ROAD NOTE 21

Enhancing the mobility of people with disabilities

Part 1: Guidelines for Policymakers
March 2022

TRL THE FUTURE OF TRANSPORT

Foreign, Commonwealth & Development Office

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The views expressed in this guide do not necessarily reflect the UK government's official policies.

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Abstract

Part 1 of RN 21 provides guidance to persons involved in the development of policy in relation to disability in transport in low- and middle-income countries. It begins by introducing the concept of disability, its prevalence, categorisations and social frameworks, before moving on to discuss policy responses related to disability and inclusion, barriers to participation and the role of advocacy. These elements are designed to promote awareness of disability and to foster improved understanding. The guide then transitions to discuss the policy development process, legislation, co-operation and consultation and funding. It concludes with practical strategies for planning and implementing accessible infrastructure and services and outlines the role of access audits. These elements support the design and delivery of practical outcomes, viewed and approached through the policy lens.

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ABBREVIATIONS/ACRONYMS

RN21	Road Note 21 (Document name)
FCDO	Foreign, Commonwealth & Development Office
HVT	High Volume Transport
IMC	DT Global Ltd
RN	Road Note
LMIC	Low-Medium Income Countries
UK	United Kingdom
US$	US Dollars
USA	United States of America
UNCRPD	United Nations' convention on the rights of Persons with Disabilities
WPA	World Programme of Action Concerning Disabled Persons
ICT	Islamabad Capital Territory
SuM4All	Sustainable Mobility for All initiative
SDG	Sustainable Development Goal
REDI	Rights of Persons with Disabilities
DPO	Disabled Persons Organisation
NGO	Non-Government Organisation
MICDPD	Mecanismo Independiente Convención sobre derechos personas con discapacidad
CRPD	Convention on the Rights of Persons with Disabilities
CONADIS	National Council for the Integration of Persons with Disabilities
WPRPD	White Paper on the Rights of People with Disabilities
INDS	Integrated National Disability Strategy
SAHRC	South African Human Rights Commission
ECMT	European Conference of Ministers of Transport
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific

RN21	Road Note 21 (Document name)
BBC	British Broadcasting Corporation
IFI	International Financial Institutions
EASST	Eastern Alliance for Safe & Sustainable Transport
FIA	International Federation for Automobiles
BRT	Bus Rapid Transit
BGC	Bonifacio Global City

Chapter 1

Introduction to Part 1

Introduction to Part 1

1.1 Overview of Part 1

Road Note 21 (RN21) Enhancing the mobility of disabled people guidelines for practitioners is a best practice guide document for designing inclusive and accessible transport for disabled people worldwide, with guidance applicable to low and middle-income countries. The guide uses examples from around the world of where good practice has been observed in the design and delivery of transport.

RN21 is split into two main parts. Part 1 of this guide provides overarching guidance to policy makers on how best to approach creating more accessible transport for people with disabilities. Part 2 aims to provide detailed guidance to practitioners on how best to approach creating more accessible transport for people with disabilities.

Transport decisions are not made in a vacuum. Policy makers have a responsibility to understand the problems faced by people with disabilities, and to create strategies and policies to improve their experiences. This includes enabling people with disabilities to fight for their rights, consulting with them to understand their problems, and formulating action-based plans that can be put into practice, along with funding, to enact lasting change for more accessible transport.

As such, this part of the guide is aimed more at policy makers than practitioners. This is because it focuses more on the legislative and policy background to creating accessible transport, rather than exploring the specific tools, layouts and materials which can be used to create more accessible transport environments. These elements are contained in Part 2 of the guide.

The first few chapters of this part of the guide (Chapters 2 - 4) explore the meaning of disability and being disabled, and why it is so important to improve accessibility for people with disabilities. These sections explain some of the reasons that people with disabilities can struggle to access transport.

The later chapters of this part of the guide (Chapters 5 – 9) discuss some of the ways in which policy makers can improve accessibility for people with disabilities, including advocacy, policy and legislation, consultation, funding, planning and strategies.

Throughout, this guide refers to examples of best practice from all over the world, presented as case study boxes.

Readers should use Part 1 of the guide in order to:

- Understand disability (Chapter 2);
- See examples and best practice of how countries can protect the rights of people with disabilities, especially in relation to transport (Chapter 3);
- Understand how disability can impact people's ability to travel (Chapter 4);
- Understand how people with disabilities can advocate for themselves, and be supported in doing so (Chapter 5);
- Formulate policy and legislation to support people with disabilities' rights and ability to travel (Chapter 6);
- Consult with people with disabilities to understand their views (Chapter 7);
- Create funding opportunities and policies which support transport that is accessible to all (Chapter 8);
- Plan and make strategies for improving transport access for people with disabilities in the future (Chapter 9).

Chapter 2

Understanding Disability

Understanding Disability

2.1 Prevalence of Disability

Globally, it is estimated that more than 1 billion people – around 15% of the world's population – experience disabilities, 80% of whom live in Lower and Middle Income Countries (LMICs) [1]. For many, a large proportion of public facilities, including transport, are completely inaccessible. People with disabilities are disadvantaged in many different ways, and comprise the world's largest and most disadvantaged minority.

Transport allows access to vital services and opportunities, and also enables key connections to local communities as well as full engagement in society. Therefore, it is extremely important that transport systems do not exclude people with disabilities, or make it harder for them to travel. As well as social benefits, there are also economic benefits to providing accessible transport.

In the UK, it is estimated that transport providers lose approximately £42 million per month (US$56.5 million) by failing to provide options that are fully accessible for people with disabilities [2]. For context, the cost of retro-fitting 219 UK mainline rail stations for step-free accessibility between 2006 and 2019 was £550 million (US$740 million) – an average of £2.5 million (US$3.4 million) per station. This is roughly equivalent to one year's lost revenue across all inaccessible transport modes in the country, and underlines the long-term benefits that up-front investment in fully accessible transport infrastructure, stops and services can return. These figures do not include the benefits that fully accessible transport systems can yield for other 'encumbered passengers' – such as those travelling with small children or with heavy or voluminous items of luggage, and pregnant women and older people with reduced (rather than severely impaired) mobility [3].

Categories of Disability

The concept of disability is extremely complex, and there is no easy way to conceptualise the wide variety of disabling challenges that people can experience. In the broadest sense, the disabilities most people experience can be grouped into physical, sensory and neuro-diverse categories. However, specific conditions that tend to result in disability often impact upon people in different ways, and can be experienced in combination. As such, it is helpful to focus on the symptoms that individuals experience, as this is what can limit their ability to use transport systems and access opportunities, rather than their specific diagnosis [4].

Some examples are given in Table 1.

Table 1: Examples of different types of disability

Disability category	Related conditions	Examples of related symptoms
Physical	Muscular dystrophy; paraplegia; fibromyalgia; arthritis; persons of short stature	Difficulty walking; inability to sit; trouble standing for long periods; difficulty with negotiating steps and horizontal gaps
Sensory	Sight loss; hearing loss	Partial or total loss of sight; Partial or total loss of hearing
Neuro-diverse	Autism; dementia; epilepsy	Trouble coping with change or unexpected outcomes; panic and anxiety

Some people's experience of disability worsens over time (as a result of degenerative conditions). Others are stable or may have varying symptoms from day to day. Some conditions can be managed through medication or therapy, or might improve over time. As well as affecting individuals in different ways, disabling conditions are also acquired in different ways. Some people are born with a condition that causes a disability, while others may develop health conditions that affect them as they age. Disability can also be a result of a life event or the environment – examples of this might be a physical disability caused by a fall, or through involvement in a road traffic collision which could cause traumatic brain injury.

Disability and poverty interact in complex ways, and approximately 20% of the world's poorest people also experience disabilities [5]. Some of the conditions that contribute to people developing disabilities – both at birth and through the acquisition of conditions that lead to disability during their lifetimes – also relate to poverty. Disability often results in poverty as well, due to the marginalisation from society that is commonly experienced by people with disabilities [5]. Fewer people with disabilities complete formal education and they can also struggle to access employment as a result, meaning they are more likely to be trapped in cycles of poverty, particularly in Lower Income Countries.

Between 20 and 30% of people travelling experience some form of mobility impairment or encumberment – including people with temporary health conditions, frail elderly people, pregnant women, parents with young children and people carrying shopping bags or goods [6]. By providing transport services that are inclusive, and cater for a wider range of mobility needs, the pool of potential public transport passengers increases – along with the total value of potential revenues for public transport operators. Typically, the whole population benefits from footways and transport services that are safer, easier to use, and afford people more space.

These guidelines use the principles of universal design and universal mobility: recognising that improving transport for people with disabilities benefits everyone in society.

2.2 Visible and Non-Visible Disabilities

In the same way that people's experience of conditions that result in disability can vary widely, and impact people in different ways, the way people with disabilities are viewed externally is also important. 'Hidden' or non/less-visible disabilities may not be visible or immediately apparent to onlookers due to a lack of visible signs of impairment or assistive equipment such as a wheelchair, crutches, or hearing aids.

Examples of clearly visible disabilities include someone using a wheelchair (mobility impairment) or a long cane (sight impairment). Some of the challenges these

individuals experience, and the aids they use to overcome disability, are evident to everyone else. However, less than 8% of people who are registered as disabled in the UK use a wheelchair [7] and data from the USA suggests that 74% of people with disabilities do not use assistive equipment, meaning that in practice, the majority of people with disabilities experience disabilities that may not be immediately visible to others [8].

In the past, only conditions that result in visible symptoms have tended to be the focus of interventions to improve accessibility for people who are disabled by them. This means that individuals who experienced disabilities as a consequence of hidden conditions were often not considered through inclusive design processes. The related stigma around visible and non-visible disabilities can reduce opportunities for those with visible disabilities, since they may be expected to not be capable of certain activities.

Table 2: Types of disability, with examples of visible and hidden impairments

Disability category	Example of visible impairments	Example of non-visible/hidden impairment
Physical	Paraplegia causes individual to use a wheelchair	Individual can walk but struggles to stand for long periods
Sensory	Severe visual impairment causes individual to use a long cane for navigation	Severe hearing impairment prevents hearing public transport announcements
Neuro-diverse	Down's syndrome affects facial appearance of individual	Autism may make travelling alone extremely stressful and difficult

2.3 Social Model of Disability

The Social Model of Disability asserts that people with disabilities are not disadvantaged by their condition or symptoms, but by the environment in which they must live and function. The environment around us includes physical barriers (for example, steps up into a bus or train), but also includes attitudes towards people with disabilities (for example, assuming that people with disabilities cannot

travel independently) [9]. Earlier concepts of disability were related to the medical or charitable model of disability, which focused on what people with disabilities cannot do. These resulted in incorrect assumptions about people with disabilities' capabilities and their ability to act independently, understand complex information, or use public transport.

The Social Model makes it clear that there is a distinction between impairment and disability:

- Impairment is '... any loss or abnormality of psychological, physiological or anatomical structure or function ...' [10];
- Disability is a process of exclusion of people with impairments, which is seen as neither inevitable nor acceptable [11].

Following the Social Model of Disability, combined with principles of Universal Design, people with disabilities quite rightly demand that their mobility needs should be addressed through the regular transport system. There is ample evidence that, in general, providing mainstream public transport services in a way that enables the majority of people with disabilities to use them (independently, or with assistance) is, in the long term, the cheapest and most effective way of catering for their mobility needs. Dedicated parallel systems, sometimes referred to as 'para-transit', are more costly. Whilst para-transit systems can be used by anyone, depending on the nature of the service, some groups may be more reliant on them, such as people who cannot use accessible public transport, or those using them as a transitional form of service while mainstream transport systems are being upgraded to make them more accessible for people with disabilities.

Chapter 3

Disability at the Forefront of the Transport Agenda

Disability at the Forefront of the Transport Agenda

3.1 Policy Responses to Disability

Understandings of disability have evolved over time, with related policy and legislation developing in parallel. The emergence of the social model of disability, described in Section 2:4, has shifted the focus of related policy-making onto the disabling impact the built environment, transport systems, and society can have upon some people, and how these can combine to limit equal access to opportunities [12]. Recent policy approaches have therefore sought to enshrine the rights of people with disabilities into law, and to specify minimum standards for designing and delivering environments and services that are more accessible for all, rather than focusing on the specific issues people with disabilities face, which are diverse in nature.

In higher income countries, approaches to disability are fairly well established across most aspects of policy. In LMICs, policies relating to disability are still developing, but have improved significantly since the publication of the first edition of this document. Many LMIC governments are now committed to amending national policies to fulfil their obligation to global commitments agreed with the United Nations (UN).

Approaches to designing and delivering transport systems and services should centre on accessibility and inclusive design. However, this must also be underpinned by appropriate policies and legislation to ensure that the needs of people with disabilities are fully considered, and that non-compliance is enforceable by law.

3.1.1 Global Policy Responses

There are various global commitments to improving the lives of people with disabilities. One of the most significant international commitments in this field is the UN's Convention on the Rights of Persons with Disabilities (UNCRPD), which came into force in 2008. As of 2020, 181 countries have ratified the UNCRPD [13] (see Figure 1) demonstrating their commitment to protecting and promoting the human rights of

people with disabilities by:

- Eliminating disability discrimination;
- Enabling people with disabilities to live independently in the community;
- Ensuring an inclusive education system;
- Ensuring people with disabilities are protected from all forms of exploitation, violence and abuse [13]

Prior to the development of the UNCRPD, non-binding human rights instruments included the UN documents 'World Programme of Action Concerning Disabled Persons (WPA)' 1982 and the 'Standard Rules on the Equalisation of Opportunities for Persons with Disabilities' 1993. However, the UNCRPD represents the first legal commitment to the rights of people with disabilities.

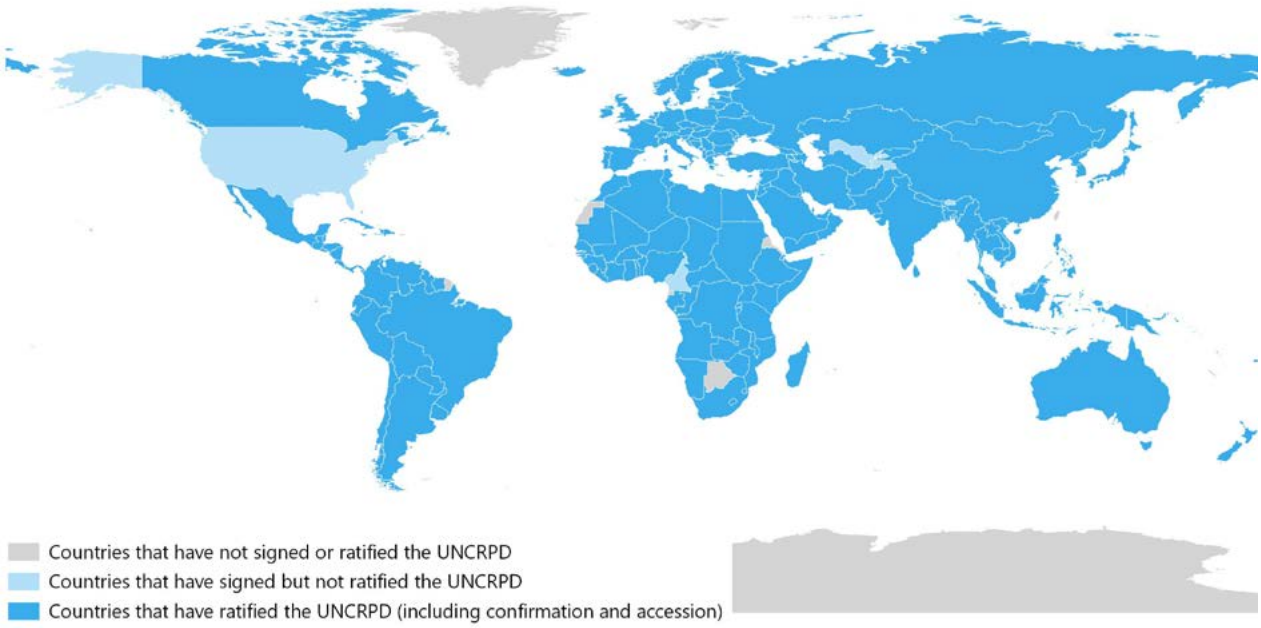

Figure 1: Map showing countries that have ratified the UNCRPD

In 2015, the United Nations General Assembly also outlined a series of Sustainable Development Goals, which have been described as the 'blueprint to achieve a better and more sustainable future for all' [13]. The UN aims to achieve all 17 goals by 2030, including Aim 10: Reduced inequalities. 'Reducing inequalities and ensuring no one is

left behind are integral to achieving the Sustainable Development Goals' [13].

3.2 National Policy Responses

Individual countries have developed their own policy responses to align their treatment of people with disabilities with the UNCRPD. This can take the form of legislation around the rights of people with disabilities - for example, the Government of India drafted the Right of Persons with Disabilities Bill in 2014, in response to the ratification of the UNCRPD. The Bill confers several rights and entitlements to disabled persons, including universal access to all public buildings, hospitals, modes of transport and polling stations [14].

Similarly, in 2020 the Government of Pakistan approved The ICT Rights of Persons with Disability Act, which makes it illegal to discriminate against people with disabilities. This legislation provides individuals with legal recourse in all areas of life in the event of discrimination, including education, employment and healthcare [15]; [16].

In many cases, the progression of policy has been faster than change to operations or infrastructure. This is because it is easier to update policy in a central manner than to individually review and renew built environments and transport systems. From the perspective of transport operations, even if appropriate legislation is applied to infrastructure, vehicle and service design, there is considerable lead-in time before this becomes widespread in practice 'on-the-ground'. There can also be variations in both the application and enforcement of legislation, which lead to inconsistencies between policy intent and outcomes.

Box 1: Case Study - World Bank Group Commitments on Disability-Inclusive Development

In 2018, The World Bank Group made a series of ten new commitments to Disability-Inclusive Development. These commitments were related to a range of topics, including education, gender, technology, data and accountability. The sixth commitment is related to transport. This commitment states that "[b]y 2025 all new urban mobility and rail projects supporting public transport services will be inclusive in their designs so as to incorporate key universal access features for people with disability and limited mobility." Furthermore, the Commitment also relates to enhancing road safety outcomes (both for people with disabilities' safety and as a means to reduce rates of disability as a result of road crashes) and ensuring that equity considerations of all kinds, including access for people with disabilities remains at the forefront of the Sustainable Mobility for All initiative (SuM4All), which works to implement safe, green, efficient and universally accessible transport across the world, with a particular focus on lower income countries.

Source: [17]

Chapter 4

Barriers to accessing transport systems

Barriers to accessing transport systems

Empowered by the Social Model of Disability (defined in Chapter 2:4), people who experience physical, sensory and neuro-diverse impairments increasingly demand that the barriers which disable them in transport environments be removed.

The usability of transport systems is consistently identified by disabled and older people as major reasons why they remain isolated from society [18]. In developing countries in particular, people's inability to access education, healthcare or job opportunities contributes significantly to trapping people with disabilities and their families in poverty. The first UN Sustainable Development Goal (SDG) is to eradicate poverty in all its forms, everywhere [19]. Consequently, removing barriers to transport for diverse users and their families is extremely urgent - both in achieving equality for people with disabilities and reducing poverty rates worldwide.

4.1 Challenges experienced when accessing and using transport systems

The range of different challenges encountered by people when using transport systems varies, and depends on the activity limitations that the individual experiences. These are often a consequence of the impairments they experience, which may vary from day to day and/or be particularly limiting in certain contexts. Table 3 gives some examples of these barriers in the context of different types of impairments. It is important to remember that these impairments may also be experienced in combination by some people.

Table 3: Barriers for various disabilities in different parts of the transport network

Aspect of transport system	Physical	Sensory	Neurodiverse
Pedestrian infrastructure	Lack of dropped kerbs may prevent a wheelchair user from being able to use a pavement/sidewalk	Lack of tactile paving may prevent a visually impaired person from identifying a safe place to cross the road	Inconsistent road markings (e.g. crossings) may be confusing for some people with neurodiverse conditions
Interchanging between transport modes	Lack of step-free access may prevent a wheelchair user from being able to enter / exit and access platforms	Poor quality signage in bus / train stations can make it challenging for people with visual and hearing impairments to navigate them	Lack of trained staff / a dedicated assistance service might prevent some people from making the journey.
Access to vehicles	Steps into a vehicle may prevent a wheelchair user from being able to enter	Steps into a vehicle may cause a visually impaired person to trip when entering the vehicle	A lack of information about fares may result in some people feeling nervous to travel and/or avoid travelling
Vehicle stopping	Vehicles stopping suddenly may cause people with poor balance to fall	Lack of audible stop announcements (automatic or through someone calling) may prevent a visually impaired person from exiting a vehicle at their correct destination stop	Audible announcements that are too loud might prevent some people with neurodiverse conditions from feeling relaxed when using public transport services

People who experience neurodiverse and hidden disabilities are often the least considered in designing accessible transport systems, in all countries. Some key examples of hidden neurodiverse disabilities include autism, which affects how people communicate and interact with the world [20], and dementia, which can include memory loss, difficulties with thinking and problem solving, and language [21]. Other hidden disabilities include physical impairments that might make it more difficult for people to stand or walk, but do not require an individual to use a mobility aid. Further barriers that people with hidden disabilities experience when accessing transport are outlined in 'Accessible Public Realm: Updating Guidance and Further Research' [22].

For neurodiverse impairments, including autism and dementia, inclusive design is often related to the presentation of information. Ensuring that people are able to access information about their journey in a range of different ways can help to overcome this. For people with autism in particular, travelling can be very stressful, particularly if there are changes to schedules, delays, or if there is a lot of noise or crowds of people moving around.

For people who experience neurodiverse conditions, using transport services can present a wide range of challenges. The UK's National Autistic Society, for example, found that around 96% of autistic people said that public transport causes them anxiety [23]. Furthermore, "75% of autistic people say that unexpected changes, like delays, diversions and cancellations, make them feel socially isolated, and 52% of autistic people said that a fear of experiencing unexpected changes has stopped them from going on a bus or train." [24] For these reasons it is very important that routes keep to a schedule.

For people with hidden physical impairments, including conditions that make it more difficult to stand, inclusive design may relate to public awareness campaigns that make it easier for people with hidden disabilities to access the help they require, which in this case might include being offered a seat on public transport, or providing benches for resting on footways.

Box 2: Examples of challenges people with disabilities experience when using transport services

The impacts of inaccessible transport services can be devastating, reducing the amount of social interaction that people with disabilities experience. This can be a result of physical barriers to accessibility, for example for wheelchair users: "After injury I felt that my social life has been affected so much, due to the difficulty of transportation and environment challenges, it is difficult to do the daily activities (visiting friends, going out…etc), as well as go to hospital appointments and rehabilitation. Before the injury I was an active member in the society, I had many friends and used to go out with them to do some activities and sports. But after the injury, it was difficult for me to go out with them, because the environment is not adapted for wheelchair users, either the streets, transportation, shops, restaurants, or other facilities." – Fadi [25]

Image above: A footway at a different height to the street, with no ramp prevents the man in a wheelchair from joining the footway in Kenya.

As many environments are often inaccessible for people with disabilities, there are often practical mitigations put in place by individuals to allow them to access the locations and services they need: "I have been forced to come up with practical solutions to face head-on with confidence an ill-equipped environment to live an active life with Muscular Dystrophy while, in parallel, campaigning for a more inclusive society. Among these private efforts, I have had to hire a driver/assistant who provides me with the support needed for transportation purposes. It is not an uncommon sight in Port-au-Prince to

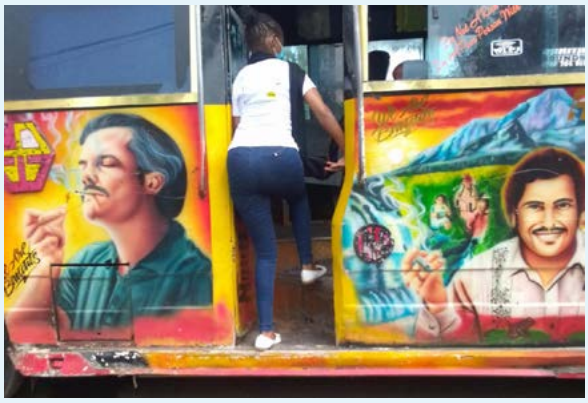

Image above: A bus with a narrow access with steps in Kenya. Without an alternative access via a lift, this would be inaccessible to those with mobility impairments.

witness my assistant carrying me as we climb several flights of stairs, even at the tax office to pay my dues!" – Gerald [25]

The attitudes of other people are also a key barrier: "Near the start of the bus route I climb on. I am one of the first passengers. People continue to embark on the bus. They look for a seat, gaze at my hearing aids, turn their glance quickly and continue walking by. Only when people with disabilities will really be part of the society; will be educated in every kindergarten and any school with personal assistance; live in the community and not in different institutions; work in all places and in any position with accessible means; and will have full accessibility to the public sphere, people may feel comfortable to sit next to us on the bus." – Ahiya [25]

Bollards and parked vehicles block a pedestrian crossing in Batumi, Georgia.

Sometimes, poor perceptions of people with disabilities are combined with physical barriers that combine to make it particularly challenging for people with disabilities: "The hardest obstacle for my independence has been the attitude of the people. They think that we can't do many things. Also, the steps and architectural barriers. I had an experience in the Casa de la Cultura with the director. There were many steps and I couldn't enter so I sent someone to call for help and when the director came, surprised, he said 'what's happened, what's happened, why are you like this'. He thought that I was there to beg for money, and had not thought that I was working." – Feliza [25]

For people with Autistic Spectrum Disorder, travelling can be extremely stressful due to the potential for unexpected change; "It makes me really quite anxious that I will miss my stop since I do not know where the bus is going, and I don't

know which stop to look out for, even if I've looked it up online. I remember avoiding using buses for quite a few years as I did not feel comfortable finding the right stop, since bus routes are less obvious than trains, and you have to ask them to stop." [26]

Image Sources: First and second image - ASIRT Kenya. Third image – Authors own.

Chapter 5

Advocacy

Advocacy

In many developing societies negative attitudes towards disability are pervasive, arising from superstition, fear, and misconceptions about disability. Many studies have illustrated how family members with disabilities are kept at home, partly to protect them from an unfriendly society, and partly to avoid the social stigma of having disability in the home [27]. The first obstacle to greater mobility and social interaction is therefore often the negative attitude of society.

For this reason, many organisations of people with disabilities have taken the lead in promoting greater awareness in their local communities of their specific needs. Advocacy by people with disabilities, usually together with other concerned citizens or groups, is considered a crucial element of promoting more appropriate design and operation of transport infrastructure and transport services. In many cases, people with disabilities, and those who directly support them, understand their needs the best. They are usually best able to tell policy makers, designers, and operators how their services can be improved to better meet these needs.

Box 3: Case Study - REDI (Network for the Rights of Persons with Disabilities)

REDI (Network for the Rights of Persons with Disabilities) is an Argentinian disabled persons NGO, which advocates for the rights of people with disabilities and actively campaigns for increased legislative protection of people with disabilities alongside enforcement of existing legislation such as the UNCRPD. REDI has been involved in the human rights movement since its creation in 1996 and is now one of the most recognised DPOs in the country. REDI seeks to influence public perceptions of disability and improve

access to transportation, education, work and training. It is a key contributor to the national “Ciudades Accesibles” program which promotes physical accessibility.
Source: [28]

Image Source: REDI

Useful pointers for undertaking effective advocacy include:[1]

- Target a variety of audiences. The first audience is often other people with disabilities, to encourage them to demand equal treatment and inclusion in their societies, rather than depending on welfare handouts. Other important audiences include political decision makers, influential community members, professional people (architects, engineers), key government officials, vehicle manufacturers, transport operators, the mass media, and the public at large.
- Reach out to unite people with different disabilities. By working across disability lines – for instance, organisations representing people with vision impairments, people with physical impairments, and parents of disabled children – NGOs can become more effective in their advocacy. Cross-disability advocacy also assists transport officials to understand the variety of needs of their disabled passengers, without sending them conflicting or confusing messages about what should be done to their service.
- Bring together people with disabilities and other stakeholders. These stakeholders may include older people, carers with children and other interested and knowledgeable parties who may not consider themselves disabled. Nevertheless, many of these people cannot use transport without many of the features which make it accessible to passengers with disabilities. Universal design benefits more than just people with disabilities. Other stakeholders might include human rights organisations, faith-based organisations, and agencies serving tourists. Petitions or public statements are much more likely to be taken seriously by authorities when endorsed by a wide range of stakeholders.

1 Many strategies in this and subsequent sections are described in more detail by guidelines issued by UNESCAP (1995), SUSTRAN (2000) and AEI (2003).

- Develop a clear strategy with measurable short-term and longer- term goals. A short-term goal could be to include accessibility features in a planned new rail station. A long-term goal could be to help a city to adopt a comprehensive policy on making transport accessible to everybody.
- Designate an access team within self-help organisations. To play their critical role in formulating access legislation, organisations may consider designating an access team, drawn from its members, to specialise in mobility and transport. Members should acquire basic technical knowledge of access issues and skills for dialogue and cooperation with the relevant sectors of society and government. Inclusion of prominent and skilled people with disabilities can play an important role in mobilising grassroots support.
- Advocate vigorously during planning stages of new infrastructure. Advocating for accessibility as a design requirement when new transport facilities or systems are being planned is better than retrofitting. Infrastructure such as new rail stations, busways, road schemes or pedestrian facilities can often be made accessible to a wide range of users at minimal additional cost during the planning process. Highly visible improvements provide good publicity for all stakeholders and encourage officials to do more. Disability advocates need to be involved at an early stage to ensure officials and designers are aware of their inputs.
- Promote understanding and acceptance with face-to-face contact. Get to know key people, such as elected officials, planners, and transport managers. Get to understand their viewpoints. Try to find a champion for your cause in government, the media, or a university.
- Make clear and concise materials available to the public and to people with disabilities. This can highlight the mobility problems people experience and provide information on regulations and requirements for accessibility that are in place. For example, the National Council for Rehabilitation and Special Education and the Office of the President, with assistance from Spain's Agency for International Cooperation, distributed five thousand copies of Costa Rica's National Law 7600, mandating access to transport and other sectors. Alternatively, the material can highlight norms and guidelines describing emerging International Standards for accessible streets, buildings, and vehicles. Material can be made available in printed and other formats.

- Make guidelines for the use of correct terminology. Make sure information is available to government departments, the mass media, and people who promote access issues. The use of language that avoids evoking pity or guilt can contribute to changing attitudes.
- Involve the mass media. The internet, social media, television, radio, and newspapers can be powerful in promoting positive attitudes and access awareness among both decision makers and the general public. Global smartphone access is rising, and social media is a powerful tool for reaching a mass audience. Disability advocates could visit media managers in person to underline the need for improved media coverage of access issues. They could form personal contacts with interested reporters. Reporters and editors may need to be educated themselves on disability issues and the correct use of language. The use of positive reinforcement through publishing examples of successful removal of barriers can help to motivate officials to do more.
- Hold public meetings organised and chaired by people with disabilities to focus public and media attention on their concerns. Officials and politicians are sometimes moved to act by the desire to avoid negative publicity.
- Carry out an 'access audit' of transport facilities. This is a technical evaluation to systematically assess the level of barrier-free access provided by a facility, and to identify what needs to be done (see Chapter 9: 3 for more information). Disability advocates can undertake such audits themselves and send the results to the media or to the transport agency or city government.
- Launch a national access awareness campaign. Such a campaign could combine many of the other strategies mentioned here and could be especially effective if launched with the backing of a government department. It could be repeated annually, each year reporting on the progress that has been made and giving public recognition to excellent and/or innovative access programmes.
- Take photographs of problems. Show people struggling to cope with a barrier to access. For example, drawings of people with disabilities unable to climb stairs have been used effectively in 'The Japan Times' newspaper. Make sure photos are not likely to cause damages to any identifiable person. Consideration should also be given to relevant local privacy, safeguarding and/or data protection laws.
- Promote ongoing training on access issues. Training of professionals involved

in planning and managing the built and transport environments – including engineers, architects, building managers, inspectors and so forth – is of critical importance to the long-term success of access promotion. Disability organisations should work with universities, colleges, and professional institutions (such as the Chartered Institute of Logistics and Transport) to promote the inclusion of access training in regular curricula. This may be particularly helpful in countries where formal controls over the transport environment through standards and legislation are weak. People with disabilities can participate in training courses, giving first-hand accounts of their experiences. Access training is always more effective if the trainees can discuss issues with those who are directly affected.

- Establish cooperative working relationships across regional disability groups to strengthen advocacy. Regional cooperation can demand more resources from an organisation but can also promote effective advocacy through sharing lessons amongst partners in similar circumstances.

Box 4: Case Study - Mecanismo Independiente Convención sobre derechos personas con discapacidad (MICDPD), Peru

The mission of the MICDPD is to ensure compliance of the Peruvian State in relation to the rights of persons with disabilities as outlined in the framework of the CRPD. MICDPD promotes the incorporation of the rights of people with disabilities in public policies and monitors the execution of these policies. They advocate for inclusivity by organising interactive public awareness campaigns, such as the 2019 “Discapacidad con derechos ¡Ahora!” (Disability Rights, Now!) festival, which promoted and raised of the rights of people with disabilities.
In 2019, the ‘Defensoría del Pueblo’, under which MICDPD sits, urged the municipalities of Peru and the National Council for the Integration of Persons with Disabilities (CONADIS), to monitor and sanction the lack of accessibility in public transport for people with disabilities. The organisation advocated the training of drivers and education of the general population in respecting the rights of people with disabilities to ensure that the streets are an accessible environment for all citizens.

Source: [29]

Chapter 6

Formulating Policy and Legislation

Formulating Policy and Legislation

6.1 The Role of Policy

Policies are statements about objectives or goals and the approach by which they are to be achieved. Policies can be formalised as policy documents, white papers, or included in formal legislation and should be periodically reviewed and updated.

For example, South Africa's Integrated National Disability Strategy was first adopted in 1997 by the Cabinet, as the government's official policy framework for disability matters, and is reviewed every five years. A review of the policy in 2014 highlighted the progress that had been made towards implementing the policy, the influence of legislation brought in after publication and the limitations of the original policy, including how the policy had evolved to better address the needs of those it served. It articulated a continued and coordinated approach towards achieving equality for people with disabilities across all sectors of society. The following year, the 2015 White Paper on the Rights of People with Disabilities (WPRPD) was published.

Box 5: Case study - South Africa's White Paper on the Rights of People with Disabilities (WPRPD)

The 2015 White Paper on the Rights of People with Disabilities updated South Africa's 1997 White Paper on an Integrated National Disability Strategy (INDS). The document endorses a trajectory for realising the rights of people with disabilities by integrating obligations of the 'UNCRPD' and the 'Continental Plan of Action for the African Decade of Persons with Disabilities' with South Africa's policy frameworks and the National Development Plan 2030.

The WPRPD was developed in consultation with organisations of and for people with disabilities, government departments, municipalities, public entities, the private sector and civil society at large, as well as the South African Human Rights Commission (SAHRC).

The purpose of the WPRPD is to:

- Provide clarity and guide the development of standard procedures for mainstreaming disability
- Guide the review of all existing policies, and the development of new ones
- Specify standards for the removal of discriminatory barriers
- Broadly outline the responsibilities and accountabilities of the various stakeholders involved in providing barrier-free, appropriate, effective, efficient and coordinated service delivery to people with disabilities
- Guide self-representation of people with disabilities.

The policy objectives and strategies outlined in the INDS remain relevant and are reinforced by the nine strategic pillars identified in the WPRPD.

Source: [30]

6.2 The Role of Legislation

Legislation has the force of the state behind it and can go further than policy statements by specifying in more detail what various stakeholders can and cannot do, ensuring that the objectives of the policy are delivered. The term legislation is used to indicate a variety of legal instruments, depending on the country's political system. It includes national or parliamentary laws, decrees passed by Ministries or Heads of State, Executive or Government Orders, and local/municipal by-laws or ordinances. It is recognised that legislative frameworks are highly context specific, but that in most countries national transport ministries play the leading role in the formulation of policy and accompanying legislation. These are often supported by local ordinances (e.g. at the town/city/region level) that focus on implementation of nationally-set laws.

The importance of enacting legislation to promote universal mobility is recognised by the United Nations Convention on the Rights of Persons with Disabilities (CRPD). The CRPD is a legally-binding Human Rights Treaty intended to protect the rights and dignity of persons with disabilities. The CRPD sets out the importance of legislation in Article 4 – General Obligations, which requires that states who ratify the CRPD harmonise domestic laws with the convention. States are required to:

a. Adopt all appropriate legislative, administrative and other measures for the implementation of the rights recognized in the present convention, and
b. Take all appropriate measures, including legislation to modify or abolish existing laws, regulation, customs and practices that constitute discrimination again persons with disabilities.

Legislation specifically instructing transport operators and government authorities to deliver on universal mobility has been adopted in countries around the world including recent legislation in Nigeria (Discrimination Against Persons with Disabilities Prohibition Act, 2018), Antigua and Barbuda (Disabilities Equal Opportunities Bill, 2017) and India (The Rights of Persons with Disabilities Act, 2016).

Box 6: Case Study - The UK Equality Act 2010

The UK Equality Act came into effect in 2010, replacing the Disability Discrimination Acts of 1995 and 2005. The Act protects people against discrimination, harassment or victimisation in employment, and as users of private and public services, including transport, based on nine protected characteristics: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. The Equality Act goes further than its predecessors in protecting people with disabilities from indirect discrimination and harassment.

To be covered by the act as a disabled person, a person must have "a physical or mental impairment which has a substantial and

long-term adverse effect on their ability to carry out normal day-to-day activities" [31]. The definition is "designed to be as broad as possible and cover a wide range of conditions and impairments, including hidden disabilities and both mental and physical impairments, with some conditions automatically covered by diagnosis." [32]

Source: [31], [32]

6.3 The Process of Developing Policy and Legislation

Although the process of developing policy and legislation varies by country, three main stages are usually evident:

1. Mobilisation of grassroots support and support of key persons/ organisations: Many of the methods discussed in Chapter 5 (Advocacy) can be helpful in mobilising wide support, including:
   - Developing close relations with television and radio correspondents and print media journalists;
   - Using social media channels and online platforms to attract support and encourage supporters to 'share' information to reach a wider audience;
   - Lobbying with legislators, political parties, as well as community and religious leaders;
   - Submitting public petitions on access needs to the speakers of parliament or state legislative assemblies;
   - Submitting reports and memoranda on progress in the promotion of access to political, legislative, and administrative fora at all levels, including parliament, state assemblies, and chief executives (e.g. prime minister, ministers, governors, mayors and village chiefs).

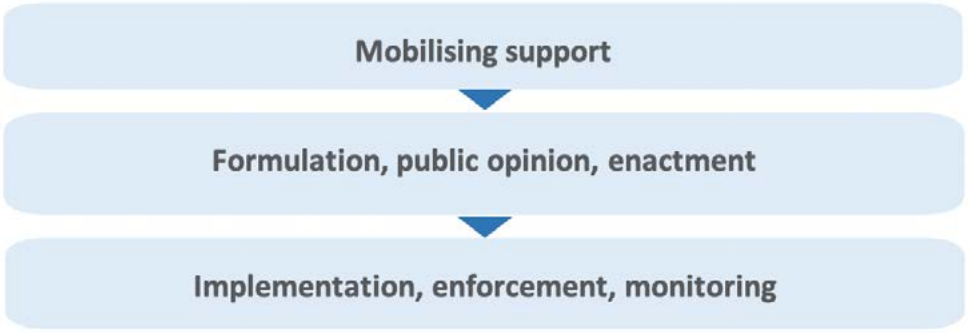

Figure 2: Three stages in developing policy and legislation

2. **Formulation, public opinion and enactment:** This consists of drafting access policy provisions, obtaining public opinion about the drafts, developing more detailed legislative provisions for implementation, revision and finalisation, and enactment. A strategy that can be very helpful for government officials is to mobilise concerned sectors of society into an advisory committee, including representatives of diverse disability groups, older people, children and women, administrators, key professionals (e.g. medical and legal experts, architects and engineers), transport service providers, and government officials. The task of the committee should firstly be to clearly identify the access needs and barriers which need to be addressed, and then to submit specific recommendations on actions to be taken. This would help prevent a government being overwhelmed by receiving conflicting messages on what needs to be prioritised. The optimal size of the committee could be 15 to 25 people.
3. **Implementation, enforcement and monitoring:** After enactment, work starts on developing more detailed implementation strategies, complete with time frames and budget allocations. Legislation should consider enforcement mechanisms, such as awarding incentives to encourage observance of access policy provisions, or imposing penalties in the event of non-compliance. Enforcement provisions could also include the right for individuals to take legal action if the legislation is not applied by specific authorities or private transport operators.

   Mechanisms for regular review of the effectiveness of access policy provisions and/or legislation should also be included in legislation.

6.4 Principles of Developing Policy and Legislation at both national and local levels

Some key principles to keep in mind when developing access policy and legislation include:

- It can take many years to develop policy and legislation. Therefore, codes of practice can be developed and implemented as an interim measure. Voluntary codes of practice can often contain more stringent standards than mandatory regulations.
- Access requirements can be formulated as:
    - stand-alone legislation dealing solely with disability issues (as is the case with India's Persons with Disabilities Act). This approach has the advantage of being able to give coherent and comprehensive guidance to stakeholders in many sectors whose actions need to be coordinated, or;
    - integrated with other policies and legislation (such as South Africa's Promotion of Equality and Prevention of Unfair Discrimination Act, 2000 or the UK Equality Act 2010, which prohibit discrimination on the basis of disability, race, gender, and other grounds). This approach has the advantage of permitting faster and more effective implementation and enforcement, through mechanisms that already exist. In many cases a combination of these two approaches will be appropriate.
- **Access legislation needs to cover a diverse range of needs**, including people with both visible and hidden physical, sensory, and cognitive disabilities.
- All legislation, guidelines, and standards should be developed and strengthened through consultation with people with disabilities.
- Policy goals and legislation should recognise that true mobility requires **more than just infrastructure** (e.g. having ramps instead of steps). Legislation should thus take account of all design factors, operational factors, fare policies, and management practices.
- The specific **norms and standards to be adhered to** in the design and operation of transport are often developed by national Standards bodies. In such cases legislation may only refer to the relevant Standard and require compliance with its provisions. There is much sharing of standards and guidelines across countries and continents, with the result that standards in use across the world are more alike

than they are different. Countries which have not yet developed their own standards, or which lack the institutional capacity to undertake this task, may benefit from work done elsewhere (see for instance the practices summarised in Part 2, guidance for practitioners).

The typical contents of access legislation could include:

- The prohibition of unfair discrimination against people with disabilities in the design of services, fare schedules, and operating procedures;
- Clauses mandating effective consultation with affected people with disabilities, in the preparation of transport projects and plans, and mechanisms for achieving this;
- Target time frames for achieving the specified actions;
- Circumstances and grounds for exemptions from the access requirements or time frames;
- A requirement for staff training to improve the services offered to all passengers, including those with disabilities;
- Enforcement mechanisms for promoting compliance and dealing with non-compliance;
- A monitoring mechanism for reviewing progress and updating the legislation;
- Specific actions that need to be taken by designated stakeholders in removing barriers and facilitating universal mobility. Legislation could mandate, for instance, that all new transport interchanges and vehicles should be fully accessible, with gradual phasing in of low-cost features for existing transport infrastructure, vehicles, and systems. In any country the specific actions will depend on the relative presence and importance of different barriers and the level of resource available.

Chapter 7

Co-operation and Consultation

Co-operation and Consultation

Government officials, planners and transport operators can benefit greatly from consulting and collaborating with local groups representing disabled users. Travellers with disabilities have valuable insights based on their own experiences of negotiating every day the numerous obstacles in their environment. Examples abound of well-meaning but misguided schemes which attempt to make access improvements based on what non-disabled people think people with disabilities need. This often creates new obstacles and, for this very reason, some disability groups have adopted the slogan 'Nothing About Us, Without Us'.

Effective consultation and collaborative working from early project design and planning stages benefits everybody. Public authorities sometimes fear that engagement and consultation will delay implementation, or that others will make unreasonable demands on their budgets or resources. While consultation itself does indeed require some time, many authorities have come to appreciate the fact that effective consultation can actually shorten the overall implementation time, if it helps them to identify and resolve key issues early on, rather than having to try to change decisions or designs late in the process. Early engagement often removes the need to retrofit accessibility measures at a later date and can therefore be more cost-effective in the long-term. Disability groups often understand the need to work within budgets and procedural constraints and are eager to work together with authorities to come up with viable solutions to problems.

Some pointers to promote effective consultation and cooperation between authorities and people with disabilities include:

- **The earlier on engagement and consultation happens, the better**. By providing designers and planners with a better understanding of people's needs from the beginning, early consultation can help avoid costly rectification of mistakes later in the process. This is especially important in developing countries, where formal access standards may not be available, and 'informal' input of users may be even more valuable to identify correct design parameters of, for instance, locally

applicable wheelchair or tricycle dimensions. It is important to gather input from a variety of sources, in these situations, to ensure adequate review.

- **Remember that 'disability' covers a wide spectrum of people with different needs**. Consultation should involve people who use wheelchairs, who are ambulant disabled, people with partial sight and others who are blind, people with impaired hearing, people who are profoundly deaf, and people who experience neurodiverse conditions and hidden disabilities. This is not to say that consultation should be exclusively with people with disabilities, as other interested and affected groups (such as vendors, property owners, elderly people, and other transport users) have as much a claim to be heard. However, people with disabilities are among the only groups that are at risk of being largely excluded from using the facility or service if it is designed without regard to their needs. Authorities should therefore make special efforts to include them.
- **Authorities can encourage the formation of local-level access groups to consult with on access and mobility issues.** The European Conference of Ministers of Transport (ECMT) recommends that consultative bodies have an equitable representation of all the main interest groups: administrators, operators, vehicle equipment suppliers, and associations for people with disabilities. Older people, architects, engineers, and local business could also be represented. Activities that the access groups may pursue could include:
    - Putting access on the agenda and keeping officials focused on access issues through periodic meetings. According to the UNESCAP, "a local-level access group should use publicity as a tool to encourage the emulation of examples of good practice and to generate fear of negative press coverage" [33];
    - Consultation with the local authority on access issues, including prioritising actions, avoiding mistakes, and monitoring results by testing design features and reporting back on compliance with operating standards;
    - Information exchange with other bodies working on access and mobility.
- Once some experience is built up in relation to local solutions to access problems through engagement and consultation, it should be followed up with **local policy and implementation guidelines** that can be followed in the course of other work. This would be more efficient than trying detailed consultation on a multitude of individual minor projects.

- Authorities should be aware of the **use of correct language when talking with and about people with disabilities** and consider preparing guidelines on the use of appropriate terminologies aligned to the Social Model of Disability (see Chapter 2: 4). Language reflects the values and attitudes of a society, and people with disabilities have for a long time suffered under terminology that labels or stereotypes them, has discriminated against them, and which ultimately creates a culture of non- acceptance of diversity.
- Consultation should be followed up with **direct involvement of people with disabilities in development and testing of features** – in other words participation. This will help ensure that whatever is provided does indeed meet its intended goals.
- After an existing facility is improved or new accessible infrastructure or services are provided, **information should be fed back to potential users with disabilities** to make sure they know about the improvements. The methods vary depending on the type and scale of changes, but could include correspondence with disability organisations, newspaper or radio announcements, or the use of leaflets or advertising.

Box 7: Guidance on appropriate language

Although there are no hard and fast rules, the following list includes words and phrases that should be remembered when talking to or writing about people with disabilities:

- Many people with disabilities find the word 'handicapped' offensive, as it carries connotations of 'cap in hand'. Most people prefer the terms 'disabled person' and 'person with disabilities'.
- It is dehumanising to refer to a person in terms of a condition or mobility device. Do not talk about 'a spastic' or 'an epileptic' or synonymise a person using a wheelchair with the wheelchair itself with objectifying phrases like 'we have a wheelchair' (to refer to the user and device together). Instead say 'he has cerebral palsy' or refer to 'a person with epilepsy' or 'wheelchair user'.
- Remember that a wheelchair represents freedom to its user. Do not say 'wheelchair bound' or describe someone as 'confined to a wheelchair'. Rather talk about a 'wheelchair user' or a 'person who uses a wheelchair.'

- Avoid words which invite pity or reinforce impressions of frailty or dependence. Examples are 'suffers from', 'affected with' or 'victim of'. Instead say 'person who has/person with/person who experiences …'
- Avoid terms like 'mentally retarded', 'insane', 'slow learner', and 'brain damaged'. Rather use 'person with a neuro-diverse disability' or 'people with learning difficulties'.
- Remember that there are many degrees of deafness, and different methods of communicating such as lip-reading or signing. Never say 'she is deaf and dumb' but use a more accurate description such as 'she is deaf/partially deaf/deafened/hard of hearing'.

Information adapted from: [34]

Box 8: Case Study – The Open Institute, Kenya

In 2018, The Open Institute launched 'The Ability Project', a new collaborative auditing project which aims to collect and compile data on the accessibility of everyday environments using the globally recognised concept of Universal Design. Trained volunteers gather the data, which is later shared with stakeholders such as Government officials, policymakers, media houses, civil engineering firms, industrial designers, architectural firms, students, and people living with disability. By working together, they are able to prompt the start of a much wider discourse about accessible and sustainable solutions.

The project has attracted international attention, with BBC Africa and local broadcasters airing coverage of the project in several countries in 2019.

During the Covid-19 pandemic, The Open Institute hosted an online workshop with a diverse group of stakeholders to understand the key challenges faced

by people with disabilities during the pandemic, including transport access challenges for those who need to travel with an assistant or lip-read. The workshop produced a number of key recommendations and output actions for stakeholders to take forward.

Source: [35]

Image Source: The Open Institute

Chapter 8

Funding

Funding

8.1 Why Funding is Important

The ability to access funding for achieving universal accessibility of the transport system is important for a number of reasons:

- In financial terms, it can cost more to adopt Universal Design practices when developing new infrastructure, systems and services; however, the additional cost is often small relative to the overall cost and represents an investment that enables more people to use it. It is vital to think about funding at the earliest opportunity because transport budgets often have to compete with other government objectives such as health care.
- People with disabilities are more likely to experience poverty or earn a below-average income – this is true in most countries but particularly so in developing nations. Without financial support, they can find use of public transport unaffordable, limiting their life opportunities.
- Some people's disabilities may prevent them from using the lowest cost travel option for a given trip. For example, some people with disabilities are unable to travel more than a short distance on foot or in a wheelchair, so are unable to make the journey to a bus stop or rail station. They therefore need to rely on door-to-door travel services, which are more costly to provide than regular public transport services.

This therefore creates an equality issue which compromises the ability of countries to deliver on commitments under UNCRPD, which to date has been signed by 182 states. These commitments can therefore require extra funding towards infrastructure, services, or subsidising user costs (e.g. concessionary travel).

8.2 Funding Sources

There are a variety of funding sources that promoters of new accessible infrastructure or services can consider. These are set out in the paragraphs below. These range

from national, regional and local sources through to international donor agencies, and are highly context-specific. In some country contexts, funding flows from national government bodies to more local agencies before being spent on transport services and infrastructure. While, in many countries, local or regional agencies are responsible for funding and delivering the transport infrastructure and services that are the focus of the guide, this is by no means a universal model. As such the following list does not seek to be exhaustive, nor artificially distinguish between these funding models.

Government funding

- Highway investment budgets, which need to include not only the building of roads, but also the adequate provision of accessible footways and pedestrian crossing infrastructure;
- Maintenance budgets help fund lower cost improvements to infrastructure and ensure it continues to be in a good state of repair;
- Subsidies provided by municipal, state/provincial, or other government agencies which may come from sources such as:
    - Property taxes, sales taxes, or taxes on activities such as lotteries. The creation of more passenger-friendly transport systems could be a rationale for such taxes;
    - Taxes on activities such as gambling, tobacco or liquor sales are often viewed as especially appropriate for a cause such as door to door transport for people with disabilities;
    - Charges and taxes on private car use, car parking and vehicle registration.

Operator revenue funding

- Passenger fares, which can cover most or all of the cost depending on the circumstances, and the potential for increased patronage;
- Cross-subsidy from fixed-route services under concession agreements. This approach requires that regulators work closely with transport operators to make sure the agreements are enforceable and followed up by all parties;
- Other revenues generated by the transport operation, especially from advertising on vehicles, shelters, and in waiting areas; or income from property owned by transport

agencies.

Stakeholder funding

- Subsidies provided by social service agencies: in many countries, social service agencies such as rehabilitation services provide transport for their clients to their facilities. They may also collaborate with other agencies or NGOs to provide transport for other trip purposes to a broader range of passengers with disabilities. Social service agencies sometimes contract with for-profit transport businesses to provide services for their clients;
- Support by businesses which benefit from the patronage of disabled and older people: In some countries, such businesses help provide some of the transport costs for disabled customers. Alternatively, businesses could advertise on door to door vehicles.

Voluntary donation funding

- Donation of vehicles: in a great many cities and countries, from Mexico to Malaysia, accessible vans and other vehicles have been donated by companies, foundations, religious bodies, embassies, foreign aid agencies, wealthy individuals, NGOs and others to reduce the cost of door to door services by eliminating the major cost of procuring accessible vehicles. These donated vehicles are usually operated by social service or government agencies but could be operated by for-profit companies under contract with such agencies;
- Donation of labour: door to door services in some countries benefit from volunteer drivers. Such drivers need to be properly trained, supervised, and insured at levels appropriate to their society;
- Individual contributions to cover the cost of door to door services: the feasibility of this approach varies from one country to another. In some cities, citizens can voluntarily add on a contribution, usually in a separate envelope, when paying their water or electricity bill, or a tax bill. In some cases, individuals have left funds in their wills to support such services.

International financial institutions

- International financial institutions (IFIs) such as the World Bank, the African

Development Bank, and the Asian Development Bank, provide loans and grants to the governments of low- and middle-income countries for the purpose of pursuing capital projects, including improvements to transport that promote inclusion and accessibility. For example, the World Bank offers funding to middle-income countries at interest rates lower than the rates on loans given by commercial banks. Money is offered at zero interest to the poorest developing countries that often cannot find other sources of loans. Repayments are also made over a longer period of time than offered by commercial banks. Whilst countries do eventually pay back their loans, the system provides some flexibility in the terms of the loan.

Not for profit organisations

- Not-for-profit organisations and charities may be an alternative source of funding for smaller sums. The Eastern Alliance for Safe & Sustainable Transport (EASST) is a not-for-profit organisation which offers grant funding to its partners for a variety of transport projects, particularly those which improve road safety. One of their focus areas is 'Disability, Mobility and Road Risk', with a focus on making transport accessible and safe for all road users. The FIA Foundation is another such charity, which aims to ensure 'Safe, Clean, Fair and Green' mobility for all by funding various mobility and road safety projects.

Support from international governments

- Funding may also come from international governments. Many developed countries have international aid funds, some of which can provide funding for accessible transport projects. In 2017, the UK Foreign, Commonwealth and Development Office launched its Disability Inclusive Development Programme. The programme delivers interventions to support people with disabilities in a number of developing countries, including interventions which improve access to education, jobs, healthcare and which reduce stigma and discrimination. The programme is putting funding into an applied research programme called High Volume Transport (which funded the updating of this publication) to look at ways transport can be made inclusive. It launched a policy brief on Disability Inclusive Public Transport at the World Road Congress in October 2019.

Chapter 9

Strategies for Planning, Implementing and Enhancing Accessible Transport Provisions

Strategies for Planning, Implementing and Enhancing Accessible Transport Provisions

Once policy goals and legislative mandates for access have been adopted, strategies for on-the-ground implementation need to be formulated. Indeed, how implementation will occur needs to be in the minds of the drafters of policies and laws. The importance of proper implementation strategies is highlighted by the fact that several countries that have legislative frameworks and standards in place for achieving greater access for people with disabilities to transport and the built environment are still struggling to move towards visible implementation.

This section presents some brief pointers on strategies for planning and implementing access requirements. These are aimed at implementing authorities and others involved in making access a reality in developing countries.

9.1 Providing New Infrastructure or Services

The best time to apply Universal Design best practice is in the early planning and design stages of new infrastructure (such as rail stations, footways, bus shelters, road crossings) to ensure the final output serves as wide a variety of people as possible, including people with disabilities. Equally, universal access of vehicles should be considered when planning new services (e.g. bus rapid transit (BRT)). Although it depends on the scope and nature of the project, experience has shown that access features can usually be included at a small fraction of the overall project cost.

This approach requires a policy to be in place at the implementing authority or organisation to check each project for opportunities to upgrade its access features, and to assess the cost implications of each option. These checks should include input from disabled users, representative groups or an accessibility expert. Cost and conflicting requirements may prevent accommodation of everybody's needs, but it is necessary that acceptable compromise be reached.

Whilst the aim should be to provide universal accessibility at project delivery, some

projects will require strategies that implement access regulations incrementally, ideally starting at the very beginning of the planning process. An incremental approach allows authorities to work within their cyclical budget constraints by targeting interventions that are likely to have the highest impact first. An incremental approach can be especially effective when used on phased-delivery projects and masterplans. It is also likely to be most acceptable to the widest range of stakeholders. One of the benefits of an incremental approach is that it allows people with disabilities to test features and solutions and to make timely corrections as new ones are rolled out.

Box 9: Case Study - Bonifacio Global City Manila

Bonifacio Global City is a financial and lifestyle district in Metro Manila. Development began in the late 1990s on the site of a former military base, and the development provided a 'blank canvas' for the design of a new accessible neighbourhood. The district is built on an easy-to-navigate grid plan and boasts a high level of accessibility from its wide evenly surfaced footpaths with ample use of dropped kerbs and pedestrian crossings to its public transport network and 40kph speed limits. The local bus network (BGC Bus) has ramp access, wheelchair spaces with lowered call buttons and operates 24/7. BGC bus offers smartcard contactless payment on the BEEP card, which can be topped up online, in-person or at a machine at locations across the city.

The district has an active social media presence and frequently runs public awareness campaigns promoting its high-quality infrastructure and how the district is working to ensure the safety and inclusivity of all pedestrians.

See more: [36]

9.2 Upgrading Existing Infrastructure or Services

To upgrade existing infrastructure and services, it is important to first identify key areas within a town or city to deliver targeted access improvements, and then focus on upgrading infrastructure, vehicles, and services within this area to achieve universal accessibility. The major advantage of this approach is that it maximises the benefit achieved for the investment, by deploying access improvements in a coordinated way. When identifying key areas, consideration should be given to:

- Major commuting corridors which would serve a high volume of travellers;
- Local neighbourhoods complementing the corridors, including local centres, parks, places of worship, care homes, day centres and medical facilities;
- Trip destinations that attract a high volume of travellers (shopping centres, medical facilities, places of worship);
- Areas that have already been earmarked for other redevelopment or maintenance projects (e.g. if a road or footpath is being re-surfaced, it may be a good time to install kerb ramps and tactile features for pedestrians with disabilities).

Priority areas should include both origins and destinations frequented by disabled travellers, so as to ensure a fully accessible travel chain is provided from door to door. It is also important to consider the journeys that disabled people may need or want to make but

Figure 3: A potential candidate for improvement in Kenya. High pedestrian flows use this route to access the railway station.

Image Source: ASIRT Kenya

are currently unable to do because of barriers. Improvements could thus encompass footway upgrades, kerb ramps and raised crosswalks to better serve local non-commuting and pedestrian activities.

Key areas could be improved incrementally, starting with one priority area, and extending it or adding new ones as resources and experience allow.

9.3 Access Audits

Access audits are technical evaluations of transport facilities to systematically assess the level of barrier-free access provided by a facility or service. They can be used by a planning department to identify what needs to be done before designing the upgrading of a facility or area or before designing new infrastructure. The audit can be performed by staff themselves, but it can be particularly helpful to get local users with disabilities to participate. This helps ensure that there is actually access for people with disabilities. In either case, it is important that clear guidelines are followed to ensure the audits are performed in an equitable and knowledgeable manner using objective and measurable criteria. Guides have been published in many countries to facilitate this.

Box 10: Case Study - Accessibility Auditing in Kuala Lumpur

The City of Kuala Lumpur in Malaysia, has set up an "implementation framework for its accessibility standards for the built environment, including a comprehensive monitoring and enforcement system, from design to post-construction." Under Kuala Lumpur's Action Plan, all new construction and retrofitting works must follow universal design principles. For construction to be approved, the submitted building plans must comply with the accessibility standards. To enforce these standards, a network of auditors is established including Access Officers, an Access Advisory Group, Access Inspectors and Access Auditors. All audits are conducted with persons with disabilities.

Auditing is subsequently implemented in the following ways:
Monitoring: During the construction, access auditors inspect the facility and have the option to issue a stop-work order. After construction, follow-up inspections are carried out.
Enforcement: Enforcement personnel consist of Access Officers, the Access Advisory Group, Access Inspectors, and Access Auditors. Access statements, inspections and audits are used to monitor and enforce accessibility standards.
Awareness raising and training: Awareness-raising programmes create a constant dialogue, offer workshops for professionals and pilot projects as benchmarking.

The project has attracted attention from the 'Zero Project', an international NGO with a network of over 4,000 experts, with and without disabilities, in over 120 countries. Its sole objective is to assist in creating a world without barriers for people with disabilities by highlighting the most innovative and effective policies and practices that improve the lives of people with disabilities.

Information adapted from: [37]

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Appendix B: Image Permissions

Image Permissions

All image licenses were valid at date of publication.

Figure 1: Map showing countries that have ratified the UNCRPD	Image produced by author.
Figure 2: Three stages in developing policy and legislation	Image produced by author.
Figure 3: A potential candidate for improvement in Kenya. High pedestrian flows use this route to access the railway station.	Image produced courtesy of ASRIT Kenya. Reproduced with permission.
Box 2: Examples of challenges people with disabilities experience when using transport services	First and second image produced courtesy of ASRIT Kenya. Reproduced with permission. Final image produced by author.
Box 3: Case Study - REDI (Network for the Rights of Persons with Disabilities)	Image produced courtesy of REDI. Reproduced with permission.
Box 6: Case Study - The UK Equality Act 2010	Logo produced courtesy of UK Government. Reproduced with permission. Image produced by author.
Box 8: Case Study – The Open Institute, Kenya	Image produced courtesy of The Open Institute. Reproduced with permission.

Box 9: Bonifacio Global City Manila	Image produced courtesy of Bonifacio Global City Twitter page. Reproduced within the terms of the site.

Appendix C: Advocacy organisations

Appendix A: Advocacy organisations

Albania	Albanian National Council of Disabled People (NCDPO)
Angola	Federation of Organisations of Disabled People in Angola (FAPED)
Antigua and Barbuda	Antigua & Barbuda Association of Persons with Disabilities (ABAPD)
Argentina	Fundación Rumbos
Australia	Australian Federation of Disability Organisations AFDO
Austria	Independent Living Austria (Selbstbestimmt Leben Österreich) (ILA)
Azerbaijan	The Society "For International Cooperation of Disabled People of Azerbaijan
Bahamas	Disabled Persons ' Organization (DPO)
Bangladesh	Bangladesh Protibandhi Kallyan Somity BPKS
Barbados	Barbados National Organization of the Disabled Inc. (BARNOD Inc.)
Belarus	Belarussian Society of the Handicapped
Belize	Belize Assembly for Persons with Diverse Abilities (BAPDA)

Benin	Federation des Associations de Personnes Handicapées du Benin
Botswana	Botswana Society of People With Disabilities BOSPED
Burkina Faso	Federation Burkinabe des Associations pour la Promotion des Personnes Handicapées FEBAH
Burundi	Union des Personnes Handicapees du Burundi (UPHB)
Cambodia	The Cambodian Disabled Peoples' Organization (CDPO)
Cameroon	CAFOD - UNAPHAC
Canada	Council of Canadians with Disabilities International Centre for Accessible Transportation - Le Centre International d'Accessibilité aux Transports
Cape Verde	Associacao Caboverdana de Deficientes (ACD)
Central African Republic	Union Centrafricaine de la Fraternité Chrétienne des Malades et Handicapés Physiques
China	China Disabled Persons Federation (CDPF)
Cook Islands	Cook Islands Nation Disability Council
Costa Rica	Federación Costarricense de Organizaciones de Personas con Discapacidad
Cuba	Asociación Cubana de Limitados Físicos Motores (ACLIFIM)

Czech Republic	Czech National Disability Council (CNDC)
Democratic Republic of Congo	Intercommunautaire Congolais pour les Personnes avec Handicap - CICPH
Dominica	Dominica Association of Persons with Disabilities Inc. (DAPD Inc.)
Dominican Republic	Federación Nacional de Discapacitados Dominicanos (FENADID)
Ecuador	Federación Nacional de Ecuatorianos con Discapacidad Física (FENEDIF)
Egypt	The Arab Organization of Persons with Disabilities (AOPD)
El Salvador	Asociación Cooperativa de Grupo Independiente Pro Rehabilitación Integral (ACOGIPRI)
Estonia	Independent Living Estonia
Ethiopia	Federation of Ethiopian Associations of Persons with Disabilities (FEAPD) Ethiopian Center for Disability and Development
Fiji	Fiji Disabled Peoples Association
Gabon	Handicap sans Frontières
Gambia	Gambia Federation of the Disabled (GFD)
Ghana	Ghana Federation of the Disabled (GFD)

Greece	Paraplegics Association of Greece
Grenada	Grenada National Council of the Disabled (GNCD)
Guatemala	Coordinadora de Organizaciones de Personas con Discapacidad de Guatemala (COPDIGUA)
Guinea	Federation Guineenne Pour La Promotion Des Associations De et pour Personnes Handicapees (FEGUIPAH)
Guyana	Guyana Council of Organisation for Persons with Disabilities (GCOPD
Haiti	National Network Association for the Integration of Disabled Persons (RANIPH)
Honduras	Fundación Hondureña de Rehabilitación e Integración del Limitado (FUHRIL)
Hong Kong	The Association for Universal Accessibility Hong Kong (AUAHK)
Iceland	The Organization of Disabled in Iceland OBI
India	National Centre for Promotion of Employment for Disabled People (N.C.P.E.D.P.) Svayam
Indonesia	Persatuan Penyandang Cacat Indonesia (Indonesia Disabled People Association)
Iraq	Iraqi Alliance for Disability

Ivory Coast	Federation des Associations Des personnes Handicapees de Cote d'Ivoire (FAHCI)
Jamaica	Combined Disabilities Association
Japan	Japan National Assembly of Disabled Peoples´ International (DPI-Japan)
Jordan	Coalition of Jordanian DPOs
Lao PDR	Lao Disabled People's Association (LDPA)
Latvia	The Latvia Umbrella Body for Disability Organizations - Sustento
Lebanon	Lebanon Council for disabled people
Lesotho	Lesotho National Federation of Organizations of the Disabled (LNFOD)
Liberia	National Union Of Disabled (NUOD)
Macedonia	Polios Plus - Movement Against Disability
Madagascar	Plateforme Des Federations Des Personnes Handicapees De Madagascar (PFPH)
Malawi	Federation of Disability Organizations of Malawi (FEDOMA)
Malaysia	Malaysian Confederation of the Disabled (MCD) Society of the Disabled Persons Penang (SDPP) Beautiful Gate Foundation for the Disabled

Maldives	Maldives Association of the Disabled People
Mali	Federation Malienne des Associations de Handicapés
Malta	Maltese Council of Disabled Persons
Mauritius	Physically Handicapped Welfare Association (PHWA)
Mexico	Libre Acceso
Mongolian	Disabled Peoples International of Mongolia
Montserrat	Montserrat Association for Persons with Disabilities Inc. (MAPD Inc.)
Morocco	Morocco Federation for PwDs
Mozambique	Forum das Associades dos deficientes de Mozambique (FAMOD)
Namibia	National Federation of People with Disabilities in Namibia (NF-PDN)
Nepal	National Federation of the Disabled-Nepal
New Zealand	Disabled Persons Assembly (New Zealand) Inc. (DPANZ)
Nicaragua	Organización de Revolucionarios Discapacitados , (ORD)
Niger	Fédération Nigerienne des Personnes Handicapées (FNPH)
Nigeria	Joint National Association Of Person With Disabilities (JONAP-WD)

Pakistan	Pakistan Disabled People Organization (PDPO) (DPI-Pakistan)
Palestine	Palestinian Disability Coalition Palestinian general union people with disability
Panama	ASOCIACION NACIONAL DE PERSONAS IMPEDIDAS(ANPI)
Papua New Guinea	Papua New Guinea Assembly of Disabled Persons (PNGDA) PNG Assembly of Disabled People (PNGADP)
Paraguay	ARIFA (Asociación de Rehabilitación de Impedidos Físicos del Paraguay Fundación Saraki
Peru	Confederación Nacional de Discapacitados del Perú (CONFENADIP) Centro de Atención a Personas con Discapacidad Intelectual Grave (CADIG-APROMIPS)
Philippines	Philippines National Federation of Persons with Disabilities in the Philippines, Inc.
Portugal	Associacion Portuguesa de Deficie
Puerto Rico	Asociación Mayagüezana de Personas con Impedimentos (AMPI)
Republic of Korea	Disabled People´s International Korea (DPIK)
Republic of the Congo	Union Nationale des Handicapés du Congo (UNHACO)
Russia	All Russian Society of Disabled People

Rwanda	National Union of Disabilities Organisations of Rwanda (NUDOR)
Samoa	Nuanua O Le Alofa, Disability Advocacy Organisation in Samoa
Senegal	Fédération Sénégalaise des Associations de Personnes Handicapées Comité des Femmes de la Fédération Sénégalaise des Associations De Personnes Handicapées
Seychelles	Seychelles Disabled People Association
Sierra Leone	Disability Awareness Action Group
Singapore	Singapore Disabled People's Association (DPA Singapore)
Slovak Republic	Alliance of Organizations of Disabled Peoples Slovakia
Slovenia	YHD Association for the theory and culture of handicap
Solomon Islands	People With Disabilities Solomon Islands (PWDSI)
Somalia	Somali Disability Empowerment Network
South Africa	Disabled People South Africa (DPSA)
Spain	Confederacion Coordinadora Estatal de Minusvalidos Fisicos De Espana (COCEMFE)
Sri Lanka	Sri Lanka Confederation of Organizations of the Handicapped People
St. Kitts and Nevis	St. Kitts Nevis Association of Disabled Persons

St. Lucia	National Council of and for Persons with Disabilities (NCPD)
St. Vincent and the Grenadines	National Society of Persons with Disabilities (NSPD)
Sudan	Sudan Union for PwD
Swaziland	Federation of the Disabled in Swaziland FODSWA
Sweden	Independent Living Institute (ILI)
Taiwan	Eden Social Welfare Foundation
Tanzania	SHIVYAWATA (Tanzania Federation of Persons with Disabilities
Tchad	Union des Association des Personnes Handicapées du Tchad
Thailand	Disabilities Thailand association (DTH)
Togo	Fédération Togolaise des Associations de Personnes Handicapées
Trinidad and Tobago	Trinidad and Tobago Chapter of Disabled People's International (TT/DPI)
Turkey	The Turkish Disability Education and Solidarity Foundation (ÖZEV)
Uganda	National Union Of Disabled Persons Of Uganda (NUDIPU)
Ukraine	National Assembly of People with Disabilities in Ukraine NAPD

United Kingdom	United Kingdoms Disabled Peoples Council (UKDPC) Motivation UK
United States	United States International Council on Disabilities (USICD) Access Exchange International (AEI) Inter-American Institute on Disability (IiDi) Mobility International USA The American Association of People with Disabilities (AAPD)
Vanuatu	Disability Promotion & Advocacy Association(DPA Vanuatu)
Yemen	Yemeni Forum for People with Disabilities
Zambia	Zambia Federation Of the Disabled ZAFOD
Zimbabwe	Federation of Organisations of Disabled People in Zimbabwe FODPEZ

Global advocacy

1	Disabled Peoples International
2	Humanity & Inclusion
3	Rehabilitation International
4	Global Alliance on Accessible Technologies and Environments

Appendix D: Design and delivery guides

Appendix B: Design and delivery guides

Access to transport for disabled people

Author/s: Louise Butcher, House of Commons

Language: English

Year: 2018

Link: https://researchbriefings.files.parliament.uk/documents/SN00601/SN00601.pdf

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Accessible bus stop design guidance

Author/s: Transport for London

Language: English

Year: 2017

Link: https://content.tfl.gov.uk/bus-stop-design-guidance.pdf

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Addressing transport safety and accessibility for people with a disability in developing countries: a formative evaluation of the Journey Access Tool in Cambodia

Author/s: Julie A. King, Mark J. King, Niki Edwards, Sara A. Hair, Sarim Cheang, Anita Pearson & Sophie Coelho

Language: English

Year: 2018

Link: https://eprints.qut.edu.au/122932/1/122932.pdf

Bridging the Gap: Your role in transporting children with disabilities to school in developing countries

Author/s: Access Exchange International (AEI)

Language: English

Year: 2017

Link: https://www.globalride-sf.org/TransportingChildren/GuideToSchool.pdf

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Conduct an accessibility audit in low and middle income countries

Author/s: Handicap International

Language: English

Year: 2014

Link: https://asksource.info/sites/default/files/accessibilityaudit_pg13.pdf

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Design Standards for Accessible Railway Stations

Author/s: Department for Transport

Language: English

Year: 2015

Link:https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918425/design-standards-accessible-stations.pdf

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Disability at a Glance 2019: Investing in Accessibility in Asia and the Pacific — Strategic Approaches to Achieving Disability-inclusive Sustainable Development

Author/s: Economic and Social Commission for Asia and the Pacific (ESCAP)

Language: English

Year: 2019

Link: https://www.unescap.org/sites/default/d8files/knowledge-products/SDD-DAG-2019.pdf

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Disability Hate Crime on Public Transport

Author/s: Communities Inc

Language: English

Year: 2019

Link: https://communitiesinc.org.uk/2020/04/15/dialogue-debriefs-2/

Doing Transport Differently How to access public transport – a guide for everyone with lived experience of disability or health conditions

Author/s: Royal Association for Disability Rights (RADAR)

Language: English

Year: 2011

Link: http://accessinlondon.org/wordpress/wp-content/uploads/Doing-Transport-Differently-RADAR.pdf

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Footpath Design: A guide to creating footpaths that are safe, comfortable, and easy to use

Author/s: Institute for transportation & development policy

Language: English

Year: 2013

Link: https://www.itdp.in/wp-content/uploads/2014/04/05.-Footpath-Design_Handout.pdf

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Guidelines for public transport infrastructure and facilities

Author/s: New Zealand Transport Agency

Language: English

Year: 2014

Link: https://nzta.govt.nz/assets/consultation/guidelines-for-public-transport-infrastructure/docs/guidelines-pt-infrastructure-draft.pdf

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Good Practices of accessible urban development

Author/s: United Nations

Language: English

Year: 2016

Link:https://www.un.org/disabilities/documents/desa/good_practices_in_accessible_urban_development_october2016.pdf

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A guide to inclusive cycling

Author/s: Wheels for Wellbeing

Language: English

Year: 2020

Link: https://wheelsforwellbeing.org.uk/wp-content/uploads/2020/12/FC_WfW-Inclusive-Guide_FINAL_V03.pdf

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Guidelines for pedestrian facilities

Author/s: Indian Roads Congress

Language: English

Year: 2012

Link: https://law.resource.org/pub/in/bis/irc/irc.gov.in.103.2012.pdf

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Nueva Guía Básica de Derechos de Accesibilidad para personas con Discapacidad

Author/s: Defensoría del Pueblo de la Ciudad de Buenos Aires

Language: Spanish

Year: Unknown

Link: https://en.calameo.com/read/002682399da970f53e96f?page=1

The Inclusion Imperative: Towards Disability-inclusive and Accessible Urban Development

Author/s: Disability Inclusive and Accessible Urban Development Network

Language: English

Year: 2016

Link: https://www.cbm.org/fileadmin/user_upload/Publications/The-Inclusion-Imperative-Towards-Disability-Inclusive-and-Accessible-Urb....pdf

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Inclusive mobility: a guide to best practice on access to pedestrian and transport infrastructure

Author/s: Department for Transport

Language: English

Year: 2021

Link: https://www.gov.uk/government/publications/inclusive-mobility-making-transport-accessible-for-passengers-and-pedestrians

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Improving accessibility in transport: infrastructure projects in the Pacific Islands

Author/s: Pacific Region Infrastructure Facility

Language: English

Year: Unknown

Link:https://www.theprif.org/sites/default/files/documents/prif_transport_report_web.pdf

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Improving Accessibility to Transport for People with Limited Mobility (PLM)

Author/s: World Bank

Language: English

Year: 2013

Link:https://openknowledge.worldbank.org/bitstream/handle/10986/17592/Accessibility0Report0Final.pdf?sequence=1&isAllowed=y

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Lo Urbano y lo Humano. Hábitat y Discapacidad

Author/s: Silvia Aurora Coriat

Language: Spanish

Year: 2003

Link:http://www.rumbos.org.ar/sites/default/files/LO%20URBANO%20Y%20LO%20HUMANO-low.pdf

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Manual de Accesibilidad Universal

Author/s: Corporación Ciudad Accesible Boudeguer & Squella ARQ

Language: Spanish

Year: 2003

Link: https://www.ciudadaccesible.cl/wp-content/uploads/2012/06/manual_accesibilidad_universal1.pdf

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Making access happen: Promoting and planning transport for all A guide for advocates and planners

Author/s: Access Exchange International (AEI)

Language: English, Spanish

Year: 2002

Link: https://www.independentliving.org/mobility/rickert200302.pdf

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Mobility for all: Accessible Transportation Around the World

Author/s: Access Exchange International (AEI)

Language: English

Year: 2002

Link: https://www.independentliving.org/mobility/mobility.pdf

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Paratransit for mobility-impaired persons in developing regions: Starting up and scaling up

Author/s: Access Exchange International (AEI)

Language: English/Spanish

Year: 2012

Link: https://www.globalride-sf.org/paratransit/Guide.pdf

A Review of International Best Practice in Accessible Public Transportation for Persons with Disabilities

Author/s: United Nations

Year: 2010

Link:https://g3ict.org/publication/review-of-international-best-practices-in-accessible-public-transportation-for-persons-with-disabilities

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Roads for all: Good practice guide for roads

Author/s: Transport Scotland

Language: English

Year: 2019

Link:https://www.transport.gov.scot/media/43830/roads-for-all-good-practice-guide-for-roads-july-2013.pdf

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Safe and accessible public transport for all

Author/s: International Association of Public Transport (UITP)

Language: English

Year: 2019

Link: https://hi.org/sn_uploads/document/190518-sdgs_uitpHI_REPORT_LRes.pdf

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Guidance on the use of tactile paving surfaces

Author/s: Department for Transport

Language: English

Year: 2021

Link:https://www.gov.uk/government/publications/inclusive-mobility-using-tactile-paving-surfaces

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Urban Street Design Guidelines Pune

Author/s: Pune Municipal Corporation / ITDP

Language: English

Year: 2016

Link:https://www.itdp.in/wp-content/uploads/2016/07/Urban-street-design-guide-lines.pdf

Appendix E: Further Research Papers and case studies

Appendix C: Further Research Papers and case studies

Access to urban transportation system for individuals with disabilities

Author/s: N.N. Sze, Keith M. Christensen

Year: 2017

Link:https://ira.lib.polyu.edu.hk/bitstream/10397/80048/1/Sze_Urban_Transportation_System.pdf

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Challenges and Successes in the Application of Universal Access. Principles in the Development of Bus Rapid Transport Systems in South Africa

Author/s: Thompson, P

Year: 2008

Link: https://www.mdpi.com/2071-1050/12/2/589/pdf

Diseño inclusivo y diseño universal

Author/s: Silvia Coriat

Year: 2011

Link:http://www.rumbos.org.ar/sites/default/files/D.%20inclusivo%20y%20d.%20universal.%20Coriat.%202011.pdf

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EDF report on the situation of passengers with disabilities 2015

Author/s: European Disability Forum (EDF)

Year: 2015

Link:https://view.officeapps.live.com/op/view.aspx?src=http%3A%2F%2Fold.edf-feph.org%2Fsites%2Fdefault%2Ffiles%2Fedf_report_passenger_rights_2015_0.doc&wdOrigin=BROWSELINK

Empowering People with Disabilities Using Urban Public Transport

Author/s: J.Schlingensiepen, E.Naroska, T.Bolten, O.Christen, S.Schmitz, C.Ressel

Year: 2015

Link: https://www.sciencedirect.com/science/article/pii/S2351978915003832/pdf?md5=01238e8516dc9b63e24882ca8485d908&pid=1-s2.0-S2351978915003832-main.pdf

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Enhanced accessibility for people with disabilities living in urban areas

Author/s: Venter C J, Savill T, Rickert T, Bogopane H, Venkatesh A, Camba J, Mulikita N, Stone J and Maunder D

Year: 2002

Link:https://ecommons.cornell.edu/bitstream/handle/1813/76514/Enhanced_Accessibility_for_people.pdf?sequence=1&isAllowed=y

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Evaluating a GPS-Based Transportation Device to Support Independent Bus Travel by People with Intellectual Disability

Author/s: Daniel K. Davies; Steven E. Stock; Shane Holloway; Michael L. Wehmeyer

Year: 2010

Link: https://meridian.allenpress.com/idd/article/48/6/454/1506/Evaluating-a-GPS-Based-Transportation-Device-to

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Improving access to transport in developing countries

Author/s: Savill T, Stone J, Venter C J and Maunder D

Year: 2003

Link:https://www.researchgate.net/publication/30509347_Improving_access_to_transport_in_developing_countries

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Improving accessibility for people with disabilities in urban areas

Author/s: Venter C J, Bogopane H, Rickert T, Camba J, Venkatesh A, Mulikita N, Maunder D and Savill T

Year: 2002

Link: https://www.ucl.ac.uk/dpu-projects/drivers_urb_change/urb_infrastructure/pdf_transport/DFID_Venter_%20accessibility_disabilities.pdf

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Improving transport access and mobility for people with disabilities

Author/s: Maunder D, Venter C J, Rickert T and Sentinella J

Year: 2004

Link: http://transport-links.com/wp-content/uploads/2019/11/1_833_PA4061-04.pdf

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Independent-Mobility Rights and the State of Public Transport Accessibility for Disabled People: Evidence From Southern Punjab in Pakistan

Author/s: Mahtab Ahmad

Year: 2013

Link: https://www.researchgate.net/publication/272369938_Independent-Mobility_Rights_and_the_State_of_Public_Transport_Accessibility_for_Disabled_People_Evidence_From_Southern_Punjab_in_Pakistan

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Learning with Older People about their transport and mobility problems in rural Tanzania: focus on improving access to health services and livelihoods

Author/s: HelpAge International

Year: 2012

Link:https://assets.publishing.service.gov.uk/media/57a08aa440f0b649740006d2/AFCAP-GEN-rural-tanzania-Final-Report.pdf

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Measures of Transport-Related Social Exclusion: A Critical Review of the Literature

Author/s: Md. Kamruzzaman, Tan Yigitcanlar, Jay Yang and Mohd Afzan Mohamed

Year: 2016

Link:https://pdfs.semanticscholar.org/0233/722d579bb481017756068f490d-63b642e34b.pdf

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Practical solutions for transport access of urban residents with disabilities

Author/s: Venter C J, Maunder D, Stone J, Venkatesh A, deDeus K and Munthali D.

Year: 2004

Link: https://www.semanticscholar.org/paper/Practical-solutions-for-transport-access-of-urban-Venter/1b755c955e9dd95894f03371f8cbef31b78605a7#paper-header

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Public transport and people with disabilities the experiences of non-users

Author/s: Oksenhalt K., Aarhaug J.

Year: 2016

Link: http://universaldesignaustralia.net.au/wp-content/uploads/2017/02/public-transport-and-people-with-disabilities.pdf

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Saskatoon Bus Rapid Transit Accessibility

Author/s: Saskatoon City Council

Year: 2018

Link: https://pub-saskatoon.escribemeetings.com/filestream.ashx?DocumentId=66125

The taxi industry and transportation for people with disabilities: implications for universal access in a metropolitan municipality

Author/s: Lister H, Dunpath R.

Year: 2016

Link:https://www.researchgate.net/publication/303953057_The_taxi_industry_and_transportation_for_people_with_disabilities_implications_for_universal_access_in_a_metropolitan_municipality/link/5c90d42445851564fae71677/download

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Transport and Access to Inclusive Education in Mashonaland West Province, Zimbabwe

Author/s: Maria Kett, Marcella Deluca

Year: 2016

Link: https://www.cogitatiopress.com/socialinclusion/article/download/502/502

Transport Policy and Social Inclusion

Author/s: Ricci M., Pankhurst G.

Year: 2016

Link: https://www.cogitatiopress.com/socialinclusion/article/view/668/668

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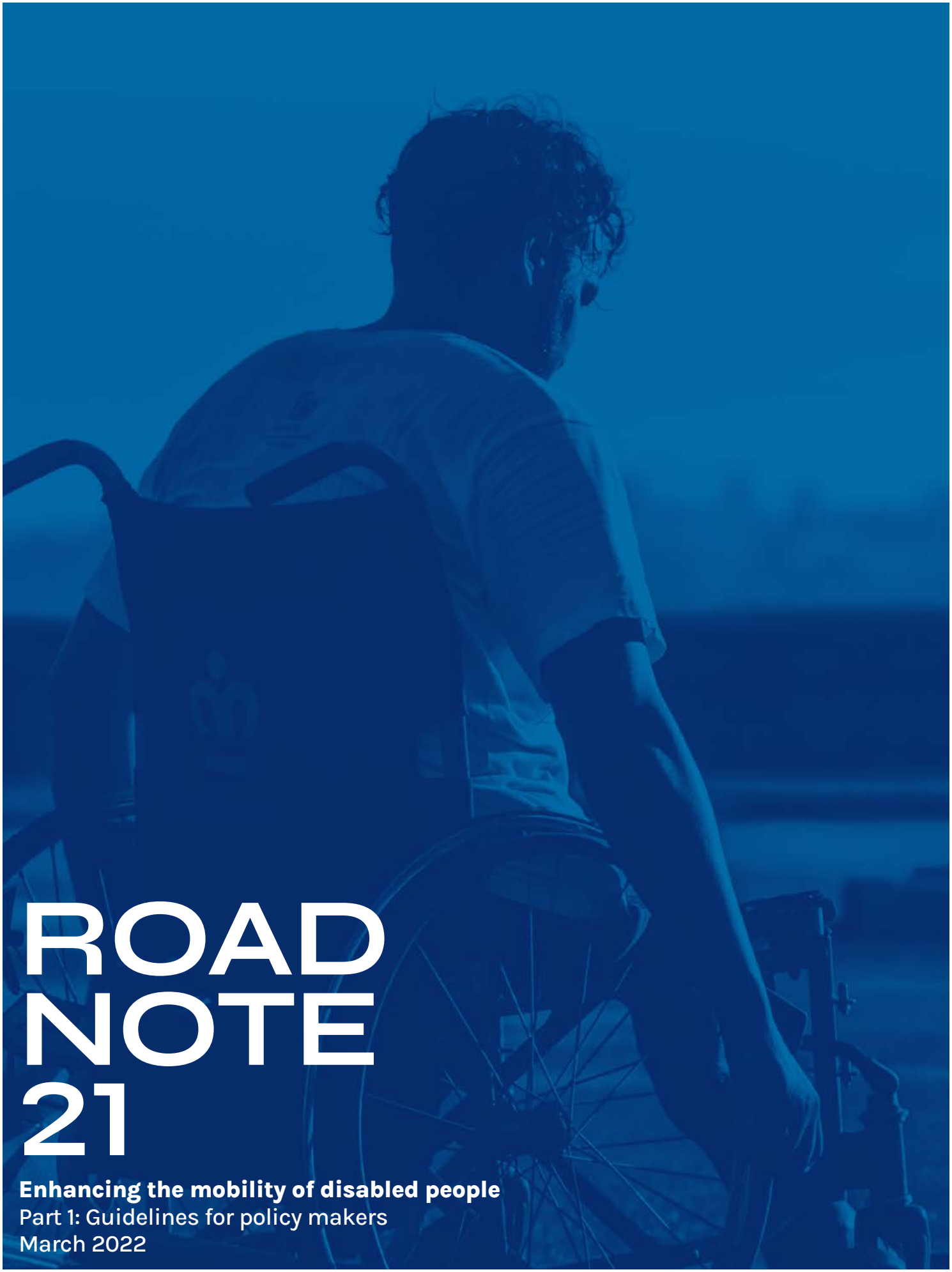

ROAD NOTE 21

Enhancing the mobility of disabled people

Part 1: Guidelines for policy makers

March 2022

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HIGH VOLUME TRANSPORT
APPLIED RESEARCH

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