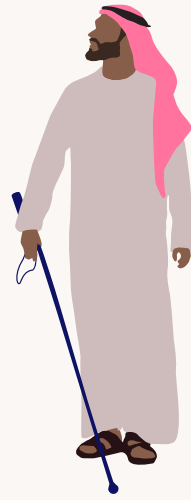# Access for All Through Universal Accessibility

1. Urban Access and Disability

More than 1 billion people around the world have a disability, and more than half of them live in cities. That number is expected to triple to 3.5 billion by 2050, as people age and the rate of noncommunicable diseases rises (Forbes, 2023). And while people with disabilities are one of the largest marginalized/minority communities in the world, almost everyone will experience some form of disability in their lifetime.

- Disability is diverse, including physical, cognitive, and sensory, and is often hidden

- As people age, they experience decreases in their physical and mental capacities

- Pregnant women and caregivers often experience challenges with mobility and have encumbered journeys

Changes in ability are an inevitable part of the human life cycle. While many people live with disabilities, these individuals are not always visible in our cities or on our streets. Many people with disabilities are unable to participate in everyday activities like riding a bus or visiting friends. It is not the disability itself that limits them, though, but the environments we have created.

Everyone is likely to experience a form of disability in their lifetime.

Some Ways the Environment Limits Access

The way our cities are designed excludes many people with disabilities from public streets and spaces, mobility systems, and services.

At the bus stop, a deaf person cannot hear the announcements. At the same time, loud environments can induce stress to some travelers as well.

At the information kiosk, a blind person is unable to learn what is nearby as there is no braille option or audio information.

Lack of clear, easy to read travel information in multiple formats (audio, visual and tactile), makes travel inconvenient and unsafe for people who are deaf or blind, and people with cognitive disability.

These barriers of access limit their autonomy and thus their participation, inclusion, and belonging in society. This ultimately harms everyone's ability to thrive in cities and build their social networks for well-being.

METRO ↗

A caregiver, having had to navigate a broken sidewalk, faces stairs to the elevated train platform. With no one to help her, she is unsure how to access the metro to get to the child's doctor appointment on time.

Barriers such as narrow or uneven footpaths, stairs or overpasses, and lack of level boarding exclude people using assistance devices, the elderly, and those traveling with strollers or goods.

So why do cities continue to exclude people with disabilities? It is partly because decision-makers and designers use nondisabled people as the norm when they plan and design, even though one in six of us has a disability. And it is partly because disability is misunderstood. Disability can be permanent or temporary, visible or invisible, something you are born with or something that happens later in life.

We should expect that everyone will experience a change in their abilities over their life. We should plan and design for disability as the norm.

We are about to see significant investment to meet the challenges of climate change. This investment will set the course of our cities for decades to come. Now is the time to rethink how, and for whom, we plan and design and to ensure that we create accessible cities where everyone—particularly people with disabilities— belongs.

Disability and Inequity

Planning for people with disabilities is also a gender, climate, and equity issue.

1   80% of people with disabilities live in low- and middle-income countries (LMICs).

2   Women are estimated to comprise up to 75% of persons with disabilities in LMICs.

3   People with disabilities are two to four times more likely to die or be injured in climate emergencies, including heatwaves, hurricanes, and floods (WEF, 2023).

4   Disability can increase the likelihood of poverty, and poverty can increase the risk of disability (World Vision, 2023). For example, people with disabilities experience twice the rate of poverty as people without disabilities in the United States (American Progress, 2019).

Women with disabilities may experience intersecting and compounding forms of discrimination, bias, or harassment. Credit: Metropole 1:1.

2. What Is Access and Why Does It Matter for People with Disabilities?

Access is the intersection of where you need to go (land use) and how you get there (transport). Access links land use and transport to meet basic needs, connects people to their lives, and gives them a sense of autonomy, freedom, and belonging.

Access is the foundation for inclusion, but it alone is not enough to ensure accessibility. For example, even when transport options are available, they may not be accessible: sidewalks are too narrow or obstructed, street crossings don't have auditory cues or ramps, there is no protected street space for bicycles or hand cycles, buses are too crowded to enter or don't have auditory messages and they have steps or stairs that prevent people using wheelchairs from entering. *Improving access is the goal—universal accessibility is the way to get there.*

Everyone has basic needs, and diverse modes of transport are needed to meet them. People with disabilities, including children, may travel with caregivers to reach the places they need. Credit: ITDP.

Universal accessibility embraces the diversity of needs and disabilities, making cities inclusive and navigable for all. Credit: EMBARQ Brazil.

Access can only benefit everyone when it is designed for everyone—what is known as universal accessibility.

Universal accessibility is the idea that the design of environments, programs, and services ensures that they are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. And universal accessibility needs to be embedded into how we provide access—from the way we plan and design our transport systems, public spaces, and streets to how we operate services to how we communicate with users. By applying universal accessibility, we can make our cities more comfortable, convenient, and safer for people with disabilities and all other users to reach the destinations they need to while moving through and experiencing our cities.

We need to change our approach to center universal accessibility in cities, because the need for access is indeed universal.

The Components of Accessibility

When we think of accessibility, we tend to think of the physical barriers found in infrastructure. But accessibility is more than that, and accessible infrastructure by itself is not enough. We also need to address social and economic accessibility elements. Accessibility requirements will vary from person to person, and all three components of accessibility will need to be considered in planning and design.

Physical Accessibility

Is grounded in infrastructure, but infrastructure is not enough.

Includes quality of service and clear information in multiple formats (there may be a bus stop nearby, but if the bus comes once an hour or there is no audio-visual and tactile display, it is not accessible).

Needs to consider the whole trip, which may mean multiple modes that are well integrated.

Social Accessibility

Is being able to travel in safety, free from violence and harassment.

Is grounded in an understanding and acceptance of differing travel needs and characteristics.

In particular, transportation service providers need to be sensitized to the needs of people with disabilities.

Economic Accessibility

Is being able to afford the mobility options (i.e., a bikeshare station may be nearby, but if you can't afford to use it, it is not accessible).

Needs to improve the connection to jobs and education through mobility options and technology and innovation.
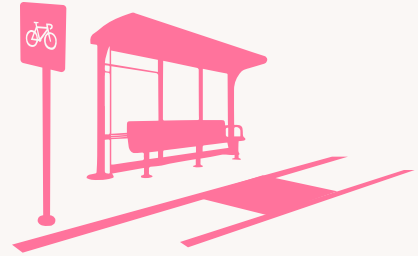
Planning for the Complete Trip

Home
The trip starts from home, and the entire journey needs to be accessible.

First and Last Mile
Conditions for walking, cycling and wheeling need to allow people connect to nearest transport or destinations.

Public Transport
Both the transport stations and the vehicles need to be accessible. System needs to be also safe and affordable to use.
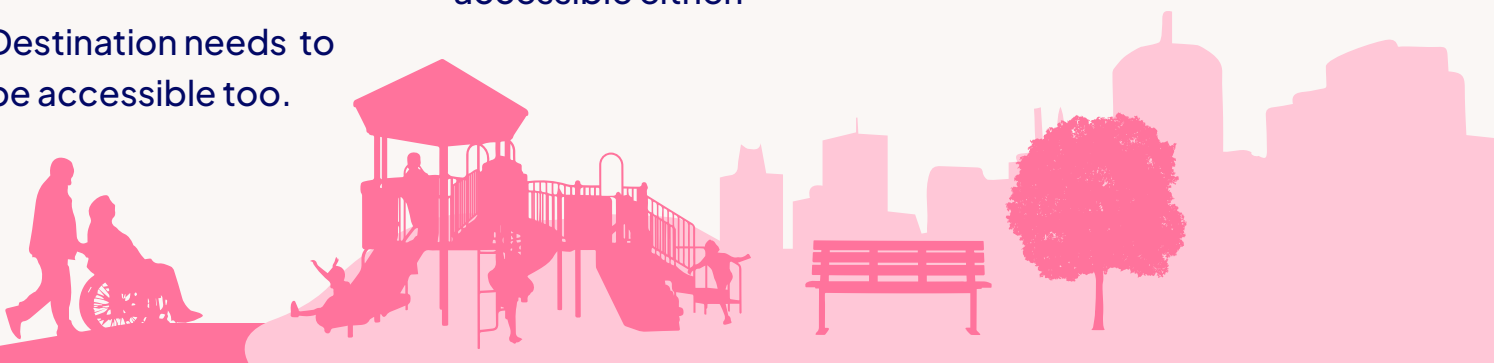
Transfer
If one mode is not accessible, the entire journey is not accessible either.

Destination
Destination needs to be accessible too.

The Benefits of Universal Accessibility

By putting universal accessibility at the center of our efforts to improve access in cities, planners and decision-makers can improve cities and the lives of people living in them. Making cities universally accessible offers a multitude of social, economic, and environmental benefits.

These benefits are:

→ **Creating and improving social inclusion, well-being, and health:**

- Increasing access through universal design will allow people with disabilities to have the freedom to connect to and build their lives in meaningful ways.

- It will also benefit younger and older people, pregnant people, caregivers, and everyone else.

- Accessible cities promote overall health for everyone, including mental and physical health. But for people with disabilities, this means essential and easier access to healthcare, a better quality of life, and safer journeys.

→ **Driving economic growth and participation by ensuring universal access:**

- People who had previously been denied access to education and employment opportunities will now be able to contribute to the economy.

- People with disabilities and their families also represent a significant market—estimated to be 54% of our global economy, which represents a market worth $13 trillion (WEF, 2024).

- Accessible design improves the vibrancy of spaces and streets, which means more robust and diverse local economic development and more employment opportunities.

- Planning and design for universal access saves money, only adding an extra percentage or two to the overall project cost. Retrofitting, on the other hand, is highly expensive and time-consuming (UN). Inclusive planning and design reap wide economic benefits by connecting people with disabilities to education and jobs, allowing for economic inclusion, and that far outweighs the additional costs.

→ **Address climate mitigation and resiliency:**

- When cities plan with inclusion in mind, it also helps to mitigate impacts of climate change, because improving access facilitates shorter and more convenient trips, cleaner air, less reliance on cars, and better use of urban space.

- Cities that are more universally accessible are also better equipped to respond to sudden events, and help ensure that no one is left behind.

Accessible cities, rooted in universal accessibility design and sustainable transport modes with co-located services and housing, enable people to fully participate in social and economic life. Credit: ITDP Mexico.

Accessible cities are built around accessible, sustainable transport modes with services and housing co-located near them. They offer a way to address the negative impacts of historical marginalization and climate change. Disability is not a burden to be addressed, but a vision for creating a new, just world based on social inclusion and economic prosperity.

But how do we do that?

3. Disability Is Diverse; Mobility Needs Are Distinct

Disability is understood as an interaction between a person's health condition—physical, cognitive, and sensory—and an unaccommodating physical and discriminatory social environment. To understand how to improve access and create universally accessible environments, we need to understand mobility needs first, especially considering different types of human abilities.

Many challenges in the urban environment impact our ability to move or live independently. Often this results in people with disabilities engaging or traveling less often—not because they have less need to travel but because the environment and our transport systems prevent it.

More needs to be done to understand the transport characteristics and needs of people with disabilities and the differences within that group based on types of disability, gender, age, race, and other factors that affect mobility.

Creating truly inclusive cities begins with understanding diverse mobility needs. Accessible environments empower individuals of different ages and different abilities to move independently. Credit: ITDP.

As a starting point, different types of disability have some high-level characteristics that help us understand mobility and access:

People with cognitive/   →
developmental disabilities
need calmer, less stressful
environments, including lower
noise levels, reduced crowding,
and a sense of personal security.
Clear signage, using easy-to-read
information, and wayfinding using
different format are also important
to convey information.

←   **People with physical disabilities who use
wheelchairs or other mobility assistance devices**
need wide, barrier-free sidewalks, roll zones, and
cycle paths, as well as continuous routes to and
from destinations, including transit stops, public
facilities, and services. Transport vehicles should
feature priority seating and dedicated areas for
people with disabilities' limited mobility. Transport
stops must provide level boarding and ample
room to maneuver a wheelchair. Being able to get
on and off safely and conveniently is key.

People who are blind and people with low vision → navigate the urban environment in a different way and rely on physical and auditory cues to be able to navigate streets and transport services. Tactile features on pavement, railings, entrances, and information areas help people understand and move through the transport system. Often, these users rely on service animals, and it is important that transport operators allow access for them too.
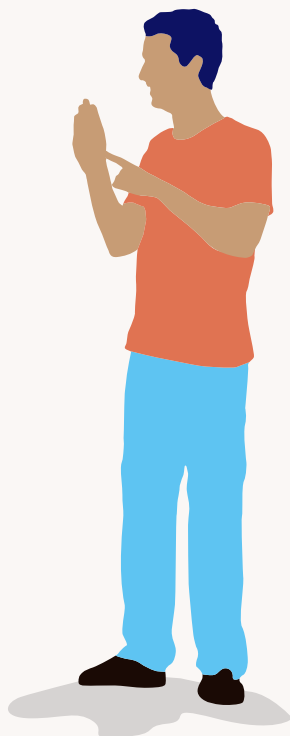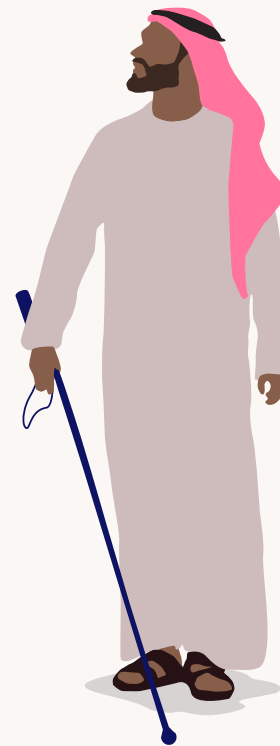
← **People who are deaf or hard of hearing** need clear visual cues and varied auditory information to navigate their journey. Different audio levels can help people with partial hearing, while clear wayfinding and written information and alerts help accommodate their needs too.

Ensuring universally accessible mobility for all means: safer road conditions; continuous, firm, wide, and unobstructed pedestrian routes; protected bike lanes; reliable transport services; level vehicle boarding; universal access to stations and buildings; and clear information in multiple formats.

Travel needs and characteristics for people with disability can include:

1. Being able to do whole trip planning with certainty that the whole trip will be 100% accessible

2. Traveling more slowly and needing more time for crossing streets, boarding vehicles

3. Needing shorter distances due to discomfort, stress, or difficulty in traveling

4. Stopping or pausing more frequently

5. Traveling using assistive devices or animals or with a caregiver

6. Communicating clearly and simply through multiple formats (physical, visual, auditory)

7. Reducing stress and sensory overload in the environment by reducing crowding and noise and air pollution and increasing open and green space

8. Having specialized services that need to be accessible as they need to go more often to doctors and health care facilities

4. What Can We Do Right Now?

Cities cannot afford to continue growing in ways that do not provide accessible, inclusive, and safe infrastructure. We all have a role to fill—decision makers, transport community, disability advocates, and researchers—for the universal accessibility agenda to be met. Adapting policy, planning, and funding approaches for inclusion will ensure that everyone can enjoy their lives and that cities can thrive and be better equipped to cope with uncertainties.

Disability community members preview wayfinding proposals for Transjakarta BRT. Credit: ITDP Indonesia.

All Sectors Need to Have a Dialogue About Universal Access Needs

Decision-maker

"We're combating decades, maybe centuries of design that has been very brutal and not focused on accessibility".

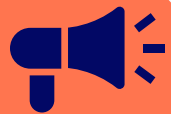### Transport Community

"Look around—if there is not a disabled person in the room, we all have failed".

Academic

"If we capture data correctly, we can also plan better".

Advocate

"The policies and money should provide accessibility first".

TO-DO LIST:

→ Plan everything for and with people representing different mobility needs. Bring people with disabilities to the planning and decision-making table.

→ Integrate transport and land use planning to ensure access is improved.

→ Position inclusive planning as the status quo, where mobility plans and street design manuals are based on universal access principles.

→ Retrofit where necessary, making sidewalks, cycle lanes, and public transport universally accessible. Different disabilities will need different adaptations.

→ Ensure new projects will not require retrofitting by embedding accessibility requirements within each project budget.

→ Cultivate talent and educational opportunities for people with disabilities to be transport practitioners, operators, and researchers. Accessibility should be part of transport curriculums.

→ Require the right type of data for policy and evaluation to reflect users of different abilities and transport needs.

→ Use technology to enhance transport services.

→ Pass laws and regulations that make universal accessibility required by right and then build institutional capacity to translate that into action.

→ Build the awareness of practitioners, decision-makers, operators/staff, and researchers of the travel needs and characteristics of people with disabilities through audits, videos, trainings, etc.

5. Next Steps

Creating cities that are truly universally accessible requires all of us to take action and commit to creating a new world of belonging and inclusion—one that also works to mitigate and adapt to climate and where everyone can achieve economic prosperity.

Collaboration among the transport community, private companies, academia, and advocates is crucial to ensure that policies, infrastructure, and services are inclusive and climate-resilient. With strong legal frameworks, increased awareness and capacity, community engagement, and contextual research, we can build safer, healthier, and more equitable urban environments for everyone. We will create cities where people with disabilities can travel independently to connect to their lives—cities where they belong and can thrive.

Designing accessible, climate-resilient cities empowers everyone to connect, thrive, and feel at home. Credit: Noble Studios.

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References

Altiraifi, A. (2019, July 26). Advancing economic security for people with disabilities. American Progress. https://www.americanprogress.org/article/advancing-economic-security-people-disabilities/

Donnellan, L. (2023, January 18). Disability tech is a game changer for 2023 and beyond. Forbes. https://www.forbes.com/sites/laureldonnellan/2023/01/18/disability-tech-is-a-game-changer-for-2023-and-beyond/?sh=13b6b4a45837

United Nations. Disability, accessibility and sustainable urban development. Department of Economic and Social Affairs. https://social.desa.un-.org/issues/disability/disability-issues/disability-accessibility-and-sustainable-urban-development

World Economic Forum. (2023, December 18). Driving disability inclusion is more than a moral imperative – it's a business one. https://www.weforum.org/stories/2023/12/driving-disability-inclusion-is-more-than-a-moral-imperative-it-s-a-business-one/

World Economic Forum. (2024, January 30). This is how inclusion benefits the global economy, according to experts at Davos. https://www.weforum.org/stories/2024/01/how-inclusion-benefits-global-economy/#:~:text=On%20disability%20inclusion&text=People%20with%20disabilities%20and%20their,an%20economic%20opportunity%20for%20business

World Vision. (2023, January 6). What you need to know about disability + poverty. https://www.wvi.org/stories/child-sponsorship/what-you-need-know-about-disability-poverty

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