

# URBAN SPACE MORPHOLOGY AND TYPOLOGY OF THE CITY OF SOLO IN THE EARLY PERIOD (1500-1750)

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## ABSTRACT

*The objective of this study is to find out the form and the type of urban space in the early of Solo, one of the oldest cities in Java. The object of study was approached by rationalistic research. The method of research was carried out by a-three-archive research strategy: primary files; secondary files and physical files. The primary files referred to the old Javanese documentary; the secondary files referred to the document of local, national and international historian; and the physical files referred to the field research that was conducted by interviews and collecting the artefacts. The research found that Solo was firstly formed as a-water-front city. The main buildings that constructed urban space in the early of Solo were a-three-village: Sala, Laweyan and Pajang. The main land element that formed urban space in the early of Solo was River Bengawan Solo. This giant river formed the urban space in Solo until 1750s. The type of urban space was shaped up from three figures: linear; cluster; and central. The main humans who made urban space in the early of Solo were Ki Sala; Ki Gede Pemanahan; and Sultan Hadiwijaya. This study was also finding that The Chinese, Arab and Indian had come in Solo before the Dutch occupied in Surakarta (1750s).*

**Keywords: Typology – Morphology - Urban Space – Solo - City**

## INTRODUCTION

Solo (also known as Surakarta) is a town on the island Java, Indonesia. Geographically, this town is located at 110 45'15"–110 45'35" East and 0 70' 36"–0 70'56" South. Laid between the mountain Lawu and Merapi, Solo is lowland area (92 meters above sea level). The temperature is

between 21.9 and 32.5 degree Celcius. There are three main rivers in Surakarta: Bengawan Solo, Pepe and Jenes. According to the administratif area, Solo occupied in the province of central Java. It is surrounded by the province of East Java, West Java and Yogyakarta. There are 44 km square area and 552,542 citizens in

2005. *Surakarta* is originally an ancient city which grows into one of modern cities in Indonesia while maintaining its cultural heritage. The Kingdom of *Mataram Surakarta* was established in 1745. The Kingdom of *Surakarta* had been the last monarchy of *Mataram* (the biggest and the

longest Javanese kingdom) before it was separated, as we saw nowadays, into a-four-kingdom as follows (see figure 1): *PB* (*Paku Buwono*); *HB* (*Hamengku Buwono*); *MN* (*Mangku Negara*) and *PA* (*Paku Alam*)



**Figure 1. The Four King of *Mataram* and Their Javanese Kingdom**  
 (Right-Left and Above-Below: King HB X and the Palace of *Kasultanan Yogyakarta*; King PB XII and the Palace of *Kasunanan Surakarta*; King PA VIII and the Palace of *Pakualaman Yogyakarta*; King MN IX and the Palace of *Mangkunegaran Surakarta*)  
 (Source: Modified from Vorstensteden, 1998 and Survey, 2007)

**RESEARCH QUESTION**

1. How is the morphology of urban space of Solo in the early period?
2. How is the typology of urban space in of Solo in the early period?

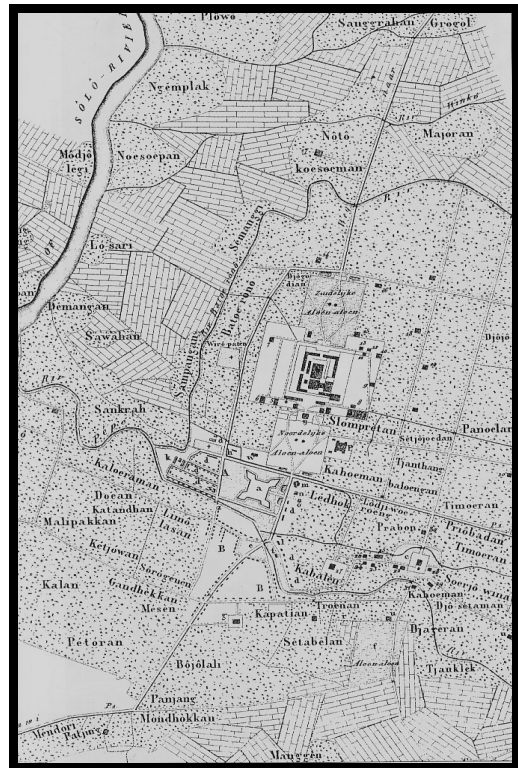
**RESEARCH METHOD**

This study will explore the urban space. The object of the research is about the urban space of the past (approximately 500 years ago). The method of research was carried out by a-three-archive research strategy: primary files; secondary files and physical files. To answer the research

question, the study needs a story and an artefact. The story is collected by searching primary and secondary files and supported by the artefact. This archives research use four standard research steps, as follows: (1) data compilation; (2) data analysis; (3) validation of finding; and (4) conclusion. To find an accurate data, the study needs a crosscheck and benchmark strategy. Crosscheck strategy will be conducted by composing and imposing the files. The primary files (collected from Javanese documentaries by Margana 2004): *parintah, undhang-undhang, pranatan, piyagem, kakancingan, serat, gugat, penget*) and the secondary files (collected from historian and researcher documents: *Ricklefs, Lombard, Vorstensteden, Muljana, Notosusanto, Kartodirdjo, Sajid, Ronald, Ikaputra, Adishakti*) were collected, composed and imposed to validate the findings.

The benchmark strategy will be conducted by referring the latest and the most credible document. The validity and credibility document was usually produced by a sophisticated technology that was coming from the new era. The old map, for example, which was produced in 1600s, was usually inaccurate. The maps of Java produced in XVII century by *Bertius* (1618), *Hulsius* (1625) and *Jansson* (1657), as we saw nowadays in the internet, were actually inaccurate. Island Java, which was usually called by *Java Major*, was firstly seen bigger than island Sumatra. For the years later (1700s), according to map of *Chatelain* (1719), the map was more accurate than the previous; because it showed that Java was seen smaller than Sumatra. For the next years

(1800s), according to the map of *Witcamp* (1893), Java was absolutely seen accurate. The benchmark strategy is the strategy that based on the several accurateness data then the study will set to them. Therefore, to explore the urban space of *Solo* in the early period, the map of Solo in 1857 is used to conduct the benchmark strategy, which is called by BM-1 (see figure 2); while the map of Solo in 1821 is called BM-2 (see figure 3). The artefacts, some of the examples of the physical files, were collected by interviews and field surveys. The documents were recorded by camera and scanner.



**Figure 2. Map of Solo in 1857 as Benchmark-1 (Source: Vorstensteden, 1998)**

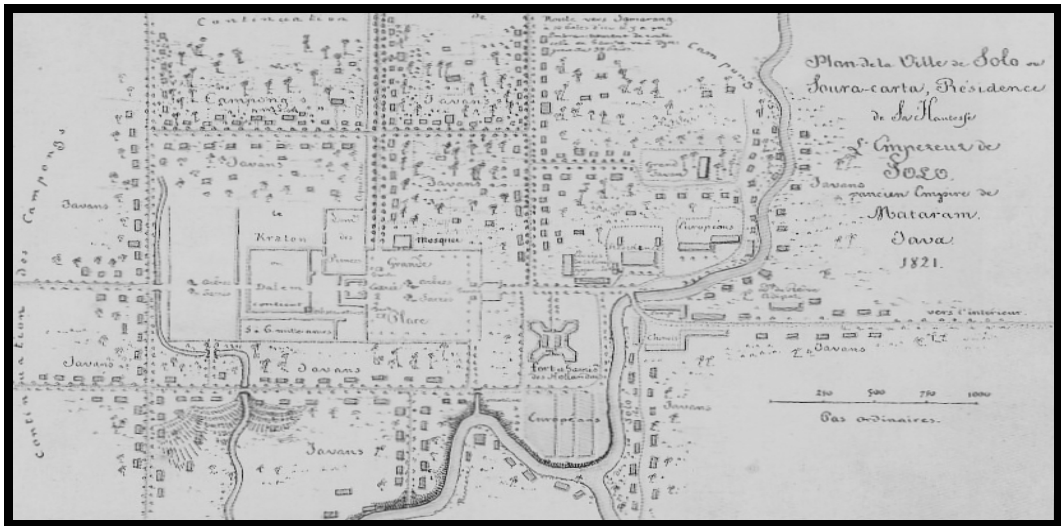


Figure 3. Map of Solo in 1821 as Benchmark-2 (BM-2) (Source: Vorstensteden, 1998)

## REVIEW OF LITERATURE

### 1. Morphology

The word morphology stems from the Greek word *morphos*, meaning form. Morphology is the branch of biology which deals with the form and structure of animals and plants. Morphology in architecture, analogy with biology, is the study of form and structure of the space and built environment. It was concerned with the plan and builds of habitat, viewed and interpreted in terms of its origin, growth and function. Morphology of the town is a reflection of its function and the ideas of planning and building at each phase of its development. The study of morphology in architecture deals with the process of stand, rise and open of building in the environment. (Rose, 1979; Steadmen, 1983; Krier, 1984)

### 2. Typology

Typology in architecture can simply be defined as a concept which describes a group of objects characterized by the same formal structure. The study of typology in architecture deals with the type of space

and built environment. To raise the question of typology in architecture is to raise a question of the nature of the architectural work itself. To answer it means, for each generation, a redefinition of the essence of architecture and an explanation of all its attendant problems. A work of architecture has to be considered in its own right, as an entity in itself. That is, like other forms of art, it can be characterized by a condition of uniqueness. From this point of view, the work of architecture is irreducible within any classification. (Moneo, 1976; Rossi, 1982; Krier, 1984; Kostof, 1991).

### 3. Urban Space

City can be defined as the place that contains buildings, land and people. The structure of the city can most simply be identified as 'skeleton' (street, railways, duct, etc.), 'meat' (buildings) and 'blood' (the activity of citizen). The city is the reflection of solid and void, buildings and urban space. Urban space is the space formed by its enclosure that used to place. The elements of urban space are land

(river, mountain, lake, etc.), buildings (office, market, hospital) and human (society, people, citizen). If we wish to clarify the concept of urban space without imposing aesthetic criteria, we are compelled to designate all types of space between buildings in towns and other localities as urban space. The space is geometrically bounded by a variety of elevations. It is only the clear legibility of its geometrical characteristics and aesthetic qualities which allows us consciously to perceive external space as urban space. (Krier, 1984; Kostof, 1991; Daldjoeni, 1997; Cohen, 1999).

## DISCUSSION

### 1. Morphology of Solo (1500-1750)

According to *Babad Tanah Jawi* and *Babad Sala*, the history of urban space in Solo was established in 1500s. The process of stand, rise and open of urban space in Solo was equal to the period of *Kadipaten Pajang*, the part land of *Demak*. According to *pranatan* (king's regulation) no. 4 (PB-II, 1726), *kadipaten* was the land which was occupied by the vice of king, known as *Adipati*. While according to *pranatan* no. 84.1 (HB-V, 1759) *Adipati* was the leader of: *wadana* (chief of regencies); *bupati* (regent); *rangga* or *tumenggung* (chief of villages); and *demang* or *bekel* (village chief).

The major community employment of the surrounding of Java, based on the History of Indonesia (*Muljana*, 1968), was traditional trading and sailing. The early Solo setting played a role to be a part of foreign trading route. The traders passed through the Narrow Malacca and continued to visit Java northern coast cities, then came into the early Solo area by sailing through River *Bengawan Solo*.

Lombard (2005) indicated evidences of 44 ports along *Bengawan Solo*, which the first port was in Surabaya and the last port was in Solo. Having connected from Malacca to the northern of Java by sailing on Java Sea, the international sailor and trader seasonable went to inside of Java. There were some towns (Lombard, 2005) on the inside of Java Island during 1500-1600.

Based on primary, secondary and physically files, the main elements of land in the early of Solo are: *Bengawan Solo*; *River Pepe*; *River Jenes*; *River Wingko*; lake; swamp; forest; and hill. The main element of human being who developed the urban space in the early of Solo can be identified into 2 types: society (mass, group) and personal (individual). The society who developed urban space in the early of Solo was labourer, farmer, trader, sailor, and soldier. Individuals who developed urban space in the early of Solo were:

#### 1) Ki Gede Sala

*Ki Gede Sala* was the leader of the labour at *Port Nusupan*. He was chosen by *Adipati* or *Sultan Pajang* to deliver the goods from *Bengawan Solo* to the palace of *Pajang*. Having been called by Sultan as *Ki Soroh Bau* or *Ki Soroh*, and it was easier to spell *Ki Solo*, the place where they lived was named the house of *Ki Sala*. The area *Ki Sala* that occupied was called *Desa Sala*, and then *Solo* was the name of the city. When the third generation of *Ki Sala*, also known as *Ki Gede Sala III*, has come, their land will have become the place where the palace *Mataram Surakarta* established (1745). Nowadays, the resting place of *Ki Gede Sala III* can be seen at the corner of the northeast of Keraton Kasunanan Surakarta.

## 2) Jaka Tingkir

*Jaka Tingkir* or *Mas Karebet* was grandchild of *Sunan Kalijaga* and the son of *Kyai Pengging*. In 1546, *Jaka Tingkir* had an authority as *Adipati Pajang* from Kingdom of *Demak*, as name *Sultan Bintara III*. *Sultan* who gives the power is actually his parent-in-law. The activities of the government in *Pajang* had strong impact in socio-economic of the society in *Kampung Sala* and *Laweyan*. In 1568, when *Wali Sanga* proclaimed *Jaka Tingkir* as the king, he moved the palace of *Demak* to *Pajang*. By the time, *Jaka Tingkir* became the King of *Pajang* with the title of *Sultan Hadiwijaya*. The surroundings of *Pajang* had more and more impact in social, economic, politics and army. In 1586, the son of *Sultan Hadiwijaya*, *Pangeran Benowo*, became the king of *Pajang*, but the power brought to *Panembahan Senopati* in 1589. He is the grandchild of *Kyai Ageng Laweyan* or the son of *Kyai Ageng Pemanahan*. By the time, *Kraton Pajang* moved to *Mataram*, *Kotagede*.

## 3) Kyai Ageng Pemanahan

*Kyai Ageng Pemanahan*, the son of *Kyai Ageng Laweyan*, was the closed staff of *Sultan Hadiwijaya*. *Kyai Ageng Pemanahan* lived in *Kampung Manahan*. He had reward the land of *Mataram* after he had helped the Sultan in attacking *Arya Penangsang*. After forming *Mataram*, *Kyai Ageng Pemanahan* with his son, *Panembahan Senopati*, moved and lived in there in 1577. In 1589, *Panembahan Senopati* was nominated as the king of the new *Mataram Java*, after *Pangeran Benowo* in *Pajang* given him the authority.

According to the primary, secondary and physically files, the morphology of Solo in the early period can be explained as the following figures:

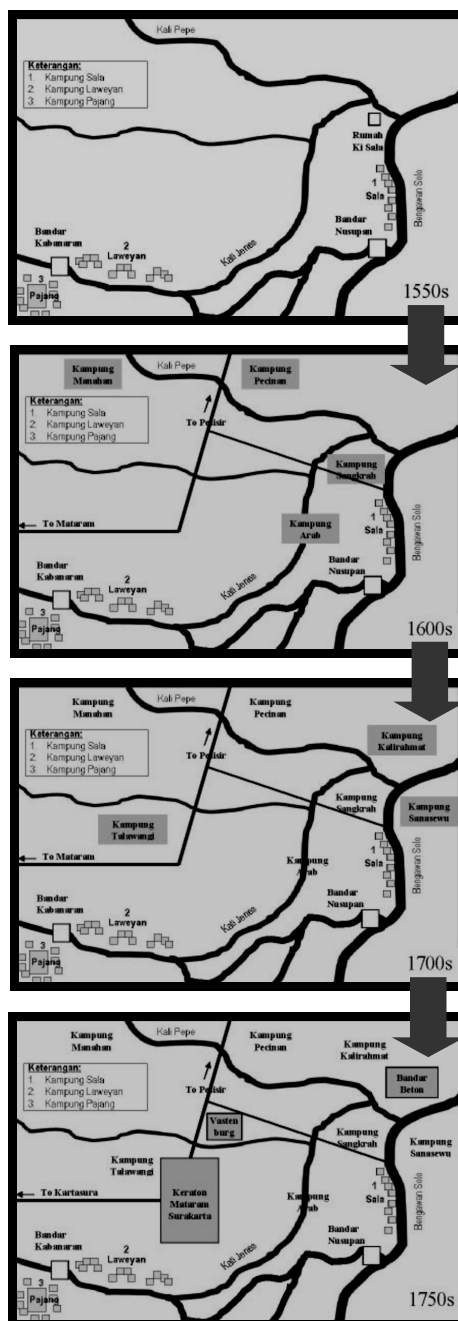


Figure 4. The Process of Stand, Rise and Open (Morphology) of the City of Solo in the Early Period (1500s-1750s)

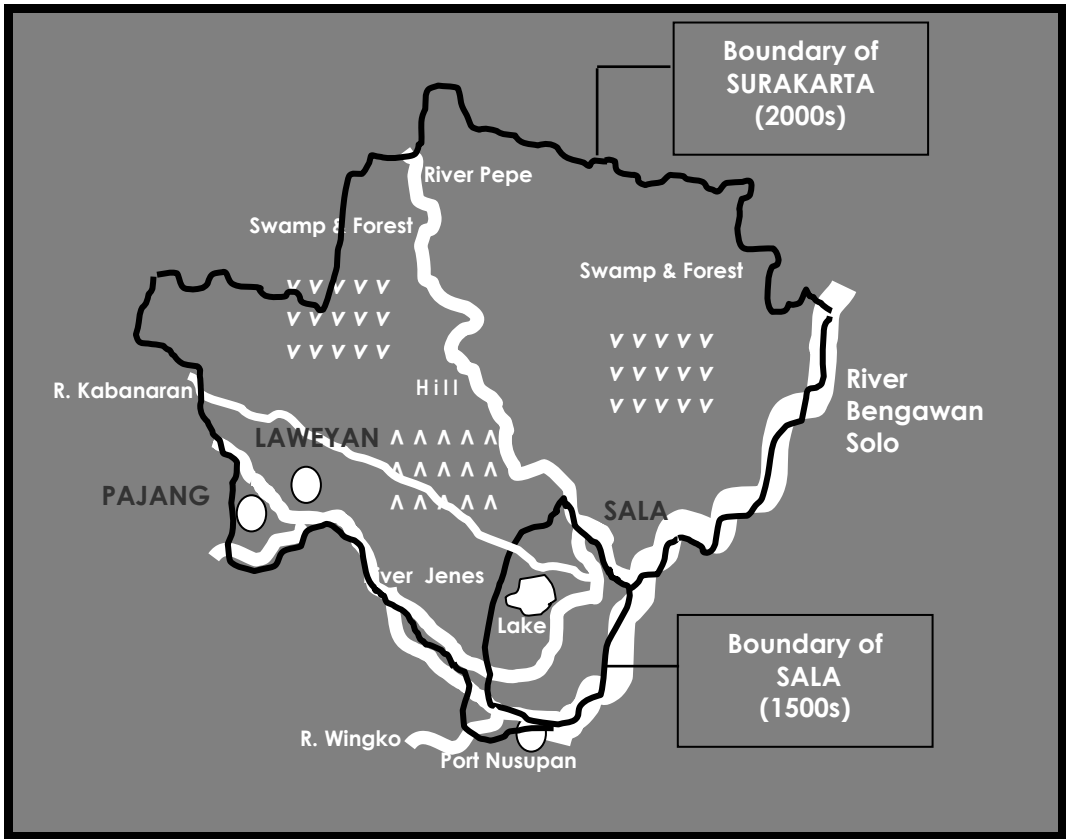


Figure 5. The Map of Urban Space in the Early of Solo (1500s) (Source: Author, 2007)

**2. Typology of Solo (1500s-1750s)**

Based on the map of the element of land, human and buildings, the urban space in the early of Solo can be identified into 3 types: beside on river (*Kampung Sala*), near to river (*Kampung Laweyan*)

and far from river (*Kampung Pajang*). According to the distance from the river, type of the urban space and the type of user, herewith the matrix and the table of typology of Urban Space in the early of Solo (1500s) as follows:

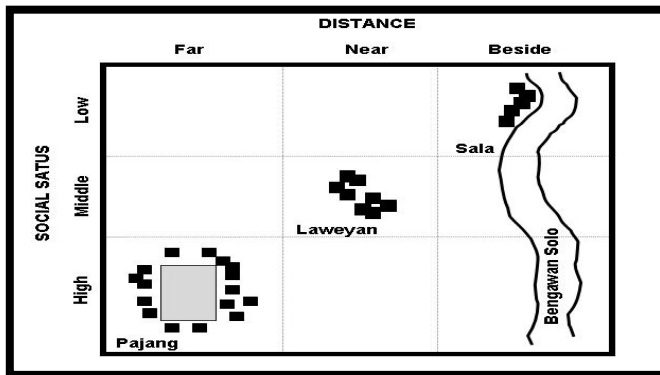


Figure 6. Matrix of Urban Space Typology of Solo in the Early Period (1500-1750) (Source: Author, 2007)

**Table 1. Urban Space Typology of Solo in the Early Period (1500s-1750s)**

No.	Located	Distance Type	Pattern	User
1.	Sala	Beside on River	Linear	Civil Society (The labour of Port Nusupan)
2.	Laweyan	Near to River	Cluster	Middle Society (Industry of <i>lawe</i> )
3.	Pajang	Far From River	Central	Noble (the family of the King)

(Source: Author, 2007)

## CONCLUSION

Morphology of urban space in the early of Solo is divided into 3 elements: the element of land, which is dominated by *Bengawan Solo*; the element of human, which is dominated by the trader; and the element of buildings, which is dominated by *Kampung Sala*. They formed the urban space as waterfront city in the early of Solo (1500-1700). When the Dutch and the Mataram Kingdom occupied (1750s), the urban space was combined by the land-city. According to the findings, the main urban space was firstly (1500s) constructed by the lowest social status in the early

period (morphology: stand era), while the next step, the developing era (morphology: rise and open era) was conducted by the highest social status (1750). The buildings have a vernacular material still, although they have met the Chinese and Arab/Indian.

Typology of urban space in the early of *Solo* is divided into 3 types: the linear (*Kampung Sala*); the cluster (*Kampung Laweyan*); and the central (*Kampung Pajang*). The different social status formed the different distance: beside the river (low status); near to river (middle status); and far from the river (high status).

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