

Spatio-Temporal Efficacy of Historic Street Forms in Preserving Domesticity of Vernacular Settlements: Ulsoor, Bangalore, India.

Monalisa Bharadwaj¹, Sudha Kumari²

Ramaiah Institute of Technology, Bangalore, India.

monalisa@msrit.edu¹, sudhakumari@msrit.edu²

Abstract

Bangalore city is home to many vernacular settlements that have existed from the 17th century and earlier, which have slowly been engulfed within the expanding urban sprawl. These settlements have demonstrated extreme resilience in maintaining their vernacular character in a spatio-temporal context, in spite of urbanization around. Moreover, the historic streets of these vernacular settlements have a uniquely binding effect on the socio-cultural and economic activities of residents.

This paper aims to understand the role played by historic streets in preserving the vernacular built forms associated with them: spatially and temporally. Observational studies reveal that the temporal dynamics of transition along historic streets have a major role to play in sustaining the historic context and relevance of settlement's landmarks. The spatial character: principally the scale and pedestrian character have controlled the loss of sense of domesticity in such settlements from being eroded away. These streets also instil a sense of continuity of cultural experience in users, heightening a certain association in memory. It is thus pertinent to identify such historic streets, and understand and document their qualitative character for the purpose of protection.

Ulsoor in Bangalore is one among the oldest vernacular settlements and a cluster of streets together have been studied and analysed for their spatio-temporal effect in preserving domesticity in vernacular settlements. Extensive field surveys and residents' interviews have helped understand the sense of domesticity and association these streets build together. The findings have been organized to formulate a strategy for protecting them through planning.

Keywords: Vernacular Settlement, Historic Streets, Street Forms, cultural heritage, India

Introduction

Traditionally, the study of vernacular built environments are centred around the domestic units, their forms, their design contexts and the socio-cultural-economic backgrounds of the users, the materials and detailing engaged and so on. Such studies unravel the relationships of vernacular settlement's components around the domestic units.

The scale of domestic units in a vernacular settlement reveals how the users respond to their climate, local resources and to each other as a cohesive entity. Another perspective to understand the vernacular context perhaps can be to look at domesticity from the viewpoint of street forms that typically—organic in layout pattern—are built around the day-to-day activities of the residents of the settlement, and emerge in the realm between domestic built forms. These historic streets derive their characteristics from the aligned built forms. The massing and scale of built forms thus have determining effects on the user perception on streets such as a sense of enclosure, comfort of shaded walkways, interaction along built form entrances or typical hubs of gathering (a tree base, a shop front, or a temple gate, etc)

This paper aims to study historic streets with an intention to understand how the spatial design and the temporal pattern of historic streets determine the sense of continuing relevance for the aligned domestic built forms. This sense of continuity and relevance through spatial and temporal pattern has a significant effect in binding the distinct domestic built forms with a wider scale, a cohesive community, and continuity. The intangible character of this can however be explained through the following:

- 1) The spatial form and scale of historic streets; relationship of aligned built forms with street design.
- 2) The temporal patterns generated from day to day on-street activities and movements.
- 3) The relationship of aligned built forms with street design (built forms and facade design characteristics).
- 4) Activities contextual to domestic built form facades, building entrances and building fenestrations.

The principal elements of these findings help structure the characteristic of spatio-temporal patterns contributing to a sense of continuity, thus an enduring impact on preserving the domesticity of vernacular settlements. The objective of this paper is to make an argument for highlighting the street form relationship with built forms as a vital and sustaining character of domesticity in vernacular settlements. In doing so, the paper will provide a basis for undertaking street form studies as a part of vernacular settlement preservation policies.

Historic Street Forms: Background Studies

Urbanization has led to unclean, filthy streets lowering the quality of urban life; hence sustainable concepts in urban policy guidelines are needed for healthy living (Randhawa, 2017). The recommendation policy by UNESCO in 1976 safeguards the contemporary role of historic areas with inclusion of the word “vernacular” for historic and architectural areas (UNESCO, 1976). The policy of ICOMOS charter, especially on built vernacular heritage 1999, is mostly concerned with its conservation of buildings (Khalaf, 2016).

The history of studying the interaction between public spaces and public life goes back to the 1960s. (Nasreldin, 2019) Studies in Architecture and Urban Design have focused on the function of streets as public spaces (Jacobs, 1963:2012; Moudon, 1987; Appleyard, 1980; Gehl, 2013; Mehta, 2013); a trend that dates from the 1960s when big transformations radically changed inner city environments (Skoura, 2018). The street plays a crucial role in constituting the life of the society and is essential in defining the cultural, social, economic and political functions of a city. It is the first distinctive element that determines the character of a place (Ahmed, 2019). Mehanna et.al have studied the importance of conserving the traditional commercial streets because the identity of communities depends on them (Mehanna and Mehanna, 2019).

Jane Jacobs describes the three main qualities of a street for a successful neighbourhood. Firstly, the separation between public and private space should be clearly distinguished. Secondly, the street should have a sense of safety for the residents and strangers. Lastly, the footpath should ease the movement of pedestrians continuously enhancing the quality of users watching street activity (Jacobs, 1961). From then onwards, streets have been extensively explored as an integral part of urban studies. Exploring the vernacular context, Rapoport (1969) has observed how deeply the character of vernacular settlement design is intertwined with its socio-cultural traditions and practices, both at residential scale and at the public realm. He writes that the vernacular design approach is an individual impermanence without striving for the aesthetic and stylistic interests, especially in traditional societies. The religious belief system affects space making, and the orientation and form of the vernacular house in contrast to developing countries where spaces no longer communicate nor practise cosmological beliefs (Rapoport, 1969).

Amos Rapoport discusses the idea of high, middle and low level meanings, and illustrates the relationships between human behaviour and the built environment. He interprets the high-level meaning as cosmological and cultural belief, middle-level meaning as a concept of identity with socioeconomic conditions and low-level meanings with behavioural changes within the context of space, which is a more practical approach for the users of a space and visitors. He argues that high-level and middle-level meanings are contingent to socio-cultural parameters (Rapoport, 1990). These three meanings become very important to understand the cultural sustainability within the vernacular settlement (Anon, 2015).

Vernacular architecture is essentially a design response to the local geo-climatic condition of the region and reflects the culture and local tradition of the place (Khandekar, 2017). In India's diverse cultures with the myriad kingdoms, we see forts, palaces, temples, and residential compounds, which exhibit the style of architecture, and responsive to the geographical climate of the region (Gulati, 2019). In a typical vernacular settlement, however, one may observe that cultural landmarks such as a temple or a tree distinguish the historic streets; acts as labyrinth for cultural interaction: visual, verbal and commercial and social activities alongside pedestrian thoroughfare, spatially distinctive sense of enclosure. Allan Jacobs explains the dynamics of the interactions between people and streets; the play of light, shade from the tree and how separation of the street from vehicles enhances the visual aesthetics. He observes "Generally, more buildings along a given length of street contribute more than do fewer buildings" (Jacobs, 1995). The streets provide for the most vibrant and enriching experience in a historic settlement. They embody the character of society and their traditions in an active sense. Historic streets have their unique built form vocabulary. The building facades and plinth lines define the edges, close-knit vernacular buildings, and narrow sections define the domestic scale of these streets. The research suggests that the spatial change of the street, the openness of the building facade, and the spatial distribution of the shops have different impacts on pedestrians' activities when the built-up environment is a concern (Zhang et al, 2021)

The historic streets of vernacular settlements have a uniquely binding efficacy on the socio-cultural and economic activities of residents. The research suggests that the spatial change of the street, the openness of the building facade, and the spatial distribution of the shops have different impacts on pedestrians' activities when the built-up environment is a concern (Zhang, et al, 2021). These streets also instil a sense of continuity of cultural experience in users, heightening a certain association in memory. The built environment responds to the human scale, which develops a strong sense of belongingness among the group of people living in the community. Long (2013) has observed that the protection of historical streets plays an irreplaceable role in the historic continuity of ancient cities

A significant component of vernacular design is built by the ways people use the public realm in close association with the built environment. These realms could be as simple as a

platform under a banyan tree, the temple streets, or commercial streets. The pace of movement on or around them shapes the experience at these historic realms. This is typically the pedestrians. The shade from close-knit built forms or trees provide for intermittent spaces that encourage human interactions in small groups. Studying spatio-temporal dynamics helps to reach a better understanding of social public life and change of activities. Such studies open the door for future research into the dynamics of urban growth and further development of existing historic urban contexts. As observed by Glaser, the public realm of the city has to be experienced at eye level, because as a pedestrian, while walking on the streets, we experience the details at eye level, while the sense of smell and sound also initiate a connection between people and space. Especially in a street form, the front façade of buildings along the street and plinth has an important role in defining the edge of the street line (Glaser, 2012).

Vernacular settlements and street forms exhibit a contrast and conflict with the old settlements, which is meant mostly for pedestrians with the various modes of transportation clashing on the roads craving for the notion of identity (Piquard, 2011). Jan Gehl published an article “Close encounters with buildings” in 2006, which illustrates a connection between the street and the plinth of the building encouraging the need for public life, where cities are disappearing. Public life in good quality public spaces is an important part of a democratic life and a full life” (Glaser, 2012). Thus, the changing socio-cultural context has a bearing on the perception and manners in which people engage with their vernacular built environments, especially in cities like Bangalore, where the pace of development is forcing change at urban scale. The interpretation of historical language is subjected to change with time and space (Fulbrook, 2002). A literature study conducted by Ewing & Handy found 51 perceptual qualities of the urban environment. Of those 51 perceptual qualities, eight design qualities are essential in urban design, namely Imageability, Enclosure, Human Scale, Transparency, Complexity, Coherence, Legibility, and Linkage (Ernawati, 2020). Ewing further identifies eight qualities of pedestrian and transit oriented design, and people's choices for environmental perceptual quality, especially for walking in a historic street. Literature studies highlight the importance of the perceptual quality of a place in urban design

Bramley et al note that the relationship of social sustainability and the concept of ‘sustainability of community’, depends on the inclusion of several features such as interchanges in the social networks, community participation, pride or sense of place, community stability and continuity of security (Glen Bramley, April 2006). Stephens et al observe that Cultural memory is studied in various interdisciplinary sciences, including psychology, sociology, history and anthropology, but its potential contribution to urban development has rarely been recognised. It is an important aspect of urban landscapes such as cities where cultural memory is essential for successful place making and the maintenance of social and cultural identities (Hussein, Stephens and Tiwari, 2020). While the streets have been studied from perspectives of sustainability, and cultural memory (Stephens,?), there is very little work on the design of streets as fundamental to spatio-temporal character or what is associated with this as cultural identity or sense of a place- of vernacular settlements.

The informal housing is viewed by the rich as disturbing social and visual pollution (Kellett, 2011). In the political interest of metropolitan city “Bengaluru” by chief minister SM Krishna in “The Times of India” newspaper article (2001) wanted to represent the image of the city in like manner to that in Singapore. This disregarded the people's interest living in old and squatter settlements, instead named as substandard and poor as no scope for self-improvement. It disgraced the concept of “culture of poverty” offered by Oscar Lewis in 1965. As Wijetunge (2013) points out, the rich and the poor are human beings alike with their intellectual, emotional and physical needs.

The built environment and people walking on the streets perceive information with previous experiences, culture and expound what is perceived (Handy, 2009). The new urbanist also states cul-de-sac of the street ending with a monument/architectural element achieves a

sense of enclosure (Duany, 1992). Alexander observed “building setbacks from the street, originally invented to protect the public welfare by giving every building light and air, have actually helped greatly to destroy the street as social space” (Alexander, 1965). The streetscape is considered as public space responding to human scale creating a visual enclosure while defining the imageability of the city (Praliya, 2019).

This study aims to illustrate this ability of historic street forms and public realm within the vernacular settlements that were absorbed by the expanding city of the Bangalore metropolitan region. It is pertinent to identify historic streets and understand and document their qualitative character for the purpose of protection. Ulsoor in Bangalore is one among the oldest vernacular settlements and a cluster of streets together have been studied and analysed for their spatio-temporal efficacy. The following section discusses the methodology adopted.

Methodology

For studying the potential of spatio-temporal character of historic street forms in preserving the domesticity of vernacular settlements, one of the oldest historic settlements in Bangalore was identified for observational study and documentation purposes. Urban Bangalore has evolved from a cluster of vernacular settlements dating as early as the 17th century. To identify appropriate historic areas, following were studied: Ulsoor, Pete area, Basavanagudi and Cantonment. The selected areas were visited for a walking audit to identify the historic settlement that has its distinctive identity unaffected by the urban development around it. Ulsoor was identified based on this walking audit, whose primary review parameter included: origin/ history, architecture and planning, street form.

Observational studies were conducted for Ulsoor. An exhaustive documentation of urban fabric of the historic settlement spatial extents was undertaken by the use of satellite images for generating and mapping of street forms and further by an on-foot physical survey. Photographs were taken systematically to facilitate documentation along with on-site sketches. The principal software for documentation were AutoCAD and Photoshop. Landmark mapping, built form characteristics documentation, street hierarchy and character analysis were undertaken in the form of multiple observational studies over a period of six weeks to add over the base map layers.

These findings were organised in the form of descriptive analysis. Corresponding settlement scale drawings were compiled for comprehensive description of spatial layout and scale and activity patterns to outline temporal patterns on streets of selected historic street forms. The findings were discussed with recommendations and conclusions at the end of the research work.

Vernacular Settlements and Street Forms: Bengaluru

The historic core within the metropolitan city is identified as vernacular in nature as they reflect the culture of the place with a narrow boundary between the public and private space (Lawrence, 1987; Oliver, 1997; Jagatramka, 2020). The city of Bengaluru is located in South of India, on the coordinates of 12°59'N, 77°35'E and is the capital of the state of Karnataka. Bengaluru is situated at an altitude of 920m above the sea level. The city is famously known for its pleasant tropical moderate climate. The historic core of the city owes its origin to “Pete area” in 1537. It is characterized by extensive, small-scale, commercial enterprises. The work to home commute in this part of the city is essentially pedestrian in nature. In 1537, Kempegowda erected 4 towers in N-S, E-W direction to limit the boundary of the town, shown in the Fig. 1 below. From 1759 to 1799, Hyder Ali fortified the southern fort establishing the military base. His son Tippu Sultan followed the legacy of his father and died in the battle of Mysore war in 1799. In 1809, the British rule established a Cantonment towards the East of Bengaluru in Ulsoor village.

The colonial rule in the city, near the Cantonment station had a more contrasting image when compared to the old city, with wider streets meant for Parades, and dedicated footpaths for walkers alongside the lake with shaded trees.

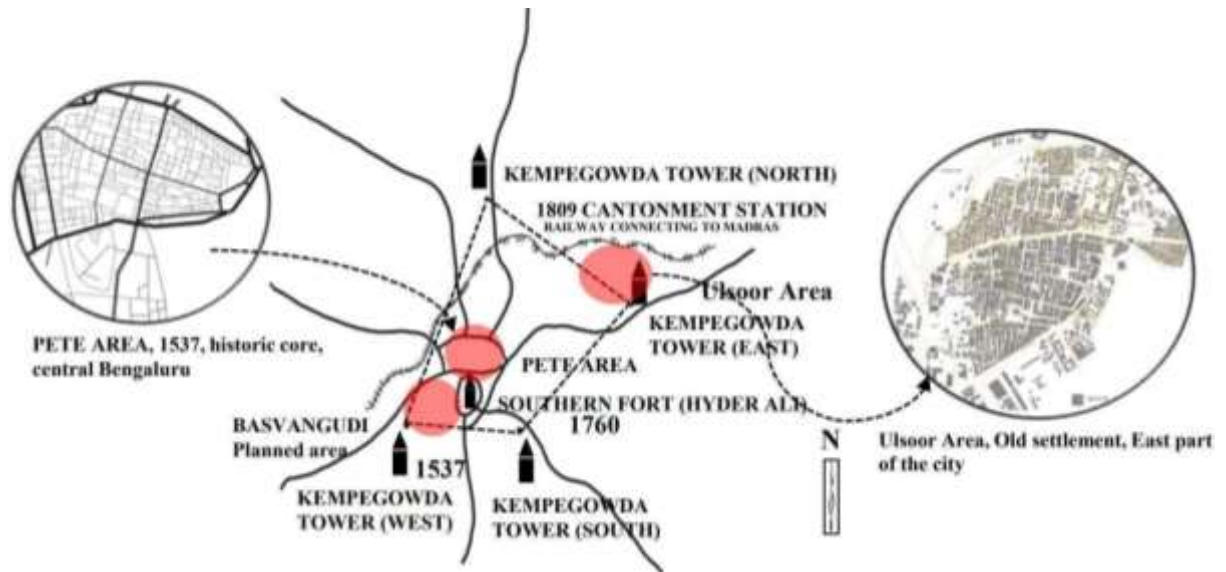





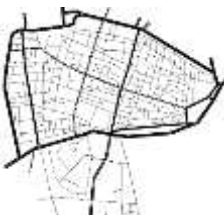






Fig. 1. Bengaluru map showing old settlements
Source: Author

With its labyrinth heritage, the city of Bangalore has many historic areas, representative of different periods, such as Ulsoor, Pete area, Basavanagudi, and Cantonment. The selected areas were visited for a walking audit to identify the historic settlement that could capture the efficacy of street forms in protecting the domesticity of the vernacular settlement around it. Ulsoor was identified based on this walking audit the details of which have been summarised in the table below-.

Walking audit comparison chart

Route map	 Ulsoor	 Pete area
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Route Map					
		Basvangudi		Cantonment	
Factors	Ulsoor	Pete	Cantonment	Basvangudi	
Origin	Kempegowda tower towards north east in Ulsoor, limits the boundary of growth of the city in 1537	The historic core of the city owes its origin in “Pete area” in 1537 , when Kempegowda erected 4 towers in N-S, E-W direction to limit the boundary of the town	The British rule in 1809 entrenched the cantonment area away from the historic core towards the northeast of the city in Ulsoor village	In 1895, Bengaluru municipality planned development outside the core city with the extension of areas like chamrajpet, sheshadripuram, malleswaram and basavanagudi in 1899 when plague hit the city core more people moved to the planned area.	
Architecture & planning					
Planning					
  Ulsoor	The old settlement in & around bazar street, has an organic pattern with biggest lake Ulsoor towards east of the city, where house forms are typical courtyard house planning with Jagalis.		It is characterized by extensive, small-scale, commercial enterprises. The work to home commute in this part of the city is essentially pedestrian in nature.		The Cantonment area, marked the military base by the rule of British and settled in and around the area as Bengaluru had a cool climate similar to European nations.
					
symmetrical iron and grid pattern for ease movement of vehicles and people with wider street to accommodate vehicular flow.					



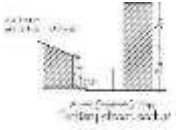
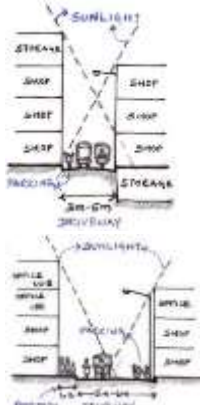
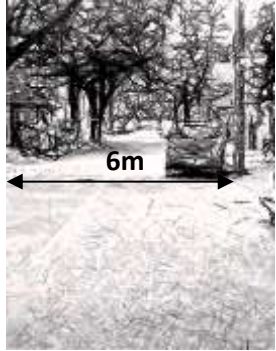
				
<p>Street form</p>	 <p>Old bazar street has organic pattern, non-geometric junction, m v garden has narrow street with house extension. Gupta layout has wider street when compared to old settlement</p>	 <p>Narrow streets with right of way in belepete, cottonpete area is 3-5m and the primary road, right of way 5-6m</p>	<p>Wider streets meant for Parades, dedicated footpaths for walkers alongside the lake and green cover was a joy to the pedestrian, encouraging group interaction with a serene atmosphere.</p>	

Table 1. Walking Audit of historic settlement

Source: Author

Ulsoor as Study Context – Bangalore:

The “Halasuru” coined the name from the jackfruit tree, derived from the local language Kannada as Halasena hanu; Jackfruit, uru: place. Now, even the vernacular name has changed with time as “Ulsoor”. Kempegoda tower towards North East in Ulsoor limited the boundary of the growth of the city in 1537. The British rule in 1807 entrenched the cantonment area away from the historic core towards the Northeast of the city, but Ulsoor still retains its vernacular settlements complementing the local traditions and culture with narrow streets meant for pedestrians compared to the cantonment influenced by the colonial rule disregarding the culture of the city.



Fig. 2: Bengaluru map, Historic core



Fig. 3: Ulsoor, North east of city



Fig. 4: study area, Ulsoor

Source: Author

The oldest Someshwar temple in Ulsoor dates back to the 16th century built during the Chola dynasty which marks the vernacular settlement with people residing as those who were mostly involved in temple activities. The traditional houses have typical courtyard planning, the front “jagalis” (seating area), raised platform for leisure and other activities for both men and women of the house, as streets were mostly pedestrian. The Ulsoor lake dates back to Kempegowdas time in 1537 mainly used for agriculture purposes, now utilised as a water source for Ulsoor area.



Fig. 5: “Jagalis, raised platform



Fig. 6: Someshwar Temple
Source: Author



Fig.7: Temple activities,

Observational studies

The observational study findings can be listed as follows-

1. The observation in the Fig. 8, illustrates the sense of safety and security within the vernacular settlement of Ulsoor.
2. The streets is oriented towards E-W direction in bazar street, and the façades are exposed to morning sunlight where houses during the day are wide open and are built next to each other without maintaining any property line and usually they know their neighbours.
3. The front façade of the building has Jagalis (seating area) (Nair, 2005) a raised platform where both men and women interact/ perform other domestic chores and have leisure time interacting with their neighbours.
4. The narrow streets were meant mostly for pedestrians and bicycles where usually people were involved in traditional occupations.
5. The men involved mostly in commercial activities in the Bazar street, and parked their private vehicles in Front of the house.
6. During the night within the narrow and deep streets, air captured in the day time remains for a longer time, exhibits a social interaction within the neighbourhood.



Leisurely activity in front of the house on “Jagalis” after 6:00pm

Fig. 8: Spatial Efficacy of Historic Street Forms in maintaining the spirit of place of the domestic spaces

Source: Author

7. Landmarks help to recognise and orient ourselves within the context of the space, which act as a visual guideline to either start or terminate our journey within the place, which

can be either an old house or big tree. The landmark in Fig 9 & 10 helps establish the image of old settlement “Ulsoor”.

8. The outdoor space creates an enclosure when the street faces a skyline of a series of buildings with equal height, to maintain an enclosure the building height should be equal to the width of the street.
9. In the area of study, Someshwar temple marks the end of the street forming an enclosure in all directions.
10. Organic pattern and Non-geometric junctions in the bazaar street also creates an enclosure when compared to the linear grid. The Bazaar Street marks the narrow boundary between the public and private domains, where street vendors interact with people on footpaths.
11. The façade of the building on the bazar street, with commercial activity transforms the wall to display goods drawing the attention of the pedestrian.
12. In the streets of residential pockets people are still involved in traditional occupation of cattle rearing where narrow streets not only brings a sense of social cohesion with the people but also with animals within the street.
13. The old Madras Road in the Fig. 12, during the festival and other religious events gets transformed into a Bazaar, where street vendors below the metro line are making space for commercial activities, keeping alive the Indian traditional way of buying and bargaining with local vendors. In the already narrow streets, we can see space occupied for parking. Clashes between the pedestrian and vehicles shows complex negotiations within the activity.
14. The vertical Metro line crossing the street with the picture below overshadows the heritage build space, the Subramanya temple.



Fig. 9: Tree as Landmark, Imageability, Cows tied Infront of house **Figure 10.** Someshwar temple as Enclosure

Source: Author



Fig. 10: Bazar street Land use & Section in Ulsoor old settlement with commercial activities and heritage build, Someshwar temple

Source: Author



Fig. 11: Landmark sheet in and around Ulsoor area

Source: Author

1. **HALASURU LAKE:** It spreads over 50 ha (123.6 acres) and has several islands. Kempe Gowda II constructed Ulsoor tank during the second half of the sixteenth century. It was extensively used for irrigation purposes in the 17th & 18th centuries.
2. **TRINITY CHURCH:** The church built in 1850 by Rev.W.W.Lutyens, Chaplain of St. Marks Cathedral and the Cantonment. It marked one end of the Cantonment while St. Marks marked the other end to the West both linked by the major axis formed by South parade (now MG Road).

3. **3.GURUDWARA SRI GURU SINGH SABHA:** Sri Guru Singh Sabha Gurudwara at Ulsoor was built in 1943 by A G Russell and was inaugurated in 1945. It is the main gurudwara for Bangalore
4. **LIDO MALL:** Originally built in 1965, this cinema had been the heartthrob of every movie aficionado. Now a multiplex and a Big Bazaar.
5. **THE SOMESHWARA:** Halasuru Someshwara Temple is a temple dedicated to Lord Someshwara. It was renovated and beautified by the Kempe Gowda I and II in the 16th century and is a mixture of Hoysala, Chola and Vijayanagara architecture.
6. **THE KALYANI:** There are no records but legend has it that this pond (belonging to the ancient Someshwara temple, the oldest temple in the Mandavya Kshetra) was closed down by the British almost 150 years ago as the tank had dried up.
7. **NAMMA METRO:** There are two proposed Bangalore Metro Rail stations that will be located in Halasuru
8. **SUBRAMANYA TEMPLE:** It is one of the oldest temple complexes with Kalyani.

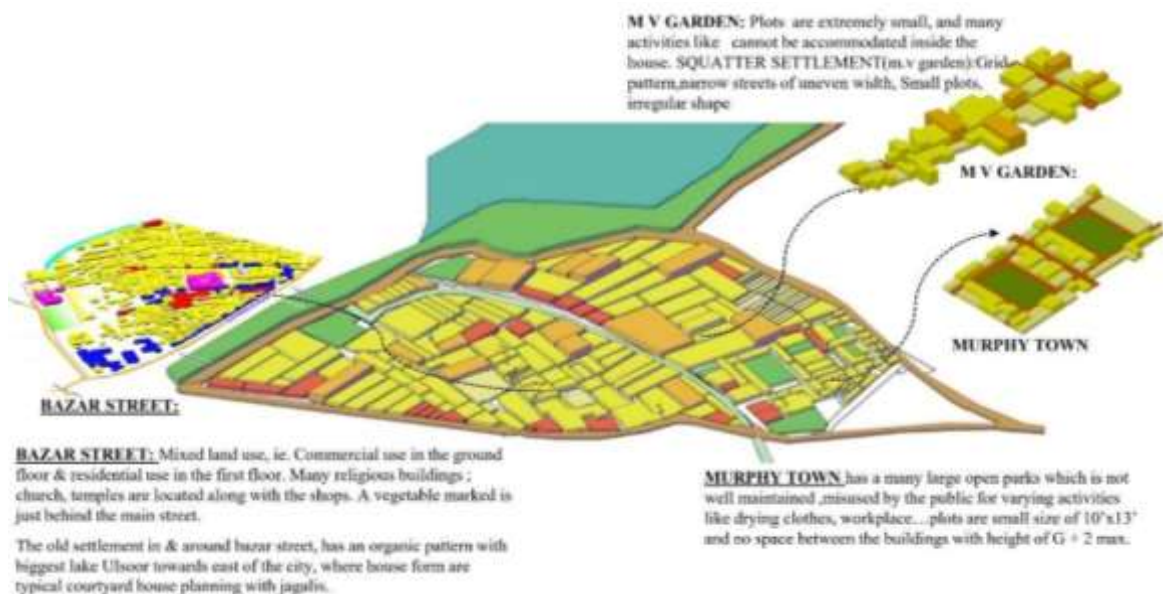


Fig. 12: Settlement pattern in Ulsoor
Source: Author

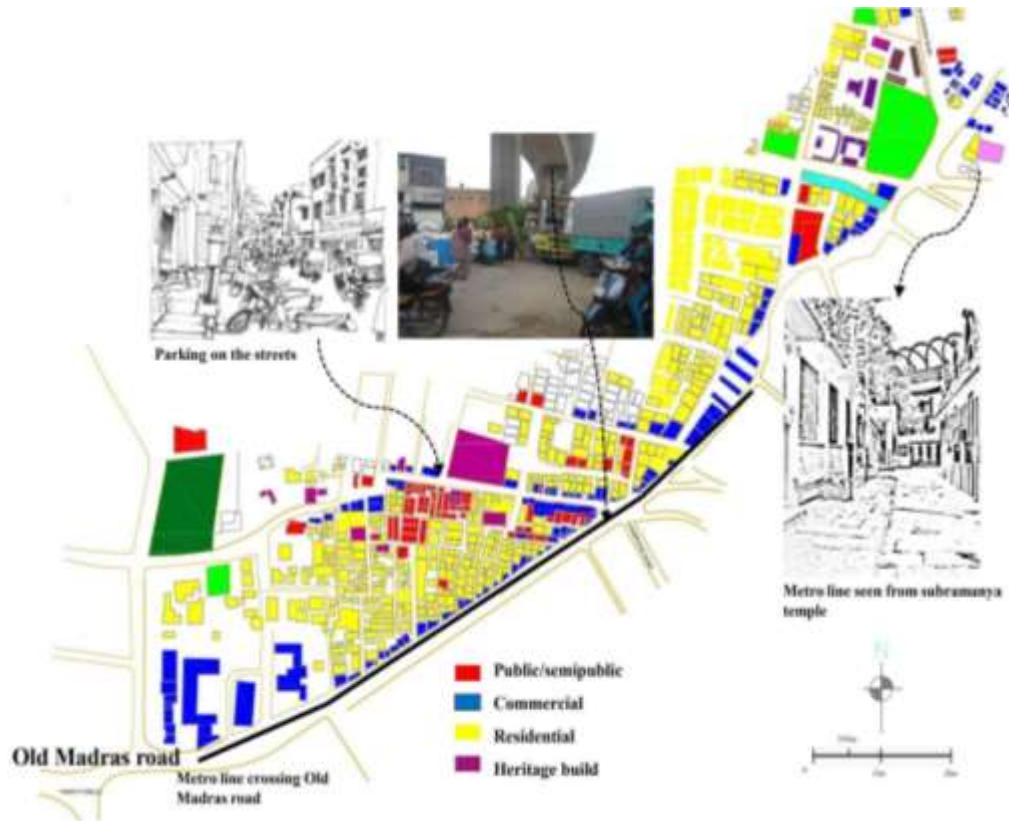


Fig. 13: Temporal Efficacy of Historic Street Forms - Complex negotiations between streets and vernacular spaces, Source: Author

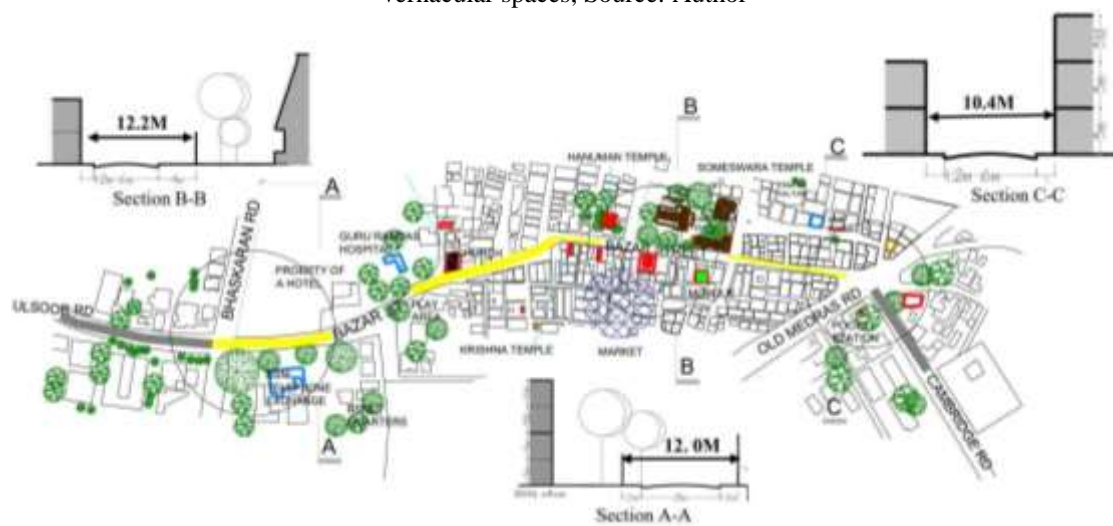


Fig. 14: Historic edge of Bazaar Street with right of way shown in section
Source: Author

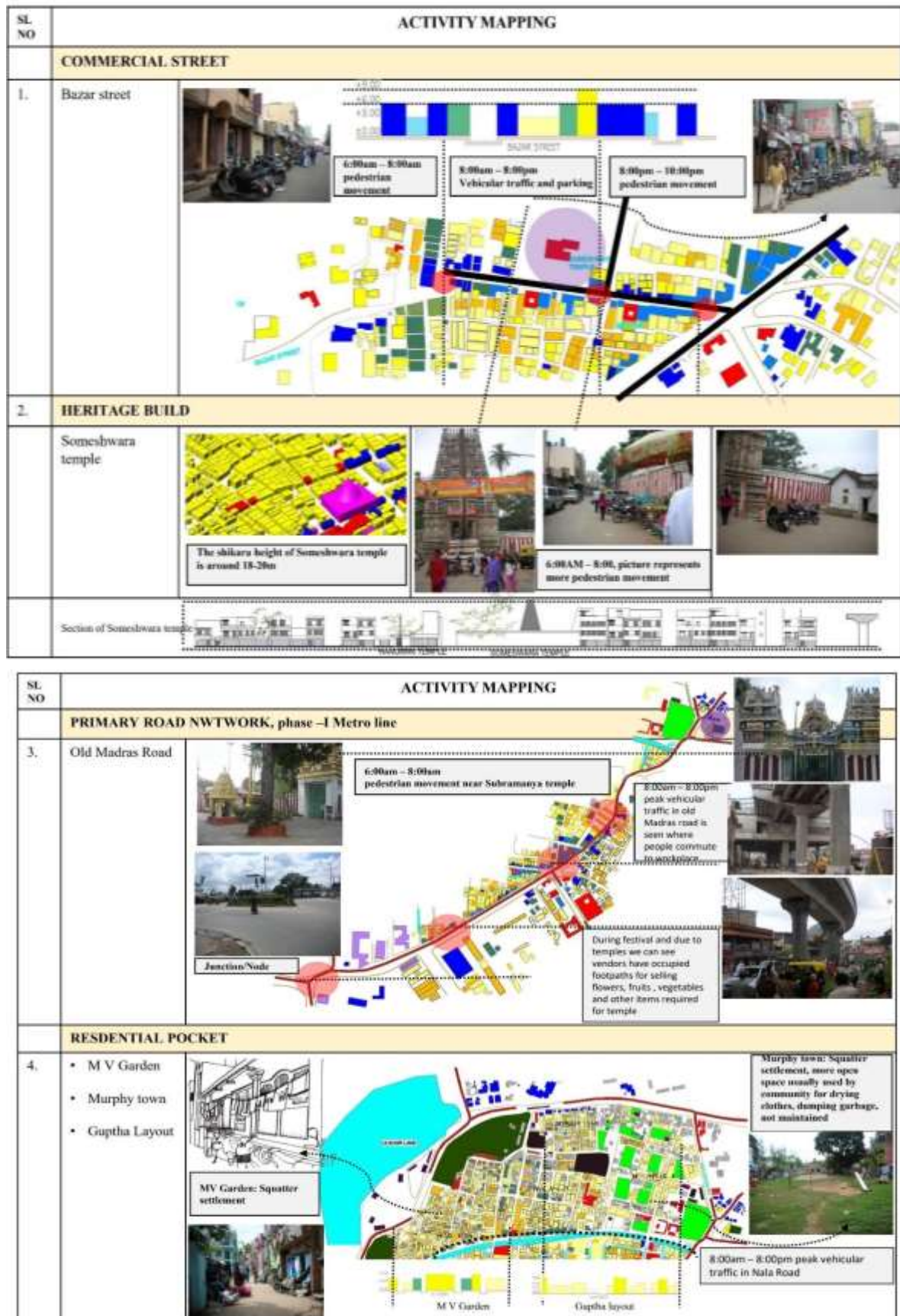


Table. 2. Activity map
Source: Author



Fig. 15: Vernacular details on façade of old houses in Ulsoor
Source: Author

The hierarchy of the road network

The figure illustrates the hierarchy of road network within the old settlement. The old Madras Road widened because the metro line increasing the FAR around the road affects the heritage buildings, the Someshwar Temple and the Subramanya Temple, losing socio-cultural efficacy with time.

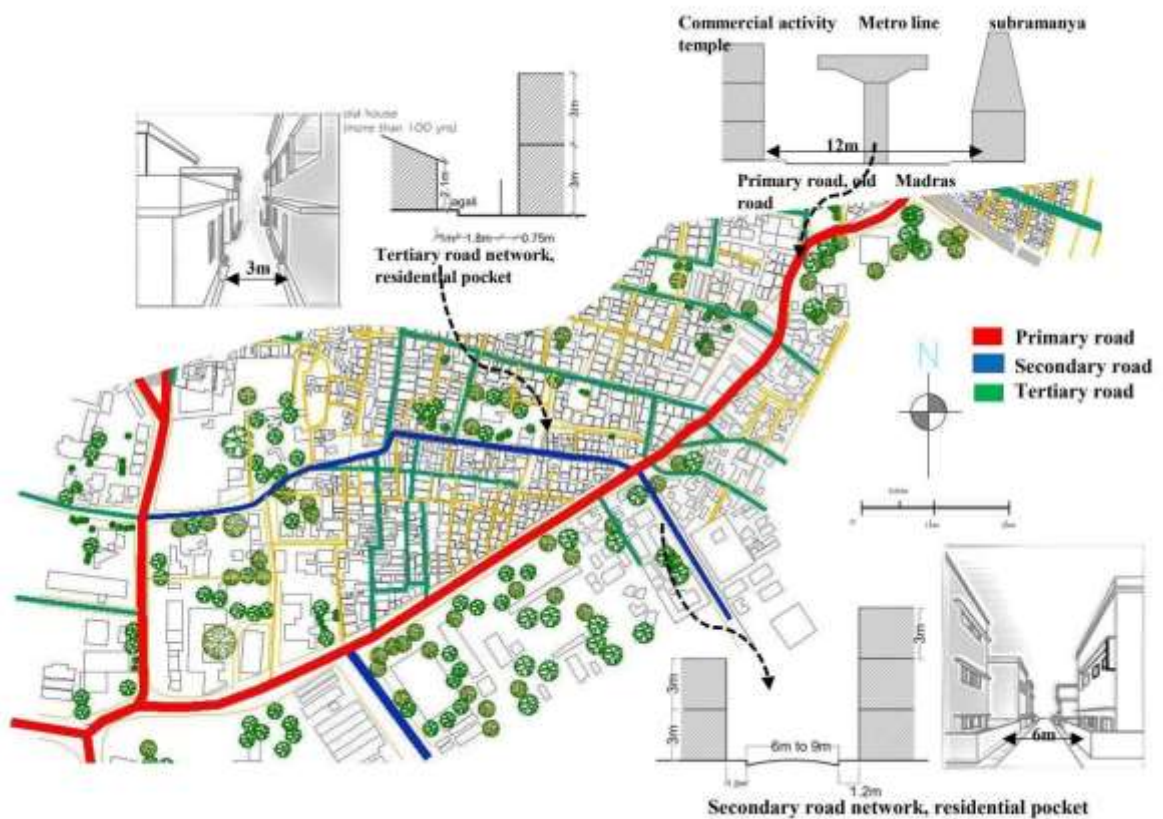




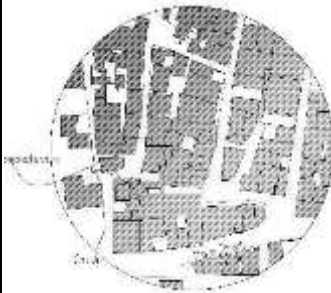
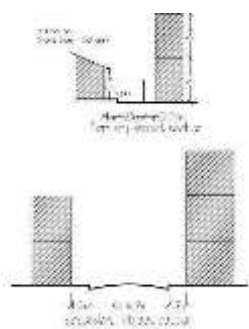
Fig. 16: Hierarchy of Road Network
Source: Author

Observational studies reveal that the temporal dynamics of transition along historic streets have a major role to play in sustaining the historic context and relevance of settlement's landmarks.

Findings and Discussion

The old settlement in “Ulsoor” developed as Agrahara where people indulged mostly in temple activities and lived around the Someshwar Temple. Once Ulsoor was marked as a boundary to the city, it has become part of the city core. The settlements in and around the Bazaar Street has informal housing creating squatter settlements, named as M V garden and more planned new layout as Gupta layout.

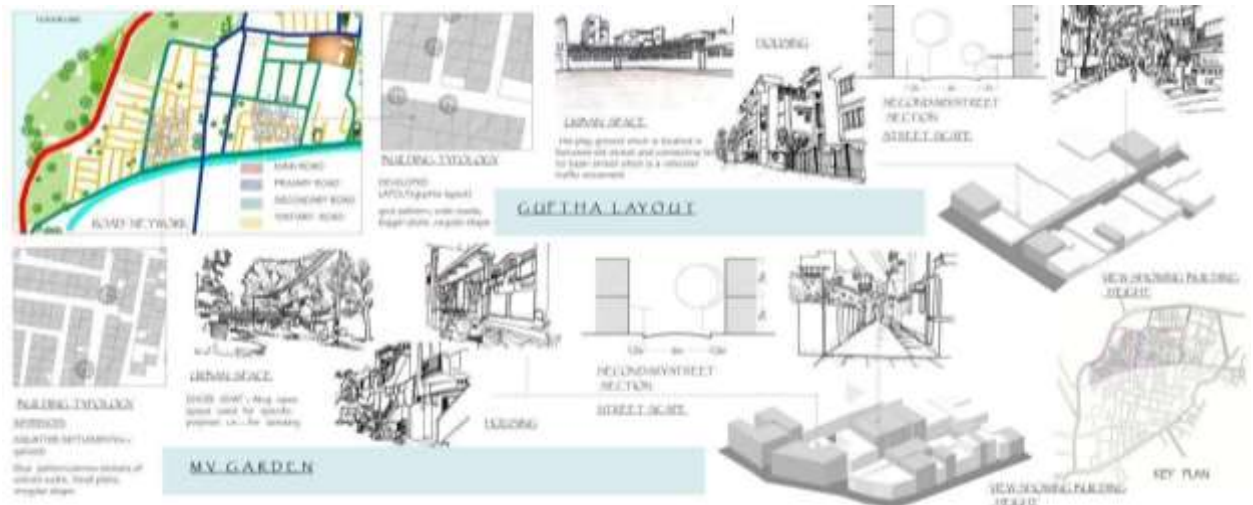
Detail Analyses of the study area – Old settlement

Study Area – Ulsoor (In & around Bazar street		Geography		Socio- economic Factor	
Location 	Area	3,74,457 Sqm	Religion	Hindus, jain and muslim	
	Population	3800 people	Language	Majority speaking in tamil, kannada and telgu. Marathi, gujarati	
	origin	In 1537, Kempegowda erected tower in north-east and ulsoor lake in the village Ulsoor	Occupation	Mostly self employed in Bazar street with less people in government/p rivate jobs	
	Architecture & Planning				
Landuse  <p>Consists mainly of residential land use and commercial towards Old Madras road</p>		Planning organic pattern with narrow, curve, non-linear streets of uneven width forming non geometrical , irregular junctions 		Street section & Building height 	

Landmark (Heritage building)	The Someshwara Temple, and the Subramanya Temple, 16 th century Chola Dynasty
Plot size	Plots are of smaller size & irregular shape.
Services	Closed drainage except bazar street. & garbage dumped on roadside, bwssb water supply- once in 2 days

Table 3. Detail analysis in and around Bazar street, Old settlement, Ulsoor

Source: Author

**Fig. 17:** Informal Housing in M V garden and planned layout in Gupta layout

Source: Author

The historic street at Ulsoor is an example of highly resilient vernacular built environments and it is by virtue of the spatio-temporal character of this street that the settlement has not lost its distinctive heritage identity.

The fact that the activity pattern is equally vital in contributing context to the street form as its spatial characteristics and built form details; the aim to protect the street character and therefore to retain the holistic and interdisciplinary quality.

Strategy for Protecting Streets Vernacular Scale and Spatio-Temporal Character

By understanding the spatio-temporal relationships in a street form character based on the above study, following recommendations can be made as guidelines for the historic streets in the vernacular settlements.

1. To consider recommendations of heritage bodies on the development proposal for historic areas- e.g, the “Someshwara” temple has to be protected as heritage built space paving way for the streets to accommodate the “rathayatra”, a procession of chariot and retaining the settlements local tradition. The historic settlement of Ulsoor dates back to the 16th century “Someshwar Temple” built and dedicated to God “Shiva”. The “Rathayatra” carried out with the procession of chariot every year marks the tradition of the place. This ritual is associated with the sentiment of the place and the religion followed.
2. The historic streets were usually meant for the purpose and were mostly pedestrian friendly, but now we see its transformations according to the socio-economic condition of the people with varied occupations is contesting with new technologies and striving for

identity. Controlled transformation of activity patterns along the historic streets goes a long way in protecting its character.

3. The facade details of built forms, especially the vernacular styles, need to be extensively documented and policies to permit alterations of the facade details in a guided fashion need to be enforced.
4. Local awareness is important in developing a sense of cause for protection of character and cultural bonds with landmarks or traditional activities must not be disrupted by layering new development technologies and systems over heritage areas.

Conclusion

For urban regions such as Bangalore, where multi-faceted cultural heritage settlements have become integral to the city expanse, their historic streets must be actively and rigorously studied and documented from a heritage perspective. These streets have tremendous potential to preserve the domestic scale and pedestrian character of their vernacular settlements, and thus offer opportunities to device planning decisions sensitive to the cause of socio-cultural context of vernacular settlements. Historic street forms are like a spine of old settlements binding the entire socio-economic life around them, and thus the most important context for learning traditional practices, older knowledge systems, living heritage and built form heritage. The historic streets are an entirety in themselves as they reveal the layers of the socio-cultural dynamics in their spatio-temporal dimensions, enduring even after centuries of their laying.

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Dr. Monalisa Bhardwaj is an architect and academic, presently working as an Associate Professor at RIT, Bangalore. She has a PhD from IIT Roorkee (2015), MArch from IIT Roorkee (2008) and B.Arch from NIT Jaipur (2006). Her areas of interest include, Heritage Conservation, Urban Studies, Architecture and Built Environment.