From Challenges to Solutions:

Building Inclusive Transport for People with Disabilities

ITDP Institute for Transportation & Development Policy

tumi Transformative Urban Mobility Initiative

Federal Ministry for Economic Cooperation and Development

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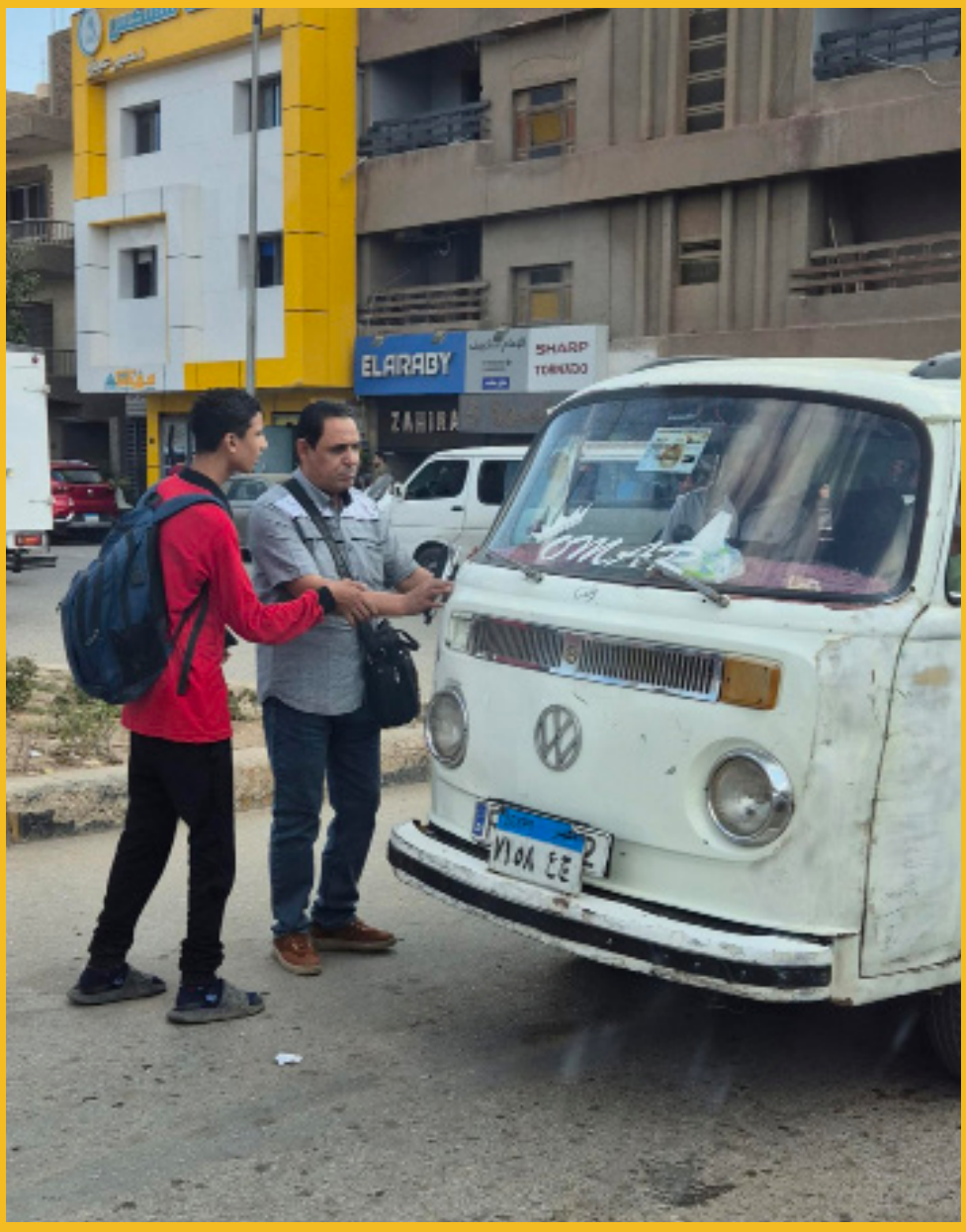
1 Executive Summary



Disability is diverse, and transport systems need to address different human abilities. Pictured a blind man being assisted to board a minibus in Cairo, Egypt. Credit: TUMI.

Universal accessibility is the act of designing products, services, and, in this case, transportation systems so they accommodate all users, including those with disabilities, without the need for special accommodation or adaptation.

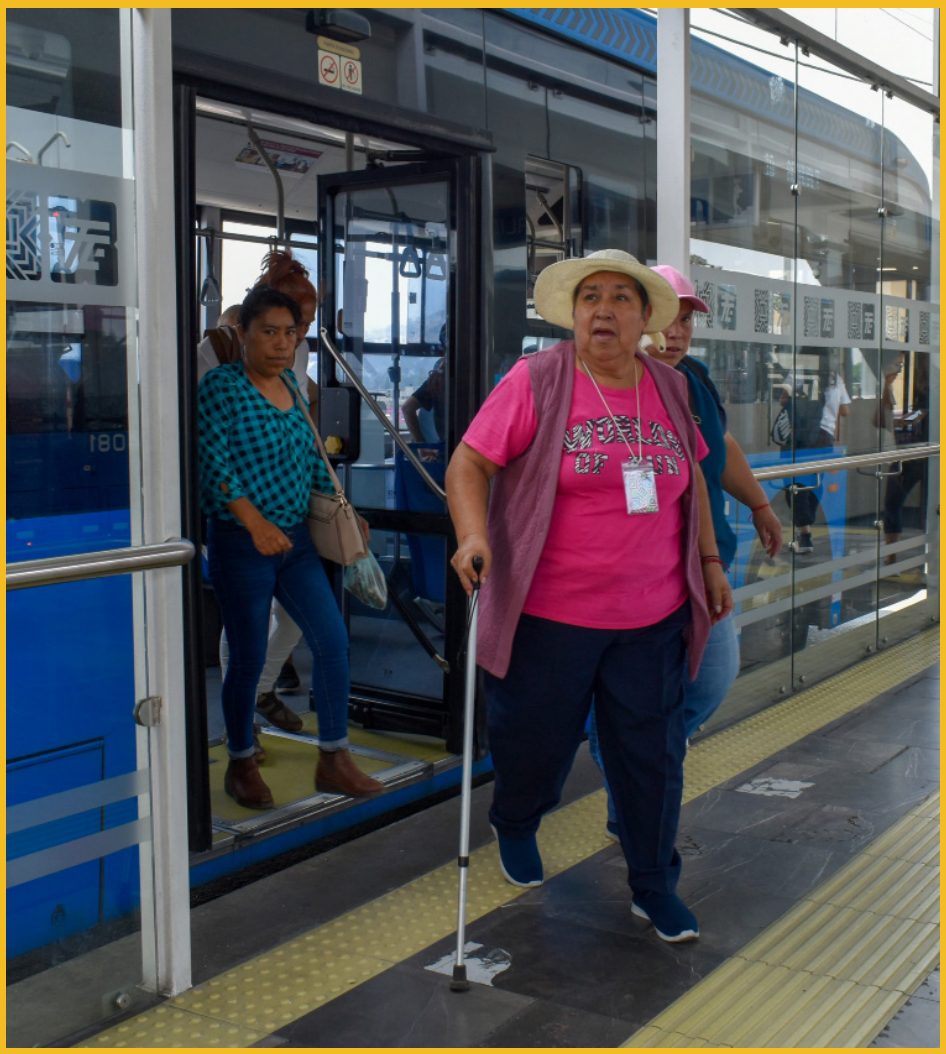
Urban transportation systems around the world have a long way to go in terms of accessibility adaptation and mainstreaming. Given the global need for greater accessibility, the Institute for Transportation and Development Policy (ITDP) and the Transformative Urban Mobility Initiative (TUMI) assembled a community of practice that brought together advocates, decision-makers, and researchers around the world in a series of panels and workshops where they exchanged ideas and identified challenges and solutions in planning and adapting for accessibility.

This community of practice found that a **lack of inter-sectoral collaboration, cultural and systemic biases, and funding** were some of the biggest challenges in creating cohesive and inclusive transportation systems. This disconnection between systems and limited coordination among government agencies and stakeholders, misconceptions of what universal accesibility is, and a lack of dedicated funding, end up benefit only a small segment of the population.

Solutions to these challenges were identified as training and awareness-raising for decision-makers, data-driven accessibility masterplans, including people with disabilities (PwD) in the planning process and in the transport sector, and greater communication between accessibility stakeholders.

By increasing communication between stakeholders in the transportation accessibility landscape, this initiative aimed to address barriers to collaboration, leading to more accessible cities and better lives.

2 Introduction



Universally accessible transport breaks barriers to reach opportunities, services and social networks. Key features like level boarding helps people with disabilities enter the transport vehicles with ease such as here in Mexico City's public transport. Credit: SEMOVI.

“Inclusive transport is not just about buildings and streets. It’s absolutely connected to our self-efficacy, dignity, independence, safety, confidence, equity, and inclusion.”

Kenyan Senator Crystal Asige at the Transformative Urban Mobility Initiative, 2023 Conference. Credit: TUMI

Universal accessibility is often thought of as a collection of physical adaptations, such as curb ramps and elevators to enable those in wheelchairs to get around, or tactile flooring in train stations to help people with low to no vision navigate. But it is more than just that. It includes public transport service that is frequent so that vehicles are not overcrowded, auditory messages about the service, awareness raising of staff and the public, ensuring affordability of the options to obtain true universal accessibility. And taken together, these changes transcend physical infrastructure and become much more—a key piece in providing dignity, self-determination, and equity to all citizens.

For people with disabilities, universal accessibility is independence and autonomy, the catalyst for their ability to find employment, reach activities, and otherwise function as a citizen in their community. And for everyone, universal accessibility is the promise that our communities will continue to allow us this independence and dignity even as we age, experience injury, or otherwise experience a change in our abilities.

Universal accessibility integration and adaptation also comes with various cross-cutting benefits in fields such as gender equity, health, climate, and economic inclusion. For example, quality BRT service can promote not only equitable access for people with disabilities but also for caregivers traveling with children, the elderly, and people carrying goods. From meeting the needs of all to serving as a lifeline for access to jobs, the benefits of ensuring that transportation services are universally accessible are innumerable.

Accessibility has three main facets that need to be considered when wanting to improve universal accessibility.

Physical accessibility refers primarily to infrastructure and information, which must allow for a complete trip (door to door) to be undertaken by anyone regardless of ability. This spans all infrastructure that is part of a trip, from sidewalks and traffic signals to public transportation and information about its services, while also referring to the quality of the services being provided (are they frequent, safe, etc.).

Social accessibility refers to a social understanding, recognition, and acceptance of the diverse travel needs of those with disabilities, from including those with disabilities in planning meetings, to the behavior and attitude of drivers toward the system users.

Economic accessibility refers to ensuring that accessibility adaptations are spread equitably and are affordable for those who need them, as well as the need to connect people to education and jobs.

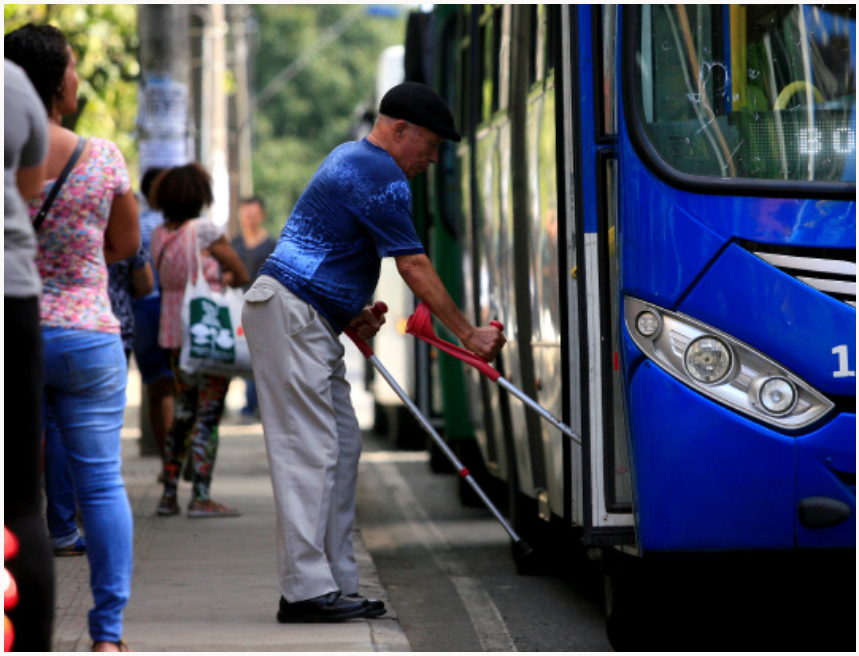
In all three of these areas, not enough has been done, and the results have been damaging. To date, 10% to 12% of working-age adults have a disability, but unemployment for that group hovers at 80% to 90%. People with disabilities are disproportionately more likely to rely on others for their transportation needs. The lack of accessibility is especially dire in low-income countries (LICs), where accessibility policies are often weaker. Also, 80% of people with disabilities live in low- and middle-income countries (LMICs).

Yet, this is a solvable problem. In each of these accessibility spheres (physical, social, and economic), various cities, organizations, and people have made significant progress in recent years in adapting their cities and communities for greater accessibility, from creating accessible transit in Bogotá to developing a network of footpaths in Chennai (ITDP, 2024).

However, insights on these accessibility adaptations and the circumstances and actions that led to them have remained largely hidden. They are unable to be used as lessons by other planners because of a lack of integration between advocates, researchers, and practitioners around the world. This disconnection hinders effective solutions and perpetuates systemic misconceptions about the costs and benefits of accessibility.

To bridge this gap in communication, the Transformative Urban Mobility Initiative (TUMI) and the Institute for Transportation and Development Policy (ITDP) worked together to create a community of practice where disability advocates, experts, academics, and transport practitioners working on diverse projects related to urban mobility around the world shared insights, ideas, and experiences.

The approach to understanding the challenges, solutions, and next steps for different sectors in creating more accessible cities included the creation of a special Disability Advisory Board, building out the disability community network, discussions through deep-dive sessions, and surveys and a literature review. This white paper presents insights from these activities and offers a framework for improving global transportation accessibility to inspire future progress and show the way forward.



Public transportation systems that do not allow individuals to use assistive devices such as wheelchairs or canes, or that require an attendant to assist an individual to board, are not accessible. Credit: Joa Souza.

The following key takeaways summarize the most pressing challenges and potential solutions identified in this work. A more detailed discussion can be found in the **Summary of Findings** section.

Key Challenges

- **Cultural and Systemic Biases Persist:**
  Universal accessibility is often deprioritized due to misconceptions that it benefits only a small segment of the population. Decision-makers frequently see it as an isolated infrastructure issue rather than a fundamental enabler of independence, economic participation, and social equity.

- **Fragmented Planning Limits Accessibility:**
  Many cities implement universal accessibility features inconsistently, resulting in disconnected networks. Without a seamless, universal accessible journey—from sidewalks to transit stations—people with disabilities continue to face significant barriers to mobility.

- **Poor Intersectoral Collaboration Hinders Progress:**
  Limited coordination among government agencies, urban planners, disability advocates, and transport operators results in inefficiencies, duplications, and missed opportunities for inclusive mobility improvements.

- **Funding for Universal Accessibility is Inadequate:**
  Universal accessibility initiatives often lack dedicated funding streams and are viewed as an expense rather than an investment. This short-sighted approach limits long-term economic and social benefits, such as increased workforce participation and higher transit ridership. The costs of retrofitting are significantly more expensive than when included from inception.

Key Solutions

➔ Training and Awareness are Key:

Decision-makers, planners, and transport operators must receive targeted training on the needs of people with disabilities. Inclusive planning, operational training, and public engagement can help bridge knowledge gaps and address systemic biases.

➔ Inclusion Must be Standard Practice:

People with disabilities must be actively involved in transport decision-making—not just as advisory voices but as integral contributors to policy development, urban planning, and project implementation.

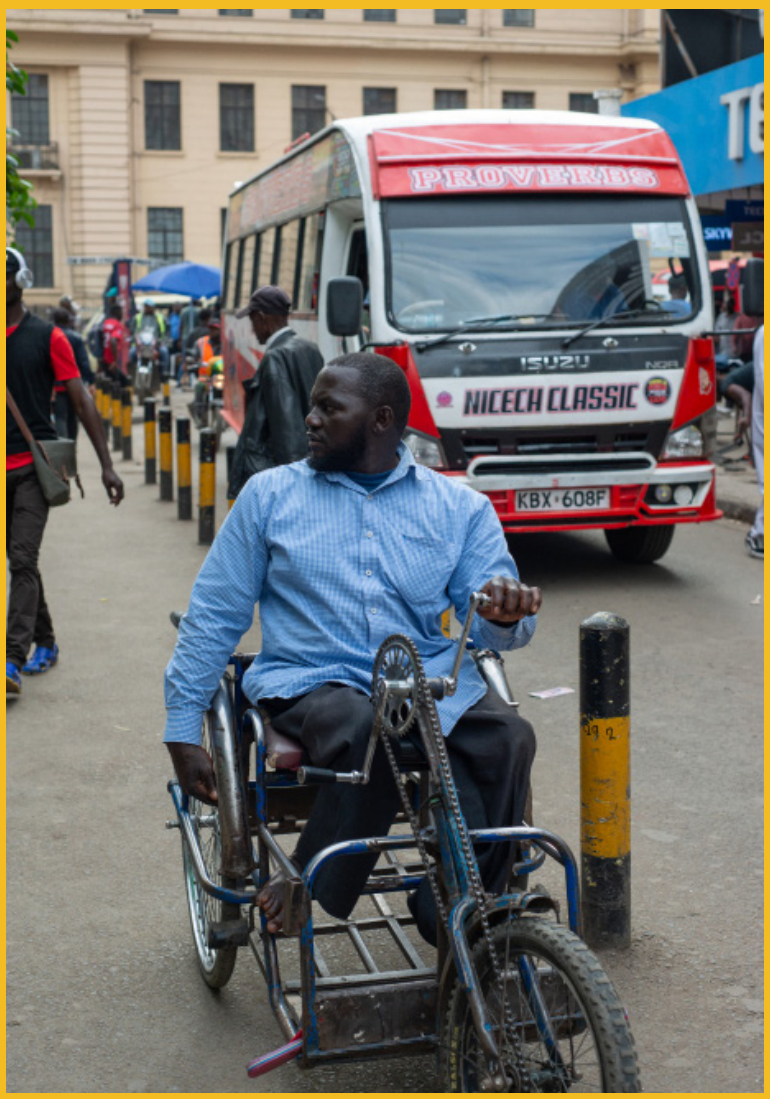
➔ Data and Technology Can Drive Better Solutions:

Comprehensive data collection, digital tools, and trip-planning technologies can enhance accessibility. Cities should adopt evidence-based approaches and integrate real-time accessibility data into planning efforts.

➔ Sustainable Investment and Accountability Are Crucial:

Universal accessibility improvements require dedicated funding mechanisms, structured pilot projects, and ongoing audits to ensure sustained progress and long-term impact.

3 Approach and Takeaways



Achieving universal accessibility as the norm requires cities to design with inclusivity at the forefront. This is not just a goal, but a necessity for thriving, sustainable cities. Pictured a man navigating a protected walkway segment in downtown Nairobi. Credit ITDP.

To identify key challenges, solutions, and next steps in creating universally accessible cities, ITDP and TUMI adopted a phased approach, where each step built upon the next.

First, a literature review explored challenges related to equity, health, and climate resilience in accessible urban mobility, while also identifying gaps in the roles of stakeholders such as governments, advocates, and development banks. This informed the discussions with the Disability Advisory Board, which further highlighted barriers in collaboration, governance, and funding, emphasizing the need for more coordinated efforts. After this first step, ITDP and TUMI, with input from the Disability Advisory Board, expanded efforts to build a broader disability community to address key challenges in inclusive mobility. This involved fostering peer networks, facilitating knowledge exchange, and highlighting practical strategies to advance universal access.

Through targeted deep-dive sessions, participants shared case studies, discussed actionable solutions, and identified best practices to shape more inclusive transport systems. A recurring theme in all of these engagements was the critical need for stronger cross-sector collaboration. Gaps in communication and coordination among sectors—government agencies, planners, operators, advocates, and researchers—were identified as fundamental obstacles to progress.

Understanding the roles of each sector and finding the barriers to collaboration and solutions to address them was the guiding thread line for the interactions with the disability community.

3.1 Literature Review

Method

ITDP and TUMI began work by producing a literature review, with preliminary information and research on challenges, benefits, and other insights that arise when adapting transportation systems for greater accessibility. The literature review included more than 40 sources: reports; academic articles and gray literature; publications from ITDP, TUMI, and other organizations; financing institutions; media outlets; and products developed by Disability Advisory Board members. This literature review had a dual goal. First, it aimed to inform on what types of work stakeholders in each sector of the transportation accessibility puzzle were doing (governments, advocates, academics, and development banks). Second, it helped to establish where there are missing pieces or lapses in communication among various groups. Both goals helped shape the questions that were further explored with the disability community.

Key takeaways

The literature identifies several key themes—**equity, health, and climate resilience**—as critical challenges in urban mobility for people with disabilities. Over a billion people worldwide live with a disability, more than half of them in cities, and the design of urban environments profoundly impacts their ability to participate in daily life. However, inequitable access to mobility systems, compounded health risks, and heightened vulnerability to the risks and impact of climate change create significant barriers to full inclusion for people with disabilities.

Urban mobility systems are essential for ensuring equitable access to services, opportunities, and social connections. Yet, many cities prioritize car infrastructure over more sustainable and accessible transport options like public transit and pedestrian networks. This focus on car-centric design particularly disadvantages people with disabilities, women, caregivers, and the elderly by limiting their mobility and, in turn, their access to essential services such as healthcare, education, and employment (Turok & McGranahan, 2013).

Public transport systems, streets, and public spaces have historically been designed with non-disabled individuals in mind, often neglecting the needs of marginalized populations (Litman, 2012).

The literature emphasizes the strong links between gender, poverty, and disability, particularly in urban areas. Women with disabilities often face intersecting challenges, including gender inequity; caregiving responsibilities; limited access to education, healthcare, and employment; and a heightened likelihood of poverty (ITDP, 2019; Granada and Urban, 2016). These barriers are particularly pronounced in LMCI countries, where essential services and safe, accessible transportation are often lacking (World Bank, 2023). Additionally, women with disabilities are more vulnerable to violence and discrimination, exacerbating their exclusion from economic and social opportunities (UN Women, 2022). Inclusive urban mobility systems can mitigate these challenges by improving access to services, thereby promoting gender equity and poverty alleviation for women and girls with disabilities.

Health is closely intertwined with mobility, particularly for people with disabilities. Inaccessible transport systems contribute to both physical and mental health challenges. People with disabilities often experience prolonged exposure to air and noise pollution, longer and more stressful journeys, and limited access to healthcare, all of which negatively affect their well-being (World Health Organization, 2011). Conversely, more accessible transport systems, especially active modes of transport, would enable people with disabilities to maintain their health by facilitating heathier ways of travel and access to healthcare, social interactions, and community engagement.

Climate change exacerbates these existing challenges. People with disabilities are especially vulnerable to extreme weather events such as floods, heatwaves, and other disasters, yet they are often overlooked in climate adaptation and disaster risk planning. This exclusion increases their exposure to physical and social risks during emergencies (UNDP, 2017). Ensuring that climate resilience planning includes the needs of people with disabilities is critical to their safety and well-being.

To address these intersecting issues that exponentially affect people with disabilities, cities need integrated policies that prioritize equity, health, and climate resilience in urban mobility planning. Fortunately, inclusive, accessible transport systems benefit everyone, making cities healthier, more resilient, and equitable for all residents. Early investments in accessible infrastructure, paired with ongoing maintenance, are crucial for creating long-term, inclusive urban mobility systems (Litman, 2012).

Key gaps in knowledge

The literature review on universal access highlights several gaps in knowledge and application. While it thoroughly addresses equity, health, and climate challenges, critical areas are underexplored.

First, limited discussion on sustainable financing mechanisms exists for inclusive urban mobility, particularly in low- and middle-income countries. How cities can secure funding through public–private partnerships or innovative models remains unclear. Additionally, the literature lacks examples of pilot projects that successfully tested and scaled universal accessibility solutions in transport systems. More case studies would provide practical insights into implementation.

Collaboration between governments and stakeholders is another gap. While intersectoral policymaking is mentioned, the role of different government agencies and the private sector in driving and enforcing accessibility initiatives is not deeply explored. Strong governance structures and partnerships across sectors are key to advancing accessibility as explored in discussions with the disability community.

Finally, the role of data and technology is underrepresented. The potential for digital tools, data collection, or smart city technologies to address mobility challenges and improve monitoring of accessible systems is not adequately discussed.

In summary, key gaps, such as the need for sustainable financing mechanisms and stronger intersectoral collaboration, were raised, guiding our questions on what specific actions different sectors can take to enhance inclusive transport systems.

3.2 Disability Advisory Board

Method

As a first step in creating the Disability Advisory Board to discuss universal accessibility, ITDP and TUMI gathered 14 stakeholders from different sectors, including civil society (global and local NGOs working on disability issues like Pak Ever Bright Development Organization and World Enabled), international finance institutions that integrate people with disability in their work (i.e., the World Bank, IADB), and the transport planning community (such as New York City MTA and Curitiba Development Agency). The group of leaders in the disability field were chosen to ensure both geographical diversity, as well as diversity in the types of work that different members were doing.

The purpose of the advisory board was to solicit ideas and gain feedback and guidance from a diverse group of leaders around key gaps and opportunities of universal access in cities. Critical insights from the advisory board gathered through a survey and a roundtable discussion have helped shape further conversations and structure discussions with the disability community members.

Key takeaways

An initial survey of the advisory board identified attitudinal and structural problems as key overarching challenges to universal accessibility planning.

Attitudinal challenges arise from cultural and systemic biases that deprioritize universal accessibility in planning. Misconceptions reduce universal accessibility to a few physical fixes, overlooking the broader social and economic benefits. Limited understanding of disability needs, exclusion of disability voices, and the perception that universal accessibility serves only a small group further reinforce these biases. These problems perpetuate challenges in transport planning, leading to biased policies and inadequate representation of people with disabilities.

Structural challenges in universal accessibility planning arise from fragmented coordination, weak policies, and inconsistent enforcement. Poor collaboration between government agencies, planners, advocates, and operators results in disconnected strategies, while gaps in data and monitoring hinder evidence-based decision-making. Policies and regulations often lack clarity, enforcement mechanisms, or integration across sectors, which leads to uneven implementation and inequitable access, particularly in underserved areas.

The discussions revealed three key focus areas—**economic considerations, communication strategies, and institutional frameworks**—highlighting the need for stronger investment, inclusive messaging, and coordinated governance to advance universal accessibility.

The discussions also uncovered some key opportunities and areas for intervention:

- **Economic considerations and messaging about impacts of universal accessibility are important for advocacy and political will. This messaging should be focused on addressing the exclusion of people with disabilities from labor markets and the broader economic benefits of universal design. Participants emphasized that quantifying these impacts could make a stronger case for inclusive budgeting and investment.**

- **Effective communication strategies and integrating people with disabilities into the processes are crucial. Cultural shifts, beginning with disability-first language, are needed to promote more inclusive planning.**

- **Frameworks and institutions can facilitate good planning processes but only when there are enforcement mechanisms, like being able to sue the government for noncompliance of universal accessibility laws, and interagency collaboration. Including people with disabilities in transport planning teams and aligning inclusive transport with other policy agendas, such as climate resilience, were highlighted as critical next steps.**

These challenges formed the basis for two deep-dive discussions with a larger group of peers from around the world to explore deeper challenges and solutions to universal accessibility. The following sections discuss in further detail the implications of these issues and potential solutions from those discussions.

3.3 Community of Practice Deep Dives

Method

Building on the insights from the advisory board, ITDP and TUMI reached out to a larger network of stakeholders in the disability community and the transport community. These communities were brought together to foster a network of peers working on inclusive mobility, expand shared knowledge based on initial findings, and identify best practices and next steps for universal access in cities. The first session focused on inspiring participants, exchanging ideas, and discussing challenges in creating inclusive urban environments. The second session then explored practical applications and successful case studies, helping participants gather actionable best practices and find the next steps forward.

Key takeaways

Cross-sectoral collaboration emerged as a crucial element for advancing universal accessibility. Effective collaboration among advocates, researchers, transport practitioners, and the private sector leverages each group's unique strengths. Practitioners can provide technical support, legislation, and financing, while advocates offer lived experience and data on accessibility challenges. Researchers contribute analytical tools and methodologies to identify gaps and evaluate impact, and the private sector can ensure that accessibility standards are maintained in infrastructure and services.

A significant theme was the gap between the perceived and actual costs of adapting urban spaces for accessibility. Participants pointed out that while decision-makers often view these adaptations as prohibitively expensive, they frequently yield long-term economic benefits, such as increased workforce participation and higher economic engagement by people with disabilities. Institutionalizing accessibility in budget planning and allocating a dedicated percentage of municipal budgets for accessibility projects can ensure consistent investment and prevent accessibility improvements from being sidelined in favor of other priorities. Regular audits and transparent reporting can help monitor the use of these funds and promote accountability.

The discussions also highlighted the importance of community engagement. Engaging diverse voices and integrating perspectives of people with disabilities into policymaking—such as those seen in Nairobi's non-motorized transport policies—resulted in more effective and inclusive policies. Public awareness campaigns and capacity-building for public service providers, such as disability awareness training, were also emphasized as essential for translating policies into tangible benefits.

Technology and data were identified as critical tools for driving accessibility improvements. Participants shared innovative uses of technology, such as 3D-printed models to help blind people navigate public spaces, digital mapping tools that highlight accessible routes, and smart systems that monitor where and when accessibility changes are implemented. Furthermore, real-time data applications can assist in trip planning, allowing users to identify accessible transportation options and routes tailored to their needs. However, a key challenge is the lack of comprehensive data on the economic impact of universal access and on trip planning for the full journey experience, including transfers and modal changes. Expanding data collection efforts and leveraging technology to create more integrated planning tools were suggested as ways to optimize inclusive infrastructure and ensure that diverse needs are met effectively.

Ultimately, intersectionality was a recurring theme, emphasizing how the experience of disability interacts with other social identities—such as gender, race, or socioeconomic status—to shape unique accessibility challenges. This underscores the importance of incorporating these perspectives into policymaking and planning to address the diverse needs of underrepresented groups.

4 Summary of Findings

The Zu Peshawar BRT system integrates physical infrastructure with a culture of inclusivity and training to ensure an accessible system. Credit: TransPeshawar and ADB.

As part of the literature review and discussions with the advisory board and the larger disability community of practice, we gathered a variety of findings from advocates, academics, and practitioners. In the sections above, we detail some of these findings, broken down by activity. In this section, we synthesize these findings into key challenges and solutions.

4.1 Key Challenges

Cultural and Systemic Bias

Cultural and systemic bias refers to a systematic, and often unconscious, de-prioritization of accessibility when transportation decisions are being made. In many cities, decision-makers and members of the public often aren't trained to recognize the value of universal accessibility, and so they can leave out effective accessibility changes in the face of other transportation needs or budgetary concerns. This bias is largely based on misconceptions about the value, purpose, and character of universal accessibility adaptation and the inherent bias towards planning for the nondisabled person.

One of these misconceptions, for example, is that accessibility is limited to infrastructure changes. A lack of interaction with and inclusion of the disability community means that much of the general population has a very narrow notion of what disability is and what accessibility looks like—usually imagining some mix of wheelchair ramps and braille signs, and infrastructure that solves a specific problem at a specific place. However, it's important that both members of the public and decision-makers understand that the importance of universal accessibility goes beyond specific fixes and that the network effect of universal accessibility represents independence and mobility for the people who need it.

Another cultural bias stems from the flawed notion that accessibility projects only benefit the disability community and therefore use funds in a way that has a narrow benefit. However, this couldn't be more incorrect. **Accessibility benefits everyone,** as Quemuel Arroyo, from NYC Transit, explains:

"The biggest impact [of accessibility] is a lot more ridership by everyday people, because they're able to do more grocery shopping. They're able to travel more with their families, and they're able to move around more when they have a more accessible system. So, when a station is made accessible, it's used more."

Quemuel Arroyo, Metropolitan Transportation Authority

Another cause of cultural and systemic biases against universal accessibility adaptation is the lack of inclusion of the voices of people with disabilities in discussions about transportation planning or local infrastructure. Because of challenges in accessibility, the voices of people with diverse mobility needs are often left behind in planning processes. This often results in misplacing city resources that might already be scarce, and prioritizing projects that are not universally accessible.

“It’s very difficult to achieve full, universal accessibility if disabled people are confined to advocate groups, who don’t tend to have the same social power, status, and prestige as transport professionals and academics.”

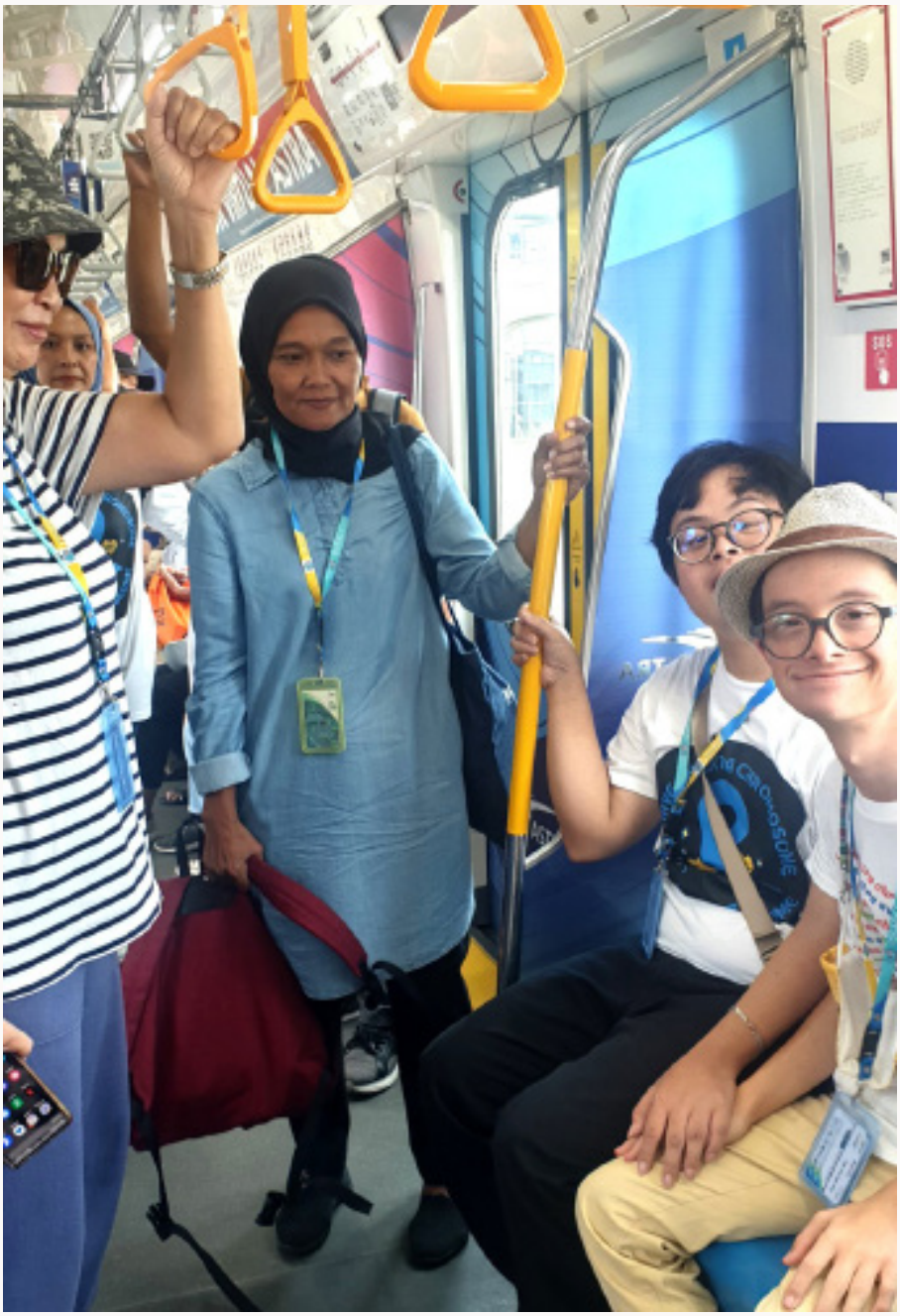
Kay Inckle, Wheels for Wellbeing

Inadequate Planning

For a city to be truly accessible, every step of every trip must be universally accessible. For example, a city that invests in accessible public transport stations has not done enough if the sidewalks that provide access to those transit stations are not also universally accessible. In many cities, this type of disconnection is a major problem—flashy new adaptations have been implemented sporadically, with inaccessible infrastructure in between preventing full use. This keeps cities inaccessible, and it also means that their investments remain underutilized.

Inadequate sustainable transport planning with universal access principles as its basis leads to dependence on cars and therefore further perpetuates car-centric cities that exclude not just people with disabilities but also other vulnerable users and those who simply prefer or need to walk, cycle, or use public transport. Reversing years of inadequate transport planning and the associated land use patterns that emerge from car-centric design is much harder than building infrastructure for universal access from scratch.

Cultural and systemic biases often marginalize people with disabilities, limiting their access to equitable mobility solutions. Facilitating greater participation from the disability community helps operators better understand and address their needs, fostering more inclusive and accessible transport systems. Credit: Dewi Tjakrawinata.

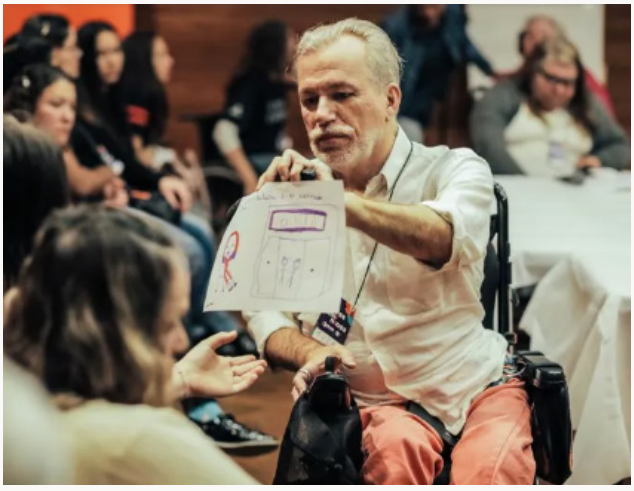


This problem is rooted in the invisibility of accessibility barriers: Nondisabled planners see a few universal accessibility improvements implemented throughout the city and perceive accessibility to be commonplace. The barriers that exist between these improvements, however, can easily be ignored by those who don't confront them on a daily basis. Because of this, it's critical to reframe accessibility improvement to be less about the introduction of adaptations and more about the removal of barriers—**a trip really only becomes accessible when all barriers have been removed**. This is also related to the issue of inclusion: When planners hear people with disabilities share their experiences and concerns, they can pinpoint where barriers to accessibility are and how they can be addressed, leading to better resource allocation and more mindful planning.

Even in cities that have strong regulations intended to produce accessible streetscapes and public transportation, many areas, especially on the periphery of cities, lack the resources and capacity to adhere to these policies. For example, in São Paulo, downtown areas have invested significantly in accessibility and often have a continuous network of accessible sidewalks, bus lines, and more. However, less affluent regions with irregular housing patterns on the periphery of the city are not able to invest significantly in accessibility. The result is a region where accessibility adaptation only exists in central, wealthier areas.

"In São Paulo, the center of the city is favored, and accessibility norms can be implemented. In the periphery, it's impossible to implement those technical standards because of land use conditions."

Antonio Carlos Munhoz,
Accessibility Consultant



Poor Intersectoral and Interagency Collaboration

Intersectoral and interagency collaboration challenges refer to the interaction between different stakeholders working on facilitating urban access, which can include multiple government agencies, private sector entities, development banks, operators, city officials, and disability community representatives. Barriers in coordinating the strategies, responsibilities, and streamlining expertise of these groups create significant obstacles that can impede progress.

For universal accessibility planning in particular, the major issue is that the transport community—including transport planners, engineers, and decision-makers—rarely seek out the expertise of disability advocates and researchers. These advocates and researchers have firsthand experience in understanding mobility needs, and they often are also skilled in data-gathering methods or innovations, so the disconnection between them and decision-makers hinders accessibility progress. This challenge in intersectoral collaboration is also linked to the fact that agencies and industries themselves often do not include people with disabilities to begin with.

These lapses in coordination between government agencies, NGOs, and other stakeholders hoping to improve accessibility are a major problem, often leading to inefficient resource allocation and unfinished projects. The lack of employees with disabilities within organizations also contributes to the ongoing challenges in fully integrating accessibility into all aspects of institutional operations. This example underscores the need for better coordination and implementation of accessibility measures across health and transportation sectors, as well as representation within those sectors.

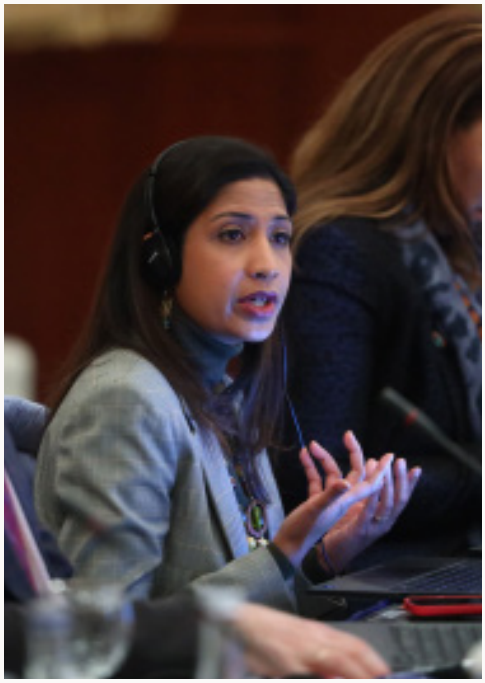
Insufficient Funding

Another issue is a general lack of financial resources dedicated to improving universal accessibility. Most cities do not have a dedicated funding stream for accessibility projects, and with few individuals with disabilities in government to advocate for accessibility changes, they can be left out, especially in places where the legal framework guaranteeing accessibility is weaker. Lack of funding is also the result of a general misunderstanding of the value of investing in accessibility. Specifically, adapting for accessibility is often viewed as a cost for cities and transit systems, when in reality, it's an investment—and one that pays off both economically and socially by allowing those with disabilities to participate in labor markets.

In short, **accessibility pays for itself** through positive effects on education, job access, and access to goods and services. And while it takes years to see the full scope of these benefits, they aren't just medium- to long-term in nature; there are near-immediate effects from new trips being induced once an accessibility project is completed (International Transport Forum, 2017). Despite this, many cities still view accessibility as a cost, not as an economic investment, and they do not have funding pipelines that can capture these positive impacts of accessibility and redirect it to further growth in accessibility.

"Transport is a very fundamental enabler of participation of persons with disabilities in society. We've seen direct linkages between the availability of accessible transport and the ability to go to school and complete school. It is directly linked to being able to participate in the labor market and earning an income, paying for goods and services so you can actually become a consumer in the country's economy."

Deepti Raja, World Bank



4.2 Solutions

Training and Communication

Universal accessibility offers clear economic and social benefits, yet the gap remains in effectively communicating these needs to decision-makers, transport practitioners, and urban planners. Raising awareness requires targeted efforts to ensure that these stakeholders understand the broad co-benefits of accessibility, including convenience, safety, and resilience for all members of society.

Effective public engagement—such as initiatives where people with disabilities interact directly with communities and transport practitioners—plays a key role in raising awareness and fostering support for accessibility improvements. Equally important are frameworks like regular accessibility audits conducted with local community involvement, ensuring systemic accountability and inclusivity.

To drive meaningful change, it must be a requirement that planning, transport planning, and architecture programs integrate disability and accessibility into their curricula. Training for system operators and government staff is equally critical to address cultural and systemic biases, with examples from cities like Bhubaneswar (ITDP, 2023), Peshawar (ITDP, 2022), and Jakarta showcasing the impact of inclusive programs that align service delivery with resident needs.

By embedding universal accessibility education into professional training and fostering ongoing dialogue between practitioners and disability advocates, cities can create a culture of inclusivity that ensures that urban environments meet the needs of all residents.

Training and communication about disability fosters awareness among decision-makers and operators, helping them understand and address the challenges faced by people with disabilities. Credit: ITDP Indonesia.

Make Inclusion the Status Quo

Inclusive policy and advocacy are critical for creating universally accessible infrastructure. People with disabilities must be actively involved in both the development and the implementation of policies to ensure that their needs are appropriately addressed. Promoting representation of people with disabilities in transport teams and departments is one of the most effective forms of making inclusion the status quo. Another way is through external advocacy, such as in Curitiba, Brazil, where citizens have successfully attracted media attention to the importance of inclusive public transportation through communication strategies such as news coverage, panel discussions, and discussions with the public to heighten awareness of the benefits of inclusive policies (Inter-American Development Bank, 2021).

Legal frameworks that ensure the inclusion of people with disabilities in urban planning processes are also essential for creating universally accessible cities. Policies like the Americans with Disabilities Act (ADA) in the United States, which mandates accessibility in public spaces, and he UK's Equality Act 2010, which requires services and facilities to be accessible to people with disabilities, serve as strong examples of legally backed inclusion. With this normative framework, then people can require enforcement or have legal options when cities and system do not comply. Cities that have implemented enforceable laws related to universal accessibility, like the non-motorized transport policies in Nairobi (Odhiambo, 2021) and updated regulations in Indonesia (Cabinet Secretariat of the Republic of Indonesia, 2020), have seen more significant progress in creating inclusive public spaces and services.

Another way to make inclusion the status quo is through institutionalizing it in guidelines and codes. Street design standards and building codes that integrate universal accessibility should be developed and consistently implemented to ensure that all areas are accessible to everyone. These standards should include features such as safe and comfortable vehicles, level boarding options, and stroller-friendly designs. By including all-access principles from the beginning, urban planners can avoid costly retrofits to infrastructure and instead focus on inclusive design from the start.

Integrating the perspectives of disabled individuals into policymaking and implementation ensures that their voices are heard and their needs are met. This approach not only helps in developing more effective policies but also promotes a more inclusive society. Conducting regular accessibility audits and involving local communities in these audits can help identify and address specific needs, making urban environments more comprehensively accessible.

Use Data and Technology to Better Target Improvements

Cities must adopt a systematic approach to identifying and removing barriers that prevent individuals with diverse disabilities from accessing public spaces and services. Developing and implementing targeted action plans to extend accessibility improvements to underserved and peripheral neighborhoods is crucial. Data can help diagnose where interventions are needed, and technology can help solve for some of the barriers.

Leveraging technology to enhance urban accessibility also helps to better integrate actions. This can be technology to facilitate physical access or technology to integrate and share information. This involves employing data-gathering techniques to capture travel patterns of PwD, even those who may remain invisible in public spaces. Techniques like social media monitoring, crowdfunding or hacking apps, and participatory GIS mapping can help planners collect valuable data. Data collection can take the form of conducting regular accessibility audits that help identify areas that need improvement and ensures that all disabilities, including cognitive and sensory impairments, are considered in urban planning.

“There is no room for randomly picked places where to intervene and design solutions not backed by evidence. We need an evidence-based, prioritized action plan, and a sound monitoring and evaluation system that helps us learn for the future.”

Tamara Bozevic, University of West England, UK

Integrating accessibility improvements into other urban transportation programs can help create a more cohesive and inclusive transportation network and improvements in and introduction of technology can help. For example, in London, the introduction of step-free access and elevators in many Underground stations has been instrumental in enhancing accessibility for PwD.

Another example of a targeted plan to improve accessibility comes from the station redesign of the Cakra Selaras Wahana (CSW) intermodal public transport hub in Jakarta. The station, completed in 2017, is the highest elevated BRT station in the city and serves as a connection point for TransJakarta corridors 1 and 13 (ITDP, 2014). However, it was initially built without an elevator or escalator, and the corridors were connected only by a 117-step staircase. In March 2019, MRT Jakarta, the new metro system, began operations, passing directly beneath CSW and introducing an additional need for transfer access.

By mid-2019, the surrounding area had also become a new creative destination with the establishment of places like M Bloc, a new community and commercial space with an active frontage concept, which helped activate the pedestrian area around CSW station. TransJakarta developed a plan to bring accessibility to the area and introduced elevators and escalators.

Today, the CSW station improvements benefit more than 200,000 passengers daily, especially those with physical challenges.

Public transportation access programs improve the autonomy of people with disabilities in mobility systems. Credit: New York City Department of Transportation.

Fund, Pilot, and Track Accessibility Improvements

One leap that cities should take when improving their funding pathways is to reframe accessibility as an economic investment, in addition to an important human rights step. Excluding individuals with disabilities from mobility systems results in significant economic losses. Investment in universal accessibility is better aligned with UN Convention on the Rights of Persons with Disabilities (UNCRPD) principles and is economically sound. As such, cities should take specific, actionable steps to guarantee proper investment in universal accessibility.

Initiating smaller pilot projects to demonstrate success can help gain initial buy-in from stakeholders. These projects can serve as proof of concept, showcasing the benefits of inclusive urban design and creating a foundation for larger-scale infrastructure improvements.

One suggestion from the peer group for cities to advance these improvements is for government to introduce legislation mandating that a specific percentage of municipal budgets be allocated for accessibility projects to ensure consistent funding for inclusive infrastructure development. This approach can be seen in countries like Japan, where the government allocates funds specifically for accessible public transportation systems.

Conducting regular audits and public reporting on the use of these funds enhances transparency and accountability. This approach helps ensure that resources are allocated appropriately and also builds trust among stakeholders.

To maximize the impact of their accessibility programs, cities should foster collaboration between public, private, and academic sectors. By leveraging the expertise and resources of various stakeholders, cities can optimize the design, implementation, and monitoring of accessibility projects. This collaborative approach can also drive innovation and ensure that accessibility improvements are sustainable and scalable across different urban areas.

5 Conclusions and Next Steps

Inclusive mobility benefits everyone—not just people with disabilities. Thoughtful design helps seniors, parents with strollers, and those carrying groceries navigate cities with ease. Prioritizing accessibility from the start creates a more equitable, efficient, and welcoming urban environment for all. Credit: Elements Creative and Smart Cities Mission.

The discussion on inclusive urban mobility for people with disabilities identified several key challenges and gaps. A significant misconception persists—that accessibility projects only benefit those with disabilities. In fact, these adaptations serve a broader range of users—seniors, parents with strollers, and individuals carrying groceries—underscoring the far-reaching benefits of inclusive infrastructure. Despite this, systemic biases and cultural misconceptions often push accessibility into the background or frame it as an economic burden. Decision-makers frequently fail to recognize the long-term societal and financial gains associated with universal design, focusing instead on short-term costs.

Another key challenge is the gap between legislation and implementation. Many cities have robust accessibility policies on paper, but without effective oversight and enforcement mechanisms, these fail to be fully realized. Accessibility projects are often deprioritized unless external pressures, such as lawsuits, force governments to act. Retrofitting infrastructure post-construction is significantly more expensive than embedding universal accessibility needs from the outset, yet many cities do not plan for this in their initial designs.

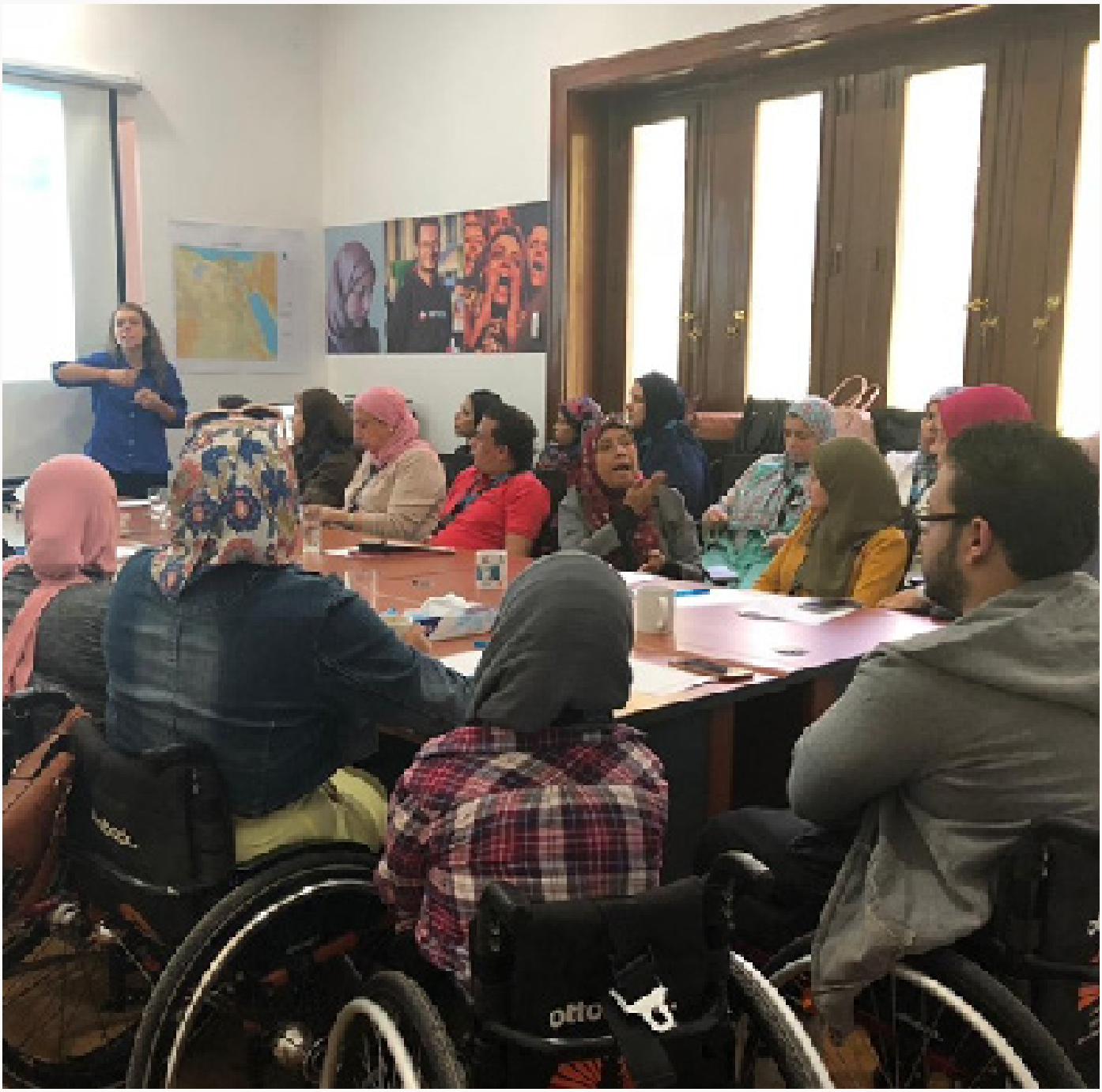
Further, knowledge gaps persist in several areas, particularly in low- and middle-income countries. There is a lack of sustainable financing mechanisms for universal accessibility projects and insufficient data on the long-term economic benefits of inclusive design. Additionally, there are few practical case studies that demonstrate how scalable universal accessibility solutions can be implemented successfully. The integration of digital tools and smart technology to enhance urban accessibility also remains underexplored.

To address these challenges, an evidence-based, collaborative approach is essential, integrating the efforts of transport engineers, decision-makers, advocates, and researchers. First, accessibility must be prioritized in the early stages of urban planning and design. Governments should mandate a fixed percentage of municipal budgets for accessibility projects to ensure consistent funding. Decision-makers must not only commit to fulfilling obligations under frameworks like the UNCRPD but also allocate resources based on clear, evidence-backed priorities. Retrofitting where necessary is unavoidable, but future projects should embed universal access principles to minimize these costly corrections.

Transport engineers need to question current practices, which are often not truly universally accessible, and collaborate with researchers to develop evidence-based manuals. These manuals should provide guidance on identifying accessibility barriers and prioritizing necessary fixes. Additionally, there is an urgent need to expand data collection on universal accessibility and its long-term economic impacts. Digital tools, such as trip-planning apps and accessible route maps, can also help improve mobility for people with disabilities, but they must be integrated with infrastructure planning.

Researchers play a vital role in producing the evidence needed to guide these efforts, examining the governance of accessibility and understanding how policy, economic, and political contexts shape interventions. They should work closely with decision-makers to ensure that data-driven insights lead to practical, inclusive solutions. Cross-sector collaboration is crucial, bringing together experts from academia, government, and civil society to ensure that urban mobility systems are designed with accessibility in mind from the outset.

Lastly, public awareness campaigns can help to shift the cultural mindset around accessibility, making it clear that inclusive design benefits all members of society. By adopting a coordinated, evidence-based approach, cities can create more inclusive and accessible urban environments for everyone.



People with disabilities attend a participatory planning workshop in Cairo for the city's BRT system. Including people with disabilities in planning enables much better transport systems from the outset, rather than having to retrofit existing systems. Credit: ITDP.

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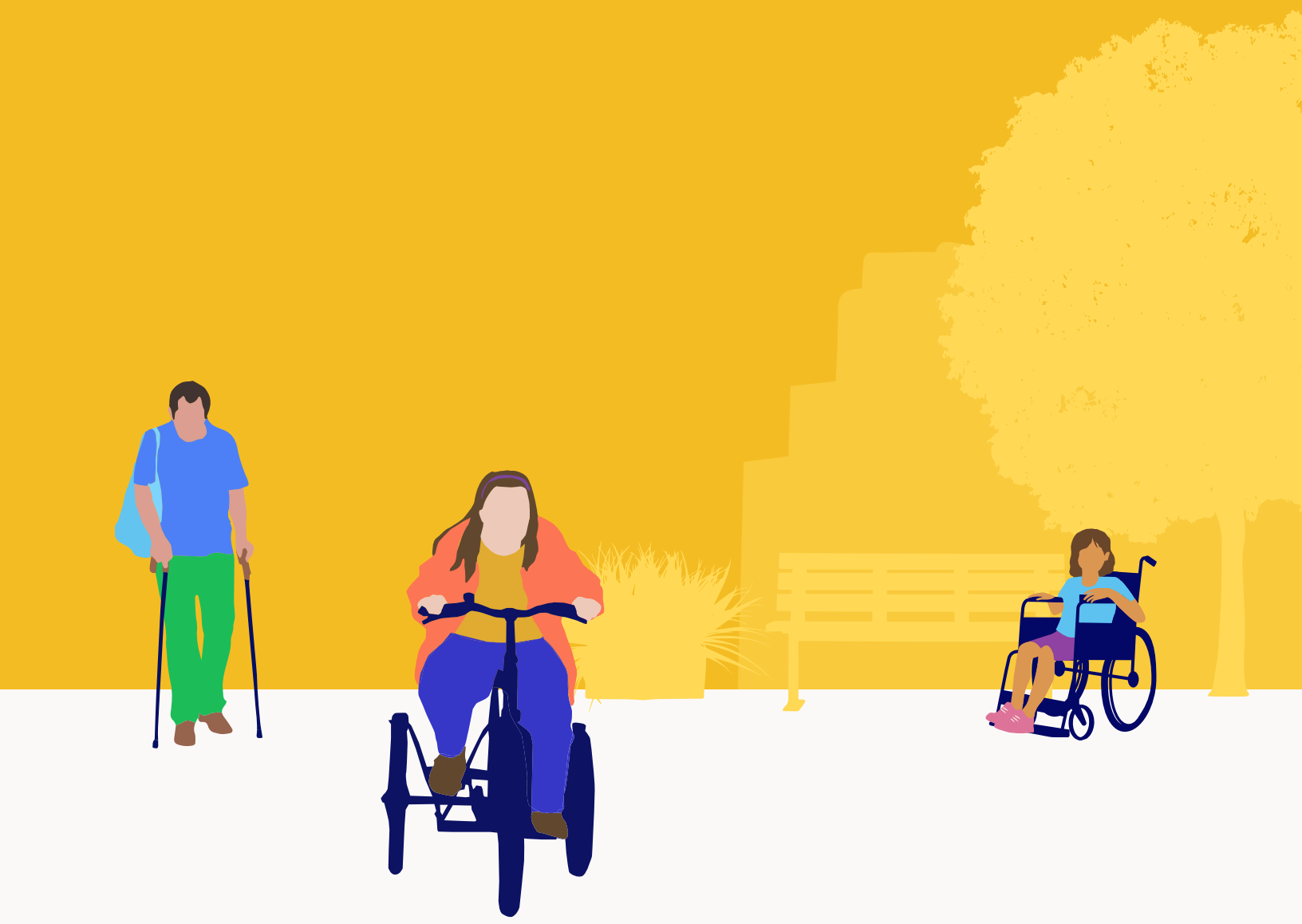
From Challenges to Solutions:

Building Inclusive Transport for People with Disabilities



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