



National Institute of Urban Affairs



UK Government

Compendium of GLOBAL GOOD PRACTICES

Towards Building Accessible, Safe and Inclusive Indian Cities

May 2020





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Compendium of **GLOBAL GOOD PRACTICES**

Towards Building Accessible, Safe and Inclusive Indian Cities

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SPECIAL NOTE



Disability is both a cause and consequence of poverty. Only by achieving the rights and needs of people with disabilities can the poverty faced by people in urban areas be eliminated.

It is estimated that there are approximately one billion people with disabilities globally – approximately 15 percent of the world's population. An estimated 80% of people with disabilities live in developing countries and one in five of the world's poorest people have a disability. The number is likely to increase in the future as population's age and chronic conditions that lead to impairment and disability become more prevalent.

Disability limits access to education and employment, and leads to economic and social exclusion. Poor people with disabilities are caught in a vicious cycle of poverty and disability, each being both a cause and a consequence of the other. A large proportion of disability is preventable. Achieving the international development targets for economic, social and human development will undoubtedly reduce the levels of disability in many poor countries. However, general improvements in living conditions will not be enough. Specific steps are still required, not only for prevention, but also to ensure that people with disabilities are able to participate fully in the development process, obtain a fair share of the benefits, and claim their rights as full and equal members of society.

Inclusive growth is necessary for sustainable development and equitable distribution of wealth and prosperity. Economic growth in India has to be inclusive in order to make its sustainable. If policies that bring about economic growth do not benefit the people in a wide and inclusive manner, they will not be sustainable. Equally, inclusive growth is essential to grow the market size, which alone will sustain growth momentum and also will help build supply side with competitive cost. Above all, inclusive growth is the only just and equitable way that any society can grow.

UK government has had a long and withstanding commitment with India towards supporting the country towards its mission and vision for making urban India more safe and inclusive for all. Through FCDO we strive to help Ministry of Housing and Urban Affairs and NIUA in their efforts to build a more robust framework for making our cities Inclusive through the BASIIC programme.

We are glad to support the work done under the Compendium of global good practices towards Building Accessible, Safe and Inclusive Indian Cities towards collating global practices in order to enhancing the learning curve of urban professionals and officials in Indian Cities in order to further enable development and scaling of these initiatives within the Indian context.

While the disability mainstreaming process has only started, it is hoped that the compendium helps bring forth more detailed planning solutions, stronger disability expertise and faster implementation processes to achieve its mainstreaming ambition.

Representative

Foreign, Commonwealth and Development Office (FCDO) of the UK Government





FOREWORD



India's rapid urbanisation brings with it huge opportunities for growth and leadership, but also challenges the country to design a high quality of life for around three crore 'disabled' persons, which amounts to 2.21% of the total population. With an estimate of around 25% of India's population needing universal accessibility in order to live independently and with dignity, there is a clear need to emphasise an 'accessible and inclusive component' as the right path for achieving sustainable development.

Urban environments, infrastructures, facilities and services can impede or enable the population, perpetuating exclusion or fostering participation and inclusion of all members of society, persons with disabilities face widespread lack of accessibility to built environments, from roads and housing, to public buildings and spaces, and from basic urban services such as healthcare, education, transportation, to emergency responses and resilience programmes.

Barriers to information and communications, including relevant technologies and cultural attitudes such as negative stereotyping and stigma also contribute to the exclusion and marginalisation of persons with disabilities in urban environments.

BASIIC Programme at NIUA endeavours to promulgate the tenets of accessibility, inclusivity and safety in the ethos of urban planning and design. The programme has been designed to achieve these goals through focused policy level interventions, pilot demonstrations of innovative solutions, capacity building and sustaining the above through application of a robust monitoring and evaluation mechanism.

This Compendium of Global Good Practices towards Building Accessible, Safe and Inclusive Indian Cities serves as a ready reference for city agencies and other stakeholders to take lessons from global good practices and adapt some of these to improve the everyday lives of persons with Disabilities living in urban areas. Proactive urban experiments such as those documented through the study can help cities promote everyday freedoms and choices of persons with Disabilities, linking them safely and directly to their local geography and facilitating their mobility.

I congratulate the Building Accessible, Safe and Inclusive Indian Cities programme and entire team for bringing together these innovative cases of learning from across the globe. I hope that these inspire positive and impactful changes in Indian cities, and in the process, cultivate a unique identity for the city and foster a sense of belonging in its residents.

Hitesh Vaidya

Director





PREFACE



Urban living can be very challenging in itself and this is particularly more so for those with disabilities. Persons with disabilities generally have poorer health, lower education achievements, fewer economic opportunities and higher rates of poverty. This is largely due to the barriers they face in their everyday lives, rather than their disabilities. Creating safe and secure urban spaces is a core concern for city managers, urban planners and policy workers. Despite this acknowledgement, there is very little in the literature of planning cities and spaces that concerns disabled people beyond the design guidelines themselves. There is much less or no information regarding access to basic services for persons with disabilities and, in general, the disability-specific everyday needs within the urban environment.

Thinking about safety in urban planning and policy is more complex than merely responding to specific situations. Providing a wheelchair ramp into a building, or better lighting, may indeed assist in creating a more welcoming and safer situation. But it is equally important that urban safety strategies respond to issues of inclusion and justice, by addressing the attitudes which can exclude disabled people from the spaces of their local communities.

This compendium of global good practices intends to develop the available empirical evidence and knowledge base on sensitisation, active participation and involvement of various stakeholders in urban areas from across the globe. The findings can then be used by BASIIC programme and various partners and stakeholders to inform the development of urban planning programmes and building capacities of urban local bodies.

The good practices have been collated from a variety of sources, including recommendations from the community of stakeholders working towards our common goal of making the world a better place for Persons with Disability, as well as readings, references from the internet, and other leads provided by professionals and scholars working in the fields of urban planning and design.

We hope that readers of this compendium will find it a vital resource book on innovative practices and approaches undertaken at national and city level in different countries. By documenting the learning from the international arena and examining planning policies and design practices that actively engage Persons with Disabilities in the decision-making processes of a city, the compendium intends to contribute to an inclusive approach in planning of cities. The compendium shares these learnings and experiences by presenting key findings on how cities can take forward these initiatives towards achieving the sustainable goal of building happier, healthier, safe, accessible and inclusive cities for all.

We are thankful to Department of International Development (DFID) of the UK Government for supporting this study. The research was conducted by Divya Jindal. BASIIC team is thankful to Razia Grover for her painstaking editing of the text.

A. Nanda Kishore

Programme Coordinator

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Project Associate

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2

Introduction

CHAPTER 1

Introduction

1.1 Urbanisation and the Need for Accessible, Safe and Inclusive Urban Development

Global Perspective

Urban areas are catalysts for growth and development of individuals and communities as a whole. No longer can they be conceived as architectonic entities standing apart from their context, culture, diversity and most importantly their people. Urbanisation being an imperative force, is shaping not only the way we live in cities but also what we understand of them. Within this paradigm shift, it is critical to construct and deconstruct new ideas and to look at cities from the perspective of their people as places that are accessible, safe, inclusive and equitable.

rights of persons with disabilities. As detailed under CRPD, persons with disability are:

'... those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.' (Article 1, CRPD)²

The convention document categorically, moves the concept of disability away from the traditional individual, medical-based perspective characterised by a focus on physical deficits (impairments), to one that encompasses the attitudinal, environmental and institutional barriers that limit or exclude people with impairments from participation. The human rights approach to disability promotes the understanding that people with disabilities have the right to participate in all aspects of society as equal and active members, but may require adaptations to be made to ensure accessibility and inclusion.

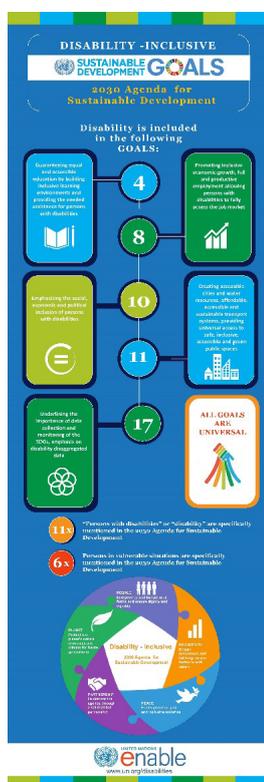
Global awareness of disability-inclusive development has increased over the years with an active recognition and contribution of the CRPD guidelines and the active acknowledgement of persons with disabilities within SDGs. Not only do the SDGs pledge and promote 'Leave no one behind' as their key motto, but the global goals 4, 8, 10, 11 and 17 have categorically included the disability related aspects within their agenda.

Urbanisation and its Impact on persons with disabilities

Global efforts have created a better understanding regarding the fact that persons with disabilities are more likely to experience adverse socio-economic outcomes due to factors such as less education, poorer health, lower levels of employment, and higher poverty rates. Barriers

One billion people, accounting for almost 15% of the world's population, experience some form of disability, and disability prevalence is particularly high for developing countries, primarily due to poverty and lack of social safety nets. These countries also experience a high prevalence of social stigma attached to disability. One-fifth of the estimated global total, or between 110 and 190 million people experience significant disabilities.¹¹

The United Nations Convention on the Rights of persons with Disabilities (CRPD) promotes the full inclusion of persons with disabilities in societies. The CRPD specifically references the importance of international development in addressing the



¹¹World Bank Report on Disability, 2011

²https://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf

to full social and economic inclusion of persons with disabilities include inaccessible physical environments and transportation, the unavailability of assistive devices and technologies, non-adapted means of communication, gaps in service delivery, and discriminatory prejudices, stigma in society, and lack of representation at various levels.

While on one hand, disability may increase the risk of poverty, through lack of employment and education opportunities, lower wages and increased cost of living due to a disability, and poverty itself also increases the risk of disability through malnutrition, inadequate access to education and health care, unsafe working conditions, a polluted environment, and lack of access to safe water and sanitation.

However, collective efforts from global organisations have helped decision makers, urban policy makers and planners and other stakeholders take responsibility for understanding what barriers exist for people with disabilities and to implement measures to address them.

Cities globally are taking great steps to include people with disabilities into mainstream jobs through interactive apps, better designed transit systems, all-accessible activity centres, and monitoring and evaluation mechanisms that are actually evaluated by persons with disabilities themselves. Interventions made both at the policy and design levels with active participation of stakeholders, vulnerable groups and a fair understanding of the challenges faced by people have been a key towards making these big changes. Efforts like these have made cities like Seattle in USA and Breda in the Netherlands, for example, not only more inclusive and safer but have also helped them gain in the tourism market, have better jobs prospects and in return resulted in better city revenues. The efforts reflect on the role of change makers, role models, and city managers that have shown commitment and perseverance towards achieving these goals and have promoted healthier lives for all citizens. They have shown an increase in economic growth of such cities through increased productivity, well-being of citizens, reduced social stigma and reduced welfare burden.³

1.2 Existing Scenario in Indian context

India is home to nearly 2.7 crore persons with disabilities, that is 2.21% of the total population.⁵ The country particularly lacks data on disabilities and therefore, there is a necessity for strengthening disability statistics. It is estimated that around 25% of India's population needs universal accessibility in order to live independently and

There is a better realisation globally that efforts such as expanding the workforce to include persons with disabilities also expands the potential tax base, that investments in persons with disabilities are also of economic importance at the household level and are enabling such persons to access education and employment, in turn helping them to contribute to household incomes.⁴

Globally it is being better understood that all people should be able to participate in all aspects of life within an urban environment without limitations: social, cultural, economic, touristic, and more. Cities are stronger which offer these possibilities, and to achieve this, they will have to come forth and play a more positive role and become the new age urban laboratories, where through active engagement, participation, inclusion and experimentation localised solutions can promote an inclusive urban form.

Bridging the Knowledge Gap

To realise a bridging of the knowledge gap, proactive urban experiments and discourses need to be conducted at various scales of policy frameworks and legislation, which promote the enforcement of regulations, mapping of disaggregated data, better designed financial mechanisms and monitoring and evaluation of instruments of enforcement, and most importantly, represent and include persons with disabilities at all levels and stages. However, this is a long drawn out process, and the work still requires better learning at all levels of newer and interactive mechanisms, regular campaigning and outreach towards inclusion through incorporating universal design principles, and active social interventions for de-stigmatisation of disability.

Hence, it is critical that we share and learn proactively about these challenges and ways to overcome them from our global counterparts and find better and faster ways to address and take active steps in the direction of citizen engagement. It is also important to have a better understanding of cultural constructs and ways to address social stigma in order to develop innovative and interactive ways to include persons with disabilities at all levels within this discourse.

with dignity. persons with disabilities generally have poorer health, lower education achievements, fewer economic opportunities and higher rates of poverty. This is due to the barriers they face in their everyday lives, rather than their disabilities.

³Buckup S. "The price of exclusion: The economic consequences of excluding people with disabilities from the world of work", *Employment Working Paper No. 43, (2009), International Labor Organization.*

⁴International Labour Organization, "Inclusion of people with disabilities in national employment policies, 2015.

⁵"Disabled persons in India: A statistical profile, 2016", *Social Statistics Division, Ministry of Statistics and Programme Implementation, Government of India.*

The Indian government was one of the first to abide by the landmark legislation set by the UN Convention on the Rights of persons with disabilities (UNCRPD), thus promoting their rights to full participation in Indian society, leading to evident progress in areas concerning disability.⁶ However, the policy commitments of governments in a number of areas remain largely unfulfilled. To some extent, this is inevitable, given the existing limited institutional capacity and deep-rooted societal attitudes towards persons with disabilities in India. Even with years of addressing disability through technology design and advocating user-centred design practices, popular mainstream technologies remain largely inaccessible for people with disabilities.

The current ongoing urban missions (Smart Cities Mission, Amrut Mission, PMAY and Accessible India Campaign) among other government programmes in India have played an imperative role in empowering and sensitising policy makers and city managers and also in managing to address some of these issues. They have also empowered city agencies to start looking for innovative ways of governance and interactive and technology empowered city plans towards better management and social inclusion. With good examples of cities such as Bhubaneswar looking at the city from the perspective of children and focusing on interventions ensuring overall development and health of its children, and Visakhapatnam, providing for an all-abilities park, these are impactful and innovative steps in the right direction. These efforts highlight both city level commitment, vision, and active efforts to make necessary transitions within the current urban fabric.

There is still a long way to go in better understanding and actionable translation of the current policy level interventions and programmes as to how they are actually impacting the everyday concerns and lives of citizens and further addressing aspects of accessibility, safety and inclusion. Given the pace at which urbanisation is taking place and the pressures of living in urban areas, the way the policies are framed and implemented and how inclusive they are towards all citizens, will be key towards ensuring that cities function in ways that they are able to cater to a large part of their population.

This acknowledgement is central to understanding that disability is a legitimate area in which planners and urban designers are to be involved. There is nothing in the existing planning literature that addresses persons with disabilities beyond the design guidelines. There is little information regarding access to basic services for persons with disabilities or their general disability-specific everyday needs within an urban environment, leaving

aside discussion on aspects of behavioural, attitudinal, informational and other physical barriers. Moreover, data does not allow a comprehensive analysis of supply and quality of services available to persons with disabilities, and the extent to which their lives are affected as a result. In addition to limited or no space for participation for persons with disabilities to voice their opinions and contribute to society, there are dated design guidelines for open areas, street design and public places. Moreover, there are no comprehensive monitoring and evaluation mechanisms and this has led to a rising gap within the policy framework which is reflected in the way cities are unable to function and respond to all their citizens.

There is a lot of pressure and expectation from planners and designers to make accessible and inclusive spaces. But there is very little effort being made on sensitising them on what needs to be done to achieve that.

There is a need to highlight the need for action at not only policy and design level but also to work actively with designers and planners so that they understand the needs of persons with disabilities, children, the elderly and women in a better way and within the present urban contexts. Perception affects inclusion just as much as a lack of physical access does. Ramps and automatic doorways mean little unless paired with social confidence, a welcoming atmosphere and the desire to treat a disabled customer in the same manner as his/her non-disabled peers.

This compendium of global good practices from various parts of the world and cities across India intends to open up the discourse and contribute to the development of more appropriate policies, interventions and design solutions that can reduce the risks that persons with disabilities face. The study also aims to highlight that inclusive interventions can be accomplished at various stages of a programme lifecycle, not just at the inception stage, but also at strategy, planning, procurement, construction, and so on. This aspect is aimed at promoting the commitment and vision of city agencies to take on the challenges proactively. Further, as all the study cases operate within political, financial and economic systems at various scales – municipal, urban, national and global – the compendium aims to highlight priority areas for action within their respective policies, planning and design frameworks. The compendium plans to develop empirical evidence and a knowledge base on sensitisation, active participation and involvement of various stakeholders in urban areas, which BASIIC project can use to inform the development of urban planning programmes and building capacities of urban local bodies.

⁶United Nations Convention on the Rights of Persons with Disabilities, December 2006.
https://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf

1.3 Background of BASIIC Programme

National Institute of Urban Affairs (NIUA) in collaboration with Ministry of Housing and Urban Affairs (MoHUA), India, and with support from the Department for International Development (DFID) of the UK government is implementing the project "Building Accessible, Safe & Inclusive Indian Cities (BASIIC)" through a Technical Assistance Support Unit (TASU) established at NIUA. The principal goal of BASIIC programme is to build the capacities of Indian cities to be sensitive and responsive to the needs of people with disabilities. The project aims to homogenise the definitions and concepts associated with persons with disabilities in India and to holistically build the capacity of practitioners to plan and implement on the basis of universal design and inclusiveness.

The project also intends to actively work to gather the key stakeholders working on disabilities on a common platform and demonstrate innovative solutions— technologies, programmes and service delivery models in the realm of universal access.

1.3.1 The key objectives of the programme are:

- Consolidation of definitions, concepts, policies, provisions, and practice with regard to persons with disabilities in India.
- Mapping the major areas of opportunity in implementation of policies and provisions at city level and implementing replicable solutions for making cities more accessible and inclusive for persons with disabilities.
- Developing a monitoring and evaluation framework for pilot cities to assess and improve their standards

of universal access and inclusivity. The framework will be developed to be replicable for other Indian cities to implement.

1.3.2 Intended outcomes of the programme are:

The project will work towards achieving the following outcomes and assist the national, state and city level governments in achieving aligned goals:

- Easing the understanding of policies and provisions for persons with disabilities for relevant stakeholders/practitioners at different levels.
- Developing a comprehensive repository of contextual challenges, possible solutions, toolkits and experts in matters pertaining to persons with disabilities in urban India.
- Developing collaborative engagement and operating models with key stakeholders (such as municipalities), which can help sustain the above solutions. (Quadruple Helix model)
- Capacity building and dissemination of knowledge with respect to persons with disabilities among key stakeholders.

The efforts under BASIIC will support Government of India programmes in the pilot cities and try to propagate the results. It is envisaged that the learnings of the project will be useful in developing programmes and policy recommendations at the national level. In convergence with the Smart Cities Mission programme and Accessible India Campaign, the project will allow Indian cities to secure benefits through its institutional capacity building, design challenge and pilot demonstration efforts.



Rationale and Objective of the study

CHAPTER 2

Rationale and Objective of the study

2.1 Aims & Objectives for Developing the Compendium of Global Good Practices

The compendium intends to develop empirical evidence and a knowledge base on active participation and involvement of persons with disabilities in urban areas, which the BASIIC programme and its active partners and cities can use to inform the development of urban planning programmes which will support building capacities of urban local bodies.

The Compendium of Global Good Practices under the programme aims at:

- Building on the ample evidence from various examples across the world, so that if persons with disabilities, the elderly and children are actively informed and involved in responding to the challenges in the urban environment they are a part of, they will yield benefits not only for their own learning and development, but also add to the energy, resourcefulness and knowledge that they can bring towards the local issues.
- Understanding better the need for engaging with persons with disabilities in the decision-making process in cities through various initiatives at multiple levels. Recognising that persons with disabilities living in urban areas are at risk on various fronts due to inadequate support, information resources and lack of social protection is crucial. These aspects put such persons at added risk in vulnerable conditions as well as obstruct their basic rights to a dignified life.
- Addressing clearly the need for community-based organisations, urban local bodies (ULBs) and other public and private sector organisations that work with persons with disabilities—and are focused on urban development.
- Strengthening the effectiveness of programming and making cities more safe, accessible and inclusive for persons with disabilities.
- Highlighting how organisations at the local level can play a better role in shaping and effectively implementing initiatives in urban areas that have a direct and lasting impact on the everyday lives of persons with disabilities, the elderly and children

Objective of the study:

- To enable ULBs, civic bodies and other allied government and independent organisations to engage more appropriately and effectively with persons with disabilities with actionable and translatable interventions.
- To contribute to the development of more appropriate plans and policies that reduce the risks that persons with disabilities face in urban areas.
- To complement existing knowledge on the subject and help provide empirical learning of various stakeholders at the urban and national levels for making successful programming and policy decisions.

2.2 Methodology & Framework for the Compendium

1. The Compendium of Good Practices towards building accessible, safe and inclusive cities is a secondary study and primarily based on literature and desk review.
2. The study is conducted at various scales of country level programmes and missions, city level interventions and innovative ideas that have been successful or have been influential towards bringing in change in urban areas.
3. The literature review focuses on global evidence and knowledge of methods and approaches which cities and organisations across the globe have implemented or initiated for positive outcomes on the ground towards

improving everyday lives of persons with disabilities, the elderly and other vulnerable groups.

4. A list of criteria/indicators have been developed to align the case studies better to the BASIIC programme objective.
5. The study also adds an extra layer by comparing the studies with the designed criteria and indicators. This exercise has been done to help city agencies and stakeholders to have an even better understanding of case studies with comparable indicators.

All practices mapped here in the compendium are evaluated against these pre-set criteria. The case studies may not satisfy all the criteria in every case; however, it has been intended that each practice fulfils at least two or more of the following:

- Promote accessibility in one or more urban sectors, such as built environment, public space, transportation and information on communications, including ICTs, and public services.
- Increase awareness and understanding of accessibility at the organisational, community and institutional level.
- Implement a robust monitoring and evaluation system that includes the collection of data. Practices have been result-oriented and produce a measurable change that contributes to the creation or improvement of environmental accessibility in specific sectors that impact on the quality of life of persons with disabilities.
- Be appropriately resourced in terms of financial and human resources, hence the importance for donors to emphasise accessibility and disability-inclusive matters and for NGOs to recognise these as a priority.
- Be sustainable, socially, culturally, economically (i.e. be affordable), politically and environmentally.
- Be replicable and scalable, further showing how the product and/or process can be reproduced or adapted in other countries and contexts. Replicability is assessed taking into consideration context-specificity, since it is important to recognise that some practices in one country or context are not necessarily valid or transferable to the circumstances of another.
- Involve effective partnerships that show the commitment of various organisations, which may include government, academia, media and NGOs. Inter-agency and inter-organisational efforts are emphasised with the full involvement of Disabled People's Organisations (DPOs) and local governments to assure ownership of the initiative.

To achieve the above, the practices have been divided into three main scales comprising:

- i. Country level initiatives
- ii. City level initiatives
- iii. Global urban design initiatives

In addition, the programme looks into Indian initiatives and programmes to better evaluate and learn from their practices.

In order to make the selection process simpler and faster, undertaking the key parameter as 'Quality of Life' for persons with disabilities, the elderly and children, the practices are mapped under the three key tenets of **Accessibility, Safety** and **Inclusivity**. To make the process more transparent and easier for selection of practices, the three tenets are further divided into sub-parameters.

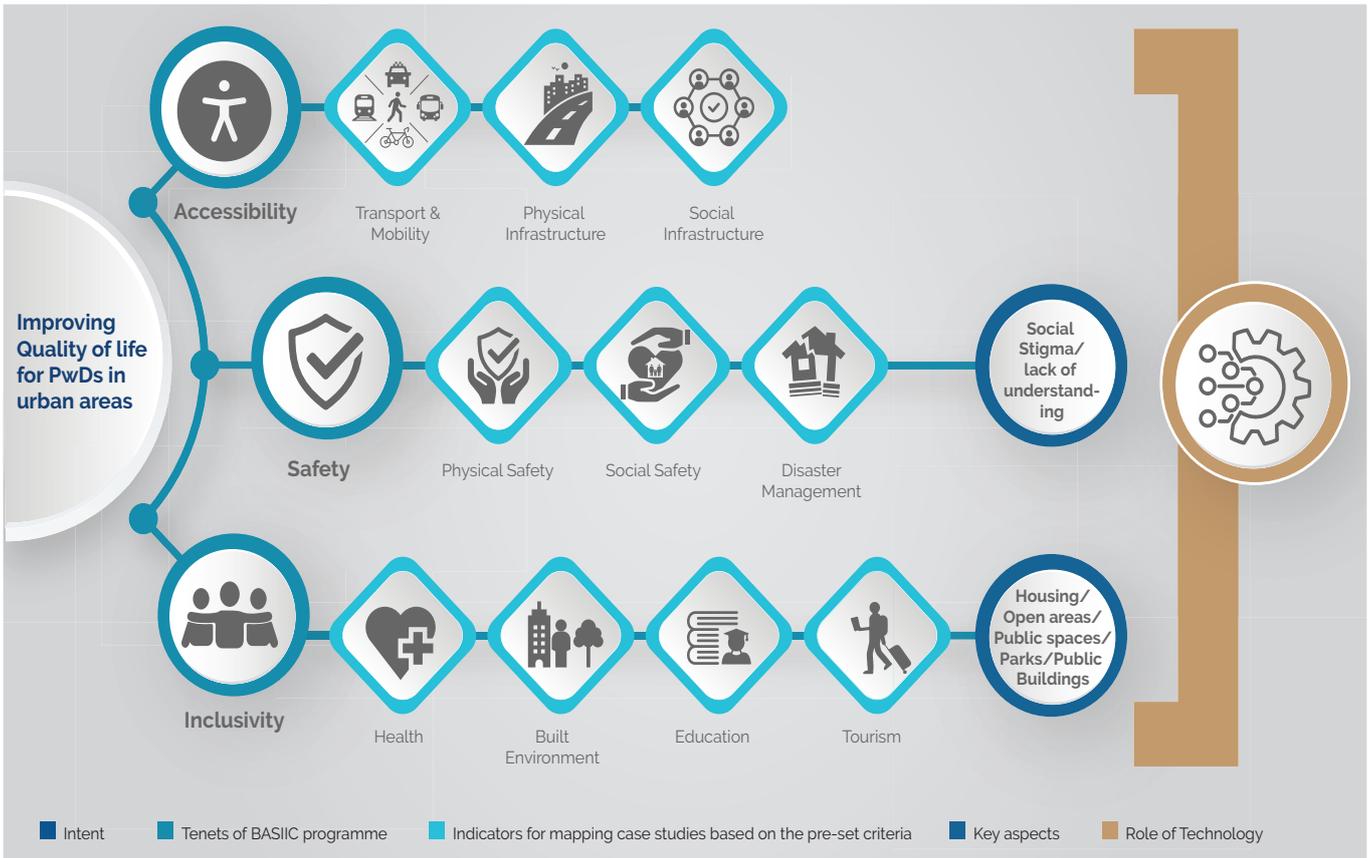
Accessibility: Accessibility is a fundamental to inclusion of persons with disability. Ensuring accessibility to basic information, facilities, services and programmes, in addition to physical infrastructure is key to a dignified life. Within the compendium study the accessibility aspects focus on accessibility to social infrastructure in addition to basic physical infrastructure facilities.

Safety: Safety is perceptive, however, some aspects of feeling safe become evident especially to persons with disabilities, the elderly and children. While physical safety is important when making a space inclusive and accessible, it is equally valuable to promote building better safety nets within a society that make people with disabilities feel more included and safe in voicing their opinion. The compendium scopes out intervention where both physical and social safety have been addressed through projects and their lasting impact on the lives of people.

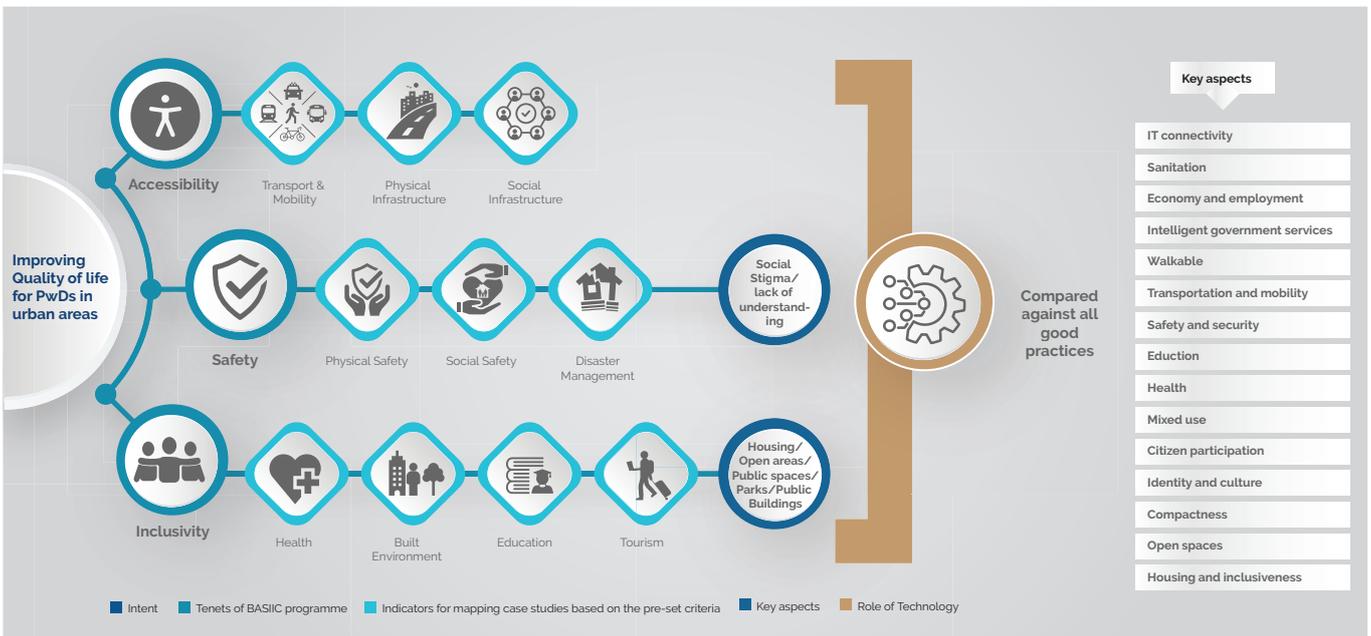
Inclusivity: Inclusivity goes beyond just mere tokenism in urban spaces. The aspect of sincerely designing inclusive spaces lies in building social safety nets, overcoming stigmas and bringing forth social and physical change through active engagement, sensitisation and project level interventions. The study of global good practices maps out some aspects within the interventions which have helped bring about these changes and have helped urban ecosystems become more inclusive, sensitive and equitable.

To make the study comprehensive for Indian Smart City officials, the study has mapped the practices and indicators against the 24 Smart City indicators defined under the flagship Smart City Mission for a better mapping of the studies for city agencies.

Framework for Mapping Good Practices



The Framework for mapping good practices, against the Smart city features:



Intent	Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria	Key aspects	Role of Technology
Improving quality of life for persons with disabilities in urban areas	Accessibility	Transport & Mobility		
		Physical Infrastructure		
		Social Infrastructure		
	Safety	Physical Safety		
		Social Safety	Social Stigma/lack of understanding	
		Disaster Management		
	Inclusivity	Health		
		Built Environment	Universal Design/Housing/Open Areas/ Public Spaces/Parks/Public Buildings	
		Education		
		Tourism		

Framework for Mapping Good Practices Against the Smart City Indicators

Intent	Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria	Key aspects	Role of Technology	Compared against all good practices	Smart Cities Features		
Improving Quality of life for PwDs in urban areas	Accessibility	Transport & Mobility				Role of Technology	Compared against all good practices	IT connectivity
		Physical Infrastructure						Sanitation
		Social Infrastructure						Economy and employment
	Safety	Physical Safety						Intelligent government services
		Social Safety	Social Stigma/lack of understanding					Walkable
		Disaster Management						Transportation and mobility
	Inclusivity	Health						Safety and security
		Built Environment	Housing/Open areas/Public spaces/Parks/Public Buildings					Education
		Education						Health
		Tourism		Mixed use				
						Citizen participation		
						Identity and culture		
						Compactness		
						Open spaces		
						Housing and inclusiveness		

2.3 Limitations of the Study

The study is primarily a secondary study, and focuses only on interventions mapped from various sources such as articles, news and other valuable and reliable resources.

It was intended to set a broad spectrum of various aspects concerning persons with disabilities and other vulnerable groups such as the elderly and children in urban areas, and ways to engage them into the process through urban planning and design initiatives and interventions.

The practices documented here are not the only interventions undertaken globally towards making cities safer and inclusive for persons with disabilities, the elderly

and children. These are selected on the pre-set criteria and mapped under those identified indicators under the scope of the BASIIC programme.

Practices and studies focusing on livelihood aspects have not been catered to in this report, due to the constraints of time and also because many aspects concerning livelihoods are not in key parts of the framework of the programme. However, all aspects concerning accessibility, safety and inclusivity with respect to livelihoods for persons with disabilities have been taken into account in the study.

Map showing the various interventions at different scales focusing on PwDs Projected on the World map



Country: The Netherlands
City: Breda
Project: City of Breda

Country: India
Project: School Safety Project

Country: India
Project: Accessible India Campaign

Country: Kenya
Project: Social Protection
and Disability

Country: Kenya
Project: Riziki Source

Country: Singapore
Project: Friendly Buildings

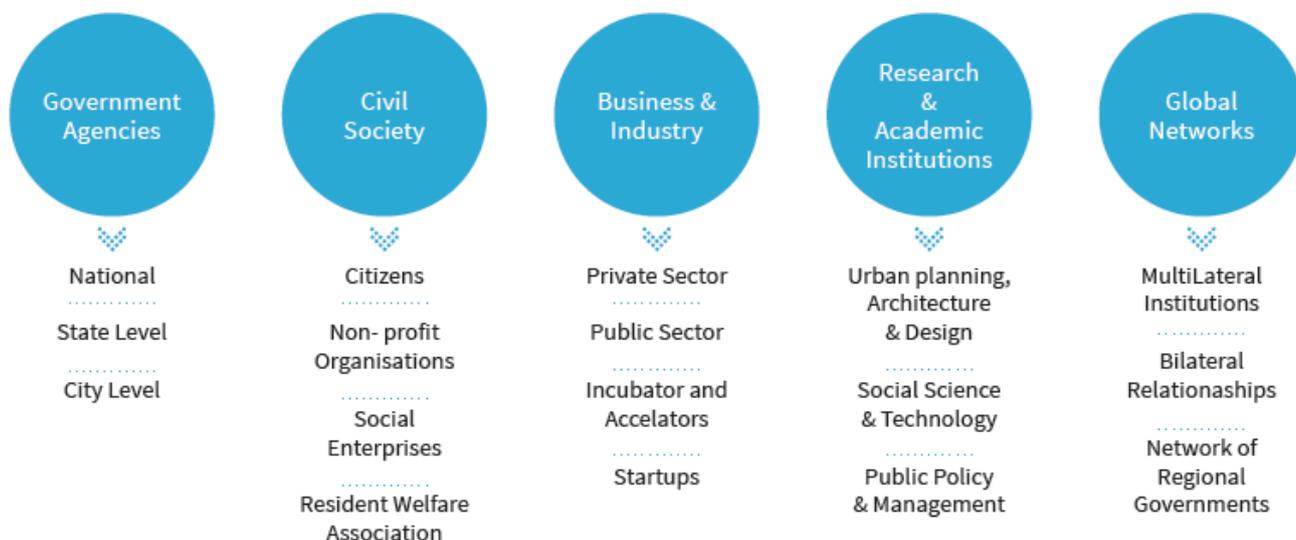
Country: Australia
Project: Bluetooth Audio clues



2.4 Dissemination Strategy for the Study

Target Audience: The document has been designed for a wide range of audiences keeping in mind how they can engage with it and make adequate use of it as their work goes forward.

The diagram below identifies the stakeholders representing the quadruple helix of the urban ecosystem—those who will benefit from study of the document.



BASIIIC will attempt to use multimodal communication platforms and methods to disseminate the findings of the report. The dissemination strategy will primarily focus on reaching out to the aforementioned stakeholders through conventional means (i.e. print), as well as digital dissemination through emails, web platforms, and social media channels. Through the process at every level it is

intended that the valuable stakeholder such as persons with disabilities, the elderly and other vulnerable groups are accordingly engaged and their feedback and learnings are included. The table below summarises the modes of dissemination and the target audience through those channels.

Mode of Dissemination	Dissemination Strategy & Target Audience		
Printed Media (Physical copies)	With Key aligned ministries and officials, along with a letter from the Director, NIUA	Ministry of Housing and Urban Affairs Ministry of Social Justice Ministry of Health	Focusing on Mission Directors and other key influential representatives
		With city commissioners and other key officials the BASIIIC programme is actively working with.	It will include the two cities BASIIIC programme works actively with and the other shadow cities
Digital Media (Smart Net Portal)	On the Smartnet portal, along with key tag words for better way finding	Targeting mainly the Smart City officials, Amrut Cities.	To a wide audience of more 20,000 active users of the Smartnet portal
Digital Media (National Urban Learning Platform)	As BASIIIC programme is partner with the NULP platform, the report can be made into a reader for a module on Persons with Disability and Interventions that cities can undertake.	Target audience and intent would aim at ensuring the documents are utilised well and become a valuable learning resource.	This will be targeted to specific officials who want to take up initiatives towards making cities more inclusive and will focus on aligning their needs with the report findings and best practices.
Digital Media (BASIIIC Webpage)	The platform is under discussion and construction and will be a very valuable resource for its users	This will also help share the links and other resourceful information through a singular source	This will target our partners, institutions and academic cohorts
Digital Media (NIUA internal teams and other relevant partners)	Internal office teams and partners and other partners	This can be done through email, Weblink and interested and can also share hard copies and more information with interested partners	
Digital Media (Social Media)	NIUA Twitter handle and LinkedIn Handle	For larger outreach with our audience.	



3

FFLE



Mapping of the case studies

CHAPTER 3

3.1 Country Level Practices

1. Friendly Buildings – Singapore

Name of the Project: Friendly Buildings

Location/Country: Singapore

Name of Organisation/Government Entity: Building and Construction Authority, Singapore

Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Health
	Built Environment
	Education



The issue of accessibility was discussed in the 1980s, which resulted in legislation to provide barrier-free accessibility in buildings under the Building Control Regulations, 1989. While the legislation has been an important lever in ensuring accessibility in new buildings, a large stock of buildings built before the legislation was not barrier-free.

With a fast ageing population, planning for a user-friendly built environment was imperative. The Building and Construction Authority (BCA) Accessibility Master Plan was thus developed in 2006 to support and complement the Recommendations by the Ministerial Committee on Ageing Issues and the Enabling Master Plan to create an inclusive built environment.

The city-state has taken up an initiative to ensure all buildings accessed by the public, including housing and public buildings, are accessible for persons with a disability and other vulnerable groups such as the elderly and children.

To achieve the same, Building and Construction Authority have developed an accessibility master plan to create a user-friendly environment. The development authority also developed a web application for better dissemination and evaluation.

Objectives of the Project: The project pursued an upstream goal of raising the accessibility standards and driving the adoption of Universal Design (UD) principles in the built environment. Accessibility and UD are instrumental to continual efforts in building a Liveable City for All Ages and



Brief Background of the Project: Singapore, a city state with a current population of 5.54 million, underwent rapid urbanisation from the late 1950s, resulting in a high-rise, high-density built environment in the years that followed. At the early stage of nation building, the provision of accessibility was not a critical concern compared to maximising land resources for the economic and housing needs of the growing population.¹

¹www.bca.gov.sg



in fulfilling the nation's obligations under the United Nations Convention on the Rights of persons with disabilities.²

Main Features: The Master Plan had a holistic framework that addressed both accessibility and UD adoption into the built environment, with a multi-level and multi-pronged approach to deal with accessibility concerns of the past, present and future developments through Four Strategic Thrusts.

i. Removing existing barriers

- a. A five-year Accessibility Upgrading Programme (2006-2011) was planned to support the upgrading of key buildings by the public and private sectors.
- b. A capital incentive of 40 million Singaporean dollars of Accessibility Fund was raised to share the cost of construction of basic accessibility features implemented by private sector building owners.

iii. Tackling future challenges upstream

- a. Raising the minimum standard of the Accessibility Code to benefit a wider spectrum of people – persons with disabilities, older persons and young children.
- b. Promoting the adoption of UD
 - published UD Guides
 - organised BCA UD Award to recognise buildings and stakeholders that adopt a user-centric

philosophy in their design

- “branded” UD with the launch of the BCA Universal Design Mark certification scheme

iii. Maintaining existing accessible features

- a. To deal with misuse and removal of accessible features, the Building Control Act was amended in 2008 to place a duty on building owners to continue to maintain the accessible features in their buildings.
- ii. Raising awareness and capabilities of the industry and stakeholders
 - a. Outreach and education initiatives include:
 - the Singapore Universal Design Week: a week-long programme of conferences, forums, workshops and exhibitions;
 - a one-stop information portal, www.friendlybuilding.sg;
 - “Find your friendly building” apps;
 - training programmes for building professionals and students;
 - Continuous encouragement of building owners to upgrade with the support of the Accessibility Fund.

Issues and Challenges Identified: The intervention highlighted that instead of the popular understanding that a singular action is good enough, a multi-pronged approach is a more successful way to ensure inclusive development.

² *Good practices of accessible urban development: Making urban environments inclusive and accessible for all. United Nations, 2016.*

However, although the plan and interventions discuss in length the interventions taken forward by the central government, there is little or no information on participation and discussion from the citizens, especially persons with disabilities and the elderly, on what worked and what challenges they faced.

Another challenge that has been identified is the rising land costs. Most builders are reluctant to go beyond the code compliance to incorporate universal design in their buildings. That inhibits the local agencies going further than what is mandated in localised conditions, and there is little participation and contribution of communities.

Key Learnings: The practice highlights some valuable aspects of the government will and taking action through a planned approach and methodology considering their changing national demographics. However, lack of information on how citizens actually played a role in

informing these actions and participated in bringing forth these changes still remains unclear and a challenge in most cases.

The case study aligns well with threshold creation of universal design and elementary learning and implementation of accessibility and inclusion measures into building laws through physical infrastructure and its allied impacts on overall safety and security as a result. A deep-rooted inclusion of persons with disability and the elderly into everyday processes and their recognition as equal citizens is beyond bylaws and focuses on social infrastructure that ensures they are made equal participants and have a strong voice in decision making processes. This remains unclear from these interventions. Recognising that this is still a big step in bridging the gap in inclusion of persons with disability into urban agglomerations, the intervention is nevertheless a good practice to share and learn from.

2. Accessible India Campaign – India

Name of the Project: Accessible India Campaign

Location/Country: India

Name of Organisation/Government Entity: Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, Government of India

Parameters of BASiC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Built Environment
	Tourism



Brief Background of the Project: Accessible India Campaign (AIC) is the nationwide flagship campaign of the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment. The aim of the campaign is to make a barrier-free and conducive environment for persons with disabilities all over the country. The campaign was launched by Prime Minister Narendra Modi on International Day of Persons with Disabilities in 2015.

Objectives of the Project: The campaign is based on the principles of the social model of disability, that disability is caused by the way society is organised, and not the person's limitations and impairments. Physical, social, structural and attitudinal barriers prevent people with disabilities from participating equally in socio-cultural and economic activities. A barrier-free environment facilitates equal participation in all activities and promotes an independent and dignified way of life. The campaign has the vision to build an inclusive society in which equal opportunities are provided for the growth and development of persons with disabilities so that they can lead productive, safe and dignified lives.

Main Features: For creating universal accessibility for persons with disabilities, the campaign has been divided into three verticals: Built Environment; Transport; and Information & Communication Technology (ICT).³

Built Environment Accessibility entails the following targets:

- i. Completing accessibility audit of at least 2550 most important government buildings in 50 cities and making them fully accessible.
- ii. Making 50% of all the government buildings of NCT and all the state capitals fully accessible.
- iii. Completing accessibility audit of 50% of government buildings and making them fully accessible in 10 most important cities/towns of different states.



³<https://pib.gov.in/newsite/printrelease.aspx?relid=159009>

The department has completed the accessibility audit of 1,653 buildings, which were identified by state governments through empanelled Access Auditors. The Access Audit Reports for 1,469 buildings were submitted to the state Nodal Officers for submitting financial proposals for retrofitting of these buildings.

Transport Accessibility aimed to make all international airports fully accessible immediately and domestic airports. Out of 32 international airports proposed, 25 have been provided with accessibility features, namely, ramps, accessible toilets, lifts with Braille symbols and auditory signals.



Indian railways are one of the biggest rail networks in the world and the most popular mode of transport in the country. In order to make them accessible, all A1, A & B categories of railway stations are to be made fully accessible.

Under Accessible India Campaign, the department aims to make 10% of government owned public transport carriers fully accessible. To achieve this, the Ministry of Road Transport & Highways issued instructions to the states and Executive Directors of state undertakings to ensure that 10% of government owned public transport be made fully accessible to persons with disabilities.

Accessibility of Information and Communication System

The target set under this vertical was to make at least 50% of central and state government websites accessible.

The work order has already been issued for making 917 state government websites accessible. In addition to this, the Ministry of Electronics & Information Technology (MeitY)

is making 100 government websites of 56 ministries/ departments accessible.

The department launched 'Sugamya Pustakalaya' — an online library for persons with print disabilities — centred on achieving 'universal accessibility'. The department also organised awareness workshops at Mumbai, Ahmedabad, Jaipur, Raipur, Bhubaneswar, Chennai and Ranchi to provide an insight into various contours of Accessible India Campaign.

In order to create a footprint in digital space, the department is constantly exploring social media networks for providing updates on Accessible India Campaign through blogs, reports, live broadcasts, pictures etc. The department has a dedicated website — www.accessibleindia.gov.in — and a mobile application whereby it can be reached for recent updates and happenings.⁴

The government is also promoting an app which can help get active feedback from persons with disabilities to understand their concerns better and more actively so that the government programmes can be better aligned and focused to their needs.

Issues and Challenges Identified: Although the campaign has received recognition for including technology-driven solutions into the mainstream implementation of programmes, the programme still has a lot to do with aligning its objectives with ongoing government missions, which helps make an even more impactful response. In addition, the campaign requires better impact assessment and evaluation parameters to understand how it is able to bring forth change or to comprehend the challenges in implementing such campaigns.

In India particularly, disability is often responded to with stigma and social withdrawal. but however much the campaign focuses on accessibility, it does not cater to sensitisation and social behavioural change which is critical to its success.⁵

Key Learnings: The programme is a great initiative by the government, especially as for the first time such an initiative focuses on the role of technology in empowering persons with disabilities, a remarkable step in the right direction. Although the campaign had a slow start, the initiative has had ample positive response and recognition for addressing the subject and focusing on bringing forward positive change.

However, the campaign needs to be better aligned with other government missions and programmes if it is to go forward for a lasting and comprehensive impact.

⁴<http://accessibleindia.gov.in/content/innerpage/about-accessible-india-campaign.php>

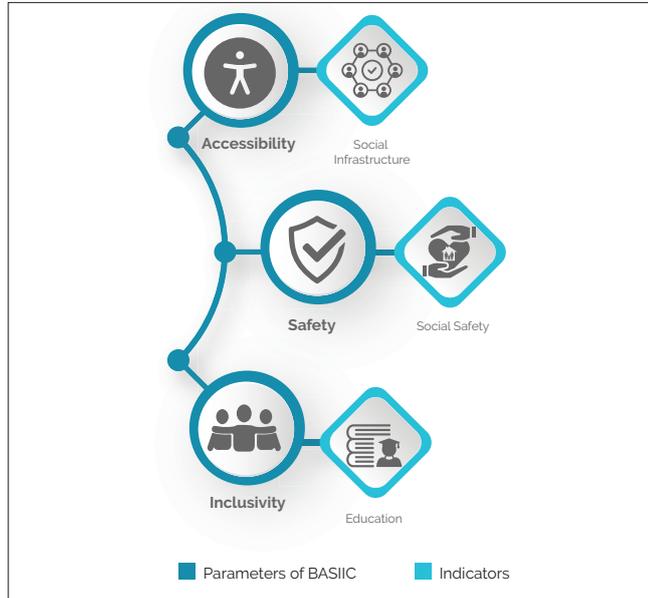
⁵<https://www.drishitias.com/daily-updates/daily-news-analysis/accessible-india-campaign>

3. Universell – Norway

Name of the Project: Universell

Location/Country: Norway

Name of Organisation/Government Entity: Norwegian Ministry of Education and Research



Parameters of BASIIC	Indicators
Accessibility	Social Infrastructure
Safety	Social Safety
Inclusivity	Education

Brief Background of the Project: Universell was established in 2003 by the Norwegian Ministry of Education and Research. The programme falls into two main categories –

promoting a better learning environment for students with disabilities; providing advice and follow-up on the work of the Learning Environment Committees at the higher education institutions.⁶

Since 1999, all Norwegian higher education institutions are required to have a contact person for students with disabilities, and also an action plan to make each higher education institution more accessible, and to create an inclusive learning environment for such students. Since 2005, all higher education institutions have also been obliged by law to have a learning environment committee composed of both staff and students which is responsible for the overall learning environment of the institution.⁷

Objectives of the Project: The programme aimed at:

- Contributing to the action plans of higher education institutions regarding students with disabilities through follow-up on implementation and advice in connection with revisions.
- Offering support-on-demand to the higher education institutions.
- Developing and maintaining a website. The website is a national platform with all information on the strategy and interventions available on a singular platform.
- Organising seminars and conferences for higher education staff working on universal design and matters regarding disability.
- Representing the higher education sector on disability issues.

Main Features: Universell is the Norwegian representative in the European Higher Education Accessibility Guide (HEAG) project, and active in the establishment of the



⁶Developing Inclusive Teaching and Learning Through the Principles of Universal Design, Kjetil Knarlag1, and Elinor Olaussen at Universell, Norway, Norwegian University of Science and Technology.

⁷<http://ebooks.iospress.nl/publication/44487>



Nordic Network for Disability Coordinators (NNDC). Universell encourages and promotes the inclusion of universal design as part of the academic content of relevant study programmes, and follows up the work of the learning environment committees at the higher education institutions.

The programme's key features include:

- Establishing and running an active network for cooperation and exchange of best practices between disability staff in higher education institutions, as well as a similar network between the members of the higher education institutions' learning environment committees.
- Establishing and running an internet site (see www.universell.no) for cooperation, advice, and exchange of information on the learning environment, universal design, and inclusive solutions in higher education. It contains a lot of useful information and advice, like a guide for the development of action plans for students with various disabilities, and many other examples of educational and technical adaptations that can be considered, as well as references to relevant policy documents and legal texts.
- Universell provides a unique digital meeting place and training opportunities through national conferences and seminars both for staff concerned with disability issues and universal design, and for members of the institutional learning environment committees.
- Giving valuable advice to the Ministry of Education and Research on the further development of higher education policies regarding learning environment

- issues, both in general and in relation to students with disabilities in particular.⁸

Issues and Challenges Identified: As Universell is set up as a permanent unit, it promotes inclusive development through education and empowerment, and ensuring persons with disability to have a dignified life. However the programme focuses primarily on ensuring training of trainers, and digitisation for better information availability for all. Not much work has been done, however, towards issues relating to learning environment and universal design, as well as the spatial aspects of the higher education sector in dealing with these matters.⁹

Key Learnings: Since a lot of aspects of the programme are based on distant learning, the programme, however impactful, lacks in improving the social skills of persons with disabilities. When translating such examples within the Indian context, such interventions can sometimes lead to their exclusion from the existing government schemes that are designed to benefit them, particularly since they are not adequately mapped within the system. For example, as CoVID-19 has forced digitisation of education services and social distancing norms and the need to stay at home, most children who were already going to schools and were availing the midday meal scheme cannot benefit anymore from such social protection advantages which are particularly designed for them. While the digitisation and possibility to scale interventions in the example of Universell are immense, it is important to take these lessons and translate them within the Indian context with a sensitive understanding of how they can impact the lives of their beneficiaries in the long term.

⁸Norway - Good practices in Social Dimension Implementation in Higher Education

⁹<https://www.universell.no/>

4 Livable and Inclusive Communities for Seniors with Disabilities and All Citizens: Model and Tools for Actions – Canada

Name of the Project: Livable and Inclusive Communities for Seniors with Disabilities and All Citizens: Model and Tools for Actions

Location/Country: Canada

Name of Organisation/Government Entity: Canadian Centre on Disability Studies (CCDS)



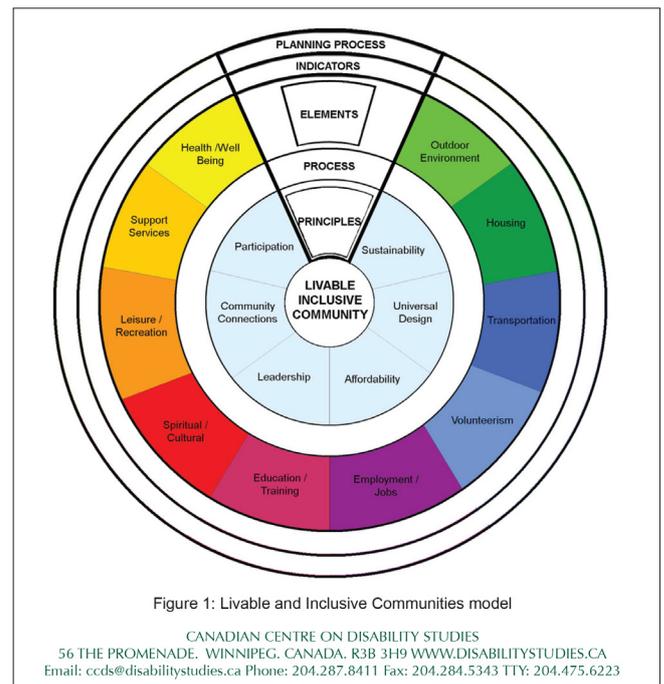
Parameters of BASIIC	Indicators
Accessibility	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Health
	Built Environment

Brief Background of the Project: Since 2005, the Canadian Centre on Disability Studies (CCDS) has conducted a series of projects focusing on ageing and disability. Statistics reflected that as people age, they often need more care and attention in addition with persons with disabilities. The data highlighted the need for support and better planning and awareness for persons with disability and elderly.

The data also emphasised that although persons with disabilities are living longer, many now reaching a senior citizen status, the design of policies and programmes for the community of seniors and the disabled are often planned and implemented in an isolated way. This leads to the duplication of services or many times limits benefits to a narrow range of community members. To address these concerns, CCDS developed and continued to refine the Livable and Inclusive Community (LIC) Concept Model and accompanying Planning and Evaluation Frameworks. The model and frameworks have been designed to help policy developers, project/programme planners and community

members plan new initiatives and evaluate the existing ones, with the ultimate goal of creating communities that are both liveable and inclusive.¹⁰

Objectives of the Project: To increase the knowledge of policy makers, service providers and the community generally on how to create LICs; to develop Planning and Evaluation Frameworks based on the LIC Concept Model that can be shared by the community and government, and applied to ensure better activity coordination, decision-making and distribution of resources for all community members, including people with disabilities; and to provide guidelines for planning/evaluating initiatives (policies, practices and/or programmes) that lead to LICs.¹¹



Main Features:

- Workshops are conducted in each region to encourage community participants to identify strategies and barriers to planning initiatives that contribute to LICs. Workshop participants are recruited by regional coordinators who have knowledge of their communities. They are drawn from both the seniors' community and the disability community, planners and government representatives.
- With the involvement of government and community participants across Canada, the LIC Concept Model is being refined, and the Planning and Evaluation Frameworks are being developed.
- Government and community participant groups select an initiative of their choice and use the LIC Concept Model and Frameworks to plan for or evaluate that initiative.

¹⁰<http://www.disabilitystudies.ca/assets/ccds-fromresearchandknowledgetobetterpractice.pdf>

The project has resulted in the increased capacity of government and community participants to: plan future initiatives that are inclusive (e.g. accessible housing, increasing accessibility of community public and private space); and to evaluate existing initiatives to determine how inclusive they actually are (e.g. affordable housing projects, zoning by-laws, income supports).¹²

Changes are being monitored by analysing group progress and discussions. Also, there is self-reported evaluation of an increase in capacity to understand LICs, and to plan for and evaluate initiatives for inclusivity.

Issues and Challenges Identified: The national level focus and intervention is a good reflection of the national intent towards persons with disabilities and the elderly. Defining the scope of the Livable and Inclusive Community (LIC) Concept Model and accompanying Planning and Evaluation Frameworks and actionable interventions is important. The project is ambitious in planning with active community

participation and collaboration, although to actually map the success of the intervention, there is little information on what kind of pilot projects were taken on and what impact they created towards forging inclusive communities. It is also unclear how government officials at various levels were responsible for formal planning processes within communities for the initiatives suggested.¹³

Key Learnings: The project is a good example of the intent of the government and the action proposed. However it is important that these national frameworks and campaigns are well translated into actionable interventions on ground. Also there needs to be an active and parallel need to design a comprehensive list of indicators that can help evaluate the success of these interventions. However, while taking lessons from the practice it is critical to understand that the intervention was taken forward after focused research and data mapping nationally. The project also lays emphasis on community participation and involvement, which is critical to the success of such interventions.



¹² <http://www.disabilitystudies.ca/assets/ccds-aginganddisability-transportationstructures.pdf>

¹³ http://www.hss.gov.yk.ca/pdf/AFRRRC_en.pdf

5 Inclusive Post-Earthquake Reconstruction – Nepal

Name of the Project: Inclusive Post-Earthquake Reconstruction¹⁴

Location/Country: Nepal

Name of Organisation/Government Entity: Action on Disability Rights and Development (ADRAD)

Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria
Accessibility	Physical Infrastructure
	Social Infrastructure
Safety	Disaster Management
Inclusivity	Built Environment

Brief Background of the Project: Action on Disability Rights and Development (ADRAD) is a Data Protection Officer (DPO) in Nepal that has been advocating the implementation of the Convention of the Rights of Persons with Disabilities (CRPD) as well as promoting universal design in education through accessible publishing and information and communication technologies (ICTs). The 2015 earthquake in Nepal caused the destruction of many public and private properties in districts across Kathmandu. The earthquake also injured and disabled around 3,000 people. ADRAD notes that former post-earthquake reconstruction has failed to result in more accessible public buildings.

Objectives of the Project: The Inclusive Post-Earthquake Reconstruction: Public Building Safe and Accessible for All, project initiated by ADRAD, was designed to ensure inclusive post-disaster reconstruction and reform in the 14 most affected areas of the city. As part of the response to 'build back better', ADRAD empowered the community to ensure that disability inclusive design was at the centre of the reconstruction process.

Main Features: Close to 800 people with disabilities were trained in mapping and monitoring national accessibility standards. These individuals were also trained to engage more directly in planning, monitoring, and advocacy in order to ensure standards for accessibility were implemented. 145 construction workers, designers, engineers, and contractors were trained on accessibility standards and disability rights. 6,765 persons with disabilities and their families received first-phase funding for reconstructing new houses. 87 public buildings were retrofitted to improve accessibility particularly for people with mobility and visual impairments.

Parallel to the civil society capacity development, ADRAD was also engaged in development of the post disaster reform framework. 72 meetings of the district disasters committee were attended by persons with disabilities. Bringing a DPO to the decision-making table ensured that inclusion and inclusive infrastructure design was built into regulations for post-emergency response.¹⁵

¹³https://www.un.org/disabilities/documents/desa/good_practices_in_accessible_urban_development_october2016.pdf

¹⁴See ICED (2019) *Delivering Disability Inclusive Infrastructure in Low Income Countries*

¹⁵Zero Project <https://zeroproject.org/practice/pr181243npl-factsheet/>

ADRAD's direct engagement in the development of the post-disaster framework led to the government implementing new infrastructure accessibility standards in public schools and spaces, which are mandated in Nepal's most recent inclusive education policy adopted in 2017.

As the project utilised international standards on accessibility, the national regulations developed are in harmony with those developed by the International Standardization Organisation, and have been adopted at the local level across Nepal.

The project has elevated government recognition of DPOs, which have now been nationally appointed to support the planning and design of public space infrastructure through the formation of a Joint Monitoring and Coordination Committee and an identified district leader to monitor accessibility standards and inclusion of people with disabilities in public services.

Key Learnings: This is a critical step to ensure that the design and updates of infrastructure regulations and guidelines have the direct input of persons with disabilities in their development. It recognises persons with disabilities as experts and stakeholders in urban planning and development. The project has also led to increased awareness of accessibility standards, orienting the relevant authorities and construction workers with established indicators for accessible reconstruction.

The Inclusive Post-Earthquake Reconstruction project improved the enforcement of policies by creating an evidence-based mechanism for engaging authorities to make legislative commitments to establish disability inclusive infrastructure. The project has also built the capacity of people with disabilities to directly engage in the implementation and monitoring of national standards on accessibility.

The project highlights the need for capacity building and adequate resources for DPOs to engage in the development and enforcement of regulations in order to change the narrative and perceptions on disability and to emphasise the importance of "nothing about us without us".

Municipalities are adopting the accessibility standards laid out by the government, and the project is being replicated in other districts.¹⁶ Elsewhere in Nepal, local bodies have funds for making accessible public places, thus the project could potentially be replicated throughout the country.

COVID-19 Implications: While a different kind of emergency exists because of COVID-19, this case demonstrates the importance of ensuring the voices of people with disabilities are included in 'building back better'. As recovery measures are designed, there is an opportunity to ensure that long-term barriers to people with disabilities in using the built environment are addressed.

6. Wheelmap: Open Source Mapping for Accessibility – Global

Name of the Project: Wheelmap: Open Source Mapping for Accessibility¹⁷

Location/Country: Global

Name of Organisation/Government Entity: Sozialhelden

Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria
Accessibility	Transport & Mobility
Inclusivity	Built Environment
	Tourism

Brief Background of the project Project: On 3 December, 2015, the German NGO Sozialhelden launched a global campaign with the World Health Organization (WHO) to map out wheelchair accessibility of places around the world. Sozialhelden is a German non-profit organisation which creates tools to help mainstream disability in programme delivery by using evidence-based data to support the inclusion of persons with disabilities through innovation, diversity promotion and good business practices.¹⁸

Objectives of the Project: Sozialhelden created Wheelmap, a community-driven app that lets anyone evaluate the wheelchair-accessibility of public locations so that users can benefit from each other's experiences. Wheelmap requires internet or mobile phone access and allows users to input data on accessibility made available in online maps at wheelmap.org.

Main Features: Since the campaign was launched, over 500,000 places¹⁹ have been mapped in low-, middle-

and high-income countries around the world – with approximately 300 new places added to the map every day.²⁰ Through the development of Wheelmap, Sozialhelden found other applications that assess accessibility, and created an Accessibility Cloud to allow for data exchange. The Accessibility Cloud merges the data sources from other applications and has now broadened the digital map to include 150 other criteria on accessibility.

Issues and Challenges Identified: Wheelmap and similar applications are dependent on an internet connection and mobile access in cities. Sozialhelden is developing offline modes for areas with unreliable or no access to the internet.

Key Learnings: Wheelmap and the Accessibility Cloud are highly effective tools for accessibility data collection that could inform programmes on disability infrastructure and design in the initial phases of their development. Wheelmap can also be used for awareness raising and training; encouraging direct participation of both local government authorities and civil society. Prior campaigns of Wheelmap, also known as 'mapathons', involved civil society and have led to the rapid availability of crowd-sourced data on accessibility of public spaces around the world.²¹

COVID-19 Implications: As many countries emerge from COVID-19 related lockdowns and public transport is reopened, it will be crucial to support the mobility of people with disabilities. Apps like Wheelmap could support people with mobility impairments to access transport and not be excluded once public spaces reopen.

¹⁶ Zero [Project Report \(2018\) Accessibility](#)

¹⁷ From [ICFD \(2019\) Delivering Disability Inclusive Infrastructure in Low Income Countries](#)

¹⁸ <https://sozialhelden.de/wp-content/uploads/2018/12/Sozialhelden-projects-2018.pdf>

¹⁹ <https://www.nesta.org.uk/feature/10-people-centred-smart-city-initiatives/wheelmap/>

²⁰ <https://www.youtube.com/watch?v=7K892Ak5ahw>

7. Inclusive WASH in Uganda and Zambia: The Undoing Inequity Project – Zambia & Uganda

Name of the Project: Inclusive WASH in Uganda and Zambia: The Undoing Inequity Project²²

Location/Country: Zambia and Uganda

Name of Organisation/Government Entity: Water Aid, WEDC, LCD, SHARE, working with Anuria and Pataki districts in Uganda, and Mwanza West in Zambia.

Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria
Accessibility	Physical Infrastructure
Safety	Social Safety
Inclusivity	Health

Brief Background of the Project: The Undoing Inequity Project was a recent collaboration between Water Aid, WEDC and LCD, with funding from SHARE, and working in Anuria and Pataki districts in Uganda, and Mwanza West in Zambia. The project aimed to understand the physical and attitudinal barriers that people with disabilities face in water, sanitation and hygiene (WASH) development, to test an inclusive WASH approach, and understand the impact of this approach on the lives of the target beneficiaries.

Objectives of the Project: The aims of the project were to understand the barriers and opportunities people with disabilities, the chronically sick and older people face in accessing WASH services; to develop and test an inclusive WASH approach that addresses the barriers; and to assess the impact that improved access to safe WASH has on the lives of these people.²³

Collecting data directly from people with disabilities and focused group discussions was found to be vital. Survey data was disaggregated, using the Washington Group questions to include information on types of impairment and severity of mobility challenge. It was found that people with disabilities, older people and people with a chronic illness often lack WASH services because of:

- **Environmental constraints:** Facilities are not inclusive. This includes long distances to toilets; lack of privacy for toilets of bathing areas; and unsafe and inaccessible toilets.
- **Attitudinal barriers:** Negative attitudes lead to exclusion: for example, people with disabilities are discouraged from touching or fetching water; are often teased and bullied about WASH-related problems; have limited social support; and often face isolation in the family and community.
- **Institutional barriers:** Lack of law, policies, strategies and guidelines on implementing inclusive WASH; lack of consultation or involvement in decision-making on WASH policy or facilities; and a lack of information on inclusive technologies.

²¹<https://blog.walls.io/showcases/mapmyday-accessability-awareness-campaign/>

²²From ICED (2019) *Delivering Disability Inclusive Infrastructure in Low Income Countries*

²³WaterAid (2014) *Undoing inequity – water, sanitation and hygiene services that deliver for all in Uganda and Zambia*

²⁴This compendium is [available here](#).

²⁵WEDC (2014) *Mainstreaming disability and ageing in water, sanitation and hygiene programmes*.

Main Features: The programme focused on WASH infrastructure relating to access to toilet facilities, bathing, water collection and transporting water. In response to the detailed analysis of the needs of people with disabilities, innovative and low-cost interventions were designed. The programme resulted in a Compendium of Accessible WASH Technologies for use in low-income countries,²⁴ which provides suggested infrastructure solutions that enable inclusive access to WASH facilities.

To address community awareness raising and behaviour change, the programme built capacity of local WASH committees by facilitating a series of discussions aimed at building the understanding of people with disabilities and their rights. This allowed community members to talk openly about the challenges faced by people with disabilities and older people, and also offered a very powerful tool to help build empathy and motivate community members to champion change that will empower disabled users.²⁵

Issues and Challenges Identified: Baseline surveys were carried out to identify the needs of users with disabilities. However, even this initial step revealed fundamental flaws in terms of data collection and understanding the problem. The views of vulnerable household members with disabilities were not being properly represented by the head of the household responding to the survey.

Key Learnings: The benefits of the programme in addressing barriers to WASH facilities for people with disabilities included greater autonomy, productivity, and civic engagement for them, as well as a reduction in time, energy and resources for carers. The NGOs involved in the programme, particularly Water Aid, have made an effort to mainstream disability inclusion in all WASH interventions. The importance of stakeholder consultation is stressed and the resulting solutions can be achieved at very little additional cost.

The highly participatory nature of the programme also meant there was a high level of ownership of the inclusive WASH process in Uganda and Zambia.²⁶

COVID-19 Implications: The provision of safe water, sanitation and hygienic conditions are all essential for protecting human health during the COVID-19 outbreak. Ensuring that people with disabilities are not excluded from WASH and waste management practices in communities, homes, schools, marketplaces, prisons and health care facilities will further help to protect them from human-to-human transmission of the COVID-19 virus. This case study demonstrates how social analysis, participation and dialogue can help design WASH solutions responsive to the needs of people with disabilities, as well as tackling discrimination and attitudinal barriers to accessing essential services.

8.. Social Protection and Disability – Kenya

Name of the Project: Social Protection and Disability

Location/Country: Kenya

Name of Organisation/Government Entity: DFID Leaving No One Behind

Parameters of BASiC	Indicators
Accessibility	Social Infrastructure
Safety	Social Safety
Inclusivity	Education

Brief Background of the Project: Persons with disabilities in Kenya face many barriers in accessing both employment and social services. More than half of them reported in the 2015/16 Kenya Integrated Housing Budget Survey (KIHBS) that they have difficulties engaging in economic activities. Access to special needs' schools remains a challenge and school fees and materials can be a barrier for those who are not able to meet costs, particularly in special schools which tend to have higher fee structures. Insufficient training of special needs' teachers and the inadequate development of disability-friendly curricula and school materials is another key barrier faced by children with disabilities when trying to access education. Stigma and discrimination continue to be barriers for the equal participation of persons with disabilities in society. In many communities, disabled family members are often hidden away due to societal stigma and prejudices. Children are especially affected, as they are often abused and abandoned. In addition, evidence from the Kenya National Commission on Human Rights shows that many persons with disabilities are not aware of their rights, nor is there legislation in place to protect and promote their well-being, including the right to access social services such as education, health care and support with job training and employment.

The Government of Kenya with support from DFID, UK, and organisation named development pathways, has put in place policy frameworks to progressively support poor and vulnerable populations in Kenya, including persons with disabilities. The Constitution of Kenya presents the government's commitment to the progressive realisation of the rights of all Kenyans, which includes the right to the highest standards of health care and services, education, accessible and adequate housing, food security, access to clean water, and social security with an emphasis on providing for those unable to support themselves or their dependents.

Objectives of the Project: Kenya's Vision 2030, the national long-term development framework, recognises the importance of social protection and its role in ensuring that all Kenyans can enjoy a high quality of life by the year 2030. Vision 2030 comprises three pillars: social, economic and political. Under the social pillar, the framework seeks to build a "just and cohesive society with social equity in a clean and secure environment" which includes special provisions for persons with various disabilities.

Main Features:

A National Social Protection Policy (NSPP) was developed in 2011. The policy specifically outlines social protection as "policies and actions, including legislative measures that enhance the capacity of and opportunities for the poor and vulnerable to improve and sustain their lives, livelihoods and welfare, that enable income-earners and their dependants to maintain a reasonable level of income through decent work, and that ensure access to affordable health care, social security, and social assistance."

A national social protection sector (NSPS) review on progress over the last few years, to provide the way forward for the next medium term (five years,) and a Social Protection Investment Plan (SPIP) towards Vision 2030 to reduce socio-economic vulnerability (14 years) have been developed under the leadership of the State Department for Social Protection, but are still awaiting approval by the Cabinet.

A major milestone in the development of a comprehensive social protection system in Kenya was the introduction of the Inua Jamii Senior Citizens' scheme in early 2018, which provides a universal pension to everybody aged 70 years and above. Given the high prevalence rates of disability among people above the age of 70 years –about 25% (and most likely much higher in reality) – the new scheme represents a significant improvement in access to social protection for people with disabilities in Kenya, such as improving linkages with other social services, including access by all recipients to the National Health Insurance Fund.

The National Council for Persons with Disabilities (NCPWD) also provides a range of services and interventions specifically for people with disabilities, with support from the National Development Fund. Applications for support from the fund are free of charge and can be submitted to access the following services:

- **Educational Assistance:** provision of educational grants to build the capacity of – and opportunities for – persons with disabilities in society. This improves access to education, skills development and rehabilitation institutions. Funds can be utilised to pay fees for secondary and tertiary education, vocational training, vocational rehabilitation centres, universities and special educational establishments.
- **Assistive Devices:** provision of assistive devices and services to persons with disabilities in Kenya to enable them to actively engage in society. Priority is given to those in need of assistance in work, training and learning environments.
- **Infrastructure and Equipment:** provides support to institutions that deliver social services to persons with disabilities. State and non-state institutions providing social services are eligible to apply. Funds can be used to undertake projects that improve access by addressing environmental barriers.

The Cash Transfer for Persons with Severe Disabilities (PwSD-CT) is one of the national cash transfer schemes within the tax-financed Inua Jamii Programme (IJP). It aims to support poor households with a member living with a severe disability who requires 24-hour care. The PwSD-CT operates across all 47 counties. To benefit from the programme, a household must be categorised as extremely poor and vulnerable and must have at least one member living with a severe disability.

Issues and Challenges Identified: The Social Protection and Disability project is one of the most valuable interventions

in the last decade. However, the programme requires constant lobbying with government parties in order to pass the bills. There are multiple schemes that were designed but never launched for various reasons.

Key Learnings: Investment in localised data and social protection schemes were two key findings from the study. The study also highlighted an interesting concept of increasing the benefits depending on the disabilities, gender, age and other set parameters.



3.2 City Level Practices

1. Washington, DC, USA: Most accessible metro system

Name of the Project: Washington Metro

Location/Country: Washington, DC, USA

Name of Organisation/Government Entity: Washington Metropolitan Area Transit Authority



Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety

Brief Background of the Project: The title of the world's most accessible metro system,²⁷ probably goes to Washington, DC. All 91 of its subway stations are fully accessible, along with its rail carriages and the entire bus fleet. Despite being the third busiest subway system in the US after New York and Chicago, and with large sections built in the 1970s and 80s, DC's metro is widely lauded as

one of the most accessible in the world. All 91 stations – including the brutalist masterpieces of Harry Weese – and all trains are accessible, according to operator WMATA (Washington Metropolitan Area Transit Authority).

All stations have elevators and directional signs indicating elevator locations, including all rail cars featuring gap reducers between the car and the platform, barriers between cars, priority seating for people with disabilities and senior citizens, and emergency intercoms accessible to wheelchair users that also include instructions in Braille and a raised alphabet.

The system is easy to use and both powered and manual wheelchair users can roll on and off trains smoothly. Like everywhere there are elevator outages from time to time, however WMATA has been good at notification of planned closures and providing shuttle buses if needed. The city buses all have lower floors with ramps too.

Objectives of the Project: The project highlights the city's sincere efforts towards 100% accessibility through its metro. The intervention was later expanded to all other means of transport as well. This has been a game changer for persons with disabilities, the elderly and other vulnerable groups.

Main Features: Metro's Accessibility Advisory Committee was created to address the needs of senior citizens and people with disabilities. Their efforts have resulted in numerous service upgrades including the addition of:

- Barriers between rail cars to alert customers who are blind or have low vision of the space between the rail cars.
- Gap reducers, which make it easier for customers who use wheelchairs to board Metrorail trains.



²⁶WaterAid (2014) [Undoing inequity – water, sanitation and hygiene services that deliver for all in Uganda and Zambia](#).

- Dedicated advisory committee and metro systems providing suggestions and evaluation of the transport facility. The advisory committee included persons with disability for a better understanding of their needs.
- Priority seating for people with disabilities and senior citizens, and emergency intercoms accessible to wheelchair users that also include instructions in Braille and a raised alphabet.²⁸
- Discounted rates if one has a Reduced Fare ID. The ID card must be kept in the possession of the qualifying customer at all times while riding the Metrobus and Metrorail and presented when boarding or when purchasing a reduced fare. There are also Weekly Disabled Passes.
- All Metrorail stations and rail cars are accessible. The stations feature accessible priority parking near station entrances, information on station pylons in Braille and raised alphabet, and extra-wide fare gates, among other features. All stations have elevators and directional signs indicating elevator locations.
- Over time, the intervention has been scaled up and also expanded within the bus services along the metro fleet in the city. All buses in the metro fleet have the ability to kneel or lower; all have either low floor ramps or lifts. Major stops, landmarks, and intersections are either announced by an automated stop announcement system or the bus operator. All buses feature two wheelchair securement areas and priority seating for senior citizens and people with disabilities near the front of the bus.

Issues and Challenges Identified: The chart helps understand that globally even the most used metro transit systems are not all accessible. To make a city accessible for all means that all means of commute need to be made accessible.

Comparative accessibility analysis of global metro network

Metro System by City	Number of Stops	Number of Fully Accessible Stops
London Tube & DLR Network	270	50
Paris Metro	303	3
Barcelona Metro	156	129
New York Subway	472	117
Tokyo Metro	211	186
Los Angeles Metro	93	93
Washington Metro	91	91
Delhi Metro (DMRC)	253	166

Source: <https://www.theguardian.com/cities/2017/sep/21/access-denied-disabled-metro-maps-versus-everyone-elses>

Delhi Metro: <https://wecapable.com/delhi-metro-accessibility-persons-with-disabilities/>

Key Learnings: The Washington, DC system addresses an important lesson that when making transport systems inclusive, making 50% or even one less station inclusive is not the answer. Instead making interventions that ensure that the public transit systems are 100% universally accessible is a strong message that ensures safety, mobility and accessibility to all citizens, while in the process also empowering them. Active stakeholder engagement, listening to persons with disabilities and understanding their needs when evaluating and monitoring such systems is another added layer that made the system a success and good practice to translate in other cities. Stakeholder engagement, priority to the pedestrian and a comprehensive framework towards building an accessible transit network should be a norm for any city and many cities can learn from Washington, DC's example. When following this example in the Indian context it is important to understand that in addition to bringing similar systems in place, the values of inclusivity and safety and accessibility for all are also taken forward in order to make mobility systems more robust and equitable.



²⁷<https://www.theguardian.com/cities/2017/sep/21/access-denied-disabled-metro-maps-versus-everyone-elses>

2. Chester, UK: An accessible historic city

Name of the Project: Accessible Historic City

Location/Country: Chester, UK

Name of Organisation/Government Entity: Chester City Council



Parameters of BASIIC	Indicators
Accessibility	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Built Environment
	Tourism
Role of Technology	—

Brief Background of the Project: Chester in northwest England is renowned for its two-mile circuit of Roman, Saxon and medieval walls and its elevated walkways,

called Rows. But the city's historic status belies its role as an accessibility champion: it became the first British city to win the European Commission's Accessible City award in 2017.²⁹ Chester was chosen out of 43 cities from 21 EU countries, because of its inclusive measures for people with a disability in different sectors, in particular the tourism sector.³⁰

Chester was crowned the most accessible city in Europe – the first time in the seven-year history of the Access awards that a British city was named. With the investment and making the city accessible, the overnight tourism market rose by £3bn, which, along with day visits brought that figure up to a total of £12.1bn (according to Visit England) It was clear that investing in accessibility was a prudent marketing decision.

Objectives of the Project: The ancient city, famed for its extensive Roman walls and Tudor-style half-timber shopping quarters, is perhaps not an obvious contender for modern disabled access. The city authorities showed commitment for several years towards making the historical city inclusive and accessible for all.

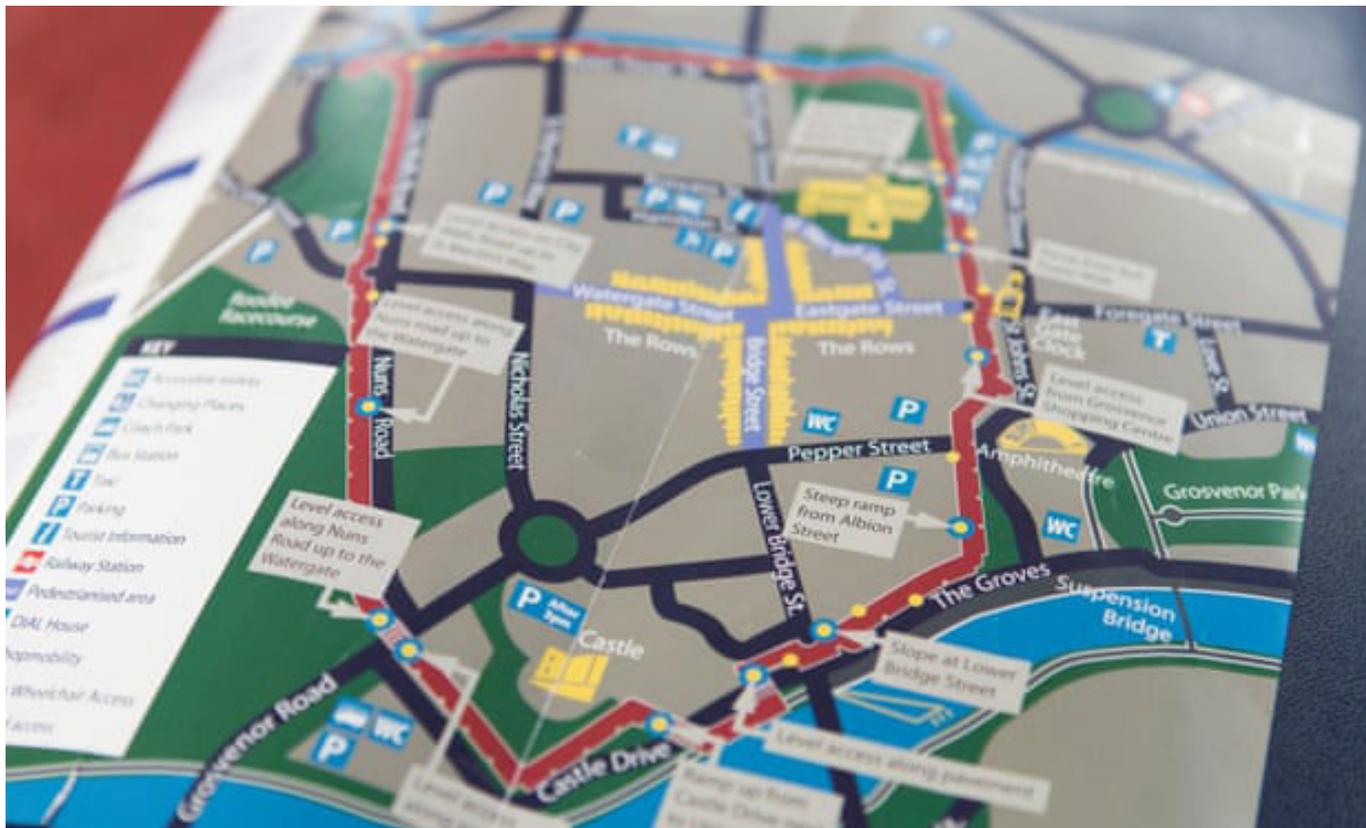
Main Features: Chester's unique elevated walkways above its four main streets, which have enabled double-level shopping since the 13th century are now 100% suitable for wheelchairs. It is a rabbit warren of access. Seemingly hidden passages, filled with fairy-light-strewn cafes, emerge almost magically into the high street. In total, wheelchair users now have six access points to the Rows and 11 to the walls.

Northgate shopping and leisure development is to be completed by 2021. The site will include accessible stores, restaurants, housing and a 157-room hotel including eight accessible rooms with ceiling hoists. The hotel will include a changing places facility for people with complex or multiple and profound disabilities. (Unlike standard



²⁸<https://dc.curbed.com/2017/9/27/16372998/metro-accessible-map-dc>

²⁹<https://www.theguardian.com/cities/2017/sep/20/chester-europes-most-accessible-city>



accessible toilets, these include a height-adjustable changing bench, adjustable sink, a toilet designed for assisted use and hoist.

Chester already has six such changing places facilities, including one at the bus interchange, and more are planned around the city.

There are also tour guides, city centre access guides, signs and online help via the Disabled Go³¹ website. The two-tier shops and medieval atmosphere would impress anyone, but it feels particularly novel as a wheelchair user, and it seems fitting that the access has developed over time: the street-level entrances have been there for more than 100 years; ramps were added a few decades ago; a lift in a department store then gave even more access.

All of the city's public buses are fully accessible. Council policy requires all of its licensed taxis to be suitable for wheelchairs. They must also include additional features, such as induction loops and colour-contrasted grab handles.

Chester has had a corporate disability forum, where 16 disability organisations can challenge architects and developers about access plans. The recent £38m renovation of Story House – the new cultural centre, which includes a cinema, theatre and library – has disability access at its heart. It even has an accessible backstage for disabled performers.³²

³⁰<https://ec.europa.eu/social/main.jsp?langId=en&catId=1141&newsId=2682&furtherNews=yes>

³¹<https://www.accessible.co.uk/>

Issues and Challenges Identified: Chester city illustrates how cities can work towards becoming truly inclusive while highlighting the fact that it takes years of effort and commitment from the management. Although the city has taken efforts on multiple fronts towards making Chester a truly safe, accessible and inclusive city, it still remains unclear what parameters or indicators were designed to map the success.

Key Learnings: Chester city shares some valuable lessons for cities across the globe to take forward the interventions that promote inclusive urban development. In addition to having visionary leaders to take on the challenges, it also reflects on the years of work and mapping of how the city can improve through multiple facets, and the deep understanding of urban parameters.

A disability forum and having persons with disability voicing their needs in urban agglomerations and using technology through digital platforms have been key tools in engaging the varied range of user groups in sensitisation and community engagement.

While Indian cities can learn a lot from the example and take on multiple scalable interventions, one word of caution is that as senior city managements can change and priorities can evolve, it is important that community engagement and critical disability forums are supported to voice the concerns over time. These kind of forums also help in advocating for right allocation of funds and timely resources for taking on some of these interventions.

3. Boston, USA: Watertown riverfront park

Name of the Project: Watertown Riverfront Park

Location/Country: Boston, USA

Name of Organisation/Government Entity: Solomon Foundation, the City of Watertown, and the Commonwealth of Massachusetts



Parameters of BASIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
Inclusivity	Built Environment
	Tourism

Brief Background of the Project: A decade of advocacy helped to restore this mile-long stretch of trail along the Charles River in Watertown as a fully accessible riverfront park and a regional greenway link. Today, visitors have access to new bike and pedestrian paths, river overlooks, and sculptural benches. People who have sight impairments can now enjoy the freedom of the outdoors as they follow a Braille trail line through the woods or interact with Mitch Ryerson’s sensory garden.

Objectives of the Project: For a mile below the Watertown dam, the Charles River was once walled off by an impenetrable tangle of vines and trees. The narrow half-hidden trails were broken and falling into the water. The residents had for years complained about this to no avail. After touring the Charles River Basin in 2006 with DCR Commissioner, the Watertown Riverfront project was identified as a good project to try out a new public-private partnership model whereby the Solomon Foundation would provide both funding and resources to manage the design process. The foundation organised and paid for a community-driven design process facilitated by Watertown-based Sasaki Associates.

With multi-year funding from the foundation, the Friends of the Watertown Riverfront group was formed, and they launched a campaign to gain public funding. In 2005, the project made it to the top of the state’s Land and Conservation Fund list, and the design was finalised with the creative input of artist Mitch Ryerson, who was recruited by the foundation. Built in 2014¹⁶, the project has created access and transformed the relationship of the neighbourhood to the river.³³

Main Features: The Watertown Riverfront Park is the result of a ten-year public-private partnership between



³²<https://www.theguardian.com/cities/2017/sep/20/chester-europes-most-accessible-city>



the Solomon Foundation, the City of Watertown, and the Commonwealth of Massachusetts.

It was initiated with the Department of Conservation and Recreation (DCR) in 2006 as one of the foundation's first public-private projects. For a mile below the Watertown dam, the neighbourhood was walled off from the Charles River by an impenetrable tangle of vines and shrubs. The narrow asphalt trails were so heaved by roots and broken up that few people ventured along them. The collective intent was to fully restore access to this mile of riverfront and make it a destination for everyone.

Today the Watertown Riverfront Park is part of a river walk that circles the upper basin and serves tens of thousands of people in the cities of Boston, Newton and Watertown. It is a critical link in a regional path system leading from Waltham to downtown Boston. Visitors have access to river overlooks, sculptural benches, and playgrounds. People who are visually impaired can now enjoy the freedom of the outdoors as they follow a Braille trail.

Phase II, which still remains to be implemented, will complete the Watertown Riverfront trail to the Squibnocket Park just downstream. Funding for that second and last phase of work could come from \$500,000 in funding contributed by Simmons University in 2012 as part of their long-term lease of Daley Field and, possibly, from I-cubed funding from Athena Health.³⁴

Issues and Challenges Identified: Since the project was primarily funded by a grant, it faced a risk that the funding management could change and commitment and priorities could alter. However the long-term advocacy on the subject and early investment for making the intervention universally accessible was reflected in the way the park investment was done and also helped in further long-

term engagement. Projects of this kind, more than often struggle with building a strong business case which can be a big deterrent in their evolution and execution. Lack of identified resources within government budgets to undertake such interventions is a challenge most cities globally face.



Key Learnings: The project highlights the value and vision of a long-term engagement between public-private partnerships and advocacy for inclusive and universally accessible public spaces, parks and open areas. The park reflects a good example of how active citizen groups and engagement of persons with disability in mainstream discussions can help bring in positive change.

One lesson that the example brings forth is that there must be better budget allocation for a diverse range of budgets at the urban scale so that the city administrations can work more independently and don't have to depend on outside funding, which is further dependent on multiple factors.

³⁴<https://www.solomonfoundation.org/wp-content/uploads/2019/10/Watertown-Riverfront-Park-Case-Study.pdf>

4. Breda, The Netherlands: Accessible city

Name of the Project: Accessible City, Breda

Location/Country: The Netherlands

Name of Organisation/Government Entity: Breda City Council



Parameters of BASiIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
Inclusivity	Built Environment
	Tourism

Brief Background of the Project: The medieval Dutch town of Breda is like many other European cities. It's home to stretches of ancient cobblestone, which all add to the city's charm, but for wheelchair users, cobblestones were an accessibility nightmare, with many people avoiding travelling down them altogether.

Breda worked hard in terms of its wheelchair accessibility. The city won the European Access City Award 2019 and accessibility is still one of its priorities.³⁵ Too often, people with disabilities feel isolated because they cannot access public spaces or transport. In Breda, public places such as parks and stores are accessible to everyone. Digital technologies ensure that all citizens can get around using public transport. And Breda's investments have paid off.



³⁴<https://www.solomonfoundation.org/projects/watertown-riverfront-park>



Objectives of the Project: To make the medieval Dutch town accessible and inclusive for everyone, including the historic parts of the old town.

Main Features:

Breda achieved an engineering feat in the realm of urban accessibility, by making historic cobblestone paths accessible. The city has gone to great lengths to find a balance between maintaining its medieval aesthetic while still making it accessible for everyone. Throughout the streets of Breda, city planners have used machinery to pull up the inaccessible cobblestones. They've sliced them, flipped them over, and returned them to the ground. This allowed Breda to maintain its cobblestone aesthetic, while also making the pavements accessible for wheelchair users.

The city authorities have pulled up all the cobblestones in the centre that surround the Grote Markt and Grote Kerk marketplace and church, turned them upside-down and sliced them widthways. The gaps between the cobblestones were then filled in using a sweep-resistant joint filling in order to make them as wheelchair-friendly as possible.³⁶ A flat surface was thus provided for those with mobility impairments, while keeping Breda's streets just as photogenic as they were before. The flipped-over, sliced cobblestones are mostly in the canal areas, and has made these previously off-limits areas accessible to everyone.³⁷

These active interventions and changes mark the city's commitment to inclusion and have promoted tourism.

Validating the response from the tourism sector and the citizens themselves, the European commission has committed to complement the city's efforts by developing a comprehensive European Accessibility Act by setting European accessibility standards for key products and services. The combined efforts at local and European level are a game changer for the city's administration, tourism sector and especially for persons with disabilities, giving them the freedom and flexibility to travel without support and supervision.³⁸

Issues and Challenges Identified: The initiative required good understanding and compliance with EU regulations towards old towns and how they need to be maintained. The project was challenging as it needed commitment of not only the city council but also the people who were on the site to ensure that the sanctity of the site, materials and other aspects were taken care of.

Key Learnings: Breda historic city is a good example of how at city level, while respecting its cultural and social heritage, interventions can be promoted and executed that are inclusive, safe and universally designed. The case is a good example for the Indian context as most cities struggle with finding apt examples when heritage conservation and universal design norms come into play. Additionally the city administration and leadership reflect vision, leadership and commitment. If a city authority has a clear vision and commitment towards improving everyday lives and experience of its citizens, everything can be achieved. The project represents an engineering marvel, also a great commitment towards making Breda a city for all its people.

³⁵<https://www.breda.nl/en/culture-and-history/wheelchair-friendly-breda-whats-to-do/>

³⁶<https://www.euronews.com/2018/12/04/breda-wins-eu-access-city-award-for-its-efforts-to-be-more-inclusive>

³⁷<https://www.wired.co.uk/article/accessible-cities-design-engineering>

³⁸<https://ec.europa.eu/social/main.jsp?langId=en&catId=1137&furtherNews=yes&newsId=9257>

5. City of London: Achieving an inclusive environment

Name of the Project: Accessible London: Achieving an Inclusive Environment

Location/Country: London, UK

Name of organisation/Government entity: City of London

Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Security
Inclusivity	Built Environment



Brief Background of the Project: London has a policy of inclusive design for the benefit of both residents and visitors to ensure that as many as possible can enjoy the city.

New buildings can incorporate accessibility from the outset but it becomes more costly to change a public realm, much of which was developed in the nineteenth century. This requires long-term investment, which London has made and continues to make, as it undertakes a programme of change that takes it into the future. The Mayor of London champions accessibility and supports changes through a framework of policy and strategy that the Greater London Authority has developed.³⁹

The 2012 Olympic and Paralympic Games proved a catalyst for some accelerated change and investment to make London more accessible, with the eyes of the world watching. This brought many benefits across the supply chain with improvement in information, public services, transport and accommodation. It provided a legacy that London can build upon.

Objectives of the Project: The City Mayor has a commitment and vision towards making London a world-class city, by ensuring that the city is safe, inclusive and accessible for all.

Main Features: The project Accessible London: Achieving an Inclusive Environment led the way forward on how to promote and achieve an inclusive environment in London. It highlighted the need to improve the tourism environment through visitor information and management which would provide a better visitor experience and manage the pressure on key tourism locations. It also recognised how the National Accessible Standard (NAS) ensured serviced and self-catering accommodation which gave persons with disabilities an easy to understand accessible rating system, and this helped the tourist industry to make accommodation more accessible. It was recommended that boroughs should be aware of these standards and ensure that proposals in their areas comply with or exceed these standards.⁴⁰



³⁹<https://www.accessibletourism.org/?i=enat.en.accessible-cities.1892>

⁴⁰<https://www.accessibletourism.org/resources/case-study-1-ec-london.pdf>



In 2011 the plan was updated. Key policies in this plan that affected tourism were:

- London's Visitor Infrastructure required that at least 10% of new hotel bedrooms were wheelchair accessible.
- Town Centres, where the provision of shop mobility schemes and other measures to improve access to goods and services for older and disabled Londoners were promoted.

The City of London planned 'Designing an Accessible City', in which inclusive design was implicit in all aspects of the plan.

The Equal Life Chances for All framework produced by the Mayor focused on accessibility in the city. Amongst the stated aims were:

- Promoting accessible and inclusive design through planning processes
- Ensuring that transport accessibility took into account the whole-journey approach, reducing the journey time difference between "step free" and "non step free" journeys
- Developing InclusiveLondon.com so that people who planned a trip to the city would be able to find out about accessibility features of hotels, restaurants, pubs, shops, museums and tourist attractions the 2012 Games venues and more.
- Improving the accessibility of London as a visitor experience through policies to improve the public realm and transport. Also, to produce guidelines for businesses on access requirements, and develop a triage service to support businesses in implementing the guidelines.

Issues and Challenges Identified: Although the transport system for London is regarded as one of the oldest and most extensive, it however was not always accessible to all. Even though the administration made active interventions

and initiated programmes, the metro (tube) system still remains only partially universally accessible. Phone based apps and Google can inform a commuter on which routes to take to ensure accessibility. However, for successful inclusion of persons with disabilities and the elderly and recognition of their needs, it is critical that commuting is accessible at all points⁴¹

One good aspect of the London mobility system is the role that persons with disability play in regular monitoring and evaluation of accessibility of the designated stations and infrastructure. This is a lesson that needs to be replicated everywhere. However, it is not very clear if there was participation of persons with disabilities at the earlier stages and if so to what extent and what impact it had on the work.⁴²

Key Learnings: For cities to be successful and truly inclusive there has to be a common vision, goal and action oriented approach towards ensuring that they are accessible, safe and inclusive for all their citizens. London City does aim to achieve this; however, understanding its scale, complexity and multiple organisational set-up is equally challenging. The city does share a strong message globally by committing to the universal accessibility and inclusivity approach and interventions, although achieving these on ground still is a great challenge.

Indian cities can learn from such examples of government led programmes and processes put in place to achieve the objectives, although the scales, budgets and priorities at which the interventions work may vary. It is commendable that the city included an active monitoring and evaluation mechanism and engaged persons with disability to evaluate some of the interventions for learning on-the-go and making real time changes. However, a lesson to be learnt from this is that these processes need to be made structured and accounted for in the programmes itself.

⁴¹<https://www.london.gov.uk/what-we-do/planning/planning-publications/accessible-london-achieving-inclusive-environment>

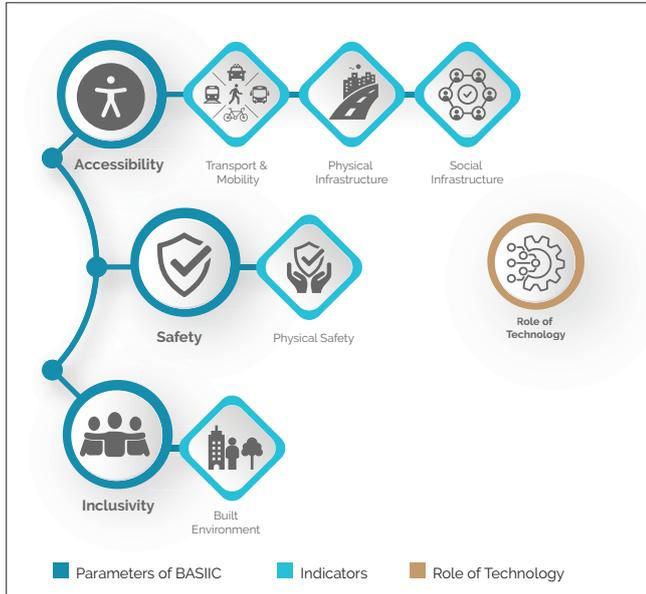
⁴²<https://www.wired.co.uk/article/accessible-cities-design-engineering>

6. Barcelona, Spain: Universal accessibility master plan

Name of the Project: TMB Universal Accessibility Master Plan

Location/Country: Barcelona, Spain

Name of Organisation/Government Entity: Transports Metropolitans de Barcelona (TMB) <https://www.tmb.cat/en/home>



Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
Inclusivity	Built Environment
	Tourism
Role of Technology	

Brief Background of the Project: Barcelona has always been a city at the forefront with regard to improving the quality of life of the people who live and work there and who enjoy its culture and leisure facilities.

A modern, enterprising metropolis such as Barcelona needed more than a high-capacity rail network, well planned and interconnected, but also a strong surface transport network which, with its capillary action, would be able to reach all neighbourhoods and sectors of the population. Transports Metropolitans de Barcelona (TMB) has played a very crucial role in highlighting the need for an all-accessible mobility network and also in creating an enabling environment to develop such a seamless transport network for the larger metropolitan system.

By remodelling the old lines the Barcelona Metropolitan Region has been able to make its transport network accessible by over 70% over the past decade, and second best only after Berlin in the overall transport mobility sector in Europe.



Objectives of the Project

The city authorities were committed to take over the task not just to act in a charitable fashion, but to ensure that people with physical disabilities could enjoy a satisfactory degree of movement. The city aimed at learning from its past mistakes and correcting the historic error of designing cities without taking into account the needs of all their citizens.

Efforts have been aimed to ensure that the transport sector is made accessible for everyone by focusing on two main lines of action:

- Removing the architectural obstacles of the old infrastructures.
- Guaranteeing the universal accessibility of the new structures.

Main Features:

In addition to having complete accessibility in the metro system, bus services, and other modes of public transport within the city, Barcelona also has special cabs with accessibility functions for tourists and citizens to move around freely.

Accessibility to the metro incorporates significant aspects: Ticket-dispensing machines. The new machines have an acoustic locator which is activated by a remote control and a navigation system which, using a voice and audio guide and a Braille system replicator, guides the visually impaired when buying tickets. It is a mobile device which enables people in wheelchairs or of short stature to buy tickets.

- Walkways with varied textures and rough paving to orient the visually impaired.
- The metro trains have areas reserved for wheelchairs and they all incorporate door closing warning lights, which inform people with hearing impairments.
- The city authorities also conducted pilot trials to find a solution to the gap between the platform and the metro carriage.
- The Bus Stop Accessibility Plan was executed at 1,400

- of the 2,000 existing stops.
- 70% of metro stations have lifts between the street and the platform.
- Barcelona Provincial Council has published the book *Accessibilitat al tren en cadira de rodes* (Train Wheelchair Access), a benchmark study in Europe, which establishes a standard gap between the platform and the train when boarding, seen from the point of view of users with restrictions, such as people who get around with the help of a wheelchair. The study focuses on a combination of actions to improve accessibility in our urban and suburban railway network.

The municipal accessibility plans, also known as special action plans (SAP), were the beginning of the most important operating instruments for promoting accessibility in the municipalities (1991-2004). These, over time were replaced by new, integrated municipal accessibility plans (IMAP). These were aimed at replacing the previous model and fully incorporating the idea of universal accessibility into local activity — not only in the urban structure, the design of buildings, the areas and facilities, but also in the provision of municipal services in person or by telematic means. In this way, the IMAPs acted as a gear mechanism which enabled complete actions to be taken and universal accessibility to be considered transversally in all urban sector-based policies.

During this time, a very important municipal culture of accessibility was created in the Barcelona metropolitan area, with regard to both the increase in technical training and in the raising of awareness in the transversal management of actions.

As a consequence of this, the city developed the Catalonia accessibility code, and the Barcelona Accessibility Plan was approved in the municipal area. This was a great boost for accessibility, both in the city and in its metropolitan area. This plan stood out for its progressive attitude compared with the rest of Spain and even Europe.

Additionally, as Barcelona is regarded as a major tourism hub and has lots of tourists visiting all through the year, all major tourist destinations, including the famous Gaudi buildings and parks in the city have been made all-accessible to support tourism and include all people into various aspects of the city.

With wheelchair accessible beaches, the city is regarded as one of the top destinations for tourists across the globe.

Over the years, the city has also organised groups for special accessible tours for persons with different disabilities.

Issues and Challenges Identified: There were consistent efforts and campaigning to get things into action. The organisations working actively with persons with disabilities played a very important role at various stages of the interventions.

It was not easy to change the way inclusive development and accessibility was looked at for decades, so it required systemic changes, along with improvement within the physical and social infrastructure of the city.

Key Learnings: The case study highlights the participation of citizens in taking action towards bringing in systemic changes. The study is also a good example of regular monitoring and evaluation and how that can help improve the interventions over the years.

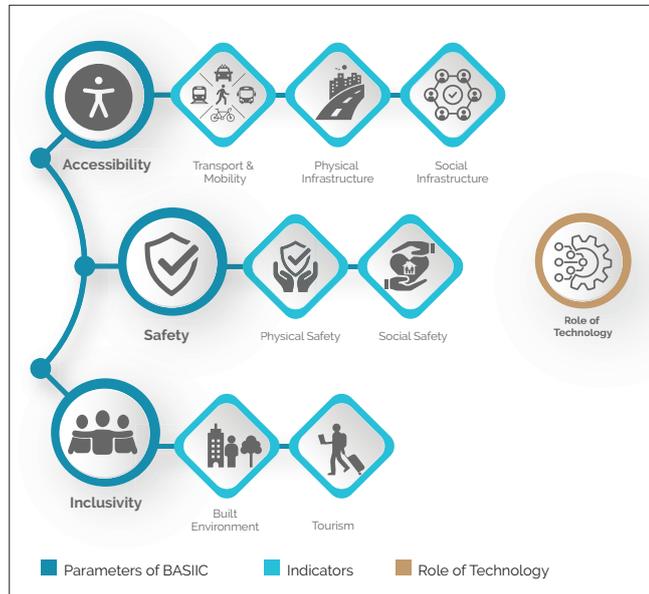


7. Berlin, Germany: Street map for wheelchair users

Name of the Project: WheelMap App for Wheelchair Users

Location/Country: Berlin, Germany, expanded to cities across the globe

Name of Organisation/Government Entity: WheelMap.org



Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
Inclusivity	Built Environment
	Tourism
Role of Technology	

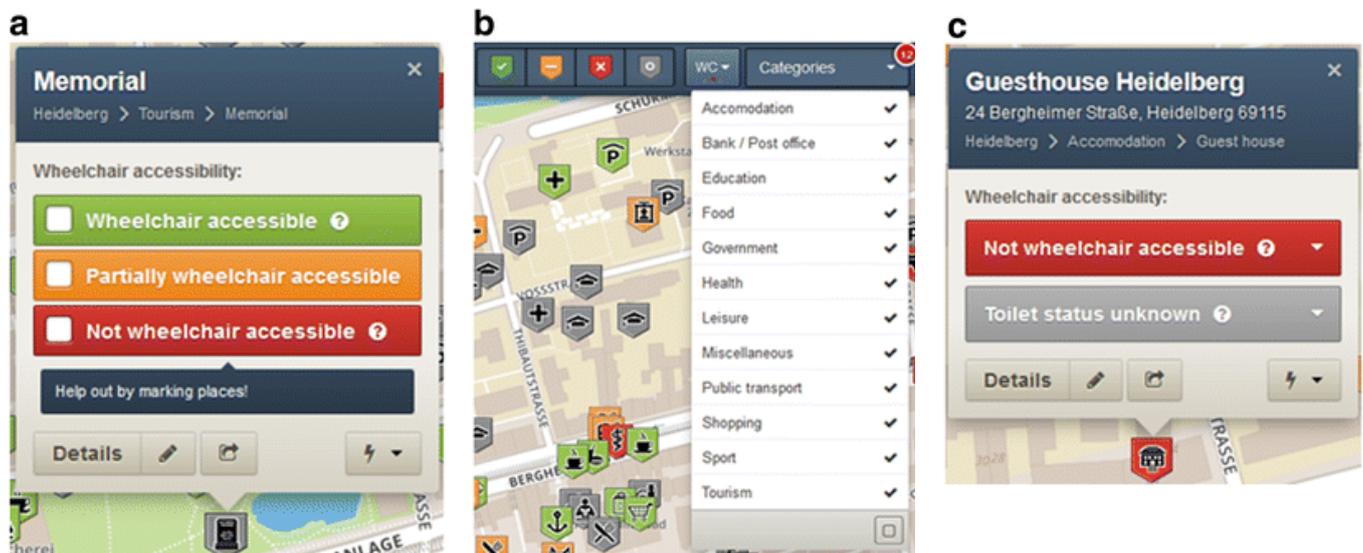
Brief Background of the Project: Wheelmap –a map for wheelchair accessible places is an initiative of Sozialhelden,

a grassroots organisation from Berlin, Germany. On WheelMap, everyone from all over the world can find and add places and rate them. The map, which is available since 2010, helps wheelchair users and people with mobility impairments to plan their day more effectively. Currently, more than 800,000 cafes, libraries, swimming pools, and many more public places have been captured. While the majority of the places which have been added so far are located in Germany, the mapping platform works globally, as it is based on OpenStreetMap (OSM). The WheelMap interface is available in multiple languages.⁴³

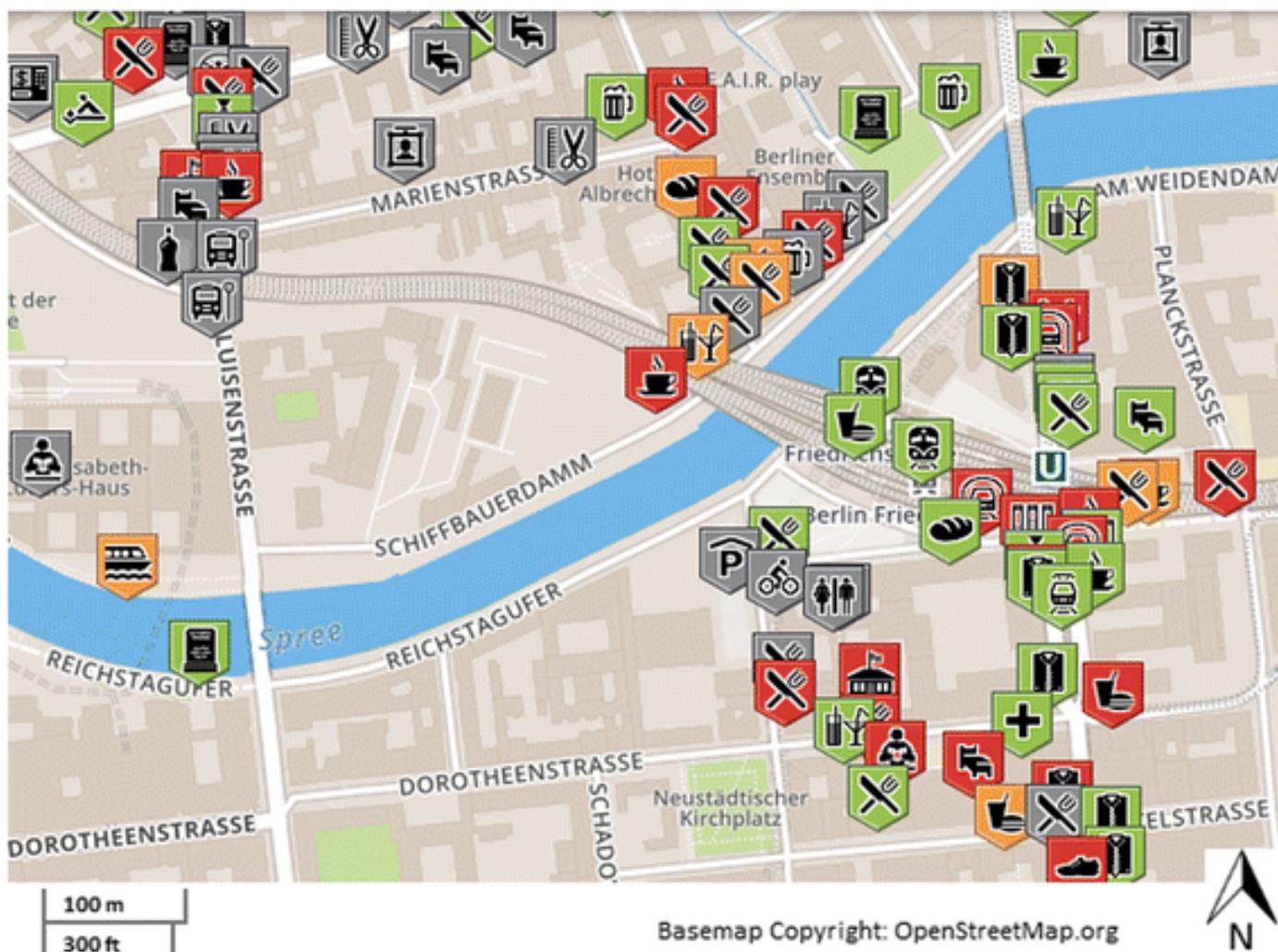
Objectives of the Project: To make available and to give information of facilities that allow people with mobility impairments to plan their day independently. With the help of Wheelmap information is provided for users on how accessible a destination is. Thereby the map contributes to an active and diversified lifestyle for wheelchair users. People with strollers or buggies benefit from this tool as well. The aim of Wheelmap is to make owners of wheelchair-inaccessible public places aware of the problem. They should be encouraged to reflect on and improve the accessibility of their premises. The main objective is to gather information about the accessibility of public places (points of interest, POI). Everyone is invited to participate and provide their own tagging of places on an OSM-based map at the Wheelmap website.

Main Features:

- The application has been designed, populated and used by persons of disability. It is remarkable as the app helps understand the granular problems persons with various disabilities face in an urban space.
- The app helps find information regarding the last mile connectivity which has been collated by persons with various disabilities. Wheelchairs or purpose-built cars on the one hand, elevators and ramps on the other allow people with mobility impairments to plan their day independently to a great extent. But frequently, the last meters decide whether the trip to the cinema, beer



⁴³Wheelmap: the wheelchair accessibility crowdsourcing platform <https://link.springer.com/article/10.1186/s40965-017-0040-5>



garden or supermarket was worth the effort. Just one single step at the entrance can be an insurmountable obstacle, and this is where Wheelmap comes into play. Users provide information for other users on how accessible a destination is.

- Users can add images to a place. Images can be added from either the camera or from the photo album.
- The “Get engaged” function shows unmarked places nearby.
- Users can share the link to any place on Wheelmap.org via Facebook, Twitter, email and SMS.
- Users can ask their network and friends via Facebook, Twitter and email if they know the wheelchair accessibility of an unmarked place and can tag it accordingly.
- The “Route” function shows users a route from their current position to a certain place on Wheelmap.org. In the list view, a user can see how far away a place is from the current position of the user.

Issues and Challenges Identified: A main concern regarding using crowdsourced datasets such as OpenStreetMap is the level of quality they carry. For instance, the sidewalk information (as well as other relevant data for accessibility) in the OpenStreetMap database exposes the lack of data completeness after applying extrinsic and intrinsic data analysis. However, Wheelmap, among other possibilities, can be used by volunteers to enrich accessibility information in OpenStreetMap.

Key Learnings: Wheelmap has had a great influence in research projects. Several studies have used or cited Wheelmap as one of the main crowdsourcing platforms in the accessibility domain. Hence, this study aims to introduce this platform for a better understanding and usage in future studies.

The study highlights the role of active participation of users and the value they add to data sets and information collected and the way this is further utilised.

8 Mexico: Accessibility for people with disabilities to the Bus Rapid Transit system Metrobus

Name of the Project: Accessibility for People with Disabilities to the Bus Rapid Transit System Metrobus

Location/Country: Mexico City, Mexico

Name of Organisation/Government Entity: Mexico City Metrobus



Parameters of BASIC	Indicators
Accessibility	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Health
	Built Environment

Brief Background of the Project: In 2002, WRI Centre for Sustainable Transport in collaboration with Government of Mexico City worked on a Programme for Sustainable Transport. In 2005, the first BRT system, Metrobus line 1, was opened, which provided limited accessibility features. In 2008, Mexico ratified the Convention on the Rights of persons with disabilities. As a result, the local government integrated in its political agenda accessibility to people with disabilities, including in transport, and an update of building regulations. The expansion of the system, influenced by the convention, as well as by social and technical changes and political events, promoted the progressive evolution of the accessibility criteria. Metrobus line 5 opened in 2013, and was the first line that integrated the accessibility criteria with a better understanding of the relationship between stations, public space, operation and bus transfer.

Objectives of the Project: The aim of the project was to provide a safe reliable service and easy access, taking into consideration people with disabilities. The agreement aimed at improving mobility, accessibility and quality of life for residents, reducing travel time and improving the quality of existing services. This consisted in introducing a modern mass transit system, the Bus Rapid Transit (BRT) corridor. In addition to addressing the bus service issue, the BRT Metrobus project emerged in the context of the city's efforts to reduce air pollution in Mexico City.

Main Features: The building authority checked over the architectural plans with an accessibility consultant looking at the accessibility standards of the local building regulations. A government social agency was the coordinator of the groups of users with different types of disabilities. For example, a group of people with visual disabilities, who had previously acted as accessibility





evaluators, were asked to test the tactile signage before their installation at the station. After installation, the group was asked to go to the station to ensure that their location was adequate in relation to the tactile warning surface.

Accessibility components considered were:

- In stations: enclosed stations with raised platforms for high-floor buses, ramps to station entrances, and accessible paths to bus doors; gratuity service with an accessible entrance gate, tactile walking surface indicators from the station entrance to the preferential boarding area; tactile signs, buttons to alert bus drivers to minimise the gap between the platform and bus floor; and accessible toilets.
- Buses: a dedicated bus lane with low emission buses, wheelchair access and spaces for wheelchairs, audible and visual alarms on buses for closing doors, and preferential seats.
- Public space to station entrance: accessible sidewalks along the length of the BRT line corridor, accessible pedestrian crossings using traffic control to the median stations with audible signals for pedestrian traffic lights, and tactile warnings at curb ramps.

Issues and Challenges Identified:

- There were time constraints to finishing the construction work. As a result, there was no time to review in greater detail certain necessary accessibility features.
- The response of the access consultants and the disability group was sometimes too late for the construction process.
- There was a lack of suppliers who could address the accessibility requirements.
- Due to changes of government officials in charge of the building work for Metrobus projects, the accessibility criteria had to be re-addressed from the start, with briefings to show the progress made in previous lines.
- No technical accessibility guidelines for the Metrobus system are published that would allow to maintain the quality as well as the successful accessible growth system independent of political cycles.

Key Learnings: Accessibility for persons with disabilities was improved compared to previous Metrobus lines. For persons with disabilities, the new accessibility features improve their mobility by giving them access to the public transport network and making the city more liveable for them.

9. Sierra Leone – Including a representative from a disabled people's organisation on the Moyamba District Council Social Welfare Sub-committee

Name of the Project: The Inclusion of a Disabled People's Organisation Representative on the Moyamba District Council Social Welfare Sub-committee⁴⁴

Location/Country: Sierra Leone

Name of Organisation/Government Entity: Moyamba District Council, Disabled Rights Movement, Sierra Leone (DRIMSL)

Tenets of BASIIC programme	Indicators for mapping case studies based on the pre-set criteria
Accessibility	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Education

Brief Background of the Project: Moyamba town has a population of around 28,000 people, and is the district capital for the Moyamba district, southern Sierra Leone. The Disabled Rights Movement, Sierra Leone (DRIMSL) is a DPO operating in Moyamba town.

A government decentralisation process in Sierra Leone required district local councils to ensure the provision of services to socially marginalised and disadvantaged groups, including people with disabilities.

In order to carry out this mandate, the Moyamba district council established various working sub-committees including one on education and social welfare. Objectives of the Project: In October 2008, as a result of DRIMSL-led awareness-raising and advocacy activities targeting community leaders and councillors within the Moyamba district council, the Coordinator of DRIMSL, Moyamba district branch, was co-opted to represent people with disabilities on the district council social welfare sub-committee. As a representative of people with disabilities, this person provided insights and expertise on disability issues that has since guided the work of the social welfare sub-committee of the council.

In July 2009, the social welfare sub-committee, drawing on the DPO's expertise on disability issues, undertook a survey of vulnerable non-school going children with disabilities in Moyamba town. Several children with different impairments were identified. The committee recommended these children to the Moyamba district council for educational support. The Moyamba district council accepted the work and recommendations of the social welfare sub-committee and provided scholarship support for the education of the children in specialised and mainstream schools.

Main Features:

Consistent approach by DPO leaders in presenting disability issues to key managers, community leaders and local authorities in Moyamba district.

There is a very positive and supportive working relationships between the district council administration, councillors, Plan Sierra Leone and the Ministry of Education, Youth and Sports.

Organising community-based awareness-raising meetings focusing on disability issues, including the rights and involvement of people with disabilities in the life of the community. Advocacy and awareness-raising campaigns organised by DRIM-SL Moyamba on MoDCAR radio on the theme "wi sef get voice" (we have a voice too).

Issues and Challenges Identified:

The DPO representative on the social welfare sub-committee is not an elected member. He does not sit in directly on the main council meetings. However, he has lobbied other elected members (who are on the sub-committee) to present disability recommendations during the main district council meetings.

The venue for the sub-committee meetings is usually the Ministry of Agriculture, Forestry & Fisheries conference hall in Moyamba. This building is a long way from the DRIM-SL Moyamba branch office and therefore poses transport and accessibility challenges to the DPO representative, who travels to the venue by hiring public motor bikes.

Key Learnings: Representation of people with disabilities on the committee has increased members' awareness and led to the inclusion of disability as a mainstream theme in the Moyamba district council development plan, whereas normally disability issues would not receive the level of recognition needed.

The DPO representative has also played a pivotal lobbying role, influencing decisions relating to the provision of basic social welfare services by local government councils to people with disabilities. For example, the refurbishment of the Moyamba Hospital took accessibility issues into account. The hospital entrance doors have been widened and ramps have been constructed at strategic points to ensure mobility for people with disabilities.

The inclusion of a DPO representative on a local governance committee (the social welfare sub-committee) was an integral part of decision making structures and processes for the provision of development support services to vulnerable people, including children, women and people with disabilities.

COVID-19 Implications: Evidence demonstrates the important role that community knowledge, including the inputs of persons with disabilities, played in tackling the West African Ebola outbreak in 2014.⁴⁵ This case study demonstrates how working with DPOs and inclusive urban governance can allow municipal and local authorities to better identify and respond to the needs of people with disabilities.

⁴⁴This case study is from 'Making it Work' - <https://www.makingitwork-crpd.org/our-work/good-practices/how-can-disabled-peoples-organisations-ensure-disability-issues-are-2>. The 'Making it Work' website has a number of similar useful case studies at different scales from countries around the world.

⁴⁵<https://pubmed.ncbi.nlm.nih.gov/25680362/>

3.3 Innovative Urban Interventions

1. United Kingdom: Changing places

Name of the Project: Changing Places

Location/Country: United Kingdom

Name of Organisation/Government Entity: The Changing Places Consortium



Parameters of BASIC	Indicators
Accessibility	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety
Inclusivity	Health
	Built Environment
Role of Technology	

Brief Background of the Project: The Changing Places Consortium is campaigning to build more accessible toilets in all major public places, including city centres, shopping centres, art venues, hospitals, motorway service stations, leisure complexes, large railway stations, airports etc. Changing Places toilets are different from standard accessible toilets because they include special equipment, space and facilities for persons with disabilities who need assistance and cannot use standard accessible toilets. They provide a height-adjustable changing bench and a hoist, offer adequate space in the changing area for up to two carers, and provide a centrally placed toilet with rooms on either side for the carers.

Objectives of the Project: Due to the lack of suitable toilets, persons with disabilities who need assistance cannot take





Changing Places

A A reset

[Home](#) [The campaign](#) [News](#) [Get involved](#) [Install a toilet](#) [Find a toilet](#) [Real life stories](#) [About us](#)

Changing places, changing lives

Sometimes you just need to change one thing to open up a world of possibility...



[Home](#)



Over a 1/4 million people need Changing Places toilets to enable them to get out and about and enjoy the day-to-day activities many of us take for granted.

Search for a Changing Places

Find a Changing Places toilet



Keep up to date on our

part in many activities such as shopping and going to a park or a show. Without a suitable changing bench and hoist, many persons with disabilities have to be laid on unhygienic toilet floors.

Main Features: The Changing Places campaign ensured that by 2017/18 there would be 1,000 Changing Places toilets in the United Kingdom. Individuals and companies could commit themselves to building a Changing Places toilet on their premises according to the provided standards and requirements. Their toilet would then be listed on the map of Changing Places, which would be available online and made fully accessible to all users. This allowed beneficiaries to find locations with appropriate toilets. There are also mobile Changing Places toilets available to rent for large and small events.⁴⁶

Issues and Challenges Identified: The main challenges are venues obtaining funding for Changing Places projects and the lack of space available in some venues for Changing Places that meets the British Standard, as often

they are built in developed urban agglomerations. Even though the consortium works with providers, architects, installers and campaigners to make sure that the best results are achieved and that the projects meet the British Standard when possible, it is important that some funds are allocated for such interventions so that projects of this kind can be expanded over time.

Key Learnings: The intervention highlights that even with good policy intentions and active interventions, most often projects don't end up focusing on aspects that really matter to people the most. The consortium highlights the lack of some very basic facilities within the everyday lives of citizens, in turn hampering their participation within society. There needs to be better campaigning and mapping of such interventions with supporting funds to take these interventions to scale. In addition, it is important to explore new models on how interventions of this kind can be scaled up and to find a stronger and more valuable voice within the system.

⁴⁶Good practices of accessible urban development: Making urban environments inclusive and accessible for all. _United Nations _ 2016.

2. Seattle: A sidewalk Mapping App

Name of the Project: OpenStreetMap and AccessMap: A sidewalk mapping app

Location/Country: Seattle, USA

Name of organisation/Government entity: University of Washington's Tasker Centre for Accessible Technology



Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Safety
	Disaster Management
Inclusivity	Built Environment
Role of Technology	

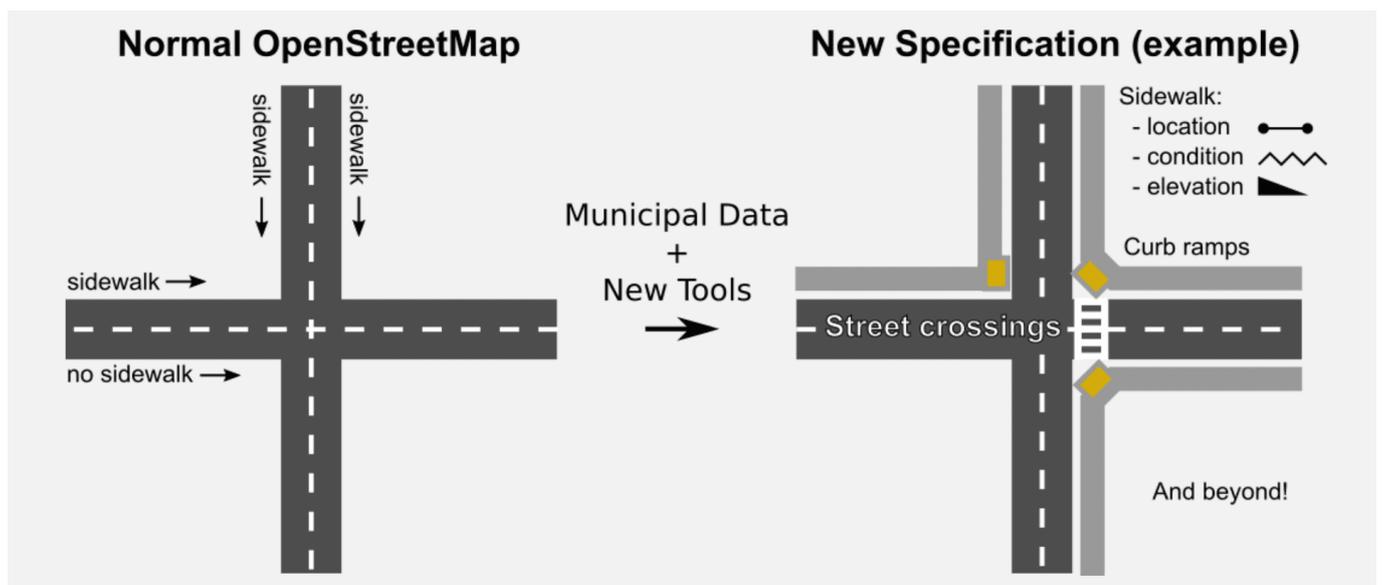
Brief Background of the Project: Mapping apps makes navigating cities easier for most people – but their lack of detail on ramps and dropped kerbs mean they don't always work well for people with a physical disability. This is so especially in hilly or difficult terrains such as of Seattle, where several neighbourhoods have no pavements at all, and many streets have a slope grade (or tilt) of 10% or even 20%.⁴⁷

For persons with limited mobility, using sidewalks or pedestrian paths in an unfamiliar area it can be like driving without directions. Obstacles such as hills that are too steep, sidewalks without sloped 'curb cuts' that allow people using wheeled devices to safely and easily cross intersections are difficult for wheelchair users, young children, the elderly and people with certain health issues.

Objectives of the Project: The street sidewalk was designed to make it easier for people to walk and further improve the walkability of the city. However, understanding that transportation routing services are primarily designed for people in cars doesn't help pedestrians, parents pushing bulky strollers, or people in wheelchairs in easily navigating a neighbourhood using sidewalks.

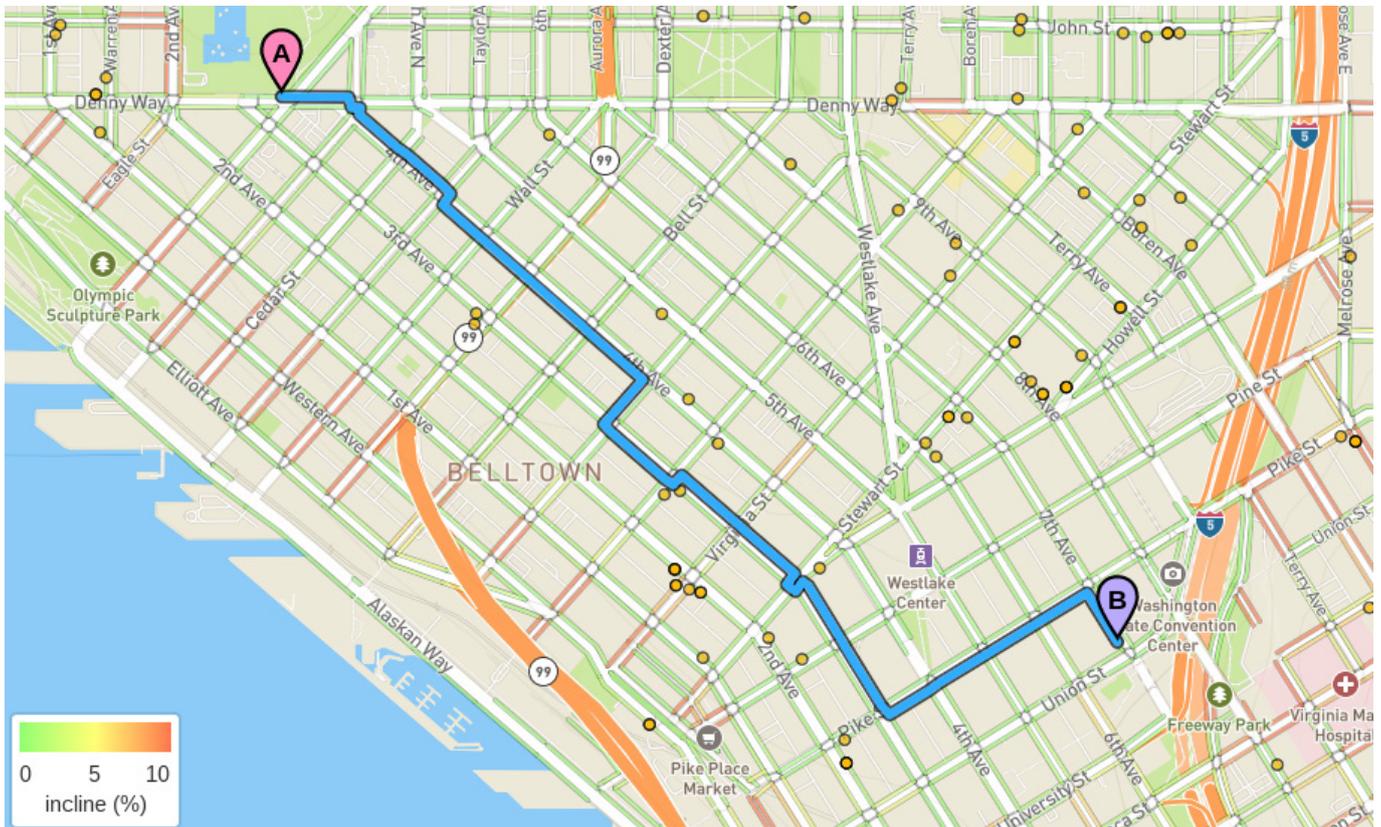
Main Features: The University of Washington's Tasker Centre for Accessible Technology designed a map-based app allowing pedestrians with limited mobility to plan accessible routes. AccessMap enables users to enter a destination, and receive suggested routes depending on customised settings, such as limiting uphill or downhill inclines. For example, while Google Maps sends pedestrians from University Street station to City Hall via Seneca Street, with its steep 10% grade, AccessMap sends them via Pike Street instead – a slope of less than 2%.⁴⁸

AccessMap also supplements data from Seattle's Department of Transportation and the US Geological



⁴⁷<https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>

⁴⁸<http://www.opensidewalks.com/>



Survey with information from 'mapathon' events. Now the Tasker Centre's related 'Open Sidewalks' project is taking the facility further by crowdsourcing extra information, such as pavement width and the location of handrails.

It also routes people around Seattle's ubiquitous building and construction sites that can close sidewalks for entire blocks, forcing people who are traveling on foot or using assistive devices to embark on unforeseen detours.⁴⁹

Issues and Challenges Identified: Most mobility applications are designed based on persons commuting via cars and other forms of transportation. It is often realised that very little focus is given to walkability and further still to walkability and mobility of vulnerable grounds for persons with disability, children, the elderly, and women with strollers.

Key Learnings:

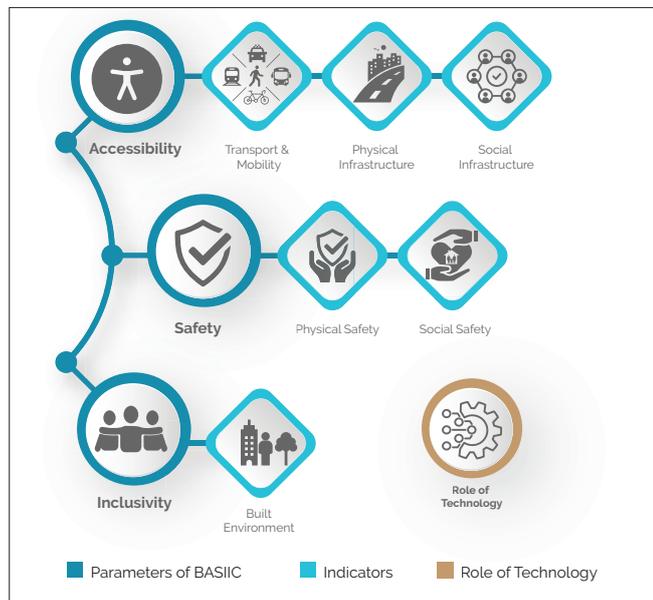
The OpenStreetMap (OSM) project has made available extensive, user-contributed open data on transportation networks, providing the basis for many use cases and downstream activities, including rich analytics, travel route optimisation, city planning, and disaster relief. Some footways have been annotated in OSM as independent routes. However, sidewalks in the built environment have generally been treated as an addendum to streets.

The OSM project is a rich example of making use of technology in a spatial context and ensuring that persons with disabilities can understand, access and make use of such information easily. With active information available through a digital platform, it is making areas more accessible, and city officials more aware about what aspects to cater to when thinking about urban interventions.

⁴⁹<https://www.washington.edu/news/2017/02/01/new-route-finding-map-lets-seattle-pedestrians-avoid-hills-construction-accessibility-barriers/>

3. Melbourne: Bluetooth audio clues

Name of the Project: Bluetooth Audio Clues
Location/Country: Melbourne, Australia
Name of Organisation/Government Entity: Melbourne City Council, Blind Square



Parameters of BASIIC	Indicators
Accessibility	Transport & Mobility
	Physical Infrastructure
	Social Infrastructure
Safety	Physical Safety
	Social Security
Inclusivity	Built Environment
Role of Technology	

Brief Background of the Project: Over the last 20 years tactile footpath indicators have been installed at every

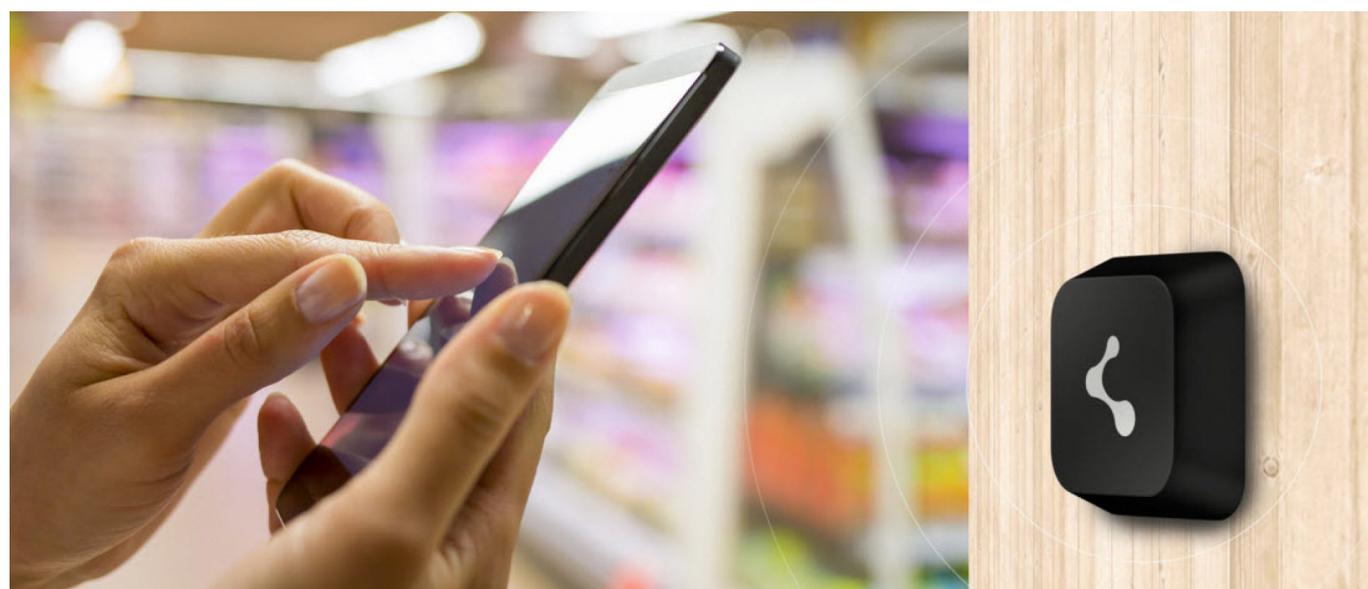
corner in the grid of Melbourne city, and Braille street signage is used in a limited capacity within the Central Business District (CBD). Melbourne City Council has checklists on its website for making events and venues accessible for all Melburnians. Australian interpreted performances and relaxed performances for those on the spectrum are popping up at major Melbourne theatres, too.

Objectives of the Project: Melbourne, Australia, undertook an eight-month pilot scheme which transformed how visually impaired people navigate public space. An accessible GPS-app was developed for the blind and visually impaired. Paired with third-party navigation apps, the local application has added a self-voicing app to deliver detailed points of interest and intersections for safe, reliable travel both outside and inside. The project at rail terminals uses Bluetooth and free GPS smartphone app Blind Square to create a beacon navigation system.

Main Features: Melbourne City Council is also working on making public transport even better for those with disabilities. They advocate and engage with transport providers and have organised on-site meetings with Disability Advisory Committee members to demonstrate the challenges people with disabilities face when accessing public transport.⁵⁰

The application determines your location, and through applications such as BlindSquare gathers information about your surroundings on Foursquare and OpenStreetMap. Algorithms determine what information is most useful to you, such as popular cafes, post offices or libraries.

Users receive audio cues via their smartphones, providing directions or real time information about issues such as escalator outages. Outside, the app provides real-time directional information; inside, where GPS is unreliable, 20 wireless Bluetooth beacons means users still



⁵⁰<https://www.timeout.com/melbourne/news/how-can-melbourne-be-made-more-accessible-062819>



receive information. Audio cues include advice such as: "Approaching three escalators on left, followed by a set of doors – the doors on the left are automated." The trial was led by the charity Guide Dogs Victoria, which plans to install similar systems at Melbourne Zoo, Albert Park and the Docklands area.⁵¹

When it comes to the built environment, many urban planners, architects and engineers can measure their work against access legislation, notably the Discrimination Act 1995 (DDA). Making a building more accessible is the responsibility of developers and designers, plus the building's owner, council or whoever is responsible for the building. The barriers associated with accessibility are generally defined by a willingness by developers and designers to openly address the requirements.

Issues and Challenges Identified: There is a push for more research in designing for a broader range of disabilities.

There needs to be more exploration that is required towards information that the app has regarding a particular person. The application is particularly valuable for the elderly and also visually impaired people and gives them the confidence to move about the city independently.

Key Learnings: The role of technology has enabled the city to take up the initiative more actively with visible changes and improvements in the accessibility of transport and other mediums in daily use for persons with disability. The example shows how technology can enable inclusive development, which can be useful for a diverse range of users and also help create a good data base for city managements. It also helps provide a sense of safety where people can already know more about the space they are a part of through active digital clues.

Such examples can be game changers within the Indian context and also provide the possibility to scale up.

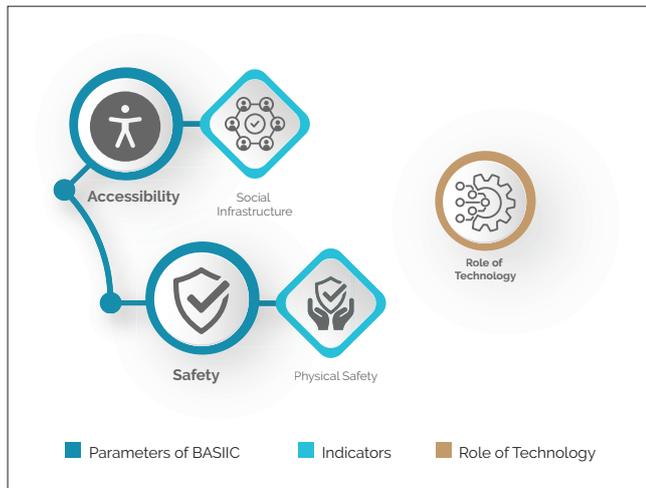
⁵¹<https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>

5. Kenya: Riziki Source

Name of the Project: Riziki Source

Location/Country: Kenya

Name of Organisation/Government entity: Riziki Source (private)



Parameters of BASIIC	Indicators
Accessibility	Social Infrastructure
Safety	Physical Safety
	Social Safety
Role of Technology	

Brief Background of the Project: Riziki Source is a social enterprise enabling access to job opportunities for persons with disabilities in Kenya. They facilitate employment, disability inclusion and linkage to over six million people with disabilities in Kenya who have particular skill sets, who are untapped for recruitment as a value proposition for companies, organisations and government formations.

Riziki Source offers disability mainstreaming trainings and awareness creation for companies and organisations while supporting them throughout the process of recruiting a person with a disability.⁵²

Objectives of the Project: The key objective of the initiative is to create a world where persons with disabilities thrive in the work economy and become an active part of the workforce in the country. The organisation works on the ideology that enabling access to job opportunities for persons with disabilities is the key to stronger economic reforms in the country, in addition to aspects of inclusion and accessibility and safety of all citizens.

Main Features: Riziki Source facilitates workplace diversity, self-employment, disability inclusion, and linkage to people with disabilities in Kenya who have particular skillsets. It is designed as an online platform to match jobseekers with job providers. The name is derived from Swahili for

'livelihood'. Users input their qualifications, skillset, location and disability, and are then matched with potential employers. Users' qualifications and skillsets are visible to businesses, but not their CVs; should an employer express interest in a specific candidate, they connect through the Riziki Source person in charge.⁵³

The organisation is an expert in workplace inclusion of persons with disabilities and embraces a two-sided individual focused approach in supporting clients and partners to thrive in their areas of specialisation.

The organisation's services can be accessed in the following streams:

Disability Employment Database: A database is maintained of persons with disabilities seeking job opportunities through the Riziki app, a mobile application that is both web based, downloadable on android, and SMS based where employers and persons with disabilities seeking employment register into the disability employment database.

Tuchape Kazi (Let's Work): This is an initiative that supports youth with disabilities in Kenya to improve their employability and find employment opportunities.

Consultancy Services: Consultancy services are offered on a range of themes related to disability inclusion at the work place, on practices, policies and laws. One can reach out for tailored trainings on inclusive human resources, workspaces, disability mainstreaming and employment at the organisation.

Riziki Shop: This is a marketplace that promotes goods and services made by persons with disabilities in Kenya. The goal is to maximise sales of the products made by this group, thus enabling them to earn a sustainable income.

Issues and Challenges Identified: The app was designed with a vision to change the narrative of disability in Africa, with the clear aim of inclusion and tapping into a large resource of manpower, which could be aptly utilised. However, the app is still new and has not yet resulted in a lot of changes in the system, primarily due to the social stigma of disability, lack of resources, and lack of ample sensitisation of organisations to take up the challenge.

Key Learnings: The app-based intervention is a great initiative to help give persons with disability the possibility of participating in the mainstream workforce of the country. Additionally, as the app helps make engagement between the beneficiary and the organisation more coherent, it helps people gain support when it is required.

⁵²<https://rizikisource.org/>

⁵³<https://www.theguardian.com/global-development/2016/dec/25/kenya-creativity-broadens-employment-horizons-disabled-people-africa-prize-for-engingeering>



Comparative Analysis of Best Practices

CHAPTER 4

The study of global good practices on understanding the way actions concerning persons with disabilities are being taken in urban planning and design was a valuable insight. Although a secondary desk review study, it did help better understand the actions and the ways they were made impactful for persons with disabilities in real-time.

Some of the key learnings from the study revealed:

- Technology has the potential to play a key role in empowering persons with disabilities and cities in enabling them with their rights and also making them a better part of the urban ecosystem.
- In addition to focusing on spatial and physical infrastructure, social infrastructure building, active discussions regarding the everyday concerns of persons with disabilities and overcoming stigma play an essential role in achieving successful results.
- Along with an action oriented approach, a visionary leader, sensitisation at multiple levels, and commitment of the government authorities and organisations are essential to achieving positive outcomes.
- The examples from different countries have been a learning graph for most cities across the globe, making it imperative to document the process, and in addition,

S N	Good Practices	Role of Technology	
1	Country Level Practices	Friendly Buildings, Singapore	
2		Accessible India Campaign, India	o
3		Universell, Norway	
4		Liveable & Inclusive Communities for Seniors with Disabilities, Canada	
		Inclusive Post Earthquake Reconstruction - Nepal	
		Wheelmap Open source mapping for accessibility - Global	o
		Inclusive wash in Uganda and Zambia: The Undoing inequity project - Zambia and Uganda	
5		Social Protection and disability, Kenya	
6	City Level Practices	Washington, DC: Most accessible metro system, USA	
7		An accessible historic city, Chester, UK	
8		Watertown riverfront park, Boston, USA	
9		Breda, The Netherlands	
10		City of London, UK	
11		Universal Accessibility Master Plan, Barcelona, Spain	
12		Street Map for Wheelchair users, Berlin, Germany	o
13	Accessibility for people with disabilities to the Bus Rapid Transit system Metrobus, Mexico City, Mexico		
	The Inclusion of a disabled people's Organisation Representatives on the Moyamba District Council Social Welfare Sub-committee - Sierra Leone		
1	Innovative urban interventions	Changing Places, UK	o
16		Seattle Sidewalk, Mapping App, USA	o
17		Melbourne: Bluetooth audio clues, Australia	o
18		Riziki Source, Kenya	o

to include persons with disabilities at all stages of designing, planning and execution.

- Cities need to work towards newer financial and operative mechanisms to be able to take some of these decisions on their own and take these interventions forward for better experimentation and learning and streamlining of the process.
- Mapping of data at various levels, disaggregating it and further analysing it with respect to the multiple aspects that exist in urban areas will be key to bringing about

new and innovative ways to resolve problems locally and in creative ways.

Shared below is a chart mapping out the parameters against all case studies to better realise the aspects that have been crucial in bringing forth positive changes. It also illustrates how cities and officials in India can learn from these lessons and find innovative ways to resolve some of the challenges they face locally in more inventive and collaborative ways.

	Accessibility			Safety			Inclusivity			
	Transport & Mobility	Physical Infrastructure	Social Infrastructure	Physical Safety	Social Safety	Disaster Management	Health	Built Environment	Education	Tourism
	o	o	o	o	o		o	o	o	
	o	o	o	o	o	o		o		o
			o		o				o	
			o	o	o		o	o		
		o	o			o		o		
	o							o		o
			o		o				o	
	o	o	o	o	o					
		o	o	o	o			o		o
	o	o	o	o				o		o
	o	o	o	o				o		o
	o	o	o	o	o			o		o
	o	o	o	o				o		o
	o	o	o	o	o		o	o		
			o	o	o				o	
		o	o	o	o		o	o		
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	o	o	o	o	o			o		
			o		o				o	

5



Indian Practices



CHAPTER 5

Visakhapatnam – All Abilities Park

Name of the Project: All Abilities Park

Location/Country: Visakhapatnam, Andhra Pradesh

Name of Organisation/Government Entity: Greater Visakhapatnam Municipal Corporation (GVMC)

Brief Background to the Project: Visakhapatnam is the largest city and financial capital of Andhra Pradesh. It is the most populous city in the state and one of the million-plus cities in India with a population of over 2 million. The core city and its surrounding settlements together constitute Visakhapatnam Metropolitan Region, one of the most populous urban regions in the country with a population of over 5.3 million. The economy of the city is the tenth largest in the country. Visakhapatnam is a famous port city due to the presence of two big ports, namely Visakhapatnam Port and Gangavaram Port. The city has recently seen the growth of the IT and pharmaceutical industries. Being a large city, and having a keen focus on convenience of its citizens, Visakhapatnam intends to provide suitable infrastructure and services accessible to all citizens and every section of society.¹

Vizag Smart City, with an aim to enhance social infrastructure for the ABD area and encourage inclusive development, has pioneered the initiative of creating a special park for 'kids with special needs' under the Smart City project.² The All Abilities Park seeks to balance the needs of persons with disabilities without segregating them from the rest of the community.

Objectives of the Project: The All Abilities Park showcases the city's strong emphasis on enhancing its social infrastructure particularly to improve the health and well-being of all its citizens, which includes persons with disabilities. The park was built in 2018.

Main Features:

- Opportunity for all park users to engage in structured and unstructured play in a scenic location facing the Bay of Bengal.
- Dedicated space with multiple levels of play, which will allow people with different levels of ability to participate in a safe and managed environment.
- Actively encourages visitors to engage in activities, including: climbing, crawling, swinging and water play.
- Focuses on expanding the skillsets of the participants and encouraging physical activity with participants of mixed levels of ability.
- Provides citizens with good quality open space for encouraging them to spend more time outdoors, thereby aiding physical activity and healthy living.

Issues and Challenges Identified: The project has been a huge success for the city and all its residents, especially for its location along the beach side. However, proper planning of traffic and other movement and increasing pressure on the park, as well as post implementation aspects and maintenance have been unsatisfactory. The project under the Smart Cities Mission was a great example of how the national mission can help incorporate



¹https://smartnet.niua.org/sites/default/files/resources/10_0.pdf

² <https://smartnet.niua.org/content/e6c23978-5854-4330-8200-df430fc7ad0a>

inclusive development and planning at multiple levels. The project however, could have been designed better, with better and more inclusive and globally acclaimed play equipment for children and it could have been replicated in multiple areas. However, time and budget constraints play a huge role in making these projects successful. Another challenge the project actively faced was the poor planning of the area around the park, so that it has become an urban management issue, which is a common challenge in urban area development projects. The focus is primarily on the project itself without much attention given to details and the project's overall impact on the neighbouring spaces.

Key Learnings: The project received a lot of recognition making the city an example in the Smart Cities Mission for its focus on inclusive development and persons with disabilities. Visionary leadership and commitment

towards ensuring that needs of all citizens are taken into consideration is a key aspect. The intervention highlights the initiatives towards long- term social and physical change-making of urban areas. The lessons from this example are immense — about focusing on budgets, aspects beyond the area based development, and understanding more details about the needs of persons with disability.

The project has promoted development of parks and play spaces which are inclusive and that's a great starting point for Indian cities, but at the same time it reflects on the need for capacity building at the city level and about how to implement such projects better. It also focuses on the need for promoting professionals who are equipped to take these interventions forward as it is still a sector that needs a lot of work.



Mumbai: Jai Vakeel School, Victorial Memorial School

Name of the Project: Jai Vakeel School (JVS) & Victoria Memorial School (VMS)

Location/Country: Mumbai, Maharashtra

Name of Organisation/Government Entity: Gudgudee

Brief Background of the Project: Jai Vakeel School (JVS) and Victoria Memorial School for the Blind (VMS) are two of the oldest schools for children with disabilities in Mumbai. Jai Vakeel School caters to children with intellectual impairments. It has around 700 children with disabilities and adults using the campus every day. The school had a small space of 1,700 sq. ft where they wanted to build a play area. Before this was done, the space was like a dead area. Wheelchair users were using the space to enter the adjoining buildings.

On the other side of the Victoria Memorial School there is a spacious 9,000 sq. ft space with different kinds of trees. VMS has schooling and boarding facilities for children of all disabilities between the ages of 4 to 18. The majority of the children at the school are visually impaired.

Objectives of the Projects: The two projects aimed to highlight and address the need for play areas for young children and their specific needs with respect to their specific disabilities.

Main Features: The main features of the schools, despite the limited space were the custom designed play

equipment for children in the area. The understanding and sensitivity of the designers towards the children with various disabilities, their need to play and socialise, the selectively done spaces for caregivers and children who are regularly accompanied by their parents and caregivers are some of the key aspects of the design.

The designers for the play spaces spent a lot of time visiting both the schools and understanding the specific needs of the children in particular. This helped in understanding not only the play spaces that would be valuable but also the kind of play that would help them develop their skills. Visits were conducted to their occupational/play therapy rooms where sensory therapy was undertaken with different kinds of texture mats, walking and balancing activities to fine-tune their gross motor skills, vestibular and cognitive sense. In addition, focus was given on sensory play, use of different textures, playful colours, sounds and materials that added to the character and the overall interactive attitude of the areas.

Given the limited budgets and resources in terms of equipment and ensuring that the designed play equipment is safe, materials have been selected based on easy availability, durability and adaptive reuse.

Both these schools are frequently visited by parents and their children with disabilities as well as children from mainstream schools. The play area acts as a perfect



intermingling space, a space where all children, including the students with disabilities, their siblings and other children can play together.

Issues and Challenges Identified: These good practices work very efficiently when done in smaller areas and interventions. However to scale up these customised designs is a huge challenge. Also, the lack of range of materials and equipment and skillset of workers on site can be a big challenge towards ensuring that equipment is safe and also lasting.

Key Learnings: The project, however interesting and challenging, is a one-off intervention taken up by a school and independent consultants. Over time, more such projects should be encouraged and supported to have more vivid and interactive urban spaces that encourage children, especially with different disabilities, to use spaces in a more engaging manner. The project also highlights the fact that aspects of norms and regulations, universal design and play spaces and equipment need to be better explored, as well. This will help more designers, and professionals to contribute and make more innovative spaces in cities, thus building more inclusive and diverse spaces for all user groups.



India: Accessible Heritage Tourism,

Name of the Project: Accessible Heritage Tourism

Location/Country: New Delhi & Agra, India

Name of Organisation/Government Entity: Centre for Accessibility in Built Environment (CABE), India

Brief Background of the Project: India has 32 UNESCO recognised World Heritage Sites (WHS), which generate important revenues due to the large numbers of both domestic and international tourists. The case presented here is about accessibility improvement taken up at four sites, namely Qutub Minar (New Delhi), Red Fort (New Delhi), Fatehpur Sikri group of monuments (Agra), and Taj Mahal (Agra), all under the control of Archaeological Survey of India (ASI).

The accessibility challenges included multi-plinth levels within monuments, stepped access to reach important areas of tourist interest, lack of accessible amenities and facilities, and a resistance by heritage conservation professionals to make changes in the built environment. It was necessary to strike a balance between strict

conservation norms and the need for incorporating accessibility to make the sites 'visit-able' by all.

The main partners in this initiative were the Archaeological Survey of India (ASI) – the implementing and controlling agency of Government of India; Svayam – a civil society organisation that conducted access audits and advised the ASI on access improvements; as well as user groups, experts and NGOs who provided feedback on the access improvements.³

Objectives of the Project: The project was undertaken to make the WHSs reasonably accessible for the diversity of visitors within the constraints of the conservation norms. To consider the needs of not just visitors with mobility impairments, but also visual and other impairments; to sensitise and train the officials/conservationists of ASI on accessibility and international best practices in accessibility to heritage sites; and to meet the mandate of the domestic disability legislation and international conventions.



³ World Tourism Day 2016 "Tourism for All - promoting universal accessibility" Good Practices in the Accessible Tourism Supply Chain [file:///C:/Users/dell/Downloads/UNWTO-Tourism4All-Eng_2016%20\(1\).pdf](file:///C:/Users/dell/Downloads/UNWTO-Tourism4All-Eng_2016%20(1).pdf)



Main Features: After the access audit report shared by Svayam, the access improvements were carried out by the ASI, thus sensitising and empowering the in-house heritage protection officials on the implementation of access standards at WHS.

Access improvements took several years, starting from the pilot project of Qutub Minar, where civil society organisations engaged with the ASI officials to discuss the need and ways of making heritage sites accessible. With the helping hand of experts readily available to assist and support, the archaeologists gradually began to think from the accessibility angle too. Positive feedback from stakeholders and the recognition of access improvements by Government of India further encouraged the partners to make similar changes at other World Heritage Sites. Moreover, the Ministry of Tourism made a commitment that accessibility would be enforced as a mandatory requirement in all tourism products.⁴

The solutions for each project were designed with regard to the specific requirements of each individual site and included ramps, handrails, accessible toilets and accessible signage. Braille signage was used alongside the text signage, providing information about the sites. The ramps put up at the selected sites to address the level differences, are mostly wooden and placed without any prior digging or damaging the character of the heritage site. The public conveniences are either assembled porta cabins (Fatehpur Sikri) or permanent structures matching the aesthetics (Red Fort, Delhi). The materials and colours

used on the interventions do not stand out as an eyesore but match the site's character. The access interventions thus strike a balance between the access needs of diversity of visitors and the conservational concerns, presenting a win-win situation for all.

Issues and Challenges Identified: Given that not every area of a WHS can be made accessible due to conservation issues, reasonable accessibility should remain the focus. In addition, access improvements cannot be a one-time affair as they need to be sustained by regular maintenance. The accessibility of the ASI website needs to be addressed in the future, which is required in order to provide information for all the target groups that may wish to visit the sites. Lastly, it is hoped that accessibility improvements will be carried out at other monuments and not limited only to World Heritage Sites in India.

Key Learnings: The Qutub Minar (200708), Red Fort (200910), and Fatehpur Sikri monuments have won the most accessible/best maintained monuments awards from the Ministry of Tourism, highlighting the success of the access improvement projects. These improvements on the selected four WHS have not only made it possible for local and international tourists to visit the heritage sites with dignity and comfort, but also contributed to increasing visitor numbers, thus enhancing revenue for ASI who protect the monuments. The improvement of pathways has also prevented visitors from wandering across restricted areas.⁵

⁴ <http://www.travelbizmonitor.com/Ministry/mot-to-strongly-enforce-accessibility-provisions-for-benefit-of-people-with-disabilities>

⁵ <https://svayam.wordpress.com/2013/03/19/national-tourism-award-for-best-disabled-friendly-monument-for-whs-fatehpur-sikri/>

Chennai: Sensory park

Name of the Project: Sensory Park

Location/Country: Chennai, Tamilnadu

Name of Organisation/Government Entity: Chennai Smart city Limited

Brief Background of the Project: The sensory park, which is the city's first inclusive play space aimed to help children with disabilities be a part of the play experience, was opened to the public on Monday. The park, spanning an area of 1,500 sq. m, is divided into three zones according to age groups of the children, keeping in mind the evolving play needs of each age group.

Constructed at a cost of Rs. 1.3 crore, the project was undertaken by the City Corporation and Smart City Ltd with the Disability Rights Alliance, Kilikili, a trust formed by parents of children with special needs and City Works, an architectural firm.⁶

Objective of the Project: The park focuses on features that cater to multiple senses of individuals. Such specialised parks can have all kinds of visitors with special emphasis on children with special needs. Their purpose is to provide individual and combined sensory opportunities to citizens who may not normally get the opportunity to experience these exclusive features.

Main Features: A vibrant and kid-friendly space with lots of play equipment, the park promises pure entertainment for all kids. As you enter, you will see two tactile art walls with bright primary colours inside the space. The interactive wall helps children feel the paintings as they are embossed with tyres, bangles, shells and other material. The idea is to take art beyond eyesight for the sake of kids who are visually impaired, either partially or totally, and to improve sensory perceptions for others.

Sand, pebbles, wood, fibre and concrete have been used to build stepping stones and infinity walkways for kids. There are sand banks and swings which can accommodate wheelchairs, and ground level merry-go-rounds for the visually impaired, autistic and wheelchair-bound kids that are fitted on to a soft playground made of fibre. The fibre ground ensures that no one gets hurt even if they fall. For those with Attention Deficit Hyperactivity Disorder (ADHD), slides and climbers which will require them to focus and control in order to manoeuvre themselves have been designed. To encourage games, a wheelchair accessible basketball court with hoops at two different levels (the lower one for children on wheelchairs) has also been designed at the back of the park.⁷

There is a singing stone which will vibrate if you wet your hand with water and rub on it. This was built by a few boys from Auroville. Other toys which make music when there is



⁶ <https://www.newindianexpress.com/cities/chennai/2018/dec/17/inclusive-play-park-at-santhome-now-open-to-public-1912786.html>

⁷ <https://www.thenewsminute.com/article/lets-all-play-chennais-first-inclusive-park-kids-disabilities-opens-93585>



a breeze or when you move them have also been installed. These help with auditory stimulation.

The park also has solar panels to power its lamps and a beautiful herbal garden with lemongrass, tulsi, basil and other indigenous herbs which will create fresh air for the children. Importantly, modified toilets with handrails and slopes too are being built inside the park. The park is free for everyone to use but will benefit children from the State Resource Centre for Inclusive Education — a government school and multi-disability therapy centre situated next door — the most. The centre has its own entrance to the park and the children can use it whenever they wish.⁸

⁸ <https://cscl.co.in/sensory-park/>

Following the successful building of the first sensory park in the city, plans are in the offing to build a similar space in North Chennai.

Issues and Challenges Identified: The city did not have any inclusive parks to learn and take ideas from. The initiative was a bottom up initiative, which later got support from the Smart City lab. Lack of precedents become a huge challenge for procuring the play equipment locally.

Key Learnings: Cities need to form a mechanism for a dedicated budget for one-off initiatives of this nature. This will encourage citizens to participate in and make urban spaces their own and according to their localised needs.

A person in a wheelchair is pushing a cart on a paved surface. The person is wearing a plaid shirt and is seen from the side. The cart has a large box on it. The background is a blurred outdoor setting.

Conclusions and Lessons Going Forward

CHAPTER 6

Conclusions and Lessons Going Forward

The study of various practices and interventions across the world clearly highlights the fact that accessibility, safety and inclusivity, the three key tenets of BASIIC, are not only valuable for persons with disabilities, children and the elderly, but help everyone in the cities to have a better life. Though these aspects have more impact on vulnerable groups enabling them to be an active part of the urban ecosystem, they are equally valuable for all the citizens. Taking this as one of our key learnings towards our commitment to improve Indian cities and make them work better for everyone through this programme, the main findings from the study have been put together below for a better and quicker understanding.

- **Data Mapping** – Most of the best practices mapped highlight that the success of an intervention has been backed by comprehensive disaggregated data mapping of persons with disabilities of various types in their cities and countries over years. This has been regarded as a single prime factor for city-level authorities to understand the situation better at their local levels.

This is also reflected in interventions with tech-driven solutions such as the OpenStreetMap in Washington and Changing Places design in UK. These interventions not only help the user group, but technology has been a great enabler in providing ample information about the city and areas that need to engage in similar work.

- **Citizen Participation** – The participation of various stakeholders has taught cities the actual ways in which they can make changes that affect their lives for the better. Most cases highlight that very small changes can make a lasting impact if carried out in consultation with the persons who are facing these vulnerabilities. One such example is of Breda, The Netherlands, where understanding that in the historical part, the cobbled streets were hampering the free movement of persons with disabilities. Here a small change of just inverting the stones was a big game changer, which even led to

the city winning the Most Accessible City Award in 2019 in the EU.

On the other hand, Singapore is a good example of a country-level initiative towards ensuring accessibility and inclusivity at multiple levels within the built environment. However, because of the lack of active ways to engage citizens in decision making and engagement, the process still had its weaknesses in terms of execution and citizen satisfaction. A lot of times, projects don't actually document active citizen engagement aspects and the lessons learnt from such activities, leading to lack of clarity and knowledge about how decisions were taken and citizens were involved in the process. Highlighting the fact that while citizens are critical to any processes involving public space-making and urban development, it is equally important to document the process for a better understanding of the methods utilised.

- **Sensitization, Knowledge Generation and Capacity Building** – The studies documented in the compendium point towards the need to have a multi-pronged approach, one where apart from active interventions on ground there is equal focus given towards knowledge creation, dissemination and advocacy concerning social stigmas, cultural understandings and breaking barriers towards disability. These aspects play an important role in having a comprehensive city-level mechanism towards addressing accessibility, safety and inclusivity over a period of time. These actions need to be focused at multiple levels, with government officials, citizens, caregivers, and also with persons with disability, helping them better understand their rights. This is a key step in helping city authorities become more sensitive to the various aspects concerning disabilities and the vulnerabilities faced by people and accordingly, the needs of the citizens.

This factor has been a game changer in multiple case studies, addressing the way the localisation of resources

and adjustments can be further made. Accessible India Campaign and interventions such as Beach for All in Rio de Janeiro, and the school safety project initiated by National Disaster Management Association, India, are great interventions at multiple levels focusing on sensitisation towards various aspects and concerns faced by persons with disabilities. The practices also highlight their concerns in various social and physical urban environments of schools, leisure places and tourist sites.

- **Monitoring and Evaluation** – The case studies from across the globe highlight the regular monitoring and evaluation of services provided. Examples such as the London Tube where persons with various disabilities do a regular monitoring and evaluation of the station help improve the facilities over time. However, the aspect also highlights how very little focus is given on making accessibility universal in all stations, which is a concern that needs to be addressed more actively through global forums.

Many case studies documented have addressed the need for not only better monitoring and evaluation mechanisms and development of standard indicators. They also point towards the value of the user groups to evaluate the interventions for better understanding.

These actions can actually help move interventions to be taken forward to be more sensitive, inclusive and documented than to reflect mere tokenism towards the idea of developing an inclusive urban ecosystem.

- **Role of Technology** – Newer technologies and understanding their role in improving inclusivity in urban sectors need better investment. Interventions such as the Melbourne blue tooth navigation is a great tool and Accessible India Campaign also makes an effort towards exploring the role of Information Technology (ICT) more in urban areas for the accessibility of persons with disabilities. However, for making ICT a more active part of solution- driven interventions, more exploration and research is required. In addition, active learning from other cities and urban areas can play a big role in achieving this.

As we move towards a more urbanised world it is important that the role of technology in our urban ecosystems is better understood, and that it is extremely important in helping to empower persons with disabilities. Cities should actively invest in city-level tech hackathons, design charrettes and other active interventions where more tech-driven solutions can be explored.

These practices are not a comprehensive list of all interventions towards city authorities and country level programmes ensuring the needs of persons with disabilities and other vulnerable groups. The intention of the study is to open up a diverse range of stakeholders within the urban sector to the range of interventions that certain cities have taken up to cater to the needs of vulnerable groups in a more active way. Active willingness and the vision of city authorities and participation of all citizens is intrinsic to making urban areas more inclusive and healthier places for all.





Bibliography

BIBLIOGRAPHY

Bibliography

- i. World Bank Report on Disability, 2011
- ii. Disable persons in India: A statistical profile 2016, social statistics division, Ministry of statistics and programme implementation, Government of India
- iii. United Nations Convention on the Rights of Persons with Disabilities, December 2006, https://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf
- iv. www.bca.gov.sg
- v. Good practices of accessible urban development: Making urban environments inclusive and accessible for all. United Nations, 2016
- vi. <https://friendlybuildings.bca.gov.sg/>
- vii. <https://pib.gov.in/newsite/printrelease.aspx?relid=159009>
- viii. <http://accessibleindia.gov.in/content/innerpage/about-accessible-india-campaign.php>
- ix. <https://www.drishtias.com/daily-updates/daily-news-analysis/accessible-india-campaign>
- x. Developing Inclusive Teaching and Learning Through the Principles of Universal Design KJETIL KNARLAG¹,a and ELINOR OLAUSSEN^b a Universell, Norway b Norwegian University of Science and Technology
- xi. <http://ebooks.iospress.nl/publication/44487>
- xii. Norway - Good practices in Social Dimension implementation in Higher Education
- xiii. <https://www.universell.no>
- xiv. <http://www.disabilitystudies.ca/assets/ccds-fromresearchandknowledgetobetterpractice.pdf>
- xv. <http://www.disabilitystudies.ca/assets/ccds-aginganddisability-transportationstructures.pdf>
- xvi. http://www.hss.gov.yk.ca/pdf/AFRRRC_en.pdf
- xvii. https://www.un.org/disabilities/documents/desa/good_practices_in_accessible_urban_development_october2016.pdf
- xviii. <https://apps.who.int/iris/bitstream/handle/10665/278979/WHO-FWC-ALC-18.4-eng.pdf?sequence=1>
- xix. KIHBS- Kenya Integrated Housing Budget Survey*
- xx. <https://www.theguardian.com/cities/2017/sep/21/access-denied-disabled-metro-maps-versus-everyone-elses>
- xxi. <https://dc.curbed.com/2017/9/27/16372998/metro-accessible-map-dc>
- xxii. <https://www.theguardian.com/cities/2017/sep/20/chester-europes-most-accessible-city>
- xxiii. <https://www.accessable.co.uk/>
- xxiv. <https://www.theguardian.com/cities/2017/sep/20/chester-europes-most-accessible-city>
- xxv. <https://www.solomonfoundation.org/wp-content/uploads/2019/10/Watertown-Riverfront-Park-Case-Study.pdf>
- xxvi. <https://www.solomonfoundation.org/projects/watertown-riverfront-park>

xxvii. <https://vvvbreda.nl/en/culture-and-history/wheelchair-friendly-breda-whats-to-do/>

xxviii. <https://www.euronews.com/2018/12/04/breda-wins-eu-access-city-award-for-its-efforts-to-be-more-inclusive>

xxix. <https://www.wired.co.uk/article/accessible-cities-design-engineering>

xxx. <https://ec.europa.eu/social/main.jsp?langId=en&catId=1137&furtherNews=yes&newsId=9257>

xxxi. <https://www.accessibletourism.org/?i=enat.en.accessible-cities.1892>

xxxii. <https://www.accessibletourism.org/resources/case-study-1-ec-london.pdf>

xxxiii. <https://www.london.gov.uk/what-we-do/planning/planning-publications/accessible-london-achieving-inclusive-environment>

xxxiv. <https://www.wired.co.uk/article/accessible-cities-design-engineering>

xxxv. Wheelmap: the wheelchair accessibility crowdsourcing platform <https://link.springer.com/article/10.1186/s40965-017-0040-5>

xxxvi. <http://www.changing-places.org/>

xxxvii. Good practices of accessible urban development: Making urban environments inclusive and accessible for all.

_United Nations _ 2016

xxxviii. <http://ndma.gov.in/en/capacity-building/psychosocial/indicators-of-psychosocial.html>

xxxix. <https://hpsdma.nic.in//admnis/admin/showimg.aspx?ID=3161>

xl. <https://hpsdma.nic.in//admnis/admin/showimg.aspx?ID=3161>

xli. <https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>

xlii. <https://www.opensidewalks.com/>

xliii. <https://www.washington.edu/news/2017/02/01/new-route-finding-map-lets-seattle-pedestrians-avoid-hills-construction-accessibility-barriers/>

xliv. <https://www.timeout.com/melbourne/news/how-can-melbourne-be-made-more-accessible-062819>

xlv. <https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>

xlvi. <https://rizikisource.org/>

xlvii. <https://www.theguardian.com/global-development/2016/dec/25/kenya-creativity-broadens-employment-hori>









UK Government

The Department for International Development (DFID) leads the UK government's work to improve inclusive growth needed for poverty reduction to make development sustainable in line with the International Development Act (2002), the Gender Equality Act (2014) and the Sustainable Development Goals (SDGs). The UK has expertise in a range of sectors highly relevant to the poverty reduction, inclusive growth and economic development including finance and infrastructure. Helping partner countries develop these sectors and improve their business environment will give firms and people, greater opportunities to work in a stronger, more productive economy.

By 2030, India will become the most populous nation and third by GDP size (=>USD 5 billion). India's development trajectory in the next decade presents significant opportunities and challenges for global development.

India-UK development partnership is focussed on inclusive economic development through building markets using development capital investment and technical assistance.



National Institute of Urban Affairs

Established in 1976, National Institute of Urban Affairs (NIUA) was tasked to bridge the gap between research and practice on issues related to urbanization, and suggest ways and mechanisms to address these urban challenges of the country. For more than 40 years now, NIUA has been the vanguard for contributing to, and at times, building the urban narrative for a fast-evolving urban India. The Institution has been actively working towards bringing forth key areas of concern for urban India in order to build the urban discourse at various scales.

It has utilized its competencies in research, knowledge management, policy advocacy and capacity building to address the urban challenges, and continuously strive to develop sustainable, inclusive, and productive urban ecosystems in India. It has emerged as a thought leader and knowledge hub for urban development in India, and is sought out by both Indian and International organizations for collaborations and partnerships for India's urban transforming journey. NIUA is committed towards aligning its efforts towards achieving the Sustainable Development Goals (SDGs) through all its initiatives and programs.

Empower through inclusivity

#BASIIC_NIUA
#AccessibleCities
#InclusiveCities
#SafeCities
#EmpowerthroughInclusivity