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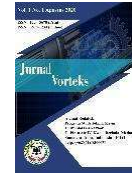
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INTEGRATION OF CONTEXTUAL ARCHITECTURE IN THE DESIGN OF THE PANCEING CEMARA STREET WALK, DELI SERDANG REGENCY

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Abstract

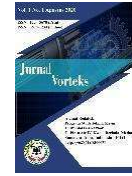
Medan City and Deli Serdang Regency are two adjacent regions experiencing significant population growth. In the border area, particularly in Percut Sei Tuan District, the need for public spaces for recreation and social interaction has not been optimally fulfilled. The limited availability of open space in this densely populated area highlights the importance of developing spaces that can inclusively accommodate social functions. To address this issue, the design of the Pancing–Cemara Street Walk is proposed as a public space that is not only functional but also contextual to its surrounding environment. With the theme of contextual architecture, the Street Walk design aims to harmonize with the social, cultural, and physical character of the area, while reviving local elements through adaptive architectural expression. Spaces such as parks, seating areas, pedestrian paths, commercial zones, and green open areas are designed to support the creation of a comfortable and well-connected place for interaction and recreation.

Abstrak

Kota Medan dan Kabupaten Deli Serdang merupakan dua wilayah yang saling berbatasan dan mengalami pertumbuhan penduduk yang signifikan. Di kawasan perbatasan, khususnya Kecamatan Percut Sei Tuan, kebutuhan akan ruang publik untuk aktivitas rekreasi dan interaksi sosial belum terpenuhi secara optimal. Keterbatasan ruang terbuka di wilayah padat ini mendorong pentingnya pengembangan area yang mampu mengakomodasi fungsi sosial masyarakat secara inklusif. Menjawab permasalahan tersebut, perancangan Street Walk Pancing–Cemara diusulkan sebagai ruang publik yang tidak hanya fungsional, tetapi juga kontekstual terhadap lingkungan sekitarnya. Dengan mengusung tema arsitektur kontekstual, desain Street Walk dirancang agar selaras dengan karakter sosial, budaya, dan fisik kawasan, serta mampu menghidupkan kembali elemen-elemen lokal dalam wujud arsitektur yang adaptif. Ruang-ruang seperti taman, area duduk, jalur pedestrian, zona komersial, dan ruang terbuka hijau dirancang untuk mendukung terciptanya tempat berinteraksi dan berekreasi yang nyaman dan terhubung



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INTRODUCTION

Medan City has 21 sub-districts and villages, with a population of $\pm 2,474,166$ people, bordering Deli Serdang Regency in Medan Tembung District which has a population of $\pm 149,279$ people. [1] Meanwhile, Deli Serdang Regency has 22 sub-districts and 394 villages/wards with a population of approximately 1,931,441. In Percut Sei Tuan District, which borders Medan Tembung, there are only three tourist destinations. [2]. Due to the lack of recreation and interaction locations or areas directly adjacent to Medan City in Percut Sei Tuan District, there is a phenomenon that occurs in Percut Sei Tuan District, namely the lack of areas for public space, interaction and social, so a place is needed for recreation and community interaction areas in the form of Street Walk in the Pancing and Cemara Area. Responding to this condition, Street Walk Pancing Cemara with a contextual architectural approach, as an effort to present a public space that is in harmony with the local character.

Street Walk can be defined as a public area which contains open spaces, commercial areas, dining areas such as food courts, sidewalks, plazas, and shopping center functions, which can connect activities that support interaction and recreation. [3] Contextual architecture is a design approach that considers the harmonious relationship between new buildings and the existing conditions around them. According to [4] (1980) in his book *Architecture in Context*, this approach is carried out through the integration of local elements such as the form, material, and scale of the building into a new design, so as to create visual and functional continuity in one area, aiming to create a harmonious relationship between the building and its surrounding environment. This approach emphasizes the importance of integrating the building with its surrounding context. This can be done by reincorporating elements or elements from the surrounding environment into the new building design.

Literature Review

1. Contextual Architecture

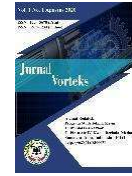
According to Ian Bentley in his work *Architecture in Context* (1980) [4] Contextual architecture is an approach to designing and planning buildings that prioritizes visual continuity between new buildings and the character of their surrounding environment. This approach also includes an examination of the challenges that arise in creating relationships between buildings of different periods and complementing the surrounding environment. [5] This relationship can be realized by reintegrating elements or components found in the surrounding environment or buildings into the new building design. According to Ian Bentley [6], the application of contextual architecture can be categorized into two main applications, namely harmony and contrast.

- Harmony, The harmony approach is designing new buildings that are able to adopt and integrate existing elements in the surrounding environment, including existing old buildings that have been built previously.
- Contrast, The contrast approach is to present new elements that are different from what is in the old building and the environment in contextual architecture is not intended to disturb or damage the existing environmental order. On the contrary.
- There are several basic criteria that can be used as considerations in linking new buildings to their surrounding environment. These criteria are applied through theory by (Bentley, 2011). Ian Bentley (1985) in his book *Responsive Environment*, namely:
 - *Permeability*, Easy access and circulation, which makes it easier to access the building
 - *Variety*, Diverse functions with adapt to various existing space needs
 - *Legibility*, Ease of building recognition, helping users understand and navigate the

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- environment through clearly designed and distinct paths, intersections and landmarks
- *Robustness*, Providing a place that can be used for various activities, with a multifunctional space
- *Visual appropriateness*, Visual Conformity, the building fits in appearance with the surrounding context.
- Richness, visual richness, provides an interesting and varied visual and sensory experience.
- *Personalization*, Personalization, different types of space functions

2. Street Walk as a Public Space

A Street Walk is a modern form of public space that combines pedestrian circulation with recreational and social interaction elements. Street walks can include elements such as pedestrian paths, parks, seating areas, food courts, plazas, and commercial zones, all connected by a single public corridor. These spaces support non-motorized mobility, create economic opportunities, and serve as inclusive social spaces.[3]

Street Walk A corridor is usually an open space corridor intended for pedestrians and serves to connect various commercial and retail areas. This corridor is open and relatively wide, ranging from 2 to 6 meters, depending on the concept and type of activity being implemented. [7]

A successful Street Walk design must meet the needs of urban communities for safe, comfortable, and easily accessible open spaces. Street Walks have three main elements:

1. Open space can be used for a variety of activities, including recreation, interaction, and performance areas. This space plays a crucial role in creating cohesion between various elements in the surrounding environment. Furthermore, its existence serves not only as a venue for entertainment or public activities, but also as a connecting link that unites the surrounding building masses.

2. Pedestrian, The word "pedestrian" comes from the Greek pedos, meaning foot. Therefore, the term refers to individuals who walk or walk within a particular environment.
3. Retail (buildings), Buildings are the main elements that shape the character and function of an area, especially in a modern shopping center environment. As commercial spaces, buildings have an important role in supporting various trading activities, providing facilities for visitors.[8]

RESEARCH METHODS

In this research, primary and secondary methods are used. Primary data is data collected directly from sources for research purposes in accordance with the required object data. The collected data is in the form of information regarding the design location and the needs in the design, and the secondary data used is information that has been collected, recorded, and compiled through previously available sources. The secondary data used is in the form of previous research references, books, scientific journals, articles. The secondary data required is related information in the design.

ANALYSIS AND INTERPRETATION

The Street Walk design is located in Deli Serdang Regency, Percut Sei Tuan District, North Sumatra. With a footprint of ±18,100 m.



Figure 1 Location and Size of Site

The site is located at a crossroads, accessible from Jl. H. Anif on the west side and Jl. Irian Barat on the south side. Therefore, the entry lanes for four-wheeled and two-wheeled vehicles are separate in the site, to reduce congestion at the intersection. Streetwalk prioritizes circulation and access functions, allowing users to walk on Street Walk. Parking is placed at the rear of the site to minimize vehicle dominance, so that visitors can walk more.

The site's circulation is designed in a curved and winding manner to encourage a flowing and winding circulation concept, creating a dynamic and engaging walking experience. This non-linear path creates curiosity and visual surprises at every turn, while also opening up opportunities for seating areas, photo spots, and community activity areas. The placement of the masses following the shape of the site, surrounded by scattered small gardens, further enriches the spatial experience, both visually and functionally.

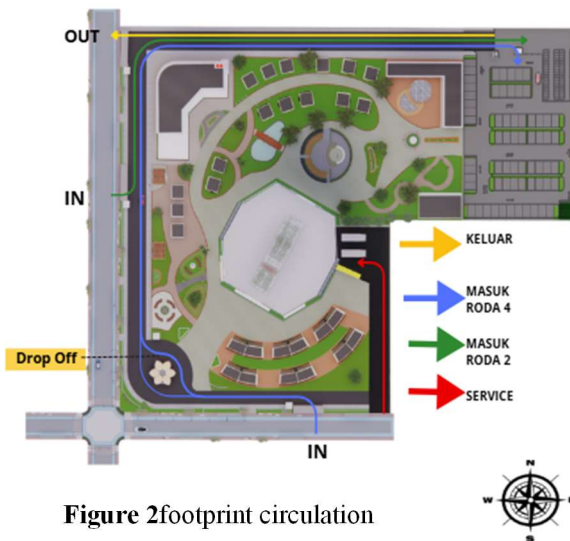


Figure 2 footprint circulation

The layout of the building mass follows the planned circulation form. It is designed to spread out so that visitors are encouraged to explore the entire site area, creating a comprehensive circulation flow and increasing interaction with each available function zone.



Figure 3 building period

Street Walk applied to three main elements: open spaces, pedestrian paths, and commercial zones. Open spaces serve as social gathering points and comfortable recreational facilities, such as public plazas, themed gardens, and communal seating areas. Pedestrian paths are designed with a Primary Path Width of 4-8 m and a Secondary Path Width of 2-4 m. Commercial zones merge with pedestrian paths, presenting retail, which supports the local economy.

APPLICATION OF CONTEXTUAL ARCHITECTURAL THEMES

The application of contextual architecture is applied by aligning the harmony and character of the surrounding environment with the street walk design, with the application of the theory by Ian Bentley (1985) in his book *Responsive Environment*, so that new buildings "blend" with the character of the surrounding environment context—both physical, social, and cultural and complement the deficiencies. Contextual Theory based on Bentley-Brent, is divided into seven (7) Indicators, namely: Permeability, Variety, Legibility, Robustness, Richness, Visual Appropriateness, and Personalization. These seven Indicators are applied to the design of the Pancing Cemara street walk through the following explanation.

1. Permeability(Easy access)

Easy access for users in the street walk design is applied in several parts, such as.

- a) Pedestrians are arranged around the site to facilitate access.

- b) designing pedestrians within the site that are comfortable, neat and safe
- c) easily recognizable gates, for example by designing the entrance
- d) pedestrian that connects between functions on the site
- e) alternative entry area to the site for pedestrians, so that access for pedestrians is easy
- f) multi-lane that connects the masses, but not just one line, but can be from many lines



Figure 4 Application of permeability

2. Variety (Varied functions)

Variety in contextual architecture refers to the diversity of functions that support various activities and create a vibrant environment. The surrounding site features a variety of building functions, such as shophouses and commercial areas, but the availability of interaction and recreational spaces remains limited.

- a) Various activity functions such as recreation and interaction areas
- b) Street Walk provides a shopping area, allocation of surrounding traders, open stage, green park
- c) Combination of Social, Commercial and Recreational Functions

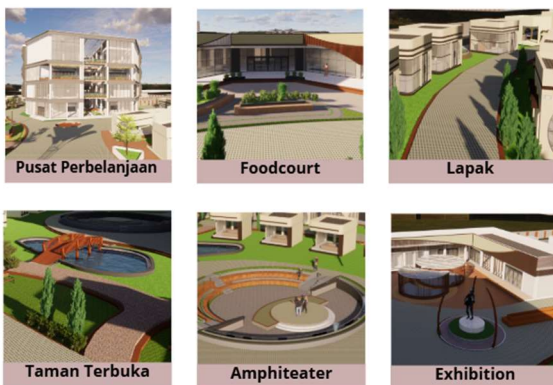


Figure 5 Application of variety

3. Legibility (Easily recognized)

The area's layout is designed to be clear and easily recognizable through the use of visual landmarks such as large signage, distinctively patterned corridors, and a central plaza. These elements help visitors navigate, find gathering points, and identify the function of each space.

- a) Provide visual identity (color, shape, small landmarks)
- b) Center orientation within the site
- c) Building recognition in the form of building names in clear signage
- d) Consistency of Design and Visual Style
- e) The main pedestrian paths are marked by different floor materials,
- f) Secondary paths or access to the park, food court, or plaza are made narrower or the floor texture is different.



Figure 6 Implementation of legibility

4. Robustness (Functional Flexibility)

Robustness refers to a space's ability to adapt to various activities. Open spaces such as plazas and parks are designed to be multifunctional, allowing them to serve as gathering areas, art stages, bazaars, and even educational spaces, depending on the community's needs.

- a) Multifunctional open space for relaxing, performing, or playing.
- b) Shopping center atrium for bazaars, outdoor gardens, and other activities.
- c) A stall area with seating, a lounge, and semi-permanent buildings for exhibitions.
- d) Seating area in the park as a public interaction space.

- e) The pedestrian path branches out with wider spaces for events, street artists, or evening culinary delights.



Figure 7 Implementation of robustness

5. Visual Appropriateness

Visual Appropriateness in contextual architecture is a principle that ensures the design of buildings and public spaces is in harmony with the character, scale, and identity of the surrounding environment. This approach considers visual elements such as massing, color, materials, and architectural details to harmonize with the existing context, without losing the distinctive features or innovation of the design. In this context, buildings are designed so that their external appearance is in harmony with the surrounding environment, thus creating visual continuity and avoiding the impression of excessive contrast.

- a) Number of floors 1-4 m
- b) Local materials such as exposed brick, wood, natural stone, secondary skin, stone skin, WPC, roster, etc.
- c) Use of facade layering (secondary skin, WPC, glass)
- d) Dominance of box shapes, sharp horizontal/vertical lines, flat facades.
- e) Neutral warm colors such as gray, wood brown, and black
- f) The front facade is designed with a strong visual focal point in the center with an open garden atrium and skylights.



Figure 8., Application of visual appropriateness

6. Richness (Visual Richness)

Richness refers to the ability of a space or building to provide diverse visual and sensory experiences, thus creating interest and comfort for visitors. This can be achieved through a combination of elements such as varied textures, dynamic natural lighting, refreshing vegetation, play of color, and unique architectural details. This approach makes every corner of the area feel alive and invites exploration.

- a) The facade has a play of perforated brick textures, lattices
- b) The facade uses a combination of glass, WPC, and secondary metal skin, each of which has a different visual character.
- c) Creating a skylight Natural light enters from skylights and louvers.
- d) The sound of water from the fountain.
- e) Texture and Pattern Play



Figure 9Application of richness

7. Personalization

According to Bentley, personalization is the ability to represent the area and location where it is built. In this regard, Bentley emphasizes that planned buildings must involve the participation of the surrounding community and residents, as well as the ability of users or designers to add local identity, meaning, or expression to the design.

- a) Retail with different types according to tenant needs
- b) Providing a place for the community to participate by providing a stall area that can be rented

c) provide an exhibition area for the public



Picture 10 Applications of personalization

Source: personal document, 2025

Of the seven Ian Bentley (1985) in his book *Responsive Environment*, the application to Street Walk was again adjusted according to the needs and function of each building.

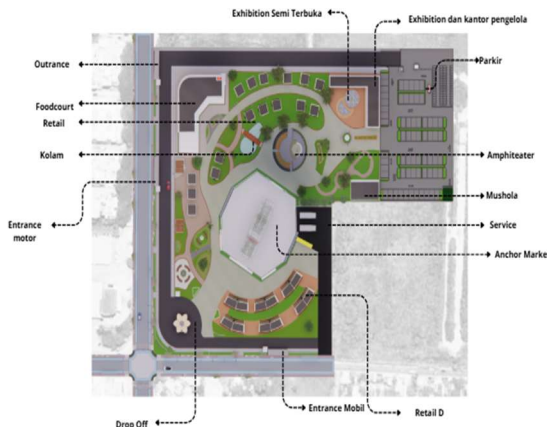


Figure 11 Site plan

By integrating the principles of contextual architecture according to Ian Bentley, the street walk design will not only create a public space that simply fulfills its basic function as a pedestrian path, but also becomes a space rich in meaning and socially and culturally significant for the surrounding community. This contextual approach ensures that the street walk design responds carefully to the physical character of the surrounding environment, from the building form, circulation patterns, materials, to the created spatial atmosphere. Thus, this public space becomes an integrated and harmonious part of the local identity.

Conclusion

Based on the analysis and design of the street walk in Cemara using Ian Bentley's 7 principles of contextual architecture, it can be concluded that the

integration of these principles can produce a public space design that is not only functional, but also has high aesthetic and social quality. The application of principles such as variety (functional diversity), legibility (ease of recognition), robustness (functional flexibility), richness (visual richness), personalization (personalization), appropriateness (visual suitability), and permeability (ease of access and circulation) provides a strong foundation in creating a street walk that is responsive to the physical, cultural, and social context in the Cemara area.

The resulting design strengthens local identity through the selection of appropriate materials and architectural forms, while creating a dynamic and inclusive social interaction space for diverse user groups. Thus, the street walk in Cemara serves not only as a pedestrian path but also as a vibrant, meaningful, and easily accessible public space, tailored to the needs and character of the local community.

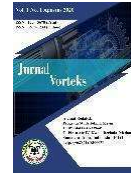
The implementation of Ian Bentley's contextual architectural principles in this design can be an important reference for the development of other public spaces that prioritize harmony with the surrounding environment, as well as supporting the social and cultural sustainability of the area.

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