

# Way-finding and Signage Design opportunities and challenges within the Indian context for Smart City

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**Abstract**— The cultural and linguistic diversity of India is evident from the fact that there are 22 major languages in India, written in 13 different scripts, with over 720 dialects.

India where tradition and modernity are always at an interesting intersection, this diversity plays a very important role in various aspects of communication design. In this context, navigation and way finding in India presents itself as an important area of study. Navigation and way-finding are integral part of modern life in India. However, applying principles of modern design in the Indian context is at times challenging. Empirically, an average Indian user depends on local place names landmarks and other colloquial identifiers for way finding and navigation. Further, appropriate urban planning in recent years has taken a back seat in the frenzy of the urban development. As a result, there is a haphazard growth of urban areas and influx into semi-urban and rural areas. This has an impact on the physical and “visual” infrastructure of a given geography.

Pune, as an urban-agglomerate is typical case of Indian city witnessing these dynamics. Pune is the 9th most populace city in India with a population of more than 50 lakhs spread over 500 sq. km.

This paper aims to explore how way-finding and signage in different neighborhoods of Pune have evolved. The paper documents the diversity of the different neighborhoods of Pune city and analyses the various socio-cultural, traditional and modern influences that have an impact on way-finding and signage. There is scope to design better smart navigation & real time information on current scenario. The paper discusses the key opportunities and challenges for design educators and practitioners in this regard.

**Key words:** Way-finding in India, Semiotics, Signage Design in Pune, Mindset of Indian audiences, Smart City Signage Design, Linguistic & script-based diversity. Signage system, illiteracy, multilingual society, public places

## INTRODUCTION

The cultural and linguistic diversity of India is evident from the fact that there are 22 major languages in India, written in 13 different scripts, with over 720 dialects.

An understanding of the environment provides varying levels of options regarding ease of navigation; easing out frustration, creating functional efficiency, accessibility, safety hazards and time consideration. When individuals are lost or disoriented, they could be suitably facilitated by a well-designed way-finding system.

Way finding is, "man's ability to reach spatial destinations in novel as well as in familiar settings" (Passini, 1981, p. 17). This information system makes up the environmental communication of a certain environment and should be designed as a whole.

This ability may be inherent within a person, but it can be enhanced by a facility's way finding

information system, which begins with spatial organization and extends to include maps, signs,

architectural cues, and verbal assistance (Arthur & Passini, 1992). Because individuals use this information system as a basis for their wayfinding behavior, it must contain all the information necessary to make and execute decisions along a route and to develop a mental representation of the setting (i.e., the cognitive map). This information system makes up the environmental communication of a built environment (e.g., facility) and should be designed as a whole (Brown, 2002).

People in India rarely use maps for navigation. They rely primarily on asking around and navigate using landmarks. The landmarks people use during this are prominent but sometimes highly volatile and like structure and people sitting on street corners. Some of these landmarks may not necessarily always be popular. While inquiring about the route, people repeatedly seek reliable source route, to validate the information they have. Other findings during the study include people's preferences in using maps and concerns while seeking directions. Mental

models of people also affect the way people navigate and exchange the way finding information.

### **Wayfinding problem and scope**

The diversity and variety in way-finding and signage systems in India offers multiple design opportunities and challenges. Applying modern design principles on Indian wayfinding and signage system can result in substantial improvement in the existing systems. However, currently there is no framework that can map the modern design principle with the Indian context. Empirically, it is evident that this leads to inefficiencies at various levels. The inefficiencies reflect in systems that are out-of-context, irrelevant, over-designed, redundant, visually cluttered and non-functional. Here the context of visual research could prove beneficial in identifying the substance in a specific visual language selected for wayfinding and signage.

A cursory enquiry reveals that certain characteristics of the Indian context like multiple languages, haphazard urban planning, lack of standard address system etc. are the problem areas and become constraint for a well-designed way-finding and signage system. However, these characteristics can also become drivers of good design if the conflicts are resolved creatively.

There is growing evidence that with appropriate design effort well-designed way-finding and signage system can be created by striking the right balance of the parameters of the Indian context and principles of modern design.

This paper is aimed to identify the characteristics of the Indian context that have an impact on the way-finding and signage system and attempt to define what "Indian context" means. This will involve studying and analysing the existing way-finding and signage system in select Indian cities. Further the research will develop a framework based on the principles of modern design to evaluate the design efficacy of the existing way-finding and signage system. This will entail creating an objective methodology and identify the parameters to compare the design efficacy of various cities in India and globally essentially through ethnographic study.

In order to understand which information improves way-finding ease and what specifically about that information effects the improvement, one would need

to understand the meaning(s) a community infers from different forms of way-finding information via significance of semiotical reference.

Further, focused urban planning in recent years has taken a back seat in the frenzy of random urban development. As a result, there is a haphazard growth of urban areas as a result of semi urban areas mushrooming around town. This has an impact on the physical and "visual" infrastructure of a given geography. Further more there do not seem to be focused organizations (Govt. or Non Govt.) that are taking substantial responsibility for establishing uniform signage facilitation.

Pune, as an urban-agglomerate is typical case of Indian city witnessing these dynamics. Pune is the 9th most populace city in India with a population of more than 50 lakhs spread over 500 sq. km. In spite of significant business and industrial growth as also expansion in the space of property development, the focus on signage is restricted to developed space and is disconnected from the spaces beyond it. An overall public space wayfinding system seems to be entirely missing.

### **The rationale for and the significance of the study**

Navigation and way-finding are integral part of modern life in India. As design permeates in all the aspects of Indian society and economy it becomes important that there is a high-level agenda to integrate design in all the important aspects for the average Indian citizen. There is a need to have frameworks and models that enable this integration seamlessly and which also can be used in academics and practice. This study will create that knowledge base to build such a framework. The utility of the framework lies in its flexibility and adaptability to include as much diversity as possible and still act as a guiding light to ensure the rigor of design is maintained.

This paper aims to explore how way finding and signage in different neighborhoods of Pune have evolved over the years and gauge its effectiveness. The paper documents the diversity of the different neighborhoods of Pune city and analyses the various socio-cultural, traditional and modern influences that have an impact on way-finding and signage. The paper discusses the key opportunities and challenges for design educators and practitioners in this regard. Considering India's varied environments, each one will have to be focusedly understood on the basis of varied society types, their culture and factors that influenced their life style and perceptions.

It is also important to understand how the design of signage is inspired and structured keeping the focus on function and at the same time not overlooking the essence of a city's cultural context.

**The approach/methodology**

- Study existing way-finding and signage systems in India and globally. Will include user research, stakeholder mapping through qualitative and quantitative research etc.
- Derive the common parameters that have affected the design of way-finding and signage systems (visual research).
- Develop a rating mechanism to determine the design quality (as perceived by the users, design professionals and experts). Map the various cities on this rating scale and compare the results with reference framework.
- Develop the reference framework based on the principles of current principle modern design.
- Develop the reference framework for evolving contextual design language.
- Refine the framework to reflect the feedback and observations from the comparison study.
- Design the way-finding and signage system for Pune city based on this framework.

Research conducted through study of sites/geographical spaces and target audience.

**The objectives of the study and the research questions**

- To identify the drivers and parameters that affects the design of way-finding and signage systems in Indian cities.
  - 1) How do wayfinders find information related to navigation in urban/rural places and what are the factors that affect navigation behavior?
  - 2) What are the different personas of the user and their information needs? How different are they as

varied users and does this call for multiple signage system for the same place?

- 3) What is the perception of varied personas and how can a common platform be sought?
- 4) What are the mental models of these different personas?
  - To develop a framework based on Indian characteristics and modern design principles to determine the design efficacy of way-finding and signage systems in Indian cities.
    - 1) Which design elements are important (Legibility, readability, location, distance, cone of vision, typography, symbols, color etc.,) in the wayfinding and signage system for the viewer response and decision-making?
    - 2) What are the criteria for selection of language/s used in wayfinding and signage design?
    - 3) What are the physiological needs of the user that play major role in wayfinding?
      - To propose way-finding and signage system for Pune city based on this framework and validate it from stakeholders.

**The research work's potential contribution to knowledge and understanding of the relevant field**

In my professional career as a Graphic designer has converged over the last few decades to the area of Branding, User Experience Design, Publication Design, Type Design, and wayfinding - signage System. This is an area, which I have been deeply fascinated with and has become a passion, rather almost an obsession with me.

As an Asst. Professor at MIT Institute of Design (Pune), I am teaching Typography (Type Design) & wayfinding from last four years. For the past few years I have been working exclusively in this area and my projects have included Pune Railway station (which will be implemented in 3 months), MIT campus (under development), Vishwaraj hospital (under development), and Salarjung Museum (heritage spaces). Where I have guided numerous projects of wayfinding-signage system design like: Temporary signage design for Lalbaug Mumbai Ganpati Viserjan, Zoo like Rajiv Gandhi Udyan, K特拉j Zoo Pune, MTDC Resort Signage of Mahabaleshwar, KEM Hospital Mumbai, Siddharth Gardan, Aurangabad, The Chhatrapati

Shivaji Maharaj Vastu Sangrahalaya-Mumbai, Alibaug beach, Agakhan Palace (Pune), Race Course (Pune), Phonenix Market City (Pune), Empress Botanical Garden (Pune), Loni-Kalbhor Village, Pune University, National War Museum, and Sinhagad Fort (Pune).

**Wayfinding Research objectives related to Pune scenario**

To propose way-finding and signage system for Pune city based on this framework and validate it from stakeholders. Based on this framework the design project will involve strategy, locational maps, direction signage, destination signage, utility, emergency signage and visual language. Here it becomes imperative to understand the positioning of Pune as the “Shikshanache Maher-Ghar (Education hub) and proposed smart city.

One of important research objective is to develop the framework and guidelines for wayfidning and signage system for Indian cities. The outcome of the Pune signage system project will enable us to validate the framework and refine the framework with findings from the project.

This framework will also act as a teaching resource for the courses, and the students can use this for the academic projects. The outcome of the research will be shared with a wider community and will attempt to put a structured process in place for wayfinding and signage projects.

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**Links:**

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