



## Investigating Urban Design Elements of Bandar Baru Sentul, Kuala Lumpur

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### ABSTRACT

**Problem statement/Literature Review:** An urban area can be defined by its urban design elements. This study seeks to ascertain the quality of urban planning of Bandar Baru Sentul which is based on modern city typology, and to identify and analyze the urban design elements of the site. **Methodology:** The urban design elements will be analyzed using qualitative research method which is based upon accumulative observation around the given site. **Results & Analysis:** The site has a clear path and ease of circulation. Its edges are also well defined and the identity of each district are distinguishable. The nodes are easily recognized, the same that can be said for the landmarks scattered around Bandar Baru Sentul. **Conclusion:** The quality of urban planning of Bandar Baru Sentul is above average due to its well-planned site layout. It shows how a well-planned area and its urban design elements have influence on the site, therefore, ought to be considered in the design stage where it can be optimized for better planning.

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## 1. Introduction

Urban design addresses both the functional and aesthetic aspects of a city's built environment. A proper implementation of urban design elements is crucial to develop a guideline so as to create a desirable living environment and an appropriate city image and identity. When cities were industrializing rapidly at the beginning of the 20<sup>th</sup> century, Sir Ebenezer Howard, the first theorist of modern urban planning started The Garden City Movement in 1898. Although the idea were considered utopian, it was implemented widely because of its practicality (Hall & Tewdwr-Jones, 2011). From here, the urban design theory started to expand.

As Malaysia is moving towards a developed country in status, Kuala Lumpur has seen massive development with post-modern style buildings that blends complex geometric elements with

colonial, modern and traditional architecture style (Hassan, 2005) which has left a city that is fragmented and lacking in visual and physical coherence. The increase of population has created an awareness of the importance of a well-planned urban area (Hassan, 2015). The aims of this study are to:

- Investigate the quality of urban planning of Bandar Baru Sentul which is based on modern city typology.
- Identify and analyze the urban design elements of the site.

## 2. Literature Review

The Image of the City was published by Kevin Lynch in 1960 with the concept of legibility, narrowing down the urban design theory into five elements: path, edge, district, node and landmark. Rather than perceiving the master plan in two-dimension, he introduced the use of picturesque mental mapping to better understand a city's planning (Lynch, 1960). These elements are the ones to be observed and identified in the site chosen for case study that is Bandar Baru Sentul.

### 2.1 Path

Paths are the main elements in urban space. It is usually defined as the access of moving around within the city such as roads, railways or even waterway. Identifiable and continuous paths will have a clear direction on its origin and destination. This helps in tying the city together with its surrounding contexts. "It is impossible to create a clear city image while its paths remain confused and disordered" (Lynch, 1960). A clear path will ensure a better navigation and accessibility as well as reducing the issues that can occur such as traffic congestions and accidents.

### 2.2 Edges

Edges are boundaries that separate two districts visually. It is the element that breaks the continuity of the city, making it visible that the city consists of different areas. Despite that, these boundaries are often defined as a unity rather than isolation because even though it breaks the city, it also ties several different elements together, making seamless transition from one area to another (Batty & Longley, 1994). In other words, it must be visually prominent yet the observers will still mentally omit the edges. Some elements of edges can be from paths such as rivers, highways, and railway or other things like parks and difference in building height.

### 2.3 Districts

Districts are areas of the city with the same character. Not to be confused with edges, district is the area itself while edges are element that breaks the areas. These characters can be distinguished by endless varieties of components: building typology, form, detail, use and so on. Districts are also known as zoning, which addresses a series of relationships and concepts that share a common fundamental characteristics (Rossi, 1982). These components are usually clustered together in similar characteristics to create a distinct contrast for different areas of the city.

### 2.4 Nodes

Nodes are strategic centers which observers can enter. Basically, there are two types of nodes:

junctions of path and area of attractions (Lynch, 1960). Nodes usually have a distinguished boundary, defined by a unique feature providing a strong sense of place. It is also defined as the gathering point of the city, which means that it does not necessarily have a specific form or shape. A successful node should be able to intensify surrounding characters while becoming the center of concentration.

## 2.5 Landmarks

Landmarks are reference points which can be defined as physical elements that are recognizable for the purpose of way-finding as well as a strong identity of the city. Not to be confused with nodes, landmarks are three-dimensional objects with particular meaning which insists that landmarks should have an individual form as opposed to nodes which are usually consists of just spaces (Lamit, 2004). Good landmarks are usually dominant and contrast from the surrounding which make them memorable and unique in a certain urban context as tourists who doesn't understand and read the native language will usually depend on a city's landmarks for navigation and way-finding (Salmi, 2002).

## 2.6 Bandar Baru Sentul

The study comprises of the whole township of Bandar Baru Sentul (Figure 2). Bandar Baru Sentul is a major township in Sentul, Kuala Lumpur, Malaysia. Sentul is a satellite city for the city center of Kuala Lumpur, located only 3km north from the heart of the city (Figure 1). The site was chosen because: (1) it can be used to represent the effect of the rapid development of Kuala Lumpur had on its neighborhood's planning, and (2) it is easily accessible for conducting this study.

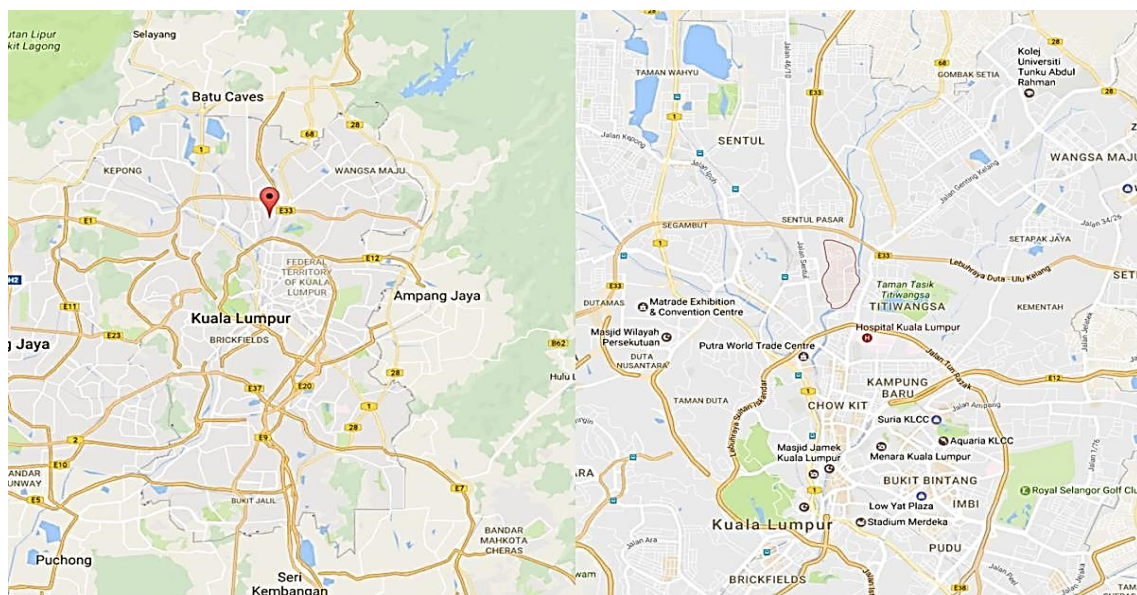


Figure 1: Key Plan & Location Plan of Bandar Baru Sentul (Courtesy of Google Maps)

## 3. Methodology

The research was done using qualitative research method which comprises of direct and accumulative observation around the site while referring to Kevin Lynch's theory of urban design

elements. The site layout plan of Bandar Baru Sentul was drawn using AutoCAD initially to have an initial understanding of the site. After the site plan was drawn, an on-field study was conducted via a site visit to the site to have a better understanding of the site as well as to match the data obtained the site layout plan that was done earlier. The urban design elements identified then expressed using the combination of AutoCAD drawing and edited in Adobe Photoshop.



**Figure 2:** Layout Plan of Bandar Baru Sentul

The scales of measurements for urban design elements in the site vary. Paths are determined by width and the importance they have on the site, while edges are determined by the sense of boundary that they visually breaks Bandar Baru Sentul with its neighborhood contexts or even within the site itself (architecture). Districts are based on area's identity and its functions, nodes by their popularity, whereas landmarks' hierarchical order are determined by its importance, attraction, and prominence.

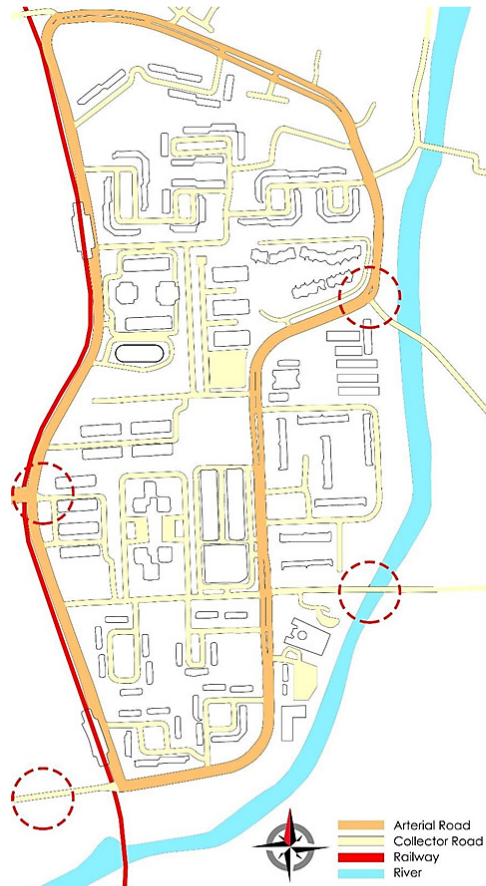
## 4. Analysis

### 4.1 Path

Marked with red circles in Figure 4, there are four entrances to the site which comes from Sentul West, Setapak, Putra, and Titiwangsa (Figure 3) respectively. Surrounding Bandar Baru Sentul is the arterial road that made up from Jalan 2/48a and Jalan 1/48a. These roads are the widest in the area, measuring from 15m (50 foot). These roads wrap the city around it, creating a mental image for users that can easily be recognized.



**Figure 3:** Entrance to Bandar Baru Sentul from Titiwangsa



**Figure 4:** Paths in Bandar Baru Sentul



**Figure 5:** Arterial road on site



**Figure 6:** Collector road on site

From there it leads into the collector roads on the site that directs the users into the specific areas of their destinations. The collector road varies in width, because some of the roads like shown in Figure 6 are equipped with parking area on both sides, usually situated near public amenities such as mosque and school. Although the problem of heavy traffic still exist on the site mainly due to the high density of the area. On the west of the site, there's also a railway for Light Rail Transit (LRT). Albeit with the heavy traffic condition, navigating through Bandar Baru Sentul has been made easy because of its clear and well planned path. Referring to previous figures, the roads are also well shaded as the trees along the roads are the types with large crowns that provide enough shades for the pedestrians and motorists alike.



**Figure 7:** RapidKL bus service available in the site (left), and free school buses (right).

In terms of transport, there are a lot of categories. Most of the people in the site at the time of visit are using their own private vehicle like cars and motorcycle. For public transportation, there are ranges of options available such as taxis, RapidKL's buses, LRT trains, and even free school buses for the township's residence that can be considered a very commendable effort to ease the heavy traffic that occurs almost all time at the site (Figure 7).



**Figure 8:** LRT Railway at the west side of Bandar Baru Sentul.

## 4.2 Edge

There are two types of edges that can be perceived at the site namely the man-made and natural edges. The overall site is bounded by LRT railway at the west side and Gombak River at the east side. On the west side, the elevated LRT railway creates a visual barrier with Sentul Raya, where the iconic *The Capers* apartment complex is situated (Figure 8) although the physical characteristics of the two areas do not hold much difference.

On the other side, the Gombak River lies a little bit lower than the line of sight. Gombak River is a tributary of the main Klang River, starting from Masjid Jamek Kuala Lumpur all the way to Gombak. Nevertheless it creates the needs for bridges to cross the river and the vegetations that grows along the river further add to its presence on the site (Figure 11). It is an existing boundary, separating Sentul and Titiwangsa thus making it the most prominent edge on the site.

The last edge that has been identified at the site is the difference in building height. Most of the buildings in the township are high-rise apartments. Although some of them are medium-rise like *Pangsapuri Sri Negeri Sembilan* (Figure 10), and low-rise like the UTC complex and the surrounding shophouses which spans for 3-4 storeys. This creates a very distinct visual difference but not to the point that they feel disconnected.

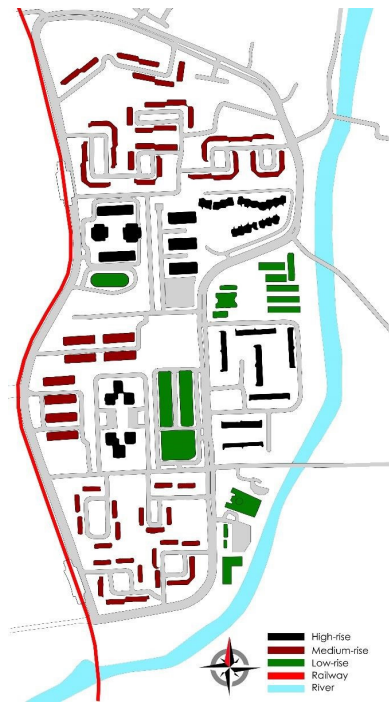


Figure 9: Edges of Bandar Baru Sentul



Figure 10: Pangsapuri Sri Negeri Sembilan



Figure 11: Gombak River at the east side of Bandar Baru Sentul.

### 4.3 District

The planning of Bandar Baru Sentul is mainly focused on residential districts. These districts share the common trait that all of them are vertical living units as there are no landed property can be found at the site. As can be seen in Figure 12, the residential district covers around 70% of the whole township. Other districts include commercial district, educational district, and religious district. However, the districts do not possess clear boundaries and kind of blended in with each other mainly in religious district, or the clear traits of a typical government school architecture in Malaysia in the educational district (Figure 15). The distance between each districts are also still in walking distance so the transition from one district to another can be done in ease. The commercial district in particular, is located at the very center of the township so that the residential districts all around can easily access the area.



Figure 12: Districts of Bandar Baru Sentul



Figure 13: View between commercial and residential district.



Figure 14: Religious district.



Figure 15: View between educational and residential district.

#### 4.4 Node

From the observation in the site, there are several types of nodes in the area. The first type of nodes is the community area, which includes the field of Pusat Komuniti Sentul Perdana, shophouses around Urban Transformation Center (UTC) Sentul, and the parks provided in the residential area. Pusat Komuniti Sentul Perdana is the main community center in Bandar Baru Sentul. Its complex consists of a public field and a community hall. At the time of visit, the community hall is being used for the training of taekwondo class while there are a couple of people jogging around the field. From this it can be concluded that the community hall is only used at the time of events which cannot be considered a node but the field is the node where the community gather for recreations and picnics (Figure 16).





Figure 16: Pusat Komuniti Sentul Perdana and the field in front of it.



Figure 18: One of the residential parks



Figure 19: Shophouses near UTC Sentul.

Figure 17: Nodes in Bandar Baru Sentul

Similar to the public field, the residential parks also provide an area for recreation and often are fully occupied by the young generations of the residents. The parks are provided for each residential complex but the use is not limited only to the residents of corresponding complex. Next there are the shophouses near UTC building. These shophouses are located at the very center of Bandar Baru Sentul thus making it a strategic node as one of the main center of attraction. The area is always full of people as long as the shops are open. There are also restaurants and hawkers opened their stalls at the sidewalks that further increase the concentration of people going to the area. The shops offers variety of products that attract a lot of different kinds of target users to the shophouses.

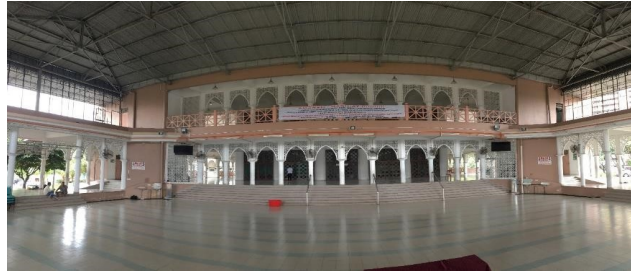


Figure 20: Masjid Amru Ibn Al-'As' gathering area.

The last type of node is the religious node. It is notable that the mosque in the area, which is Masjid Amru Ibn Al-'As has its own gathering area (Figure 20) and kitchen. There are also a lot of banner promoting programs that will be held at the mosque around the compound, example given, the banner in Figure 20. During the visit to the mosque, there are quite a number of people present even though it is not prayer time. This shows that the mosque is also one of the nodes of Bandar Baru Sentul.



Figure 21: UTC Sentul building (left), site's main intersection (right).

#### 4.5 Landmark

There are quite a number of landmarks identified in the site, five to be exact, ranging from significance, uniqueness and importance that they have on the site. The most prominent one has to be UTC Sentul (Figure 21). This is because the building is the center of the township, be it by location, or by the importance and significance that it holds. People who are going to Bandar Baru Sentul mostly name UTC Sentul as their first waypoint, because the building is strategically located at the center and main intersection of the site and from there, people have access to all the areas in Bandar Baru Sentul.

There are also other landmarks that are identified by its significance on the site which is Pusat Komuniti Sentul Perdana as the main community center, and also Masjid Amru Ibn Al-'As that is the only mosque in the township. The township is also equipped with two LRT stations, namely LRT Sentul and LRT Sentul East. These stations are definitely important landmarks as they are situated near the site entrances and the only way to get in into the site via rail transit. They are also the easiest landmarks for tourists to find their way around the site.



Figure 22: Landmarks in Bandar Baru Sentral



Figure 23: (1) LRT Sentul East.



Figure 24: (5) LRT Sentul.

## 5. Discussion

After the site observation, the urban design elements of Bandar Baru Sentul were identified based on the various scale of measurements that has been discussed in research methodology. As Bandar Baru Sentul can be considered a new township, the planning is not as hectic and the relationships with the neighboring contexts are also carefully laid out.

### 5.1 Path

Paths' hierarchical orders were determined by width and importance. The township of Bandar Baru Sentul is surrounded by a series of arterial road which consists of Jalan 1/48a and Jalan 2/48a. These roads are the widest in length compared to the other roads in the site and the most important road access by the vehicles as they connect Bandar Baru Sentul to surrounding areas. The roads have a very clear direction and minimal difficulties can be found navigating through them.

### 5.2 Edge

Edges for Bandar Baru Sentul helped to create boundaries for the site. The two edges, namely

LRT railway and Gombak River have created distinct boundaries, breaking the site from its neighbors and determining the area of its own. This is crucial as people will be able to identify where they are currently positioned by referring to these two edges.

### 5.3 District

Districts are divided based on identity and usage. The most prominent district in the site is the residential district which covers about 70% of Bandar Baru Sentul. In spite of this, other districts like commercial, educational, and religious district effortlessly blend with the residential buildings, providing a sense of place. This also increases the accessibility so that a lot of problems can be avoided from occurring.

### 5.4 Node

Nodes are measured by their popularity. Although a total of five nodes were identified, only the residential parks are used most of the time during the site visit. Places like Pusat Komuniti Sentul Perdana and the mosque are only used at a certain time of the day. This shows that some nodes of the site are not fully utilized. It is also notable that the shophouses area are full of people whenever it is opened.

### 5.5 Landmark

Landmarks' hierarchical order are determined by its importance and attraction. From 5 landmarks identified in the site, it is concluded that UTC Sentul is the most important as it is the most identifiable and due to its location in the center of Bandar Baru Sentul, it is the one people used the most as wayfinding and the activities surrounding it also attract people to the landmark.

## 6. Conclusion

The quality of urban planning of Bandar Baru Sentul is above average due to its wellplanned site layout. The majority of residential building in the area are high rise apartments thus solved the land scarcity problem in urban area to accommodate the rising population (Hassan, 2015). Although several issues need to be addressed like the bad traffic condition of the site, most of the problems come from the vehicles parked at roadside due to the lack of parking area in the site, multi-storey car park can be introduced to the site to overcome this issue. Almost all the urban design elements of Bandar Baru Sentul are effective with the exception of its nodes. "The activities of a town take place in public and private spheres" (Krier, 1979). Nodes in the site are under-utilized due to lack of activities and mainly because it's a residential area thus it is only used by the surrounding residents.

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