


# Sustaining Urban Spatial Network of Historical Communities through the Reuse of Temple Grounds and Social Space – A Case Study of Rattanakosin, Bangkok

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## ABSTRACT

 Old communities in Rattanakosin, a historical center of Bangkok, have been the model of a vibrant mix-use urban area where residences, temples, schools and local retailers are clustered in close proximity. The Rattanakosin area has distinctive spatial characteristics hardly found in other areas of Bangkok; small urban blocks, a dense grid network for pedestrian only, and a large number of Buddhist temples well integrated within communities. The mapping of space usage reveals how local inhabitants, as well as tourists, interact within a series of public open spaces. How this interaction differs at various times and activities are in fact spatially related. This paper aims to clarify how historical communities in Bangkok can sustain their viability through socio-spatial dialectic patterns by using the analysis of a spatial configuration network in relation to space use patterns. It also reveals that Buddhist temple grounds, once important public spaces transitioning between sacred temple areas and profane urban surroundings, no longer act as important social spaces in local communities. The analytical results suggest that sustaining the urban vitality of historical communities in the Rattanakosin could be done by reintegrating the existing small public open spaces in the area. This approach addresses the temple grounds within the internal pedestrian grid network as well as the external road network. The interconnecting and well hierarchical urban spatial network will create a good mix of local inhabitants and tourists in the area.

**Keywords:** *Rattanakosin, Bangkok, public space, temple ground, visual graph analysis, urban spatial network, natural movement*

## INTRODUCTION

### Socio-spatial dialectic of successful public spaces

Footpaths are one of the major elements of public open spaces. They have crucial urban functions as being pedestrian paths as well as being a socioeconomic space in front of buildings.

Footpaths, (pavement, sidewalk or pedestrian path) with a mix of pedestrians is always a crucial index that relates to the success of an urban area, as a whole, in western cities. Elements known to accompany a positive pedestrian environment includes: the advantages of energy saving, pollution reduction, chances of social interaction and economic transactions. Prominent thinker Jane Jacobs not only emphasizes the importance of

vibrant pedestrian paths but also adds that the positive qualities such as direct access from houses onto streets, urban blocks being small enough to maintain walkability, chances for people to frequently turn and change direction importantly contributes to urban viability (Jacobs, 1961).

Similarly, the urban rhythm or daily rhythm, a key characteristic of successful public spaces, was also described as the space-time routinisation or how various groups of people come and go at various times in urban spaces as part of a daily routine (Knox and Pinch, eds. 2000, Giddens, 1984, and Massey et al, eds, 1999). Hillier and Hanson (1984) and (Hillier, 1989 and 1996) then further defined the notion of how a pedestrian environment connotes a way of lifting urban quality through a virtual community. This is a form of pseudo community whereby inhabitants and strangers are co-present in a place, at any moment of time, freely doing various activities. Backed by many studies, Hillier and Hanson are the first key thinkers to point out that the degrees of pedestrian movement and density in urban space are the direct result of how deep the space is from any other spaces in the system (Hillier and Hanson, 1996). In other words, the urban vitality that is determined by a great degree of pedestrian mix, density and movement is in fact spatial related. They confirm that the virtual community is the direct result of pedestrian grid layouts. How public space is integrated or segregated from its surrounding urban area affects people's moving and static activity patterns within that space. According to the accessibility and visibility potential of all spaces in the urban system, people choose certain spaces to move to, or through, to sit, stand or group themselves for

social interaction at various times of the day. A space that is never deserted at any time of day indicates a well designed interconnection and hierarchy of a pedestrian grid network drawing natural movement into the area. (Hillier, 1996).

A theory and technique of Visual Graph Analysis or VGA has been developed from Hillier's theory of natural movement. VGA is a computer analytical tool to measure spatial configuration or morphological structure of all scales of built environment. Based on Benedikt's idea about how different forms and configurations of space correlate with different visual fields people have in that space (Benedikt, 1979). The space with good visual linkage will potentially draw a good degree of movement and density, a key index of vibrant urban area.

In other words, different visual fields affect both moving and static behavioral patterns. The isovist field as defined by Benedikt is the area where people can see from any point in space. This differs in relation to forms of enclosure and how the space configures itself in relation to other spaces in the system. The urban spatial configuration then affects how people experience and act within the space, choices of route, choosing sitting or standing locations, designating spots for interacting with other people. The space that has a vast and clear isovist field has a good potential to draw a high degree of movement and density (Turner and Penn, 1999). (Figure 1)

Meanwhile, there is very little understanding about how to create and sustain successful public spaces in Thai cities whereby people, urban context and

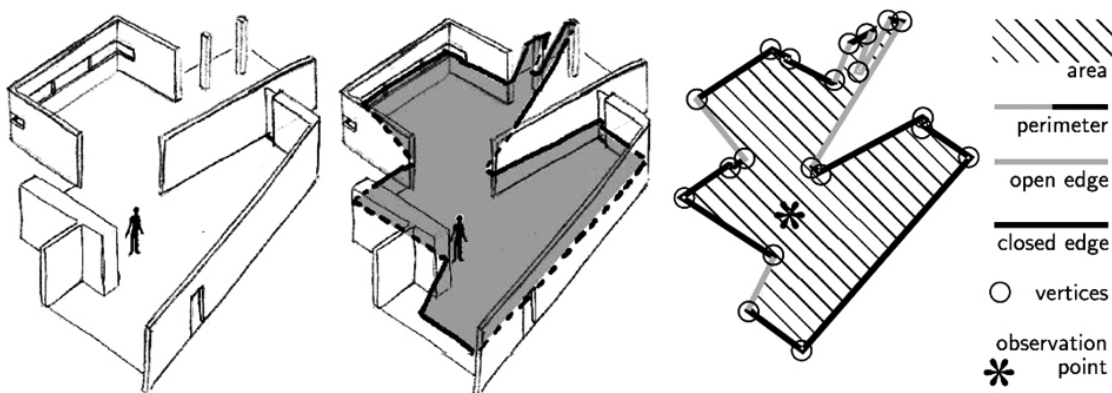


Figure 1:  
An isovist field is shaped by spatial enclosure (Turner and Penn, 1999)

weather are very different from some western cities. Major cities in Thailand, especially Bangkok are more auto-oriented which is rather contradictory to the concept of energy saving and pedestrianized urban environment. All Western ideas about successful public spaces seem to be argumentative for the Bangkok's context (Massey, 1999). People in cold weather have different space use characteristics from those in hot and humid environments. People in cold weather tend to seek open and vast spaces for solar warmth while those in warm weather tend to seek for shade in smaller and more enclosed public spaces. Additionally, the use of public spaces as spatio-political gatherings and protest spaces which has been a product of old market and civic squares in the Western cities is also unique and contextual (Massey, 1999). Although, a political gathering in Thailand also occurs on streets and civic squares, it has never been a byproduct of historical market places. A civic square in Thailand is the Western's influence that came with the building of government buildings and institutions in the modernization time of King Rama V during the mid 19<sup>th</sup> century. Thai people are used to small gathering spaces with enough shade for social as well as political discussions. Therefore, the Western style urban regeneration that potentially led to the creation of large and open public plazas in Thai cities has been proved unsuccessful. Many new public open spaces of a large scale, especially those built with hardscape materials and no shade, are deserted or became unpopular mainly because of the heat. Additionally, the vitality of existing successful public spaces in local communities could not be sustained properly due to a limited understanding of how to accommodate contemporary uses in old spaces.

However, Kwansuang Atibho made an interesting note in his special lecture at Chulalongkorn University in 2005, by suggesting, from his long term observation, that there are several key factors that always contribute to well use public spaces in Thailand. He mentioned the unique spatial characteristics of small spaces with short but continuous lines of sight linking these spaces together so that they cannot be seen all at once but in hierarchical order; spaces where people are able to sit on the ground; spaces with shading of all kinds; spaces with food vendors and spaces close to a canal or a river. It is interesting to investigate the socio-spatial dialectic of public spaces in the historical area of Bangkok, the Rattanakosin's Sao Ching Cha communities, where the pedestrian environment is still largely evident compared to other outer and largely auto-oriented areas in the city.

## Sao Ching Cha communities

The Rattanakosin is the historical center of Bangkok. It is a mixed use of commercial, residential and urban industrial areas bounded by the Chaophya River to the west. The residential communities, all officially registered by Bangkok Metropolitan Administration (BMA), are old communities with a high density of about 15 houses per *rai* (1,600 sq.m.) and are clustered with several important Buddhist temples. The inhabitants have various professions, businesses or services related to commercial urban industries in the area. These enterprises include: mostly foods services, some local handcrafts, law firms, and tutorial schools. There have been an increasing number of temporary residents from upcountry provinces moving into the area as laborers in the service industry. The spatial characteristic of the area is a dense urban fabric with a grid network and very limited vacant area to expand.

Sao Ching Cha area is a part of the old town Rattanakosin located at the south of the Rachadamnern Road, the main thoroughfare linking the Royal Palace and the Royal Grounds. The area consists of seven local community clusters; Bot Brahmin, Trok Sin – Tuek Din, Rajabopit Pattana, Prang Puthon, Wat Thepthidaram, Wang Krom Pra Sommut Orapun, Trok Fueng Thong – Trok Visut communities and six important Buddhist temples and a shrine; Buranasiri Mattayaram, Mahannaparam, Rachanadda, Thepthidaram, Rachabopit and Suthat Temples and the Tiger Shrine. These seven residential clusters are interconnected with both pedestrian and road networks. Similar to other urban communities of the Rattanakosin, Sao Ching Cha area has distinctive spatial elements; the rather enclosed public open spaces in various forms and configurations ranging from small pocket parks, medium size schools and temple grounds to a large civic plaza. These spaces are more or less interconnected. Some are located deep within urban blocks and only accessible through pedestrian networks while some are linearly attached to road or canal networks. Interestingly, most public spaces are pedestrian only short-cuts within the superblocks where vehicular access is rather limited. These small pocket spaces are utilized as important areas for social interaction as well as economic transaction where local people often meet, exchange news, goods and community services. On a civic scale use is the civic plaza in front of the BMA Headquarters and along the footpaths of Rachadamnern Road and Dinsor Road.



Figure 2:  
Bangkok map and the location of the historical area Rattanakosin.

Phromprawat (2008) revealed in his study of the Rattanakosin area that the change in socio-economic conditions, the gentrification and several BMA's tourist-led regeneration plans, have directly affected Bangkok's historical communities. Two main factors that have directly affected the old town's public space network is the densification of built structures and the gentrification that has brought in newcomers and cheap laborers. However the area lost the new generation who to go work in other areas. Temple grounds, school grounds, small community pocket spaces that were once publicly opened and a part of an integrated pedestrian network in the area have been closed off due to safety concerns. An increasing number of tourists, laborers and homeless people in the Ratanakosin have brought about burglary and trespassing problems to the locals (Phromprawat, 2008). Some public open

spaces have been transformed to accommodate new commercial uses. Buddhist temples have generally become a tourist destination rather than the local religious place. While the communities have fewer former inhabitants, the newcomers tend to have no interest to form any kind of social group. Thus, a solid consensus to create new public open spaces for contemporary use replacing traditional ones is not viable (Paksukchareon, 2008). Most newcomers often come to stay just temporarily and express no need to adjust the existing public spaces to accommodate themselves. Several urban regeneration plans also often ignore the need of local inhabitants.

This has evidently happened in Sao Ching Cha area as well. The BMA's 2008 plan to move its headquarter to a new place, the area's regeneration





Figure 3:  
 Sao Ching Cha communities

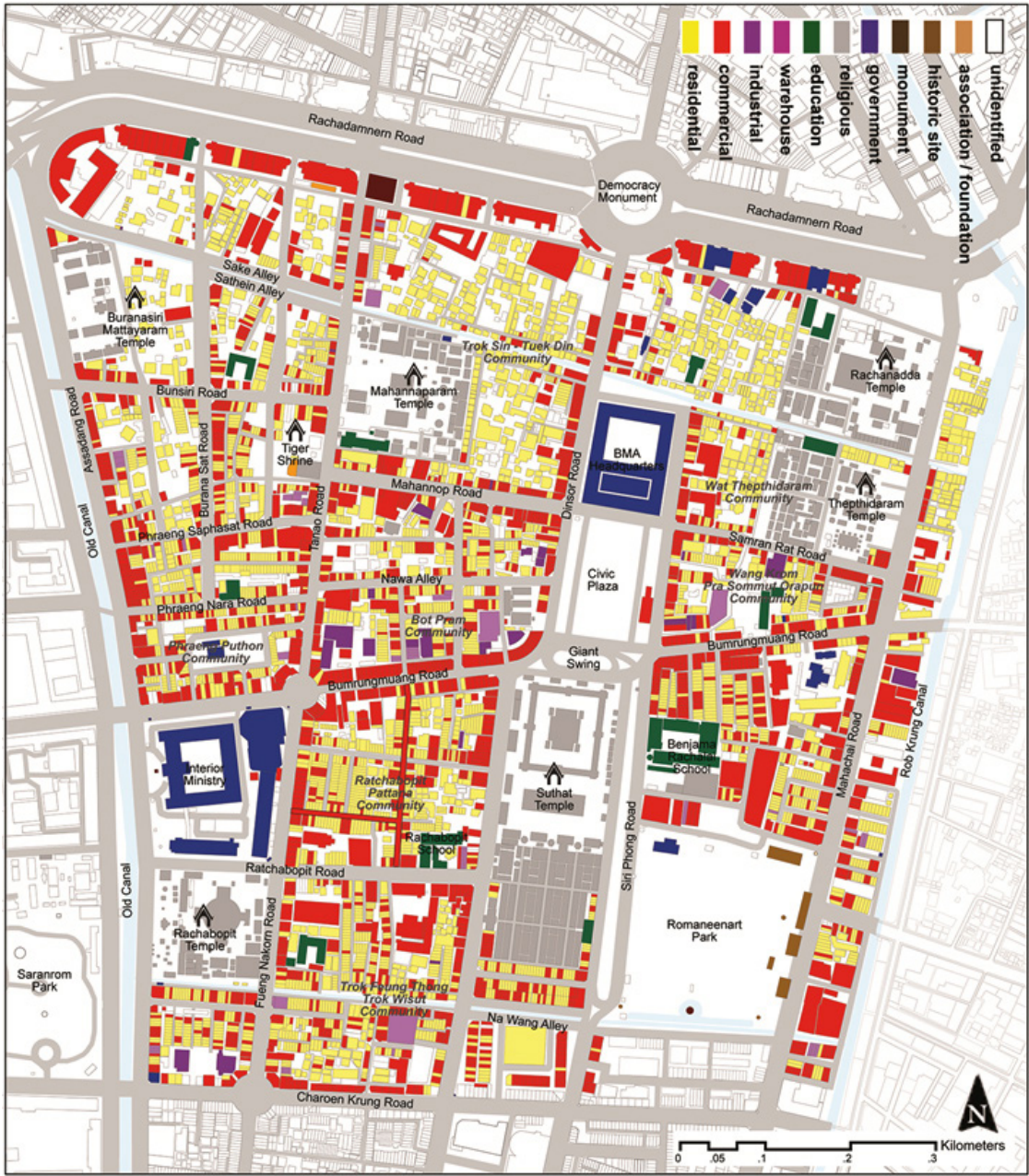
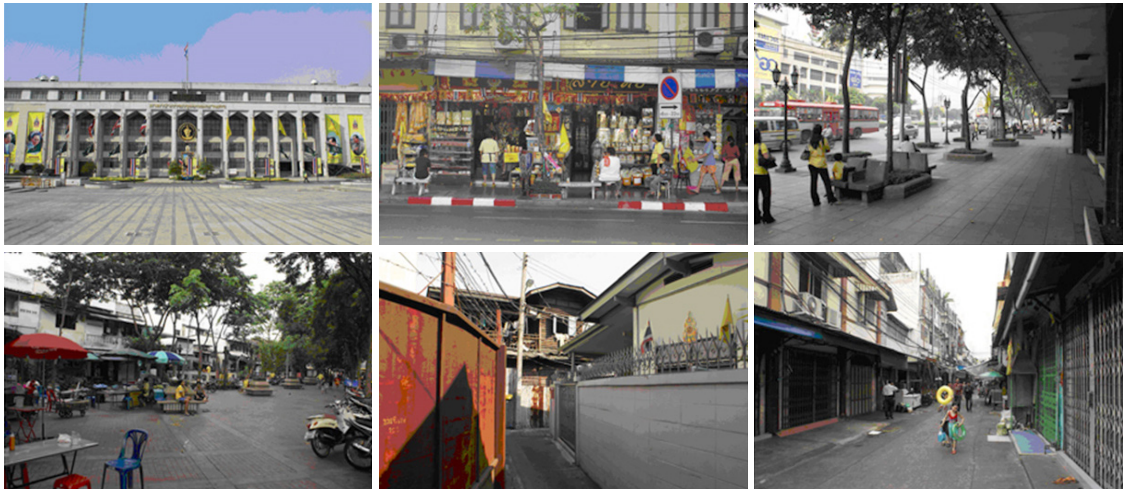


Figure 4:  
Building use pattern in Sao Ching Cha communities





**Figure 5:**  
*Public open spaces of different scales in Sao Ching Cha communities.*  
*From the top left and clockwise; the civic plaza, footpaths in front of the shophouses by main street, a shared road and footpath within the urban block, a small and narrow alley and an inner block's small pocket space (the lower left)*

plans so far have emphasized the area being the national symbol rather than the model of urban viability. By adding more commercial areas for tourists, fencing off local communities to maintain clean vistas from major roads, the number of public open spaces in the area has decreased and there has been no plan to build more (Paksukcharern, 2008).

## **The separation of sacred and profane spaces**

Buddhist temples have had a major role in Thai communities for centuries. A temple is considered the sacred space located among its profane surroundings. Often placed in the central area of residential clusters along with local schools, the temple buildings serve religious related functions. The temple ground acts as a transition or liminal space between the sacred and profane areas in cities and often has undefined roles. The ground can be an outdoor area for people to temporarily perform religious ceremonies and also a public space where social interaction occurs. In most cases, they have been well integrated within the spatial network of local communities. Some temple grounds are regular meeting places and function as daily shortcut routes for local residents or even outsiders. Tansukanun (2003) also confirmed what Van Gennep (1908) and Turner (1969) argued about the liminality of temple grounds by studying the

role of Buddhist temples in northern Thailand. She states that the Buddhist temple ground is a crucial connection between the sacred space for performing religious activities and the profane space of the surrounding urban area.

However, it has been known that the role of Buddhist temples in Thai society has dramatically changed. As Bangkok has become a part of the global economy, its urban transformation has inevitably brought about new types of social spaces to accommodate contemporary lifestyles. The Triumph of the Profane era, as Turner (1969) stated, can also be used to describe the situation here in Bangkok. Buddhist temples, though still considered as sacred spaces, are now often closed off, segregated and made into a backdrop in the tourist-led urban regeneration. Temple grounds have lost their status as the major social space. The regeneration plans often do not take the social life of local people into consideration by reviving temples and their grounds as the important sacred and profane spaces in the city. It is noted that Buddhist temples in Sao Ching Cha communities have also been shut off from their local surroundings. Similar to other public buildings used mainly as tourist destination, the temples have a certain period of opening times. The temple ground of Buranasiri Mattayaram, Mahannaparam, Rachanadda, Thepthidaram, Rachabopit and Suthat Temples have been partly turned into parking spaces or fenced off from the public most of the times (Phromprawat, 2008).

## Visual fields and space use patterns

The analysis of space patterns and space use patterns of Sao Ching Cha area reveal how the public open space network in the area draws various degrees of movement and density. The analysis basically aims to identify 1) the building use pattern 2) the typology of public open spaces categorized by different characteristics of enclosure and accessibility 3) the isovist field by using Visual Graph Analysis (VGA) computer technique 4) the space use pattern of both static and moving activities by field observation during a weekday and a weekend. The mapping of all analyses is carried out in the same scale basis so the correlation between space and space use patterns can be further analyzed. (Figure 6)

The analytical results point out that space use patterns of Sao Ching Cha area relate to the isovist field only to some degree. It seems that there are generally two levels of public space use pattern, a community level and a civic level. Both patterns are integrated and, at times, overlap in some locations where locals and outsiders come at different times of the day. Evidently, only tourists or outsiders, who do not know the area very well, navigate by depending upon the potential isovist field. The locals who are residents and workers tend to move through the area by using shortcuts or small spaces such as alleys or *sois* which do not necessarily have great visual linkages. *Sois* are generally a series of small, narrow and meandering paths of continuing short lines of sight and difficult for vehicular access. Used as local interconnecting routes as well as social spaces, *sois* are rather unique spatial elements found within Bangkok's urban blocks. Small spaces inside Ratbopit Pattana community, as well as several alleys within urban blocks, draw a high level of movement and density due to temporary outdoor markets. A vast isovist field area, like the civic plaza in front of the BMA headquarter which is easily accessible as the square is bounded in three sides by major roads, attracts a high level of space use only in the late evening when the sun has set.

Interestingly, all six Buddhist temples in Sao Ching Cha area act like large superblocks or urban barriers. Their temple grounds are not included as a part of the area's public open space network because they are not accessible at all times. There is no significant through route or space that can function as a shortcut through the superblock in which they are located.

The space use pattern analysis confirms that the temple grounds function like dead end spaces where people go in and out but do not move through to other spaces. The grounds are not popularly used by either local people or tourists. The spaces seem to be secluded from all the buzz of both moving and static activities in the area.

In addition to the degree of mix building uses and the ability of some local routes functioning as shortcuts, a more detailed observation reveals that other factors such as shade and street vendors also attract local people and tourists to move to and through such spaces.

## CONCLUSIONS

### Sustaining urban spatial network of small public open spaces

The findings suggest that there are some differences between public space use patterns in the Rattanakosin's historical communities and those in the western cities. Both locals and outsiders in the western cities are likely to pursue a similar pattern of space uses. They tend to engage themselves in the area with high visibility linkage or the area of vast visual field such as a large open plaza. This corresponds well with the natural movement pattern and the need for warmth and sunlight (Paksukcharern, 2008). Whereas local people in a historical area of Bangkok rather opt to use 'shortcuts' which are basically a series of small public spaces with narrow but continuous visual fields to navigate through the area as well as to socially interact with one another. Some *sois* are very popular but known only to the local inhabitants. The city's severe traffic problem seems to add to the popularity of these shortcuts as alternative routes. Other advantages for using *sois* are saving energy and utilizing their pleasantly shaded environment. These spaces might not be formally planned or established by authorities. Only people who are not familiar with the area, such as tourists, still depend upon the spatially configured isovist fields to navigate the area.

To sustain the urban vitality of historical communities in the Rattankosin is thus spatial related. The urban regeneration of the old town area should take into account this distinctive, small public open space network that tends to produce the right balance between the locals and strangers in the area.



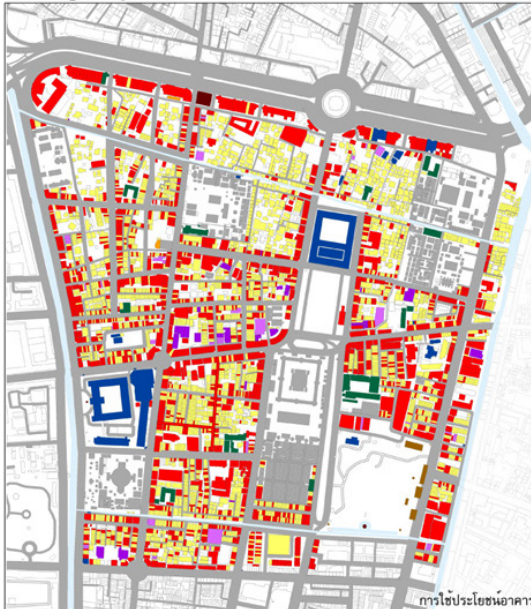
Space use patterns



Visual Graph Analysis



Building use pattern



Public open space typology

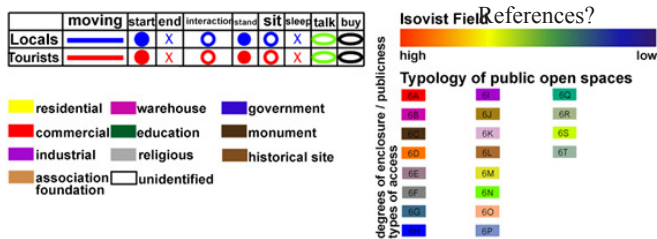
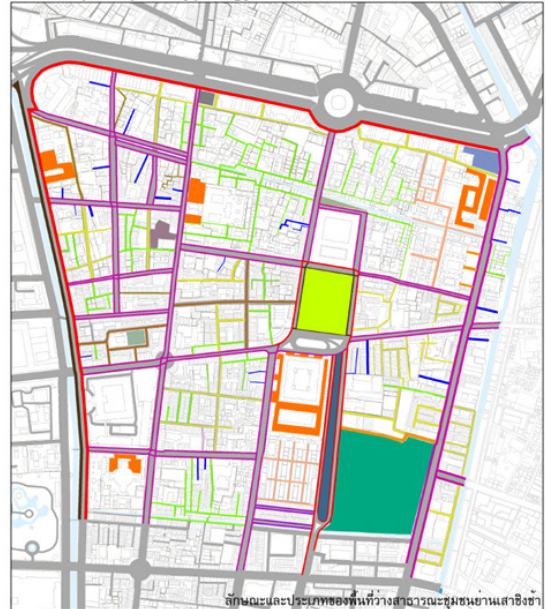


Figure 6:  
 Space and space use pattern analysis of Sao Ching Cha communities.

The spatial interconnection of these small social spaces is necessary to maintain the life of historical communities. Whereby the development of road networks seems to be inappropriate for the pedestrian environment and is almost impossible due to the limited space. The natural movement, a by-product of urban spatial network, is the key to sustain both local and non-local activities. Importantly, the characteristic of urban superblocks where schools, public buildings and especially Buddhist temples are spatially segregated tend to act as large urban barriers and should be amended by reintegrating them back into their surrounding grid network. The reintegration should be done both spatially and symbolically to make these spaces truly functional and meaningful on a daily basis.

This study sheds light on the need to promote the usage of public space in other areas in Bangkok. Though the Rattakosin area seems to be the obvious case, it is one of the very few pedestrian oriented areas compared to other auto-oriented outer parts of the city. The spatial interconnection that can link the existing and meaningful social spaces in the city by pedestrian networks is very crucial. This is especially important where temple grounds are currently cut off and lost within the superblock. The key factor to sustaining the sense of communities in the city is to promote more natural pedestrian movement to counter balance the vehicular movement

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