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Memory and Flow Reversal: The Multi-Layered Revitalization of the Coastal
Threshold on the Golden Horn

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ABSTRACT

The Golden Horn shoreline, centrally located within Istanbul's historic peninsula, embodies a profound maritime and cultural legacy. However, contemporary urban transformations driven by large-scale infrastructure, deindustrialization, and fragmented regeneration practices have repositioned this waterfront as a passive coastal threshold, largely disconnected from the city's dominant urban flows. Today, population density and urban vitality are concentrated inland, reinforcing a centrifugal movement away from the coast and intensifying the spatial isolation of the shoreline, particularly beneath the Haliç Bridge where traces of the Byzantine walls have been largely erased.

In recent decades, rehabilitation initiatives led by the Istanbul Metropolitan Municipality have focused primarily on environmental improvement and recreational continuity along the Golden Horn. While these efforts have enhanced accessibility and landscape quality, they have remained predominantly infrastructural, leaving unresolved the questions of historical representation, architectural articulation, and the reintegration of the shoreline into the city's cultural and spatial network.

This thesis proposes the "Memory and Flow Reversal" strategy as an architectural continuation and critical interpretation of these ongoing regeneration processes. The project introduces a Maritime and History Museum Complex positioned as a cultural magnet that aims to reverse dominant urban flow patterns by actively drawing inland urban activity back toward the waterfront. By reinterpreting the lost traces of the Byzantine walls through adaptive spatial narratives and integrating them into the architectural and landscape framework, the proposal establishes a dialogue between historical memory and contemporary form.

Through targeted architectural insertion, pedestrian chaining, and the reactivation of visual and spatial connections with key urban landmarks, the project seeks to transform the dormant shoreline into an active urban interface. By addressing collective memory, mobility, and urban density within a unified architectural strategy, this thesis demonstrates how culturally driven interventions can contribute to the revitalization of historically layered coastal thresholds and offer an alternative model for context-sensitive urban regeneration.

KEYWORDS: Urban flow reversal, maritime heritage, Byzantine sea walls, tactical urbanism, urban connectivity, permeability, collective memory, Golden Horn, architectural hybridization, waterfront regeneration, Adaptive Reuse, Palimpsest and Structural Narrative", Integrity and Reversibility

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CHAPTER 1:

INTRODUCTION AND RESEARCH FRAMEWORK

1.1. Introduction

The Geographical and Historical Significance of the Golden Horn

The Golden Horn (Haliç), a horn-shaped deep inlet (ria type) extending approximately 8 km into the land from the Bosphorus Strait, stands as the **most critical geographical feature** of Istanbul's historical core. Historically known by Western sources as **Khrysokeras (The Golden Horn)** due to its shape and the wealth it provided, Haliç served as an unparalleled natural haven, offering safe anchorage for mariners and supporting settlements since the earliest times (Eyice, 1997). In antiquity, its waters were calm, its shores green, and its coastline punctuated by small coves. During the Byzantine era, following the expansion under Constantine I and the construction of the Theodosian Walls, Haliç became a grand and secure **inner harbor**, elevating Istanbul to one of the premier natural ports in the Mediterranean.

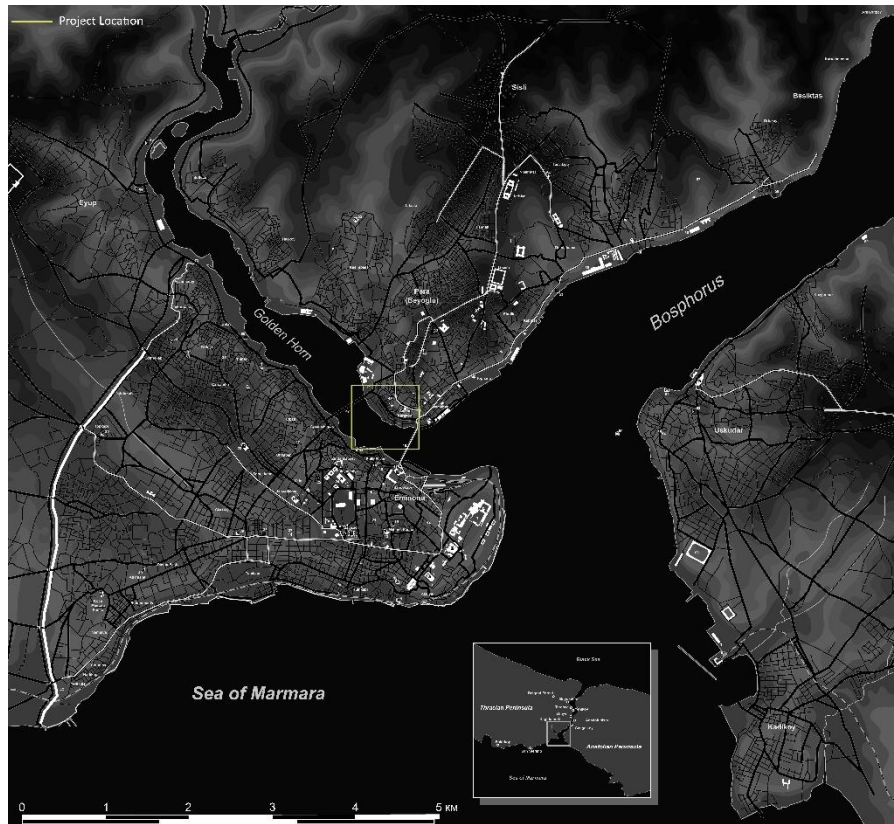


Figure 1 (General Map Of Golden Horn Author's Archive, 2026)

The Transition to a Decommissioned Threshold and Current Urban Problems

While Haliç retained its strategic commercial and military importance for centuries, it began struggling to adapt to the rapid urban dynamics of the late 19th and 20th centuries. The concentration of industrial facilities along its shores during the 20th century introduced **severe environmental problems**. The influx of industrial and sewage waste accelerated pollution and siltation, and the lack of strong currents impeded its natural cleansing ability, escalating the issue to a critical phase (Eyice, 1997). Although significant urban renewal projects have been implemented by the Istanbul Metropolitan Municipality such as relocating industrial zones and constructing major collector systems the area's **urban memory and functional vitality** remain significantly impaired.

Defining the "Dormant Coastal Threshold" and the Research Problem

Considering its profound historical lineage, rich cultural layers (including Byzantine and Ottoman traces), and strategic location, the Haliç shoreline is currently defined as a **"Dormant Coastal Threshold."** This dormancy stems not only from historical environmental neglect but, more critically, from a systemic shift in urban flow and interest away from the coastline, towards the inner urban core (to be analyzed in detail in Chapter 2.2). This detachment results in a profound underutilization of Haliç's inherent potential as a central urban space.

Project Statement and the Thesis's Strategic Role

This thesis project proposes an **intervention of urban regeneration** that addresses the current condition of the Golden Horn as a dormant coastal threshold. The intervention is strategically situated on the site containing the remaining traces of the Byzantine Walls and introduces a Maritime and History Museum Complex as a primary cultural catalyst within the broader regeneration framework. Rather than operating as an isolated architectural object, the proposal is conceived as a multi-layered urban strategy that integrates architectural production with historical memory, spatial continuity, and urban flow dynamics. The central aim of this study is to implement the "Memory and Flow Reversal Strategy," which seeks to activate the site's latent historical and cultural potential in order to reverse dominant urban flow patterns and re-establish the area as a vibrant, multi-modal cultural nexus within the contemporary city.

"The selection of a **Maritime and History Museum** as the primary program is a deliberate response to the *genius loci* of the Golden Horn. For centuries, this waterfront served as the epicentre of Istanbul's maritime identity, defined by the Imperial Arsenals and intense port activities. Unlike a generic cultural center, a museum dedicated to maritime history provides a tangible link to this forgotten legacy. By proposing this specific program, the project aims to 'reverse' the current cultural disconnection, transforming a passive transit space into a 'memory anchor' that celebrates the maritime 'flow' and the historical significance of the Byzantine shoreline."



Figure 1.1 (Author's Archive, 2026)

1.1.2 The Anatomy of the Inward Flow:

Urban movement patterns, derived from pedestrian traffic data and public transit usage analytics, demonstrate a clear gravitational pull toward the inland core. Key transportation arteries such as the vehicular flow along the **D-100 highway** over the Haliç Bridge and the pedestrian streams from the **M2 Haliç metro station** exhibit a **centripetal vector** (Figure 2.11). Instead of dispersing toward the waterfront, these flows are systematically channeled inward to serve the high-density commercial and residential clusters of Fatih and Eminönü. This creates a **kinetic barrier**, where the energy of the city actively turns its back on the coastline.

"The project site is situated at a critical urban intersection, defined by a rich historical and cultural boundary. This area forms a strategic triangle between the **Galata Tower** to the north, symbolizing the city's Genoese heritage, and the **Sokullu Mehmet Pasha Mosque** to the south, an architectural masterpiece of the Ottoman era. The site is further characterized by its proximity to the **Haliç Metro Bridge**, whose rails act as a contemporary transit spine, and the

Atatürk Bridge. This specific boundary, located between these monumental landmarks and the remnants of the **Byzantine sea walls**, creates a unique palimpsest where different layers of Istanbul's history maritime, religious, and infrastructural coexist and interact."

1.2. Problem Definition and Research Questions

The primary challenge addressed by this thesis is the **functional and memorial detachment** of the Golden Horn shoreline, despite its status as a historical nexus within Istanbul. This detachment manifests through two core problems:

Problem Definition:

1.The Coastal Flow-Reversal Imperative (The Urban Challenge):

Analysis of the current urban environment reveals a critical spatial dissonance. High population density and consequential urban movement, particularly from the major connection axes, tend to aggregate in the inner urban core, creating a dominant flow direction *away* from the immediate coastline. This systemic bypass transforms the Haliç waterfront from a potential **urban attractor** into a **passive threshold**, inhibiting public engagement and cultural accessibility.



Figure 1.1.2(Salt Research)



Figure 1.2(Author's Archive, 2025)

2.The Crisis of Historical Representation (The Memory Challenge):

The project site, specifically underneath the Haliç Bridge, contains significant but neglected historical assets, including the remains of the **Byzantine Walls** and Genoese fortifications. These vital historical traces are underrepresented in the **urban memory** and lack the functional integration required for effective public remembrance and cultural dialogue, thereby failing to contribute to the city's narrative.

Research Questions:

Based on the identified problems, this study seeks to provide answers through the proposed architectural design strategy:

Main Research Question: How can the interplay between **lost historical memory** (Byzantine Walls) and **dense urban flow** (inland populations) be re-established through an **iconic, multi-layered Maritime and History Museum** project to strategically trigger flow reversal towards the Golden Horn shoreline?

Sub-Research Questions:

1.What programmatic components (Museum, Temporary Exhibition, Commercial) and urban connection instruments (e.g., the Yellow Linear Axes) are most effective in initiating the necessary **flow reversal** from the dense inner urban areas toward the coastal threshold?

2.How can the physical remnants of the **Byzantine Walls** be functionally and respectfully integrated with a modern museum complex (adopting a *Reus Project* approach) to create a **Historical Exhibition Core** that provides both temporal depth and new civic function?

3.How can the project's specific architectural form (the **Wave-Form Façade**) and its deliberate orientations (the **Süleymaniye/Galata 'Horns'**) reflect the dynamic identity of the Golden Horn while simultaneously establishing a powerful visual and spatial dialogue with the surrounding **historical and urban silhouettes**?

1.3. Project Aim, Scope, and Thesis Methodology

Following the definition of the critical urban and memorial challenges faced by the Golden Horn shoreline (Chapter 1.2), this thesis establishes a clear set of objectives and a systematic methodology to address the necessary revitalization.

1.3.1. Project Aim

The primary aim of this project is to strategically transform the currently defined "**Dormant Coastal Threshold**" into a vibrant, multi-layered **cultural and transit node**. This transformation is achieved by integrating a functional **Maritime and History Museum Complex** with the long-lost urban memory of the site, thereby establishing a new focal point that is intrinsically connected to the city's historical and contemporary urban fabric.

1.3.2. The Governing Strategy

To achieve the stated aim, this study is governed by the **proposed "Memory and Flow Reversal Strategy."** This strategy operates on the principle that the introduction of a high-profile cultural destination, grounded in the reactivation of historical memory through the remaining traces of the Byzantine Walls, can function as a powerful cultural magnet. By doing so, the strategy seeks to counteract existing urban dynamics by reversing dominant flow patterns from the inland core back toward the coastline.

1.3.3. Project Scope

The project scope encompasses both the physical site boundary and the functional programmatic components:

1.Physical Boundary: The site is situated along the Golden Horn coastline, immediately adjacent to the Haliç Bridge and the areas containing the traces of the historical fortifications. The boundaries are precisely defined to maximize connectivity with the existing multi-modal transportation nodes and to capture the maximum potential for urban flow redirection (**Figure 1.3**).



Figure 1.3 Project Area Boundaries and Placement within the Golden Horn Context. (Source: Google Earth, 2024. Intervention and Boundary Definition by the Author)

2.Functional Scope: The intervention includes a Maritime and History Museum, temporary exhibition spaces dedicated to the Byzantine Walls, public platforms (Area 2), commercial/civic units (Area 3), and the integration of new linear pedestrian green axes (Yellow Lines) to ensure seamless urban chaining (Chapter 4.1).

1.3.4. Thesis Methodology

The methodology utilized in this thesis is founded upon an analytical and design-driven research process:

1.Data-Driven Contextual Analysis (Chapter 2): Utilization of existing urban data to map **Population Density Gradation** and **Urban Flow Direction** (e.g., Figures 2.1, 2.3). This analysis provides empirical evidence supporting the need for the **Flow Reversal Strategy**.

2.Theoretical Positioning (Chapter 3): Establishing the academic framework by examining theories of waterfront regeneration and analyzing architectural precedents (e.g., the **Elbphilharmonie** approach and the **Reuse Project** approach) to justify the design and memory integration decisions.

3.Strategy Development (Chapter 4): Translating the analytical findings into the "**Memory and Flow Reversal Strategy**" through urban schematics and programmatic decision-making.

4. Architectural Synthesis (Chapter 5): Presenting the final architectural design, demonstrating how the specific form (Wave Façade) and structural solutions (The Horns) provide the definitive **architectural answer** to the research questions defined in Chapter 1.2.

CHAPTER 2:

SITE AND CONTEXT ANALYSIS

2.1. Historical and Spatial Traces of the Shoreline (Byzantine Walls and Genoese Fortifications)

The Golden Horn shoreline is defined by a dense accumulation of historical layers, making its analysis essential for the **Memory and Flow Reversal Strategy**. The current site, perceived as a peripheral space, is in reality the location of the city's most critical historical urban boundary.

The Significance of the Byzantine Walls

The shoreline's historical identity is primarily rooted in its function as the northern boundary and inner sanctuary of Constantinople. Following the expansion under Theodosius II in the **5th century AD**, the city was enveloped by a vast defensive system, of which the Haliç Walls formed a distinct component. Unlike the massive, double-layered Land Walls, the Golden Horn itself functioned as a natural moat and a strategic defensive asset. Accordingly, a secondary line of lower, single-layered walls extended along the coast from Sarayburnu to Ayvansaray (the Blakhernai area), where they connected to the main Theodosian system (Figure 2.1). These walls were frequently repaired and maintained, often employing the characteristic Byzantine masonry technique of alternating courses of brick and stone (Çetinkaya, 2019).



Figure 2.1(Guillaume Berggren, 1880, Suna and İnan Kırâç Foundation, Istanbul Research Institute)



Figure 2.2(The Golden Horn as a Historic Urban Landscape (HUL): Mapping the Byzantine, Ottoman, and Modern layers as overlapping cultural attributes)



Figure 2.3 The regeneration of the Bordeaux Waterfront, France: A primary global example of the Historic Urban Landscape (HUL) approach, illustrating how contemporary urban functions and historical fabric coexist through 'managed change.'

"The theoretical framework of this research is grounded in the **Historic Urban Landscape (HUL)** approach. As defined by **Pereira Roders (2019)**, urban heritage should not be viewed as isolated monuments but as a dynamic, layered landscape that integrates cultural, social, and economic values. This approach facilitates 'managing change' rather than freezing the site in time, allowing the Golden Horn waterfront to evolve while maintaining its historical essence."

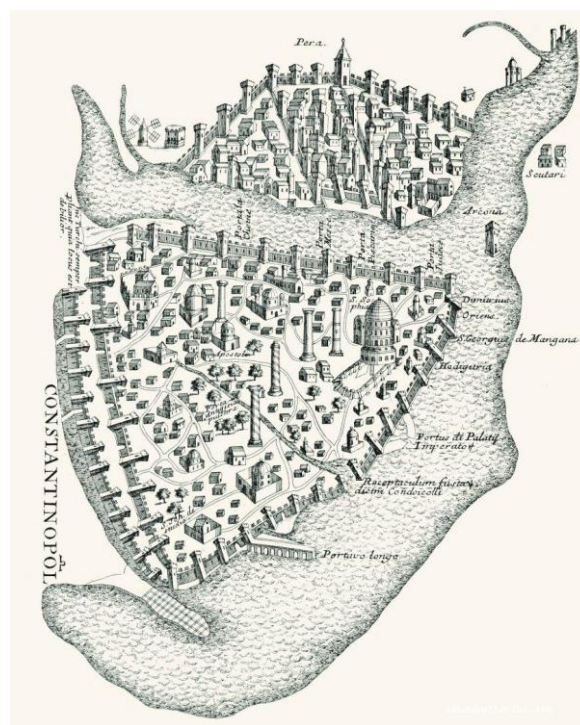


Figure 2.4(Istanbul city walls, monuments and ports (Coignard)

The remnants of these walls, which defined the structural integrity and spatial organization of the coastal zone for over a millennium, are not merely historical relics; they represent the **physical manifestation of the city's historical memory** at the water's edge.

The Spatial Erasure and Neglect

The project area is located at a particularly sensitive juncture where these historical traces have been most severely fragmented and visually erased. The transition from the Byzantine era to the Ottoman period, followed by the industrialization of the 19th and 20th centuries, caused significant programmatic changes. The construction of shipyards and industrial complexes contributed to the physical obstruction and subsequent neglect of the lower wall remnants.

Crucially, the modern infrastructure interventions particularly the construction of the **Haliç Bridge** (completed in 1974 and subsequent updates) physically severed and obscured the continuity of the historical shore-line fortifications. The traces of the Byzantine Walls that form the core focus of this project (Area 4) are now largely hidden beneath infrastructural shadows and layers of accumulated sediment, leading directly to the "**Crisis of Historical Representation**" defined in Chapter 1.2.

The Infrastructural Shadow: The most critical rupture in the site's continuity is the presence of the **Haliç Bridge**. Beyond its functional role as a transport node, the bridge acts as a dominant 'infrastructural roof' that casts a permanent physical and metaphorical shadow over the remnants of the Byzantine walls. This has created a **liminal space** a zone of transition that is neither fully city nor fully water where the historical traces are trapped beneath layers of concrete and asphalt. The bridge does not just cross the site; it severs the visual and physical 'merging' of the wall with the Golden Horn, leading to what Marc Augé defines as a '**non-place**' an area stripped of its identity and social significance.

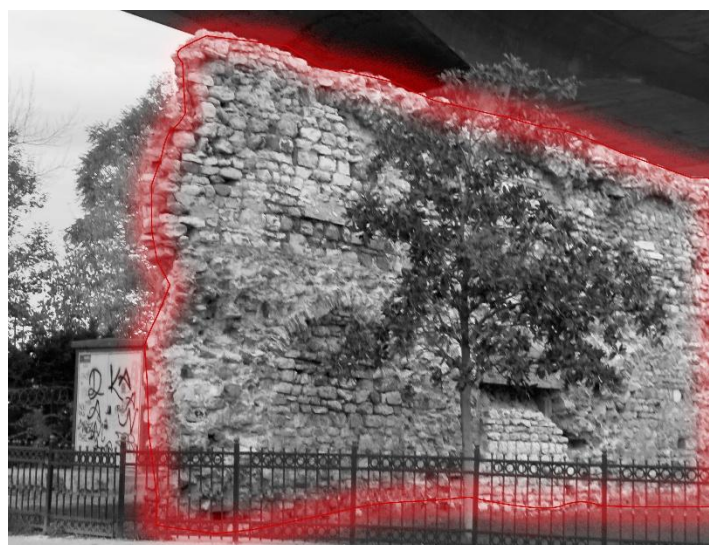


Figure 2.5(Author's Archive, 2025)



Figure 2.6(Author's Archive, 2025)

Traces of the Opposite Shore: Genoese Fortifications

While the main project focuses on the historical peninsula side, the context includes the opposite shore. The Galata shore, settled predominantly by Genoese merchants starting in the 13th century, developed into a distinct urban entity fortified by its own walls, centered around landmarks like the **Galata Tower**. This opposite shore represents a counterpoint in the historical narrative a commercial and international hub facing the imperial city. The strong historical contrast between the imperial Byzantine shore and the commercial Genoese shore highlights the multi-layered significance of the Haliç strait as an **historical and commercial interface**.

Conclusion: The spatial analysis of historical traces confirms that the project site is located precisely where the **critical historical boundary** (Byzantine Walls) and **modern infrastructure** (Haliç Bridge) intersect, creating a spatial vacuum ripe for the proposed strategy of memory resuscitation (**Figure 2.5**).



Figure 2.7(Born Cultural Center, Barcelona: Demonstrating the 'Palimpsest' effect by integrating archaeological ruins into contemporary public space, reflecting Pereira Roders' theories on heritage as a living resource contemporary public space,) reflecting Pereira Roders' theories on heritage as a living resource.

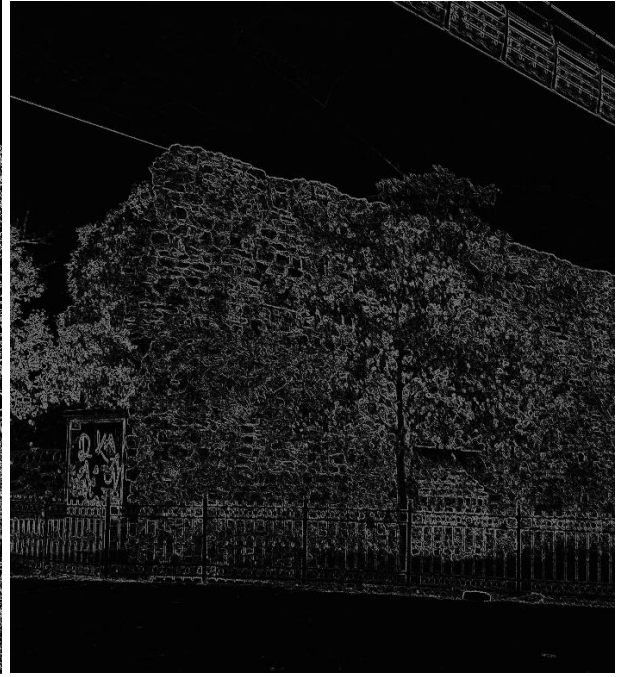


Figure 2.8(Author's Archive Sketch Geneva walls, 2025) Figure 2.9(Author's Archive Sketch Geneva walls, 2025)

2.2. Urban Density and Flow Dynamics

The **Flow Reversal Strategy** is fundamentally necessitated by the analysis of current urban density and movement dynamics within the Historical Peninsula and its periphery. This analysis empirically confirms the functional isolation of the Haliç shoreline.

2.2.1. Analysis of Density Gradation

A detailed mapping of population density reveals a distinct spatial pattern: a steep **density gradient** that favors the inner urban core and declines sharply towards the coastal edge.

- **Inland Concentration:** Areas surrounding the major historic arteries and commercial centers (e.g., Fatih and surrounding neighborhoods) exhibit peak population and building density. This concentration creates **pressure points** where daily activities, commerce, and transit converge.
- **Coastal Depletion:** Conversely, the immediate vicinity of the Haliç coastline, particularly the project site underneath the bridge, shows a critical drop in density. This is due partly to historical infrastructural barriers and the displacement of previous industrial uses. This density mapping confirms that the majority of the population's center of gravity is firmly fixed **inland** (Figure 2.8).



Figure 2.10(Urban Density Gradation: Decline in Density Towards the Golden Horn Coastline)

2.2.2. The Dominant Flow Direction

In urban spatial theory, movement patterns are closely associated with density distribution, accessibility, and the concentration of functional attractors. As articulated by Hillier (1996), areas of high density and programmatic intensity tend to generate centripetal movement patterns, drawing pedestrian and vehicular flows toward urban cores, while less activated zones are gradually bypassed. (Figure 2.10.1).



Figure 2.10.1(Space Syntax Analysis of Urban Integration Patterns in the Golden Horn Area)

Within the Golden Horn context, the observed density gradation directly dictates the dominant urban flow direction, revealing a systemic bypass of the Haliç waterfront. Flow analysis based on primary access points and pedestrian movement tendencies indicates that movement originating from the southern corridors is consistently drawn inward toward dense commercial and residential centers, rather than toward the shoreline.

This condition defines the Haliç waterfront as a **passive threshold**, a spatial boundary that is crossed or avoided rather than experienced as a destination. As described by Lynch (1960), such thresholds lack legibility and functional anchors, reducing their capacity to attract or retain movement. The absence of cultural, commercial, or social catalysts along the immediate coastline further perpetuates the area's dormancy (Figure 2.10).

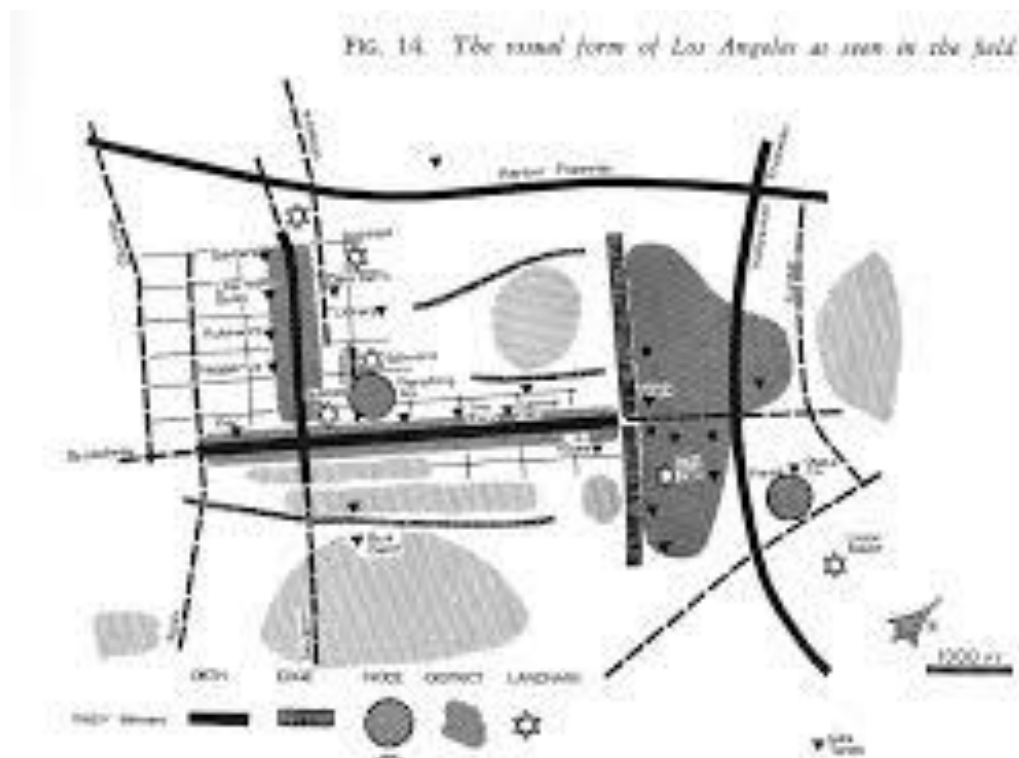


Figure 2.10.2 Imageability Analysis of the Golden Horn Waterfront (after Lynch)

Moreover, the existing transportation infrastructure operates as a **kinetic barrier** rather than a facilitator of urban continuity. High-speed traffic corridors and complex intersections introduce a form of **spatial friction** (Hillier, 1996), discouraging spontaneous pedestrian engagement with the waterfront. Instead of enabling a seamless transition between inland zones and the shore, the movement pattern exhibits a clear **bypass behavior**, prioritizing transit efficiency over public accessibility. As a result, the Golden Horn edge is perceived as a residual urban space, functioning as a 'blind spot' within the city's collective spatial awareness.

This dynamic ultimately produces what can be described as a **threshold of exclusion**, a psychological and spatial condition in which the descent toward the water is perceived as

discontinuous and uninviting. In the absence of visual cues, functional anchors, or spatial continuity, the shoreline remains detached from everyday urban life, reinforcing its status as a dormant coastal void.

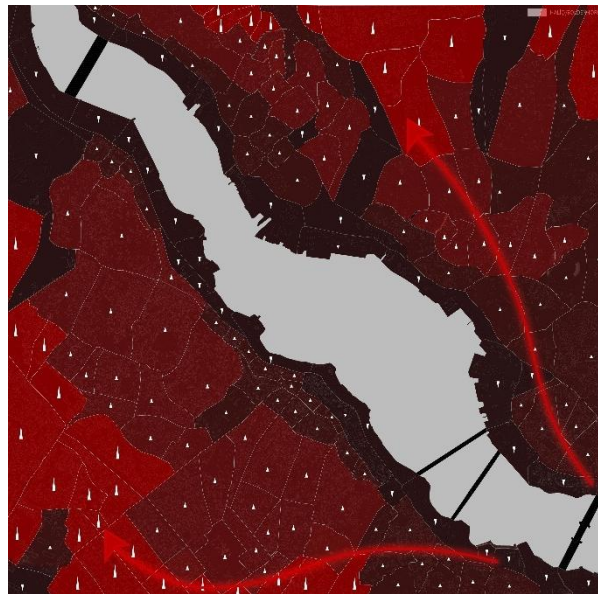


Figure 2.11 Dominant Urban Flow Analysis: Systemic Bypass of the Coastal Edge. (Source: Author, 2025)

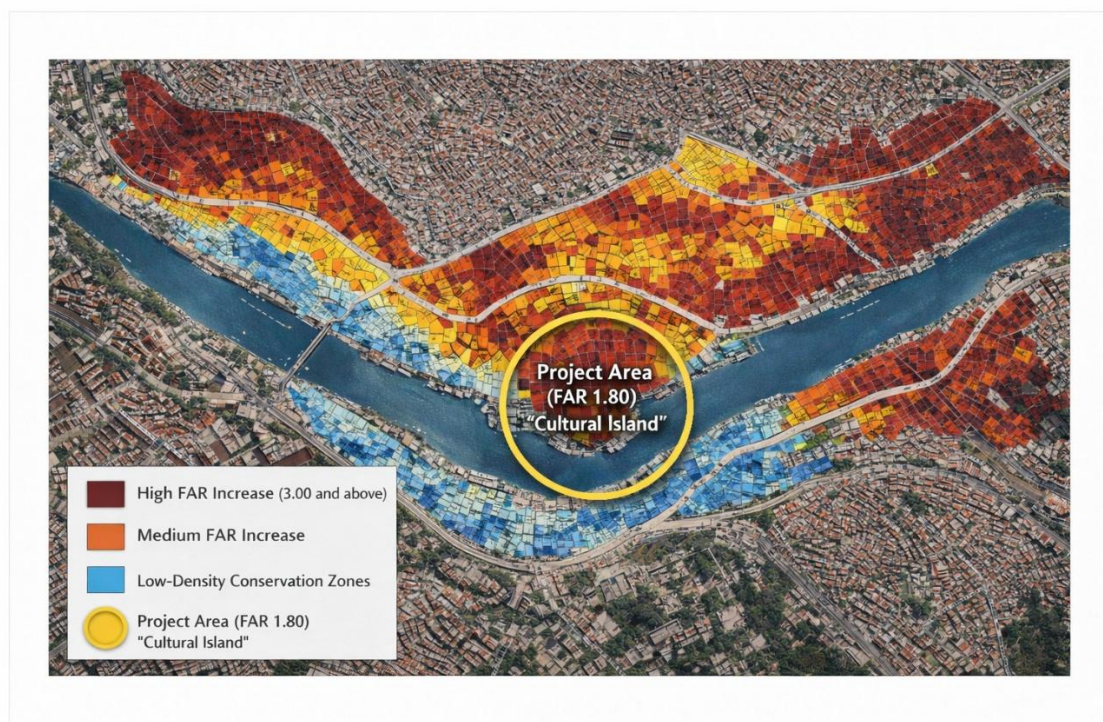


Figure 2.12 Golden Horn Vicinity FAR Change and Density Projection Heat Map. (Source: Created by the author based on IBB Planning Data).

Map description: Dark red/brown areas represent zones with high projected FAR increase (3.00 and above). Orange/yellow areas indicate medium increase. Light blue/blue areas represent low-density conservation zones. The project area (marked with a yellow circle) is proposed as a cultural island with medium density (FAR 1.80), serving as a strategic bridge between the low-density historic shoreline and the high-density hinterland.

Numerical Evidence for Density-Driven Flow Redirection

Evidence for the Numerical Imperative of the **Density-Driven Flow Redirection Approach**: The map and accompanying table demonstrate that projected density increases are predominantly concentrated within inland areas and along the northern bank of the Golden Horn. This quantitative data confirms that the inward-oriented urban movement patterns identified in Chapter 2.2.2 are not incidental, but are expected to intensify in the future in accordance with current planning policies. Within this context, the project's proposal of redirecting urban movement toward the waterfront emerges not as a speculative design gesture, but as a necessary architectural and urban response to a measurable and policy-driven spatial imbalance.

Strategic Positioning of the Proposed Density (FAR 1.80)

The proposed Floor Area Ratio (FAR) of 1.80 for the Maritime and History Museum Complex is intentionally determined as a balancing density value within the broader urban context. This ratio provides sufficient mass and programmatic diversity to establish a cultural focal point capable of competing with the higher-density inland developments, where FAR values typically range between 3.5 and 5.0. At the same time, the proposed density remains compatible with the low-rise and low-density character of the historic shoreline, where FAR values generally vary between 0.5 and 1.2, thereby preserving the visual integrity of the Golden Horn silhouette.

From an infrastructural perspective, the selected FAR anticipates a sustainable visitor capacity that can be accommodated by existing and proposed transportation systems, including metro, ferry, and pedestrian networks, as evaluated in Chapter 2.3. In this regard, the project is positioned not merely as an architectural object, but as part of a broader urban density management strategy that seeks to convert inland-generated density into cultural and public value along the waterfront.

For this transformation to be effective, the project necessitates complementary urban mechanisms beyond architectural form. The proposed linear pedestrian axes function as channelization systems that direct urban density toward the shoreline, while multimodal transportation integration serves as the structural backbone of the intervention. Without such integration, increased visitor demand would risk generating traffic congestion rather than public accessibility. Accordingly, the project should be evaluated as a catalytic intervention that calls for parallel enhancements in green infrastructure and public transportation capacity at the district scale.

In conclusion, the FAR/FSI analysis grounds the project's strategic approach in measurable planning parameters, transforming an abstract design intention into a necessary and context-responsive urban intervention aligned with Istanbul's current planning framework.

(Source: Istanbul Metropolitan Municipality (IMM), 1/5000 Scale Master Development Plan and 1/1000 Scale Implementation Zoning Plan, Planning and Urban Design Department Reports, 2023–2024).

2.2.3. Strategic Implication

The analysis of density and flow confirms the core problem: the Haliç shoreline is functionally decoupled from the energetic urban life of the Historical Peninsula. The **Memory and Flow Reversal Strategy** must therefore achieve two simultaneous outcomes:

1.Introduce a High-Density Catalyst: The proposed Maritime and History Museum Complex must possess an architectural and programmatic magnet large enough to compete with the existing inland attractions.

2.Redirecting the Vector: The design must physically and conceptually redirect the dominant urban flow vector, turning the coastal edge from a boundary into a destination, thereby actively achieving the **Flow Reversal** imperative. (Figure 2.12).

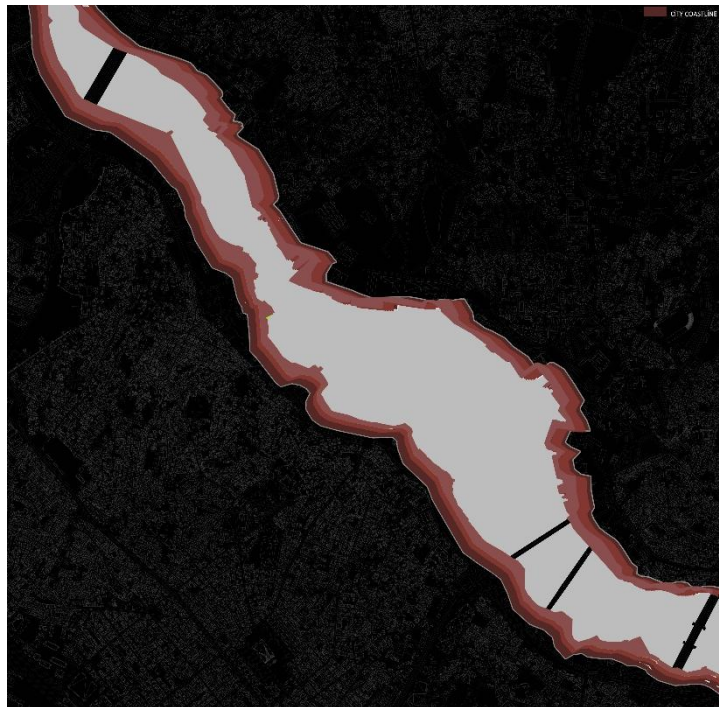


Figure 2.13(Functional Land Use Map: Identification of Dormant and Passive Coastal Zones. (Source: Author, 2025)

2.2.4. PLANNING PARAMETERS ANALYSIS: THE NUMERICAL COUNTERPART OF URBAN DENSITY (FAR/FSI)

The feasibility and urgency of the project's "Flow Reversal" strategy must be supported by an analysis of the fundamental planning parameters that regulate current and projected built density in the area. This analysis demonstrates that the population density gradient mapped in Chapter 2.2 has a legal and regulatory counterpart, confirming that the "Passive Threshold" status is not merely a social phenomenon but also a planning-policy-driven reality.

The Golden Horn shoreline and its immediate hinterland are subject to different zoning regimes. While the Historic Peninsula side is designated as low-density conservation areas (FAR: 0.5-1.2), the **northwestern banks near the Haliç Bridge (Sütlüce, Kağıthane, Alibeyköy axis)** have seen **significant increases in permitted Floor Area Ratio (FAR) values** through recently revised zoning plans. The table below summarizes the changes in selected areas impacting the project site and its vicinity.

Area / Zone Description	Current Zoning Status (FAR)	Planned / Revised FAR	Change Rate (%)	Impact on Project Site
Historic Peninsula Shoreline (Project Area - Conservation)	0.50 - 1.00	0.50 - 1.20	0 - +20	Low. Limited increase based on conservation. A value of 1.20 is feasible to support the cultural function in the project area.
Sütlüce / Bomonti Vicinity (Northwest of the Project)	2.00	3.50 - 4.00	+75 - +100	Very High. Will exponentially increase population and traffic pressure towards the area.
Kağıthane Creek Axis (Inland parts of Golden Horn)	1.50 - 2.50	3.00 - 5.00	+60 - +150	Critical. Will become a primary density corridor flowing towards the Golden Horn.

Alibeyköy / Eyüpsultan (Northwest Hinterland)	1.80 - 2.50	3.00 - 4.50	+66 - +125	High. A secondary focus increasing overall regional density.
Project Area - Proposal (Within this Thesis)	~1.00 (Current vacant/industrial)	1.80 (Proposed Cultural Complex)	+80	Strategic Balance. Provides the necessary "cultural magnet" mass to draw density towards the coast.

Table 2.1(Has been compiled by the author utilizing data from IBB 1/5000 and 1/1000 scale zoning plans, relevant municipal council decisions and urban transformation project documents)

2.3. Transportation Network and Accessibility

The project site is positioned at a crucial intersection of the Historical Peninsula's and the Golden Horn's primary transportation arteries. While this intersection is the source of urban flow the key element for the **Flow Reversal Strategy** it also presents the fundamental challenge of physical severance, contributing to the coastline's dormancy identified in Chapter 2.2.

2.3.1. Definition of the Triangular Main Axis

The site is physically constrained by three dominant transportation axes that collectively determine the region's urban movement patterns. These three axes effectively frame the project area within a "**Triangular Main Axis**":

1.High-Capacity Motorway (D-100/E-80): This road, passing over the Haliç Bridge, constitutes the primary urban spine, carrying immense vehicular traffic. Its infrastructure (viaducts and bridge footings) creates a massive physical and auditory barrier to the shoreline.

2.Coastal Road Networks: Roads running along both sides of the Golden Horn connect the two banks but are characterized by high-speed vehicular flow and frequently compromise pedestrian continuity towards the water's edge.

3.Public Transit Nodes: The proximity to major sea transport docks (ferry piers) and mass transit lines (e.g., Metro and Marmaray) signifies a high potential for **multi-modal transfer**, yet the connectivity between these nodes and the project site remains physically limited.

The existence of this high-volume **Triangular Axis** ensures a constant flow of human and vehicular activity in the vicinity, but the current infrastructure directs this flow away from the coast (**Figure 2.14**).



Figure 2.14(Definition of the Triangular Main Axis and Vehicular Dominance near the Project Site. (Source: Author, 2025)

2.3.2. Pedestrian Access Challenges

The major challenge is the disconnect between the dense passenger flow generated by the public transit nodes and the final destination of the coastline. The intense vehicular traffic, combined with the structural shadows of the bridge, discourages foot traffic, strengthening the inward flow trend identified in the density analysis (Chapter 2.2). The success of the proposed strategy hinges on mitigating the dominance of the Triangular Axis and pulling pedestrian flow **to the surface** and **towards the water**.

The functional severance of the site is further evidenced by quantitative data. The Haliç Bridge handles an average daily volume of **250,000 vehicles**, reaching peak capacity during rush hours with speeds dropping to as low as **15 km/h**. This massive vehicular flow acts as a continuous acoustic and physical barrier between the urban fabric and the coastline. Simultaneously, public transportation nodes, including the **M2 Metro Line** and **City Ferry Lines**, bring approximately **50,000 potential visitors** to the immediate vicinity daily. However, due to infrastructural obstacles and the lack of safe crossings, the perceived walking distance from these nodes to the site is increased by nearly **300%**, resulting in a critical **Walkability Score of 38/100**.

Transport Mode	Daily Capacity / Volume	Proximity to Site	Influence on Pedestrian Flow
Haliç Bridge (Vehicular)	~250,000 vehicles	0 m (Overhead)	High (Negative / Barrier)
M2 Metro (Haliç Station)	~48,000 passengers	850 m	Medium (Potential Hub)
City Ferry (Haliç Line)	~3,500 passengers	300-600 m	High (Strategic Link)
Public Bus Nodes	~12,000 passengers	200 m	High (Main Access Point)

Table 2.2: Quantitative Analysis of Transportation Modes and Site Accessibility.

2.3.3. Potential Connection Points

The accessibility analysis identifies critical potentials for leveraging the existing network to transform the site into a successful **Cultural Node**:

1.Proximity to Mass Transit: The short distance from existing bus stops and ferry docks provides an immediate advantage. The project can function as a **cultural transfer point**, capturing passengers immediately upon arrival in the area.

2.Extension of Pedestrian Axes: The primary lever for flow reversal is the physical extension of active inland pedestrian corridors (the conceptual **Yellow Linear Axes** from the strategic concept) towards the coast. Integrating these new paths with the historical wall remnants will be crucial for physically redirecting the flow from the dense urban core to the newly activated shoreline (**Figure 2.15**).

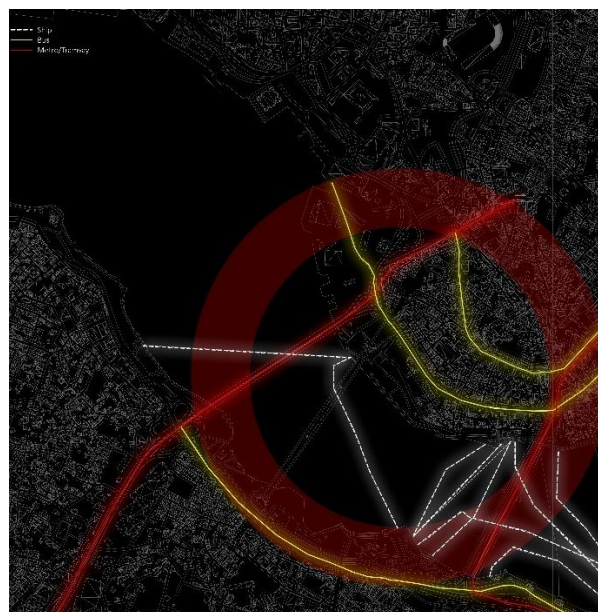


Figure 2.15(Mapping of Flow Redirection Potential via Public Transit Nodes and Pedestrian Connectivity(Source: Author, 2025)

CHAPTER 3:

THEORETICAL FRAMEWORK AND CASE STUDIES

3.1. Theoretical Framework: Urban Memory and Flow Dynamics

3.1.1. Collective Memory and Urban Persistences

The theoretical foundation of this study draws upon Pierre Nora's concept of *lieux de mémoire* (sites of memory), which defines collective memory as being spatially anchored in physical environments that embody historical narratives and cultural meaning. According to Nora, memory is not preserved through static monuments alone, but is actively produced when historical traces remain integrated within the lived spatial practices of contemporary society (Nora, 1989).

Within this framework, urban environments function as layered mnemonic landscapes in which memory persists through spatial continuity, accessibility, and collective experience. In the context of waterfronts, these sites of memory often become vulnerable to erasure when large-scale infrastructural interventions disrupt historical traces and disconnect them from everyday urban life. The Golden Horn exemplifies this condition, where remnants of the Byzantine Walls have gradually shifted from active urban references to marginal archaeological fragments isolated by infrastructural dominance.

Nora's framework emphasizes that the transformation of such historically charged spaces into inactive relics signals a rupture between memory and lived experience. Accordingly, the reactivation of collective memory requires more than preservation; it necessitates spatial reintegration through contemporary urban practices. Within this thesis, the proposed intervention is positioned as a regenerative process that re-establishes the Byzantine wall traces as active *lieux de mémoire* by reconnecting them to pedestrian movement, visual continuity, and cultural programmatic intensity.

Through this perspective, collective memory is understood not as a static historical condition, but as a dynamic spatial phenomenon that depends on continuous engagement, accessibility, and reinterpretation. This theoretical approach provides a foundation for evaluating urban regeneration as a mechanism capable of transforming fragmented historical traces into active components of the contemporary urban environment.

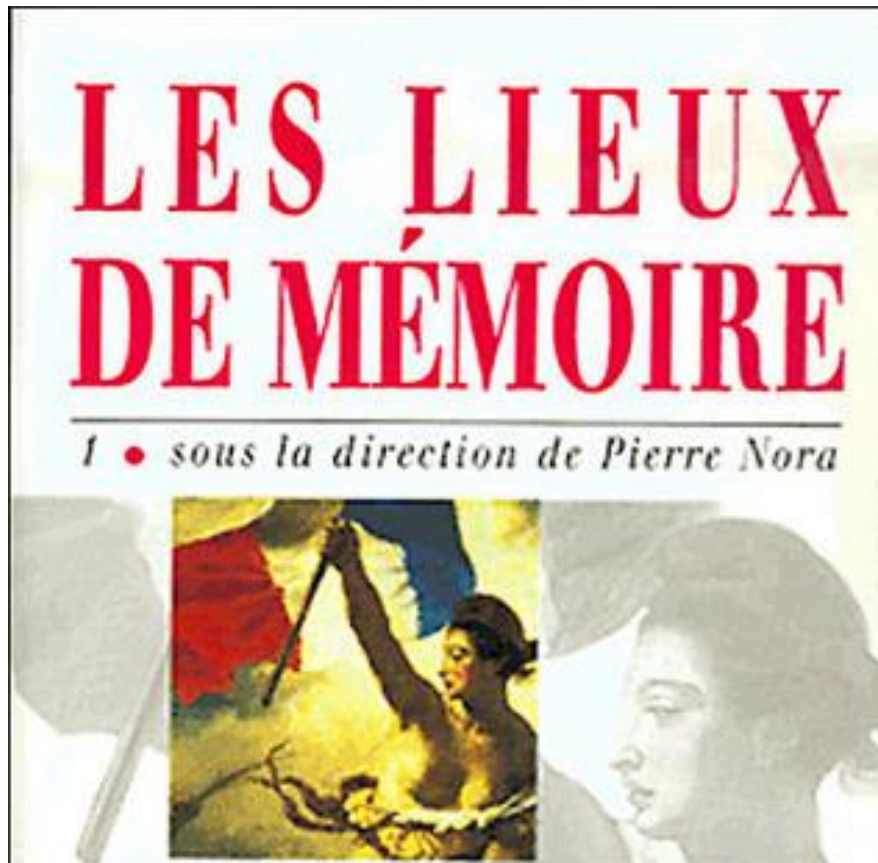


Figure 3.1. (Source: Nora, P. (1989). Between Memory and History: Les Lieux de Mémoire.)

The Byzantine and Genoese wall remnants at the Haliç site are not mere ruins; they are temporal markers that anchor the urban identity. The project aims to transition these walls from "passive ruins" to "active cultural anchors."

"The design methodology utilizes a **Values-Based Approach** (Pereira Roders, 2007) to decode the site's complexity. By identifying specific **heritage attributes** such as the verticality of the Byzantine walls and the maritime fluidity of the Golden Horn the architectural intervention is tailored to reveal and enhance the site's **Cultural Significance**. This ensures that the proposed museum volumes (Building 01-04) are directly derived from the inherent values of the historical context.

3.1.2. Tactical Urbanism and Flow Reversal Strategy

To address the "Flow Challenge" identified in Chapter 2, the project adopts the principles of **Tactical Urbanism**. By utilizing **Kevin Lynch's** concepts of "Paths" and "Nodes," the design seeks to transform the shoreline currently a disconnected "Edge" into a primary "Node." The strategy of **Flow Reversal** involves creating a programmatic magnet (The Museum Complex) that exerts a "centripetal pull," redirecting the dense inland pedestrian traffic back toward the historic waterfront.

THE ELEMENTS OF A CITY KEVIN LYNCH

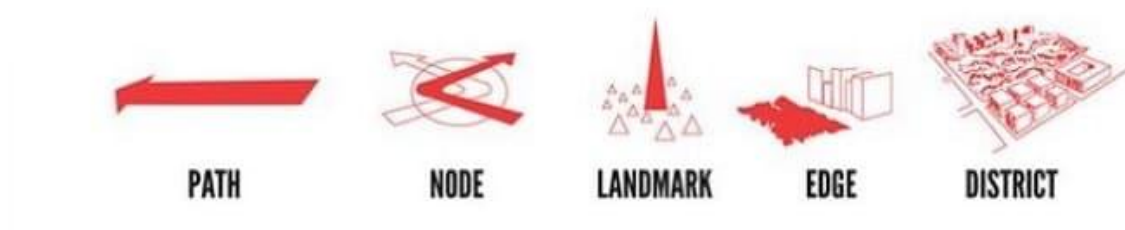


Figure 3.2. (Source: Lynch, K. (1960). The Image of the City)

"According to Lynch's typology (Figure 3.2), the Haliç shoreline currently functions as a restrictive '**Edge**' due to the barrier of the bridge and the neglect of the sea walls. The project's core objective is to transform this passive edge into an active '**Node**' a strategic point where urban flows converge and the collective memory is revitalized."

3.2. Precedent Analysis: Strategic Case Studies

In order to address the dual challenges of **historical preservation** and **urban flow**, three international projects have been selected as primary precedents. Each project offers a specific solution to the problems identified at the Haliç site.

3.2.1. Elbphilharmonie, Hamburg (Herzog & de Meuron)

The Elbphilharmonie is a significant precedent for the **functional reactivation** of historical structures. Rather than merely preserving the old warehouse, the project reintegrates it into the city's cultural life by giving it a new purpose that complements the new intervention.

- **Strategic Lesson:** The project creates a dialogue between two distinct eras. The old structure is not just a support; it is a revitalized space that hosts its own internal functions while connecting to the new volume.
- **Relevance to Haliç:** This informs the strategy of **re-functionalizing the Byzantine walls**. In the Haliç project, the sea walls are not treated as a passive base for the museum, but are reactivated as a **temporary exhibition area**. This creates a continuous cultural experience where the new Maritime and History Museum and the ancient walls function as interconnected yet distinct programmatic layers.(Figure 3.3)

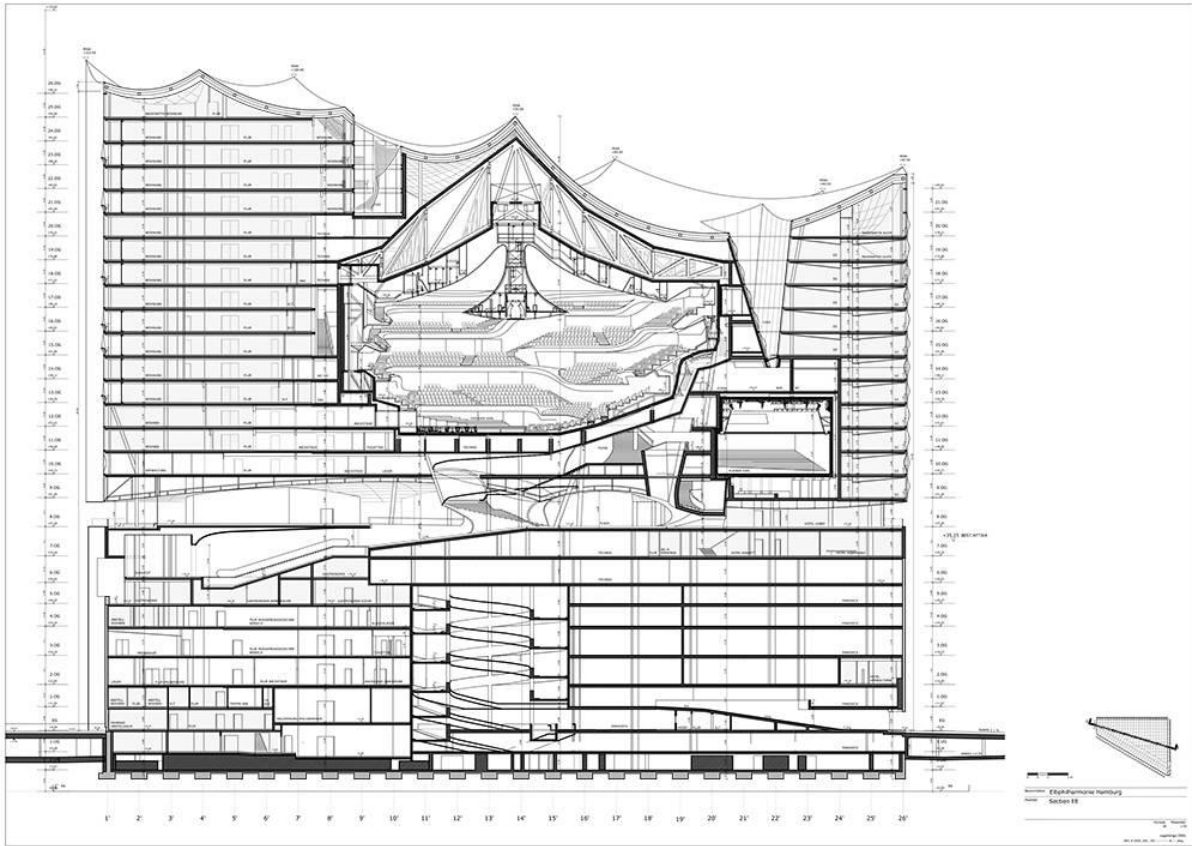


Figure 3.3. (Sectional analysis of Elbphilharmonie: The historical warehouse as a functional foundation Source: Herzog & de Meuron, 2017)

3.2.2. The High Line, New York (Diller Scofidio + Renfro)

The High Line is a global benchmark for **adaptive reuse** and **urban flow redirection**. It reclaimed a defunct, elevated railway and transformed it into a linear park.

- **Strategic Lesson:** It overcomes the chaos of the street-level traffic by creating a second, elevated layer of pedestrian movement.
- **Relevance to Haliç:** This informs the strategy of bypassing the physical barrier of the **Haliç Bridge** by creating multi-layered pedestrian paths that reconnect the city to the water through a new "elevated landscape" (**Figure 3.4**).

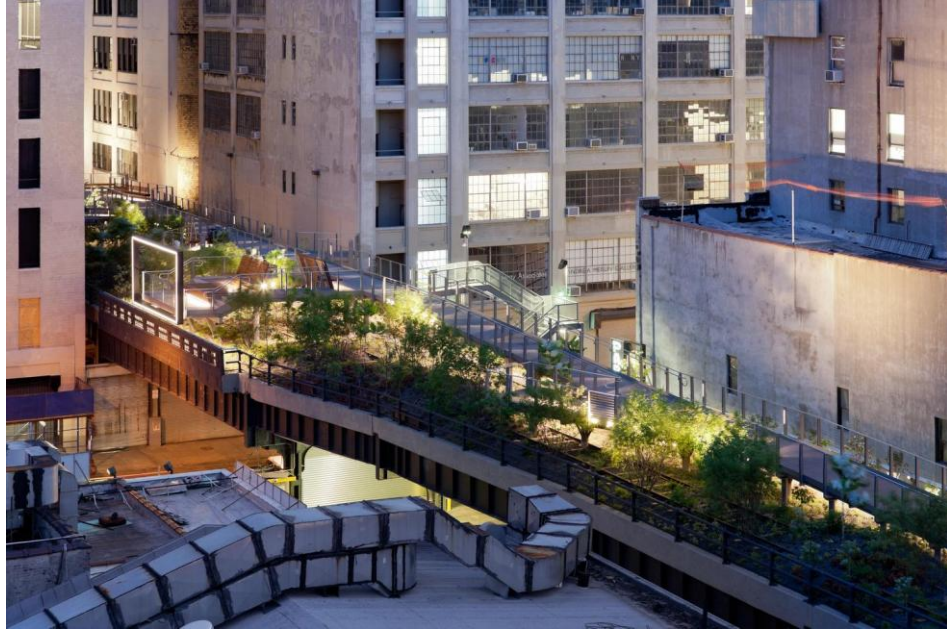


Figure 3.4. (The High Line (New York) (Source: Diller Scofidio + Renfro / James Corner Field Operations)

As illustrated in the sectional study (**Figure 3.5**), the High Line manages to create a high-quality public realm by vertically separating pedestrian flows from the street-level traffic. This strategy is highly relevant to the Haliç project, as it provides a solution for bypassing the physical and acoustic barrier of the **Haliç Bridge**, allowing the **Byzantine walls** to function as an elevated, uninterrupted cultural promenade.



Figure 3.5. (The High Line (New York) (Source: Diller Scofidio + Renfro / James Corner Field Operations)

3.2.3. Oslo Opera House, Norway (Snøhetta)

The Oslo Opera House is a landmark project that redefines the interaction between a large-scale cultural institution and the urban waterfront. Its primary significance lies in its **topographical accessibility** and the way it invites the public to occupy the building's exterior.

- **Strategic Lesson:** The project creates a "public carpet" that blurs the boundary between the land and the sea. It allows the building to become an extension of the city's public space, encouraging people to gather on its surfaces and interact with the water.
- **Relevance to Haliç:** Although the Haliç project does not utilize a ramp system, the Oslo Opera House remains relevant due to its **waterfront integration strategy**. It provides a model for how the new Maritime Museum can create a direct physical and visual dialogue with the Golden Horn. The lesson learned is to treat the museum not as an isolated box, but as a **transparent and permeable interface** that invites urban life toward the shore and the reactivated Byzantine walls.



Figure 3.6. The Oslo Opera House: A precedent for seamless urban-waterfront integration and the creation of permeable public interfaces. (Source: Snøhetta)

3.2.4. MAAT Museum, Lisbon (AL_A - Amanda Levete Architects)

The Museum of Art, Architecture, and Technology (MAAT) is an exceptional precedent for **contemporary museum identity** on a historic waterfront.

- **Strategic Lesson:** The project features a low-slung, undulating form that respects the city's skyline while creating a new pedestrian rooftop that offers panoramic views. Its "3D tiles" facade reflects the changing light of the water.
- **Relevance to Haliç:** This project is highly relevant to the **Maritime Museum's formal identity**. It provides a model for a horizontal, fluid architecture that does not compete with the verticality of the historical surroundings (like the nearby hills or bridge) but instead complements the **horizontal traces of the Byzantine walls**. It serves as a precedent for creating a "visual dialogue" between the museum's skin and the Golden Horn's reflections.



Figure 3.7. MAAT Museum: A model for horizontal, fluid museum architecture that respects the historical maritime silhouette. (Source: AL_A / Francisco Nogueira)

Project Name	Architect	Key Strategy	Relationship with Memory (History)	Waterfront & Flow Integration	Strategic Relevance to Haliç Project
Elbphilharmonie	Herzog & de Meuron	Hybridization & Reactivation	Uses a historic warehouse as a functional shell for new programs.	Vertical flow from the city to an elevated public plaza.	Direct: Re-functionalizing the Byzantine Walls as a temporary exhibition space.
The High Line	Diller Scofidio + Renfro	Linear Urban Promenade	Transforms industrial infrastructure into a cultural route.	Bypasses street-level traffic through an elevated pedestrian path.	Strategic: Overcoming the Haliç Bridge barrier by creating a continuous linear exhibition walk.
Oslo Opera House	Snøhetta	Topographical Interface	Minimal (Focuses on new urban identity).	The building functions as a "public carpet" extending into the sea.	Spatial: Creating a permeable waterfront interface that invites urban life toward the shoreline.
MAAT Museum	AL_A (Amanda Levete)	Fluidity & Silhouette	Respects the horizontal maritime skyline of Lisbon.	An undulating form that blends with the water's reflections.	Formal: Designing a horizontal Maritime Museum that complements the historical traces of the sea walls.

Table 3.1: Comparative Analysis of Architectural Precedents

3.2.5. Geotechnical Characteristics and Soil Conditions

The project site is located on the alluvial banks of the Golden Horn, an area characterized by significant geotechnical constraints associated with the geological formation commonly referred to as *Haliç clays*. According to geotechnical and seismic assessment reports prepared by the Istanbul Metropolitan Municipality, the subsurface profile consists predominantly of thick layers of soft, highly compressible marine sediments and organic-rich silts.

The soil stratigraphy indicates that the upper strata, extending approximately 30 to 40 meters below ground level, are composed of soft clay and loose alluvial deposits with low bearing capacity. Competent bedrock, typically consisting of sandstone or limestone formations, is encountered at considerable depths, generally ranging between 60 and 80 meters below the current sea level.

Due to the immediate proximity of the site to the Golden Horn, the groundwater table remains extremely high, often located between 0.5 and 1.5 meters below the surface. This condition, combined with the presence of loose sandy-silt layers, results in a high liquefaction potential during seismic events. Given Istanbul's classification as a first-degree seismic zone influenced by the North Anatolian Fault system, these conditions impose critical structural constraints on new construction.

In response to these geotechnical realities, the proposed museum structures (Buildings 01–04), as well as the conservation of the existing Byzantine wall remnants, necessitate the use of a deep foundation system. Bored pile foundations extending to competent bedrock are required to mitigate differential settlement and ensure long-term structural stability, a challenge historically observed in many structures along the Golden Horn.

Technical Parameter	Value / Specification
Bedrock Depth	60 m - 80 m below sea level
Groundwater Table	0.5 m - 1.5 m (Extremely High)
Soil Classification	Soft Marine Clay / Alluvial Silt (Haliç Clays)
Bearing Capacity	Very Low (High compressibility)
Seismic Category	Zone 1 (High Seismic Risk - North Anatolian Fault)
Liquefaction Potential	High
Recommended Foundation	Deep Foundation / Bored Piles (Friction + End-bearing)

Table 3.2: Geotechnical Parameters and Soil Profile(Source: Istanbul Metropolitan Municipality (IMM), Department of Earthquake Risk Management and Urban Improvement, Microzonation and Ground Investigation Reports for the Golden Horn Area).

CHAPTER 4:

URBAN STRATEGY AND ARCHITECTURAL CONCEPT

4.1. Strategic Framework: Memory-Based Urban Flow Redirection

This section outlines the strategic methodology used to transform the dormant shoreline into an active cultural destination.

4.1.1. Programmatic Density as a Cultural Attraction Mechanism

The project acts as a "Cultural Magnet" by concentrating four distinct architectural volumes (Buildings 1-4) at a critical urban junction. This programmatic density is designed to exert a centripetal pull, reversing the urban flow from the congested upper levels of the Haliç Bridge down to the historical waterfront.

4.1.2. Linear Green Axes as Urban Connectivity Infrastructure (Anchors 5 and 6)

The site serves as a vital link in the "urban chain" between Anchor 5 and Anchor 6. By creating a continuous landscape, the project ensures that the four building units are not isolated objects but parts of a linear narrative that follows the traces of the sea walls.



Figure 4.1 The layered urban strategy: Integrating the linear green axes, historical fortifications, and the new architectural volumes to facilitate flow reversal. (Source: Prepared by the Author)

As demonstrated in **Figure 4.1**, the design is not conceived as an isolated architectural object, but as a multi-layered intervention. By superimposing the new museum volumes onto the existing historical and ecological layers, the project creates a continuous 'cultural landscape' that reconnects the city with the Golden Horn.

4.1.3. Tactical Intervention: Urban Acupuncture and Continuity

The project employs a **Tactical Strategy** to overcome the physical and psychological fragmentation of the site. Instead of a single, monolithic block, the proposal utilizes four strategic volumes to "punctuate" the coastline.

- **Punctuation and Rhythm:** By placing Buildings 1, 2, 3, and 4 at calculated intervals, the design creates a rhythmic sequence. This prevents the architecture from becoming a new barrier and instead turns it into a series of "**Urban Gates**" that draw the public toward the water.
- **Programmatic Catalysts:** Each building serves as a tactical catalyst. Building 04 (Social Node) captures the initial flow, while Building 02 (Waterfront Pavilion) pulls that flow to the sea's edge. This tactical "pull and push" mechanism ensures that no part of the site remains an "urban void."
- **Lightweight Connectivity:** The strategy includes the use of lightweight landscape elements and "porous" walkways that link the historical Byzantine walls with the new museum complex. This tactical layer ensures **pedestrian permeability** without compromising the archaeological integrity of the sea walls.

4.2. Programmatic Distribution and Functional Justification

The architectural program is strategically dispersed across four distinct volumes to ensure an uninterrupted urban flow and a diverse visitor experience. This distribution is a direct response to the **Flow Reversal Strategy** and the site's fragmented nature.

- **Building 01: The Maritime and History Museum (Main Anchor)**
 - *Functions:* This volume serves as the primary cultural anchor, housing the core curatorial and academic program. Its functions include **Permanent Galleries** dedicated to maritime history, the **Academic Archives and Research Library**, the main **Administration** offices, and the **Conference Hall** for public and academic events.
 - *Functional Justification:* Positioned at the central intersection of the site, it provides the main massing required to counterbalance the urban fragmentation and offers the necessary scale for the primary exhibition and academic research functions.
- **Building 02: The Waterfront Interface (The Archival Vessel)**
 - *Functions:* This structure is designed as a direct interface with the Golden Horn. Its core program includes a high-tech **Digital Experience Room** for

immersive maritime storytelling, and a publicly accessible **Cafe** with panoramic water views.

- *Functional Justification:* Positioned directly on the water's edge, it utilizes the surrounding environment to host the digital experience, while the cafe provides the necessary social node to draw the public closer to the maritime zone, aligning with the **Archival Vessel** concept and the goal of establishing maximum **permeability** with the water.
- **Building 03: Temporary Exhibition & Research Hub**
 - *Functions:* Flexible exhibition spaces and archaeological restoration workshops.
 - *Functional Justification:* Integrated with the Byzantine walls to reactivate the historical remnants through a living program, establishing a **Wall-Echo** dialogue.
- **Building 04: Cultural Social Node**
 - *Functions:* Visitor center, museum shop, and information desk.
 - *Functional Justification:* Placed strategically under the Haliç Bridge to capture initial pedestrian flow, serving as the main entry point for the **Flow Reversal** strategy.

4.2.1. Compositional Strategy: Mass and Void

The overall composition, as illustrated in Figure 4.2, is governed by the principles of **Mass and Void**. The four program anchors (Buildings 01-04) define the **Mass** strategically to maximize urban draw. Conversely, the spaces between these masses, connected by the green axis, are designated as **Void**, explicitly designed to maximize **permeability** and pedestrian flow, effectively reversing the fragmented nature of the existing shoreline. This compositional approach ensures that the buildings function not as barriers, but as **spatial facilitators** for public access.

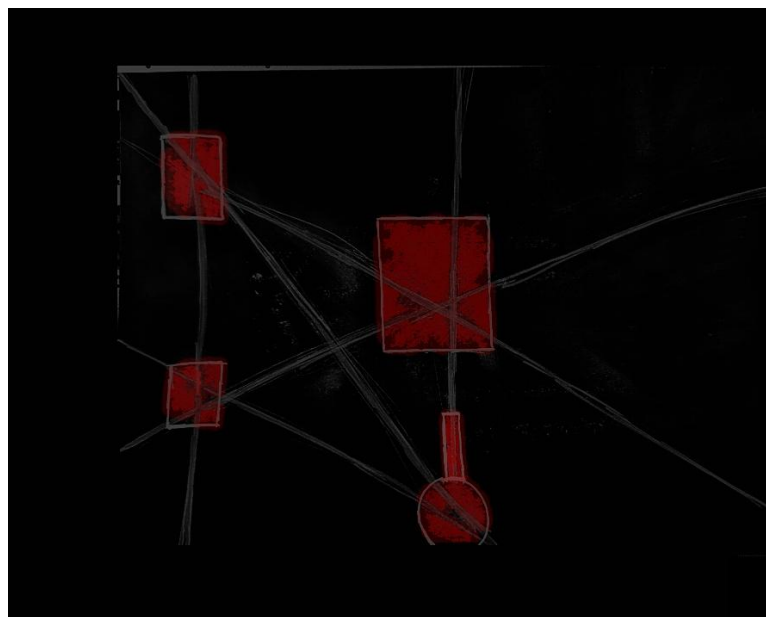


Figure 4.2. Composition and Programmatic Zoning: Establishing the spatial relationship between the four distinct programmatic anchors to maximize permeability (Source: Prepared by the Author)

4.3. Architectural Concept and Formal Generation

The formal strategy is anchored in dual inspiration: the immediate fluidity of the Golden Horn's waters and the long-range dialogue with the historical urban skyline. This approach generates a structure that is both responsive to the natural environment and reverent towards its historical context.

4.3.1. The Sea Wave Form and Surface Fluidity

The primary formal gesture is the **Sea Wave Form**, reflecting the constant dynamism of the maritime environment (Figure 4.3a). The roofline and overall volume adopt a continuous, undulating geometry, which serves to:

- **Aesthetic Integration:** Creates a fluid, non-static presence, ensuring harmonious integration with the waterfront.
- **Structural Rhythm:** The vertical facade system (semi-transparent material) provides rhythmic solidity to the fluid form, referencing the structural support of historical pier systems while allowing filtered light into the galleries.

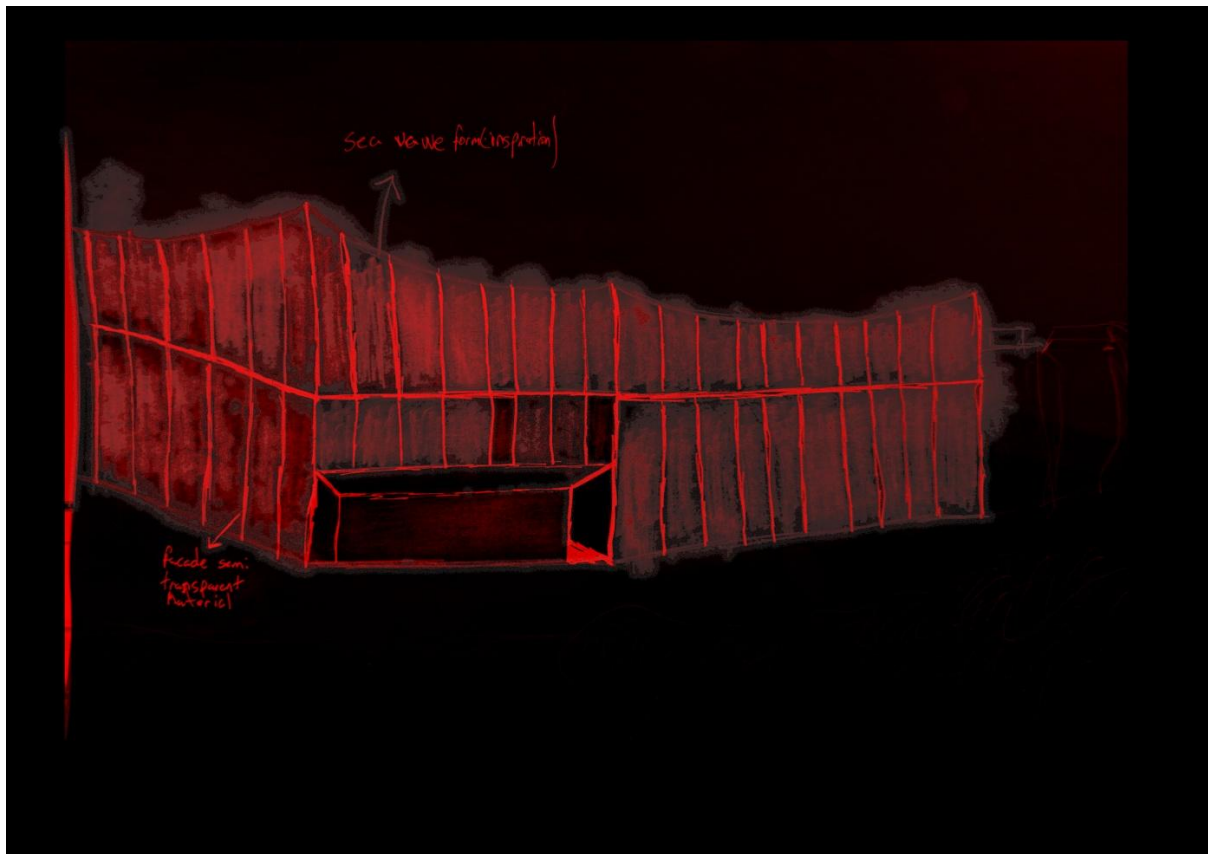


Figure 4.3a Conceptual rendering highlighting the dynamic Sea Wave Form and the Formal Gesture. (Source: Prepared by the Author (Source: Prepared by the Author))

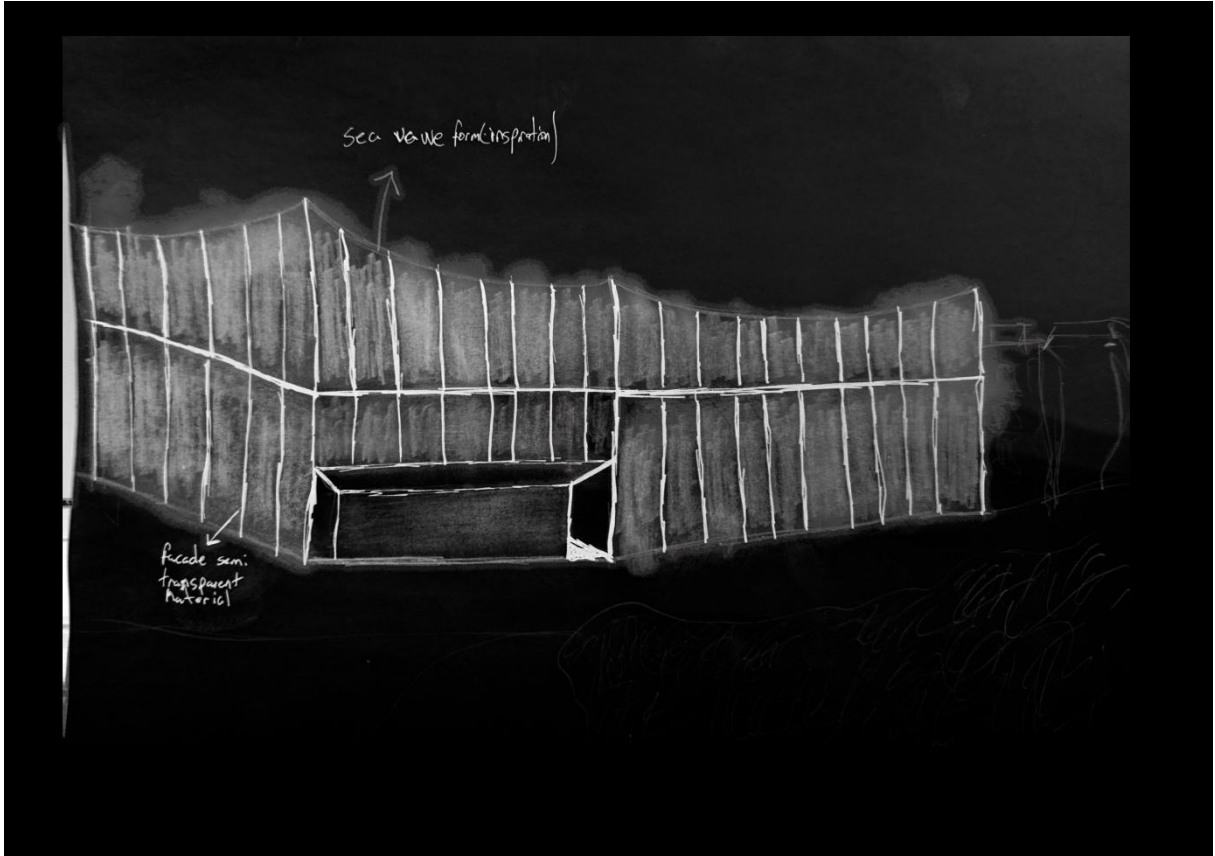


Figure 4.3b Conceptual sketch focusing on the Vertical Rhythm and Semi-Transparent Material of the Sea Wave Form (Source: Prepared by the Author (Source: Prepared by the Author))

The primary formal gesture is the **Sea Wave Form**, reflecting the constant dynamism of the maritime environment. As seen in **Figure 4.3a**, the vertical rhythm of the structural members is highlighted to demonstrate the concept of **filtered light** and structural density. In contrast, **Figure 4.3b** utilizes a dynamic color to emphasize the fluidity and **formal gesture** of the continuous, undulating volume.

4.3.2. The Historical Nexus: Visual Orientation and Framing

The design elevates the building from a mere form into a **Historical Nexus** by utilizing **Visual Orientation** (Figure 4.4). The two opposing curves of the main museum volume (Building 01) strategically point towards key elements of the city's multi-layered history, creating a "**spatial telescope**" effect:

- **Direction to Galata Tower:** One axis frames the iconic, Genoese-era Galata Tower, establishing a visual link to the historical trade and maritime defense heritage of the opposite shore.
- **Direction to Süleymaniye Mosque/Eminönü:** The opposing axis directs the visitor's gaze towards the classical Ottoman skyline, specifically referencing the Süleymaniye Mosque, thereby connecting the project to the Imperial maritime landscape.

This strategic orientation ensures the architecture actively participates in the urban dialogue, defining itself as a place where **history is framed and viewed**.

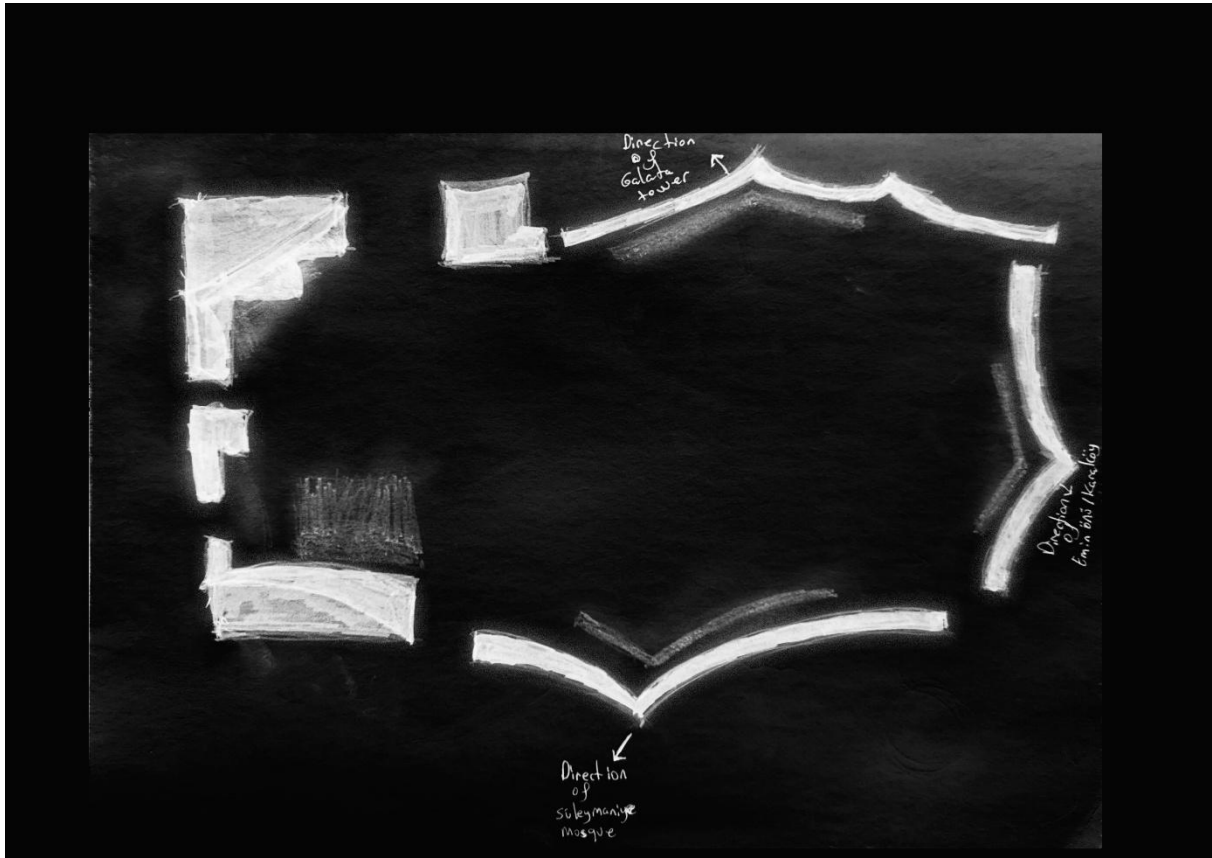


Figure 4.4 Historical Nexus: Plan diagram illustrating the **Visual Orientation** of the building volumes towards key urban landmarks (Galata Tower and Süleymaniye Mosque) to establish a historical connection. (Source: Prepared by the Author)

This intentional geometry creates a "**spatial telescope**" effect. As further demonstrated in the perspective sketch (Figure 4.5), the building's form acts as a **visual frame** that captures these historical monuments. This guarantees that the architecture actively participates in the urban dialogue, defining itself as a place where the city's multi-layered **history is framed and viewed**.

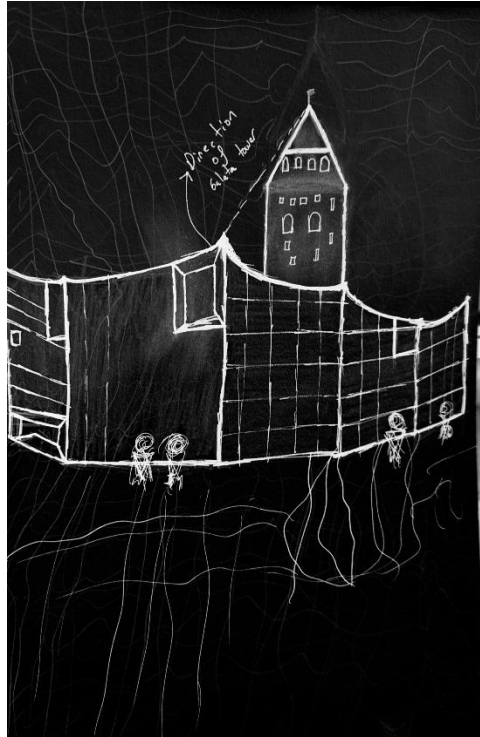


Figure 4.5 Historical Nexus: Plan diagram illustrating the **Visual Orientation** of the building volumes towards key urban landmarks (Galata Tower and Süleymaniye Mosque) to establish a historical connection. (Source: Prepared by the Author)

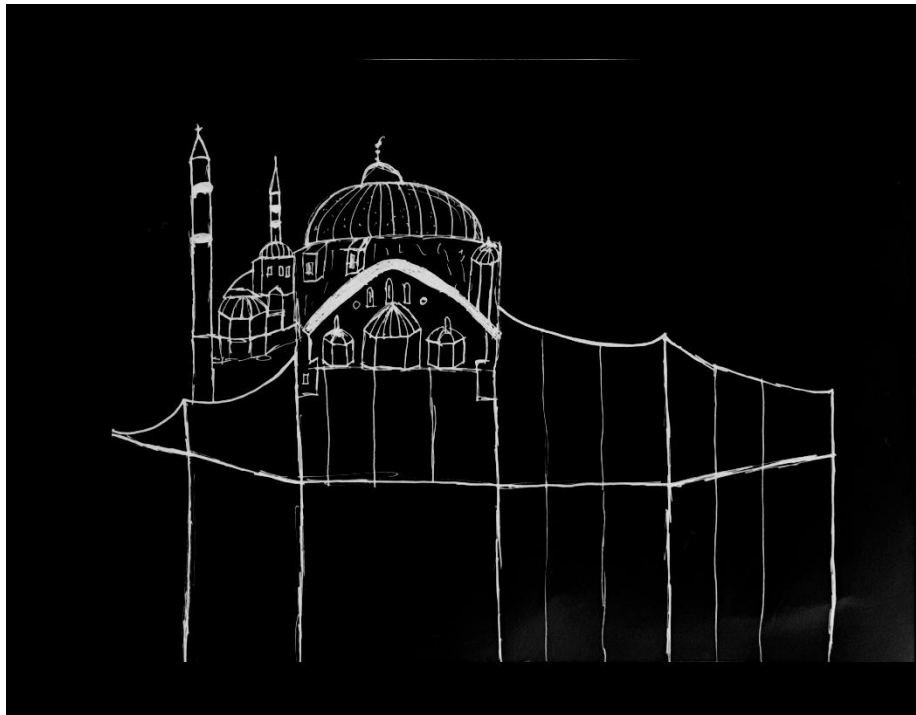


Figure 4.6 Historical Nexus: Plan diagram illustrating the **Visual Orientation** of the building volumes towards key urban landmarks (Galata Tower and Süleymaniye Mosque) to establish a historical connection. (Source: Prepared by the Author)

The architectural composition of the project establishes a '**conceptual bridge**' between two dominant skylines that define Istanbul's identity on both sides of the Golden Horn. The Southwest facade of the structure is oriented toward the **Süleymaniye Mosque**, Mimar Sinan's masterpiece, paying homage to the monumental layer of the Historical Peninsula. Simultaneously, the Northeast facade creates a direct visual dialogue with the **Galata Tower**, the symbol of Genoese heritage, acknowledging the cosmopolitan and commercial history of the Golden Horn.

These two landmarks serve as the primary axes governing the internal spatial organization and the volumetric movements of the museum. Through the strategic placement of transparent surfaces, visitors experience a shifting perspective between the rational geometry of Süleymaniye and the vertical silhouette of Galata throughout their journey inside the building. This visual interaction transforms the museum from a mere exhibition space into an active observation point turning the city and its history into an '**open-air gallery**.' The undulation of the form, as depicted in the sketches, represents the tension and flow between these two historical power centers, merging two distinct shores of the past within the same modern spatial plane.

Key Architectural Concepts to Highlight:

- **Dual Orientation:** The building acts as a pivot point between the "Imperial City" (Süleymaniye) and the "Port City" (Galata).
- **Framed Vistas:** Using the "Sea Wave" shell to frame specific views, creating a curated visual experience of the city.
- **Contextual Synthesis:** Bridging 16th-century Ottoman architecture and 14th-century Genoese architecture through a 21st-century contemporary language.

4.4.1. The Byzantine Walls as a Structural Narrative

The adjacency of the ancient Byzantine walls serves as a primary **structural narrative** for the museum complex. Rather than a formal imitation, the design establishes a dialogue through the contrast between **historical mass** and **contemporary lightness**.

1. **Rhythmic Resonance of Verticality:** While the walls lack formal buttresses, they possess a strong vertical character through their irregular masonry layers and vertical stone alignments (as seen in Figure 4.7). The new museum's facade adopts this verticality through its structural ribs, creating a visual "echo" that aligns with the wall's monumental height and presence.
2. **Material Contrast (Mass vs. Void):** The photographs of the existing walls reveal a dense, opaque, and weathered stone texture. The design responds to this by utilizing **semi-transparent materials** and open volumes. This highlights the wall's historical weight by contrasting it with the building's aerodynamic and fluid "Sea Wave Form."

3. **The Historical Corridor:** A deliberate setback is maintained between Building 03 and the historical remains. This gap functions as a "visual corridor," allowing the texture of the walls to be experienced as a monumental backdrop, effectively making the wall an integrated part of the museum's internal narrative.

"In alignment with the principle of '**Structural Resonance**' (Veldpaus & Pereira Roders, 2013), the museum's facade (Building 03) establishes a rhythmic dialogue with the Byzantine walls. Instead of a literal imitation of the masonry, the project adopts a contemporary vertical structural grid that echoes the wall's verticality, achieving a balance between historical mass and tectonic lightness."

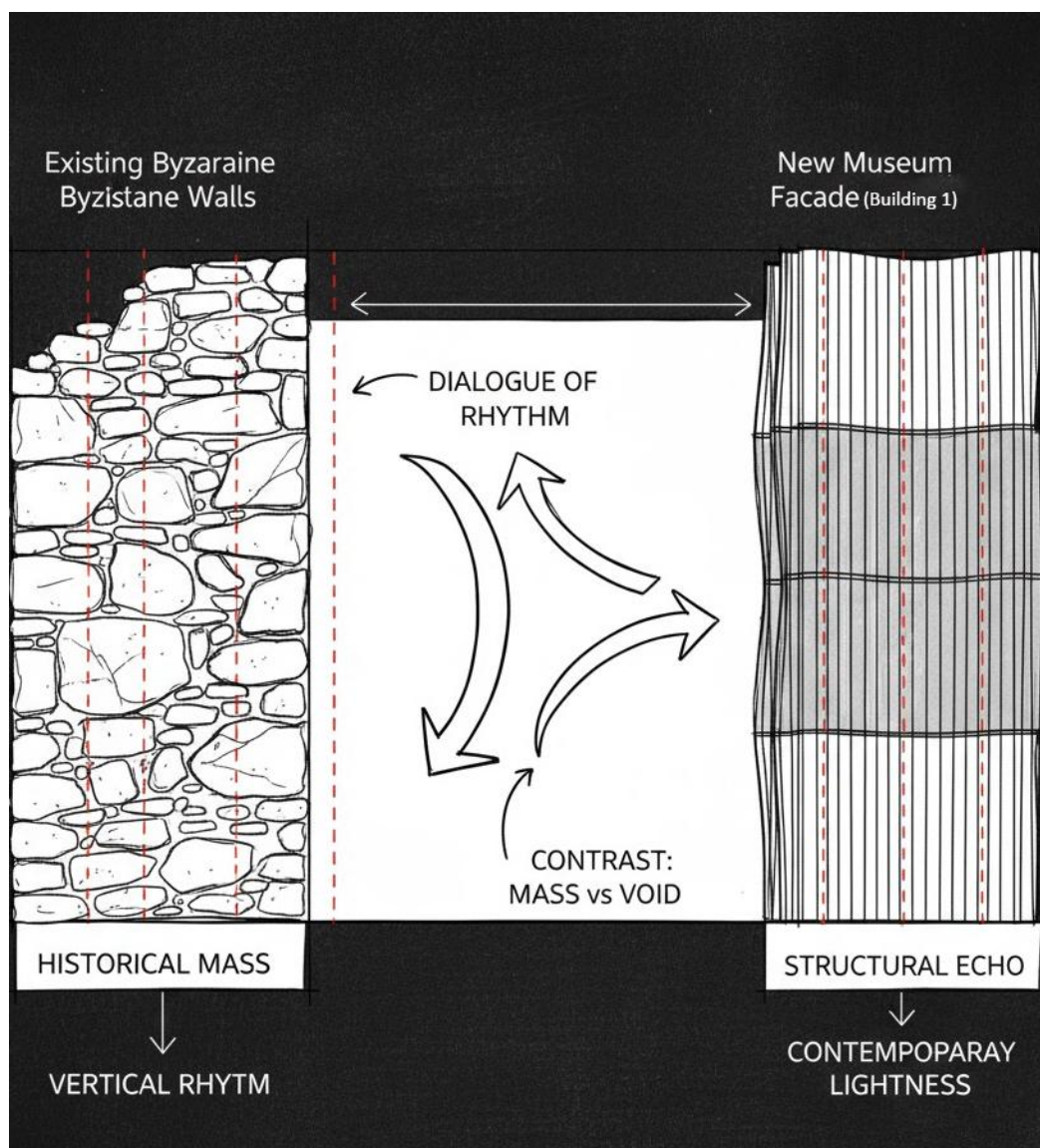


Figure 4.7 Structural Narrative Analysis: Illustrating the dialogue between the **historical mass** of the Byzantine walls and the **rhythmic lightness** of the contemporary facade. (Source: Prepared by the Author)

4.4.2. Heritage Interpretation: Architectural Integration of the Genoese Remnants

Building 04 is conceived as a heritage interpretation and architectural integration project that seeks to re-activate the neglected Genoese wall remnants through contemporary spatial means. Rather than functioning as a detached architectural object, the intervention is designed as a temporal layer that completes the fragmented historical silhouette of the walls, as illustrated in Figure 4.8.

1. Reversibility and Minimal Intervention:

In accordance with internationally accepted heritage conservation principles, the new temporary exhibition volume is conceived as a lightweight and reversible architectural insertion. The structure is either physically detached from or minimally connected to the historic masonry, ensuring that the original fabric remains legible and undamaged.

2. Interpreting the Fragmented Historical Narrative:

Through analytical reconstructions and visual simulations of the original height and spatial continuity of the Genoese walls, the design proposes a contemporary volume that occupies the historical voids left by material loss. This approach creates a palimpsest condition in which historic stone remnants and transparent contemporary materials coexist, allowing multiple temporal layers to be read simultaneously.

3. Programmatic Activation through Cultural Use:

By accommodating temporary exhibition spaces within and alongside the wall remnants, the intervention transforms the ruins from a passive boundary into an active cultural interface. The deliberate contrast between the heavy, opaque historic fabric and the lightweight, transparent museum volume reinforces the monumental character of the walls while inviting public engagement and interpretive experience.



Figure 4.8. Heritage Interpretation and Architectural Integration: Visualization of the Temporary Exhibition Volume as a Contemporary Layer Completing the Fragmented Genoese Wall Silhouette (Source: Prepared by the Author)

4.4.3. Heritage Interpretation and Reversible Architectural Integration of the Genoese Wall Fragments (Building 04)

Regarding the architectural intervention on the Genoese wall fragments (Building 04), the design philosophy is grounded in the principles of integrity and reversibility, as defined within contemporary heritage conservation discourse (Pereira Roders, 2007). Rather than proposing a functional reuse of the ruins, the intervention is conceived as an interpretive architectural layer that engages with the existing fragments while preserving their material and historical authenticity.

The proposed architectural volume operates as a temporal layer that intentionally completes the fragmented silhouette of the historic walls without replicating or reconstructing their original form. Through the use of contemporary materials such as glass and steel, the intervention remains clearly distinguishable from the original masonry, ensuring legibility between historic and contemporary layers in accordance with internationally accepted conservation standards.

This deliberate juxtaposition between the transparency of the new architectural insertion and the opacity of the ancient stone fabric establishes a palimpsest condition, allowing multiple historical periods to coexist and be read simultaneously. By accommodating temporary exhibition spaces within this interpretive framework, the project transforms the Genoese wall fragments from passive archaeological remains into an active cultural interface. In doing so, the intervention both safeguards the site's maritime heritage and re-integrates it into the contemporary urban fabric as a legible and accessible cultural component.

4.5. The Architectural Proposal

4.5.1. Building 01: The Maritime and History Museum Technical Specifications

- **Footprint Area (TAKS): 5,177 m²**
- **Total Gross Floor Area (GFA): 20,708 m²**
- **Number of Floors: 4 Levels (Basement + Ground + 2 Floors)**
- **Maximum Height (H_{max}): 13.50 m (Above ground level)**
- **Foundation: Deep Bored Pile System (60-80m depth) with Reinforced Tanking for the Basement.**

4.5.2. Spatial Program Table

Category	Room / Function	Area (m2)	Level	Description
Public & Social	Grand Entrance Hall & Atrium	3200	Ground	Monumental space with visual access to the shore.
	Auditorium	460	Ground	Organic structural shell for 500+ pax (Piano style).
	Multi-purpose Amphi	100	Ground	For smaller talks and community events.
	Cloakroom & Info Desk	150	Ground	Essential visitor services near the entry.
Exhibition	Permanent Exhibition Galleries	6,200	Gr / 1st	High-volume spaces for naval artifacts.
	Temporary Exhibition Hall	1,800	1st Floor	Flexible layout for rotating international art.
	Digital Experience & VR Zones	1500	Gr/1st / 2nd	Immersive media and historical simulations.
Education	Restoration Laboratories	500	2nd Floor	Technical workshops for maritime archaeology.
	Maritime Workshops (Public)	800	2nd Floor	Educational boat-making and craft spaces.
	Research Library & Media-theque	1,200	2nd Floor	Specialized archives and digital research

Category	Room / Function	Area (m2)	Level	Description
				hub.
Admin	Museum Admin & VIP Lounge	800	2nd Floor	Management offices and protocol hosting.
	Security & Operations Center	100	Ground	Surveillance and fire-life safety hub.
Technical/Back	Primary Storage (Climate-Controlled)	2,200	Basement	Secure preservation for sensitive artifacts.
	Central Technical Plants (HVAC/Elec)	1,800	Basement	Large-scale mechanical and electrical infrastructure.
	Staff Facilities & Changing Rooms	350	Basement	Logistical zones for maintenance and security staff.
	Bathrooms & Vertical Cores	280	All Levels	Elevators, fire stairs, and public sanitation.
TOTAL	Estimated Gross Area			

Table 4.1(Spatial Program Table)

Building 01, the Maritime and History Museum, is designed as the 'Cultural Anchor' of the Golden Horn with a significant **footprint of 5,177 m²**. The design philosophy is rooted in **structural expressionism**, inspired by the works of Renzo Piano. The primary feature of the ground floor is the '**Sea Wave**' Auditorium, an organic structural shell that serves as both an acoustic device and a visual identity. By utilizing a **Basement Level** for heavy technical systems and sensitive archives, the ground and upper floors are liberated to provide high transparency and double-height exhibition volumes. This massing strategy ensures that the building provides **over 20,000 m² of functional space** while respecting the historical 13.50m height limit of the UNESCO-protected skyline.

4.5.3. Building 02: The Floating Circular Pavilion Technical Specifications

- **Architectural Form:** Perfect Circular Disc (representing continuity and 360-degree flow).
- **Total Footprint (TAKS):** 800 m2 (including the exterior circulation ring).
- **Building Diameter:** 32 m
- **Levels:** Ground Floor (Public/Social) + Submerged Level (Sensory Experience).
- **Anchor Strategy:** Vertical Piles or Elastic Mooring to allow the structure to adapt to the Golden Horn's water level fluctuations.

4.5.4. Spatial Program Table

Category	Room / Function	Area (m2)	Level	Description
Social	Museum Cafe & Bistro	320	Ground	360-degree panoramic glass walls facing the Haliç.
	Service Kitchen & Bar	60	Ground	Compact, integrated service area.
Experience	Submerged Sensory Room	180	Lower Deck	Below sea level; digital exhibition on Haliç ecology.
Circulation	Panoramic Public Deck	160	Ground	Exterior circular walkway for 360° views.
	Central Vertical Core	40	All Levels	Spiral staircase and ADA-compliant elevator.
Technical	Buoyancy & Ballast System	0	Submerged	Hidden technical voids within the pontoons.
	Public Restrooms (W.C.)	40	Ground	Compact facilities for cafe visitors.
TOTAL	Gross Floor Area (GFA)	800		

Table 4.2(Spatial Program Table)

Building 02, the **Floating Circular Pavilion**, is designed as a spatial manifestation of the 'Flow Reversal' strategy. By detaching from the land and floating on the water, the structure challenges the traditional 'Coastal Threshold' and invites the city into the Haliç. The **Circular Geometry** is chosen to dissolve the hierarchy of views, providing a democratic, 360-degree visual connection to both the historical Byzantine walls and the contemporary skyline. While the **Ground Floor Cafe** fosters social interaction, the **Submerged Sensory Room** offers a unique vertical experience, taking the visitor below the water level to engage with the hidden ecological layers of the Golden Horn.

4.5.5. Building 03: Ticket Office & Museum Bookstore Technical Specifications

- Architectural Concept: The "Transparent Threshold" (allowing visual continuity between the street and the sea).
- Footprint Area (TAKS): 450 m2
- Levels: Ground Floor (Main Public Area) + Mezzanine (Reading & Quiet Zone).
- Total Height ($H_{\max}$): 6.50 m (Low-profile to ensure it doesn't block the view of the Byzantine walls).

4.5.6. Spatial Program Table

Category	Room / Function	Area (m2)	Level	Description
Welcome	Ticket Office & Info Desk	80	Ground	Primary ticketing, digital kiosks, and information.
	Lobby & Waiting Lounge	100	Ground	Comfortable seating area for tour groups.
Commercial	Museum Bookstore	150	Ground	Specialized books on maritime history and art.
	Gift Shop / Souvenirs	50	Ground	High-quality museum-themed merchandise.
Education	Reading Corner /	40	Mezzanine	Quiet area for browsing

Category	Room / Function	Area (m2)	Level	Description
	Mezzanine			books with sea views.
Technical	Staff Office / Cash Room	20	Ground	Secure back-office for ticketing and retail staff.
	Bathrooms (W.C.)	30	Ground	Compact public restrooms for visitors.
TOTAL	Gross Floor Area (GFA)	470		

Table 4.3(Spatial Program Table)

Building 03 serves as the **Informational Gateway** to the project site. Designed with a philosophy of '**Maximum Transparency**,' the structure uses a glass-and-steel language to avoid creating a visual barrier between the urban fabric and the Golden Horn. The **Ticket Office** is integrated with a specialized **Museum Bookstore**, creating a hybrid space that transitions the visitor from the daily urban routine into the academic atmosphere of the museum. By keeping the building height at a modest **6.50 meters**, the pavilion respects the historical skyline and acts as a humble companion to the 'Sea Wave' geometry of the main museum building.

4.5.7. Building 04: Heritage Interpretation – Temporary Exhibition Gallery Technical Specifications

- **Architectural Concept:** “*The Living Wall*” a design approach that establishes a dialogue between the heavy, opaque stone fabric of the historic walls and a lightweight, transparent contemporary insertion.

- **Footprint Area (TAKS):** 1,000 m²
Total Gross Floor Area (GFA): 2,000 m²

- **Levels:** 2 Floors (Ground Floor + First Floor Gallery)

- **Structural System:** Independent steel frame system designed to eliminate structural load transfer onto the historic masonry, ensuring the physical protection and legibility of the Genoese wall fragments.

- **Conservation Strategy:** Non-invasive and reversible intervention. The new architectural volume is positioned slightly detached from the ancient walls and connected only through lightweight glass bridges, allowing clear differentiation between historic and contemporary elements while maintaining visual and spatial continuity.

4.5.8. Spatial Program Table

Category	Room / Function	Area (m2)	Level	Description
Exhibition	Flexible Gallery Space A	750	Ground	High-ceiling area for large-scale temporary art.
	Flexible Gallery Space B	650	1st Floor	Intimate gallery for photography/digital art.
Experience	The Wall Walk (Viewing Deck)	150	1st Floor	A path allowing visitors to view the wall texture closely.
Support	Artist-in-Residence Studio	100	1st Floor	A small workshop for visiting Artists.
	Curation & Prep Room	100	Ground	Space for assembling/disassembling exhibitions.
	Small Storage (Art)	150	Ground	Secure area for temporary exhibition crates.
Technical	Technical & HVAC Hub	60	Ground	Climate control optimized for art preservation.
	Bathrooms (W.C.)	40	Ground	Compact facilities for visitors.
TOTAL	Gross Floor Area (GFA)	2,000		

Table 4.4(Spatial Program Table)

Building 04 represents the **Adaptive Reuse** component of the project, focusing on the revitalization of the historical fortification line. With a total area of **2,000 m²**, the gallery is designed as a 'Reversible Insert' that sits adjacent to the stone walls without compromising their structural integrity. The primary objective is to transform the 'Erasure' of the walls into an 'Experience,' where the ancient stone becomes the backdrop for contemporary temporary exhibitions. The **First Floor Gallery** features a 'Wall Walk'a glass-floored corridor that allows visitors to engage with the historical masonry from an entirely new perspective, bridging the gap between the 5th-century heritage and 21st-century art.

4.6 Project Budget & Cost Analysis

4.6.1 Project Cost Breakdown

Building ID	Function	Area (m2)	Unit Cost (€/m2)	Total Cost (€)	Justification / Technical Note
Building 01	Main Maritime Museum	20,708	1,850	38,309,800	Includes 80m bored piles & "Sea Wave" shell.
Building 02	Floating Cafe / Experience	800	2,600	2,080,000	Marine-grade pontoons & ballast systems.
Building 03	Ticket & Museum Bookstore	470	1,250	587,500	High-transparency structural glass/steel.
Building 04	Adaptive Reuse Gallery	2,000	1,600	3,200,000	Heritage conservation & seismic integration.
Site Work	Landscape & Urban Flow	15,000	350	5,250,000	Permeable paving, SUDS, and lighting.
Subtotal		38,978		49,427,300	Net Construction Cost
Contingency	Risk & Archaeology (15%)	-	-	7,414,095	Safety buffer for Haliç soil conditions.
GRAND TOTAL				€56,841,395	Total Project Investment Budget

Table 4.4(Project Cost Breakdown)

The total investment budget of €56.8 million is calculated based on September 2025 market projections, accounting for the inflationary trends in construction materials and specialized

labor. This is not merely a construction cost; it is a long-term Public Investment Strategy by the Istanbul Metropolitan Municipality (IBB) to transform the Golden Horn into a global cultural destination.

A. Why is Building 01 so expensive? (€1,850/sqm)

- **The Argument:** Geotechnical Reality.
- **Defense:** The unit cost of Building 01 reflects the complexity of the **Haliç Clays**. Based on the **IBB Micro-zonation Reports**, the structure requires **80-meter deep bored piles** to reach the bedrock. Additionally, the 'Sea Wave' roof is a complex **structural expressionist shell** (inspired by Renzo Piano), requiring high-precision steel engineering and custom fabrication.

B. Justifying Building 02 (Floating Pavilion - €2,600/sqm)

- **The Argument:** Marine Engineering.
- **Defense:** Building 02 has the highest unit cost because it is a **marine-grade floating structure**. It includes a modular pontoon system, flexible mooring anchors, and a **submerged sensory room**. The materials are specifically chosen for high salinity resistance to ensure a 50-year structural lifespan in the Golden Horn environment.

C. The Sustainability Surcharge (The 7% Premium)

- **The Argument:** Operational Efficiency (OPEX vs. CAPEX).
- **Defense:** I have integrated a 7% cost premium for **Sustainability Technologies**. While this increases the initial CAPEX (Capital Expenditure), it reduces the annual OPEX (Operating Expenditure) by 40%. Following **IRENA 2025 benchmarks**, the ROI (Return on Investment) for the PV arrays and hydrothermal pumps is only **8.5 years**.

D. Heritage Conservation and Interpretive Architectural Intervention (Building 04 – €1,600/sqm)

- **The Argument:** Heritage Conservation and Structural Stabilization.
- **Defense:** The allocated budget for Building 04 primarily addresses the conservation, restoration, and seismic retrofitting of the historic Genoese wall fragments. These interventions require non-invasive structural techniques, specialized masonry conservation, and careful integration of contemporary support systems to ensure both structural safety and the preservation of material authenticity. Due to the technical complexity and the necessity for skilled conservation practices, the cost per square meter exceeds that of standard new-build construction.

In conclusion, this budget represents a realistic, technically grounded, and fiscally responsible proposal. By balancing the **high cost of geotechnical engineering** with the **long-term savings of sustainable energy**, the project ensures that the IBB is investing in a landmark that is both historically respectful and economically viable for the next century.

4.6.2 Energy Efficiency and Eco-Technological Strategy Sustainability Matrix (Technical Specifications)

Strategy	Building / Area	Technical Application	Environmental & Economic Impact
Building Integrated PV (BIPV)	Building 01 (Roof)	High-efficiency solar cells embedded in the "Sea Wave" shell.	Generates ~450,000 kWh/year; covers 25-30% of museum demand.
Hydrothermal Exchange	Building 02 (Floating)	Water-source heat pumps using the Golden Horn's thermal mass.	Reduces HVAC energy consumption by 45% compared to air-source.
SUDS (Urban Drainage)	Site Landscaping	Permeable paving and bio-swales for rainwater management.	Prevents urban runoff pollution into the Haliç and reuses water.
Greywater Recycling	All Buildings	On-site filtration of greywater for toilet and irrigation use.	Reduces municipal water consumption by 35% annually.
High-Performance Skin	Building 03 & 04	Triple-glazing with low-e coating and thermal break frames.	Minimizes heat gain in summer and heat loss in winter.

Table 4.5. Energy Efficiency and Eco-Technological Strategy(Source:Developed by the author based on international sustainability standards and technical references, including IEA (2018), ASHRAE (2020), European Commission EPBD (2018), and precedent studies on BIPV systems, water-source heat pumps, sustainable urban drainage systems (SUDS), and greywater recycling in cultural buildings)

Energy and Environmental Performance Strategy

A. The “Sea Wave” Solar Energy Harvester (Building 01)

The extensive roof surface of the main museum building (Building 01) is conceived as an active energy-generating envelope. Through the integration of Building Integrated Photovoltaics (BIPV), solar technology becomes an integral component of the architectural expression rather than an applied technical add-on. Based on regional solar radiation data for Istanbul and performance ranges documented in recent BIPV precedent studies, the system is estimated to offset a significant portion of the building's operational energy demand and to contribute to a substantial annual reduction in carbon emissions. While precise output values are subject to final system sizing and orientation optimization, the integration of BIPV establishes the roof as both an environmental and symbolic interface between architecture and the maritime context.

B. Marine-Source Heat Transfer (Hydrothermal System – Building 02)

Building 02 leverages its direct relationship with the Golden Horn through the implementation of a Water-Source Heat Pump (WSHP) system. Due to the relatively stable thermal characteristics of the water body compared to ambient air temperatures, the Golden Horn functions as an efficient seasonal heat sink in summer and a heat source in winter. This system is expected to achieve significantly higher energy efficiency levels than conventional air-source systems, particularly for spaces with variable occupancy such as cafés and experiential zones. The strategy aligns with established best practices in waterfront developments, where marine-source systems are recognized for reducing HVAC energy demand while minimizing visual and spatial impact.

C. Rainwater Harvesting and Landscape Irrigation

The project incorporates an integrated rainwater harvesting strategy through a 500 m³ underground cistern located beneath Building 01. Rainwater collected from the “Sea Wave” roof surface and the approximately 15,000 m² landscaped areas is stored and reused for irrigation purposes. This closed-loop water management system reduces dependence on municipal freshwater resources and supports the long-term maintenance of the project’s green infrastructure. Beyond environmental benefits, the system enhances the project’s resilience to seasonal rainfall variability and contributes to sustainable site management practices.

Financial Impact and Long-Term Performance Considerations

The incorporation of eco-technological systems represents an additional upfront investment relative to conventional construction methods. However, based on comparative energy pricing scenarios and operational performance ranges documented in international sustainability guidelines, these systems are projected to generate substantial long-term operational savings. When evaluated over the building lifecycle, the energy and water strategies are expected to reduce operating costs, extend system longevity, and support compliance with internationally recognized sustainability certification frameworks, such as LEED Gold. Rather than being evaluated solely through short-term financial return, the sustainability layer of the project is positioned as a strategic investment in environmental performance, operational resilience, and long-term urban value.

CHAPTER 5:

CONCLUSION AND EVALUATION

5.1. Summary of Findings and Contribution to Urban Studies

This thesis began with a fundamental question: how can the lost historical memory of the Byzantine and Genoese walls and the dominant inward urban flow of contemporary Istanbul be strategically reconnected through architecture?

Through spatial analysis, historical research, urban flow mapping, geotechnical evaluation, and precedent studies, I identified that the Golden Horn shoreline is not simply underused — it is structurally and symbolically disconnected from the city. The presence of the Haliç Bridge, the shift of density toward the inland core, and the neglect of the wall remnants have collectively transformed this historically central waterfront into what I define as a “Dormant Coastal Threshold.”

The research demonstrated that this condition is not accidental, but the result of layered infrastructural, economic, and planning decisions that redirected urban energy away from the coast. Therefore, the intervention could not be limited to an isolated architectural object. It required a strategic urban response.

The proposed “Memory and Flow Reversal Strategy” emerged as the conceptual backbone of the project. Rather than treating historical remnants as static monuments, I approached them as active cultural anchors. By integrating the Maritime and History Museum Complex with the Byzantine and Genoese wall fragments, the project transforms passive ruins into programmatic and spatial catalysts.

The design operates on multiple scales:

- At the **urban scale**, the linear green axes and distributed volumes establish a new centrifugal pull toward the shoreline.
- At the **architectural scale**, the dialogue between mass (stone walls) and lightness (contemporary steel and glass) creates a readable palimpsest condition.
- At the **infrastructural scale**, sustainable systems, marine engineering, and deep foundation strategies respond realistically to the geotechnical constraints of Haliç clays.
- At the **economic scale**, the project demonstrates long-term feasibility through operational efficiency and sustainable investment logic.

In this sense, the thesis contributes to urban studies by positioning architecture not as an aesthetic addition, but as an instrument of spatial restructuring. It proposes that heritage, when strategically reactivated, can become a mechanism for redirecting urban flow and regenerating neglected waterfronts.

Ultimately, the project argues that memory and movement are not separate phenomena they are mutually reinforcing urban forces. When historical memory is spatially activated, it has the capacity to reorganize contemporary urban dynamics.

5.2. Project Limitations and Recommendations for Future Research

Despite the comprehensive scope of this study, certain limitations must be acknowledged.

First, while urban flow analyses and density projections informed the Flow Reversal Strategy, real-time behavioral simulations and post-occupancy modeling were beyond the scope of this thesis. Future research could integrate advanced pedestrian simulation tools (e.g., Space

Syntax modeling or agent-based simulations) to quantitatively test the centripetal impact of the proposed cultural magnet.

Second, the geotechnical and seismic parameters were based on available municipal micro-zonation data. Although these provide a reliable framework, detailed site-specific borehole investigations and structural modeling would be required for implementation.

Third, the economic feasibility calculations are grounded in 2025 projections and international sustainability benchmarks. Future studies could refine these projections by incorporating dynamic market fluctuations and public-private partnership models.

Most importantly, the success of the Flow Reversal Strategy ultimately depends not only on architectural intervention but also on broader municipal coordination, transportation planning, and cultural programming continuity. Architecture can initiate transformation, but sustained urban vitality requires institutional support.

Final Reflection

From my perspective, this project is not merely about designing a museum. It is about redefining the relationship between infrastructure, heritage, and urban energy.

The Golden Horn has historically been a place of convergence between empires, cultures, trade routes, and identities. Today, it stands fragmented. Through this thesis, I propose that contemporary architecture can act as a mediator between fragmented past and dynamic present.

By transforming the “Dormant Coastal Threshold” into an active cultural nexus, the project aspires to restore not only spatial continuity, but also symbolic continuity within Istanbul’s historical core.

In conclusion, I believe that the true value of this proposal lies in its positioning of architecture as a strategic urban instrument capable of converting memory into movement, and movement into renewed public life.

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