

Annual Methodological Archive Research Review

<http://amresearchreview.com/index.php/Journal/about>

Volume 3, Issue 5 (2025)

Preserving Victoria School (Haveli Nau Nihal Singh): Architectural Documentation, Historical Insights, and Conservation Challenges

Umar Farooq, Nijah Akram, Dr. Ayesha Mehmood Malik, Dr Madiha Ahmad, Rafia Gulzar, Khurram Amer

Article Details

Keywords: Conservation; Haveli Nau Nihal Singh; Sikh Architecture; Rang Mahal; Victoria School

Umar Farooq

Department of Architectural Engineering
Technology, Punjab Tianjin University of
Technology, Lahore

arch.umer.f@gmail.com

Nijah Akram

Department of Architectural Engineering
Technology, Punjab Tianjin University of
Technology, Lahore

akram.nijah@ptut.edu.pk

Dr. Ayesha Mehmood Malik

Associate Professor, School of Architecture, Faculty
of Arts and Architecture, University of Lahore

ayesha.mehmood@arch.uol.edu.pk

Dr Madiha Ahmad

Assistant Professor, School of Architecture, Faculty
of Arts and Architecture, University of Lahore

madiha.ahmad@arch.uol.edu.pk

Rafia Gulzar

Lecturer, School of Architecture, Faculty of Arts and
Architecture, University of Lahore

irafiagulzar@gmail.com

Khurram Amer

Lecturer, School of Architecture, Faculty of Arts and
Architecture, University of Lahore

Khuram.amir@arch.uol.edu.pk

ABSTRACT

Victoria Girls High School, located in the old Haveli Nau Nihal Singh in Lahore's Walled City, is one of the few remaining specimens of Sikh-era architecture. This study provides thorough documentation and an architectural examination of the haveli, emphasizing its characteristics, including Rang Mahal, jharokas, and frescoes. It draws attention to the distinctive features of Sikh architectural adornment and how it has evolved over the ages. The assessment concludes that although the building retains a significant amount of its original character, significant damage has resulted from years of exposure to structural decay, improper repairs, and ignorance. Significant surface damage to the frescoes, structural flaws in the main façade and roof, and termite-induced corrosion of ornamental woodwork pieces are among the principal findings. The use of traditional materials, including carved wood, handmade bricks, and lime plaster, is emphasized in the suggested conservation measures. The report also emphasizes how crucial it is to include routine maintenance procedures and educate school residents. In the end, it promotes a comprehensive conservation strategy that honors the building's historical beauty as well as its present use, helping to ensure the long-term sustainable preservation of cultural heritage.

Introduction

The cultural and historical center of Pakistan, Lahore, has been the site of many architectural periods, such as the Mughal, Sikh, and Colonial periods [1-3]. The Walled City of Lahore, a living museum of architectural magnificence and civilizational strata, is situated among its intricate system of winding lanes and ancient gates [4, 5]. Some of the most important relics of pre-colonial South Asian architecture may be found in this region, which is especially noteworthy for its material and intangible legacy [6].

The Haveli Nau Nihal Singh, which now houses the Victoria Girls High School, is a unique and exceptionally complete example of Sikh period domestic building in this tapestry [7][8]. The Haveli, built for his grandson Nau Nihal Singh by Maharaja Ranjit Singh in the early 1800s, is a prime example of Sikh architectural beauty, which asserts its unique regional identity while drawing inspiration from Mughal stylistic traditions [7, 8]. This structure now functions as a school and subtly tells tales of creative brilliance, regal heritage, and Lahore's vibrant urban development [6, 9].

The building's structural and decorative components have suffered from decades of institutional use, weather exposure, and a lack of preservation awareness, even if it still retains much of its grandeur [10, 11]. With its courtyards, jharokhas, elaborate woodwork, mirror-studded ceilings, and frescoes, the multi-story Haveli is influenced by Indo-Islamic, Hindu, and Central Asian workmanship [12, 13].

The purpose of this study is to record and examine Victoria School's (Haveli Nau Nihal Singh) architectural and historical aspects, evaluate the school's present condition of preservation, and suggest practical and culturally aware conservation measures [14, 15]. Through an understanding of the structure's history, materials, and design principles, this study aims to close the gap between architectural heritage and contemporary educational infrastructure. Furthermore, the significance of adaptive reuse and the pressing need for proactive conservation frameworks in urban heritage sites, especially those integrated into living communities, are underscored by this instance [5, 16].

Literature Review

Many scholarly studies have focused on South Asia's architectural legacy, especially that of the Mughal and Sikh eras. Scholars like R. Nath [17] and Catherine Asher [18] have studied the architectural and stylistic complexity of Mughal palaces, forts, and residential complexes. Symmetry, spatial hierarchy, and ornamental elements like frescoes, jaalis, and jharokas are all highlighted in their work; the same components are also present in Sikh architecture, albeit with regionally tailored aesthetics.

Fenech [8] and Singh [7] draw attention to the transitional character of design during the reign of Maharaja Ranjit Singh in the context of Sikh architecture. Mughal formality and Punjabi craftsmanship are combined in buildings such as Ranjit Singh's Samadhi and havelis constructed for members of the royal family, such as Nau Nihal Singh. These studies highlight the artistic patronage and political symbolism connected to Sikh-era structures.

Historical Significance of Victoria School

Situated in the center of Lahore's Walled City, the Haveli of Nau Nihal Singh is incredibly significant both historically and architecturally. The haveli, which was constructed for his grandson Nau Nihal Singh in the 1830s or early 1840s by the founder of the Sikh Empire, Maharaja Ranjit Singh, was intended to be a princely home that reflected the strength, style, and cultural fusion of the Sikh court [7]. Kharak Singh's son, Nau Nihal Singh, was a youthful and bright prince who briefly ruled the empire before his untimely and unexplained death in 1840. This haveli is the most notable example of the architectural patronage that his brief rule left behind [8]. The Punjab region underwent a crucial period of political unification and cultural blending during the Sikh Empire (1799–1849). Under Ranjit Singh's leadership, Lahore thrived as the imperial capital and developed into a center for building havelis, temples, gardens, and forts that combined European, Islamic, and Hindu

architectural styles [17, 19]. One of the few buildings from this era still standing that has much of its ornamentation and structure preserved is the Haveli Nau Nihal Singh [9, 12]. During the colonial and post-independence eras, the majority of Sikh havelis either became dilapidated or had major renovations [4].

The haveli was converted into a school during British colonial control. Its purpose underwent a significant change when it was renamed Victoria Girls High School, going from being a royal home to a government school for girls. Although this adaptive reuse helped to maintain the building's usefulness, it regrettably resulted in the loss of many original features, especially those with aesthetic and architectural value [11]. Wear and tear, careless restorations, and partial whitewashing of frescoes are the results of more than a century of school use [10]. But the building's significance goes beyond its use as a royal home in the past. It is a material reminder of Sikh social structure, cultural patronage, and regal life [7, 20]. The region's political changes, from independent Sikh rule to British colonization and ultimately to Pakistan after independence, are also reflected in it [21]. The haveli thus serves as a silent record of Lahore's intricate urban and political past in addition to being an architectural artifact.

One of the few instances of living heritage in Lahore is its ongoing usage as a school, where the building still serves the community while maintaining historical features [22]. The difficulty, though, is striking a balance between this value and conservation needs, which are at the heart of this research [15].

Architectural Documentation and Features

Haveli Nau Nihal Singh's (now Victoria Girls High School) building is a striking example of the Sikh Empire's diverse range of creative and cultural manifestations. It is a multi-story building with four storeys, a central courtyard, and a basement that draws inspiration from Mughal architecture while incorporating distinctive Sikh architectural alterations [7, 8]. It was carefully designed to be used for both residential and ceremonial reasons [12].

The haveli's traditional courtyard layout, which is common in South Asian home architecture, is intended to offer environmental comfort, privacy, and security [5][19]. High walls and multi-tiered façades enclose the center courtyard, forming an inward-facing plan that protects the interior from the Walled City's dense urban fabric. Natural ventilation, passive cooling, and community living are made easier by this design, characteristics essential for family-based residential architecture [13].

The basement likely served storage and service functions, while the upper floors were used for living quarters, receptions, and private relaxation. The topmost floor houses the Rang Mahal, an intricately decorated chamber of special symbolic and aesthetic importance [12, 22].

Perhaps the most notable space within the haveli is the Rang Mahal (Colour Palace)—a small ceremonial room located on the top floor, also referred to as Shish Mahal (Mirror Palace) due to its ornamentation. This space is characterized by:

1. Mirrorwork on ceilings and walls
2. Painted wooden ceilings with floral motifs
3. Stucco inlay with mosaic mirrors
4. Fresco paintings in bold reds, golds, blues, and greens
5. Beaded patterns and relief borders

The Rang Mahal represents a blend of Mughal opulence and Sikh stylistic simplicity, acting as a royal retreat and symbolic space for reflection, literally and figuratively [17, 18]. It is also well-ventilated, with pierced screens and elevated jharokas, showcasing the building's functional and aesthetic sophistication [23].

Throughout the building—on façades, arches, and ceilings, fresco painting and Ghalib Kari (stucco lattice work) are extensively used. These elements were not merely decorative but deeply rooted in the symbolism and aesthetic language of the time [13]. Floral patterns, mythological creatures, and geometric motifs dominate the visual composition.

1. The first section of the front façade is heavily adorned with frescoes and stylized sculptures of fairies, parrots, and fish.
2. The second section is simpler, with low-relief arches, jali work, and miniature columns. Upper panels are decorated with elephant reliefs, referencing power and stability.
3. Windows and balconies are decorated with carved wood and delicate grills designed for airflow and privacy, particularly for the female quarters (zenana) [9].

A magnificent royal viewing balcony, or Jharoka-e-Darshan, is situated above the main entrance and represents the ruler's access to the populace while upholding elite detachment. With its bulbous half-dome, sculpted brickwork, and winged figures reminiscent of East Asia, this balcony is especially elaborate and may symbolize heavenly protection or sovereignty. A syncretic blend of iconography is displayed around the jharokha, which is surrounded by carved features including serpent-like images that reference Naga deities in Hindu cosmology [7, 24]. Typical of 19th-century architecture, the walls are mostly made of baked clay bricks. Jharokas, doors, ceilings, rafters, and joists are all made of timber. Lime plaster is used to model decorative reliefs, many of which have been painted or inlaid with pieces of colored mirror [10]. Wooden floors, perforated jalis for ventilation, hand-carved doors, and ventilators illustrate the high craftsmanship involved. Many rooms still retain original ceiling treatments, which include sun motifs and floral medallions [13, 25].

In addition to artistry, the building exhibits pragmatic engineering, such as sloped floors for rainwater drainage, high ceilings for heat dissipation, and staggered spatial arrangements to manage public-private transitions in a domestic context [5, 14].

Present Condition

The current state of Haveli Nau Nihal Singh shows evidence of widespread physical deterioration and neglect despite its historical and architectural significance. This is because of extended exposure, inadequate conservation measures, and the stresses of adaptive usage as an educational facility [26]. Although its structure is still mostly intact, several components that are essential to its structural, artistic, and cultural significance are currently at risk [10].

Numerous load-bearing walls show visible cracks, especially those close to the roof and upper levels, which could be the result of stress from thermal expansion, structural movements, or water infiltration [11]. Poor repairs and clogged outlets have made the roof surfaces, which were once sloped for rain drainage and covered with typical waterproofing layers, vulnerable to seepage [13]. Moisture has damaged the timber beams and rafters. Sections of the building show settlement cracks and misaligned masonry, particularly in areas that support balconies and jharokas. The excessive load from modern additions, such as ceiling fans, false ceilings, and iron grills, has exacerbated the weakening of structural members [25, 27].

There is significant weathering on the front façade, particularly in the first and second parts. Intricate artwork has been erased by the frequent whitewashing of fresco surfaces [12, 22]. Once adorned with intricate relief sculptures, the jharoka cornices today exhibit fading, chipping, and occasionally the total absence of figures like fish, parrots, and flower medallions [13]. The visual quality of the serpent engravings surrounding the dome base has been compromised due to considerable erosion [28]. Incompatible surface tensions have been produced by inappropriate modern interventions, such as cement plastering over lime-based fresco work, which has accelerated flaking and pigment loss [11]. Furthermore, original characteristics have been hidden without being authentically restored due to repetitive patchwork utilizing inferior materials [10].

The Rang Mahal is relatively better preserved due to its secluded position and exhibits gradual decay. The mirror mosaic has dulled, with several pieces missing or broken. Wooden ceilings show termite activity and

delamination. Some sections of painted woodwork have discoloured, with vibrant reds and blues now faded to dull ochres and greys [22]. Once decorated with miniature paintings and stucco reliefs, the interior walls have mostly been plastered over or scratched due to long-term use as classrooms. Original wooden doors and carved jalis are either missing, broken, or replaced with metallic substitutes that clash with the building's historic aesthetics [28, 29]. Once a space for communal gathering and passive cooling, the central courtyard has been heavily altered. The ground level is now partially paved with concrete tiles, compromising drainage and aesthetic continuity [28]. Several ventilation screens and lower-level arches have been bricked in or covered, restricting airflow and altering the building's passive environmental system [2].

Staircases are worn and need reinforcement, while safety modifications—such as metal rails and concrete patching—have visually and physically disrupted the design continuity [25]. Many classroom partitions on the upper floors are temporary, with no regard for historical preservation or weight distribution [11]. The basement's wooden ventilators have deteriorated due to moisture retention and a lack of airflow. Cracks in the outer walls are aggravated by seasonal weather changes, with freeze-thaw cycles deepening surface erosion [30]. Additionally, air and noise pollution from the surrounding urban environment, particularly near Mori Gate and Bhatti Gate, contribute to material degradation and acoustic instability [6]. The façade facing the public road has borne the brunt of urban encroachment and pedestrian activity. The original Maydan Ka Bhaiyan—once a garden plaza—has been overtaken by surrounding developments, eliminating the haveli's spatial context and visual approach [5].

Significance of Research

By recording a rare instance of a Sikh royal residential building that is still in use, this work advances the field of architectural heritage research. By showing how historic materials and crafts can be incorporated into contemporary preservation techniques, it attempts to influence conservation policies and tackle the difficulties of adaptive reuse. Furthermore, it emphasizes how important educational establishments are in promoting respect for and awareness of cultural heritage.

Research Methodology

A multidisciplinary approach that incorporates historical research, architectural analysis, visual recording, and condition evaluation forms the basis of the current study on Haveli Nau Nihal Singh, also known as Victoria Girls High School. In addition to suggesting methods for sustainable repair, the study attempts to create a trustworthy and thorough documentation of the building's architectural fabric and conservation issues.

To guarantee a thorough and empirical understanding of the architectural and conservation issues encountered by Haveli Nau Nihal Singh, this study used a multi-step methodological framework [9, 31]. A thorough analysis of the material was the first step in the process, which included historical writings, archive maps, travelogues, architectural journals, and conservation studies. These resources provided context on the building techniques and aesthetic elements typical of Lahore's Sikh-era havelis.

Detailed architectural documentation was the next step. Photographic surveys, hand measurements, and early floor plan sketches were all part of the on-site fieldwork. Architectural software was then used to refine them into elevation drawings and 3D renderings. To draw attention to regions of deterioration, historical modifications, and intact heritage features, photographic references were annotated. The condition and craftsmanship of important components, including columns, arches, jharokas, frescoes, jalis, and timber components, were also evaluated by visual and material examination. Signs of degradation, material incompatibility, surface layer stratigraphy, and indications of prior interventions were all given special consideration.

A comparative analysis was conducted to have a better understanding of the building's architectural heritage. The study was able to discover both common and site-specific aspects by comparing the haveli's construction and stylistic characteristics with those of other Sikh and Mughal-era buildings in the Walled City. Additionally, this study shed light on conservation results that were effective and unsuccessful in comparable circumstances. Local historians, conservation experts, and school employees participated in informal consultations and interviews. Oral histories and institutional memory from these exchanges assisted in reconstructing unrecorded alterations and adaptive applications over time. Lastly, a thorough risk assessment and damage mapping were part of the study. Through captioned photos, structural and surface-level deterioration—including cracks, discolouration, water seepage, termite infestation, and vandalism—was recorded and grouped according to severity.

This integrated methodology ensures that the research is not merely descriptive but also diagnostic, providing actionable insights and practical direction for future conservation efforts rooted in on-site observation and cross-disciplinary knowledge.

Data Collection and Analysis

The data collection process was structured around **field observations**, **visual documentation**, and **architectural schematics**, aimed at generating both qualitative and quantitative insights. This process revealed several patterns regarding material use, structural hierarchy, damage zones, and conservation priorities.

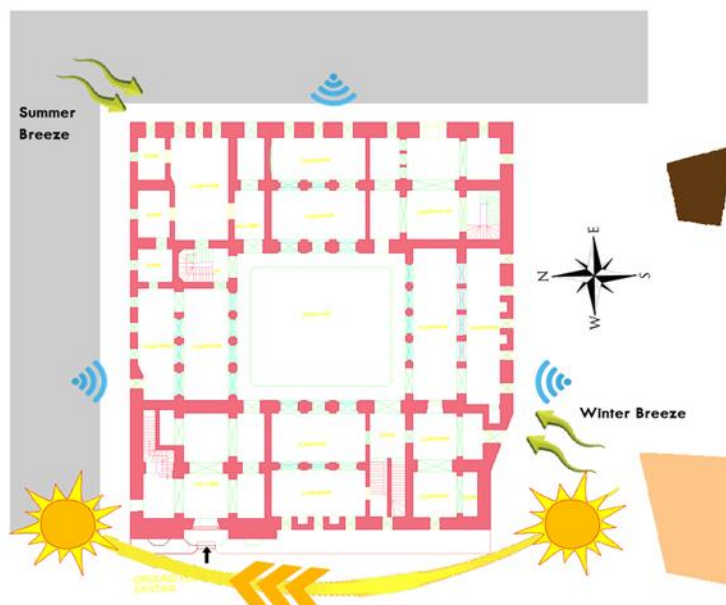


Figure 1. Victoria School (Haveli Nau Nihal Singh)

Architectural Layout and Features

The haveli includes over **forty rooms**, distributed across a basement, ground, first, second, and third floors, with a central courtyard acting as the building's nucleus. The **ground floor** contains main entrances, large halls, and service rooms. The **upper stories** house more ornate private chambers, including the **Rang Mahal**, showcasing traditional elite residential planning. All rooms, staircases, and corridors were **individually surveyed**, and key elements such as doors, ventilators, ceilings, and floors were documented through measurements and photographs.

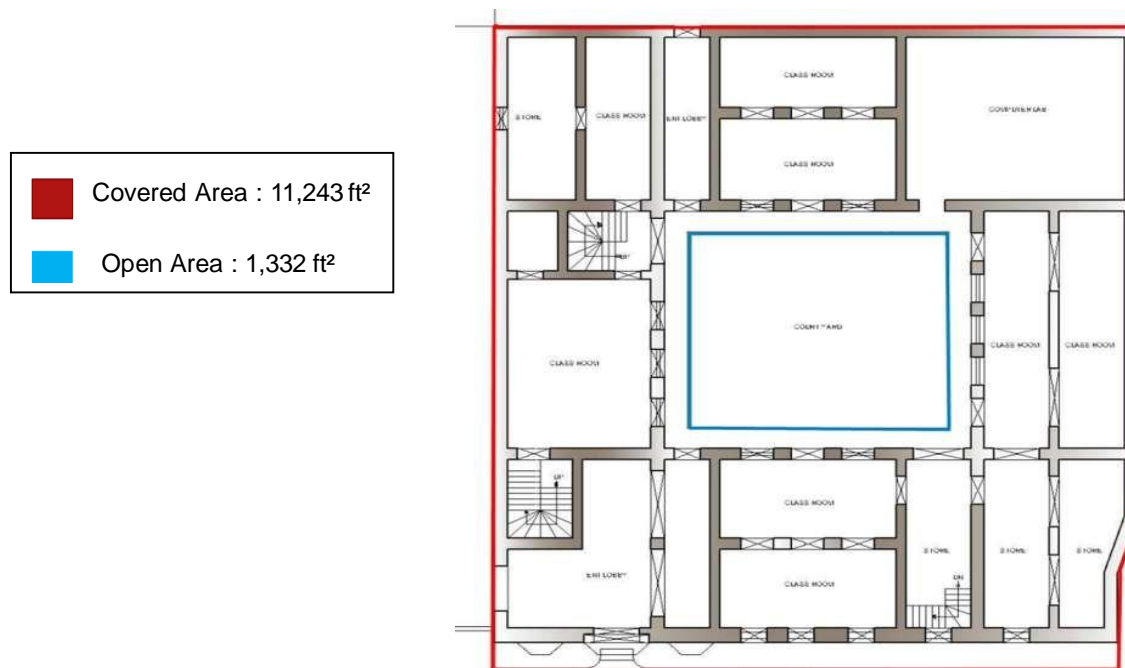


Figure 2. Victoria School (Haveli Nau Nihal Singh) Floor Plan Area Distribution

Material Identification

1. **Primary Construction Material:** Baked clay bricks bonded with lime mortar.
2. **Ceilings and Joinery:** Cedar wood beams and rafters with painted wooden panels.
3. **Decorative Elements:** Stucco moldings, fresco painting, Ghalib Kari, and embedded mirror mosaics.

In addition, physical samples (non-invasive) were visually analyzed to determine **weathering patterns, paint stratigraphy, and biological decay.**

Surface Documentation

Each visible fresco, relief sculpture, and jali pattern was recorded. Multiple photographs were stitched to produce panoramic views of the **front and courtyard façades.** These helped in understanding design continuity, material layering, and areas requiring urgent intervention.

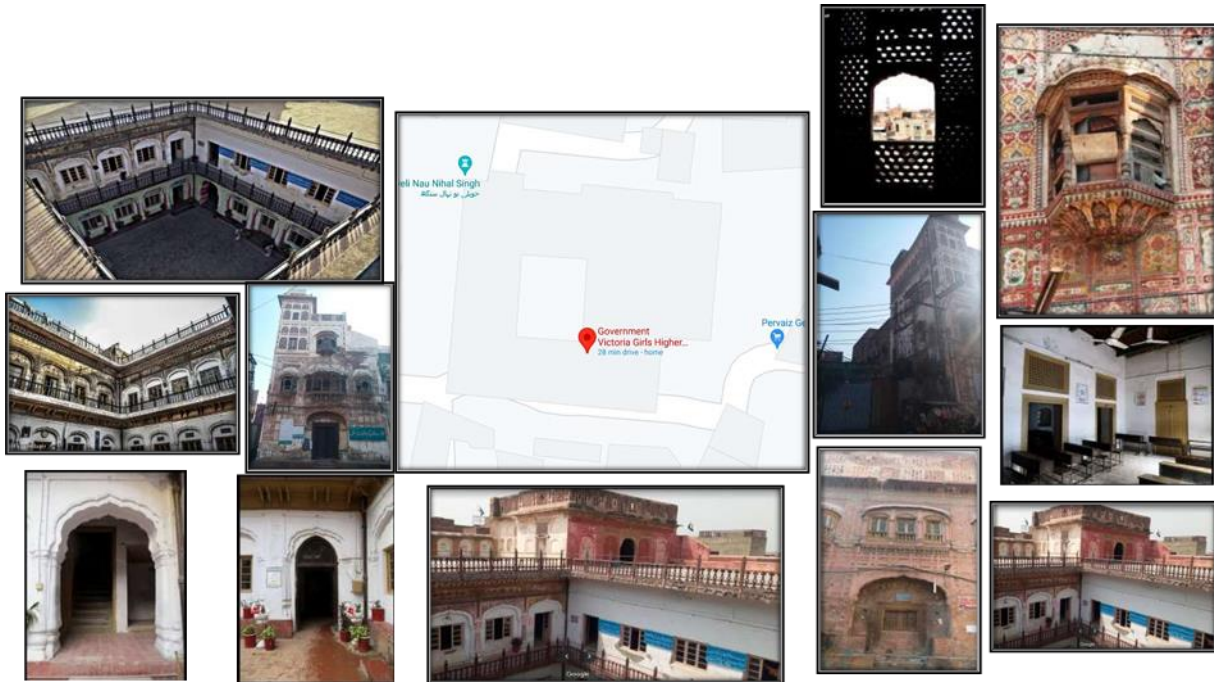


Figure 3. Victoria School (Haveli Nau Nihal Singh) Site Location & Interior Views



Figure 4. Victoria School (Haveli Nau Nihal Singh) Facade Elements

Damage and Alterations

1. Frescoes in public areas are faded, whitewashed, or over painted.
2. Structural cracks were identified across key walls and beams, especially near window bays and Jharokas.
3. Wooden Jharokas and balconies showed signs of decay, warping, or collapse.
4. Replacement materials such as cement plaster and iron reinforcements were found in over a dozen locations, often incompatible with the original structure.
5. A zone-based mapping system was created to prioritize interventions. Areas with high student activity (e.g., classrooms, hallways) showed more physical stress than unused upper-floor chambers.

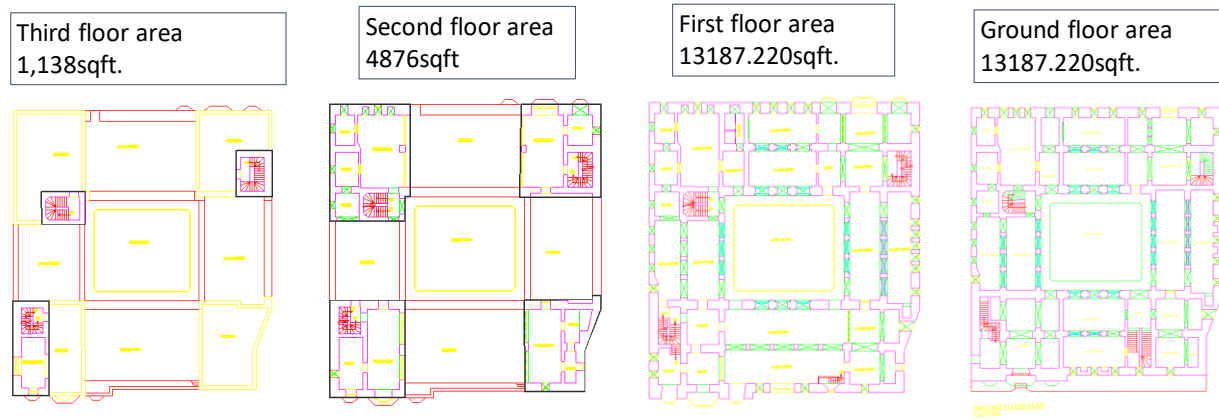


Figure 5. Victoria School (Haveli Nau Nihal Singh) Zonal Floor Plans

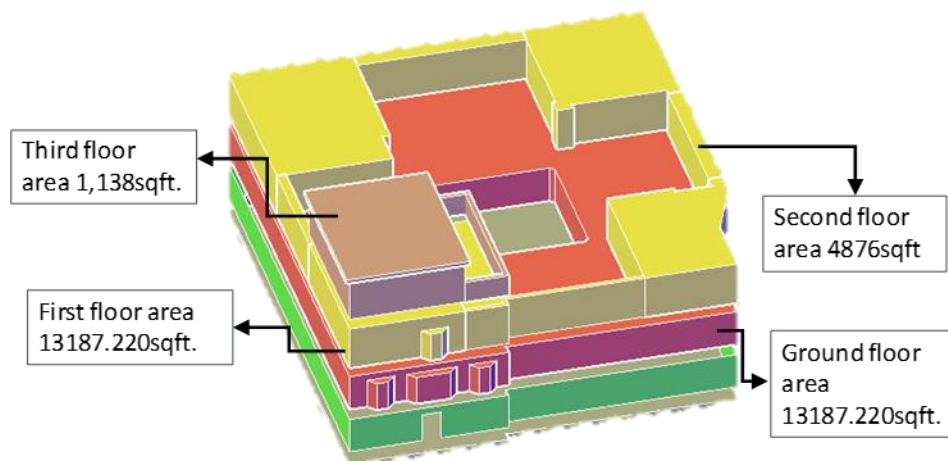


Figure 6. Victoria School (Haveli Nau Nihal Singh) Area Distribution Conceptual Model

Results and Discussions

The findings of this study reveal both the **architectural richness** and **conservation challenges** of Haveli Nau Nihal Singh. As one of the rare surviving Sikh-era structures in Lahore, the building represents a unique confluence of art, culture, and civic reuse. However, the continued deterioration of the site, both in its material integrity and historical authenticity, raises serious concerns for the future of built heritage in urban Pakistan. Lahore's Walled City has received attention from heritage professionals and urban researchers.

Glover [6] and Latif [4] document the transformation of urban morphology under colonial rule, noting how many historic buildings were repurposed. The Walled City of Lahore Authority (WCLA) has published conservation guidelines [11, 26] addressing best practices for preserving the architectural integrity of historical zones amidst dense urban occupation.

Research by Shah et. al. [16] and Husnain [5] points out the challenges of adaptive reuse in Pakistan, particularly when historic buildings are used as schools, offices, or housing. Such functions often lead to material degradation, insensitive repairs, and disconnection from the building's historical narrative. Ahmad [22] further explores these tensions in the case of Sikh structures in Lahore, stressing the importance of community engagement in conservation strategies.

International frameworks such as those outlined by ICOMOS and UNESCO advocate for minimum intervention, material compatibility, and reversibility in restoration practices. These principles are echoed in the work and emphasize the need for scientific assessment, documentation, and long-term monitoring of heritage sites [5, 26]. This study builds upon the above scholarship by focusing on a lesser-documented structure—the Haveli Nau Nihal Singh—examining how historical significance, architectural features, and institutional use intersect in a living heritage setting. Unlike previously studied monuments, this haveli continues to function as a public girls' school, making its conservation a socially complex yet urgent task [22].

Architectural Significance and Craftsmanship

The survey confirms that the haveli retains several **remarkable features** that distinguish it from other residential buildings of the era:

1. The **Rang Mahal** and its mosaic mirror ceiling exemplify Sikh royal taste and influence from Mughal spatial planning.
2. Frescoes, jalis, and woodwork demonstrate a **mastery of craft**, incorporating floral, mythological, and abstract elements.
3. The **Jharoka-e-Darshan** blends ritual symbolism with architectural finesse, placing the structure firmly within the domain of princely architecture.

This level of detail and preservation is seldom found in buildings that have remained in uninterrupted use for over a century.

Impact of Continuous Institutional Use

While the building's continuous use as Victoria Girls High School has **prevented complete abandonment**, it has also contributed significantly to **structural wear and aesthetic degradation**. Unmonitored student activity, lack of conservation awareness, and utilitarian interventions have accelerated material fatigue, especially in:

1. Door frames and floors were replaced with low-grade modern materials
2. Ceiling modifications with concrete panels or asbestos sheets
3. Frequent whitewashing of walls that once displayed vibrant frescoes

These alterations, though carried out with functional intent, undermine the **architectural identity** and heritage value of the structure.

Environmental and Climatic Stress

The seasonal monsoons and humid subtropical environment of Lahore have negatively impacted the havelis:

1. Timber structures, which show signs of rot and termite infestation
2. Exterior walls, which have suffered from water seepage, leading to cracks and salt efflorescence
3. Frescoed surfaces exposed to sunlight and rain, fading pigments, and flaking plaster

These elements will keep accelerating the rate of disintegration in the absence of adequate drainage and climate-responsive restoration.

Incompatibility of Restoration Materials

In several cases, the original fabric of lime plaster, hand-fired bricks, and wood has been essentially incompatible with the Portland cement, synthetic paint, and iron fasteners used for restorations. As a result accelerated erosion and delamination of wall surfaces, Thermal incompatibility leads to cracks and Aesthetic dissonance, especially where modern materials cover traditional elements. This reflects a broader issue in heritage conservation where a **lack of technical expertise** leads to solutions that are visually jarring and structurally harmful.

Conservation Prospects and Cultural Role

The haveli is a good candidate for complete conservation since, despite its current state, it still has a lot of its original detailing and structure. Unlike many heritage buildings, its continuing usage as a school offers a communal link and a practical purpose. This presents an opportunity for integrated conservation, in which architectural preservation and educational usage are matched. In addition, many Walled City residents take pleasure in the haveli, which they see as a cultural symbol. There is a latent potential for raising awareness and community-led conservation, as both teachers and students show a sense of ownership and curiosity about the building's history.

Conclusion

The examination of Haveli Nau Nihal Singh, which is currently Victoria Girls High School, highlights the timeless significance of old buildings woven into Lahore's changing urban landscape. The haveli is both a living institution and a cultural treasure, representing a unique example of Sikh-era domestic architecture. Its distinctive architectural elements—from the elaborately decorated Rang Mahal to the emblematic Jharoka-e-Darshan, mirror mosaics, frescoes, and carved jalis—provide a wealth of information about the artistic sensibility and technological prowess of Punjab in the 19th century.

The building's current state, however, illustrates a recurring conflict between heritage preservation and functional adaptation. Although its usage as a school has prevented it from being abandoned, it has also left the building vulnerable to unforeseen alterations, incompatible materials, and gradual but steady deterioration. Its durability and integrity are now seriously threatened by termite infestation, structural fissures, water intrusion, and improper restorations.

According to the research, this architectural gem faces the risk of losing both its tangible form and its intangible cultural relevance if conservation science-guided intervention is not implemented. The results confirm the need for:

1. Removing invasive modern additions that jeopardize the structure's form and authenticity;
2. Performing material-specific repairs using historically appropriate methods, such as timber treatments and lime plaster.
3. Creating heritage conservation guidelines for institutional structures, particularly in areas like the Walled City that are sensitive to cultural heritage.

Additionally, the haveli offers a chance for inclusive conservation strategies, which combine institutional cooperation, community involvement, and public education to preserve and advance urban heritage. The conservation of Haveli Nau Nihal Singh may serve as a template for preserving other underappreciated cultural resources around the nation by fusing history with practicality and preservation with education.

Future Directions and Limitations

According to the study's findings, Haveli Nau Nihal Singh has a good chance of being conserved and restored adaptively, given that methodical and well-informed approaches are used. To promote the site's continuous use as an educational center and conserve its architectural and cultural legacy, some future initiatives can be envisioned. According to the architectural study, Haveli Nau Nihal Singh has many unique elements that set it apart from many other residential structures of the time in terms of both historical and artistic merit. With its elaborate mosaic mirror ceiling, the Rang Mahal reflects Mughal-inspired spatial concepts and reflects the sophisticated aesthetic sensitivities of Sikh aristocracy. A high degree of artistry is evident throughout the haveli in features like delicately carved woodwork, pierced jalis, and frescoes. These ornaments, which display both creative skill and symbolic depth, feature abstract themes, floral patterns, and legendary creatures. Notable is the Jharoka-e-Darshan, a royal viewing balcony that firmly grounds the structure in the history of princely architecture by fusing architectural grandeur with ritual symbolism. Rarely do structures retain this level of craftsmanship and detail.

Although the building's long history as Victoria Girls High School has prevented it from being abandoned or collapsing, it has also resulted in considerable wear and decay. Material fatigue has been accelerated by utilitarian upgrades coupled with a lack of conservation knowledge and monitoring. Low-quality materials that do not blend in with the antique fabric have been used to replace the floors and door frames. Several rooms' ceilings have been covered with asbestos sheets or concrete panels, and the walls, which once had colorful murals, have been constantly bleached to hide their artistic detail. Even though these changes were undertaken for practical reasons, taken together, they have diminished the haveli's architectural identity and historical significance.

The humid subtropical climate of Lahore makes the haveli vulnerable to environmental deterioration. Temperature variations and seasonal monsoons have had a significant impact on several areas of the building. Termite infestation and rot are evident in the timber components, and water seepage has caused surface fractures and salt efflorescence in the external masonry walls. Plaster flaking and pigment fading have been observed on frescoed surfaces exposed to rain and sunlight. These climate effects will continue to hasten the building's degradation unless appropriate drainage systems and climate-responsive repair techniques are put in place.

The use of improper restoration materials poses a serious risk to the haveli's structural and aesthetic integrity. Repairs have frequently required the use of Portland cement, artificial paints, and iron fasteners—substances that are essentially incompatible with the original building components, which include hand-fired bricks, lime plaster, and weathered wood. Because of their disparate rates of thermal expansion, these incompatible additions have resulted in delamination, surface erosion, and cracking. Additionally, they produce a striking aesthetic contradiction, especially in areas where contemporary additions visually break up the continuity of historically significant ornamental elements. This dilemma is indicative of a larger issue in heritage conservation throughout the region, where actions that are structurally and aesthetically harmful are the result of a lack of technical ability. Haveli Nau Nihal Singh is a good candidate for conservation because, despite its current state of wear, it still has a lot of its original structural and artistic integrity. A unique and priceless link between the building and the community it serves is ensured by its continuous use as a public school. This presents a significant chance for coordinated conservation that honors the site's architectural legacy as well as its educational value. In addition, the haveli serves as a Walled City cultural relic. There is unrealized potential for community participation, awareness campaigns, and ultimately community-led conservation activities since locals, educators, and students all express pride and curiosity about the area's past.

References

1. Olivieri, L.M., *AHMED HASSAN DANI: (1920-2009)*. East and West, 2009: p. 379-384.

2. Blake, S.P., *Shahjahanabad: the sovereign city in Mughal India 1639-1739*. 2002: Cambridge University Press.
3. Khalil, A., et al., *TRACING THE ETHEREAL: EXPLORING AESTHETIC HERITAGE AND CULTURAL IDENTITY IN HISTORIC GARDENS-A CASE STUDY OF SHALIMAR GARDEN*. Journal of Arts & Social Sciences, 2024. **11**(1): p. 37-47.
4. Latif, M., *Lahore: Its History, Architectural Remains and Antiquities, with an Account of Its Modern Institutions, Inhabitants, Their Trade, Customs Etc.* 1892: New Imperial Press.
5. Husnain, G., *Revitalizing Historic Urban Centers: The Case of Lahore's Walled City*. Journal of Asian Development Studies, 2024. **13**(2): p. 1190-1200.
6. Glover, W.J., *Making Lahore modern: Constructing and imagining a colonial city*. 2008: U of Minnesota Press.
7. Singh, K., *A History of the Sikhs: Volume 1: 1469-1838*. 2004.
8. Fenech, L.E., *The Sikh Zafar-Namah of Guru Gobind Singh: a discursive blade in the heart of the Mughal Empire*. 2013: OUP USA.
9. ul Haq, M., et al., *Preserving Poonch House: Architectural Documentation, Historical Insights, and Conservation Challenges*.
10. Awan, M.Y., *A study of significant historic buildings in Lahore leading towards the formulation of a national conservation policy for Pakistan*. 1993.
11. Naeem, R. and W. Kareem, *Lahore's Architectural Marvels: A Study on South Asia's Historic Treasure Trove*. 2023.
12. Haveli, N.A.U. and N. Singh, *Masood-ul-Hasan Khokhar*. Pakistan Journal of History and Culture: p. 23.
13. Lahore, O.S.M., *IDENTIFICATION, DIGITAL DOCUMENTATION AND CONSERVATION OF HISTORIC MONUMENTS IN PAKISTAN: A CASE*.
14. Stubbs, J.H. and R.G. Thomson, *Architectural conservation in Asia: National experiences and practice*. 2016: Routledge.
15. Stefania, I. and P. George. *Conservation and Preservation Standards for Paintings*. Springer.
16. Shah, A.A., et al., *Adaptive Reuse of Historic Buildings: An Ecological Indicator, in Urban Metabolism and Climate Change: Perspective for Sustainable Cities*. 2023, Springer. p. 111-134.
17. Nath, R., *History of Mughal architecture*. Vol. 3. 1982: Abhinav Publications.
18. Asher, C.B., *Architecture of Mughal India*. Vol. 4. 1992: Cambridge University Press.
19. Silva, K.D. and A. Sinha, *Cultural landscapes of south Asia*. South Asia: Routledge, 2017.
20. Ahmed, M.K., *Identity of Sikh Architecture in Lahore*. Journal of Art, Architecture and Built Environment, 2024. **7**(2): p. 23-40.
21. Roberts, B. and T. Kanaley, *Urbanization and sustainability in Asia: Case studies of good practice*. 2006: Asian Development Bank.
22. Ahmed, D., *ANALYSIS OF "KOOCHA HAVELI NAU NIHAL SINGH", THE WALLED CITY, LAHORE*.
23. Naeem, A., *The conflict of ideologies and ambiguities in conservation policy: A legacy of shared built heritage in Pakistan*. Asian Heritage Management, 2013: p. 87-104.
24. Singh, G., *Reconsidering Sikh architecture: The Samādhi of Maharaja Ranjit Singh in Lahore*. 2021, Taylor & Francis.
25. Stubbs, J.H., *Time honored: A global view of architectural conservation*. 2009: John Wiley & Sons.
26. Batool, T., *Conservation in the Walled City of Lahore: How state efforts affect the urban fabric of heritage cores*. 2016: American University.

27. Hmood, K., *Conservation of Urban and Architectural Heritage: Past, Present and Future*. 2023: BoD–Books on Demand.
28. Kabir, N., G. Abbas, and K. Hayat, *A historic journey of the Lahore City, to attain its identity through architecture*. European journal of interdisciplinary studies, 2017. **3**(3): p. 87-97.
29. Tillotson, G.H.R., *The tradition of Indian architecture: continuity, controversy, and change since 1850*. (No Title), 1989.
30. Heitzman, J., *The City in South Asia*. 2008: Routledge.
31. ul Haq, M., et al., *SHADI LAL BUILDING, LAHORE: A HISTORICAL AND ARCHITECTURAL ANALYSIS FOR CONSERVATION*. Kashf Journal of Multidisciplinary Research, 2025. **2**(03): p. 12-29.