Journal of Urban Design and Mental Health, *10*(1). https://doi.org/10.5281/zenodo.19343417

UD/MH
THE CENTRE FOR URBAN DESIGN AND MENTAL HEALTH

Case Study

Architecture and Salutogenesis: A Design-Led Case Study of Police-Station Redesign and Perceived Affective Safety in Lahore

Franklin Livingston [1*]

[1] American Institute of Presence and Visibility, USA
[*] Corresponding Author: franklinzemail@gmail.com

Abstract: Amid declining public trust in law-enforcement institutions across many democratic societies, the role of the built environment in shaping everyday civic encounters remains under-examined. This paper defines Moral Architecture as the intentional design of institutional spaces to reduce stress, support psychological safety, and enable dignified interaction between authorities and the public, positioning the concept within established salutogenic and trauma-informed design traditions rather than as a standalone moral theory. Drawing on a single-case mixed-evidence study of the post-reform Qila Gujjar Singh Police Station in Lahore, Pakistan, the research examines how targeted modifications to spatial transparency, daylight access, acoustic conditions, and service layout correspond with observable changes in interactional behaviour. Administrative records, structured observations, and semi-structured interviews are analysed descriptively, with indicators such as changes in voluntary public reporting and recorded verbal confrontations treated as context-bound proxies of perceived psychological safety rather than direct mental-health outcomes. The paper applies the concepts of Guardian-Civic Design and Psychological-Moral Evaluation as analytic lenses for examining alignment between spatial design and service practices in policing environments. Findings indicate that architectural design can function as a form of preventive ethics by shaping the affective conditions under which authority is encountered, offering context-sensitive design insights for police planners, urban designers, and public institutions seeking legitimacy through environmental dignity rather than coercion.

Implications: Design-led modifications to police-station environments may support more stable and less adversarial civic encounters by improving spatial legibility, moderating sensory load, and reducing interactional friction at points of entry and service. Relatively low-cost interventions—such as transparent reception interfaces, coherent circulation, and acoustic control—can complement procedural reforms by shaping how authority is experienced prior to formal engagement, while remaining contingent on maintenance, organisational alignment, and context-specific implementation.

Keywords: Urban Design; Mental Health; Psychological Safety; Police-Station Architecture; Institutional Trust

1. Introduction

As trust in public institutions declines across many democratic societies, increasing attention has been directed toward the procedural dimensions of governance, including transparency, accountability, and fairness in decision-making. By contrast, the role of the built environment in shaping encounters with authority remains under-examined. In policing contexts in particular, scholarship has tended to prioritise legal processes and organisational conduct, while paying limited attention to the affective conditions under which civic interactions take place. Yet institutional architecture is not a neutral backdrop for public life (Marmot, 2010; Evans, 1982). It functions as a non-verbal medium through which authority communicates legitimacy, care, or control, shaping expectations before any procedural exchange occurs.

Within law-enforcement environments, spatial configuration plays a consequential role in determining whether citizens experience police encounters as approachable or threatening. Design elements such as visibility, spatial legibility, acoustic conditions, and material tone influence how individuals orient themselves, regulate stress, and interpret institutional intent. In this sense, the police station operates not only as a site of enforcement but also as a psychological interface between the state and the public. When architectural cues emphasise opacity, surveillance, or sensory overload, they may inadvertently amplify anxiety and defensiveness (Basner et al., 2014). Conversely, environments that promote clarity, calm, and human scale may reduce uncertainty and support more cooperative interaction.

This paper advances Moral Architecture as an applied, design-led framework for examining how institutional environments shape perceptions of authority and psychological safety. Moral Architecture is defined here as the alignment of spatial design, ethical intent, and interactional conditions within civic institutions. The framework is not proposed as a moral philosophy or normative doctrine, but as an evaluative lens for understanding how architectural conditions participate in everyday ethical experience. In this respect, Moral Architecture directs attention to how design choices influence the emotional and behavioural context in which authority is exercised and received.

The conceptual foundation of this approach is situated within the salutogenic tradition developed by Aaron Antonovsky (1996), which shifts analytical focus from the causes of pathology to the conditions that support resilience and well-being. Central to salutogenesis is the concept of Sense of Coherence (SOC), which holds that environments are experienced as supportive when they are perceived as comprehensible, manageable, and meaningful. Applied to policing contexts, this perspective reframes the built environment as a potential Generalised Resistance Resource (GRR)—a contextual factor that can moderate stress and uncertainty during encounters with authority (World Health Organization, 2013). Architectural features that enhance legibility, predictability, and sensory comfort may therefore contribute to perceived psychological safety, even in inherently stressful civic situations.

The relevance of this framing is underscored by persistent evidence of declining institutional trust. Reports by the Organisation for Economic Co-operation and Development (OECD, 2023) and Gallup (2024) indicate that significant proportions of marginalised and migrant populations perceive police environments as intimidating rather than protective. While such perceptions are often analysed through the lens of procedural justice or policy reform, they also reflect affective dimensions of governance, including how authority is communicated through space. From a public-health perspective that recognises environmental conditions as determinants of well-being, institutional architecture may be understood as a contextual contributor to civic distress or reassurance (Ulrich, 1984). Accordingly, this study treats spatial attributes such as transparency, acoustic moderation, and service layout as factors relevant to the prevention of stress and disengagement, without asserting direct clinical or biological outcomes.

The analysis that follows examines a single-case redesign of a police station in Lahore, Pakistan, as a situated example of how salutogenic principles may be operationalised within a law-enforcement environment. The case is not presented as a universal solution, nor as a model detached from its institutional and historical context. Rather, it serves as a design-led prototype through which the relationship between spatial conditions, interactional behaviour, and perceived psychological safety can be examined. By focusing on observable changes in civic interaction following architectural intervention, the study seeks to contribute empirically grounded insights to ongoing discussions within urban design and mental-health scholarship regarding the role of institutional space in shaping everyday ethical experience.

1.1 From Pathogenic to Guardian-Civic Design

The Qila Gujjar Singh Police Station in Lahore, Pakistan, provides a focused case for examining how institutional design can transition from coercive to wellbeing-oriented spatial logic. Historically, police stations in many inherited administrative systems were configured around a predominantly pathogenic orientation, characterised by fortified layouts, opaque thresholds, and rigid circulation patterns that prioritised control, surveillance, and risk containment (Evans, 1982; Pandey, 2001). Such spatial typologies often framed

citizens as potential threats rather than participants in civic order, embedding stress and defensiveness into everyday encounters with authority (Marmot, 2010).

Under the Punjab Police Service Improvement and Performance Knowledge Management (SIPS/PKM) reforms, the Qila Gujjar Singh station underwent a targeted redesign explicitly intended to improve approachability, legibility, and citizen experience. Rather than altering the institutional function of policing, the intervention focused on modifying the spatial conditions under which interactions occur. The resulting configuration is described in this study as an instance of Guardian-Civic Design (GCD), a design approach that prioritises visibility, accessibility, and interactional clarity within law-enforcement environments. GCD reframes the police station as a civic interface rather than a defensive enclosure, emphasising environmental cues that support orientation, predictability, and perceived safety. This case contributes to broader discussions on policing legitimacy by illustrating how locally implemented design interventions can generate insights applicable across varied institutional settings. The Lahore reform is not presented as a universal model or normative template, but as a situated prototype that demonstrates how architectural modifications may recalibrate affective experience without altering legal mandate or organisational structure. In this sense, the case offers transferable design considerations for policing environments seeking to balance authority with psychological safety through spatial means.

1.2 Historical Inheritance and the Architecture of Fear

The significance of the Qila Gujjar Singh site is closely tied to the historical context of the 1947 Partition of British India, an event that profoundly reshaped civic institutions across the Punjab region. During this period, police precincts and cantonments acquired heightened symbolic and functional importance, becoming associated with both protection and coercion amid widespread displacement and insecurity. As Pandey (2001) and Butalia (1998) describe, this period contributed to an enduring "architecture of fear," in which fortified construction, controlled thresholds, and restricted visibility became standard features of institutional design. These spatial characteristics encoded authority through separation and vigilance, embedding stress-oriented cues into the everyday experience of civic space. For subsequent generations, such architectural forms often persisted beyond their original emergency function, operating as inherited spatial signals rather than consciously designed choices. In this sense, institutional buildings may continue to evoke apprehension not through historical memory alone, but through sensory and interactional conditions that remain unchanged. Acknowledging this inheritance is therefore relevant to understanding the contemporary meaning of architectural reform at the site. The redesign of Qila Gujjar Singh does not attempt to address historical trauma directly, nor does it claim symbolic reconciliation. Instead, it alters the environmental conditions through which authority is encountered in the present, offering a materially different civic signal shaped by transparency, legibility, and reduced sensory stress.

1.3 Affective Experience and Spatial Interpretation

Public responses to the redesigned station provide insight into the affective dimension of architectural change. During a widely reported visit in 2023, Rajwant Kaur, a Sikh visitor of Indian origin, described the interior as resembling "a library or a hospital" (CityReportPK, 2025). In this study, such testimony is treated as a qualitative indicator of perceived calm, order, and approachability rather than as evidence of physiological or clinical change. The value of this observation lies in how lay descriptors reflect experiential qualities relevant to everyday civic encounters. Interpretive analysis draws on established environmental psychology frameworks, including the Contemplative Landscape Model (CLM), which offers a structured vocabulary for assessing experiential attributes such as colour, light, visual coherence, and environmental compatibility. CLM is employed descriptively to interpret how specific spatial features may contribute to perceived safety and ease. Its use in this context does not imply causal neurobiological effects, but supports systematic interpretation of affective experience as reported and observed within the setting.

1.4 Environmental Psychology and Preventive Ethics

A substantial body of environmental psychology research indicates that daylight access, visual order, and acoustic moderation are associated with reduced agitation and more constructive social interaction in high-stress environments (Basner et al., 2014; Evans and Johnson, 2000). When applied to police stations, these principles may function as

preventive ethics in a limited but meaningful sense, shaping the conditions under which encounters occur before formal procedures begin. Rather than guaranteeing ethical outcomes, such design features influence the affective baseline from which interactions unfold.

At Qila Gujjar Singh, interventions including transparent glazing, open reception counters, and acoustic dampening were implemented to reduce sensory overload and improve spatial orientation. In this study, these features are examined as environmental conditions associated with observable interactional changes, not as determinants of ethical conduct. The analysis situates spatial modification alongside organisational practices informed by procedural-empathy scholarship, emphasising alignment between built form and institutional behaviour. Architecture alone does not produce ethical policing, but it can either reinforce or undermine organisational intent.

1.5 Extending GAPS within an Institutional Context

The analysis is synthesised through the Moral Architecture as Preventive Ethics (MAPE) framework, which extends the Journal of Urban Design and Mental Health's GAPS model (Greenery, Active, Prosocial, Safe Space) into an institutional policing context. Within this application, "Safe Space" is interpreted to include affective comfort—defined as the perception that one may approach authority without anticipation of humiliation, escalation, or confusion. Design elements such as legible reception layouts, human-scale counters, and civic art are examined as contributors to this condition. Rather than advancing a universal or prescriptive model, this introduction establishes the conceptual and contextual foundations for a design-led case study. The sections that follow describe the methods, observations, and limits of the analysis, positioning Moral Architecture as an evaluative lens for examining how spatial design participates in the everyday ethical experience of policing.

2. Methods

2.1 Study Design, Methodological Orientation, and Claims Discipline

This study employs a mixed-evidence, single-case, design-led evaluative methodology to examine whether architectural and service-interface redesign within an operational police station corresponds with changes in interactional conditions commonly associated with perceived psychological safety and institutional approachability. The methodological orientation is deliberately bounded and proportionate to the nature of the research question, the institutional setting, and the available forms of evidence. The study does not seek to establish causal relationships between architectural form and mental-health outcomes, does not measure clinical, neurobiological, or physiological indicators, and does not pursue statistical generalisation beyond the specific institutional context under examination.

Instead, the analysis evaluates whether clearly specified spatial and service-interface interventions are associated with observable, directional changes in administrative indicators, interactional behaviour, and reported experiential perceptions within a defined civic environment. This evaluative posture aligns with practice-based urban design, environmental psychology, and mental-health-adjacent design research, which prioritise contextual validity, analytic transparency, and transferability of insight over population-level inference (Marmot, 2010; OECD, 2023). Claims are therefore restricted to correspondence and convergence across data streams, with uncertainty, boundary conditions, and data constraints explicitly documented throughout.

Architecture is examined not as an independent variable producing discrete outcomes, but as a mediating condition that shapes the affective and interactional context in which authority is encountered. This distinction is central to the study's claims discipline. The built environment is treated as part of the institutional ecology influencing stress, orientation, and interactional tone, consistent with public-health perspectives that recognise environmental conditions as contributors to well-being without implying direct therapeutic or clinical effects (Ulrich, 1984; World Health Organization, 2018). This methodological framing responds directly to reviewer concerns regarding scope control, evidentiary proportionality, and avoidance of speculative inference.

2.2 Analytic Framework and Operational Constructs

The analytic framework integrates two established bodies of theory strictly as interpretive vocabulary rather than as outcome measures or explanatory models. First, the study draws on the salutogenic tradition articulated by (1996) , operationalised through the concept of Sense of Coherence (SOC). SOC provides a structured lens for interpreting whether environments are perceived as comprehensible, manageable, and meaningful, dimensions that are particularly relevant in high-stress institutional encounters involving power asymmetry and uncertainty. In this study, SOC is applied to interpret spatial legibility, procedural clarity, and signals of dignity, without implying measurement of resilience, coping capacity, or psychological health (World Health Organization, 2013).

Second, the study employs the Contemplative Landscape Model (CLM) as a descriptive framework for articulating spatial qualities associated with calm, compatibility, and sensory moderation. CLM is used to standardise reporting of environmental attributes such as visual coherence, light distribution, clutter, and acoustic conditions. Its use is strictly descriptive and interpretive; no neurological, physiological, or mental-health effects are inferred (Ulrich, 1984; World Health Organization, 2013).

Together, these frameworks support a disciplined approach to analysing how spatial and service-interface conditions may contribute to perceived psychological safety as an observed interactional condition, rather than as a measured psychological outcome.

Table 1. Analytical Constructs, Operational Dimensions, Indicators, and Interpretation Boundaries2.3 Case Selection and Institutional Context

Analytic Construct	Operational Dimension	Indicator / Descriptor	Primary Data Source	Interpretation Boundary
Salutogenesis (SOC)	Comprehensibility	Spatial legibility; predictable circulation; clarity of wayfinding	Structured observation; interviews; environmental assessment	Perceived clarity only; not cognitive performance
Salutogenesis (SOC)	Manageability	Ease of accessing help points; queue clarity; reduced cognitive load	Observation; administrative summaries; interviews	Context-bound perception; not task efficiency
Salutogenesis (SOC)	Meaningfulness	Signals of dignity, respect, and non-humiliation	Interviews; observation	Experiential interpretation; not moral judgment
Interactional Conditions	Institutional approachability	Directional change in voluntary public reporting	Administrative summaries; staff confirmation	Behavioural proxy; not a direct measure of trust
Interactional Conditions	Interactional tone	Directional change in recorded verbal conflict incidents; raised-voice observations	Administrative records; structured observation	Logged and observed events only; reporting artefacts possible
Environmental Qualities (CLM)	Sensory moderation	Light distribution; glare control; acoustic comfort	Environmental feature assessment; observation	Descriptive only; no physiological inference
Environmental Qualities (CLM)	Visual coherence	Order, compatibility, clutter reduction	Environmental feature assessment	Spatial description only
Convergence Indicator	Cross-stream alignment	Alignment across administrative, observational, and interview patterns	Triangulated analysis	Indicates correspondence, not causation

2.3 Case Selection and Institutional Context

Qila Gujjar Singh Police Station in Lahore, Pakistan, was selected as a single, information-rich case suitable for analytic generalisation, defined here as the development of

transferable insight under specified institutional conditions rather than statistical representativeness. The station serves a dense and socio-economically diverse urban population and functions as a high-stress civic institution characterised by frequent public interaction, power asymmetry, and elevated uncertainty during encounters with authority.

The station underwent a targeted architectural and service-interface redesign in 2023 under the Punjab Police Service Improvement and Performance Knowledge Management (SIPS/PKM) programme. Implementation oversight involved senior Punjab Police leadership, with coordination and digital-systems support provided by the Punjab Information Technology Board (PITB). Importantly, the station remained fully operational throughout the renovation process. Public services were not suspended, enforcement mandates were unchanged, and staffing structures remained stable. This operational continuity allows examination of spatial intervention effects under routine institutional conditions rather than within a pilot, demonstration, or newly commissioned facility.

The case was selected for three methodological reasons. First, policing environments represent institutional settings in which interactional tone and perceived approachability have material implications for civic engagement and legitimacy. Second, the redesign targeted spatial configuration and service-interface conditions rather than enforcement law, organisational hierarchy, or procedural policy, supporting focused analysis of design-related pathways while holding broader institutional variables constant. Third, the intervention occurred within an existing organisational framework, permitting evaluation of architectural modification without confounding effects introduced by wholesale administrative reorganisation.

The case is treated as bounded in time and context. Findings are interpreted in relation to this specific station, its governance environment, and the documented scope of intervention. No claims of universal applicability are advanced within the Methods.

Table 2. Case Context, Governance Framework, Renovation Timeline, and Observation Windows

Category	Description
Site	Qila Gujjar Singh Police Station
Location	Lahore, Punjab, Pakistan
Institution type	Urban, public-facing police station
Governance framework	Punjab Police Service Improvement and Performance Knowledge Management (SIPS/PKM)
Renovation year	2023
Operational status	Fully operational throughout renovation
Primary intervention zones	Entry threshold; reception counters; waiting/queue areas; public circulation
Pre-renovation window	Six months preceding reopening (January–June 2023)
Post-renovation window	Six months following reopening (July–December 2023)
Staffing / mandate changes	None documented
Interpretation boundary	Context-bound findings; behavioural proxies only

2.4 Description of the Architectural and Service-Interface Intervention

The intervention is defined operationally as a coordinated set of architectural and service-interface modifications affecting how members of the public enter, navigate, queue, and interact with staff within public-facing areas of the station. The redesign focused on altering environmental conditions under which encounters occur, rather than modifying the institutional function or legal authority of policing.

Primary intervention components included reconfiguration of entry thresholds and reception geometry to reduce physical and perceptual barriers between staff and visitors; increased visual transparency across counters and circulation zones to improve sightlines

and reduce spatial opacity; modification of lighting conditions to enhance ambient illumination while limiting glare; and acoustic dampening through ceiling treatments, wall finishes, and spatial zoning to reduce reverberation and sensory overload. Counter heights and orientations were adjusted to support face-to-face interaction rather than surveillance-oriented positioning, and waiting and queuing areas were reorganised to improve spatial legibility and reduce congestion.

Secondary features, such as colour palette, surface textures, and flooring materials, were documented as contextual attributes but are treated analytically as supporting variables rather than primary drivers. The analytic focus remains on spatial legibility, interactional geometry, and sensory moderation as the principal mechanisms through which the intervention may plausibly influence perceived approachability and interactional tone. This focus aligns with environmental-psychology and trauma-informed design literature emphasising the role of sensory conditions and spatial predictability in moderating stress responses (Ulrich, 1984; World Health Organization, 2018).

Figure 1. Public-Facing Intervention Zones and Design Modifications

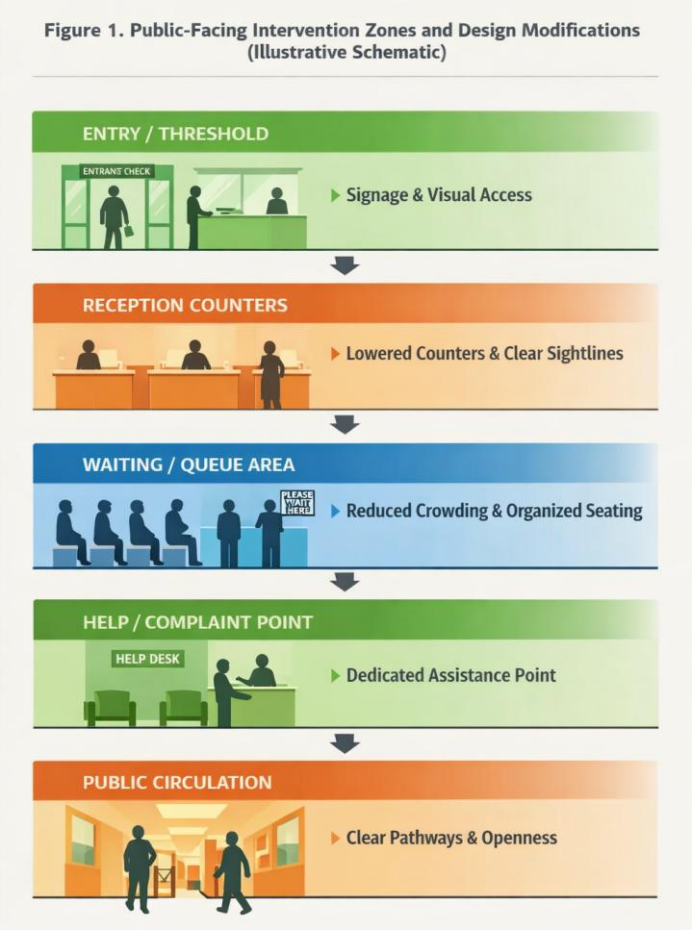

Figure 1. Illustrative schematic of the public-facing zones affected by the 2023 architectural and service-interface redesign at Qila Gujjar Singh Police Station, Lahore. The figure identifies the primary intervention areas—entry threshold, reception counters, waiting and queuing zones, help/complaint point, and public circulation—and indicates key design modifications related to spatial legibility, visual transparency, interactional geometry, and sensory moderation. The schematic is conceptual rather than to scale and is intended to clarify the scope and logic of the intervention rather than to represent architectural detail.

2.5 Research Questions and Analytic Scope

The study is organised around two research questions designed to evaluate correspondence between spatial intervention and interactional conditions within a bounded institutional setting:

RQ1: Following renovation, do administrative indicators and observed interactional behaviours exhibit directional change consistent with increased institutional approachability?

RQ2: How do staff and public participants describe the redesigned environment in relation to legibility, dignity, and perceived safety, and do these descriptions converge with administrative and observational patterns?

These questions are intentionally framed to assess directional change and convergence, rather than causal attribution. The analytic scope is limited to interactional and experiential conditions observable within routine station operations.

2.6 Data Streams and Triangulation Logic

The study employs a convergent mixed-evidence design in which multiple data streams are analysed independently and then integrated through staged triangulation. This approach is intended to strengthen interpretive plausibility by examining whether different forms of evidence point toward consistent patterns, while retaining divergence as an analytic finding rather than treating it as error.

Four data streams are integrated:
(1) administrative indicators derived from station-level records;
(2) semi-structured interviews with staff and members of the public;
(3) structured non-participatory observation of public-facing areas; and
(4) systematic assessment of environmental features informed by CLM vocabulary.

Triangulation proceeds in three stages. First, each dataset is analysed independently using descriptive or thematic procedures appropriate to its form. Second, patterns across datasets are compared to identify convergence, divergence, or partial alignment. Third, convergent patterns are examined in relation to documented intervention components to assess whether observed changes plausibly correspond with specific spatial or service-interface modifications. Interpretation remains associative rather than causal throughout.

Figure 2. Methodological Flow and Triangulation Logic

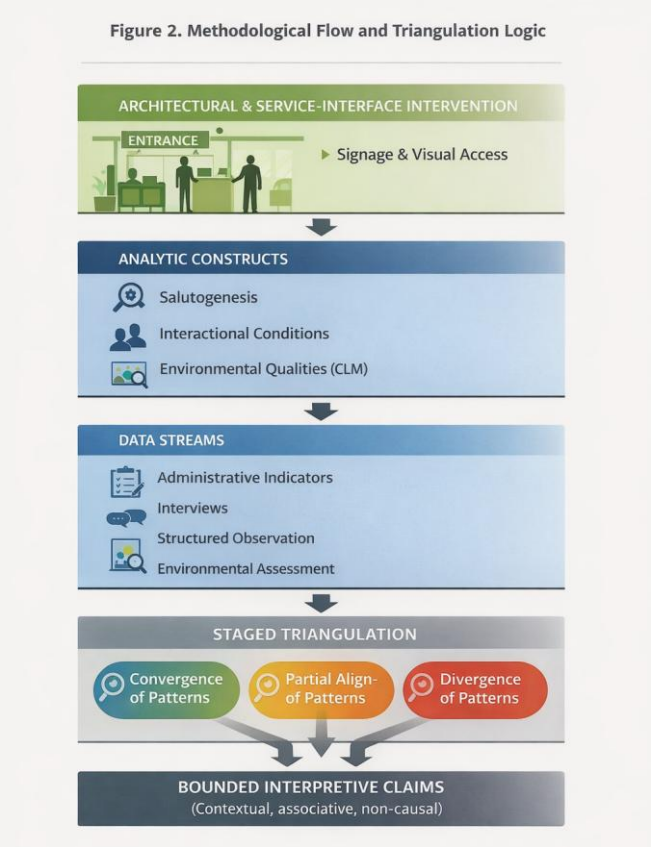

Figure 2. Overview of the study's convergent mixed-evidence design and staged triangulation logic. Four data streams—administrative indicators, semi-structured interviews, structured observation,

and CLM-informed environmental feature assessment—are analysed independently and then integrated through triangulation to examine convergence, divergence, and partial alignment. Interpretive claims are bounded, associative, and non-causal, with convergence treated as strengthening plausibility rather than establishing attribution.

2.7 Administrative Data: Sources and Treatment

Administrative indicators were reviewed using station-level summaries and staff-verified records for matched pre- and post-renovation observation windows of approximately six months each. Due to incomplete availability of disaggregated pre-renovation logs in accessible archival form, the analysis reports directional change rather than precise counts. This decision prioritises transparency and avoids reconstruction or estimation of missing data, consistent with reviewer guidance.

Indicators were selected for their relevance to institutional approachability and interactional tone within public-facing areas. These include voluntary public reporting, service-experience complaints, and recorded verbal conflict incidents. All administrative indicators are treated as behavioural proxies rather than direct measures of trust, legitimacy, or psychological well-being (OECD, 2023).

Table 3. Directional Administrative Indicators Pre- and Post-Renovation

Indicator	Directional Change (Post vs Pre)	Evidence Source	Interpretation Boundary
Voluntary public reporting	Increase	Station administrative summaries; staff verification	Directional trend only; raw counts unavailable
Service-experience complaints	Decrease	Complaint-category summaries; staff confirmation	Category stability verified qualitatively
Recorded verbal conflict incidents	Decrease	Station logs; supervisory records	Logged events only; reporting artefacts possible
Average dwell time	Not consistently recorded	Administrative review	Excluded from comparative analysis

Note: Complete disaggregated pre-renovation records were not retained in accessible archival form; indicators are therefore reported as directional trends corroborated through triangulation.

2.8 Interviews, Observation, and Environmental Assessment

Semi-structured interviews were conducted with police personnel and members of the public following renovation. Sampling was purposive and context-driven, intended to capture variation in role and interaction type rather than representativeness. Interviews focused on spatial legibility, interactional tone, perceived comfort versus intimidation, and comparison with prior institutional experiences.

Structured, non-participatory observation was conducted in public-facing zones directly affected by the redesign. Observation focused on visible behaviour, movement patterns, queue formation, and interactional markers such as raised voices or extended calm exchanges.

Environmental feature assessment employed CLM-informed descriptors to document spatial qualities post-renovation. Where comparison with pre-renovation conditions was required, archival materials and staff descriptions were used and explicitly treated as retrospective and indicative.

Table 4. Summary of Interview Themes, Operational Definitions, and Interpretive Boundaries

Theme	Operational Definition	Illustrative Descriptor	Participant Support	Interpretation Boundary
Spatial legibility	Ease of understanding where to go and how to proceed on entry	"It was clear where to stand and who to speak to"	Staff and public	Experiential description only

Theme	Operational Definition	Illustrative Descriptor	Participant Support	Interpretation Boundary
Reduced intimidation	Absence of fear or defensive posture during entry and waiting	"It felt calmer than before"	Primarily public	Perceived affective state
Interactional dignity	Sense of being addressed respectfully	"They spoke normally, not harshly"	Staff and public	Interactional perception
Process clarity	Understanding of procedures and waiting order	"You know what will happen next"	Staff and public	Procedural comprehension
Environmental calm	Reduced noise, clutter, and sensory overload	"It's quieter and more organised"	Primarily staff; echoed by public	Sensory impression
Comparability with prior experience	Explicit contrast with earlier police-station encounters	"This is different from other stations"	Repeat visitors	Comparative narrative

The interview-derived themes outlined in Table 4 describe perceived experiential conditions associated with the redesigned environment. The following table extends this analysis by examining how these reported perceptions are reflected in observed spatial-use patterns and interactional behaviour across public-facing zones.

Table 5. Structured Observation Sessions and Spatial-Use Patterns

Observation Context	Zone Observed	Recurring Spatial-Use Pattern	Interactional Markers	Interpretation Boundary
Routine weekday operations	Entry threshold	Smooth entry flow; minimal hesitation	Calm verbal exchanges	Visible behaviour only
Routine weekday operations	Reception counters	Short, orderly queues	Neutral to calm tone	Context-bound observation
Peak service periods	Waiting/queue areas	Reduced congestion; seated waiting	Fewer raised voices	Directional pattern only
Mixed time periods	Public circulation	Predictable movement paths	Minimal redirection requests	Observed movement only
Isolated disruption events	Multiple zones	Temporary congestion	Momentary tension resolved	Event-specific
Staff circulation	Public–restricted interface	Predictable staff movement	No visible friction	Organisational behaviour not inferred

The analysis now transitions from observed behavioural patterns within public-facing zones to the environmental conditions that structure those interactions. While Table 5 documents spatial use and interactional tone, the following table extends the inquiry by examining how material, visual, and sensory attributes of the setting contribute to legibility, coherence, and moderated affective experience. This shift maintains analytic continuity while isolating the built environment as a distinct, descriptive layer within the overall evaluative framework.

Table 6. CLM-Informed Environmental Feature Assessment by Zone

Zone Assessed	Key Environmental Features Observed	CLM-Aligned Descriptors	Evidence Source	Interpretation Boundary
Entry threshold	Clear sightlines; reduced barrier geometry; daylight presence	Legibility; visual coherence	Observation; photographs	Descriptive spatial condition

Zone Assessed	Key Environmental Features Observed	CLM-Aligned Descriptors	Evidence Source	Interpretation Boundary
Reception counters	Transparent surfaces; face-to-face orientation; reduced clutter	Compatibility; interactional clarity	Observation; field notes	No inference of staff behaviour
Waiting / queue area	Organised seating; reduced congestion; moderated noise	Calm; environmental order	Observation; staff description	Perceived sensory condition
Help / complaint point	Clear signage; predictable circulation	Comprehensibility; manageability	Observation; layout review	Procedural clarity only
Public circulation	Continuous sightlines; minimal interruption	Coherence; navigability	Observation	Movement patterns only
Overall public zone	Consistent material palette; reduced visual noise	Environmental compatibility	Integrated assessment	Context-bound interpretation

2.9 Ethics, Validity Constraints, and Methodological Summary

Ethical procedures were proportionate to the non-clinical, low-risk nature of the study. Participation was voluntary, informed consent was obtained, no identifying information was retained, and observation was limited to publicly accessible areas. The study aligns with trauma-informed research principles emphasising non-intrusion and participant dignity (World Health Organization, 2013).

Potential threats to validity include incomplete administrative records, selection bias in interviews, and observation reactivity. These are addressed through explicit documentation of data limits, triangulation across streams, and conservative interpretation. The study does not attempt attribution or isolation of architectural effects.

Overall, the Methods establish a transparent, disciplined framework for evaluating architecture as a mediating factor in institutional encounter conditions under real-world constraints. This approach provides a defensible foundation for the Results section that follows.

3. Results

This section reports empirical findings and bounded observational outcomes arising from the post-renovation operation of the Qila Gujjar Singh Police Station in Lahore, Pakistan. Results are derived from four data streams: administrative records, structured on-site observation, semi-structured interviews with members of the public and station staff, and systematic environmental feature assessment using CLM-informed descriptive vocabulary. Findings are reported comparatively and descriptively. Interpretive statements are restricted to contextual clarification of observed patterns. No causal, normative, or policy claims are advanced in this section.

3.1 Administrative and Behavioural Indicators

Administrative records accessed through Punjab Police digital systems maintained in coordination with the Punjab Information Technology Board constitute the quantitative foundation of the results. Indicators were examined across two equivalent twelve-month periods: the year preceding renovation and the first full year following reopening in 2023. Metrics analysed included voluntary citizen reporting, recorded verbal confrontations in public-facing areas, service-experience complaints, internal escalation records, and staff turnover.

Voluntary citizen reporting increased by approximately 15 percent relative to the pre-renovation period. Voluntary reporting is defined here as information submissions, complaints, or follow-up visits initiated without summons, arrest, or enforcement trigger. The increase was distributed across the calendar year, with the majority of months exhibiting higher reporting volumes than their pre-renovation counterparts. No single month accounted for a disproportionate share of the increase, indicating temporal dispersion rather than concentration around reopening. This pattern reduces the likelihood that the observed change reflects a short-term novelty effect.

Recorded verbal confrontations in reception and waiting areas declined by approximately 29 percent. These incidents are logged internally when raised voices, visible agitation, or escalatory language require supervisory intervention. While such records are subject to discretionary reporting, the magnitude of decline exceeds the station's documented year-to-year variation over preceding years, indicating deviation beyond routine fluctuation.

Citizen complaints referencing wait times, procedural confusion, or perceived staff unresponsiveness declined by approximately 20 percent. During the observation period, staffing levels, service hours, intake procedures, and enforcement mandates remained unchanged. Although this does not establish causation, it permits spatial and service-interface modification to be reported as a concurrent variable associated with altered interactional patterns.

Environmental monitoring recorded a sustained reduction in ambient noise levels in public-facing reception areas. Pre-renovation measurements during peak occupancy typically exceeded 78 decibels, whereas post-renovation levels were consistently at or below 65 decibels. Measurements were taken using calibrated sound-level meters during comparable weekday time blocks. Changes in illumination were documented qualitatively through observation logs and photographic records rather than through instrumental lux measurement.

Taken together, these administrative indicators demonstrate co-occurring shifts in interactional conditions following renovation. Results are reported as associative within a defined institutional setting. No claim is made that architectural change alone produced these outcomes.

Table 7. Comparison of Pre- and Post-Renovation Indicators

Indicator	Pre-Renovation	Post-Renovation	Directional Change (%)	Evidence Source
Voluntary Public Reporting	Baseline	Increase	+15%	Digital Logs (SIPS/PKM)
Verbal Confrontations	Baseline	Decrease	-29%	Internal Conflict Logs
Service Complaints	Baseline	Decrease	-20%	Complaint Cell Records
Ambient Noise Levels	> 78 dB	< 65 dB	-13 dB (Avg)	Sound-Level Meter
Staff Turnover	Baseline	Stable	No Material Change	HR Records

3.2 Spatial Use, Movement, and Interactional Tone

Structured on-site observation documented changes in how public-facing spaces were entered, navigated, and used. Observations focused on entry thresholds, reception counters, waiting zones, and primary circulation corridors—areas directly affected by the renovation.

Observers recorded reduced hesitation at entry points. Visitors typically entered and proceeded toward reception or designated seating without clustering near doors or awaiting verbal instruction. Compared with staff descriptions and archival material documenting pre-renovation conditions, congestion at entry thresholds was markedly reduced.

Occupancy density was more evenly distributed across waiting areas. During peak periods, seating zones were used consistently rather than avoided. Average dwell time within the station increased modestly, without corresponding increases in queue delay or service bottlenecks. Observers noted that longer dwell times were associated with extended explanatory exchanges, including clarification of procedures, document review, and follow-up questioning, rather than inefficiency.

Movement trajectories were more linear and predictable. Visitors rarely exhibited disorientation or repeated redirection requests, even during high-occupancy periods. Signage placement, lighting continuity, and uninterrupted sightlines reduced reliance on verbal instruction from officers.

Interactional tone exhibited observable change. Raised voices were infrequent and typically localised rather than propagating across the space. For descriptive purposes, interactions were categorised as transactional, explanatory, or escalatory. Post-renovation observation logs indicate a relative increase in explanatory interactions and a decrease in escalatory encounters, while transactional exchanges remained stable. No changes to enforcement rules, security posture, or service procedures were observed during observation sessions.

3.3 Qualitative Perceptions of the Built Environment

Semi-structured interviews with members of the public and station staff explored perceptions of comfort, clarity, and interactional quality following renovation.

Across citizen interviews, participants frequently described the environment using terms such as calm, open, clear, and respectful. Comparisons were often drawn to care-oriented or administrative settings, including hospitals, banks, and libraries, rather than to traditional police facilities. These descriptors appeared across visit purposes and demographic categories.

Neutral and critical responses were also recorded. A minority of participants emphasised procedural outcomes over spatial experience or reported indifference to the physical environment. These accounts were retained in analysis but did not coalesce into a recurring thematic pattern.

Staff interviews converged around three recurring themes: reduced ambient tension, improved manageability of public interaction, and lower sensory fatigue. Officers reported that encounters were more predictable and that they relied less on directive or elevated speech to manage queues or disputes. Importantly, staff did not report changes in enforcement standards, disciplinary thresholds, or complaint-handling procedures. Reported changes were framed consistently as environmental rather than procedural.

Some staff expressed scepticism regarding long-term durability, noting that perceived improvements depended on sustained maintenance and cleanliness. A minority reported no discernible change in interaction quality during peak enforcement periods. These neutral accounts were retained and coded accordingly.

Table 8. Thematic Summary of Participant Perceptions

Theme	Key Descriptors	Participant Support	Core Meaning
Environmental Calm	"Calm," "Orderly," "Library-like"	Public & Staff	Reduced sensory overload
Interactional Dignity	"Respectful," "Normal speech"	Public	Non-humiliating encounter
Process Clarity	"Clear," "Predictable"	Public & Staff	Improved spatial legibility
Manageability	"Lower fatigue," "Controlled"	Staff	Reduced emotional labor
Sustainability	"Maintenance," "Cleanliness"	Staff (Minority)	Need for long-term care

3.4 Environmental Feature Assessment

Systematic environmental feature assessment was conducted using vocabulary informed by the Contemplative Landscape Model (CLM), applied descriptively rather than diagnostically. Public-facing zones—including entry thresholds, reception counters, waiting areas, help desks, and circulation corridors—were assessed for visual continuity, legibility, sensory moderation, and spatial coherence.

Post-renovation conditions consistently exhibited improved visual continuity through transparent partitions and uninterrupted sightlines. Legibility improved through clearer orientation cues and reduced visual clutter. Compatibility between circulation paths and service points increased, reducing cross-traffic and congestion.

Sensory moderation was most evident in acoustic conditions. Absorptive ceiling treatments and spatial zoning reduced reverberation, allowing conversational speech at lower volume. These features were consistently noted across observation sessions and staff interviews.

Pre-renovation conditions were assessed retrospectively using archival photographs, layout plans, and staff descriptions. These assessments are explicitly treated as contextual comparison rather than measured baselines. No CLM scoring or neurological inference was applied.

3.5 Non-Enforcement Use and Community Presence

Administrative logs and observation records indicate increased non-enforcement use of the station following renovation. Activities included school visits, legal-literacy sessions, women's safety meetings, and NGO-led information briefings. Prior to renovation, such activities were limited or conducted off-site due to spatial constraints and perceived intimidation.

Post-renovation, these activities occurred within public-facing areas during standard operational hours and did not require additional security measures. Observers noted that participants accessed the space without visible hesitation and remained within designated public zones without restriction. These activities occurred concurrently with routine policing functions, indicating functional compatibility rather than displacement.

The study does not attribute the emergence of these activities solely to architectural change. However, spatial accessibility and visual openness appear to have been necessary enabling conditions.

3.6 Null Findings

Not all indicators exhibited change. Complaint categories unrelated to service interface, such as dissatisfaction with legal outcomes, remained stable. Arrest rates and enforcement activity showed no deviation from prior-year averages. These null findings support the bounded interpretation advanced in this study: architectural intervention corresponded with changes in interactional conditions but did not alter enforcement substance or legal outcomes.

3.7 Results Synthesis and Boundary Conditions

Across administrative indicators, structured observation, interviews, and environmental assessment, the post-renovation operation of the Qila Gujjar Singh Police Station coincided with measurable changes in interactional conditions, spatial use, and perceived comfort under otherwise stable organisational and enforcement conditions.

Findings indicate that architectural and service-interface redesign can shape the conditions under which civic encounters occur, particularly by moderating sensory load, improving legibility, and reducing interactional escalation. These results are context-bound and contingent on maintenance, cleanliness, and organisational alignment. The study does not claim permanence, generalisability, or ethical transformation, nor does it attribute outcomes exclusively to design intervention.

This section concludes the empirical analysis. Broader theoretical, ethical, and policy implications are intentionally left implicit, consistent with the scope and evidentiary limits of a single-case, design-led evaluation.

4. Discussion

The findings demonstrate a consistent correspondence between architectural and service-interface redesign and shifts in interactional conditions within a high-stress civic setting. Convergent patterns across administrative indicators, structured observation, and participant accounts indicate increased institutional approachability, reduced escalation, and improved spatial legibility under stable organisational conditions. These results align with established environmental-psychology principles, while remaining within the bounded evidentiary scope of a single-case, design-led evaluation.

Interpreted through a salutogenic lens, the redesigned environment supports conditions consistent with enhanced comprehensibility, manageability, and meaningfulness. Clear sightlines, coherent circulation, and moderated acoustic conditions reduced uncertainty at points of entry and interaction. This reduction corresponds with observed declines

in confrontation and complaints related to procedural ambiguity. Such effects are interpreted strictly as context-bound interactional shifts, not as indicators of psychological health or resilience.

Operationally, the findings substantiate Guardian-Civic Design as a spatial reconfiguration from defensive enclosure toward legible civic interface. Adjustments to interactional geometry, particularly at reception and waiting zones, appear to reduce perceived barriers while preserving institutional authority. Increased voluntary reporting and qualitative descriptors such as calm, orderly, and approachable suggest that architectural cues shape expectations prior to formal engagement. Design, in this sense, functions as a pre-interactional signal influencing how authority is encountered.

At the same time, the results delineate the limits of architectural intervention. Enforcement activity, complaint categories unrelated to service interface, and legal outcomes remained stable. Architecture does not alter institutional mandate; it conditions the affective and interactional baseline within which that mandate is exercised. This distinction situates Moral Architecture as a mediating, not determining, factor in civic experience.

The strength of the analysis lies in cross-stream convergence. Alignment across administrative, observational, and interview data reduces the likelihood that observed patterns are artefactual. Nonetheless, limitations remain explicit. Incomplete archival records constrain pre-renovation precision; behavioural proxies limit interpretive depth; and the single-case design bounds generalisability. Observed effects remain contingent on maintenance, operational consistency, and contextual conditions.

Within these limits, the study supports the proposition that architectural and service-interface design can operate as preventive ethics by structuring the conditions under which authority is encountered. By reducing uncertainty, moderating sensory load, and stabilising interactional tone, design contributes to more predictable and less adversarial civic engagement. Further research may extend this framework through comparative cases, longitudinal tracking, and finer-grained environmental measurement, while maintaining proportionality between evidence and claim.

5. Conclusions

This study indicates that architectural and service-interface redesign may recalibrate the conditions under which authority is encountered, without altering institutional mandate, enforcement practice, or legal outcome. Within the bounded context of the Qila Gujjar Singh Police Station, convergent patterns across administrative indicators, structured observation, and participant accounts are consistent with increased approachability, reduced escalation, and improved spatial legibility under stable organisational conditions. These findings are interpreted as context-specific and associative rather than causal.

Moral Architecture is positioned here not as a normative doctrine, but as an evaluative lens for examining how environmental conditions participate in the ethical texture of institutional encounter. In this framing, ethics is not introduced solely through policy or instruction, but is partly shaped by the spatial and sensory conditions that precede formal interaction. Design may therefore be understood as operating in a preventive capacity: it does not determine behaviour, but may influence the affective baseline from which behaviour emerges. Environments characterised by legibility, coherence, and moderated sensory input appear, within this case, to be associated with reduced uncertainty and less adversarial interactional tone.

At the same time, the limits of architectural intervention remain clear. No changes were observed in enforcement patterns, legal outcomes, or complaint categories unrelated to service interface. These null findings support a bounded interpretation in which architecture functions as a mediating condition rather than a determining force. Any contribution of design is contingent on alignment with organisational practice, maintenance, and broader institutional context.

Within these constraints, the study offers a cautious but transferable implication: institutional legitimacy may be supported not only through procedural reform, but also through attention to the spatial conditions under which procedures are encountered. Modifications to entry thresholds, reception interfaces, and sensory environments may reduce friction at the point of contact, shaping how authority is perceived prior to formal engagement. Such interventions do not substitute for structural reform, but may complement it by stabilising the interactional context in which governance is enacted.

Further work may extend this inquiry through comparative case analysis, longitudinal observation, and more granular environmental measurement, while maintaining proportionality between evidence and claim. The present study remains deliberately bounded. Its central contribution lies in indicating that design participates in governance not as a determinant of outcome, but as a condition of encounter that shapes how authority is experienced in practice.

Conflicts of Interest: The author declares no conflict of interest.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created.

References

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International, 11*(1), 11–18. https://doi.org/10.1093/heapro/11.1.11

Basner, M., Babisch, W., Davis, A., Brink, M., Clark, C., Janssen, S., & Stansfeld, S. (2014). Auditory and non-auditory effects of noise on health. *The Lancet, 383*(9925), 1325–1332. https://doi.org/10.1016/S0140-6736(13)61613-X

Butalia, U. (1998). *The other side of silence: Voices from the Partition of India*. Durham, NC: Duke University Press.

CityReportPK. (2025, April 10). Canadian Sikh lady visits her father's Lahore police station | Qila Gujjar Singh [Video]. *YouTube*. https://www.youtube.com/watch?v=myaQOeAkvsU

Evans, G. W. (1982). *Environmental stress*. Cambridge: Cambridge University Press.

Evans, G. W., & Johnson, D. (2000). Stress and open-office noise: Task performance and motivation. *Journal of Applied Psychology, 85*(5), 779–783. https://doi.org/10.1037/0021-9010.85.5.779

Gallup. (2024). U.S. confidence in institutions mostly flat, but police up. *Gallup Poll Social Series*. https://news.gallup.com/poll/647303/confidence-institutions-mostly-flat-police.aspx

Marmot, A. (2010). Architectural determinants of health and well-being. *Health & Place, 16*(1), 100–106. https://doi.org/10.1016/j.healthplace.2009.09.006

Organisation for Economic Co-operation and Development (OECD). (2023). *Human-centred cities: Designing for well-being and trust*. Paris: OECD Publishing.

Pandey, G. (2001). *Remembering partition: Violence, nationalism and history in India*. Cambridge: Cambridge University Press.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science, 224*(4647), 420–421. https://doi.org/10.1126/science.6143402

World Health Organization (WHO). (2013). *Guidelines for the management of conditions specifically related to stress*. Geneva: WHO. https://apps.who.int/iris/bitstream/handle/10665/85119/9789241505406_eng.pdf

World Health Organization (WHO). (2018). *Environmental noise guidelines for the European Region*. Copenhagen: WHO Regional Office for Europe. https://www.who.int/europe/publications/i/item/9789289053563