

**A walk around the neighborhood**

*Increasing urban mobility around Whitefields, Hitech City*

Etoile Boots

AH113 - Powers

April 20th, 2022

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## Introduction

Humans are built to walk. Thus, urban mobility is an important topic where the movement of humans through urban environments can be analyzed on several levels through vehicle mobility, public transportation accessibility, and walking accessibility. Inspired by observations of the lack of public infrastructure promoting walking accessibility, I have analyzed the context of walking mobility in Hyderabad, and proposed solutions to improve urban accessibility. The goals of this project were to propose designs that would promote healthier city behavior, and promote justice with inclusive designs. Specifically, I aimed to propose designs that would increase walking accessibility to all, and promote citizens to more frequently exercise and reduce vehicle usage and thereby reduce emissions. In terms of inclusive designs, I explored how public infrastructure can better serve historically underrepresented groups such as those with physical disabilities who require more accommodation. In the following outlined design process, I share my research, ideation, and prototyping process I underwent while exploring urban mobility within Hyderabad.

## Understanding the Problem and Scope

From initial observations of the inaccessibility of Hyderabad via walking, I was inspired to better understand Hyderabad's current attitudes towards pedestrianization through further research via online sources, conversations with local design experts, and personal research.

From online research, I discovered a visible gap between the narrative of progress highlighted by civic agencies and the actual development of footpaths. For example, the Greater Hyderabad Municipal Corporation (GHMC) has laid technical specifications for footpaths that are not followed (Walkability Asia, 2013). Additionally, as of 2018, of the 9100 km of roads

spanning the city of Hyderabad, only 500 km had any small or medium-sized footpaths (Moulika, 2018). Clearly, there is an unmet need for walking paths. This need is not unseen, however, as there are initiatives in place to improve the state of walkability in Hyderabad. Note that as of 2022-23, R.s. 31.11 crore (around 37 million USD) have been earmarked for the construction of footpaths (Bommala, 2022). This budget indicates that the importance of developing footpaths is not neglected by authorities, however, there is still much work to be done.

Talking to a local architect and urbanist, Saagar Tulshan, I reaffirmed that pedestrianization exists as a major issue in Hyderabad. Furthermore, he explained the lack of resources and planning for improving the walkability of Hyderabad. While there are citizen bodies and institutions—such as Right to Walk—advocating for urban footpath development, Saagar mentioned that the impact of these groups was unknown. However, there are analogous pedestrianization projects in different regions within India such as Bangalore (VA Group, 2018; George, n.d.), and Pune. I utilized these resources as case studies during my research phase.

Furthermore, to better understand the issue through my own lens, I decided to take a walk. From previous walking experiences in Hyderabad, I understood the basic physical struggles such as intense heat and uneven and dangerous roads. In walking, however, I set intentions to more thoroughly understand the conditions of the walking paths and observe how different pedestrians interacted with the environment and each other while walking. Additionally, I set this path to experience both large and small-scale roads and see how each might differ from one another. From the walk I have taken around the neighborhood, I made several observations that later informed my design process in ideation and prototyping.

## Street survey of Kothaguda-Kondapur Flyover and White Field Rd.



Figure 1. A street survey of the Kothaguda-Kondapur Flyover (large road) and White Field Rd.  
(small road)

### Major Observations:

1. Formal sidewalks were virtually nonexistent, and it was more common to observe thin demarcations between the street and the sidewalk.
2. The informal sidewalks were often difficult to walk along due to road obstructions

3. There were no streetlights
4. There was no shade while walking
5. All pedestrians walked on the road (even when there were pathways) mostly in single file

## Defining goals and objectives

From my research, I have defined some goals and objectives that informed my design process.

### Goals:

1. Encourage mobility for those that are most impacted by walkability via a safe and accessible roadside walking pathway
2. Encourage the health of Hyderabadi and the environment by encouraging walking behavior

In each goal I have set in this project I highlight a unique design logic. Goal #1 highlights design justice as I aim to improve the mobility of populations most impacted by pedestrian infrastructure such as poorer individuals and disabled individuals (Sarada, 2015). Understanding that design must consider the ways that it impacts different agents, social status and mobility are highly dependent on how designers approach social inclusion (Lara, 2021). Individuals with less disposable income rely on transportation methods such as walking and public transit more, so they are an important audience to design for. Additionally, from my observations, I noticed the lack of disability access on the current roads through observations such as a lack of smooth roads for wheelchairs, tactile paving for the hard of sight, and blind-spot mirrors at turns for those that

are hard of hearing. Understanding the current gaps present in the design of the walking paths, I continue the ideation process with design justice in mind.

Goal #2 extends the intersection of design and behavior by exploring the coevolution of walkability infrastructure, citizen behavior, and environmental health (Sarada, 2015). This is informed by reading from Lockton, which highlights the circular relationship between design and behavior (2011). This is a coevolving relationship, as citizen walking behavior (eg. cowpaths) oftentimes leads to the development of public infrastructure aimed toward pedestrian safety. Such increased infrastructure then further encourages a culture of walking (Spoon, pg. 32, 2005), which improves the surrounding health of the environment and pedestrians along with increasing expectations of further infrastructure development. This coevolution can be further observed under a social, environmental, and health context. However, for now, with these goals in mind, we continue crafting solutions.

## **Exploring and Crafting Solutions**

In ideating possible solutions, I drew inspiration from participatory processes in brainstorming in AH113 by designing a visioning workshop. Since I wished to design sidewalks, which are public infrastructure, I wanted to get public opinion and experience regarding the general experience of walking around Hyderabad's neighborhoods. Thus, I embarked on cocreation via mapping and visioning. Specifically, I developed what I advertised as a 'walking workshop' where I led locals (from a nearby coffee shop) and Minerva students through two visioning and mapping exercises to gain insight into the common experiences of walking around the streets of Hyderabad, and how it may be improved. These two exercises were called the

‘current-state’ activity and the ‘dream-state’ activity respectively. I have documented my process of workshopping through the linked [Miro board](#).

The takeaways I have listed in my Miro board allowed me to identify both the current features of the walking experience around my neighborhood that should be conserved—in ‘joys that exist’ – as well as the struggles to be mitigated and finally, features to add—in ‘joys wished’. I kept these takeaways in mind as I began to prototype.

| TAKEAWAYS  |  |  |
|--|--|--|
| Joys that exist  | Struggles that exist   | Joys wished  |
| <ul style="list-style-type: none"> <li>• trees</li> <li>• culture</li> <li>• food</li> </ul> | <ul style="list-style-type: none"> <li>• heat / sun</li> <li>• air pollution</li> <li>• auto unsafety</li> <li>• lack of sidewalk</li> <li>• many disturbances</li> <li>• chaos</li> </ul> | <ul style="list-style-type: none"> <li>• outdoor seatings</li> <li>• communal spaces</li> <li>• fresh air</li> <li>• shade</li> <li>• water source</li> <li>• quiet</li> <li>• proper signage</li> <li>• light for safety</li> <li>• less disturbances</li> <li>• integrate with nature</li> <li>• room to walk</li> </ul> |

Figure 2. Key takeaways from the “Walking Workshop”

This brainstorming session was valuable for better understanding both international and local able-bodied pedestrians, however, it was still important to better understand the struggles faced by individuals facing different physical impairments in order for my prototyping to be inclusive (goal #1). Given the fact that I lacked contact with disabled individuals and that I myself do not personally face disability, I was cautious of personal biases or lack of information in considering how to design for disabled individuals. Informed by this caution, I decided to conduct ideation of solutions for disabled individuals via online research on what has historically been outlined internationally for accessible and inclusive pedestrianization. This way, I would include the spoken knowledge and needs of this disabled group. Since there are many types of

impairments faced by disabled individuals, however, I decided to focus on physical walking impairments—for those that require wheelchairs—and visual impairments.

From research, I discovered that for individuals using wheelchairs, some of the main issues surrounding street accessibility was the material of the sidewalk—cobblestone is difficult for wheelchairs to roll—the presence of stairs or ramps (Salman, 2020), the presence of curb cuts (UN, 2015), and the size of the sidewalk. For vision-impaired individuals, tactile ground surface indicators, the presence of obstacles on sidewalks, and sidewalk size are all important factors that determine the safety of navigating the external environment (Riazi et al, 2016). When designing for the visually impaired, it is important to consider the role of contrast in sidewalks/signs, sound utilization, and barriers in building an accessible environment (BigRentz, 2023). From research, I compiled a list of features to include when prototyping sidewalks.

| Accessibility Accommodations  |   |
|---|---|
| Wheelchair Users  | Visibility Impairments  |
| <ul style="list-style-type: none"> <li>- Smooth curb cuts without snags (ADA, 406)</li> <li>- Min 3 ft sidewalks for a single individual (ADA, 403)</li> <li>- Smooth sidewalk surface (ADA, 403)</li> <li>- Sturdy benches with backrests (ADA, 903)</li> <li>- Minimal sloping on sidewalk (Cannon, 2010)</li> <li>- Level landings at the top of each ramp (Cannon, 2010)</li> </ul> | <ul style="list-style-type: none"> <li>- Multi-sensory traffic lights with auditory and large visible signals (Mazz, 2010)</li> <li>- Presence of crosswalks (Mazz, 2010)</li> <li>- Clear pedestrian route (Mazz, 2010)</li> <li>- Contrast in concrete mix color for level changes (Mazz, 2010)</li> <li>- Legible signs (Mazz, 2010)</li> <li>- Tactile paving (Barden, 2022)</li> </ul> |

## Prototyping & Testing Solutions

At this point, I knew some features I wanted to include in a sidewalk and road system for disabled individuals and able individuals, and I understood that my solutions would be theoretical rather than practical given time and skill constraints. Thus, I decided to prototype my solutions using AI art generators. Using AI allowed me to conceptualize solutions quickly and for free, without the need for skills typically needed in designing infrastructure such as knowledge of 3D modeling.

I allowed myself to make 100 prototypes, with each prompt crafting 4 prototypes. During this prototyping session, I began with a singular prompt and over the course of the 100 renderings developed on prompts iteratively to improve images I thought had potential, and a few times, changed the prompt completely to see what new ideas could be developed. Of these prototypes, I am including a few generated pieces that I believe had the most potential.



**Figure 3.** Prompt #9 - “modern sidewalk system in India, coexistence with nature, ample shade, friendly for walking, intricate details, street-lamps, outdoor seating benches, pavilion”



**Figure 4.** Prompt #19 - “street view of Hyderabad sidewalk system urban nature, shade, safety street lamps, indian food and chai stalls, visibility, indo-islamic qutub shahi inspired, sustainability, sitting and public open areas small street, smooth concrete floor, large legible signs, tactile paving, crosswalks, curb cuts on roads, pavilion, children, gated sidewalk barrier, disability access”

Clearly, these renderings are by no means perfect, however, they allowed for a quick and high-fidelity rendering of how the streets of Hyderabad could look like with some alterations. I believed that Prompt #9’s usage of continuous street lighting, clear bench areas, and usage of shade was something I would want to incorporate in my future design. In prompt #19, I changed the prompt to be more specific to the architectural context surrounding Hyderabad and tried to envision a public space for both walking and social interaction. Both images lack a clear scene of how people and vehicles would interact, as well as proper disability access outlined in the prompt. However, I include these renderings since I liked how each integrated both cultural aspects and the urban-nature interactions facilitated in the design.

To further develop these prototypes, I asked for feedback from a friend of mine, a Mumbai architect working in Bangalore, Anoushka Shome. I asked her to take a look at some of the considerations I had in my ideation phase, as well as the renderings from the AI-generated prototypes. She recommended further exploring the purpose of utilizing these generated visuals, since they did not inform individuals very much on the methods by which inclusive and friendly sidewalk design could be implemented.

## Refining Solutions

Considering Anoushka's comments, I reflected on how I may contribute meaningfully to pedestrianization in Hyderabad. Discussing with Professor Powers at this point in my project, I decided to switch my deliverable to a general proposal to bridge the gap between inclusive values and some tangible methods of doing so. As such, I ended this project with a proposal for promoting disability inclusion, health/safety, and community values in the neighborhood of the Whitefields—it is tagged within the resource appendix. This proposal was aimed at engineers and designers who care about implementing such values through public infrastructure.

## Next Steps

So far, most of my time spent working on this project has been in the research and ideation phase. If I continue refining my proposal, I will spend more time refining the evidence backing my technical recommendations and working on making it fitter for the context of India. Additionally, I would send this final proposal to different audiences, such as pedestrians, architects, and engineers. Overall, however, this project was a meaningful way of engaging with design logic and practicing the design process.

## HC and LO Appendix

### #designthinking

I engaged in the iterative design thinking process from initial problem identification to a well-researched and justified proposal to address this problem. To do so, I engaged in a 2.5-week design sprint that followed the identification of a problem, thorough research of this problem, participatory solution exploration for ideation of solutions, prototyping, and final thoughts for furthering the design process. Throughout this process, I emphasized a spirit of fun. I directed creativity to work within set ‘phases’ of the design process to culminate in a product I would be proud of. In the research stage, I utilized both conventional online research methods and self-defined on-the-ground research to develop a deeper understanding of the issues facing pedestrians. I then clearly defined my goals in the project before exploring creative solutions in order to have direction in my project. After this definition, I experimented with different ideation methods and settled on using participatory visioning to address best my user group (pedestrians from all walks of life). Prototyping with AI allowed me to develop my written ideas to visualize solutions without the need for expert skills. At each step, I asked for feedback from everyone I could, from friends to design professionals. This feedback enabled me to refine my design processes and outcome.

### #ah113-designthinking

As mentioned earlier in #designthinking, I engaged in the creative, iterative, and feedback-driven design process throughout this project. More specifically to AH113, however, is the methods I utilized at each step. My on-the-ground research and walk were primarily inspired by session 11 on observation and interviewing. I used what I had learned from Jan Gehl's methodologies for studying public space and documentation via photos and jottings (2013) to observe sidewalks in Hyderabad personally. Additionally, my ideation phase was informed by participatory methods learned in sessions 12 and 13, and I utilized generative backcasting via a mapping workshop. Finally, within my prototyping, I took on the spirit of prototyping as a means of early testing and quick/cheap validation of ideas and utilized AI generation.

### #designforwhom

I began this project by identifying that the current state of sidewalks in Hyderabad serves no pedestrian, as sidewalks are either non-existent or hostile towards pedestrians. I then researched how sidewalks fail to serve pedestrians and how they may better serve them by running a generative participatory visioning workshop for different pedestrians—local Teluguans and Minerva students. In addition to considering the average pedestrian who attended this mapping workshop, I considered a population who had been left out of the design process but were often most affected by the presence and quality of sidewalks: disabled individuals. Intending to design for this population, I researched to better understand the knowledge and needs of visually impaired individuals and wheelchair users through secondary source interviews conducted in the US. I acknowledge that this geographical research does not fit perfectly within the context of Hyderabadi. However, given the constraints of resources and connections, this

research allowed me to understand the physical needs of these individuals. After considering how I might start to design for both the typical walker and those with specific physical impairments, I identified designer agents, such as local architects, who would best aid me in refining my design process and deliverables. Their insights enabled me to understand better how sidewalk infrastructure design has been regarded in India and how I can better tailor my proposal for the local context.

### *#designlogics and #coevolution*

#designlogics and #coevolution were used when considering the design logic design and behavior to determine how sidewalk design affects citizen behavior and vice versa. In justifying goal #2, I analyze how the design of a sidewalk, with underlying assumptions about its effect on mobility and the health of citizens, would, in fact, impact citizens. Furthermore, understanding that the introduction and maintenance of sidewalks would impact citizen behavior and expectation, sidewalk building and citizen mobility and public expectation from the government would coevolve.

Another #designlogic I utilized heavily in the design process of Hyderabad's sidewalks was design justice for the increased mobility of disabled individuals. From research, I built up assumptions about the needs and desires of disabled individuals. With the understanding that this population of individuals has historically been marginalized or forgotten, I emphasize practical ways of reaching justice for this group via design. This design process was approached with careful awareness that the way that design is approached highly impacts how a society includes or excludes individuals from the decision process.

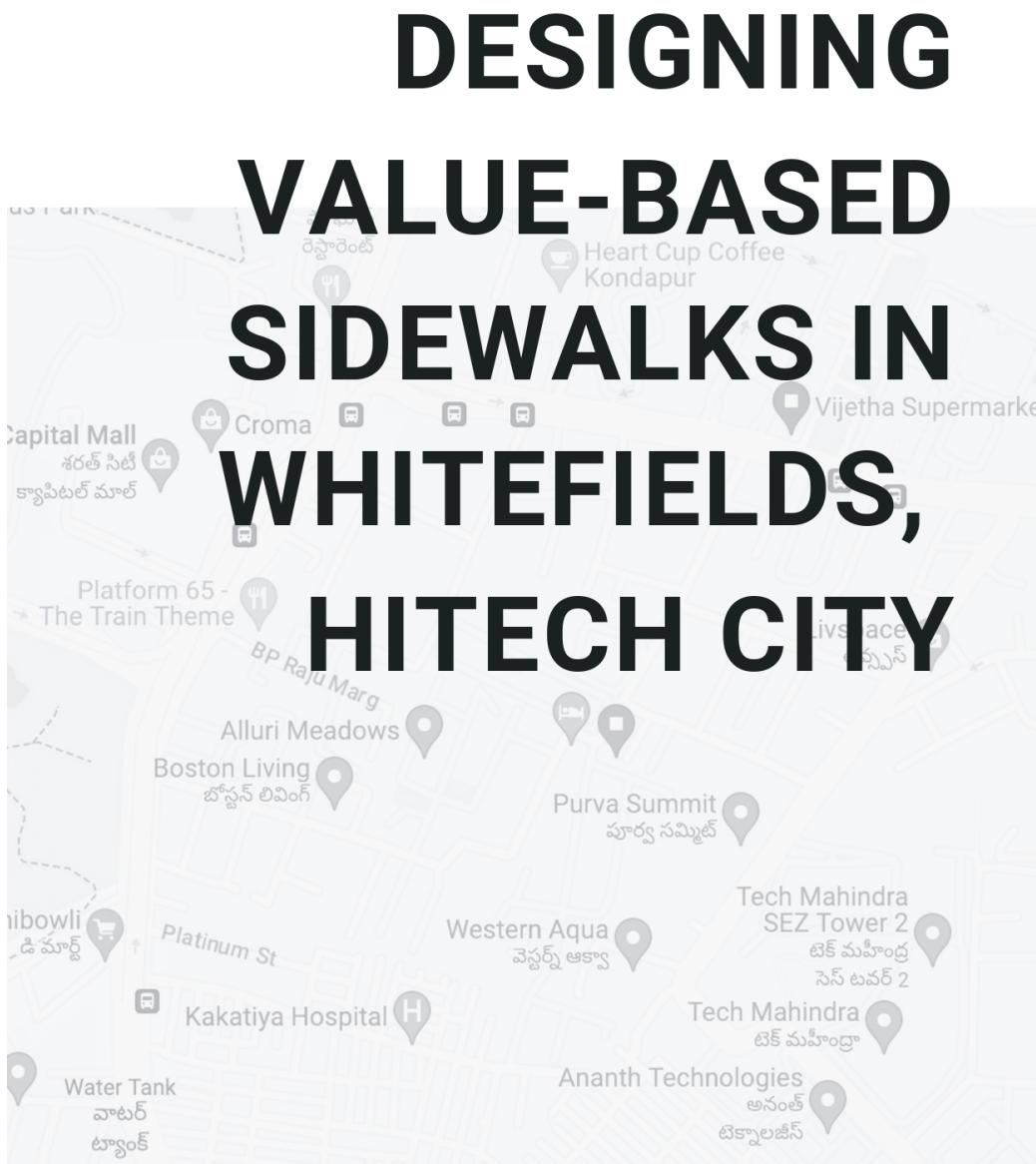
### #context

To inform my ideation and prototyping design process, I began with first understanding the context of sidewalk design within India. To do so, I analyzed the current-day context of sidewalk design within India via popular media. Additionally, I researched the regional context of sidewalk infrastructure by analyzing different design proposals and measures that have been implemented in various cities around India. Finally, I obtained local geographical context through personal on-sigh research and local architect input. This context informed the interpretation of my problem. It helped shape my goals in this project as I identified a gap between funding and intention in sidewalk construction. I also situated my work within the context of 2023 and the presence of AI to incorporate AI as a tool. Understanding the context of 2023 and conversations surrounding AI usage, I aim to use it non-trivial and generatively.

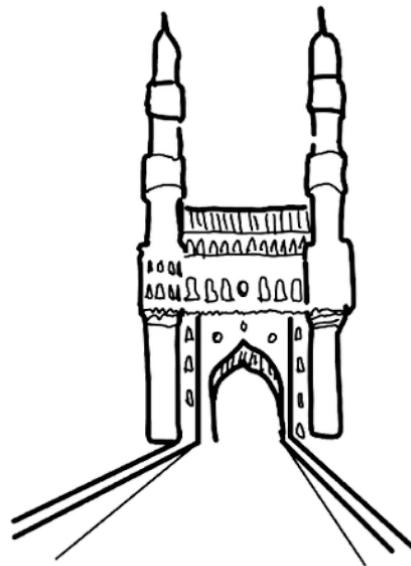
## Resource Appendix

[Walking Workshop Miro Board](#)

Final Design Proposal



# Introduction



There is no doubt about the importance of sidewalks within the urban landscape for the movement, safety, and health of citizens. Sidewalks serve not only as a means of short-distance transportation, but they are valuable for promoting social interactions, bolstering local businesses, and maintaining culture. Thus, the development and maintenance of sidewalk systems in any city is advantageous towards the attractiveness towards to prospective city-goers and the livability of the city for current residents. Furthermore, sidewalks actualize city-wide values, and thus, within this proposal, values such as disability inclusion, mental and physical safety, and community connection are foregrounded and will guide the designing of a sidewalk system in the Whitefield area of Hitech City in Hyderabad, IN. This proposal holds important considerations for prospective engineers and designers of the sidewalk project in Hyderabad towards understanding methods of promoting city values through infrastructure.

## OUTLINED VALUES

- #1  
**DISABILITY  
INCLUSION**
- #2  
**PHYSICAL & MENTAL  
WELLBEING**
- #3  
**SOCIAL  
CONNECTIONS**

## GOALS & OBJECTIVE

### #1 MOBILITY FOR ALL

Encourage mobility for those that are most impacted by walkability via a safe and accessible roadside walking pathway

### #2 COMMUNITY HEALTH AND WELLBEING

Encourage the physical and mental health of Hyderabadi's and the surrounding environment by encouraging walking behavior

# DESIGNING FOR DISABILITY INCLUSION

## PREFACE

Disability inclusion should be foregrounded in the designing of sidewalks to promote equal access to public spaces for individuals with impairments and ensure safety and independence in movement. By prioritizing disability design, Hyderabad will become more inclusive for all the unique community members.

## GENERAL CONSIDERATIONS

When designing sidewalks for disabled individuals, it is valuable to consider how to design for accessibility and ease of independent movement. While there are different design considerations for unique disabilities, general features such as curb cuts, ramps, width considerations, and other support can contribute to accessible designs

## WHEELCHAIR ACCOMMODATIONS

Designing sidewalks with wheelchair users in mind is essential for empowering individuals with physical walking disabilities to move around the city with ease. In the following section, a number of considerations for promoting ease in mobility for wheelchair users are suggested.

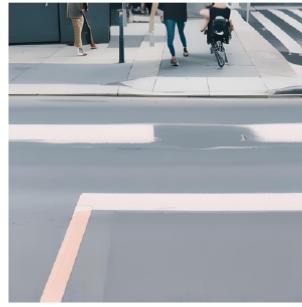
## VISION IMPAIRMENT ACCOMMODATIONS

Those with vision impairments or blindness often struggle with deciphering level changes, safe crossing, and navigating around obstacles. In order to ease the process of commuting the following proposal will propose considerations for when designing for the hard of vision.

# WHEELCHAIR ACCOMMODATIONS



1. Widening sidewalks to 5 feet in order to accommodate multiple wheelchair users



2. Installing curb cuts and ramps at intersections and crosswalks to facilitate mobility between sidewalks for wheelchair users



3. Smooth sidewalk surfaces for minimizing jostling points for wheelchair users



4. Minimizing sloping on sidewalks to ensure safe passage for wheelchair users

recommendations

# VISION IMPAIRMENT ACCOMMODATIONS

1. Providing textured or contrasted surface materials to allow for navigating on the sidewalk



2. Installing multi-sensory traffic lights for auditory and visible signals to alert pedestrians of crossing times and possible danger



3. Having a clearly marked pedestrian route for improving clarity when commuting

recommendations

# DESIGNING FOR PHYSICAL AND MENTAL WELLBEING

## PREFACE

Designing sidewalks with physical and mental well-being as a value promotes healthier and more active lifestyles to enhance the quality of life of community members. In the following sections, features of sidewalks such as greenery, seating areas, and safety considerations will be proposed for designers to consider how they may design for well-being.

## PHYSICAL SAFETY AND WELL-BEING

At the forefront of designing any public space is the consideration of safety. Sidewalks can offer safety to pedestrians if designed intentionally with an understanding of the possible issues that can arise when entering public commuting spaces.

## MENTAL SAFETY AND WELL-BEING

Not only do sidewalks provide physical security from ongoing traffic, but the presence of sidewalks encourages individuals to spend time outdoors, engage in community and local business, and reduce stress.

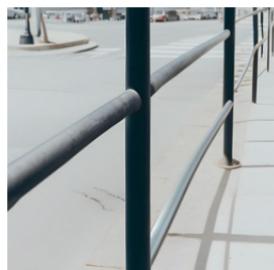
# PHYSICAL SAFETY AND WELL-BEING



1. Streetlights for visibility when walking at night and deterrence of criminal activity



2. Greenery and shade for protection from sunlight and heat



3. Traffic safety via physical boundaries between road and pedestrian walkways



4. Porous and heat-resistant sidewalk material for Hyderabad's monsoon season and frequent heat



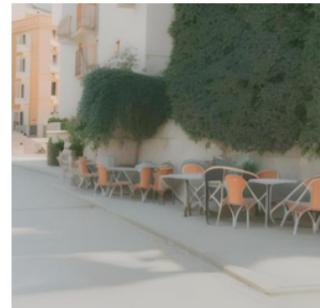
5. Clear signage (stop signs, crosswalks) helps to prevent confusion between drivers and pedestrians

recommendations

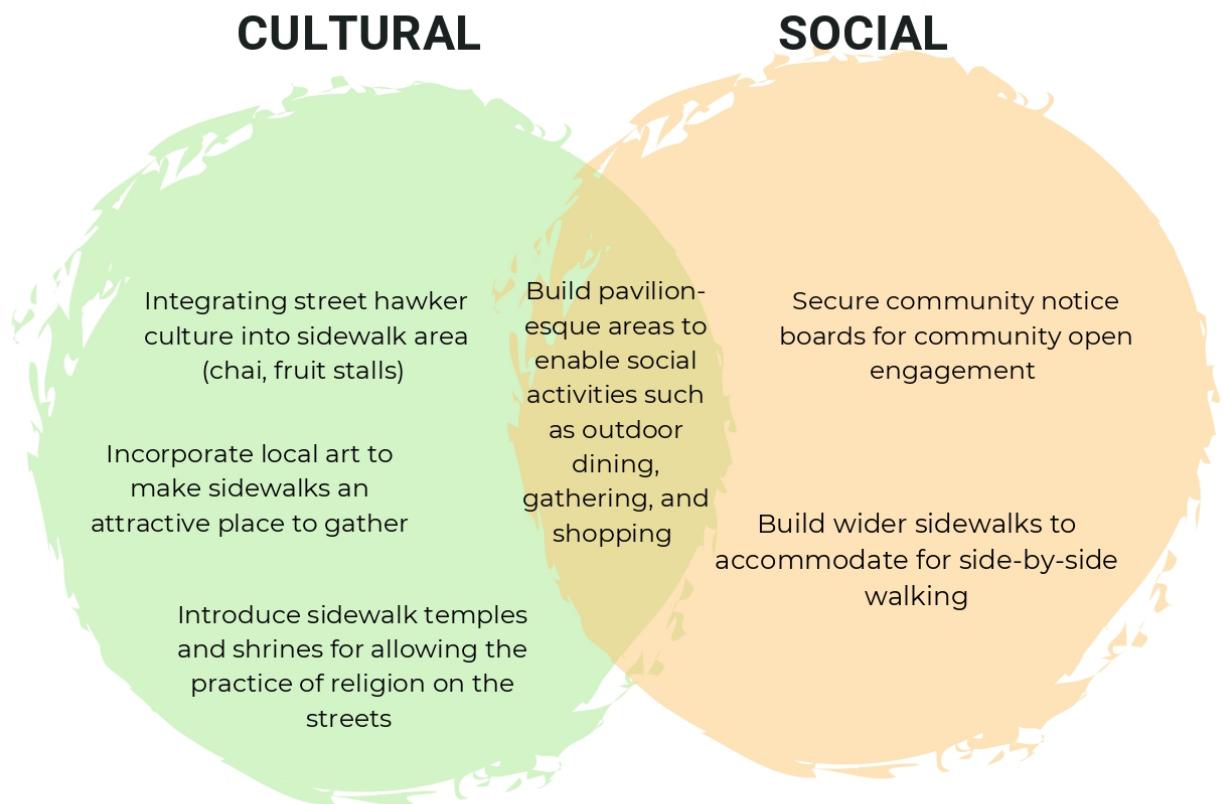
# DESIGNING FOR SOCIAL/CULTURAL HEALTH

## PREFACE

Designing sidewalks with the intention of facilitating social connection creates a community-wide sense of belonging where individuals have further opportunities to interact with one another. Incorporating such design features encourages socialization where sidewalks become a hub for both social and economic activities. Under the context of Hyderabad and Indian culture, there is a large opportunity for integrating sociality, street shopping culture, and commuting.



# CULTURAL AND SOCIAL INTERACTION



recommendations

# Final Remarks

As you read through these suggested design features, you may notice that some of these features outlined in one value bleed into another—this is intentional. Through designing for one public audience, we inevitably design for another, as there are some universal desires of pedestrians that exist such as the presence of greenery and areas of relaxation, as well as basic safety. In addition to these general considerations, this proposal should serve as an inspiration for methodologies of turning value and intention into practical actions.

## CREDITS:

- all illustrations were produced through Canva's text-to-image features
- During the production of this proposal, I was aided by classmates, architects, and professors to iterate on researching, ideation, and design.

## AI Usage Statement

I utilized AI within my assignment to draft quick renderings of my sidewalk designs.

These renderings were completed with getimg.ai. Additionally, the illustrations within my proposal have been created with Canva's text-to-image feature. All other written and illustrative work in this project are solely my own.

## References

*2010 ADA Standards for Accessible Design.* (2010, September 15). ADA.gov.

<https://www.ada.gov/law-and-regs/design-standards/2010-stds/#903-benches>

Barden, A. (2022). Tactile paving: The sidewalk bumps that serve an important purpose. *All About Vision.* <https://www.allaboutvision.com/resources/tactile-paving/>

BigRentz. (2023, April 12). The Ultimate Guide to Designing and Navigating Spaces for People with Vision Impairment. *BigRentz.*

<https://www.bigrentz.com/blog/ultimate-guide-designing-navigating-spaces-people-vision-impairment>

Bommala, N. (2022, December 15). *GHMC focuses on footpaths to enhance pedestrian safety.* Telangana Today.

<https://telanganatoday.com/ghmc-focuses-on-footpaths-to-enhance-pedestrian-safety>

Gehl, Jan, and Birgitte Svarre. 2013. *How to Study Public Life.* Washington, DC: Island Press.

George, N. (n.d.). *Tender S.U.R.E (Specifications for Urban Road Execution) – Jana Urban Space.* <https://www.janausp.org/portfolio/tender-sure/>

K, Sarada. (2015, July 26). *Walk ability in neighborhoods and cities, Case of Hyderabad streets-Jubilee Hills Ar. KAPILA SARADA.*

[https://www.academia.edu/14402921/Walk\\_ability\\_in\\_neighborhoods\\_and\\_cities\\_Case\\_of\\_Hyderabad\\_streets\\_Jubilee\\_Hills\\_Ar\\_KAPILA\\_SARADA](https://www.academia.edu/14402921/Walk_ability_in_neighborhoods_and_cities_Case_of_Hyderabad_streets_Jubilee_Hills_Ar_KAPILA_SARADA)

Lockton, Dan. 2011. “Architecture, Urbanism, Design and Behaviour: A Brief Review.”

<https://architectures.danlockton.co.uk/2011/09/12/architecture-urbanism-design-and-behaviour-a-brief-review/>

Luiz Lara, Fernando. 2021. “Abstraction Is a Privilege.” *Platform*, 2021.

<https://www.platformspace.net/home/abstraction-is-a-privilege>

Moulika. K.V. (2018, July 24). *Where are my footpaths? 320km soon, says GHMC.* The Times of India.

<https://timesofindia.indiatimes.com/city/hyderabad/where-are-my-footpaths-320km-soon-says-ghmc/articleshow/65111668.cms>

News Desk. (2022, September 16). *Revival of Charminar pedestrianisation project will include AKTC, ThinkCity.* The Siasat Daily.

<https://www.siasat.com/charminar-pedestrianisation-maud-spl-chief-secretary-holds-talks-with-aga-khan-trust-2414353/>

- PublicResourceOrg, & Cannon. (2010, May 10). *Accessible Sidewalks: Pedestrians who use Wheelchairs* [Video]. YouTube. <https://www.youtube.com/watch?v=O4mLJTkPlYs>
- PublicResourceOrg & Maaz. (2010, May 10). *Accessible Sidewalks: Pedestrians with Low Vision* [Video]. YouTube. <https://www.youtube.com/watch?v=imWU2zeitF0>
- Riazi, A., Riazi, F., Yoosfi, R., & Bahmeei, F. (2016). Outdoor difficulties experienced by a group of visually impaired Iranian people. *Journal of Current Ophthalmology*, 28(2), 85–90. <https://doi.org/10.1016/j.joco.2016.04.002>
- Right to Walk. (2010, October). *Right to Walk – Walking As A Choice Making Hyderabad More Walkable*. [https://cdn.cseindia.org/attachments/0.81841900\\_1499592582\\_right\\_walk.pdf](https://cdn.cseindia.org/attachments/0.81841900_1499592582_right_walk.pdf)
- Redevelopment of Church Street – VA Group.* (n.d.).  
<https://www.vagroup.com/projects/redevelopment-of-church-street-bengaluru/>
- Salman, S. (2020, September 23). What would a truly disabled-accessible city look like? *The Guardian*.  
<https://www.theguardian.com/cities/2018/feb/14/what-disability-accessible-city-look-like>
- Spoon, S. (2005). What Defines Walkability: Walking Behavior Correlates. *CORE*.  
[https://core.ac.uk/display/210605274?utm\\_source=pdf&utm\\_medium=banner&utm\\_campaign=pdf-decoration-v1](https://core.ac.uk/display/210605274?utm_source=pdf&utm_medium=banner&utm_campaign=pdf-decoration-v1)
- United Nations. (2015). Good Practices of Accessible Urban Development. *DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS*.
- Walkability Asia (2013, May 25). *Campaign for better footpaths in Hyderabad*. Walkability Asia. <https://walkabilityasia.org/2013/05/19/campaign-for-better-footpaths-in-hyderabad/>