



## Pusaka pavilion: urban acupuncture as narrative pathway to relive history

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### Abstract

Pabean Market is known as one of the legacies of Dutch colonialism in Surabaya. The constant hustle and bustle of fishmongers, customers, fish laborers, distributors, to commodity trucks remains to this present day. More often than not, architectural history or cultural heritage of the site go unnoticed or forgotten. To evoke the sociocultural context and involve the community in its preservation, the design also utilizes mobilization or circulation as a narrative strategy. The author focuses on “Storytelling for Forgotten History, Vehicles for Cultural Heritage”, aimed at supporting the commercial activities without leaving historical memory through movement experiences. Utilizing the Force-Based Framework and analyzing the sociocultural context, culture, and needs of the site, the design proposal focuses on storytelling and cultural heritage preservation. The categorization of movement types allows for the determination of suitable media of modules to facilitate effective circulation within the designed environment. Pusaka Pavilion serves as a medium to optimize movement, enabling individuals to experience history, encounter new perspectives, and immerse themselves in diverse cultures. This article presents the conceptual framework and design approach to reflect forgotten history, revive cultural contexts, and foster an inclusive engaging environment.

**Keywords:** commemorative architecture; mobility; multicultural; pabean market; urban acupuncture

## 1. Introduction

Pabean Market is known as one of the colonial legacies in Surabaya. Van Mierop delivered the interior and exterior designs of the market in 1937 then construction finished in 1939 (Lestari & Anwar, 2018). Located on Sungoyudan Street, Nyamplungan, Pabean Cantikan District, Surabaya City, this market used to distribute their commodities through the Kalimas River. Even though Kalimas Harbor is no longer operating, the Pabean Market has continued to serve as the city’s economic center since the Dutch colonial era. The Neo-Classic style of the building has even been designated as a cultural heritage building. The market’s resilience can be attributed, in part, to its sociocultural variables which include the strong social relationships among its people (Farid, 2018).

The constant hustle and bustle of fishmongers, customers, fish laborers, distributors, to commodity trucks remains to this present day. More often than not, architectural history or cultural heritage of the site go unnoticed or forgotten. This results in a lack of appreciation and a sense of detachment from the socio-cultural context. In addition, even with the high number of daily visitors, Pabean Market does not provide a comfortable and organized environment. The community’s focus on trading activities overrides considerations on the need of accessibility within and around the market. The narrow and congested circulation, both from the outdoors and indoors, makes it difficult for

visitors to move and shop in an orderly manner. The result of a study held by [Arif \(2017\)](#) shows that product diversity is a dominant variable that influences Pabean customer's buying interest compared to other variables such as product quality, price, and location. Restoring historical aspects is a certain architectural challenge with its potentials and limitations. Through the right approach, improving accessibility could improve the welfare of the community. In this context, design interventions are expected to seamlessly integrate with the market, ensuring they do not disrupt the existing activities and instead move hand-in-hand with them.

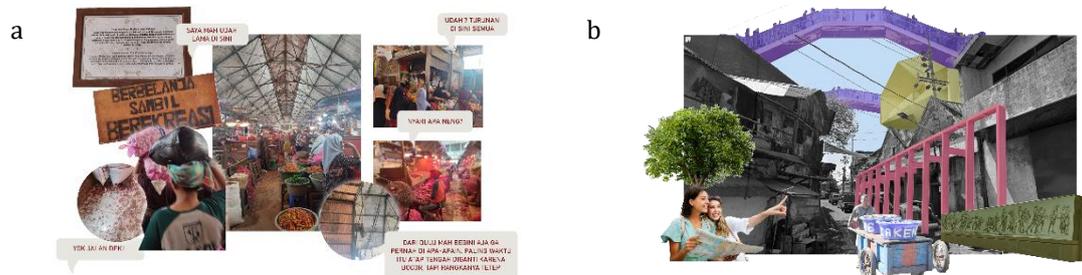


Figure 1.1 (a) Existing narrative; (b) Projected narrative  
(Source: Author. 2023)

As a protected cultural site, heritage ties an important part of the Pabean custom. On that premise, the sense of ownership and pride of the residents and visitors should be involved as an effort to preserve the existing social context. Architecture plays an important role in preserving and shaping the collective memory of the people, in which commemorative architecture emerge as an appropriate expression. Commemorative architecture is described as a form of architecture created to remind important events, individuals, or locations ([Tanovic, 2019](#)). This literature describes how architectural design and goals have evolved and influenced by historical, cultural, political, and technological factors. Commemorative architecture can be used to challenge societal narratives and voice marginalized perspectives. Today's public life tends to interact with simple spaces that differentiate people and prevent emotional attachment to a place. However, public space that should be maintained and cultivated is one that encourages socialization and showcases the community's identity. This condition would likely to instill a collective memory of a space ([Bajc, 2006](#)). Collective memory is an experiential mode of being able to share memories of identifiable events, places, and ways of life ([Zerubavel 2003](#)). Some major components on injecting collective memory to a space are as follows:

1. Agents of Memory, to make decisions on what to remember and the methods used for remembrance
2. Cultural Landscapes of Memory, to present certain images or narratives associated with the object to revive a story
3. Creating the Experience, to make sure visitors aware of certain narrative experiences and engage with them

Since transportation technology has become common place in the modern age, lands and regions have become fragmented and the scope of urban life has been greatly expanded ([Jung & Park, 2023](#)). Reactivating the city using public space is one of the strategies in the context of urban acupuncture ([Margono & Zuraida, 2019](#)). Whether by utilizing vacant land or changing the condition of existing public spaces, design interruptions aim to improve the quality of the urban life. Urban acupuncture is an architectural strategy within cities that absorbs traditional Chinese acupuncture methods, which use small-scale interventions to transform cities on a larger scale ([Samil & Sutisna, 2023](#)). These interventions in the urban fabric hold positive social interactions, likely in benefiting both local residents and tourists. In facing globalization, the city's cultural heritage needs to be protected and preserved (preservation), maintained and repaired (conservation), and used to meet the needs of modern humans (revitalization) ([Adrian & Gandha, 2023](#)). Taking advantage of Surabaya's

historical potential, memory can be integrated into modern culture through urban acupuncture methods.

With numerous functions and typologies required on the design, precedent analysis helps in understanding standardization and clarifies specific design goals. Among the references gathered, a children's community center The Playscape stands out as a significant precedent, reflecting similarities in the design's narrative. This design supports children's development through active movement, catering various age groups (Shuangyu, 2021). The playground incorporates several movement principles such as group interaction in Hide and Seek, embracing risk in Adventure Playground, considering body proportions and ergonomics in Nook and Cranny, fostering discovery through Maze, to stimulating imagination in Fantasy. Additionally, the Plassen Cultural Center also serves as a valuable case study. The design focus includes buildings that are adaptable and resilient to support the site's cultural life, especially when hosting international jazz festivals. Visitors with a population of four times the original population pushed for a design that could accommodate humans on various sides of the building: inside, outside, above, and around it (Frearson, 2012). The basic form is initially compact and pure, but by providing slit shapes, the variety of expression gives flexibility and a sense of spaciousness. These case studies present a successful method on promoting active movement experiences and flexibility through versatile and robust structure that align with the cultural and historical context.

Referencing back from the Pabean context to dig relevant narratives, the economic hub has shifted the focus away from the historical and cultural identity it holds Architecture, as silent witness to history, begs the question – who will give voice to its tales? Architectural interventions need to allow their structures to speak and unveil the untold stories of the community. With little interest or effort to change the system in place, has the marketplace's environment been the most effective? Should the cramped, muddy, and difficult conditions be normalized? A fresh flow is required, to spread the masses and unveil new horizons. The emphasized substances of the design include mobility (to improve accessibility and convenience of activities in the market), supported with history (to reflect market culture and increase people's sense of belonging). Pinpointing from the issue of memory design, the author focuses on "Storytelling for Forgotten History, Vehicle for Cultural Heritage". To elaborate, the design is intended to support market trading activities without leaving historical memory and utilizing movement to present this experience.

**2. Methods**

According to the book Revealing Architecture (Plowright, 2014), there are three design frameworks that help to identify priorities and approaches in design. These frameworks are:

- 1) Force-Based Framework, a method focuses on identifying boundaries, assets, and pressure.
- 2) Pattern-Based Framework, a method that concludes a pattern from comparing similar typologies.
- 3) Concept-Based Framework, a method that starts from a hypothesis to base the final design results.

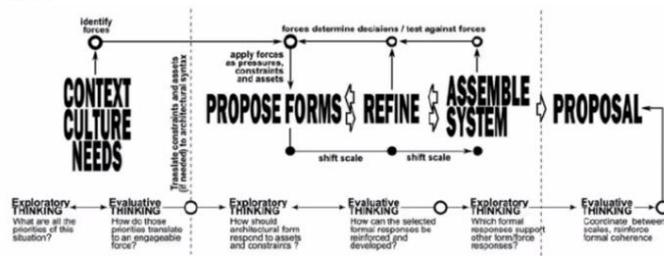


Figure 9.7: Generic framework of a force-based design process including thinking styles

Figure 2.1 Force-Based Framework

Source: Plowright, 2014

First, the Force-Based Framework examines the context of design issues. This design method seeks to extract information to minimize constraints and maximize potential conditions. Starting from analyzing the current issue, author conducted site visits thrice in February 2023 to gather primary data for site analysis. The site is located between Kalimas Utara Street and Panggung Street, Nyamplungan Village, Pabean Cantikan District, Surabaya City, East Java 60162, with an area of 5000m<sup>2</sup>. The function of public space must adapt to the area zone which majority consist of high-density housings, trade and services buildings for a regional/city/personal scale business, and rivers. Secondary data are gathered from literature review from books, academic journal, or article. Next on the process includes analyzing the CCN (Context, Culture, Needs) that are identified in author's design through:

- 1) Context. The design covers the theme "Designing Memory in Multicultural Context" in Pabean Market. This issue becomes the design consideration to create buildings that are able to share memories of other people's way of life. Specifically, the author emphasizes historical revitalization and mobility as design references.
- 2) Culture. The culture studied was the activities and needs of the community, including fishmongers, customers and potential newcomers. By examining the needs of these stakeholders, the design aims to create spaces that cater to their specific requirements and foster a sense of belonging.
- 3) Needs. The design response is centered around addressing specific needs, includes providing a functional space that supports the activities of fishmongers and a safer and more comfortable environment for visitors.

The mentioned forces are not always a negative aspect but can be responded to through a design strategy. Forces can be divided into:

- 1) Pressure, external factor that hinders the design. In the design, the pressure includes the community's attachment to the site and must not reduce the activity of buying and selling (because it is their main source of income).
- 2) Assets, added value on land that can support the design process. In design, assets include iconic historical values, areas crowded with visitors, and as key to the economy.
- 3) Constraints, internal limitations that hinder the design. In the design, the boundaries include unorganized areas and flooding risk which disrupts the buying and selling process.

Continuing that stage, the design then tries to respond through the Propose Form with an exploratory line of thinking. These proposals explore various forms, spatial configurations, and concepts to respond the identified forces. Once the initial designs are generated, the Refinement Stage focuses on analyzing and evaluation the proposal in more detail. This stage involves conducting design iterations, seeking feedback, and constant improvement. Through the assembly stage, collected data, theory, and design iterations are integrated into a cohesive composition. The design proposal is to connect the building or structure with its historical context and the way in which people move through it. This final stage involves presenting the proposal through visual representations, drawings, rendering, another supporting documentations.

### **3. Results and Discussion**

#### *3.1. Site Analysis*

In order to gain a comprehensive understanding of the site, various factors should be taken into consideration. The site analysis of the Pabean Market examines both the natural and cultural conditions. Table 1 provides an overview of the natural conditions, shedding light on the physical characteristics of the site. Culture differs from society to society and hence the foundation of architecture becomes contextual (Mathavan et al., 2019). For that reason, Table 2 delves into the cultural conditions of the area, enabling the design to engage with the rich heritage and community identity. This method of analysis provides a strong foundation to ensure that the proposed design is sensitively integrated within its surroundings.

Table 1. Natural Condition Site Analysis

Aspect	Analysis	Synthesis
Humid tropical climate	In a year, the weather consists of 46.6% sunny days and 30.2% cloudy days	Maximizing climate potential for efficient use of energy and the using weather-resistant materials or construction.
Temperature and shading	Average temperature at 30°C	The orientation and height of the building maximizes natural light and provides shade as a shaded area.
Wind speed	Gentle breeze at average of 4-5 mph and 60-90% humidity	Orientation of buildings perpendicular to the wind to ensure proper ventilation.
Vegetation	The low presence of vegetation resulting in an arid environment	Incorporate direct connection to nature for cooling effect and enhance visual aesthetics.

(Source: Author. 2023)

Table 2. Cultural Condition Site Analysis

Aspect	Analysis	Synthesis
Typology	The majority of high-density housings are surrounded by trade and service functions. The land also borders the Kalimas River	The fluidity of forms blend without interrupting the existing buildings.
Neighborhood Context	<ul style="list-style-type: none"> <li>• East: Housings</li> <li>• West: Kalimas River</li> <li>• North: Housings, Serang Mosque, Kalimas Tower</li> <li>• South: Housing, Pabean Market</li> </ul>	Combining the four-point masses according to the context of the existing buildings.
Vehicle Circulation	There are only local roads/streets with low speed and vehicle capacity.	Facilitate the circulation of vehicle users and pedestrians who are directly exposed to main road congestion and pollution.

(Source: Author. 2023)

### 3.2. Design Criteria

To evoke the sociocultural context and involve the community in its preservation, architecture attempts to utilize mobilization or circulation as a narrative strategy. In its translation into an architectural object, the criterias that will appear include:

Table 3. Design Criteria

1. Movement
1.1 Introduce additional pathways or circulation patterns to address the issue of overcrowding and ensure easy accessibility
1.2 Optimize the vertical aspect to respond horizontal land limitations
2. History
2.1 Incorporate educational space to showcases the rich historical significance of the Pabean Market
2.2 Public spaces that encourage social interaction to engage and appreciate

(Source: Author. 2023)

### 3.3. Design Transformation

Mass plays an important role in working with the climate as well as the visual aspects that become the building's identity. Formal transformations, according to (Plowright, 2019), can be translated into several attributes: alignment, axis, balance, centrality, difference, front, object-ground, objectification, orientation, path-goal, pattern, radiosity, repetition, similarity, and solid-void. The shapes like cubes, cuboids, circles and characterized elements like volumes, arches, and domes are all considered as cultural element of a place (Mathavan et al., 2019). Some formal transformations incorporated on the design are as follows:

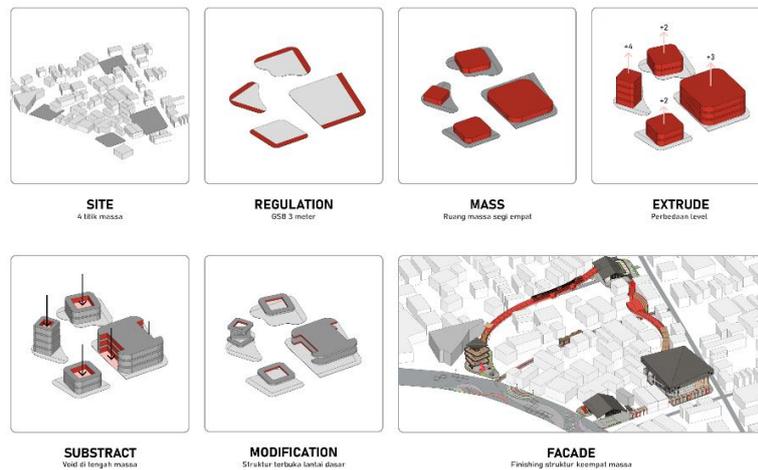


Figure 3.1 Formal Transformation

Source: Author, 2023

- 1) **Axis.** This aspect can identify the main axes or focal points in the urban environment. Within the Pusaka Pavilion, the main building volumes are linear and symmetrical about the grounds to optimize spatial organization. The symmetrical cut is also utilized to add present circulation paths for movement accessibility.
- 2) **Orientation.** Orientation refers to the position or direction of a building or room within it. The provision of the four masses will be distinguished by their height differences, and their openness to a certain orientation. In Pusaka Pavilion, the more public or highest communality, the transparency will be on the side with the highest number of activities (example: orientation with the widest crowd faces the Pabean Market to invite visitors)
- 3) **Centrality.** The quality of this space is at the center or heart of the urban environment, often functioning as a center for activity and social interaction. Centrality can help create an integrated and sustainable environment with each of its constituent elements.

The author's design targets accessible public areas through the principle of "Urban Acupuncture" (Hoogduyn, 2014), thus requiring qualities including (1) Sensitive point, determining points with little energy then question which needs adding, removing, modifying, or rearranging; (2) Small scale, aiming for a big impact with small pinpricks; (3) Scenario, creating commitment for the city; (4) Educating, understanding the society's perspectives and transferring knowledge; (5) Participation, integrating local understanding for successful interventions; (6) Fast action, generating a process that opens the door for flexibility; (7) Holistic approach, evaluating ecological, economic, cultural, infrastructural, to historical elements; and (8) Creating a place, making a place with lack of energy to be more meaningful. Some spatial aspects incorporated on the design that supports those eight qualities are as follows:

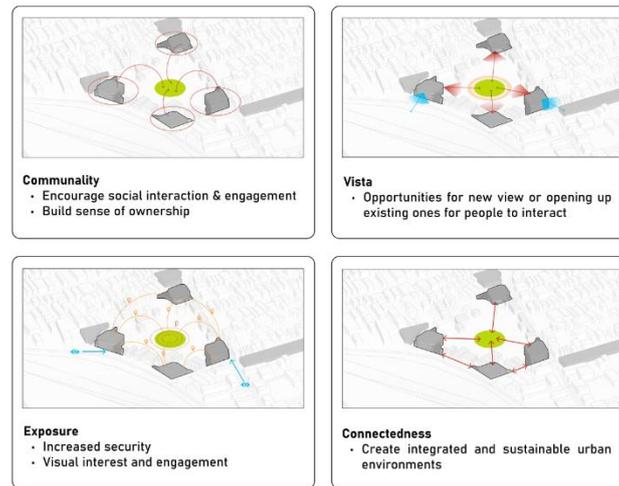


Figure 3.2 Spatial Quality Diagram

Source: Author, 2023

- 1) **Community.** Community refers to the quality of space that fosters a sense of community and encourages social interaction. In the "Urban Acupuncture" strategy, communities can involve residents and encourage participation to ensure the sustainability of their environment. As a public space, the community aspect is crucial to the variety of activities and users.
- 2) **Vista.** Vista is viewed as an extension of space. With the potential of four area points with their respective functions, the visual features of the environment can help enhance the overall character of the land area. The four masses have different functions by presenting their respective impressions so that they have a dynamic aspect. This is executed through various orientations and transparency.
- 3) **Exposure.** Exposure is the number of sensory accesses between rooms. Especially as a public facility, this aspect has a significant impact on attracting people to see or use space. In the author's design, exposure is divided into three types: visual, journey, and auditory. Visual exposure is emphasized on the two masses with the function of sightseeing towers, while journey exposure is spread between the four masses with various types of activity mobility.
- 4) **Connectedness.** Connectedness fosters rapport between people, places, and activities. The author focuses on the concept of movement, so it is relevant to be associated with aspects of connectivity to create an integrated environment.

### 3.4. Design Integration

**Movement Integration:** Exploring the specific role of each public open space feature (and subsequent combinations) on physical activity can provide useful information about prioritizing features in new and upgraded public open space (Koohsari et al., 2015). It is necessary in urban design to make the city interact in order to activate and improve the health of urban societies through the use of the principles and methods of urban acupuncture (Salman & Hussein, 2021). To facilitate effective movement and circulation within the designed environment, the proposed design employs a categorization of different movement types, leading to determining the suitable media or modules. The modern built environment consists of intricate sequences that shape individuals' experiences, leading to the formation of personal memories and meanings (Jo & Lee, 2007). A detailed representation of the movement criteria, as visualized on Figure 3.3, are then considered necessary to the design. For example, when heading to the viewing tower with the aim of sightseeing activities, the flow has a diagonal axis with a slowing effect to evoke a deeper experience. Employing these strategies help to embrace the urban vitality and the interactions between them.

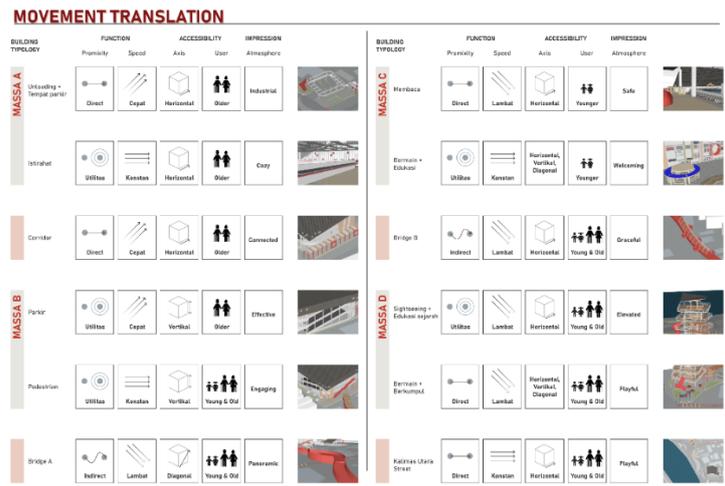


Figure 3.3 Movement Integration  
Source: Author, 2023

A place represents an integration of production and being by establishing a place of dwelling through things and positioning it in the world (Jung & Park, 2023). In this case, the incorporation of connecting bridges embodies the essence of a wandering life amidst the dwellings that have taken root on the site. A bridge further co-creates the image of an area being in the new space and sometimes can become a vary distinct and recognizable icon of the city (Salamak & Fross, 2016). Thereby not only serve as functional passageways, the proposed design utilized these bridges to become recognizable landmarks in the urban realm.

Historical Integration: According to Nassar (2021), there are two criteria to achieve the best successful strategy in urban acupuncture. First, urban catalyst effectiveness and mixed-use. In which selecting areas with more mixed uses and different types of recreational facilities would be the most effective. Second, choosing the best sensitive spot. It is considered to better for this approach to choose small, leftover, neglected spaces in urban fabric. Applying it to human-centered open space to create walkable, safe, accessible, and sociable qualities. The focal point of the developed site was determined by its historical context and potential. In this case, the four points of the site have their respective functions but are still connected to each other and affect the flow of movement. Cultural vitality and multicultural lifestyle of the settlement shaped the built environment and produced public spaces as well (SONMEZ & ÜNLÜ, 2019). Based on the same research by SONMEZ, it is even still possible to see the reflections and traces of the cultural and social to this day. One of two approaches to revivalism in architecture as mentioned by Salman & Hussein (2021), the design will revive a specific structure partially through other structures. This approach aims to breathe new life into the chosen structure, allowing it to coexist with the contemporary design while maintaining its historical essence and significance.

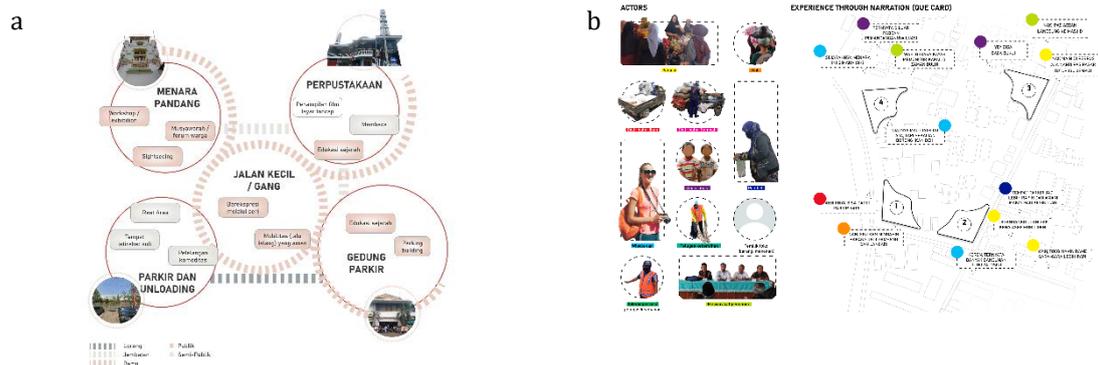


Figure 3.4 (a) Historical Integration on determining building typology; (b) Community Integration on experiencing design narration  
(Source: Author. 2023)

**Community Integration:** The application of urban acupuncture prioritizes the holistic integration of community perspectives and needs. Contemporary usage of urban acupuncture has tended to be cost effective, making urban acupuncture broadly applicable in both developing and developed countries (Hemingway & De Castro Mazarro, 2022). As stated by Combrinck (2011), by only focusing so exclusively on the issues of aesthetics, the voice of the client or the end-user would completely be ignored. The author tries to describe the potential of the "actor" who will use the space and its activities. Understanding the experience on each side of the building helps ensure inclusivity and flexibility. Emotional ownership is the key factor that changes housing form what it is to what it does, because of the implication of empowerment (Combrinck, 2011). This belonging can be created and felt in the public space, which is a shared environment characterized by mixing and cross-fertilization, shared public life, artistic expression and architecture, of the cities (ÖZDEMİR, 2019). By considering emotional ownership and inclusive design principles, the proposed design could foster a sense of belonging while also enriching the urban fabric. As one of many components, streets are the significant urban public spaces which provides our functional, social, and leisure needs (ÖZDEMİR, 2019). For this reason, the design interventions for the proposed project go beyond selecting a certain rectangular site but extend it to the effective design of the surrounding street. The objective is to create a cohesive streetscape that enhances the overall urban experience and facilitates a seamless connectivity for the users.

**Rural Tourism:** A study held by Raimkulov et al. (2021) included that the most influential destination attractiveness constructs affecting tourist satisfaction are cultural attractiveness, the local people, and the superstructure. When urban residents see wildlife, stocks, and farmlands in rural areas, they may perceive this image as a society different from their usual social environments (Qiu et al., 2019). Tourism, as an intangible experience, pushed rural tourism to pay attention to the development of souvenirs and optimize service for taking photos (Li & Zhao, 2021). Satisfied tourists are likely to relive their travel experiences and demonstrate revisit intentions (Raimkulov et al., 2021), which is why it is suggested to create photo zones where tourists can record and display memorable moments. Creating a good destination image can not only deepen tourists' impression of the destination and improve their memory, but also promote the level of their attachment to the destination (Li & Zhao, 2021). In this case, the design implementations are encouraged to enhance the overall visitor experience through creating a lasting memory of the site.



Figure 3.5 Design Proposal  
Source: Author, 2023

The word "Pusaka" refers to the cultural, historical and traditional values that wants to be preserved. While the word "Pavilion" refers to a structure designed for performances, exhibitions, or other public events. Overall, Pusaka Pavilion is dedicated to maintaining historical value in the context of design, especially through movement. The building has four masses with a height of 2-4 floors and a typical floor plan for each mass. The 1st floor has an open structure and is more public than the following floors. Regardless the quantity of functions and activities a structure can host, it is not dual unless it is redundant (Porębska & Rizzi, 2017). The Pusaka Pavilion consists of 4 masses scattered at points around the Pabean Market, Kalimas River, Kalimas Tower and Serang Mosque.

- 1) Mass A, serves as a place for unloading commodity trucks, distributor parking, and a resting place for fish laborers and distributors
- 2) Mass B, serves as a parking lot for visitor vehicles (motorcycles and cars)
- 3) Mass C, serves as a mini library to improve the quality of children's education
- 4) Mass D, functions as a viewing tower and a playground to increase visitor attraction and a sense of ownership of the environment
- 5) Bridge A connects masses B and C
- 6) Bridge B connects masses C and D.

### 3.5. Structure And Utility System

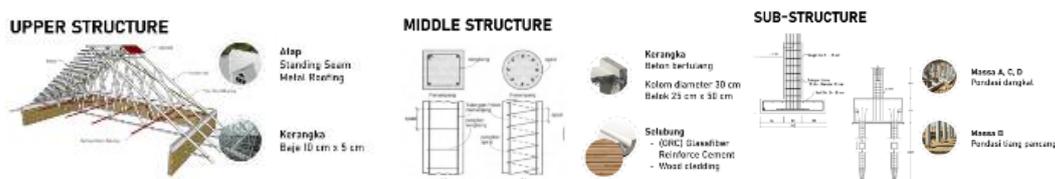


Figure 3.6 Structure System  
Source: Author, 2023

The proposed structure, as presented on Figure 3.4, is chosen to ensure its feasibility within the site context. Starting from the ground, the building sub-structure uses a shallow foundation with a depth of 100cm. Specifically for mass B (parking building) uses a pile foundation, given the greater load. The middle structure of the building includes a simple reinforced concrete frame structure. The main structure uses circular columns with a diameter of 30 cm and 25 cm x 50 cm beams. The upper structure of the building uses a 10 x 5 cm steel frame to support the bitumen roof. Various materials are used in the design, adjusting the aesthetics of the surrounding structure with a combination of modern minimalist style. The roof uses bitumen roofing, known to have strong resistance to weather. The facade uses wood cladding, giving a natural impression and flexible construction.

Concrete walls have strong durability and minimal maintenance costs. The walls are plastered, especially on the walls of the bridge to make it easier to paint and protect the walls from heat or rain. The facade is combined with roster stones with several motifs to facilitate air circulation and give art a light effect.



Figure 3.7 (a) Plumbing and Sanitation System; (b) Security System  
Source: Author. 2023

To ensure the functionality and efficiency of the proposed design, it is essential to consider the integration of various utility systems. First, plumbing and sanitary systems are responsible for the supply of clean water, waste management, and maintaining proper hygiene standards. As not all mass need this service, only mass A and C have groundwater systems that are stored in water reservoirs for toilets and washing unloading docks. Continuing with the design focus on mobility and accessibility, various means of transportation (vertical, horizontal, and both) are Pusaka Pavilion's main facilities. This is executed according to functions, users, and needs. Figure 4.12 shows the 12 types of movement in the design. Some of the design execution flow can be described as follows:

- a. Bridge B incorporates C&D (horizontal) mass, matched by an indirect transport channel. Its function is as a bridge for the movement of the general public (young to old), the bridge can be multifunctional as a tourist area, in this case the movement is slowed down. With a graceful impression, blending in with the surrounding housing, the winding bridge is higher than the existing building. Form in an alcove to provide facilities for resting, lounging, or just enjoying the view of Customs.
- b. Massa D is a tower of view to bring the historical context closer to the public. Sightseeing as the main function uses the impression of elevation as a spatial configuration. Accessible and visible proximity of space aids tower navigation. Therefore, the tower design supports the vertical aspect with a different rotation for each floor. Without a closing facade, the divider uses an iron railing and has a void in the middle for the stairs.
- c. Mass D on the ground floor is used as a playground and gathering place. Because of the clear function, the proximity of the playground, the tower, and the surrounding area is direct. This is realized by its openness to the public and complete facilities to accommodate horizontal, vertical, diagonal or stationary movements.

Ventilation systems contribute to maintaining indoor air quality and regulating temperature and humidity levels. Wide eaves and material selection to cool the floor below and a semi-open façade for air circulation. To maximize constant sun exposure, each mass does not have a fully closed cover, but is limited by perforated façade configuration. The four masses with public functions are not surrounded by fences, but indoor CCTV controls are used as security facilities. Integrated monitoring is carried out on the ground floor of mass B (parking building) in the control room. As an effort to handle the fire, each mass is also provided with a sprinkler and fire extinguisher. The smaller and lower masses, namely mass A, C, and D, require a minimal number of 2-3 sprinklers due to their compact size. Meanwhile, mass B has a wider area and height, so that the number of sprinklers can range between 9-18 sprinklers. These systems play a crucial role in providing essential amenities to the building and its occupants.

### 3.6. Interiority And Exteriority

Pusaka Pavilion focuses on supporting market functions as well as increasing the interest and ownership of the surrounding community. Figure 3.6 visually represents the projection of both interiority and exteriority within the design. The interior response blends tradition and modernity. This is executed through the use of traditional materials such as roster stone and wood, with contemporary wall or facade shapes and dynamic imagery. The structure and configuration of the open space allows sufficient sunlight to enter, creating a bright, fresh space and minimizing the need for artificial lighting.

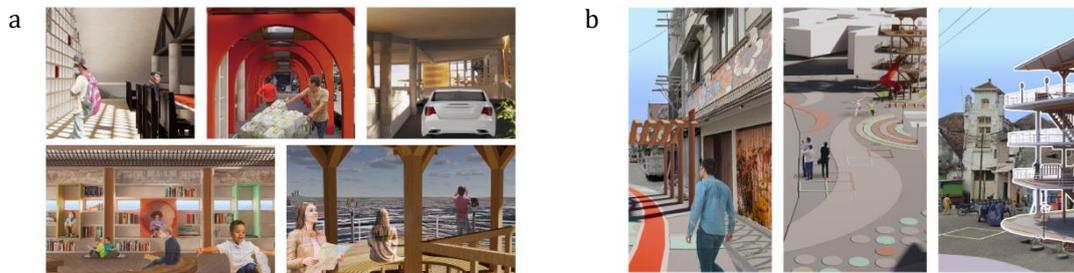


Figure 3.8 (a) interiority; (b) exteriority  
Source: Author. 2023

Rapidly changed built environment cause to lose of the meaning of the streets, public spaces, houses, etc (SONMEZ & ÜNLÜ, 2019). With this in mind, the exterior design remains rooted in the original narrative while respectfully embracing the architectural character of the site. This is achieved through the use of traditional materials, ornaments and patterns that are similar to those of the surrounding buildings and reinforce the visual connection to the context. The exterior of the proposed design or even an unused building can be used as a visual medium to convey historical narratives, through murals, reliefs, or historical information panels. A strong visual identity supports the design through dynamic shapes, striking decorative elements and the majority red color of the bridge. With these elements, Pusaka Pavilion visualizes historical stories while still being integrated with the surrounding environment.

As a narrative architecture, based on the argument of Di Mascio & Maver (2014), the design should possess an open structure, allowing for non-linear engagement, unveiling the architecture narrative plot while also evoking emotions as it unfolds. The user mobility scenario, depicted in Figure 3.7, provides an insightful illustration of how various market “actors” navigate through the four masses. The following points offers a description of this scenario:

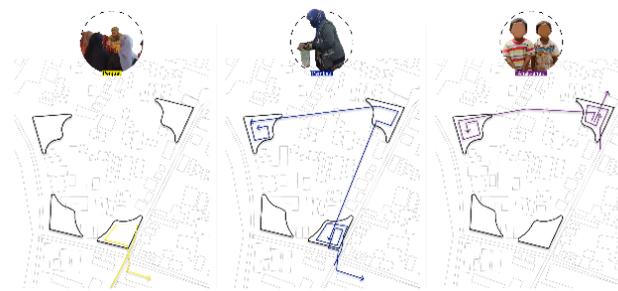


Figure 3.9 Circulation Flow Concept  
Source: Author, 2023

- 1) Sellers: Sellers start their journey by parking their vehicles on the ground floor of the parking building (mass B). They proceed to the Pabean Market, where they remain until the market closes or their work hours end.
- 2) Buyers: Buyers arrive at the location and park their vehicle on the second or third floor of the parking building. From this elevated position, they can enjoy a panoramic

view of the market. Multiple options are available: they can descend the stairs to access the market directly, or they can travel through bridges, passing through the library (mass C) en route to the viewing tower (mass D)

- 3) Children: Children are expected to spend more time in the library (mass C), which serves as a dedicated area for reading and group activities. In case of boredom, they have the option to cross Bridge B and visit the viewing tower (mass D), where they can admire the scenery or engage in the playground



Figure 3.10 Mobility on Design  
Source: Author, 2023

Figure 3.8 illustrates the results of the mobility design in the proposed Pusaka Pavilion design. The analysis of the three main access to land includes:

- 1) Panggung Street (red highlighted road), which was initially congested and chaotic, required design interruptions that reduced and accelerated movement
- 2) Gambir Street (pink highlighted road), which was wide but quiet at first, requires design interruptions that increase and slow down the movement
- 3) Kalimas Utara Street (orange highlighted road), which was originally narrow and full of illegal truck parking, requires design interruptions that reduce and speed up movement

This study holds significant implications for architecture, emphasizing the importance of cultural heritage preservation and its integration within contemporary design. By employing an urban acupuncture approach and utilizing the Force-Based Framework, the design sought to establish a strong connection between the pavilion buildings and their historical context. One of the key contributions of this design lies in its emphasis on movement experiences and the categorization of different movement types. It fosters a sense of place, authenticity, and connection among visitors and locals, enriching their experiences and deepening their understanding of the site's cultural significance.

#### 4. Conclusions

Pusaka Pavilion is a design that relates a building or structure to its historical context and the way users move through it. The concept commits to mobility as a substance, by presenting a new circulation channel alternative and enhancing the existing flow, as well as paying homage to the history by reviving old constructions as a center of attraction and circulation flow. Design efforts to tackle the site issue in Pabean Market emphasize the principle of urban acupuncture and incorporate commemorative architecture. In this case, as presented on Figure 4.1, the design is expected to be able to optimize movement as a medium to experience history and present fresh perspectives and cultural richness.

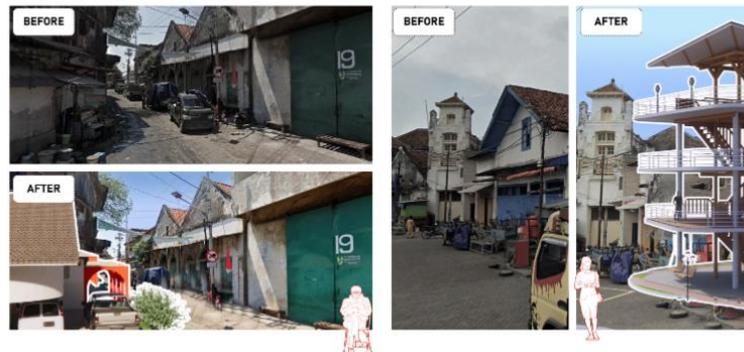


Figure 4.1 Pusaka Pavilion Projection  
Source: Author, 2023

The design goals drawn from the data analysis and planning that have been discussed in the previous chapters are to spread circulation to reduce mobility on small and congested roads, and direct mobility to quiet areas yet appealing. The proposed design also serves to revive cultural identity indirectly by presenting historical elements, as well as directly by the function of the masses as a means of education.

Several things that need to be considered when designing as an evaluation and suggestions for future research, namely:

1. Deepen the narrative, issues, needs of the site context and the surrounding community. In maintaining cultural continuity, it is also important to involve the local community from the planning process
2. Conduct structural studies and explorations in order to create a design that blends in with the existing conditions, especially housings that might be affected by the additional design interventions
3. Designing a more detailed utility system, especially the sanitation system to maintain the cleanliness of the fish market environment. This can be through the conceptual design of waste management, water use efficiency, and others

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The authors declare no conflict of interest.

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