



## **White Paper**

**September 2019**

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Nairobi, Kenya's capital, is highly inaccessible. This is according to research gathered by the Open Institute's Ability Programme, a not-for-profit that works to strengthen citizen's participation in the governance and development of their societies.

## **Background**

Through the Ability Programme (Ability), we mapped out more than 600 buildings and streets with the focus being; how accessible is our city for everyone, especially persons with disabilities. The entities range from government offices, hospitals, malls, private business parks, public buildings and streets, university campuses and more. The data collection exercise begun manually in May 2018 and scaled up to digital in 2019, evaluated and populated onto today's open and interactive map. The generated accessibility map has been titled "MapAbility" and can be found on [www.ability.or.ke/mapability](http://www.ability.or.ke/mapability) .

Ability found that most of the spaces assessed lacked Universal Design that allows for easy and safe movement for every individual, especially PWDs. The data on MapAbility helps us understand, for example, how challenging it might be for a visually impaired person to travel from one end of the city to the other independently. Being Kenya's most populous city, Nairobi is no comfort for PWDs. It is strenuous to access an office in a multi-storey building, manoeuvre through campuses, run personal errands in the CBD, access government services, visit a hospital, attend a church service, and even more strenuous to just walk to and from your front door as a PWD.

MapAbility also shows that while some buildings may have accessibility features such as ramps and lifts for instance, they still have a long way to go in terms of making these features user-friendly. Some ramps were too steep, lifts did not work or have auditory prompts and braille, hallways had no clear signage and stairwells were not safe for all. Whiles many streets had pavements, these pavements had uneven flooring, potholes, obstructions such as business signboards, no tactile paving or working traffic lights.

## **Accessibility is For Everyone:**

According to Centre for Excellence in Universal Design (CEUD) Ireland, Universal Design (UD) is the design of buildings, places, products, services and technologies so that they can be accessed by all people, regardless of their age, size, ability or disability. Lack of UD especially in developing countries has seen PWDs get

locked out from accessing basic essential services such as health, public transport, government documents etc.

It is estimated that 15% of the world's population identify with having some form of disability, with 4.4 Million (according to UN statistics) being Kenyan, and 68% of these Kenyans have physical disabilities. 34% of the disabled people live in urban areas while 2.2 Million people with disabilities are of working age. This means that there is a significant opportunity for PWDs to contribute to Kenya's growing economy.

Kenya has been at the front line of championing for the SDGs and has put in place policies and legal frameworks with the intention of improving the lives of Persons with Disabilities. One such policy is the Disability Act 2003 with clear accessibility requirements for accessible buildings and public transport systems. The same section also gives building owners a grace period of up to five years to redo their buildings to ensure they are compliant.

Moreover, aside from recognising PWDs in the law, Kenya's government established the National Council for Persons With Disabilities (NCPWD), who by law have the authority to sanction any building in breach of clause 7 in the Disability Act: section 14, 2003. But the Council seems to have forgotten its mandate, seeing that the situation has not changed.

In the pursuit of achieving the Sustainable Development Goals (SDGs) and the spirit of leaving no one behind, Ability launched an interactive online mapping tool that allows users to easily identify accessibility levels of various locations while on the go. The tool will help gather more detailed data of the state of accessibility and inaccessibility in Kenya by allowing citizens to also contribute to MapAbility, hence empowering stakeholders with a solid ground for policy formulation and implementation. We also hope that key stakeholders such as national and county government, the National Council for Persons With Disabilities, National Transport Service Authority, police service, engineers, urban planners, designers etc will use the map to solve the challenges of Universal Design for everyone, especially PWDs. This will mean a more inclusive society that considers diversity so that all can enjoy the fruits of Universal Design and live their lives with comfort, autonomy and dignity.

## Why MapAbility?

Last year during the previous data collection, we researched universal design guidelines for buildings and streets to pass as 'accessible'. It should be noted that we focused on the very basic of accessibility features at this early juncture because we appreciate that Western societies have the added advantage of state of the art technologies, resources and professionals in universal design. It was important, therefore, to highlight Kenya's ranking in what are considered as baselines to basic accessibility requirements. We then used paper checklists with trained volunteers to gather data from Nairobi CBD. It was a tedious process where we had to enter data to the database, clean then analyse to display on MapAbility. All these steps took more time because of data verification and accuracy.

In 2019 we found an innovative way to do this, having learnt from the previous data collection, to eliminate typing during data collection and use options where users could select from the predefined questions and upload photos as supporting evidence to illustrate either good or poor accessibility features per entry.

The next step was to create a progressive web app that we used to collect data. This was more efficient and less time-consuming. This way we had more control over the accuracy of the data entered and it gave us time to analyse the data better on MapAbility.

## Data analysis

The total number of buildings mapped were 510

The total number of streets mapped were 58

**NB:** The number of streets mapped were less than the buildings mapped because there were multiple buildings in a single street.

The total number of private buildings were 319. This was 62% of the total buildings mapped. Whereas, the total number of public buildings was 228, which makes up 40% of the recorded buildings.

We created an accessibility rating based on the percentage of features available based on the questions on the mapping tool. For each of the buildings, we sought to find out how many features of the criteria were in affirmative - where they were answered as yes/ available. The rating scheme was as follows:

- Inaccessible (0 - 20% of basic accessibility features)
- Somewhat accessible (20 - 40% of basic accessibility features)
- Moderately accessible (41 - 60% of basic accessibility features)
- Accessible (61 - 80% of basic accessibility features)
- Very accessible (above 80% of basic accessibility features)

**Inaccessible buildings (0 - 20% of basic accessibility features) - 10%**

The total number of inaccessible buildings was 51, where 28 were private and 6 were public.

17 buildings were not indicated whether private or public. This makes up 10% of the total recorded buildings.

**Somewhat accessible buildings (20 - 40% of basic accessibility features) - 32%**

The total number of buildings was 159. Private buildings had the highest number, totalling to 98 while public buildings were 61. This accounts for 32% of the buildings.

**Moderately accessible buildings (41 - 60% of basic accessibility features) - 39%**

Under moderately accessible buildings we had 200 buildings. 95 of these buildings were private and 102 were public. There were 3 buildings which did not indicate whether they were public or private. This accounts for 39% of the total recorded.

**Accessible buildings (61 - 80% of basic accessibility features) - 17%**

There were 85 accessible buildings recorded. 45 were private and the remaining 40 were public buildings. This accounts for 17% of the buildings.

**Very accessible buildings (above 80% of basic accessibility features) - 2%**

Only 14 buildings cut this mark. 8 of which were private and 5 were public. 1 building was not indicated whether private or public. This is 2% of the total recorded.

The recorded buildings with public access with accessibility > 90% were Reliable Towers and Golden Tulips in Westlands.



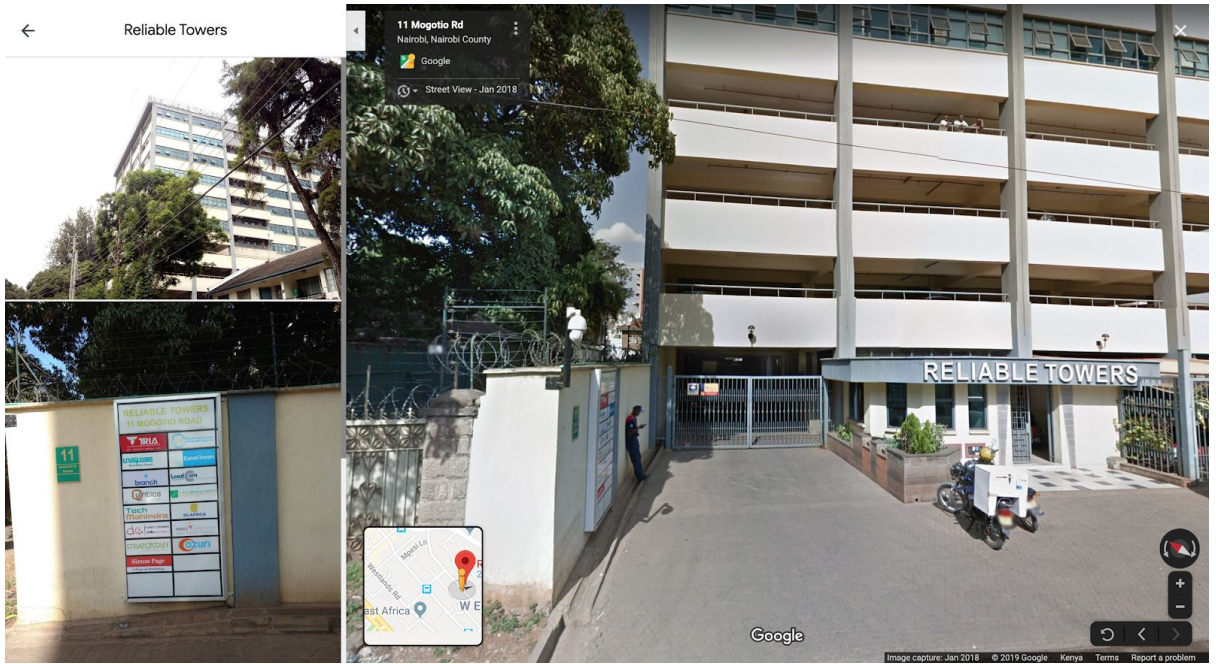


Fig: Reliable Towers entrance in Westlands



Fig: Golden Tulips entrance on Google Maps

Under universities, Kenyatta University main campus and University of Nairobi Chiromo campus scored above 80%.

Under malls, the Hub Karen scored above 80%

Westlands has the highest number of moderately accessible and accessible buildings.

South B has most buildings lying between somewhat accessible and moderately accessible buildings. This is attributed to most buildings having been built a very long time ago.

### **Types of facilities mapped:**

#### **I. Indoor Features**

##### **a) Universities**

The universities and institutions mapped:

- KU main campus
- Technical university
- Railway training institute
- Kenya Institute of Mass Communication (Library)
- Daystar Athi River

Most universities were moderately accessible.

Technical University of Kenya (TUK), for instance, had the highest number of inaccessible facilities. The main canteen and lecture theatre was inaccessible, meeting only 30% of accessibility features. TUK's men's hostels were also inaccessible scoring only 34% of all the features we queried. There is a lift in the administration block which is only accessed by the vice-chancellors. The oldest facility is the U block which is not accessible.

Most facilities in Kenyatta University main campus scored above 50%.

##### **b) Malls**

The malls mapped:

- Garden City Mall
- TMall
- The Mall in Westlands
- Two Rivers Mall
- Capital Center
- The Hub in Karen

The mall with the highest number of inaccessible facilities is Yaya Center, with accessibility ranging between 0 - 20% of the features.

Most facilities in Garden City are accessible.

### **c) Churches**

Churches mapped:

- River of God Church - Westlands
- Pentecostal Evangelistic Church - South B
- St. Francis Xavier Catholic Church - Westlands
- Mariakani Christian Centre - South B
- ACK St. Veronica Parish - South B
- Kenya Assemblies of God - Westlands
- Gospel Tabernacle Worship Centre
- All Saints Cathedral
- Mamlaka Chapel
- St. Paul's Church
- Nairobi Chapel
- Lutheran Church - Ngong' road
- Lutheran Church- University way
- St. Andrew's Church
- International Christian Church
- St. Steven's Jogoo road
- St. Steven's Jogoo road
- House of Grace

All of these churches were moderately accessible, having met between 40 - 60% of the accessibility scale. The only exception was Mariakani Christian Church. Mariakani Christian Centre is least accessible because it scored only 30% of the features marked.

### **d) Hospitals**

The hospitals mapped:

- Aga Khan hospital
- South B hospital
- South B Dental Centre
- South B Dispensary
- Kenyatta National Hospital
- Nairobi West Hospital



- Mama Lucy
- City Eye Hospital
- JKUAT Hospital
- Kenyatta University Hospital

The accessibility percentage for these health facilities is between 50 - 60% with the exception of South B Dispensary which is 30%.

More hospitals yet to be added.

## **II. Outdoor Features**

There were 58 features mapped. These were recorded alongside indoor facilities. The number of outdoor features was less compared to the indoor features because most of the buildings were recorded in the same area as the streets. Below are some of the features analysed.

### **a) Traffic Lights**

There was only 1 sonic traffic light in Westlands along Church Road. This is marked as functioning traffic lights.

It is also worrying that not enough time is allocated at the traffic lights to ensure safe crossing for all. Out of the 58 streets mapped, only 1 traffic light allocates enough time.

### **b) Parking Slots for the Disabled**

44 streets did not have parking slots for the disabled. Only 2 had parking slots allocated for people with disabilities. 10 of the streets mapped did not indicate whether there were parking slots available.

Of the 2 streets with parking slots available - one in South B and another in Kenyatta University, Kenyatta University street was the most accessible with a rating of 44.

### **c) Pavements**

22 records indicated that there were ramps in pavements, 28 streets did not have ramps on pavements.

20 out of 22 pavements that had ramps were negotiable for wheelchair users. 11 out of the 22 were clear of obstacles and were wide enough according to the standard universal design specification.

12 pavements had raised bumps where they meet the road. 6 of these were negotiable for wheelchair users

#### **d) Resting points**

We recorded that there were only 2 streets that had regular resting points. 36 streets did not have regular resting points and 17 did not have. 20 of the streets that do not have regular resting points are in South B area and 10 in the Westlands area.

Only three streets mapped, all in Strathmore, had benches that accommodate the elderly.

#### **e) Clear Signage**

There were 5 streets that had traffic lights with clear signage. Where construction was available in the 5 streets, 2 had clear warning signs about ongoing construction. All these streets had clear business signage as well. Of the 5, 2 had bus shelters and only one can accommodate all people sizes.

Overall, 35 streets had clear signage on-road street names and 12 did not have clear signage.

39 streets recorded had clear signage on business and buildings that were visible, 13 did not have clear names or signage.

5 streets had clear traffic signs. 22 of the mapped streets did not have traffic light signs indicator and 28 streets did not have information on whether there were traffic signs.

Where construction activities were ongoing, 12 streets had clearly indicated there was construction in the area. We also recorded 4 streets that did not indicate ongoing construction where we had construction activities going on.

#### **The Way Forward:**

The MapAbility launch saw 22 organisations represented including;

1. Office of Nairobi Women's Representative
2. Freelance Jumahel<sup>f\*\*</sup>
3. Nairobi City County Government (NCCG)-Lands Planning and Housing
4. Flone Initiative
5. Indaba
6. Parliament
7. Kenya National Commission on Human Rights
8. Andy Speakers 4 Special Needs Persons
9. Data for Decision LLP

10. Nairobi City County Government - NCCG
11. CARDNO
12. Svayam - Global Center for Inclusive Environment
13. Ulemavu Research Institute
14. National Council for Persons with Disabilities
15. New Age for the Visually Impaired
16. Onano & Co. Advocates
17. Strathmore University
18. Safaricom
19. Kenyatta University
20. Agency for Disability & Development Africa
21. Nairobi Design Institute
22. National Assembly of the Republic of Kenya

### **i. MapAbility Demos**

The Ability Programme has received invitations from a number of the above organisations to demo MapAbility to their staff, at their events and forums. We look forward to more organisations seeing the value of MapAbility's data to inform and further direct the individual work they do in accessibility and disability mainstreaming. After giving a demo of the map, we give an opportunity for individuals and organisations to sign up for A three day training organised by the National Council for Persons With Disabilities on accessibility. At the end of the intensive training, participants take a written examination whereby if passed, accreditation is awarded as certified Accessibility Auditors. This certification is recognised by the government of Kenya.

### **ii. Public Participation**

With an ongoing PR campaign, the Ability Programme aims to create as much awareness as possible on the importance of accessibility for all through MapAbility and encourage citizens themselves to contribute to the map by assessing their environments. The benefits of this are twofold; firstly, the citizens become involved in improving their society and its inclusion. Secondly, it means more data collection from across the country at a faster rate. To ensure the accuracy and credibility of data, we have processes in place by way of certified accessibility auditors who perform regular spot-checks and validate the data collected.

### **iii. Enforcing The Law**

Using the data collected thus far, we strongly encourage the government, NCPWD and other authorities to begin using MapAbility to enforce the law to the

relevant building owners, organisations and tenders that are directly responsible for staying compliant with accessibility laws. Because this map is LIVE and open to citizens for contribution on their neighbourhoods and environment, it ensures up to date accessibility data that can subsequently be used for immediate action.

#### **iv. Collaborations and Partnerships**

Throughout our research work, we have found there to be several organisations and individuals with a vested interest in accessibility in Kenya. Most of us, however, work in silos and therefore may not be plugged into the greater efforts being made. We believe that the long-lasting transformational change can only be made when all our organisations and individuals collaborate and pull from one another's strengths. For this reason, the Ability Programme will continue working with our current partners, while seeking to create new collaborations with key players in accessibility such as; County and National government, tech, urban planning, engineering, law, human rights, education, media and so on.