

## Spatial Transformation of The *Catuspatha* Area as The City Center of Tabanan

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### ABSTRACT

Urban centers in Bali, such as Tabanan, are closely associated with *Catuspatha*, which represents the identity of traditional Balinese spatial planning. However, historical, political, social, and modernization processes have driven complex spatial transformations. This study offers novelty by comprehensively examining the relationship between land use, road networks, and open space transformations about the meaning, function, and elements of *Catuspatha*, framed within central place theory. The objective is to analyze spatial dynamics from the kingdom era (1493–1906), colonial period (1906–1929), to the modern era (2002–2025), along with the non-physical factors influencing these changes. A qualitative-descriptive method was employed through synchronic and diachronic analysis, supported by field observation, archival research, mapping, and in-depth interviews with local figures. The results reveal that land use shifted from a concentric model centered on the *puri* to a colonial sectoral pattern, and later to a multifunctional polycentric structure. The road network evolved from the traditional *Catuspatha* into a modern grid, while open space experienced significant fluctuations—expansive in the royal era, reduced by 45% in 2002, and revitalized through the construction of Bung Karno City Park in 2025. In conclusion, although the functions and settings of *Catuspatha* have shifted toward trade, services, and mobility, its cosmological meaning endures, consistent with central place theory that emphasizes dynamic and multifunctional urban centers.

**Keywords:** Spatial Transformation, City Center, *Catuspatha* Concept, Tabanan

### ABSTRAK

Pusat-pusat kota di Bali, salah satunya di Tabanan identic dengan keberadaan *Catuspatha* yang merepresentasikan identitas tata ruang tradisional Bali, namun perkembangan sejarah, politik, sosial, dan modernisasi telah mendorong transformasi spasial yang kompleks. Penelitian ini memiliki kebaruan karena mengkaji keterkaitan transformasi guna lahan, jaringan jalan, dan ruang terbuka terhadap makna, fungsi, dan elemen *Catuspatha* secara komprehensif dengan pendekatan teori pusat kota. Tujuan penelitian adalah menganalisis dinamika perubahan spasial dari masa kerajaan (1493–1906), kolonial (1906–1929), hingga era modern (2002–2025), serta faktor non-fisik yang memengaruhinya. Metode yang digunakan adalah kualitatif-deskriptif melalui analisis sinkronik dan diakronik, dilengkapi observasi lapangan, studi arsip, pemetaan, dan wawancara mendalam dengan tokoh lokal. Hasil penelitian menunjukkan transformasi guna lahan bergeser dari pola kosentris berbasis *puri*, ke model sektoral kolonial, hingga inti ganda multifungsi modern. Jaringan jalan berubah dari pola tradisional *Catuspatha* ke grid modern, sementara perubahan ruang terbuka menunjukkan dinamika yang cukup signifikan, bermula dari keberadaan ruang terbuka yang luas, kemudian mengalami penyusutan sebesar 45% pada tahun 2002, hingga akhirnya dipulihkan kembali melalui pembangunan Taman Kota Bung Karno pada tahun 2025. Kesimpulan utama menegaskan bahwa meski fungsi dan setting *Catuspatha* bergeser menuju pusat perdagangan, jasa, dan mobilitas, makna filosofisnya sebagai simbol kosmologis tetap bertahan, sekaligus konsisten dengan teori pusat kota yang menekankan sifat dinamis dan multifungsi.

**Kata kunci:** Transformasi Spasial, Pusat Kota, Konsep *Catuspatha*, Tabanan

## 1. INTRODUCTION

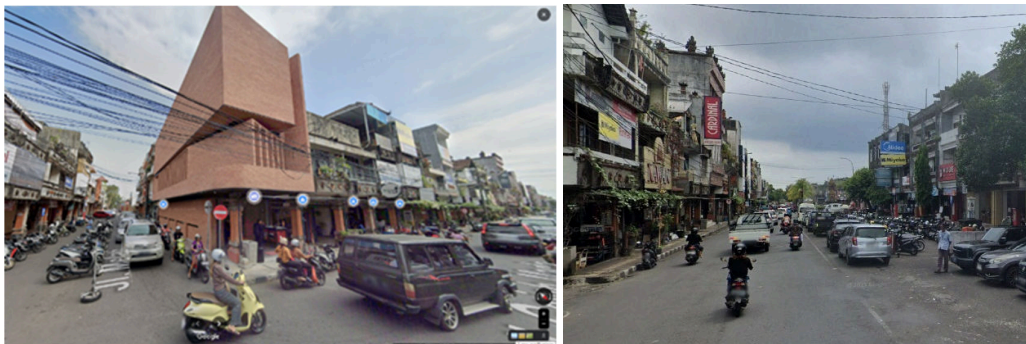
The city center plays a crucial role in urban life, as it is regarded as the heart of the city a vital core and the main driving force of diverse activities. Just as the heart circulates energy throughout the body, the city center circulates dynamics through a structured and hierarchical system of spaces and networks of activities (Batty, 2013). This area serves as a focal point for trade, governance, public services, and cultural activities, thus assuming a multidimensional role in supporting urban development. In addition, the city center embodies historical values that reflect the identity of the region. However, over time, the city center is dynamic and transforms, shifting from a traditional form imbued with cosmological values toward a modern form that is more commercial and contemporary (Wibisono, 2023).

The phenomenon of changes in city centers can be observed in various regions, including on the island of Bali, particularly in Tabanan Regency. The center of Tabanan City is closely linked to the concept of *Catuspatha*, namely the four-way intersection (*pempatan agung*) that philosophically represents the meeting of the four cardinal directions (Putra, 2005). More than just a road junction, *Catuspatha* serves as a multidimensional space accommodating governmental, religious, commercial, artistic, and public functions, while also carrying symbolic meaning as the center of the world or the royal domain (Mahira, 2014). The main elements of *Catuspatha* consist of the *puri* (royal palace), *peken* (market), *wantilan* (community hall), and *alun-alun* (town square), with their spatial arrangement based on cosmological orientation (Putra, 2005).

Based on previous studies, the transformation of Tabanan City Center has been closely related to changes in the *Catuspatha* across different periods: the royal era, the Dutch East Indies colonial period, and the post-independence era. During the royal period, the area functioned as the center of governance and as a cosmological symbol of the kingdom, with the *puri* (palace) serving as the locus of power (Dwijendra et al., 2020). Entering the Dutch East Indies colonial era, the function of the area shifted drastically. Puri Agung Tabanan was demolished, and the *Catuspatha* was repurposed as a military base and commercial hub. The four-way intersection itself was relocated approximately 150 meters to the south and replaced with a clock tower. The Dutch deliberately made these changes to weaken the symbolic and spiritual power of the *Catuspatha* (Santi Priyanka, 2019; Yogesvara et al., 2020). Since independence to the present day, the *Catuspatha* area has undergone spatial dynamics. Puri Agung Tabanan was reconstructed, the surrounding area became filled with office buildings, shops, cultural facilities, and the *Catuspatha* was restored to its original location. Today, the intersection is marked by the *Catur Muka* statue, which serves as the landmark of the city center.

Additionally, the area has been developed as an administrative and commercial zone (Yogesvara et al., 2020).

Over time, this area has come to function not only as the administrative center of Tabanan Regency but has also been designated in the Tabanan Regency Spatial Plan (RTRW) 2023–2043 as a strategic economic zone. This designation carries consequences in the form of development pressures, driven by a population growth rate of 0.81% over the past five years in Tabanan City, according to data from the Central Bureau of Statistics (BPS) of Tabanan Regency (2025). These pressures are reflected in traffic congestion caused by the increasing intensity of trade and service activities in the city center, the growing use of private vehicles, and the occupation of almost all road segments for parking. In addition, the area has begun to undergo modernization, as evidenced by the emergence of modern-style commercial buildings surrounding the city center.



**Figure 1.** The Condition of Modern-Style Shop Buildings and Vehicle Density in the Center of Tabanan City

Source: *Author Documentation, 2025*

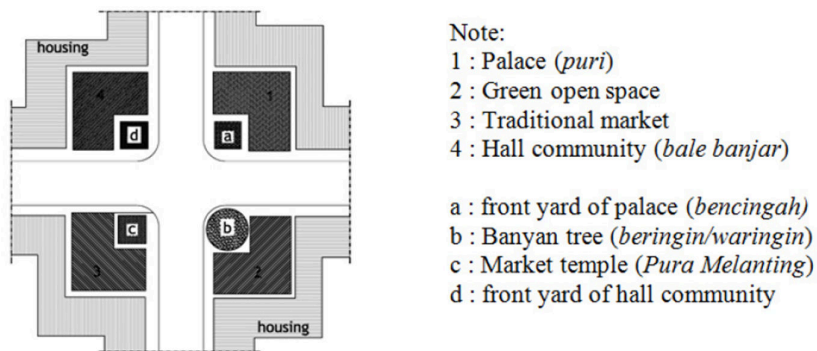
Several previous studies have examined the condition of Tabanan City Center by focusing on the transformation of Catuspatha from historical, cosmological, and cultural identity perspectives (Dwijendra et al., 2020; Putra, 2005; Santi Priyanka, 2019). However, there remains a research gap concerning the comprehensive spatial transformation of the city center based on urban elements such as land use, the availability of open spaces, road networks, and the driving factors behind the dynamics of change over time. Therefore, this study was conducted to understand the dynamics of these transformations through synchronic–diachronic analysis and to identify the factors influencing such changes. The findings are expected to serve as an evaluation tool and provide strategic considerations for future urban planning, ensuring that Tabanan City Center can preserve its historical and cultural values while simultaneously developing as a vibrant and modern urban core.

## 2. LITERATURE REVIEW

### 2.1 The Concept of *Catuspatha*

The *Catuspatha* is a traditional spatial concept defined by the intersection of four roads aligned with the cardinal directions east–west and north–south (Putra, 2005). This intersection forms a cross-shaped configuration (+), which underlies the symbolic structure of the *swastika* in Hindu belief, representing the cyclical nature of the universe (Mahira, 2014). The significance of the *Catuspatha* is detailed in the ancient Balinese manuscript *Lontar Eka Pretaming Brahmana Sakti Bujangga*, which describes the *pempatan agung* or *Catuspatha* as the symbolic center of the world and of the state. During the era of Balinese kingdoms, the *Catuspatha* served as the political and cosmological center, reflecting the Hindu conception of the state as a microcosm a miniature representation of the macrocosm or universe (Putra, 2005). According to Dwijendra (2003), the *Catuspatha* is composed of four key spatial elements, each serving a distinct function:

- Northeast quadrant: The *puri* (royal palace), functioning as the residence of the king and the administrative center of governance.
- Northwest quadrant: The *wantilan* or *bale banjar*, serving as a communal hall used for meetings, public gatherings, and cultural activities during the royal era.
- Southeast quadrant: An open green space or alun-alun, designated for recreation and public leisure.
- Southwest quadrant: The *peken* or traditional market, functioning as the center of commerce and trade.



**Figure 2.** Spatial Layout of the *Pempatan Agung* (*Catuspatha*)  
Source: Budiharjo, 1986 as cited in Dwijendra, 2003

*Catuspatha* serves as the center of the world, the guardian of cosmic balance, and the primary point of orientation within Bali's traditional spatial order. Its functions encompass being the center of governance, a locus of religious and cultural activities, a hub of economic and trade activities, as well as a public open space (Dwijendra et al., 2020; Putra, 2005).

## **2.2 City Center Theories**

The city center is characterized by its high concentration of commercial, social, and administrative activities, serving as the focal point of the urban transport network and possessing the highest land values relative to other parts of the city structure (Burgess, 1925). In general, urban centers exhibit distinct characteristics: they are complex and dynamic spaces, act as hubs of economic growth and urban activity, serve as markers of city identity, and offer high levels of accessibility (Wibisono, 2023).

From the perspective of urban morphology, the physical structure of city centers can be analyzed through various key elements (Wibisono, 2023). Shirvani (1985), identifies eight major physical components of urban form, including: Land use, Building form and mass, Circulation and parking, Open spaces, Pedestrian pathways, Landmarks, Supporting activities, and Preservation and conservation. In addition to these physical elements, several classical theories have been developed by scholars to explain land use patterns in central urban areas, as outlined below:

- **Concentric Model (Burgess, 1925)**

This model proposes that the urban core is structured around a single central nucleus, from which land use functions radiate outward in a series of concentric rings. Urban development expands progressively from the central business district (CBD) toward the city's outer edges, forming distinct zones that reflect different urban functions.

- **Sectoral Model (Hoyt, 1939)**

This model represents a refinement of the earlier concentric zone theory. While it retains the concept of a single central urban core and the existence of concentric zones, its primary distinction lies in the pattern of urban growth. Rather than expanding uniformly in circular rings, urban functions develop in wedge-shaped sectors or slices. These sectors extend outward from the city center, typically aligning with transportation corridors or shaped by topographical constraints.

- **Multiple Nuclei Model (Harris, C. D., & Ullman, 1945)**

This model proposes that an urban center is not organized around a single core, but rather consists of multiple nuclei or centers of activity. Each nucleus serves a distinct function and is surrounded by complementary land uses. Unlike the structured rings or sectors in earlier models, the spatial arrangement in this model is more irregular, reflecting a decentralized and functionally diverse urban form.

Urban centers can also be analyzed based on their core functions and roles. Functionally, the city center serves as a vital area that supports the internal needs of the city, particularly in terms of residential use and as a venue for various civic activities. According to Wibisono (2023), the primary functions of a city center include:

- Center of political power and government administration
- Hub for business, urban activities, and commerce
- Center for education, culture, entertainment, and tourism
- Area with mixed-use functions

In addition to these internal functions, city centers also play an important role in serving surrounding areas, including adjacent towns or hinterlands. Wibisono (2023), identifies several key roles of urban centers, such as:

- Providing space and stimulating urban activity
- Acting as a strategic node connecting to other regions
- Driving local and regional economic growth and enhancing land value
- Shaping and transforming urban spatial structures
- Establishing city identity, preserving cultural values, and contributing to place branding
- Functioning as an agent of social change

### **2.3 Urban Transformation Theory**

Urban transformation is a long-term process of change encompassing physical, social, economic, and cultural aspects, influenced by both internal and external factors. Such shifts generally reflect the city's efforts to adapt to globalization, urbanization, and the implementation of sustainable development policies (Zhang, W., & Lin, 2021). Transformation can be analyzed through the traces of processes and the elements that undergo change, enabling comparisons between past and present conditions, including forms of integration (Natanael et al., 2023). According to Douglass (2018), urban transformation unfolds in three main phases:

1. Physical and spatial reconstruction, which includes spatial reorganization, land-use change, and infrastructure development.
2. Socio-economic restructuring, referring to the shift in the city's economic structure, such as from an agrarian base to industrial or service sectors, is accompanied by increased population mobility.
3. Reinterpretation of urban identity, namely the emergence of new meanings of urban space that differ from previous periods.

According to Albrechts (2020), urban transformation involves five key components: the original historical context, internal and external driving forces, and the resulting forms and conditions of change. To fully understand urban transformation, it is essential to identify the specific forms and dimensions involved. These are generally categorized into three major dimensions: Physical/spatial transformation, Economic transformation, and Socio-cultural transformation (Natanael et al., 2023).

### 3. METHODS

The research employed a qualitative-descriptive approach, focusing on the spatial transformation of Tabanan City Center. The analysis was conducted through two perspectives: synchronic analysis, which examines conditions within specific periods, and diachronic analysis, which traces historical changes in chronological sequence. The periods under investigation include 1493–1906, 1906–1929, 2002, and 2025. The research site is located in the central area of Tabanan City, administratively encompassing the villages of Dajan Peken, Delod Peken, and Dauh Peken within Tabanan Regency, Bali Province.

#### 3.1 Research Data

The data utilized in this study are grounded in the theoretical frameworks of the *Catuspatha* concept, urban core dynamics, and urban transformation. The research specifically focuses on three key elements: land use, road network development, and open space of the Tabanan city center. The types of data required for this study are outlined as follows:

**Tabel 1.** Data Requirements

| Variabel     | Indicator                             | Data                                    | Data Sources                                                       |
|--------------|---------------------------------------|-----------------------------------------|--------------------------------------------------------------------|
| Land Use     | Types of Land Use                     | Land Use Map                            | Secondary Data, Departemen PUPR, Interviews, and Field Observation |
|              |                                       | Administrative Region Map               |                                                                    |
| Road Network | Patterns and Road Circulation Systems | Road Network Map                        | Secondary Data, Departemen PUPR, Interviews, and Field Observation |
|              |                                       | Width and Direction of Road Circulation |                                                                    |
| Open Space   | Building and Open Space Configuration | Map of Open Space Location              | Secondary Data, Interviews, and Field Observation                  |
|              |                                       | The Area of Green Open Space            |                                                                    |

Source: *Author, 2025*

#### 3.2 Data Collection

Data collection for the current condition was carried out using primary data obtained through field observations, complemented by mapping activities. This process involved plotting

points related to the observed variables, conducting in-depth interviews, and collecting secondary data from relevant institutions such as the Regional Development Planning Agency (Bappeda), Department of Public Works and Spatial Planning (PUPR), the Department of Culture, the Central Bureau of Statistics (BPS) of Tabanan Regency, and the Village Head Office.

Historical data were obtained through literature review, analysis of previous research, and archival collection such as historical documents and photographs sourced from websites, social media platforms, and private records. This process was complemented by in-depth interviews using a snowball sampling approach, starting with local figures such as members of the Puri family, regional heads, and village heads, who then recommended other respondents considered to have deeper knowledge of the area's history.

**Tabel 2.** Data Informants

| No. | Informants                               | Age         | Informant Categories |
|-----|------------------------------------------|-------------|----------------------|
| 1.  | Village Head                             | 30–60 years | Government           |
| 2.  | Village Office Staff                     |             |                      |
| 3.  | Village Secretary                        |             |                      |
| 4.  | Regional Head                            |             |                      |
| 5.  | King of Tabanan                          | 50–75 years | Community            |
| 6.  | Tabanan Royal Family and Content Creator |             |                      |

Source: *Author, 2025*

This study adheres to research ethics principles, particularly during interviews, in which the researcher obtained informed consent from informants, respected their privacy, ensured the confidentiality of their identities when requested, and used the data solely for academic purposes. The information collected from various sources was then interpreted into data in the form of land use maps, road networks, and open spaces of the city center area at a scale of 1:2500, and subsequently illustrated using AutoCAD, CorelDraw, and Photoshop software.

### **3.3 Data Analysis**

The data analysis process in this study began by categorizing the findings into research variables, namely land use, road networks, and the functions and roles of the area. At this stage, data triangulation was carried out to ensure the validity and reliability of the results by comparing data from various sources (archival documents, field observations, and interviews with informants). Temporal triangulation was also applied by cross-checking information across different research periods to identify consistencies and discrepancies in the data. The next step involved synchronic analysis, which identified the observed elements based on the variables and predetermined periods in order to illustrate the conditions of the city center area, represented in map form. Subsequently, the results of each period were aligned and analyzed

diachronically by examining changes in each variable over time as well as the factors driving these changes. In this way, the study produced a comprehensive depiction of the dynamics of spatial transformation in the city center area through the shifts and transformations of its urban spatial elements.

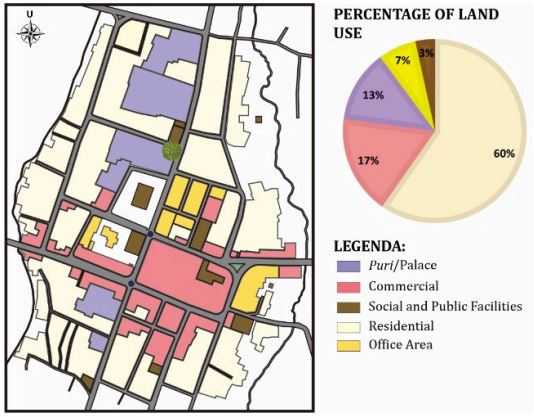
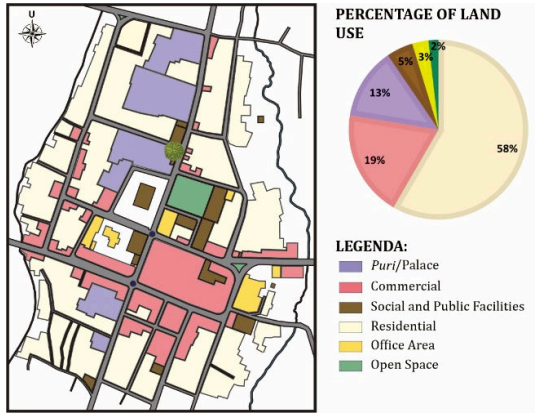
## 4. RESULTS AND DISCUSSION

### 4.1 Land Use Analysis

This analysis examines the spatial distribution of urban land based on designated functions such as commercial areas, residential zones, industrial sites, and green open spaces. In assessing land use patterns, several key factors must be considered, including the type of land function, the intensity of land use, the spatial distribution of activities, and the functional interrelationships between different urban zones (Shirvani, 1985).

**Tabel 3.** Land Use Data of Tabanan City Center Area

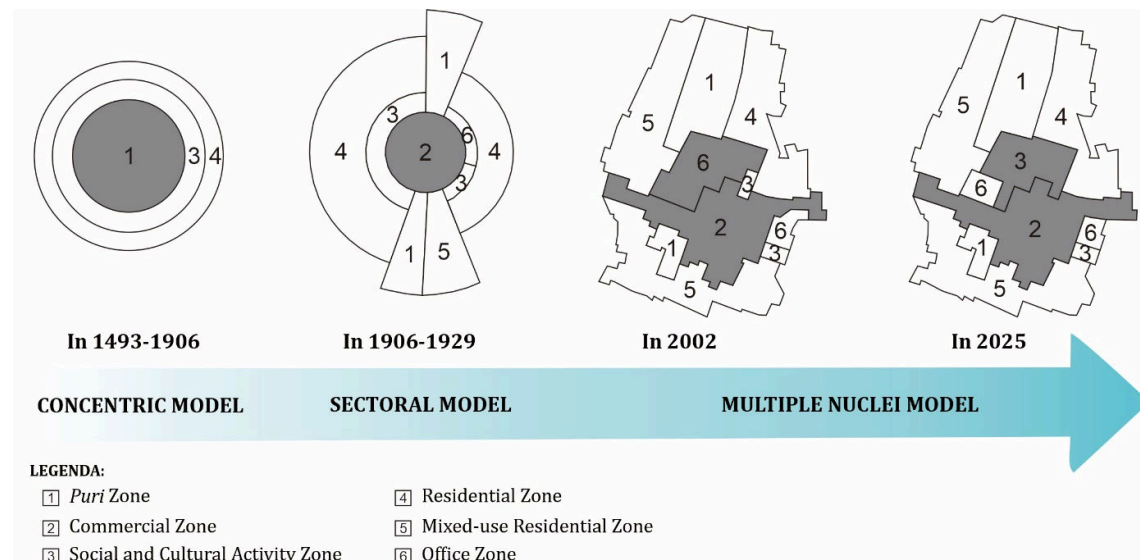
| In 1493-1906                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | In 1906-1929                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>PERCENTAGE OF LAND USE</b></p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Puri/Palace</li> <li>Commercial</li> <li>Social and Public Facilities</li> <li>Residential</li> <li>Open Space</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>PERCENTAGE OF LAND USE</b></p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Puri/Palace</li> <li>Commercial</li> <li>Social and Public Facilities</li> <li>Residential</li> <li>Office Area</li> <li>Open Space</li> </ul>                                                                                                                                                                                                  |
| <p>Source: Data compiled from interviews, and archival map from the 1800s obtained from the Tabanan royal family</p> <ul style="list-style-type: none"> <li>Land use functions were dominated by the <i>puri</i> (royal palace).</li> <li>Land use consisted of residential areas for palace servants, as well as social and public facilities such as temples (<i>pura</i>), community halls (<i>bale banjar</i>), and <i>wantilan</i>.</li> <li>Open space functions included the <i>alun-alun</i> (town square) and <i>setra</i> (cemetery).</li> <li>The commercial function was represented by a traditional market.</li> </ul> | <p>Source: Data compiled from interviews, and archival map from 1920 obtained Leiden University</p> <ul style="list-style-type: none"> <li>The growth of commercial and residential land use was very rapid due to the development of the area as a trade center and the arrival of the Chinese ethnic community.</li> <li>A new land use function emerged, namely offices, following the construction of Dutch administrative offices.</li> </ul> |

| In 2002                                                                                                                                                                                                                                                                                                                                                                                                                                                   | In 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>PERCENTAGE OF LAND USE</b></p> <p>60% Residential, 17% Commercial, 13% Puri/Palace, 7% Office Area, 3% Social and Public Facilities</p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Puri/Palace</li> <li>Commercial</li> <li>Social and Public Facilities</li> <li>Residential</li> <li>Office Area</li> </ul>                                  |  <p><b>PERCENTAGE OF LAND USE</b></p> <p>58% Residential, 19% Commercial, 13% Puri/Palace, 5% Office Area, 3% Social and Public Facilities, 2% Open Space</p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Puri/Palace</li> <li>Commercial</li> <li>Social and Public Facilities</li> <li>Residential</li> <li>Office Area</li> <li>Open Space</li> </ul> |
| <p>Source: Data compiled from interviews, and archival map from 2002 obtained from Departemen PUPR</p> <ul style="list-style-type: none"> <li>Commercial and residential functions increasingly crowded the area due to population growth, intensified trading activities, and the arrival of Bugis and Javanese communities.</li> <li>The office land use function expanded as the area was designated as the regional administrative center.</li> </ul> | <p>Source: Data compiled from interviews, and field observations conducted by the author, 2025</p> <ul style="list-style-type: none"> <li>The land character has become multifunctional.</li> <li>Residential and commercial land uses continue to dominate the area as a consequence of its designation as a strategic economic development center of Tabanan Regency.</li> </ul>                                                                           |

The changes in land use within the central area of Tabanan City over time demonstrate a transformation of spatial functions influenced by political, social, economic, and cultural dynamics. During the period of 1493–1906, when the city center served as the royal capital, land use was dominated by the *puri* (royal palace), which functioned as the core of governmental, cultural, and spiritual activities. The land use pattern of Tabanan’s city center during this period illustrates a concentric model, with the *puri* as the primary core zone, surrounded by other functional zones in the central area.

During the period of 1906–1929, land use experienced a transformation as a result of Dutch colonial policies. During this time, land use shifted more significantly toward commercial functions and administrative control under the Dutch government. The palace (*puri*) area and its surrounding *parekan* (palace servants) residential zones were repurposed into Dutch military offices, open spaces, and commercial areas. Observing the land use pattern reveals a sectoral model, with the Dutch administrative office as the central core, surrounded by commercial, residential, open space, and public facility zones that spread along road networks and available land.

In 2002, the land use of Tabanan City Center underwent another transformation, particularly in the central area of the city. The central area of the city center is dominated by office and commercial zones due to government policies designating the area as the center of government and commercial activities. The resulting land use pattern reflects the Multiple Nuclei Model, in which two primary cores emerged—office and commercial zones—surrounded by other functional zones with a spatial pattern that tended to be irregular. Meanwhile in 2025, the central area of Tabanan City demonstrates a multifunctional land use pattern. The focus of land use is not only on commercial zones but also includes the *puri* (palace) zone, public facilities, and open spaces that serve as venues for social, cultural, and religious activities. This land use arrangement also reflects the Multiple Nuclei Model, characterized by the presence of multiple centers of activity within the urban core.



**Figure 5.** Changes in Land Use Patterns in Tabanan City Center  
 Source: *Analysis Results of the Author Based on the Theories of Burgess, Hoyt, and Harris & Ullman, 2025*

Based on land use functions and dominant activities in the central area of Tabanan City, the function of this area between 1493 and 1906 served as the center of royal power and governmental administration. Subsequently, during 1906–1929, its function shifted to the center of Dutch colonial administration as well as a hub of trade for the city center and its surroundings. In 2002, the central area of Tabanan City still functioned as the center of regional governmental administration and commerce. Meanwhile, by 2025, the function of Tabanan's city center will have evolved into a multifunctional area, serving as a center of trade and services, as well as a cultural hub.

## **1. The Impact of Land Use Transformation on *Catuspatha***

Land use transformation in the city center of Tabanan has influenced changes in the meaning and philosophy of *Catuspatha*, its functions, and the spatial arrangement of its elements, as follows:

- **Meaning and Philosophy of *Catuspatha***

Initially, *Catuspatha* symbolized the center of the kingdom, balance, and the locus of governance. Over time, however, it has been regarded merely as a physical urban element, and today its meaning is more commonly associated with the city center or a focal point of activities. Nevertheless, its symbolic role as the center of the world and the balance of the universe has not changed, as this meaning is rooted in Hindu cosmology in Bali, recorded in sacred lontar manuscripts, and transmitted across generations through customary traditions, rituals, and religious practices (Putra, 2005). This philosophy is ideological and spiritual, meaning that its significance as the world's center and cosmic balance does not depend on the area's physical condition or political interventions but remains embedded in the consciousness of Balinese society.

- **Function of *Catuspatha***

Originally, the function of *Catuspatha* was as a center of governance, representing the authority and power of the king, as well as a locus for religious and spiritual activities (Dwijendra et al., 2020; Putra, 2005). At present, however, its role has shifted to that of an economic center, focusing on trade and services for Tabanan Regency.

- **Setting of *Catuspatha* Elements**

The constituent elements of *Catuspatha* such as *pempatan agung* (the main intersection), the *puri* (palace), the market, and the public square still exist today, though some have been transformed (e.g., the square has become a city park). However, the positions of these elements have shifted, making the visual impression of *Catuspatha* as an intersection with four defining elements at each corner less clear and more difficult to recognize.

## **2. The Compatibility of Land Use Transformation with the *Catuspatha* Concept and Central Place Theory**

Based on the observed land use transformations, when examined through the lens of the *Catuspatha* concept, a degree of consistency remains, as the core elements of *Catuspatha* are still present. However, their meanings, functions, and spatial settings have evolved in response to the area's development into a more multifunctional and modern urban center. From the perspective of central place theory, the transformation of Tabanan's city center across different

periods can be considered aligned, as the theory emphasizes that urban centers are inherently multifunctional and dynamic spaces that continuously evolve (Wibisono, 2023).

### 3. Factors Influencing Land Use Transformation

The transformation of land use in the central area of Tabanan City has been shaped by non-physical factors, including social, cultural, political, and historical conditions rooted in the legacy of the kingdom, the Dutch colonial era, and the subsequent regional government administration.

**Tabel 4.** Influencing Factors

| No. | Non-Physical Factors | Cause of Change                                                                                                                                                                                                                                |
|-----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Historical factors   | The transformation was influenced by the establishment of the Tabanan Kingdom in the area, followed by the transfer of power from the monarchy to Dutch colonial rule, and later to the regional government led by a regent ( <i>Bupati</i> ). |
| 2.  | Political factors    | The changes were driven by Dutch colonial policies that redefined land use, as well as local government policies designating the area as both the administrative center and a strategic economic hub.                                          |
| 3.  | Social factors       | Population growth, urbanization, and the influx of Chinese, Bugis, and Javanese ethnic groups diversified the functions of the area and reshaped its urban character.                                                                          |
| 4.  | Cultural factors     | The transformation was also influenced by the <i>Catuspatha</i> concept, which continues to serve as a marker of local cultural identity.                                                                                                      |

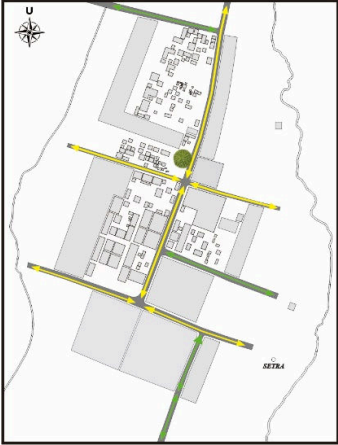
Source: *Author's Analysis Based on Interview Findings, 2025*

The transformation of the area's function shifted from initially serving as a governmental center to becoming a hub of commerce, services, and cultural activities, where Tabanan City is directed to focus on economic development while simultaneously strengthening the identity of its local culture.

#### 4.2 Road Network Analysis

Road network analysis involves the examination of key elements such as circulation systems, vehicular routes, pedestrian pathways, and parking facilities. These components play a critical role in shaping, directing, and regulating patterns of activity within an urban area (Shirvani, 1985). In general, there are three principal types of road network patterns commonly observed in urban structures: irregular street patterns, radial-concentric street networks, and grid patterns (Yunus, 2000).

**Tabel 5.** Road Network Data of Tabanan City Center Area

| In 1493-1906                                                                                                                                                                                                                                                                                                                                                                                                                                           | In 1906-1929                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Main Road</li> <li>Neighborhood Road</li> <li>Two-way Circulation</li> <li>One-way Circulation</li> </ul>                                                                                                                                                                                              |  <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Primary Road (Lebar 4 Meter)</li> <li>Secondary Road (Lebar 3-4 Meter)</li> <li>Neighborhood Road</li> <li>Two-way Circulation</li> <li>One-way Circulation</li> </ul>                                                                                                                                  |
| <p>Source: Data compiled from interviews, and archival map from the 1800s obtained from the Tabanan royal family</p>                                                                                                                                                                                                                                                                                                                                   | <p>Source: Data compiled from interviews, and archival map from 1920 obtained Leiden University</p>                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>The network pattern uses the concept of Catuspatha (four-way intersection)</li> <li>The road surface material is still using soil</li> <li>There are gutters on the right and left sides of the road as drainage channels</li> </ul>                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Grid road network pattern</li> <li>A road network began to be constructed of connect functional blocks of the area and facilitate the mobility of dutch troops</li> <li>The road covering material is still using soil but has been leveled</li> <li>The road network is categorized into 2 types and is already passable by vehicles</li> </ul>                                                                  |
| In 2002                                                                                                                                                                                                                                                                                                                                                                                                                                                | In 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Collector Road (Lebar 16 Meter)</li> <li>Collector Road (Lebar 9-9 Meter)</li> <li>Local Road (Lebar 8-9 Meter)</li> <li>Local Road (Lebar 6-7 Meter)</li> <li>Neighborhood Road</li> <li>Two-way Circulation</li> <li>One-way Circulation</li> <li>Parking lot</li> <li>On-street Parkir</li> </ul> |  <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Collector Road (Lebar 16-18 Meter)</li> <li>Collector Road (Lebar 9 Meter)</li> <li>Local Road (Lebar 8-9 Meter)</li> <li>Local Road (Lebar 6-7 Meter)</li> <li>Neighborhood Road</li> <li>Two-way Circulation</li> <li>One-way Circulation</li> <li>Parking lot</li> <li>On-street Parkir</li> </ul> |
| <p>Source: Data compiled from interviews, and archival map from 2002 obtained from Departemen PUPR</p>                                                                                                                                                                                                                                                                                                                                                 | <p>Source: Data compiled from interviews, and field observations conducted by the author, 2025</p>                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Grid road network pattern</li> <li>The road network is classified into 3 types based on its function</li> <li>The construction of roads within residential blocks</li> <li>There are pedestrian paths on the right and left sides of the road as facilities for pedestrian</li> <li>The road surface material has already used asphalt</li> </ul>                                                               | <ul style="list-style-type: none"> <li>Grid road network pattern</li> <li>The road arrangement is not much different from the conditions in 2002, only road widening has been carried out in several road area</li> <li>The arrangement of vehicle circulation at several points has implemented a one-way system</li> </ul>                                                                                                                             |

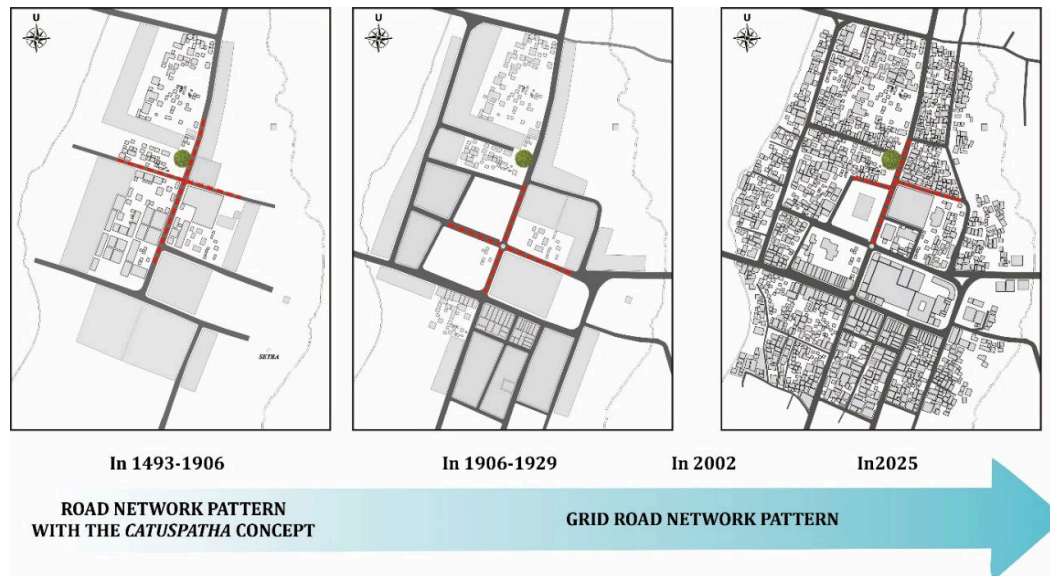
|  |                                                                                                                                                              |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>• The pedestrian path has already used guide blocks to facilitate the movement of people with disabilities</li> </ul> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

The transformation of the road network in the central area of Tabanan City has undergone gradual changes, reflecting shifts in political power structures, transportation technology, and the city's functional needs over time. Between 1493 and 1906, the road network was still basic and traditional. The existing road type was the pedestrian street (paths accessible only to pedestrians), consisting of footpaths with a primary four-branched pattern based on the concept of *Catuspatha*, which served as the spatial orientation center. Road access was constructed only to connect important locations such as the palace (*puri*), temples (*pura*), and settlements surrounding the palace.

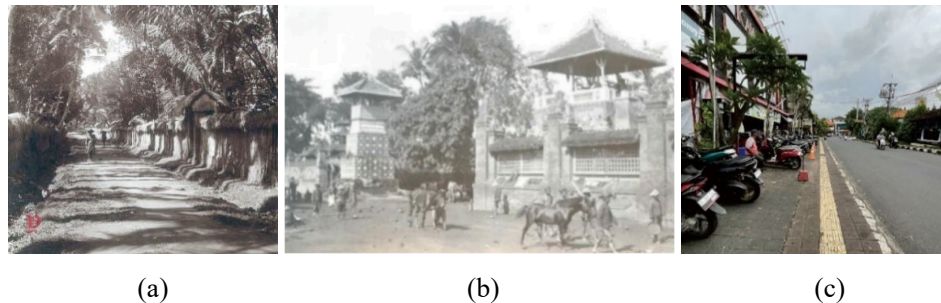
During the Dutch colonial period (1906–1929), the road network in the central area of Tabanan City underwent transformation with the introduction of a grid system, a pattern that remains in use to the present day. The concept of the shared street where motor vehicles and pedestrians coexist within the same space was introduced at this time. The construction of new roads was primarily intended to facilitate the mobility of the colonial administration in asserting territorial control, while simultaneously accommodating the growing presence of motorized transportation.

In 2002, as the area increasingly functioned as both an administrative and commercial center, the road network became more complex. The local government adopted the concept of the complete street, a design approach that prioritizes the safety and comfort of all users by separating pedestrian pathways from vehicular lanes. Road infrastructure improvements included asphalt surfacing, the opening of small access roads into residential blocks, the widening of streets in accordance with typological standards, and the regulation of traffic circulation within the city center. Supporting infrastructure was also introduced, such as street lighting, information boards, traffic signage, and designated parking areas.

By 2025, the quality of the road network in the central area of Tabanan City will have been further enhanced. The local government implemented additional road-widening projects and elevated street levels to improve vehicular traffic flow. Pedestrian pathways were upgraded through the installation of guiding blocks along sidewalks and the addition of pergolas in selected locations, thereby improving both safety and comfort for pedestrians while also contributing to the aesthetic character of the city center. Overall, the road system in Tabanan's urban core has evolved from a traditional layout rooted in spiritual values into a modern, functional network that supports mobility, strengthens connectivity, and promotes inclusivity for all road users.



**Figure 6.** Changes in the Pattern of the Road Network in Tabanan City Center  
Source: *The Author's Analysis Results Based on the Theory from Putra and Yunus, 2025*



**Figure 7.** (a) Road Conditions from 1493-1906, (b) Road Conditions from 1906-1929, and (c) Road Conditions from 2025

Source: <https://sultaninindonesieblog.wordpress.com>, 2014 dan Penulis, 2025

### 1. The Impact of Road Network Transformation on *Catuspatha*

Road network transformation in the city center of Tabanan has influenced changes in the meaning and philosophy of *Catuspatha*, its functions, and the spatial arrangement of its elements, as follows:

- Meaning and Philosophy of *Catuspatha*

The meaning and philosophy of *Catuspatha* as *pempatan agung* (four-way intersection) symbolize the meeting of the four cardinal directions, which historically held sacred and spiritual significance for the Balinese community during the kingdom era as the center of the world and cosmic balance (Dwijendra et al., 2020; Putra, 2005). However, there has been a shift in interpretation: from a sacred value to being perceived primarily as a facility for mobility and a focal point of urban activity.

- Function of *Catuspatha*

The religious function of *Catuspatha* is still preserved through annual rituals such as *mecaru* or *tawur agung kesanga*. Nevertheless, its dominant role today has shifted toward serving as the main hub of traffic circulation and as an urban landmark.

- Setting of *Catuspatha* Elements

The physical form of *Catuspatha* as *pempatan agung*, or a cross-shaped (+) intersection, is no longer intact due to alterations carried out by the Dutch colonial government, which aimed to weaken its spiritual significance. Additionally, a statue has been erected at the center, functioning as an aesthetic element of the city.

## 2. Compatibility of Road Network Transformation with the *Catuspatha* Concept and Central Place Theory

Based on the transformation of the road network, when examined through the *Catuspatha* concept, a degree of conformity remains, as the *pempatan agung* (four-way intersection) the physical manifestation of *Catuspatha*—still exists. However, its form is no longer complete, and its sacred meaning has been significantly diminished. From the perspective of central place theory, the road network is one of the essential elements shaping the structure of the city center, functioning as the primary medium to support mobility and connectivity within the area (Yunus, 2000). Therefore, the transformation of the road network in Tabanan's city center can be considered consistent with this theory, as it reflects progressive changes that accommodate the needs of mobility, connectivity, and inclusivity for all road users.

## 3. Factors Influencing Road Network Transformation

The transformation of the road network in the central area of Tabanan City has been shaped by non-physical factors, namely social, cultural, dan political conditions embedded from the era of the kingdom, through Dutch colonial rule, up to the present day.

**Tabel 6.** Influencing Factors

| No. | Non-Physical Factors | Cause of Change                                                                                                                                                                                                                               |
|-----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Political factors    | They were driven by colonial policies to construct new road networks that facilitated access and control over the area, as well as local government policies to enhance the physical quality of roads, traffic circulation, and connectivity. |
| 2.  | Social factors       | Increasing community mobility and social interaction created a demand for a more complex road network.                                                                                                                                        |
| 3.  | Cultural factors     | The transformation was also shaped by the <i>Catuspatha</i> concept, which serves as the cultural foundation of spatial structure in Bali.                                                                                                    |

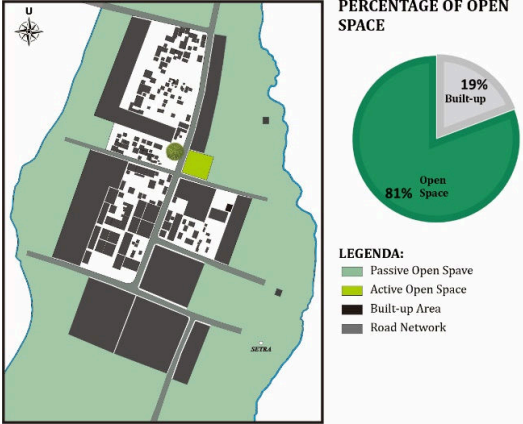
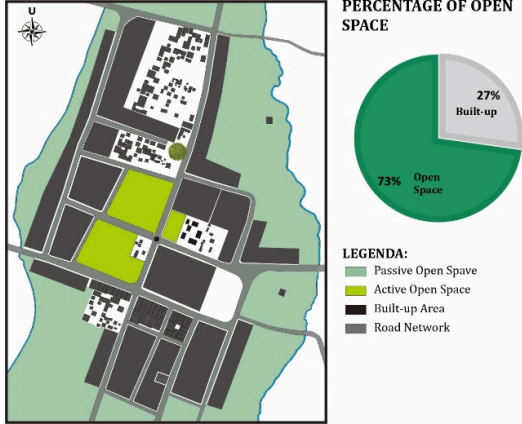
Source: *Author's Analysis Based on Interview Findings, 2025*

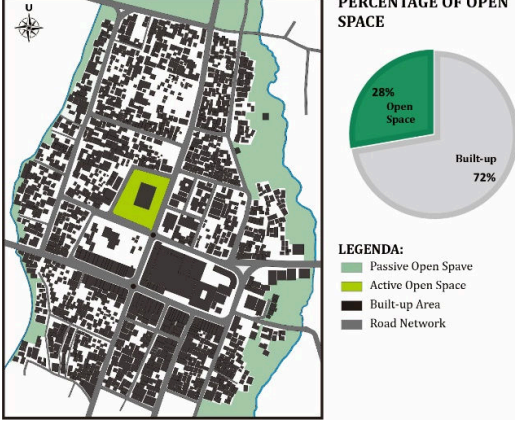
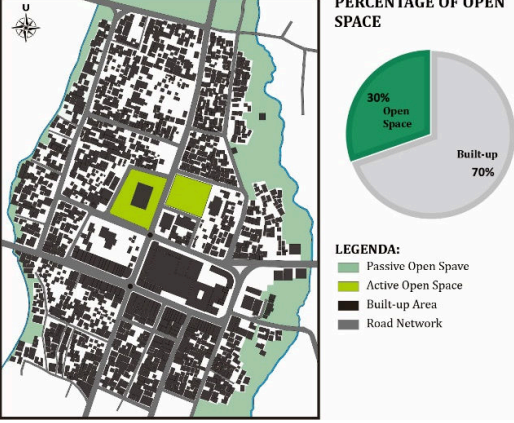
The evolution of the road network illustrates a shift from a traditional pattern, originally constructed based on spiritual values, toward a more modern and functional transportation system. At present, the network is designed to ensure mobility, strengthen connectivity, and create inclusive road spaces for all users. The transformation of the road network has been shaped by historical dynamics, social changes, and the evolving mobility needs of the community.

### 4.3 Open Space Analysis

Referring to various types of urban open space such as parks, plazas, streetscapes and onther green open areas, these spaces function as settings for social interaction and contribute to enhancing environmental quality (Shirvani, 1985).

**Tabel 7.** Open Space Data of Tabanan City Center Area

| In 1493-1906                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | In 1906-1929                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>PERCENTAGE OF OPEN SPACE</b></p> <p>81% Open Space<br/>19% Built-up</p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Passive Open Space</li> <li>Active Open Space</li> <li>Built-up Area</li> <li>Road Network</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  <p><b>PERCENTAGE OF OPEN SPACE</b></p> <p>73% Open Space<br/>27% Built-up</p> <p><b>LEGENDA:</b></p> <ul style="list-style-type: none"> <li>Passive Open Space</li> <li>Active Open Space</li> <li>Built-up Area</li> <li>Road Network</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| <p>Source: Data compiled from interviews, and archival map from the 1800s obtained from the Tabanan royal family</p> <ul style="list-style-type: none"> <li>Built-up area coverage: <math>\pm 62,198 \text{ m}^2</math>.</li> <li>Open space area coverage: <math>\pm 260,802 \text{ m}^2</math>.</li> <li>The available active green open space is represented by the <i>Alun-Alun</i> of Puri Agung Tabanan, which functions as a gathering point and a venue for social and cultural activities for both the local community and the royal institution.</li> <li>Total area of active green open space: <math>1,760 \text{ m}^2</math>.</li> <li>Passive green open space is characterized by agricultural fields containing vegetative elements such as coconut trees, bamboo, and shrubs.</li> </ul> | <p>Source: Data compiled from interviews, and archival map from 1920 obtained Leiden University</p> <ul style="list-style-type: none"> <li>Built-up area coverage: <math>\pm 88,025 \text{ m}^2</math>.</li> <li>Open space area coverage: <math>\pm 235,000 \text{ m}^2</math>.</li> <li>A considerable amount of active green open space is currently available. These spaces primarily occupy the former site of <i>Puri Agung Tabanan</i>, which was demolished by Dutch colonial forces and subsequently repurposed as a gathering and assembly point for military troops.</li> <li>Total area of active green open space: <math>17,673 \text{ m}^2</math>.</li> </ul> |

| In 2002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | In 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>PERCENTAGE OF OPEN SPACE</p> <p>28% Open Space<br/>72% Built-up</p> <p>LEGENDA:<br/>             Passive Open Space<br/>             Active Open Space<br/>             Built-up Area<br/>             Road Network</p>                                                                                                                                                                                                                                                                         |  <p>PERCENTAGE OF OPEN SPACE</p> <p>30% Open Space<br/>70% Built-up</p> <p>LEGENDA:<br/>             Passive Open Space<br/>             Active Open Space<br/>             Built-up Area<br/>             Road Network</p>                                                                                                                                                                                                                                                                                              |
| <p>Source: <i>Data compiled from interviews, and archival map from 2002 obtained from Departemen PUPR</i></p> <ul style="list-style-type: none"> <li>Built-up area coverage: <math>\pm 111,406 \text{ m}^2</math>.</li> <li>Open space area coverage: <math>\pm 42,765 \text{ m}^2</math>.</li> <li>In 2002, active green open space was extremely limited, consisting only of a small garden located near the arts center, which primarily served as a space for leisure and relaxation.</li> <li>Total area of active green open space: <math>5,254 \text{ m}^2</math>.</li> </ul> | <p>Source: <i>Data compiled from interviews, and field observations conducted by the author, 2025</i></p> <ul style="list-style-type: none"> <li>Built-up area coverage: <math>\pm 106,903 \text{ m}^2</math>.</li> <li>Open space area coverage: <math>\pm 46,511 \text{ m}^2</math>.</li> <li>In 2025, active green open spaces include an urban park and small gardens surrounding the arts center, functioning as spaces for relaxation, recreation, sports activities, and cultural exhibitions or events.</li> <li>Total area of active green open space: <math>9,000 \text{ m}^2</math>.</li> </ul> |

The development of open spaces in the central area of Tabanan City has undergone significant transformation over time, in line with the changing functions of the area and evolving spatial planning policies. Between 1493 and 1906, urban development in the city center had not yet become as intensive as it is today. During this period, extensive green open spaces were divided into active and passive areas. Active green open space, covering an area of  $1,760 \text{ m}^2$ , consisted of a central *alun-alun* (public square), which served as a venue for social interaction and royal ceremonial activities. Meanwhile, passive green spaces took the form of vacant land covered by local vegetation such as coconut trees, bamboo, and wild shrubs.

With the onset of Dutch colonial administration from 1906 to 1929, there was a substantial reduction 14% in the total area of green open space compared to the previous period. Vacant lands that previously functioned as passive green spaces began to be converted into residential areas. However, the area of active green open space increased to  $17,673 \text{ m}^2$  due to the demolition of the *Puri Agung Tabanan* palace complex by Dutch forces, which was later repurposed as green open space.

By 2002, green open space in the central city area had declined drastically, by 45% compared to the 1906–1929 period. Active green open space was reduced to only  $5,254 \text{ m}^2$ , represented by a small garden near the I Ketut Mario Arts Center, while passive green space

was limited to river buffer zones. This condition reflected a serious deficiency in open space availability to support social and cultural interaction, as well as the failure to meet the minimum requirement of 30% green open space in urban areas, as stipulated in the Tabanan Regency Spatial Plan (RTRW).

However, in 2025, the local government is making efforts to restore green open spaces in the central area of Tabanan City. This has led to a 2% increase in green open space compared to the previous year, with the construction of Bung Karno City Park as an active green open space. As a result, the area of active green open space this year is 9,000 m<sup>2</sup>. The presence of the city park plays a role in revitalizing the city's balanced and identity-rich atmosphere and re-strengthening the structure and values of *Catuspatha*.



**Figure 9.** Bung Karno City Park  
Source: *Author Documentation, 2025*

### **1. The Impact of Open Space Transformation on *Catuspatha***

The transformation of open spaces in the central area of Tabanan City has influenced the meaning and philosophy of *Catuspatha*, its functions, and the setting of its elements, as follows:

- **Meaning and Philosophy of *Catuspatha***

The transformation of open spaces over time has not altered the fundamental meaning and philosophy of *Catuspatha*. The changes have only affected the completeness and spatial positioning of its elements, which in turn have modified the visual character of the area.

- **Function of *Catuspatha***

Historically, *Catuspatha* functioned as a public open space with the presence of an *alun-alun* (town square) serving as a green open area for gatherings, the venue for official royal ceremonies, and the site of religious rituals (Putra, 2005). In the present context, however, the function of open space has expanded—not only as a place for social gatherings and religious ceremonies, but also as a venue for artistic activities, educational events such as exhibitions, health-related activities such as sports, and as a defining identity of the city center.

- Setting of *Catuspatha* Elements

During the kingdom era, the open space in the form of an *alun-alun* was located on the northeast side of *Catuspatha*. This changed during the Dutch colonial period, when the open space was relocated to the southwest side. By 2002, no open space was present as part of *Catuspatha*, resulting in the incompleteness of its conceptual form. However, in 2025, a city park was constructed on the southeast side of *Catuspatha*, thereby restoring the completeness of its elements.

## 2. Compatibility of Open Space Transformation with the *Catuspatha* Concept and Central Place Theory

Based on the transformation of open spaces, when examined through the *Catuspatha* concept, the changes remain consistent since the completeness of its constituent elements has been preserved. From the perspective of central place theory, the presence of open spaces in the form of a city park in the center of Tabanan aligns with the key components of urban centers as identified by Shirvani (1985) and Wibisono (2023), functioning as a venue for social, economic, and cultural interaction.

## 3. Factors Influencing the Transformation of Open Spaces

The transformation of open spaces in the central area of Tabanan City has been influenced by non-physical factors, including social, cultural, and political conditions embedded since the kingdom era, through Dutch colonial rule, and into the present.

**Tabel 8.** Influencing Factors

| No. | Non-Physical Factors | Cause of Change                                                                                                                                                                                                                                                                     |
|-----|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Political factors    | Shaped by Dutch colonial policies aimed at weakening royal power through the destruction of Puri Agung Tabanan, as well as by regional government regulations emphasizing the provision of at least 30% green open space as mandated in the Spatial Plan (RTRW) of Tabanan Regency. |
| 2.  | Social factors       | Driven by the community's need for spaces that facilitate social interaction.                                                                                                                                                                                                       |
| 3.  | Cultural factors     | Influenced by the collective awareness of both government and society in preserving the <i>Catuspatha</i> concept.                                                                                                                                                                  |

Source: *Author's Analysis Based on Interview Findings, 2025*

The transformation of open spaces in the central area of Tabanan City reveals a considerable decline over time, largely driven by rapid urban development that has undermined the ecological value of the area and weakened the identity of *Catuspatha*. Although limited in scale, the creation of city parks represents a strategic initiative aimed at restoring urban identity and maintaining spatial balance within the city

## 5. CONCLUSION

The spatial transformation of the central area of Tabanan City reflects a complex dynamic of change, spanning from the kingdom era, through Dutch colonial rule, to the modern period. Land-use patterns shifted from a concentric model centered on the *puri* (royal palace), to a sectoral pattern during the colonial era, and eventually to a polycentric model in the modern period characterized by multifunctionality, with a dominance of trade, services, governance, and public spaces. The road network also evolved, transforming from the traditional *Catuspatha* pattern into a grid system that continues to expand in line with the growing demands of mobility, connectivity, and inclusivity.

Meanwhile, open spaces experienced significant fluctuations: from the extensive royal-era *alun-alun* (courtyard square), to functional reconfigurations under colonial administration, to drastic reduction by 2002, and finally revitalization with the establishment of Bung Karno City Park in 2025. These transformations directly affected *Catuspatha*, altering its meaning, function, and spatial setting. The philosophical essence of *Catuspatha* as a symbol of the world's center and universal balance has remained intact; however, its functions have shifted from being a locus of authority and spirituality to serving as a hub for commerce, mobility, and public interaction. At the same time, the spatial setting of its elements has been displaced, leading to a less coherent visualization of *Catuspatha*.

Overall, these transformations remain consistent with the *Catuspatha* concept, as its core elements have been preserved, while also aligning with central place theory, which emphasizes multifunctionality, dynamism, and adaptability. Non-physical factors such as historical, political, social, and cultural contexts have played a crucial role in driving these changes, ranging from shifts in political authority, colonial and regional government policies, population growth, to the collective consciousness of Balinese society in preserving cultural identity.

Future research should strengthen spatial analysis through quantitative GIS-based approaches to provide more detailed mapping of changes. Comparative studies with other urban centers in Bali are also necessary to evaluate the extent to which the *Catuspatha* concept can adapt and endure amidst globalization. Moreover, future studies should highlight the ecological dimensions of open space transformation and propose integrative models that reconcile local wisdom with modern urban planning concepts such as green city and smart city, ensuring the preservation of cultural identity within the trajectory of development.

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