

# Transformations of the Traditional Residential Neighborhoods of the Walled City of Jaipur

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## Abstract

Since ancient times, urban areas have been the nerve centers of socio-economic and political transformations all over the world. The urban areas have been beneficial to the Mankind for the generation of new ideas to transform the society towards a better future. The economic growth and human development of any nation today is defined largely by the growth of cities and their evolutions. The modern cities have spread at a rapid pace with a continuous influx of people in search of opportunities. Despite the sprawl of these cities, their central cores have maintained their identities.

The modern cities in India even today extract their brand value from the identity of their central cores which have long historical contexts associated with them. They have played a pivotal role in establishing the precious heritage value on the global platform for India. These cities have established their identities by accumulating multiple layers of fabric woven over time with the distinct threads of culture, art, crafts, communities, and ideas. Owing to the changing demands under a new world order of globalization and the ever-increasing pace of urbanization, these historic cores have come under immense pressure to adapt to the changing times. The pressures of development have led to the transformations in the urban form and thus possess a threat to urban heritage.

The Walled City of Jaipur is one such planned historic city in the heart of the modern metropolitan Jaipur. The city has witnessed 295 years of history and has accommodated the changing needs of time which have come at the cost of transformations in its urban form. This study identifies and presents the transformations threatening the heritage of the walled city of Jaipur. It lays a foundation for deciding the future course of actions to preserve the urban heritage in the city from the threatening transformations in the historic towns in India.

**Keywords:** Urban Transformations, Historic Cities, Urban Cores, Heritage Conservation, Jaipur.

## Introduction

Cities have served as the major hubs of socio-economic transformations and development of Mankind for thousands of years. The concept of urbanization is not modern but have existed from ancient times in India. The blooming of non-agrarian economic activities in the ancient period had paved the way for the emergence of town centers with a higher concentration of people with a sense of society. Such dense settlements flourished in their respective times all over the world and saw the decline due to multiple reasons. Today, most of the ancient cities in the world have become dead and only serve the purposes of tourism, anthropological, archaeological, and historical research. With time, newer settlements have flourished, and more urban settlements have evolved out of the rural contexts owing to the growing non-agrarian occupation of the people. For the growing need for the security of kingdoms, the regional rulers have started to establish their capitals around the emerging urban settlements. These cities have flourished through trade and commerce but have also been devastated during wars and raids. They have eventually become redundant unless specific efforts were not made to restore them. Thus, the rise and decline of urban centers have continued all through the ancient periods but very few such towns have managed to sustain themselves.

The transition between medieval to modern period have seen the rise in significance of urban centers in India as well as the world. The newer ideas of mercantilism have given birth to extensive forms of trade and commerce thus helping urban centers to flourish with prosperity and wealth. The renewed interest in developing and sustaining urban centers have thus become pivotal in the growing significance of towns and cities.

Owing to the contemporary needs of security, prosperity and utility, the concepts of Walled City has found prominence in the northern parts of sub-continental India. The walled cities of Ahmedabad (1411 AD), Hyderabad (1591 AD), Old Delhi (1638 AD) and Jaipur (1727 AD) were few of the many that were established by their respective rulers during the medieval phases of history. These cities still stand tall and are flourishing with their distinct identities of being historic walled cities and are a major attractions for tourists from all over the world. These cities are revered not just for their architectural features but also for their traditional art, culture, and professions. The UNESCO has thus awarded the prestigious tag of 'World Heritage Cities' to two such Indian historic cities of Ahmedabad and Jaipur. Such historic walled cities hence have become significant for the national, regional, and local heritage in India and hence are to be conserved. It is also a prescribed fundamental duty as per the Indian Constitution.

The historic Walled Cities have existed beyond multiple centuries and have stood the testimony of the changing times and demands of the community. These cities have served as the major socio-economic nerves in their respective regions since their inception. They have witnessed a rapid change in the political structure from monarchy, colonialism, and democracy. With changing political structure, the society too must change accordingly and thus the character of the walled cities have kept on evolving. The economic character also must have undergone structural changes as the economy of any region is dependent on the socio-political regime at that point of time.

With growing globalization, the boundaries between different regions and societies are blurring steadily and technological advancement have eased the creation of '*One Globalized World*'. In a heterogenous society like India, identity is one of the primary factors that defines a place and the people and hence it becomes important to preserve the identity in the ever-globalizing world. On the other hand, the shift in the production methods have also caused the intangible heritage of the Walled cities to come under threat as traditional professions have started to rapidly decline to adapt to the modern demands.

In contrast to associating heritage with just the monuments, heritage needs to be seen as an index of identity, memory, and sense of place. Safeguarding the identity and heritage of the historic walled cities in the context of globalized markets and changing socio-political and business practices has become the need of the hour. To facilitate holistic attention towards the conservation efforts, it becomes imperative to understand the transformations such historic

cities have been subjected to. The identification of the changes will thus act as the crucial initial step towards deciding the future courses of actions to sustain the 'sense and spirit of the place'.

### **Aims and Objectives of the Study**

The study aims to understand the context of transformations in urban areas, intending to preserve the residential neighborhoods from threatening transformations in the Walled city of Jaipur. The objectives of the study are:

1. To identify the reasons behind the urban transformations occurring within the historic walled city of Jaipur
2. To determine the probable threats due to modern day transformations of the residential neighborhoods of the walled city of Jaipur
3. To establish a future course of action for adopting comprehensive and inclusive conservation strategies.

### **Critical Review of Literature**

The Havelis or the residential areas in the walled city of Jaipur planned typically in Rajasthani architecture is reflected through its built form. These havelis are occupied either by High-class residential places inhabited by jewelers or businesspersons; Middle-class residential areas inhabited by small traders, servicemen, restaurants etc. or low-class residential areas occupied by artisans and laborers. However, the transformation started by opening shops at the roadside ground floor and gradually commercializing the entire ground floor. Commercialization has been increasing towards the inner rooms or for the first floor or second floor for storage purposes. While in some of the residences, courtyard is being used as the parking space.

The major gaps behind the reason of transformations identified to be the changing lifestyle of people, are the needs for space, need for more space, commercialization, lack of sensitive approaches, and the lack of people's concerns towards cultural heritage. People alter the building characters without any consideration for energy efficiency, architectural character including elevations, aesthetic elements, height, or color followed by traditional characteristics. The major drawback is the lack of policy and enforcement from the government for protection of heritage character of these traditional buildings.

During the transformation phase of residential areas of the walled city of Jaipur, policy interventions have taken place, which are the theoretical ideas employed in place under which multiple authorities like the Jaipur Development Authority, Jaipur Municipal Corporation, PWD, etc., managed different aspects for the development of the city. The major gaps identified during the policy interventions were the overlapping and conflicts of multiple authorities. However, much of the work is placed under the Jaipur Municipal Corporation, although still lacks behind the groundwork. The walled city of Jaipur requires special bye-laws that are based on groundwork for the protection of traditional buildings and a policy for controlling the construction activities in buildings.

The major impact of transformations in the residential areas of the walled city of Jaipur is evident in the:

- Land use – Change in dwelling unit – residential to commercial directly/indirectly leading to traffic congestion and parking problem
- Socio-economic Profile – change in ownership pattern in the walled city; use of modern equipment's like HVAC, electrical devices, change in lifestyle, modernization, multiple ownerships, filtration of commercial offices in residences.
- Household Characteristics – change in use of building, increased number of floors, change in activity, increase in residential density, disappearing of traditional planning concept

- Heritage Character – poor structural conditions, dampness, necessitated renovation and reconstruction, dilapidated conditions, loss of traditional character, lack of maintenance, use of new materials and construction technology
- Building Material and Construction Technology – use of new material and construction technology in reconstruction, renovation, and addition in house.
- Infrastructure – load on infrastructure due to increased commercial activities because of change in dwelling units.
- Building Byelaws and Legal Framework – government interventions lack the sensitive approach towards walled city of Jaipur, resulting in no special bye-laws and development controls for walled city, lack of enforcement, lack of co-ordination between various organizations, lack of power to control.

### **The Research Methodology**

The research was undertaken in three phases: first phase (descriptive approach), second phase (primary data source), and the third phase (qualitative data analysis). Based on the following phases of the research methodology, the findings of the research relies entirely on descriptive and explanatory methods complemented by a survey of historic regions in the walled city of Jaipur. The key activities include the development of an abstract to understand what this research aims further identifying the key objectives to focus upon the context of urban transformations in various parts of heritage towns in India and their documented impacts on heritage and identity of historic towns.

#### **1. First Phase**

In the first phase, the research has adopted a descriptive approach achieved through the publications available through various research databases, as well as organizational reports and other documents. Based on critical understanding through descriptive approaches further helps in setting up the objectives of the study to build upon itself the character of the Walled City of Jaipur. To define the historic core of Jaipur, the study emphasizes its objectives to establish the context of the study area to make it viable to understand the significance of the region towards heritage; its conservation as well as the developmental pressures.

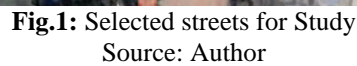
#### **2. Second Phase**

The second phase focuses on the primary data i.e., identifying qualitative analysis conducted through surveys that are relevant and were more inclined towards obtaining the in-depth knowledge of the walled city of Jaipur. It also includes the key strategic documents, understanding the implications, key theoretical ideas and gaps, findings and the approaches taken in managing heritage.

Following the objectives undertaken for the research, the survey was done in the residential areas of the walled city of Jaipur. The area was identified under the following categories of the residential areas inhabited in the walled city.

- a. High-class residential areas which are inhabited by Jewelers or businesspersons.
- b. Middle-class residential areas inhabited by small traders, servicemen, restaurant etc.;
- c. low-class residential areas occupied by artisans and laborer.

Area: Based on the above categories, the areas having mixed categories of residential areas was identified for conducting the informal survey. These areas are: Thatero ka Rasta, Telipara, Captain Sahab Ji ki Gali, Sanghi Ji Ka Rasta, Jadiyahon ka Rasta, Churukon Ka Rasta, Lal Ji Sand ka Rasta, Gopal Ji ka Rasta, and Radha Damodar Ji ki Gali as identified for the survey.

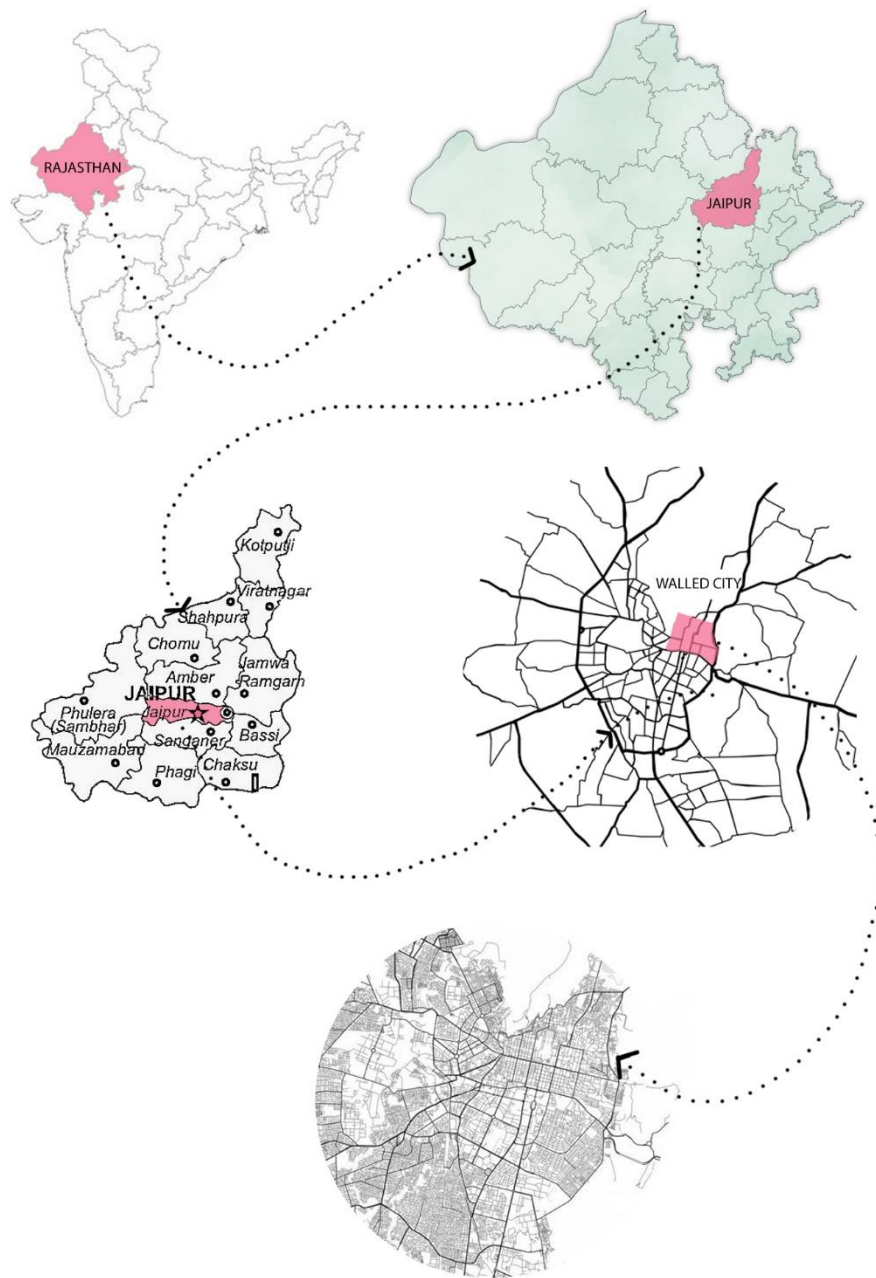


In the third phase, the data was gathered through on-site survey, group discussions and observations based on primary research tools. The data was then utilized for understanding the situations and identifying the findings all together based on the data from the survey and the documents.



### Walled City of Jaipur, Rajasthan, India

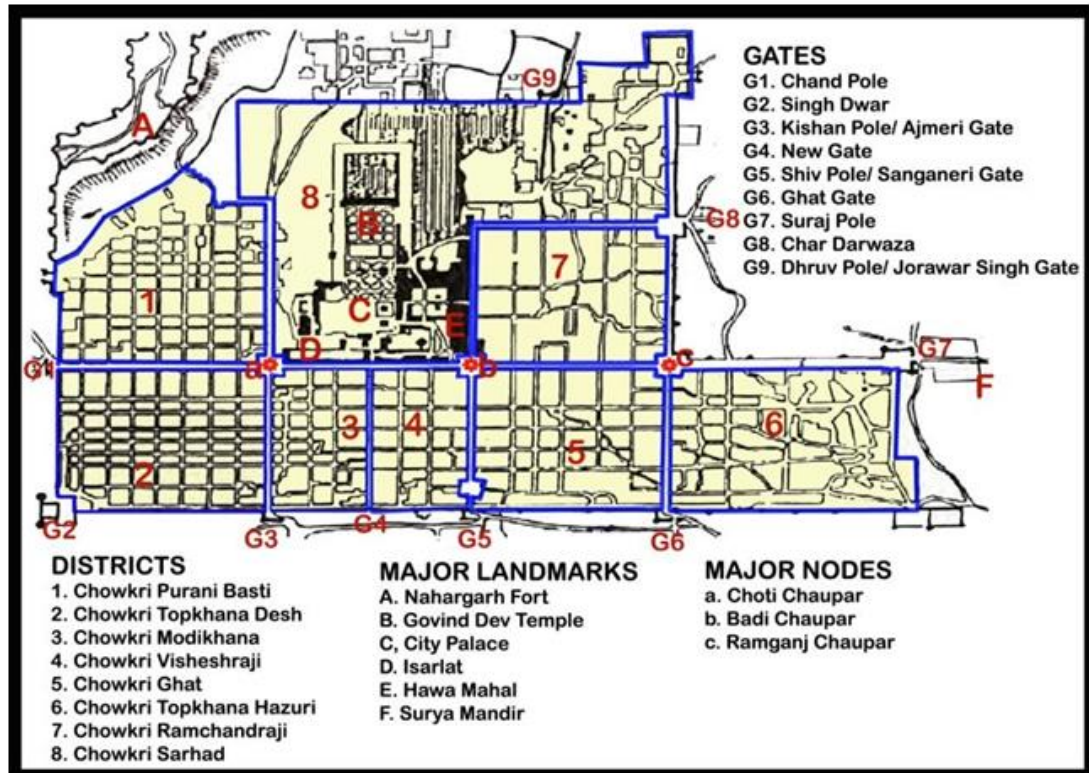
India is situated in the continent of Asia with its largest state of Rajasthan in terms of the area. Jaipur is the capital city and the administrative center of Rajasthan and an important tourism hub lying on the Golden Triangle of Delhi, Agra and Jaipur. At a typical elevation of 432 m, the city of Jaipur is situated at coordinates  $26^{\circ}55' \text{ N } 75^{\circ}49' \text{ E}$  [10]. In order to meet the demands of the rapidly expanding population and address the issue of water shortage in the hill city of Amber, the kingdom's previous seat, Raja Sawai Jai Singh II established it as the new capital of the Dhoondhar kingdom in 1727 AD. It is situated in the Eastern parts of the Indian state of Rajasthan.



**Fig. 2:** The Location Map of Walled City of Jaipur

Source: Author

The 295-year-old Walled City is based on the ancient Hindu planning principles of Vastushastra and was planned by Vidyadhar Bhattacharya (Jawaid *et al.*, 2014). The main aspect of Jaipur's planning is its response to the topography and the centric organization, despite the fact that it is a contemporary city created to promote trade and commerce in the 18<sup>th</sup> century. The historic city is a symbol of secular planning owing to its inclusion of ancient Hindu, medieval Mughal and early modern ideas into its overall design.



**Fig. 3:** The Master Plan of Walled City of Jaipur

Source: Development Plan 2025 (Jaipur Development Authority, n.d.)

The Walled City of Jaipur is characterized by its planned hierarchical street system with the roads following the typical hierarchy with major roads (108 feet wide), secondary roads (54 feet), internal streets (27 feet) and local streets (13 feet) (Jawaid *et al.*, 2014). The network of such streets intersects each other at 90 degrees and form the grid-iron pattern. As per the observation survey, at the intersection of the major streets running East-West and North-South, identified that the major nodes or squares are formed. These nodes or squares are locally known as 'Chaupar' with the examples of Badi Chaupar, Choti Chaupar and Ramganj Chaupar. The façade along the major streets is one of the peculiar characteristics of the city with uniform appearance imparting a holistic identity to the major streets. The street system and the edges divide the city into blocks or districts, known as 'Chowkri'. The Chowkri hosts the smaller residential neighbourhoods known as the 'Mohalla' while the smallest unit of the urban layout is the 'Haveli' which are the traditional individual dwelling units of the region. The Havelis host the population of the city and serves as a vernacular form of a building offering resistance from the harsh conditions of the hot and arid climate of Rajasthan. Owing to its traditional settlement, cultural cohesion and economic attractiveness, the Walled City has been accommodating a huge number of people (Jawaid *et al.*, 2017).



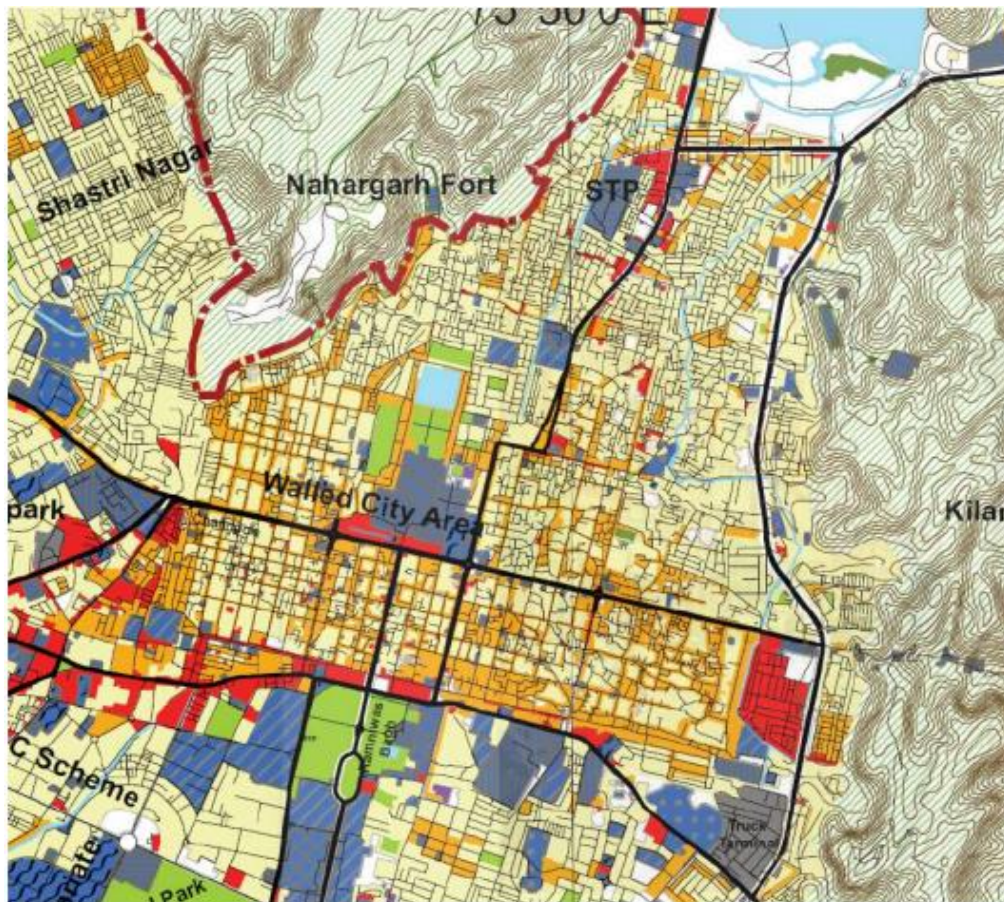
**Table 1:** Population growth in Walled City of Jaipur

Source: (JnNURM, n.d.), (SLAC, Town Planning Department, n.d.), Census of India

Year	Population (millions)	Annual Growth Rate (%)	Area (sq.km)	Population Density (People per sq.km)
1727	0.06	-	6.74	8,902
1881	0.12	(+0.04)	6.74	18,662
1991	0.5	(+0.38)	6.74	74,184
2001	0.4	(-1)	6.74	59,347
2011	0.63	(+2.3)	6.74	93,664

The Walled City has witnessed a rapid growth in its population since its establishment in 1727 AD. The major growth can mostly be observed in the post-Industrial Revolution period as was the case with the population growth of every other major urban center in the world. The increase in the population density of the region from around 90 person per hectare (8,902 per sq.km) in 1727 to more than 900 person per hectare (93,664 per sq.km) in 2011 reflects the increasing pressure on the region.

The historic Walled City has been the most active economic hotspot in the entire Jaipur metropolitan region. The Walled City single-handedly hosts around 30 per cent of the commercial activity of the entire Jaipur metropolitan region (Jaipur Municipal Corporation, 2007). The Walled City of Jaipur thus is not just the cultural and historical identity of the region but also an economic identity. The century-long importance of such historic cores has thus enabled such cores to sustain themselves as the commercial business districts (CBD) of the modern-day metropolitans, cities and towns. The economics of urban areas is mostly driven by the usage of its available land-use structure and composition.

**Fig. 4:** Land Use Structure of Walled City of Jaipur

Source: Draft SAHDP 2041 (SLAC, Town Planning Department, n.d.)



**Table. 2:** Land Use Percentage in Walled City of Jaipur

Source: Draft SAHDP 2041 (SLAC, Town Planning Department, n.d.)

Sr. No.	Existing Land Use	Area (Ha)	Percentage (%)
1	Residential	418.03	62
2	Commercial	17.92	2.7
3	Mixed	99.76	14.8
4	Industrial	0.58	0.1
5	Public/Semi-public	37.71	5.6
6	Recreational	12.77	1.9
7	Circulation	66.22	9.8
8	Others	21.02	3.1
	Total	674	100

### Persistent Issues in the Walled City of Jaipur

The Walled city is challenged with numerous urban issues (Upadhyaya and Jakhanwal, 2015) which are briefly presented in the following part. These issues are persistent and have been observed in most of the towns and cities across India. The population growth brought on by expanding economic opportunities has put a strain on the local infrastructure facilities and has reduced the quality of life for residents of the Walled city area by causing traffic jams, pollution of the environment, the production of waste, and severe shortages of water, power, housing, transportation, open space and public facilities.

The breakdown of municipal services has become a common sight due to population expansion and stress on public infrastructure. The water quality is at a growing risk while the provision of electricity observes frequent cuts throughout the day. The state of public transportation is poor as it is mostly congested and unreliable.

A shortage of open spaces in the walled cities is a result of the increased population's strain on both residential and commercial land, which has led to the sale of huge agricultural fields for use in the residential and commercial buildings. Population increase is damaging the walled city's architectural identity through unauthorized constructions, which has an impact on the state's economy because Jaipur's economy is mostly reliant on tourism, trade and commercial activities.

**Fig. 5:** Façade uniformity is the characteristic of the Walled City of Jaipur

Source: Author

### Transformations in the Walled City of Jaipur

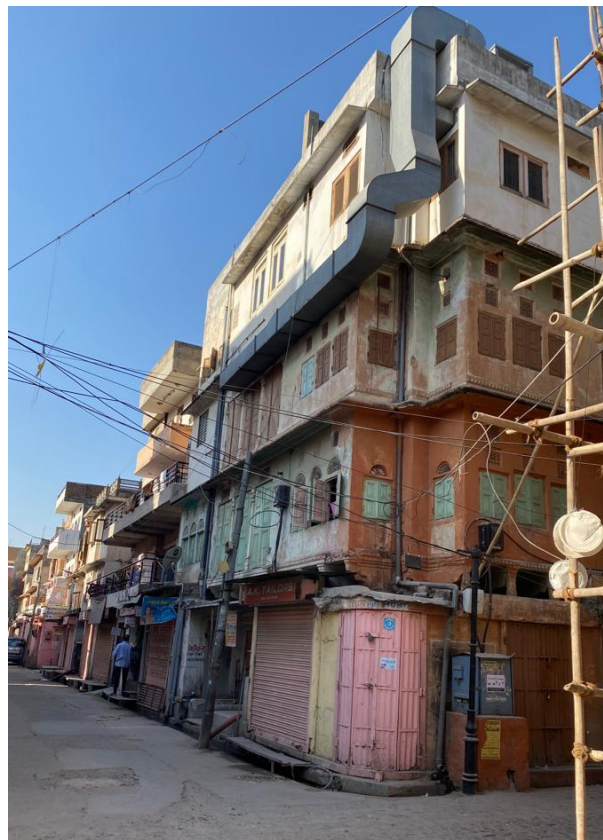
The historic core area of a city is a layered fabric of different threads of culture, society and economy stitched within each other over a period. New order urban developmental pressures have started to undermine the identity of such heritage towns and has forced these areas into deterioration (Aram *et al.*, 2019; Chandan and Kumar, 2019; Nosratabadi *et al.*, 2020). The deterioration has been evident in the form of transformations such historic urban layouts have to go through. The increasing need for accommodating the residential areas as

well as economic demands of rising populations have pushed the historic core areas into a state of decay and has brought them on the verge of identity.

- Transformations in Residential Neighborhoods

The Walled City has observed a drastic change in its population since its inception. The increasing population in the historic cores stress not just the infrastructure demand and heritage but also attempts to alter the urban form in an unregulated way. As the needs and demands of any region are driven largely by the population sizes and aspirations of the community, the transformations are also influenced by similar factors.

The biggest impact on the traditional Havelis is due to societal behavior. The fragmentation of family sizes has been playing a significant role in the improper usage of the Haveli space as it was observed that the Havelis are subdivided after each generation of family split. This splitting behavior of joint families has started the decline of the proper usage of Haveli spaces leading to their decline. The parts of such families often move out of the Walled City for better quality of life and bring in new tenants in the sub-divided sections of the Haveli creating a perpetual source of income through the rentals. The newly moved tenants do not have any such bond and belongingness to the traditional Haveli and hence are observed to neglect the maintenance and upkeep of the structures (Upadhyaya, 2017). With a multiple number of such incidences, the overall neighbourhood soon finds itself into a state of decay and no incentive remaining for the owners to put any efforts towards the upkeep of the Haveli. The persistent neglect and un-belongingness to the Haveli and the neighbourhood soon transforms the historic residential neighbourhood into a neighbourhood of dilapidated structures.



**Fig. 6:** Discontinuity in maintaining Architectural features and Building Materials in Vertical Development on the existing Dwelling Units

Source: Author

The image of the Walled City is looming under threat owing to its decaying residential quarters and dilapidating traditional dwelling units. On the contrary, the Haveli owners who chose to stay in the Walled City itself often find themselves in the crunch of space. The comparatively increased demand for living space per individual and the need to accommodate modern appliances and luxury items puts an intense demand to increase the amount of space in the existing Havelis (Licciardi and Amirtahmasebi, 2012). The immediate solution to this issue is often found in vertical developments on the same property or in extreme cases clearing the existing dwelling units and redeveloping the entire structure to suit the individual needs of the owners. These transformations too have become a threat to the identity and image of the city as it is slowly killing the character of the original design of the Walled City. The vertical development is observed to be done using modern construction material while the existing construction used traditional materials like sandstone in the case of the Walled City. The existing parts of Havelis have their unique architectural features like Jharokhas and Jalis while the newer expansions do not continue to maintain that unique feature. This discontinuity has become an evident feature in the Walled City of Jaipur today and such transformations too have brought the visual and architectural heritage under threat.

On the other hand, in the cases where existing Havelis were completely demolished to make way for more spacious houses, the features are not well retained. The re-developed Havelis start to be an offset in the entirety of the residential neighbourhood and also an outcast in the context of the Walled City. Thus, both the cases of vertical development (Fig. 6) and redevelopment (Fig. 7) have been happening unregulated and thus have transformed the unique and affected the uniform traditional residential neighbourhood identity of the region.



**Fig. 7:** Complete Redevelopment of Houses without maintaining homogeneity and character of the neighbourhood and the Walled City

Source: Author

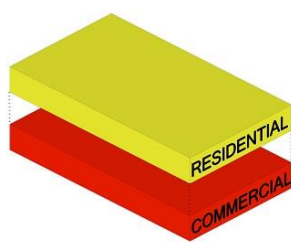


- Transformations in Land Use and Utility

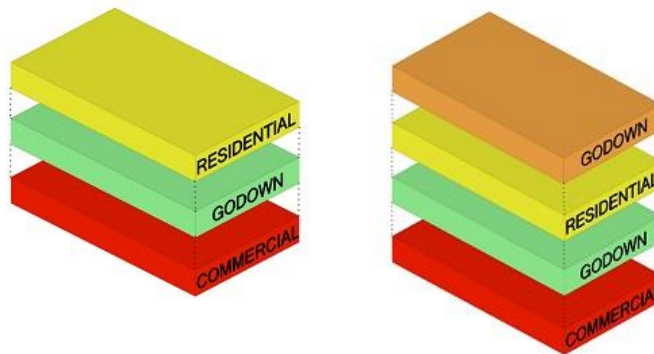
The Walled City of Jaipur is one of the rare examples of historic cities in India with a planned layout. The meticulously planned urban area was designed as a residential capital city of the kingdom with ample provisions made to accommodate the traditional non-agrarian economic activities of the time. The Walled City was always a notable hub for the export of jewelry throughout the course of its existence and continues to be a large-scale exporter of exquisite ornaments and jewelry. Since its inception, the Walled City of Jaipur has witnessed a change in the socio-political structure around it with the princely state monarchy being replaced by the colonial interest and later becoming a part of a democratic country in 1947. This change thus had brought a varied economic importance to the city. Cities were natural harbingers of economic developments (Kolte and Goswami, 2022), and the changing political setup had influenced the land use and land utility of the Walled City to attract economic gains from the region.

Staying true to the economic significance of the region, the Walled City has been serving as the commercial hotspot of the entire Jaipur region even in the 21<sup>st</sup> century. This economic significance has mostly banked on the increased commercialization of the Walled City of Jaipur causing a significant transformation of land use and utility.

The sections of Havelis have been used not just for residential purposes but also for commercial purposes. The ground floor of the Havelis situated in the inner non-commercial streets were modified into small shops and were rented out and hence the Walled City accommodated the increasing commercial demand of the changing times. These transformations of residential uses into mixed uses and commercial uses had been significant in sustaining the identity of the Walled City as being the economic hotspot of the region. With the increase in tourism activity, the commercial demand too has increased in terms of increased demand for warehouse and go-down spaces. The Walled City was not designed to accommodate the needs of the modern economies and hence the crunch of the storage space was satisfied through the transformation of upper floors of Havelis into warehouses for the shops on the ground floor. The compound effect of these transformations had their repercussions mostly in terms of the Walled City becoming more of an ‘economic zone’ rather than a ‘residential city’.



**Fig 8 (a):** Mixed use and land utility



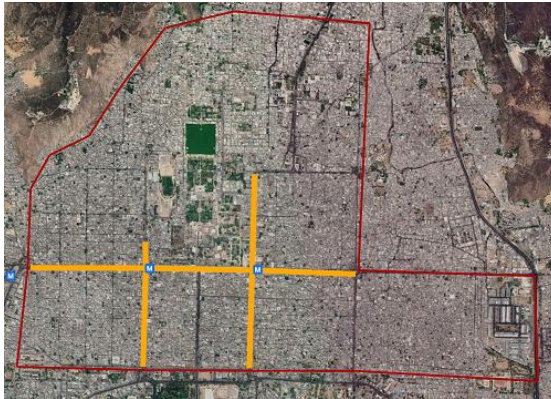
**Fig 8 (b):** Increasing demand for storage spaces creating multiple land uses and utilities

Source: Author

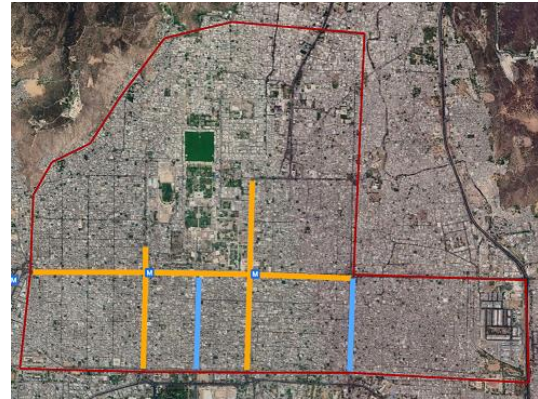
- Transformation observed on the Streets

Another aspect of such transformations can be observed in Fig. 9 where the streets continuously transform from the residential areas to the commercial areas in the Walled city of Jaipur. The original design of the Walled City had made commercial provisions mostly on the major streets while the inner streets have acted as the dwelling units and have

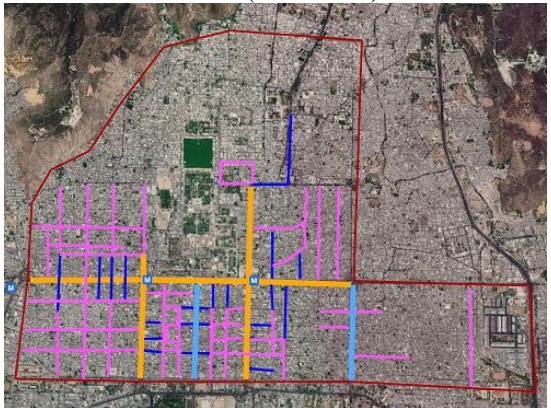
provided access to the residential neighborhoods or *Mohalla*. As portrayed in Fig. 9 (c), the inner streets too were slowly transformed into the commercial streets.



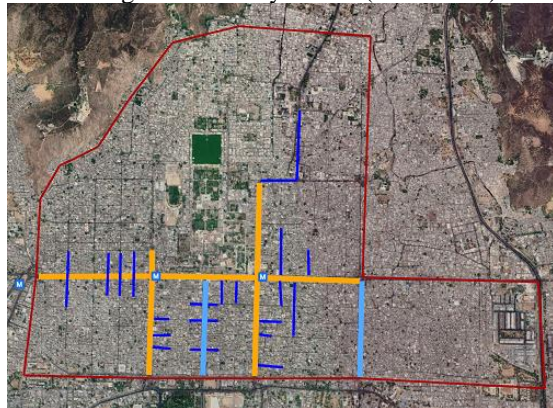
**Fig. 9 (a):** Commercial presence only on Major streets (1727-1800)



**Fig. 9 (b):** Commercial presence gradually coming on secondary streets (1800-1947)



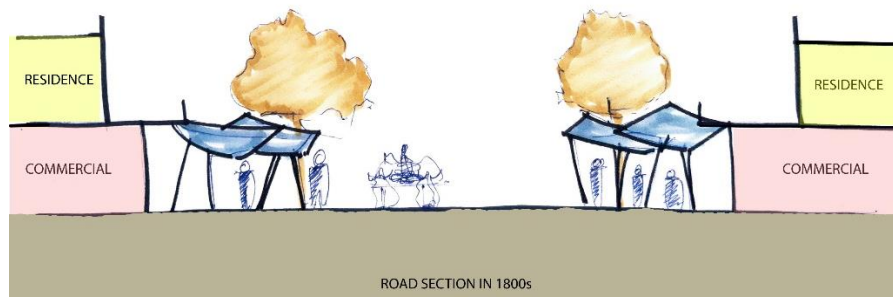
**Fig. 9 (c):** Commercial presence on Secondary as well as Internal streets (1945-1976)



**Fig. 9 (d):** Additional Commercial presence creeping further in internal streets (since 1976)

Source: Jain, 2009

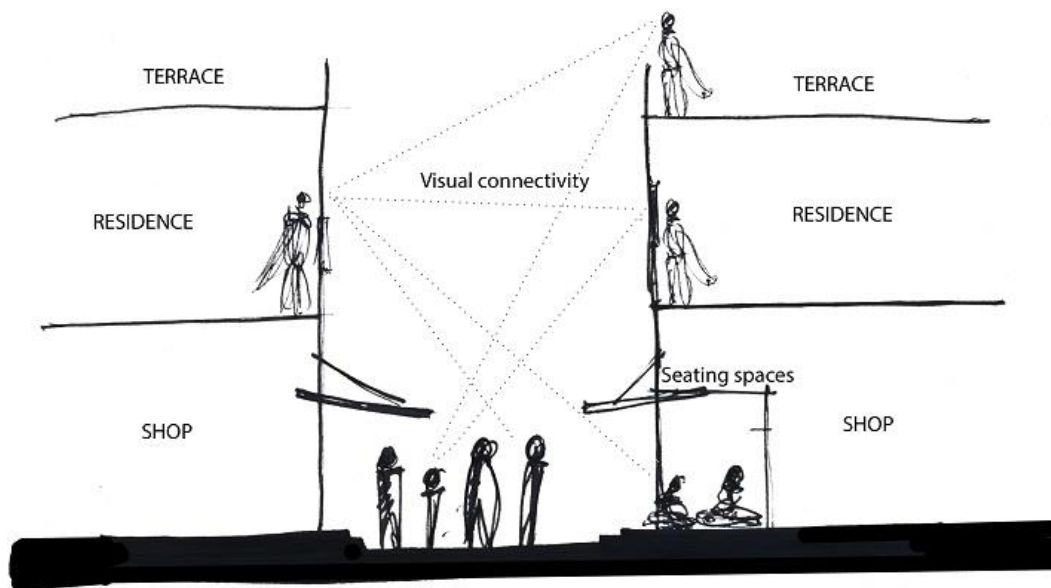
The Walled City of Jaipur was designed with a well-functioning hierarchical street system. At the time of its establishment, the major mode of transportation was mostly pedestrian and animal-driven carts. The major streets were sufficiently wide enough to accommodate the traffic needs and the planning of major streets have stood the testimony of time to carry the modern traffic conditions until now. With the increasing commercialization of the Walled City region and rising life standards of the people, the modes of transportation have drastically changed. With the influx of these changes, the need for parking and public transport further had put enormous pressure on the existing street system.





**Fig. 10:** Transformation observed on the Road/Street Section in different time periods  
Source: Author

The increasing vertical development and the re-development with larger developable space provisions have reduced the visual connectivity of the region especially in the internal local streets known as '*gali*'. As the Image of the City is very much dependent on the Edges, the image and identity get affected due to such rising development without giving heed to the heritage conservation principles.



**Fig. 11 (a):** The rising vertical development has been limiting the visual connectivity of the region thus affecting the image of the city  
Source: Author





**Fig. 11 (b):** Rising vertical development deteriorating image of the neighbourhood due to poor visual connectivity

The major streets are observed to have shops with an average frontage of 3-4 m with a semi-public space of around 100 feet ahead called as ‘*mandapa*’ (Funo *et al.*, 2002). The *mandapa* was a gap between the shop and the pedestrian way but unregulated encroachment by shop owners, informal vending and no proper maintenance has made the provision of *mandapa* redundant. These encroachments affect the aesthetics and ‘sense of place’ of the region thus making the heritage vulnerable to unforeseen risks and deterioration.

The Walled City being the central commercial hub of the region has started to transform itself in order to accommodate the new development pressures and demands. Walled City still manages to maintain its identity even under such circumstances. These transformations are influenced and triggered by multiple factors. The Walled City at the time of inception was more of a public investment rather than an individual organic effort. Considering the public nature of the inception of the Walled City, there was uniformity in its establishment and form. The transformations occurred in the traditional settlement and hence are the result of unregulated development activities by individuals.

The extensive use of vernacular building materials and construction techniques were practiced in the Walled City of Jaipur and multiple other traditional settlements in India, which today are not popular choices for individual upkeep and extensions. The initial introduction of the new construction materials is often done for small scale interventions and considering the affordability of such alterations, it soon becomes a recurrent practice on larger and wider scale (Jayasudha *et al.*, 2014). Another important factor for the transformations is the role of climate in determining the demands of the resident community. Jaipur lies at the entrance of the Thar desert and is also threatened with desertification (Kalyan *et al.*, 2021). The hot and arid climate of the region has also been complemented by the role of extreme climates which has forced the residents to adopt modern technologies to cope with harsh climates.

Indeed, the extensive usage of mechanical ventilation systems have become widely prevalent (Jagatramka *et al.*, 2021) in the Walled city which often becomes a hindrance to the architectural features of the neighbourhood dwelling units. The shift in public policy oriented towards the provision of housing has not been holistic and comprehensive in terms of adopting the local influence and traditional styles into the development process (Jagatramka *et al.*, 2021). Hence, the transformation of the Walled City of Jaipur has been characterized by several factors both developmental pressure as well as intangible factors.

## Conclusions

The Walled City of Jaipur has stood firm with its identity since 1727 AD and continues to be the economic hotspot in the region. The significance of the Walled City of Jaipur multiplies due to its historic nature and being a major attraction to people from all over the world. The Walled City of Jaipur is not just the commercial hub but is also a major livelihood generator and a treasure cove of traditional art and culture through its built form. The tangible and intangible heritage of the region is a precious asset to the local context as well as to the national context. In the recent past, the developmental pressures have significantly increased, and the impacts are recognized in the exponential increase in population and economic activity in the region. The growing impact of urbanization has also been observed in the sprawling of the metropolitan and yet the pressures of employment opportunities are burdened on the Walled City.

The unregulated capitalization of heritage has played a detrimental role in the commercialization of the Walled City of Jaipur forcing it to transform its historic urban form and structure. The change in the residential neighborhoods is evident from the changing usage of the residential structures. The invisible market forces have pushed for the capitalization of these Havelis and thus the residential neighbourhood of the Walled City of Jaipur. This has resulted in the Walled City becoming more of an economic hotspot in a Commercial Business District with increasing financial value but resulting unfortunately in reduced heritage values. The creeping of commerce in the secondary and internal streets for livelihood sustenance has put further pressure on the residential spaces available and has transformed the effective utility of the residential neighbourhood.

This study thus serves its purpose in identifying the transformation occurred in the traditional residential buildings, Havelis, of the Walled City of Jaipur. The unregulated nature of such transformations can synthesize negative impacts on the historic identity and built form of the Walled city of Jaipur. This study will further act as a strong base to work upon strategies and future courses of action to conserve the rich urban heritage of the Walled City of Jaipur whilst sustaining its image and identity.

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