SPACE PATTERN OF THE STREET CORRIDOR  
(Case Study: S. Parman Street, Semarang, Central Java, Indonesia)

Edy Darmawan, Suzanna Ratih Sari and Soetomo  
Magister Teknik Arsitektur Universitas Diponegoro, Jl. Hayam Wuruk No. 5 Lantai III, Semarang – Indonesia

(Received 15 February 2005; Accepted 3 June 2005)

ABSTRACT

The purpose of studying space pattern in S. Parman Street Corridor Semarang is actually to examine the link between economic and social factors of community, space pattern, and the impact on the existing regulation. The methodology used in this study is a rationalistic approach by applying qualitative paradigm in relation to the purpose of the study. This approach needs theoretical framework that based on the experts’ theories, to be constructed become grand concepts with holistic study [1]. According to the result and the analysis, the author found that corridor space pattern in S. Parman Street is closely related to the economic status and social life of the people. Some of the reasons could be that the economic condition may encourage people to optimize and expand their lots to build new buildings included the activities support facilities inside their lot which very much different from the original building. People could also rebuild their own house basically because of their needs and their ability to financing the process of rebuilding. Besides, the social life of these people are already changed and such condition will then influence the existancy of their buildings or even their lots. It is therefore, the changes of the economic status and social life of the people will directly provide an impact of the spatial pattern and the size of the building. Furthermore, there were some changes particularly on the function of the buildings along the corridor which were housing before. Almost 75% of the buildings changed into various functions, such as office buildings, business, services, hotels, etc. These developments actually did not match with the land use regulation of the local government for this area which should be settlement and not for mixed use. The deviation of this development process in the corridor of S. Parman Street is one of the consequences of the economic status and social level of the people.

In the future development, hopefully, the development process in the study area will always consider the regulation of the local government and likewise the environment.

1. INTRODUCTION

The Background

At the beginning, city constituted a collection of irregularly and spread houses that did not have a clear structure. The settlement is still in the form of natural caves or a collection of huts, just for the sake of sheltering from nature ferocity at that time. According to Rapoport [2], cities did not appear suddenly. There is no urban revolution, because a city developed in stages appropriate with the improvement of function as a bigger environment formerly. Because of human activity tends to take place in organized environment, so a sustainable system is formed and has the similarity that is started from housing to settlement area.

Physical shape of a city is performed by the growth and the development of the city activities such as social, economic, cultural, and political activities. In other words, the shape of a city is a reflection of community’s social condition. Appreciation towards the physical shape of a city related to some element shapes for example building, open space, plaza, road, pedestrian way, and so on.

Nowadays, corridors in S. Parman Street particularly Candi Baru area have been changed by so many developments. Some of those can be identified by the development of transportation, land, and even population growth. This condition, then, provides an impact to the existing functions of the buildings along the corridor. For example, presently, it is quite difficult to find an area which is comfortable for people to spend their time to make any activities and a place where people could have beautiful view and cool climate.

Eventhough, it is very difficult to enjoy the sightseeing from the public space anymore because there are many highrise buildings that cut off the beautiful view. The building function in S. Parman corridor that used for dwelling area has been changed as trading area because of function optimum demand. Therefore, it is necessary to think over a concept of the development in Candi Baru housing area.

Main Problems

Some problems could be identified as follows:
1. The environment quality along the corridor has already decreased due to the ecological function of open space and green area ignorance in the development.

2. The improvement of transportation system along the corridor of S. Parman Street as one of the main traffic to go to downtown has become more crowded.

3. Almost 75% of the buildings had already changed the function as well as the size. Some buildings had changed from housing into office buildings, hotels, business, services, retails, etc. Some buildings were bigger than the original size due to the expansion of the lot or even the building itself. Most of the changes had not considered the local government regulation and most of the buildings were illegally developed because some of them were having no permission from local government when they tried to rebuild or expand their building.

4. The changes have also influenced the architectural performances of the buildings as a whole. The authenticity of the architectural building along the corridor has no longer performed.

The Purposes of Study
The purposes of study are:
1. To examine the spatial pattern of S. Parman street towards the changes caused by economic status and social life of the people.
2. To analyse the impact of the changes towards the architectural performance of the building.
3. To derive some recommendations which could be used as an input for local government to make any regulation concerning the arrangement of space pattern along the corridor.

The Use of Study
1. To enrich the knowledge of urban design from the architectural point of view.
2. To standstill the image of development concept of the corridor.
3. To have guidance on development concept which brought about convenience of the people as a user of the area and performance of the corridor itself.

2. THE THEORIES OF STUDY

The Space Pattern
The arranging of housing order as culture product is determined by three factors: the form of building environment, the condition of nature environment, and the socio-culture community [3]. Space pattern is to study about the pattern of space or area in a physical way [4]. So a space pattern is reflected by the existing structural components of the place and the interaction of one component with another. Based on Semarang City Planning, space pattern considers several aspects such as: space character, space intensity, and space structure of the city.

The Corridor
A corridor is a road that is flanked by walls in the right and left side that formed facade walls [5], a road that is considered as a corridor for communication in public activity to connect one place to another [5] and used to connect parts of a place [6]. So the definition of corridor in the study is a road which connect two regions of a city or more that have link of function and there are activities in the right-left side of the road that have tight relation to the road.

The Definition of Space Pattern of a Corridor
Based on the theories above, space pattern of a corridor is to study about the pattern of space or area of a corridor in a physical way that is reflected by the existing structural components such as space character, space intensity, and space structure of the city. Each component has certain function and there is interaction of one component with another so it can reflect the character of an area. Therefore, this study has to consider some aspects which influenced the change of the performance of space pattern. Those are the social life and economic aspect of the people.

3. GENERAL CHARACTER OF RESEARCH AREA

Administratively, the Candi Baru Housing area located in two subdistrict areas: part of the housing located in Gajah Mungkur subdistrict and the other part located in Candi Sari subdistrict. But the area of the study located in Gajah Mungkur subdistrict and consists of some villages: Gajah Mungkur village, Lempong Sari village, and Bendungan village.

Candi Baru housing village located in the height of 25-100 meters, that constitutes hill area with steep contours. The area of study located in S. Parman street with borders can be seen in Fig. 1 and Fig. 2. The corridor of S. Parman street is the prime traffic lane to Semarang downtown, therefore the traffic flow in this area is densely enough. It can be seen from the vehicles that passed by, such as bus, truck, organized small vehicle transportation systems, private car, and motorcycle. Therefore, in the peak hours, this corridor tends to be dense.
Fig. 1: Map of Indonesia

Fig. 2: Map of Semarang - Central Java

Fig. 3: Map of S. Parman Street Corridor
3. SOCIO-ECONOMIC CONDITION OF CANDI BARU COMMUNITY

The Socio-Economic Activity
The composition of population growth can be seen in village monograph datum. See Table 1. From the monograph table 1, there are 112 foreigners and 55.4% of the foreigners live in Gajahmungkur village and the rest of them live in Lempongsari village.

The foreigners usually rent the houses for a limited time because they only stay temporarily in Semarang as foreign workers. The community in this area comes from different background with various economic status. Mostly, the means of livelihood of the people are as businessman, government worker, merchant, labor, etc. They are living in a very good economic condition.

There are also vendors placed in some areas. They occupied lands on both sides of the street and open space. The vendors that located in open space did not disturb the traffic flow because they have enough space to do their activities, but the vendors located on the side of the street (pedestrian way) disturbed the traffic due to their activities and parking area (See Fig. 4).

The Socio-Culture Activity
The housing is not merely a physical structure of the environment, but also a cultural environment that is created and arranged with the basic of culture. Formerly, people use the buildings as a place to stay and live together. But, then time to time they start trying to improve their living condition. They have so many ideas and needs that should be fulfilled.

Furthermore, the community’s activities that related to the community’s socio-culture aspect consists of two aspects, those are horizontal relation among the people (social interaction) and the vertical relation between human and God. The activities of Candi Baru community related to horizontal and vertical relation are: community’s meeting, sporting, etc. Generally the activities are limited at each region and certain groups appropriate with the community’s social status.

4. SPACE PATTERN OF S. PARMAN STREET CORRIDOR IN CANDI BARU SEMARANG

Public Space
Public space in the corridor of S. Parman Street consists of three elements: road, sidewalks and pedestrian way, and open space.

Road. The width of S. Parman corridor for road way is about 9 m. There are shoulder of road about 1 m in right-left side of road and pedestrian way about 1.5 m. S. Parman street is the prime traffic lane to Semarang downtown. Therefore, it needs the ideas of the provision of road facility and public service (market, hotels, gasoline station) facility which influence the density and create problems.

Table 1: The amount of population (Village Monograph, 2002)

<table>
<thead>
<tr>
<th>Village</th>
<th>No. of families</th>
<th>Native citizens</th>
<th>Foreigners</th>
<th>Amount of population</th>
<th>Area width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Gajah Mungkur</td>
<td>2903</td>
<td>6562</td>
<td>6593</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Lempong Sari</td>
<td>1210</td>
<td>3472</td>
<td>3344</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Bandungan</td>
<td>1167</td>
<td>2304</td>
<td>2311</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Jumlah</td>
<td>5280</td>
<td>12338</td>
<td>12248</td>
<td>39</td>
<td>33</td>
</tr>
</tbody>
</table>

Fig. 4: The vendors photos
Sidewalks and Pedestrian way. Sidewalks should have a minimum width of 1 m (3 ft), which allows three persons to walk abreast, although those leading directly to the entrance of a single dwelling may be only 0.8 m (2.5 ft) wide. In fact, there are no sidewalks on the left side of the road. So it is dangerous for the people who use this pedestrian because the pedestrian way is located next to the road (See Fig. 5). But on the right side of the road, there are sidewalks which become a space between the pedestrian way and road (See Fig. 6).

Open Space. There are open spaces located in some areas along S. Parman Street corridor. Those are located in Diponegoro Street, in the corridor S. Parman and in front of the Dutch grave. The open area located in Diponegoro Street is still visited by people particularly for relaxing and doing some sports.

Zoning. The corridor has been stated as a settlement area. Most of the people which have already been mentioned in the first discussion developed their buildings not only for housing but also for running their business, even though they already knew the zoning of this area is for.

Land use is the effort to influence the direction of land use change. The appropriate type of land use along the corridor is for housing, but right now some of them are already changed. The change had been made by those people mostly without building use permission from the local government.

Measurable criteria. The aim of measuring criteria in this case is roil land. Almost all of the roil land lots in S. Parman Street corridor still follow the existing regulation, both the building lots that use for housing and the building lots that have changed their functions.

Building Pattern
Building pattern of S. Parman Street corridor will be explained in three aspects: building façade, size of the site and building.

Building performance. The conditions of buildings’ performance in S. Parman Street corridor have so many styles. 50% are old-fashioned, 40% modern housing and the rest are combination of both styles. Almost 75% of the buildings have already changed into various functions (hotels, shopping, restaurants, etc) (See Fig. 7). The following are description of the buildings massing along the corridor which are divided into three groups of blocks:

Block A
Almost all of the lots in block A are used for housing with the height of building about two stories and there are four empty lots which cover 25% of the total lots along the corridor. 10% is open space (city garden). The comparison between built up area and open space is balanced. Most of the buildings are old-fashioned.

Block B
All of the lots in block B are used for housing. Most of the housing have two stories. There is only one empty lot which covers around 5% of the total lots. Most of the people build their houses in this area are concerning the set back of building. Therefore, some of those houses are still having wide yard at front and back side of houses. Most of the styles of the buildings are combination of old and modern architecture.

Block C
The average use of lots in block C are for housing. There are empty lots with buildings in ruins on it. The comparison between built-up area and open

Land Use
S. Parman Street corridor is discussed based on the three elements, which are: zoning, land use, and measuring criteria.
space is not balanced. The open spaces are about 75% which is much more than the built-up areas. The open spaces in this block are used as city garden, Dutch grave, and open field. Most of the buildings are modern.

**Block D**
The building function in Block D that used for housing or dormitory has been changed as office buildings and shops. The impression of housing cannot be seen anymore. Most of the buildings implemented modern architecture.

Based on the building façades photos, there are several types of building façades such as housing, shop, office, and hotel façade.

---

**Fig. 7: Building performance**

**Fig. 8: Space pattern of Block A**

**Fig. 9: Space pattern of Block B**
Fig. 10: Space pattern of Block C & Block D

The size of site and building. The lots and buildings in S. Parman Street corridor have various sizes, but almost all of the lots in this street corridor are wide enough (500 m² – 5000 m²). Generally, the forms of building mass in S. Parman street corridor are single building. Each of the housing in S. Parman street corridor has about 200 m² – 2500 m². See Table 2 below.

Conservation
Most of the housings in the study area are old buildings. Those are having an important heritage value of the area. They were well planned with wonderful design of architecture. As a whole, the area along the corridor was designed by Thomas Karsten. He designed the area by considering the proportion of built-up area and open space. Even the old Dutch grave which has good design with the surrounding area could be used as recreational place. But, presently, almost 75% of the old buildings have already changed the performance as well as the function. Only some of the old buildings left and the rest are already in ruins. Some public areas have likewise been changed into housing. The beautiful design of the city has been faded. No more scenic beauty and no more comfortable places where people can do their social activities in a way. The authenticity of the architectural concept of building and areas along the corridor S. Parman no longer exist. Therefore, the local government should take into account that the changes along this corridor has brought a very big influence towards the concept of the original design and tend to change in all aspects. Therefore, the local government should pay attention and implement the conservation regulation in order that the corridor will not loose her heritage value (See Fig. 8).

Table 2: The wide of lot and building mass

<table>
<thead>
<tr>
<th>No.</th>
<th>Owner</th>
<th>LT (m²)</th>
<th>LB (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>M. Oktar</td>
<td>4,080.0</td>
<td>1,800</td>
</tr>
<tr>
<td>28A</td>
<td>A. Anwar</td>
<td>935.0</td>
<td>450</td>
</tr>
<tr>
<td>29</td>
<td>M. Rizky</td>
<td>2,080.0</td>
<td>1,400</td>
</tr>
<tr>
<td>31</td>
<td>S. Darto</td>
<td>1,155.0</td>
<td>Trn. Kosep</td>
</tr>
<tr>
<td>33</td>
<td>Y. Harah</td>
<td>1,232.0</td>
<td>450</td>
</tr>
<tr>
<td>35</td>
<td>Y. Kosep</td>
<td>9,250.0</td>
<td>Trn. Kosep</td>
</tr>
<tr>
<td>37</td>
<td>Y. Wiyanto</td>
<td>1,520.0</td>
<td>450</td>
</tr>
<tr>
<td>38P</td>
<td>P. Anwar</td>
<td>850.0</td>
<td>450</td>
</tr>
<tr>
<td>39</td>
<td>S. Darto</td>
<td>907.0</td>
<td>230</td>
</tr>
<tr>
<td>41</td>
<td>M. Inam</td>
<td>689.0</td>
<td>250</td>
</tr>
<tr>
<td>43</td>
<td>M. Nonoo</td>
<td>5,934.0</td>
<td>Trn. Kosep</td>
</tr>
<tr>
<td>46</td>
<td>A. Bintang</td>
<td>4,258.0</td>
<td>2,100</td>
</tr>
<tr>
<td>47</td>
<td>M. Kosep</td>
<td>303.0</td>
<td>420</td>
</tr>
<tr>
<td>50</td>
<td>P. Anwar</td>
<td>2,368.0</td>
<td>Trn. Kosep</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Owner</th>
<th>LT (m²)</th>
<th>LB (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>P. Anwar</td>
<td>2,368.0</td>
<td>Trn. Kosep</td>
</tr>
<tr>
<td>49</td>
<td>A. Bintang</td>
<td>750.0</td>
<td>Trn. Kosep</td>
</tr>
<tr>
<td>46A</td>
<td>M. Inam</td>
<td>782.0</td>
<td>250</td>
</tr>
<tr>
<td>49B</td>
<td>M. Kosep</td>
<td>962.0</td>
<td>450</td>
</tr>
<tr>
<td>51</td>
<td>M. Nonoo</td>
<td>3,480.0</td>
<td>450</td>
</tr>
<tr>
<td>53A</td>
<td>R. Darto</td>
<td>3,078.0</td>
<td>450</td>
</tr>
<tr>
<td>53</td>
<td>A. Bintang</td>
<td>2,704.0</td>
<td>600</td>
</tr>
<tr>
<td>57</td>
<td>M. Kosep</td>
<td>3,510.0</td>
<td>850</td>
</tr>
<tr>
<td>67</td>
<td>S. Darto</td>
<td>2,726.0</td>
<td>700</td>
</tr>
</tbody>
</table>

LT : wide of lot
LB : wide of building
Fig. 11: Building performance in Block A
Fig. 12: Building performance in Block B
Fig. 13: Building performance in Block C
**Skyline**

The skyline shows that there are no climax building mass in this site.

---

**Building Facade**

In Block C, no enough housing image, because of the function changes in number 1,2,3,4,9). Only number 6,6,7 have still being functioning as housing.

---

**Set Back**

The building number 1,3, and 4 are patching to the building behind, but its housing function is not interfered enough.

---

**Building Line**

The are no building line trespassing in this block, but the boundary is showing the different setback.

There are also unbuild lot that is in the lot number B.

---

**Fig. 14: Building performance in Block D**
5. CONCLUSION

According to the above discussion, it could be concluded that:

- S. Parman corridor designed by Thomas Karlsten has a unique performance than any other cities all over Semarang. But, dramatically, the present developments of the buildings along this corridor had no longer considered about this prestigious value of the area. Many buildings have changed their performance as well as their function according to the economic status and social need of the people. Such condition not only influenced the space pattern of the area along the corridor but also influenced the utilization of the lots.

- The development along the corridor S. Parman significantly influences the space pattern of the corridor and the performance of the buildings. To manage the development, the local government should really implement the land use regulation in a right way.

- The building and area conservation along the corridor should be considered the existancy. The local government could not just let the development break the conservation rule and change the heritage to become any other functions which are not related to conservation.

- Eventhough the economic condition of the people and the social needs of the people had been changed, the development along the S. Parman corridor should consider the local government regulation and conservation.

REFERENCES