approach can help organisations maintain a responsive attitude to accessibility over extended periods and ensure consistent application of universal design principles across projects.

To ensure that training is comprehensive and continuous, it is critical that adequate funding and institutional support are provided to sustain training programmes in the long term. To develop holistic national training frameworks, collaboration across ministries (e.g., transport, health, education) can align

curricula and foster the integration of diverse policy priorities (Masada, 2022). Incorporating mechanisms to monitor training effectiveness and continuous improvement based on feedback from trainees and persons with disabilities will ensure programmes remain relevant and evolve to meet the needs of diverse populations (Park and Chowdhury, 2018).

Co-design and co-deliver training with people with lived experience

Training programmes should be co-developed with the disability community and regularly reviewed and revised to enhance educational effectiveness (Frye, 2019; Park and Chowdhury, 2018). The best accessibility training is usually designed, delivered, and evaluated by people with disabilities, who can explain firsthand what their needs are and the appropriateness of solutions that lower barriers to travel (Frye, 2019; UK Department of Transport, 2020). When trainers have lived experience, content uncovers real-world challenges that may not otherwise be apparent – such as those posed by hidden disabilities. When people with lived experience deliver training, biases are removed, and a deeper understanding and empathy are fostered among participants (see Box 2).

By including persons with disabilities in the training process, the importance of training that is consistent, continuous, and regularly updated to maintain relevance and impact becomes more visible to trainees (Transport Scotland, n.d.).

Co-delivery of accessibility training and co-development of curriculum can be supported through partnering with organisations representing persons with disabilities. Such partnerships can facilitate the establishment of advisory committees that also monitor impact and provide broader feedback on the alignment between training programmes and national policies and codes.

Interactive, simulation-based training can enhance learning and practical skill development. Hands-on experience gained through VR and role-plays can allow participants to practice assistance for disabled passengers, such as navigating stations or boarding vehicles, in a risk-free environment. Training sessions can seek to cover the entire travel journey, actively involving participants across various stages of the travel chain to foster open dialogue and a comprehensive understanding of the needs of persons with disabilities throughout their journey.

Case studies

Case study from India: From accessibility law to practice through a national training and certification framework

India has established a legal and policy basis for promoting accessibility through legal instruments such as the Rights of Persons with Disabilities (Government of India, 2016) Act (2016), the Harmonised Guidelines (Ministry of Housing and Urban Affairs (MoHUA), 2021), and the National Building Code. Together, these instruments set clear obligations for inclusive design across public infrastructure and transport-related buildings. However, as in many countries, implementation gaps remain. Practitioners at the Roundtable in India have partially attributed this gap to limited professional knowledge.

Recognising that accessibility hinges not only on standards but also on trained and sensitised personnel across disciplines, the Indian government initiated a capacity-building programme to foster knowledge and practical skills necessary for delivering accessible transport and public infrastructure.

The training programme was initiated by the National Central Public Works Department (CPWD) Academy, a governmental institution responsible for training engineers, architects, and project officers. Technical

support and training are delivered by the Accessibility in the Built Environment Foundation (CABE), a non-profit organisation headquartered in New Delhi, India, that promotes an equal society for everyone irrespective of age, ability, gender, sexual orientation, or any other diversity. Certification is issued by both the National CPWD Academy and the CABE Foundation.

A certified, continuous, hands-on training model

The core training spans three days and targets architects, engineers, and project officers. The curriculum includes many essential areas: the legal and policy framework in India to instil understanding of compliance consequences; disability etiquette and user perspectives, capturing the lived experience of those with disabilities; national standards and universal design principles; and audit practices, reporting, and evaluation methodologies. Importantly, the training is delivered using varied methods, including classroom instruction with simulations, group work and field-based audits. At the end of the course, trainees complete a written exam to assess their competency. This allows participants to apply learning directly to real buildings and environments.

The programme is embedded in the government's training ecosystem. It aligns with the Accessible India Campaign, a nationwide initiative launched by the Department of Empowerment of Persons with Disabilities to achieve universal accessibility for persons with disabilities. The fact that the training is deeply rooted in national institutional frameworks helps ensure it is not seen as a one-off intervention but as part of the routine professional development of public officials.

From training to real-world application through institutional capacity building

By training professionals, the programme seeks to foster a culture of inclusion within public institutions responsible for creating, maintaining, and retrofitting public infrastructure. Importantly, officers who receive certification are not only responsible for conducting accessibility audits but also for mentoring others in their organisations and external contractors, leading to wider change.

To date, 13 officers have been certified as Basic Accessibility Auditors through the training programme. This laid the foundation for a certified pool of accessibility auditors who can design, audit, and manage accessible transportation infrastructure within their organisations. Trained auditors now lead and mentor others, becoming institutional anchors responsible for ensuring accessibility standards are met. Subsequently, independent audits were conducted to test the programme's outcomes by evaluating the accessibility of projects managed by programme graduates. According to the CABE Foundation, these projects had significantly fewer non-compliance issues than those handled by untrained personnel.

The programme is already bearing fruit: graduates of the programme have conducted accessibility audits of public buildings between 2024 and 2025 (including transport-related facilities).

As programme leaders have articulated, “building people builds inclusion”. This case shows that, through training commitments, accessibility can be operationalised effectively.

Figure 10. Participants carrying out a sample audit

Source: CABE website

Case study from International Union of Railways (UIC): Sector-wide accessibility training

The International Union of Railways (UIC) is an international rail transport industry body founded over a 100 years ago. Bringing together more than 200 operators and infrastructure managers representing railway companies across more than 100 countries worldwide, the International Union of Railways (UIC) and its members strive to enable all passengers, including those with disabilities and/or reduced mobility, to travel autonomously.

Many factors shape railway accessibility, some of which rail companies can influence. Recognising that some infrastructure still poses accessibility challenges, further improvements are needed. While physical upgrades will take time to implement, meaningful progress in accessibility and barrier removal can already be achieved through comprehensive professional staff training.

Though many rail operators already provide accessibility training, the extent and quality of the training can vary significantly. UIC is addressing this gap through its broad platform for members, which supports mutual learning and better accessibility outcomes.

Recognising accessibility as an integral element in routine professional training

Among other working groups, UIC has created PASSAGE, a working group of accessibility experts with the shared goal of building a network to exchange knowledge and identify common solutions to advance accessibility (International Union of Railways (UIC), n.d.). Established in 2010, the group meets regularly to share practices and address ever-changing legal and regulatory requirements. As a result of this collaboration, IRS 10145 — providing guidance on assistance for persons with reduced mobility and disabilities — has been developed, and the PRM ABT (assistance booking tool) platform has been implemented to help ensure assistance during international rail journeys.

Though infrastructure remains a core challenge for accessibility, PASSAGE members view rail staff competence as an important condition for accessible train travel for passengers with disabilities. In 2024, UIC conducted an internal survey of railway staff across the PASSAGE network to understand existing training practices better. Respondents' occupations ranged from customer service staff to station personnel and drivers. With over 300 responses in 6 languages, the survey results show that staff strongly prefer practical, interactive training that includes role-play and simulations, as it is perceived as more effective than frontal lecture formats. Respondents also mentioned several training gaps, including training to respond to invisible disabilities, handling equipment and communication skills. Others yet mentioned the need to involve persons with disabilities in training delivery.

A complementary training grounded in staff needs and user experience

In response to survey results and member requests, UIC PASSAGE is developing a training course for managers, ticket vendors, onboard controllers, drivers, railway staff who assist passengers, and other accessibility-critical staff.

This six-hour training course is designed to be virtually accessible through the UIC Learning Platform. Modules cover subjects ranging from disability awareness and passenger rights to practical guidance for assisting passengers with various needs, including those with invisible disabilities. A final examination is designed to test staff awareness and capacity to foster inclusive and accessible services for all transport users. This virtual format allows scalability across UIC's international membership.

Notably, the programme was co-created with Fundación ONCE. This ensures that the curriculum incorporates storytelling and testimonials that capture the lived experience of persons with disabilities, helping to transform abstract principles into practical situations encountered by railway staff.

The programme aims to complement the training programmes of PASSAGE railway members and is not meant as a replacement for national or company-level training programmes. Rather, by building on the rich knowledge and experience of PASSAGE members and addressing the gaps in existing practices, UIC will be able to provide unique value to the rail sector and travellers around the world by contributing to the development of a harmonised training framework.

Finally, the UIC platform is designed to be part of a continuous learning process, ensuring accessibility training is not an isolated event: railway companies can update course content, translate materials into different languages, and even integrate modules into their own training plans. This helps companies maintain competency and awareness, as the needs of passengers with disabilities or limited mobility evolve.

Case study from Ireland: An immersive experience at the core of accessibility training and capacity building

Ireland has created a system-oriented model for accessibility training and capacity building: Opened in April 2024, the Wayfinding Centre at Vision Ireland in Dublin provides comprehensive accessibility training focused on empowering users and transforming public transport systems to be universally accessible. The Wayfinding Centre focuses on providing trainees with an extensive range of real-life experiences that persons with disabilities face in the transport system. Since its opening, more than 5,000 participants have been at the Centre. Early performance measurements indicate that this experience has led to increased staff confidence and, subsequently, more proactive assistance.

While it was originally conceived as a training space for people who are blind or vision-impaired, the Wayfinding Centre now functions as a pan-disability service provider through its close collaboration with

national authorities, transport operators, and funders. This has helped position the Centre as a learning environment for public transport and the built environment.

Co-design and co-delivery with people with lived experience

The Centre's mission is to empower individuals and promote the possibility of accessible public transport for all by envisioning systems that are inclusively designed from the outset. By working with transport providers, communities and people with lived experience, the Centre aims to foster a future where accessibility is not an add-on, but a standard. Training is provided for designers, planners, engineers, and architects, combining classroom-based activities with hands-on learning. The training offers practical content covering disability rights, barriers, biases and language; wayfinding in the urban realm; pedestrian safety, accessibility and inclusion; and universal design and inclusive consultation.

Notably, the training delivery is focused on co-design and co-delivery with persons with disabilities. This is facilitated through the involvement of "Access Ambassadors" who share their lived experience. The impact of training is assessed through feedback from persons with disabilities and their experiences with public transport staff and professionals. Access Ambassadors also play a crucial role in monitoring training effectiveness. This is done through participant feedback and ongoing engagement with Access Ambassadors, who report changes in staff behaviour and service quality in real transport settings.

The Centre works in partnership with national and local actors, including the National Transport Authority, public transport operators such as Irish Rail and Dublin Bus, local authorities, and academic institutions. This multi-stakeholder effort exemplifies the Wayfinding Centre's commitment to practically embed accessibility within public transport systems and urban environments, while ensuring the content reflects operational realities on the ground and remains aligned with policy objectives.

Immersive training that reflects the whole journey

A key emphasis is placed on training that acknowledges the importance of a whole-of-journey approach and the need to ensure accessibility at every step of a traveller's experience. To achieve this, the Wayfinding Centre recently completed construction of a 31 000-square-foot indoor facility that provides a realistic indoor training environment with access to simulations of various public transport modes (rail, bus, aeroplane), streetscapes with traffic signals, tactile paving, and potential hazards (see Figure 11). In this unique setting, participants can practice assistance techniques, wayfinding, and emergency responses in a realistic yet risk-free environment.

In addition to this immersive learning experience, participants also receive a formal training that includes scenario-based exercises and role-plays led by Access Ambassadors. The curriculum includes diverse topics starting from the principles of universal design and inclusive consultation to wayfinding in the urban realm and pedestrian safety. This broad range of subjects demonstrates the Centre's view of accessibility as door-to-door travel and multi-modal transfers, rather than focusing on isolated touchpoints.

Figure 11. The WayFinding Centre's indoor facility

Source: The Wayfinding Centre website

Providing accessibility training across professions and career stages

The Centre offers training to a broad range of transport staff, including frontline transport staff, designers, planners, engineers and managers. Importantly, training is not limited to a specific stage of trainees' professional lives, including both long-term practising professionals and students from partnerships with universities in Ireland and abroad. This broad reach reinforces accessibility as a core principle of professional responsibility.

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Annex A. List of Roundtable participants and observers (alphabetical order)

Tali ARKUSHIN (RT co-manager), International Transport Forum, OECD

Jaime BORRELL (Presenter), Alstom, Spain

Maria BRONSKAIA (Presenter), International Union of Railways (UIC), France

Stephanie CADIEUX (Keynote Speaker), Government of Canada, Canada

Daniel CASAS (Participant), European Disability Forum, Belgium

Subhash VASHISHTH (Presenter), Centre for Accessibility in Built Environment Foundation, India

Virginia Lorraine CHRISTOCHOWITZ (Online participant), NOW GmbH, Germany

Rute DAMIÃO OSÓRIO (Participant), Instituto da Mobilidade e dos Transportes, Portugal

Anne DURAND (Online participant), KiM Netherlands Institute for Transport Policy Analysis, Netherlands

Lia FERREIRA (Online participant), Architect, Portugal

Gali FREUND (Presenter), Gali Freund Planning, Netherlands

Ann FRYE (Chair), Ann Frye Limited, UK

Lukas FUCHS (Online participant), Universität Stuttgart, Germany

Bertrand GERVAIS (Presenter), Someware, France

Amanda GIBBERD, Department of Transport, South Africa

Alish ISMAYILOV (Participant), Ministry of Digital Development and Transport, Azerbaijan

Janett JIMENEZ SANTOS (Presenter), Independent Consultant, Mexico

Takaaki KANI (Online participant), Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan

Yukari KASAHARA (Participant), International Transport Forum

Kevin KELLY (Presenter), Wayfinding Centre, Ireland

Camille LARMANOU (Interpreter), International Transport Forum, OECD

Sylvaine LE NOXAÏC (Presenter), Lorient Agglomération, France

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Diogo MARTINS (Presenter), Comboios de Portugal, Portugal

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Maria Varinia MICHALUN (Participant), Centre for Entrepreneurship, SMEs, Regions and Cities, OECD

Soichiro MINAMI (Presenter), Kanazawa University, Japan

Nao NIWA (Online participant), Chuo University, Japan

Taichi NIWA (Online participant), University of Tokyo, Japan

Vanessa PEREZ (Presenter), International Union of Railways (UIC), France

Santiago RUIZ GONZALES (Online participant), Fundación ONCE, Spain

Stefan SCHÖNFELDER (Online participant), Federal Ministry of Innovation, Mobility and Infrastructure (BMIMI), Austria

Nick TYLER (Presenter), University College London, UK

Fabrice VELY (Presenter), Lorient Agglomération, France

Anders WRETSTRAND (Presenter), Skånetrafiken, Sweden

Haruhiko YOKOTA (Participant), International Transport Forum, OECD

Tetsu AKIYAMA (Presenter), Chuo University, Japan

Annex B. List of additional case studies from World Bank projects

- The Cairo Airport Development Project Second Terminal Building (TB2) included compliance with international accessibility standards right from the concept stage. Accessibility features were included in the final design, and Terminal 2 includes the needs of persons with disabilities and older persons.
- The Liaoning Urban Transport Project (P041890) also demonstrated the role of disability inclusive public participation processes. Although initial proposals focused on urban development and road expansion, public consultations led to increased emphasis on improved and accessible sidewalks, pedestrian needs, secondary roads, and improved traffic management. The project also worked with local associations for persons with disabilities to test accessibility improvements funded by the project. These audits identified problems such as narrow widths of sidewalk ramps and misalignments between ramps and sidewalks, which would render these sidewalks unusable for many persons with disabilities. Also, notably in the context of community engagement is the publication, Improving the Accessibility of Road Infrastructure through Public Participation (World Bank, n.d.), offering lessons on improving accessibility of transport projects by engaging with the disability community.
- The Bhutan Public Transport Access Technical Assistance for Thimphu Project (P156611) supported the Thimphu City Corporation in expanding access to transport services for persons with physical disabilities who experienced transport barriers. This support included a technical assessment of public transport accessibility, development of designs and specifications for bus stop infrastructure and vehicles, and development of travel survey instruments.
- In 2013, the Middle East and North Africa Region Sustainable Development Sector published a practical guidance note, “Improving Accessibility to Transport for People with Limited Mobility (PLM),” to inform the accessible design and implementation of transport projects for persons with limited mobility (World Bank 2013). In the Africa region specifically, the Transport Global Practice led analytical work on the importance of promoting accessibility in the sector through a review of the access conditions and features of the Dakar Diamniadio Toll Highway Project in Senegal (P87304).

International Transport Forum

Delivering Accessibility that Works

Summary and Conclusions

Accessible transport remains unavailable to many people worldwide, even where legal frameworks and formal accessibility requirements exist. When passenger lifts fail, information is unclear or transport hubs are hard to reach, the accessible travel chain breaks down, reducing trips and access to jobs, education and healthcare for persons with disabilities.

This report helps transport policymakers, authorities and operators close this gap by moving from mere compliance to accessibility that works in real-world conditions. It sets out practical recommendations: embedding universal design into operations and maintenance, improving wayfinding and information, securing sustainable funding and financing, clarifying institutional responsibilities, and making co-creation with disabled people continuous rather than a one-off exercise.

The report draws on a two-day Roundtable held in Paris, where participants examined case studies of accessible transport solutions that work in practice, distilling international experience into clear, actionable principles for decision-makers.

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