

Our City, Accessible City: Let us Realize this Dream Together

Submission By:

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An acquaintance was pursuing his PhD at University of Chicago, in the United States when he met with an accident which paralyzed him waist down. This was in the year 2010. The hospitalization and subsequent rehabilitation was long and arduous. After months of treatment he found his mobility again thanks to his quite tech-savvy wheelchair. He was back at his research within 3-4 months of the accident. In his words, "The city planning of Chicago has almost as much credit to take as my doctors in ensuring that I was back at my studies." The city transport network, the university campus, his home itself- had design components which made it easier for him to maneuver. While his health improved during this stay in the US, and by the time he had planned to move back to India he was able to walk with support, it was the sorry state of Indian city planning that made him dependent again. Be it for running a simple errand or to travel in a train or to simply visit the city library, he had to look for a human to help. This state of affairs begs the question - what is it that makes a city accessible and why do we need anything to be accessible for that matter?

India has over 26 million people suffering from one or the other kind of disability as per 2011 Census; that is nearly 2.1% of our population. While India has had extensive debates on what is the most "politically correct" term to address its disabled community - *viklangjan* (disabled people) to that of *divyangjan* (loosely translates to divine-gifted) or differently-abled, the more raging debate should rather be if we are equipped to care for our disabled population. India has an incredible opportunity at this point when there is a conscious plan to develop Smart Cities. The town planning of these smart cities should integrate at its core the aspects which make cities accessible.

The United Nations has identified accessibility as a major challenge with the current infrastructure of most cities simply not up to the task. In theory the cities should consider the needs of the below population to plan accessible cities:

1. Physical mobility disabilities – for wheelchair users and those with limited mobility
2. Audio and visual disabilities
3. Learning disabilities – for those on the autistic spectrum

The term, common in designers' and architects' circle, Universal Design, is the answer. By definition, Universal Design, is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it. This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design. If an environment is accessible, usable, convenient and a pleasure to use, everyone benefits. By considering the diverse needs and abilities of all throughout the design process, universal design creates products, services and environments that meet peoples' needs. The seven principles govern the Universal Design:

Principle 1: Equitable Use – the design should be useable and marketable to people with diverse abilities

Principle 2: Flexibility in Use – The design should accommodate wide range of individual preference and abilities

Principle 3: Simple and Intuitive Use – The design should be easy to understand, regardless of user's experience, knowledge, language skills or education.

Principle 4: Perceptible Information - The design should communicate necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Principle 5: Tolerance for Error - The design should minimize hazards and the adverse consequences of accidental or unintended actions.

Principle 6: Low Physical Effort – the design can be used efficiently and comfortably with minimum fatigue

Principle 7: Size and Space for Approach and Use – the design should provide for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Aside from moral reasons, the ever-growing disability population has made it imperative to discuss and contemplate on need of accessible cities. By 2050, an estimated 940 million disabled people will be living in cities, lending an urgency to the making our cities accessible. The people with varying abilities describe the major challenge to their mobility include building without ramps or lifts, the noise and speed of cities, and the disabled unfriendly cities transport network. While it make look like an impossible task to make old cities with its existing cluttered infrastructure 100% accessible- a more likely scenario is to aim at 30% or 40% accessible cities. This can start with implementing sustainable and accessible design to new buildings under planning or construction stage. The older structures can be slightly modified to include ramps. The new roads could spare some portion of the shoulder to have a wheel-chair width pedestrian walkway. The new buses/metro coaches and related infrastructure can be low height. These changes can be done without major disruption to the existing pace of the city. While the disability rights movement in India has had a rich history, discussions on inclusive town-planning have only recently gained traction, as has a nuanced understanding of disability in policy and in public.

As in all sectors across the globe, technology is playing a positive role in reshaping cities of developed nations to put accessibility first. India can take a leaf from the books and start implementation as its cities continue to grow. The few of the most innovative solutions from cities around the world are listed below:

1. Accessible Maps: Aiming to offer a better solution, The University of Washington's Taskar Center for Accessible Technology have introduced AccessMap. The app aims to give more accessible routes to those with a physical disability and is currently being used in the hilly city of Seattle. Users can enter a destination and parameters such as limiting the slope grade of a road to get an accessible route.



2. Universal Design Principles: Singapore witnessed a phenomenon called “Silver Tsunami” – with its ever-increasing aging population, they introduced the “Universal Design” principles to its infrastructure. The idea was to build structures with maximum possible column-free spaces, low height counters, chairs with grab handles, hearing induction loops, braille directions, tactile guidance, east-to-read pictographs for visually impaired.
3. Accessible Metros - Washington undoubtedly wins the award for world’s most accessible metro system with all of their 91 subway stations now fully accessible along with all of its rail carriages and even its entire bus fleet. For other cities looking to embrace accessibility on their transportation systems, Washington proves that a completely accessible city is achievable.
4. Autism friendly designs - Looking to take on the learning disability design challenge, the Sweetwater Spectrum housing project in California has implemented some innovative features to create an autism-friendly space. Built with 4 homes to house 16 young adults, the project includes a variety of autism-friendly design additions, including:
 - a. Simple, clean lines.
 - b. Spaces can be seen clearly across thresholds.
 - c. Noise is kept to a minimum with quiet heating and ventilation systems, placing laundry rooms away from bedrooms.
 - d. Fittings and décor designed to reduce sensory stimulation – muted colours, neutral tones, recessed or natural light.
5. Real-time Audio Cues- the Southern Cross rail station in Melbourne is also seeing some innovative additions designed to aid those with visual impairments. Using BlindSquare, a free GPS app, and Bluetooth beacons throughout the station, the new project run by Guide Dogs Victoria aims to provide real-time audio cues and directions to users.

The town-planning of many cities are slowly but surely moving in the right direction. The infrastructure and facilities are gradually getting aligned with the requirements of those with special requirements. The challenge which still remains unsolved is more to do with able bodied population of the society and it is the challenge of perception. A survey by The Guardian revealed that able-bodied people genuinely can’t imagine what it’s like to use a wheelchair. In addition to the poor infrastructure, poor and outdated city planning, it is sheer thoughtlessness in some cases which shuts out the disabled from our communities. One of the respondents answered, *“Sandwich boards on pavements, a crowd of smokers blocking the disabled entrance, bins or vans parked over lowered pavement edges, disabled toilets being used as performers’ changing rooms or storage, ‘accessible ramps’ being far too steep or only available on request, scaffolding on both sides of the street, pushchairs filled with shopping in the wheelchair space on the bus, the housekeeping trolley left in the lift – you get the picture!”*

The picture is a sad reflection of our times. The cities may take time to outgrow its dated plans and infrastructure; however, we as part of the society have no excuse to make. The least we can do as an inclusive civilization is to open our minds to the obvious and subtle problems of the disabled community and proactively address them. The same urban scenario should not represent two very settings depending on who is walking into it. The same scenario should not be a smooth sail for one of us and induce fear in the other. This shift is difficult to achieve, but not impossible.