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ROLES OF PHYSICAL ENVIRONMENT IN CHARACTERIZING THE IDENTITY OF MALAY ROYAL TOWN IN ALOR SETAR, KEDAH

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ABSTRACT

Malay Royal towns (MRTs) in Malaysia are the best examples of early Malay towns' evolution dating from the 16th century. However, the identity of MRTs nowadays remains unclear as it continues threatened due to rapid urbanisation and development. This paper aims to discover the physical environment (PE) elements in characterizing the identity of MRT in Alor Setar, Kedah. This research employs a qualitative approach which encompasses of a literature review of old scholarly articles and reports, historical map overlay, semi-structured interview and field observations. Alor Setar, Kedah were selected as a case study due to the rich significance to the identity of the MRT in Malaysia. The findings gathered from this research too are deemed a comprehensive understanding of PE elements of the MRT in Alor Setar and may further help in strengthening the identity and Malaysian history.

Disciplinary: Multidisciplinary (Architecture and Town Planning, History, ASEAN Studies).

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1. INTRODUCTION

Physical environment (PE), human activities, meaning and cultural significances play an important role in shaping the identity of Malay Royal towns (MRTs) in Malaysia. MRT in Alor Setar, Kedah in particular, have high values of history and culture that are worthy of preservation. Nevertheless, extensive urbanisation and development have eroded the importance of these MRTs. This paper primary aims to discover the elements of the PE in characterizing the identity of the MRT in Alor Setar, Kedah. The first objective is to identify elements of the PE which inform the identity of the MRT. By using historical map overlay, field observations and semi-structured interviews used to achieve the result of this research. The resulting findings on elements of the PE will be categorized

according to their physical significance in the MRT. The second objective is to understand the roles of the PE elements in characterizing the identity of MRT in Alor Setar, Kedah. The elements of the PE identified in the MRT are of a high potential to become part of the urban identity, portraying the image of MRT. As the research focuses only on a single case study in Alor Setar, an overall picture of the characteristics of MRTs in Malaysia cannot be generalized. However, it hoped that this study would offer insights into the importance of MRTs with relations to the nation's identity.

2. PHYSICAL ENVIRONMENT (PE)

McDonogh (2017) and Mehta (2013) mentioned town infrastructure and physical characteristics such as street, buildings and settings are the most significant elements in establishing the forms of a place, as seen from numerous perspective of views, either metaphorically or literally because the forms and settings which is society, culture and economics are related and influenced by each other. Rapoport (2016) suggested that natural elements, climate and tangible features were the part inside the PE. Greene (1992) described the PE as the experience of actual people towards the environment. It includes the characters that form the physical elements of community design. According to him, landforms, buildings, natural structures, spaces such as parks and open areas and path associated with these elements. Relph (1976) also suggested space as a part of the elements of the PE. He also stated that physical elements such as earth, sky, sea and the environment have their distinctive characters for an experience that might be different.

Physical surroundings also include nonvisual elements, which affects the senses. Although the PE is fundamentally three dimensional, there is, however, a need for urban design to handle the non-visual dimensions of the environment. Clouse and Dixit (2017); Pocock and Hudson (1978) mentioned that for space to turn into place, the visual, as well as other elements, need to be outstanding. Some of the other elements such as noise, smell and feelings, will also promote the attribute of the area (Gosling & Maitland, 1984; Hu & Chen, 2018; Rapoport, 2016). The occurrence in an area becomes history after a while and remains embellished there. In other words, a historical product is also the physical feature of place (Ja'afar et al., 2014; Kropf, 1996). Feature, which defines a town, tend to lean more to the history and culture side. Characters act as the matter which brings the features of the town together, defining the town, resonating history and culture including the economic and social aspects of the community (Ja'afar et al., 2014; Warnaby, 2009). Kropf (1996) depicted these characters in his study as the distinguished place elements, particularly the form and setting of the street, space planning and architecture of the community. Under the aegis of urban design, a city and its fundamental elements are explored, specifically through the creative mapping of its forms, settings and circumstances (Oppong et al., 2018; Peterson, 1979).

It is therefore evident of objects or elements, spaces, networks of circulation and nonvisual aspects are then developed into the PE. Thus, it proved that the PE encompasses entities such as forms, features, spaces, linkages and non-visual elements. It demonstrated from the review of the literature that the characteristics of the PE have a connection with the identity of place and can be perceived by the people. Rapoport (2016) commonly used the phrase 'potential noticeable differences' rather than other terms and stated that the specific terms needed for the city and town identity. Oppong et al. (2018) recommended that differences that are noticeable between the physical characters easily identified and, it confers to the place identity. In summary, identification of the PE elements that correlate with identity as physical form and setting, location factors, spatial

organisation and structure, and also urban spaces such as streets and open space are easy to determined.

3. METHODOLOGY

To identify the PE elements of MRT in Alor Setar, Kedah, historical map overlay, field observation and semi-structured interviews used for data collection. To determine the results, which lead to achieving a comprehensive understanding of the findings on the data will analyse. Field observation was conducted and documented through two main techniques namely a visual survey, which is to analyse the structure of the town, and a townscape appraisal, which is to analyse the visual and experiential fabric of the townscape that gives identity and image of the town. Through the field observation, the factors causing the blend between PE and townscape are be measured and established using modified attributes from the operational definitions of Ewing and Handy (2009). Finally, the content analysis method used to gather in-depth knowledge of the historical morphology of the historic Royal town context (Rosengren, 1981).

4. FINDINGS AND DISCUSSIONS

The results of the analysis indicate that several components defined the identity of the MRT of Alor Setar. These components can be categorized into three groups, which are the PE, human activities, meaning and cultural significance (Shukri et al., 2018). This paper only focuses on the PE in characterizing the identity of MRT in Alor Setar, Kedah. The PE component comprises of the profile characteristics and setting, urban structure, urban form and pattern, building, street, the space between, urban quarters and natural elements.

4.1 PHYSICAL ENVIRONMENT OF MALAY ROYAL TOWN IN ALOR SETAR

Understanding the PE of the MRT in Alor Setar is deemed to be crucial in related the study by Lynch about defining the character of a town which includes five main categories of the elements that shape the image of the city including paths, edges, district, nodes and landmarks (Kevin, 1960). Like other historic cities, Alor Setar royal town primarily determined by paths that positioned within the town. Royal towns with development impose high significance into the role of paths. These paths have categorised into two groups. The first group is the primary path which subdivided into two types namely main path that connected with the urban boundaries and protocol path that used for the royal event which is starting from Wisma Darulaman (Jalan Anak Bukit) until Medan Bandar (Darulaman Highway). The types of path included in this first group are Kedah and Raja rivers and off-roads that primarily linked one town to another. The second group is the residential path which provides access to properties and through routes within a residential area which is usually smaller, allowing movement in the royal town. This path is subsequent of the fact that these paths support the needs and purpose to commute from a point to another via streets, pavements, canals and rivers (Harun et al., 2015). There are two groups of paths in the MRTs.

Other than paths, a district partakes in giving definition and the planning of the Alor Setar Royal town. Part of the town divided into three (3) primary districts. The first district is known as the Royal administrative district, with the Pelamin palace complex and Zahir mosque in its area. Settlements make up the second district, which is at Jalan Kampung Perak for Malay nobleman residential district

and Kampung Teluk Yan for local people, located on the northwest of Alor Setar. Finally, the third district consists of marketplace and jetty, forming the commercial district, which is at Pekan Cina and Melayu. This third district located near the residential district on the south of Alor Setar and the residents in their daily activities uses it. Nodes are known to be the third element and serve as the place where people gather for various reasons and seen as a centre stage where social activities of the town take place which is the *Padang* (Medan Bandar), marketplace (Pekan Rabu) and jetty (Royal jetty).

Meanwhile, landmarks are usually the point of reference used to navigate oneself (Shukri et al., 2020). For example, the Zahir mosque and the Pelamin palace complex are situated on higher grounds in the town becoming the tallest buildings in the area from all angles. Finally, the edge was as borders and barriers that outline the different region of the town distinctly. Nonetheless, the traits of the borders were very clear in MRTs such as the palace gateway, fortress and the riverbank. The embodiment of the MRTs character includes historical, cultural, physical and social character, which in the end permitted the town to be of a historical masterpiece, made possible through the setting of urban forms and patterns (Nasir, 1990).

The need to identify and protect these towns have become a priority, as they are evidence of the glorious Royal Institution system in Malaysia (Mohidin et al., 2012). However, the tangible characteristics have to be identified first before presuming to sustain a MRT's character and identity. MRTs greatly influenced by numerous physical characteristics of the MRT settings, and the said characteristics that have identified. Samsudin et al. (2018) define Malaysian Royal towns as having a king's palace, traditional Malay settlements and systems of fortification. In the latest iteration whereby Shukri et al. (2018) stated that there are eight prominent physical characters in MRTs namely, royal palace complex, fortress, mosque, public open space, the marketplace, settlement, gateway, and river and jetty.



Figure 1: The profile and setting of MRT in Alor Setar, Kedah.

4.1.1 PROFILE AND SETTING

The spatial arrangements of the major features common to all cities and how they influence the place cognition made up the identity of place (Shamsuddin, 2011). This element contributes towards the concept of imageability that consists of identity, structure and meaning (Lynch, 1960). Urban settings of MRT is considered common and is dominated by the palace complex and mosque as its urban feature, but natural features appear to be the prominent aspect of royal towns (Harun et al., 2015). MRT in Alor Setar urban setting and image dominated by Pelamin palace and Zahir Mosque along the Kedah and Raja rivers. Such features make the setting unique and easy to be predetermined from afar due to the location that appears as a soothing background, providing a unique identity and image to the town (Figure 1).

The Malay nobleman residential located at Jalan Kampung Perak meanwhile local people settlements is located at Kampung Teluk Yan, Malay and Cina town and the administrative building placed at the back of the vicinity. Consistent to other MRTs, the urban form and setting coordinated by the palace complex, surrounded by paths such as the Raja road that goes all around the MRT (Harun et al., 2015). The roads previously carried an important function which was to allow circulation and distribution of goods to merchants and traders (Kathiritham & Reid, 1993). At present, the road is paved for vehicles, enabling commuters to travel on a direct connection from the surrounding town to a MRT core which is in the Zahir mosque and Pelamin palace district. Although the physical characteristics of the road back then have changed to tar or asphalt, the connotation of the road is still the same, which represents organic growth of the town seen at that curvy road following the river and the unevenness in the road levelling caused by the contour of the earth underneath.

It is a common sight to the roads aligned with some form of foliage or trees. The view goes back to the time when the town depended a lot on agriculture, for both food and economy purposed (Gullick, 2003). With relations to that, another common sight is to find coconut trees as well as palm trees in forms of plantations, creating a physical barrier dividing between the road and the housing areas (Walker, 1991). Enhancements were made towards the surrounding town, harnessing compliments towards the royal town residing there at the same time. The gateway in the royal town of Alor Setar, generating a sense of welcoming just by the existence of the entrance archway, is an example of how these towns transcend the notion of the local royal institution.

4.1.2 URBAN STRUCTURE

It knows that MRTs took pride in its history including those of PE and human activities, whereby these factors help to carve this town into a historic masterpiece with its urban form and pattern in mind (Nasir, 1990). Identifying as well as protecting these MRTs are mandatory because to lose this priceless evidence also means the loss of the perseverance of strength and greatness of Malaysia's royal institution system (Muslim et al., 2013). The MRT in Alor Setar is a district with a single centre that centralized between the Padang (Medan Bandar), Zahir mosque and Pelamin palace complex. It oriented by the residential area and administrative building at the back. To date, the palace complex of Istana Pelamin in Kota Setar (as shown in Figure 2) and another important place maker, Masjid Zahir are still standing tall in the townscape arrangement.

Royal Palace Complex: Pelamin Palace as Administrative District

The Royal palace complex became the pivotal point of sovereign power and administrative of

MRT (Sheppard, 1962). Ever since the 16th century, the Malay administrative centre associated with the Grand Palace, where the administration and development of the town as a whole were entirely in the power of the Sultan. The Pelamin Palace is the first palace in Alor Setar which is a timber building built by Sultan Muhammad Jiwa Zainal Adilin Muazzam Shah, the 19th Sultan of Kedah (1710-1778) and the founder of Alor Star town in 1735. Countless attacks from the Bugis (1770) and the Kingdom of Siam (1821) have caused the building to undergo several demolitions. The concrete building construction completed during the reign of Sultan Ahmad Tajuddin Mukarram Shah (1854-1879). The Pelamin palace complex in Alor Setar has a great influence on the setting and establishment of the Alor Setar royal town. By its location near to the Padang (Medan Bandar) and Zahir Mosque, the palace symbolises the importance of people and religion respectively to the Malay royal institution back in the days. Beyond just a mere building, the Pelamin palace complex is a transfusion of local royal families' identity, symbols related to architecture as well as the local culture of the area (Shukri et al., 2018).



Figure 2: Berahman Indera @ Balai Besar and Pelamin Palace in Alor Setar
Source: Archive Kedah Royal Museum

Taken into consideration the fact that the characters of Malay culture are the type where the community is closely related to nature, it comes as no surprise that the Royals' identity and attributes are a representation of the philosophy and beliefs embedded of the traditional Malay (Latif et al., 2008). The design of the Pelamin palace has a feature which incorporates a certain culture of the palace, which is the gender segregation of family members. The placement of the palace complex is exclusive as it is surrounded by villages, making it the focal point of the area where activities took place (Daud et al., 2012). There are also areas where the palace complex was elevated compared to the surrounding villages and the reason behind such positioning is to take advantage of the view and also for defensive measures (Daud et al., 2012). All in all, for an area, to qualify as a MRT, there must be a palace complex, dedicated to royal residents and administration centres (Abidin et al., 2017; Harun & Said, 2009; Shukri et al., 2018).

Fortress: Kuala Bahang (Kota Kuala Kedah) as Defensive Wall

The Kuala Kedah Fort or Kuala Bahang fort was built in 1771 on the northern shores of the Kedah river to protect the state of Kedah and its capital, Alor Star. It was built during Sultan Muhammad Jiwa's reign and completed in 1780. A gateway built in the northern part of the fort facing Alor Melaka which was called "Pintu Gerbang Kadapun" (The Kadapun Gateway). A unique feature found in the design of the fortress in the MRT of Alor Setar is the opening, which primarily used as a defence mechanism against enemy attacks, see Figure 3.



Figure 3: Kuala Bahang (Kota Kuala Kedah) as a Defensive Fort in MRT of Alor Setar.

The open section of the fort usually faces a part of the river or sea, forest, marshes or hills, to deter the enemy from marching forward (Nasir, 1990). Kuala Kedah fortress faced the Straits of Malacca and was used to defend the town of Alor Setar from enemy attacks. The materials used to build this fortress in early days were soil, wood or bamboos and stone. In the case of abandonment, the building of a new one will carry out in another area. Old Malay historiographical texts mention that the King is to be accounted for his fort or with the assistance of royal administrative of the royal palace namely King fort. King Fort built with the intent of protecting the royal complex only, leaving the rest of the urban area vulnerable (Aziz, Ossen, & Idid, 2010). Other roles of the king's fort often used by the Malay Sultanate are as a centre of defence, the handling of governing matters, a place to detain subjects and an administrative office (Nasir, 1990).



Figure 4: Zahir Mosque setting in 1950 (left) and 2019 image (right)

Source: Archive Kedah Royal Museum.

Mosque: Zahir Mosque as Religious Centre

Dated back in the 16th century, Islam has been the main religion in the Malay Peninsula and through this; the mosque personifies greatness throughout the Malay Kingdom. In addition to that, the mosque bears the role as a social influence as well as developing Malay people intellectually (Rasdi & Tajuddin, 2007). Therefore the placing of Zahir mosque is close to the complex of the Pelamin palace and the villages. The Zahir Mosque is one of the grandest and oldest mosques in Malaysia, was built in 1912. The site of the mosque was originally an old mosque and burial ground of the Kedah heroes who had died while fighting against the state of Kedah from the Siamese attack in 1821. The design of the Zahir Mosque inspired from the Azizi Mosque of the Langkat Sultanate in North Sumatra and used with five main domes as the symbol of five Pillars of Islam. Education is an important factor related to the mosque, which also serves as a centre to learn Islam through education.

It is observable that the architecture of the mosque is heavily influenced by Islamic architecture, which is originally brought into the vicinity by Arab traders (Utaberta et al., 2012). Figure 4 shows the original design with a white surface colour of the Zahir Mosque in 1950 and the current yellow colour of Zahir Mosque.

Public Open Space: Medan Bandar as a Centre for Activities

The common form and function of *Padang* in Royal towns, where the place where the royals and the public interconnect (Harun & Said, 2009; Shukri et al., 2017). Medan Bandar in Alor Setar Royal town is one of the main physical characters in characterizing the identity of MRT in Alor Setar. Medan Bandar (Padang Court) is in a special location, the central area of Alor Setar from where the high court used to be since it was built in 1893 after the area was named. The activities taking place at Medan Bandar are the royal events, public gathering which extends into the pavilions, the marketplace and the bazaars around the Royal town. This Padang functions similarly like a distributing hub, catering to the migration of people to major buildings within the area and also connecting to nearby paths (Home, 2013; Kostof, 1992). Other than a stop for people who are commuting, the Medan Bandar serves as a venue for daily public activities, be it formal or informal. An activity example of a public event organized by the royal administration is the Sultan's coronation and birthday celebrations (Ariffin, 2007; Zakri, 2008). In these situations, the Padang put into the light as a true civic centre of the town (Kostof, 1992). Figure 5 shows the original setting of Medan Bandar in 1950, with a great influence on the image and identity of the Alor Setar back days.



Figure 5: Medan Bandar setting in 1950 (left) and current image (right)

Source: Archive Kedah Royal Museum

Marketplace: Pekan Rabu as Commercial Centre

The market place in the MRT sets itself as an important place due to it becoming the venue where people carry out trading and commercial activities (Shukri et al., 2018). Pekan Rabu is one of the marketplaces located within walking distance in the Alor Setar Royal town. It initiated by the late Tunku Yaacob Almarhum Sultan Abdul Hamid, a prince from the Kedah's royal household as an impetus and encouragement for a greater number of Malays to play a more active role in commerce. It was in the early 1920s that the prince mooted the idea of a weekly market opening only on Wednesdays, along the Kedah river near Tanjung Chali, which also made the area possible to be accessed freely thus cultivating the area by the riverbanks, intensifying the trading activities and drawing more attention from the public. The open-air market was seen by many as a primer for the Malays to trade. Its success grew, and eventually, it evolved into a daily market and was relocated to Jalan Tunku Ibrahim in 1932 as an iconic symbol of Alor Setar. Where a lot of people meet others, it

quickly becomes a space for socializing and networking. A marketplace is a platform where the local people could meet and gather whereby the tangible and intangible culture detected within the sense of place (Qamaruz-Zaman et al., 2014). Malay settlers, who were actively involved in trade and commerce found it easy to have their settlement built close to the marketplace and the river whereby used as their main route of transportation (Shukri et al., 2018). Successful and vibrant marketplaces are the centre of the meaning of the city in its ability to infuse new energy, purvey social and economic activities, and contribute to the vitality of the urban environments (Shamsuddin, 2011). Successful marketplaces are not only nodes that become the physical settings for human activities in the urban fabric but also placed with a certain level of robustness where it is versatile enough to support for the progressive change in the activities taking place to ensure vibrancy and vitality (Ibrahim et al., 2018). Figure 6 shows the image and setting of Tanjung Chali, where the original of Pekan Rabu located in 1905.

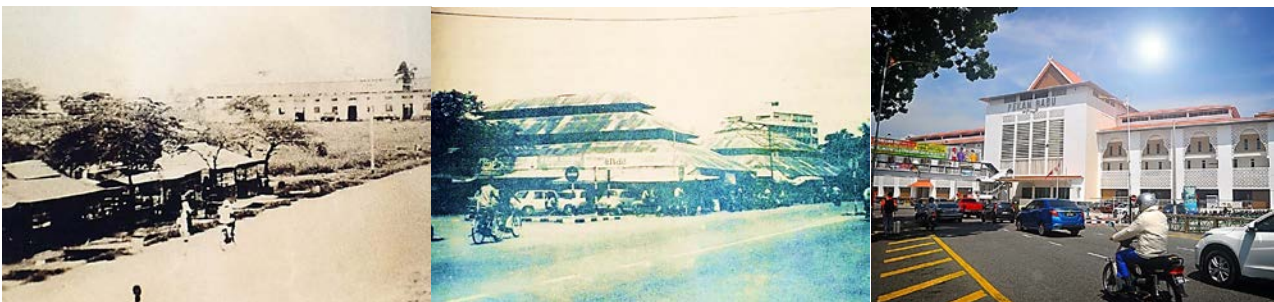


Figure 6: Tanjung Chali where the Pekan Rabu located in 1905 (left) Pekan Rabu in Jalan Tunku Ibrahim founded in 1932 (centre) and new building of Pekan Rabu in 2018 (right)

Source: Archive Kedah Royal Museum

River and Jetty: Kedah and Raja Rivers as Main Transportation

The role of the rivers and sea were pertinent as these two-water elements serve as the primary source of the economy as well as fulfils the need of the local community for a mode of transportation dated back to the 17th century. Malay traditional towns became the talk of people from all around during the said period (Chen 1998). The blossoming trade and economic activities eventuated at a strategic area often by the river banks of the shores of the sea. The trading and economic activities happening at the said places are seen to be convenient and thus contributed to the preference of local Malays to opt for settlements near riverbanks, and along the coast (Abidin & Arbina, 2017). The role of the Kedah and Raja rivers expanded to include functions other than just the use for trading. The physical attributes of the river furnished the users with transportation links to districts further into the hinterland areas. The city also has water transportation that plies the two rivers.

Based on history, the name 'Raja' is to personally associate the river with the Sultans who made it a royal routine to use the river for showering and other water-based activities. The lifeline between the north and south parts of the city are the water taxis more popularly known as '*bot penambang*'. These are engined, roofed-over timber boats made to carry passengers from Kedah River Jetty, which happens to be the easiest and shortest way to get into town. At present, the Raja river converted into a monsoon drain as the use of water taxis became outmoded. The value of the river providing the main transportation route was equivalent to the importance of the river as a source of food and water. It was being acknowledged as the best transportation route for MRTs, whereby it helped cut travelling time and was also the easiest method of travelling (Abidin & Arbina, 2017). Other than that, the river made

it possible to trade and bringing goods closer to the people in the village to town. Two types of jetties were available at that time, one for the use of royals and the other one for public use (Hassan, 2010). Figure 7 shows the existing Raja river that has become into a monsoon drain in late 1980.



Figure 7: Image of Raja River from Tunku Ibrahim Road, Alor Setar that has become a monsoon drain.

Settlement: Jalan Kampung Perak as Traditional Malay Villages

The local people lived in traditional Malay villages, known as the residential area, which built in a manner that it surrounds the palace complex as well as public buildings aforementioned in MRTs (Shukri & Wahab, 2019; Shukri et al., 2020). As the people themselves seen as a symbol of power for the Sultan, that bigger settlements illustrate that the Sultan is more powerful and prosperous. The location of the settlements also constructed close to the town centre and facilities such as the palace complex, mosques, and Padang (Aziz et al., 2010). Besides that, the necessity to access a means of transport considered why settlements positioned near the river. Jalan Kampung Perak located on the northwest of the Zahir Mosque. Base on the in-depth interview, Jalan Kampung Perak is inhabited by state nobility. It is observable that the lifestyle, as well as the viewpoint of traditional Malay community towards architecture, didn't go through much change. A trait which can see even nowadays, which is rooted from those days, is the design of houses built in clusters or groups. It is easy to figure out that each cluster belongs to a group of a family.

Gateway: Istana Kota Tengah Gateway as Symbol and Landmarks

Ever since the beginning of Malay civilization in Southeast Asia, a gateway was used as their symbol and landmark by the early Malay kingdom. Old Malay historiographic documents of the king referred to, and through this, discovered that the gateway acted as the town's main entrance, whereby it would always be guarded and protected. Istana Kota Tengah gateway was built by Sultan Abdul Hamid Halim Shah (1881-1943), who had a great influence on the Sultane institutional symbol but has been demolished and replaced by Wisma Negeri building in 1973. Overall, the gateway serves multiple purposes such as a symbol, as an entrance which lead to the villages, disconnecting the rest of the world when it shuts (Aziz et al., 2010). For the gateway to serve its function, hardwood became the choice of materials ranging from *cengal*, *meranti*, and teak, as well as the use of stones (Nasir, 1990).

4.1.1 URBAN FORM AND PATTERN

Content analysis reveals that the Alor Setar continuously recorded since 1735. Alor Setar was earlier known as Kota Setar and opened by the late Sultan Muhammad Jiwa Zainal Adilin Mu'azzam Shah II and evolved into what is now Alor Setar: it is both a physical and symbolic setting for the

royal institution (Musa, 2015; Winstedt, 1920). The orientation and settings of the natural Kedah and Raja Rivers showed clear imageability in terms of distinctiveness, legible visual, a highly recognisable location and excellent relationship with both rivers, streets, open spaces and buildings which in turn, reinforced pedestrian permeability and interconnectivity in the urban fabric on the town. The findings also showed that the town was located strategically on the west of Raja River and it lies along the Kedah River as a significant point that reaffirms the important role of the river back in the days.

Istana Pelamin also showed significant role in the establishment of Alor Setar as the centre of meaning, together with the Medan Bandar (Padang) and the Zahir mosque which formed the genius loci based on thematic levels such as the royal town physical location in urban topography and symbolic settings in Islamic influences and cultural landscape, establishing a context in the townscape of Alor Setar royal town. In the former days, Jalan Raja (or King's Road) which began from the Sultan Abdul Halim Bridge and continued through to the front of Wan Muhammad Building and the Balai Besar established as the main thoroughfare that connects the town. The setting of the Alor Setar evolves starting from the main central location, which is the Pelamin palace complex and Zahir Mosque since 1730, see Figure 8.



Figure 8: Urban morphology study of MRT of Alor Setar, Kedah

5 CONCLUSION

Roles of MRT of Alor Setar are examined through a literature review of old scholarly articles and reports, historical map overlay, in-depth interview and semi-structured observations to discover the PE elements that characterize the identity of MRT in Alor Setar, Kedah. The key features concerning the PE in MRT in Alor Setar have been identified by analysing those physical settings and how it was perceived and influenced to the people surrounding. From the semi-structured observations, this study suggests that palace complex, fortress, mosque, public open space, marketplace, river and jetty, traditional settlements and gateway have played important and significant roles in shaping the urban structured of MRT in Kedah. This physical character must be able to be located within walking distances from each other, except for the fortress such as Kuala Bahang, which has its purpose of defence. The MRT in Alor Setar is a district with a single centre that centralized between the Medan Bandar, the Zahir mosque and Pelamin palace complex and oriented by the residential area and administrative buildings in the background. All these characters connected by the paths that circulate the royal town. The diversity in the PE of the Alor Setar royal town together with its urban form and

setting variety lend the town its unique identity and is worthy of preservation. This research also concludes that the PE of Alor Setar royal town will add diversity to the urban identity while acting as the representation of the original identity of local culture in Kedah and Malaysia.

5. AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding author.

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7. REFERENCES

- Abidin, N. Z., Shahminan, R. N. R., & Ibrahim, F. K. (2017). Architectural Influences of Istana Lama Seri Menanti, Negeri Sembilan. *Planning Malaysia Journal*, 15(1).
- Abidin, Z., & Arbina, N. (2017). *Assessing the landscape character of Malaysia's heritage urban river corridors*. The Queensland University of Technology.
- Ariffin, N. F. M. (2007). *Role of Cultural Landscape in Improving the Identify of the Kuala Terengganu Town Centre as a Malay Historic Town*. Universiti Teknologi Malaysia.
- Aziz, Z. A. A., Ossen, D. R., & Idid, S. Z. A. (2010). *The Islamic Malay traditional towns, learning through the attributes special emphasis on Johor Bahru, Malaysia*. Paper presented at the Conference proceeding on urban & architecture heritage in an Islamic country, King Saud University, Saudi Arabia.
- Clouse, C., & Dixit, A. (2017). Defining Place Image *Strategic Place Branding Methodologies and Theory for Tourist Attraction* (pp. 1-20): IGI Global.
- Daud, N. I. M. K., Arbi, E., & Faisal, M. (2012). Pengaplikasian ukiran kayu melayu dalam seni bina di Malaysia. *Journal of Design and Built Environment*, 11, 1-14.
- Ewing, R., & Handy, S. (2009). Measuring the Unmeasurable: Urban Design Qualities Related to Walkability. *Journal of Urban Design*, 14(1), 65-84.
- Gosling, D., & Maitland, B. (1984). *Concepts of urban design*: St. Martin's Press.
- Greene, S. (1992). Cityscape Communicating and Evaluating Community Design. *Journal of the American Planning Association*, 58(2), 177-189.
- Gullick, J. M. (2003). *A history of Negri Sembilan*: Malaysian Branch of the Royal Asiatic Society.
- Harun, N. Z., Fairuz, D. N., & Nordin, N. A. (2015). The roles of urban heritage in determining the image of the royal town of Sri Menanti, Negeri Sembilan. *Planning Malaysia Journal*, 13(5).
- Harun, N. Z., & Said, I. (2009). The changing roles of public spaces in Malaysia. *Habitat Magazine*.
- Hassan, A. S. (2010). Reviews On Old City Landscape With Reference to Traditional Fishing Village Settlements in Western Coastal Region, Peninsular Malaysia. *Journal of Human Settlements*, 2.
- Ibrahim, M. A., Wahab, M. H., & Shukri, S. M. (2018). Revealing Urban Marketplace Identity: Pudu. *Planning Malaysia Journal*, 16(5).

- Ja'afar, N. H., Usman, I., Sulaiman, A., Husini, E., & Arabi, F. (2014). *Urban street design and character: a scenario facing*. Paper presented at the Architecture and Design for People & Society Conference.
- Kathirithamby-Wells, J., & Reid, A. (1993). *Southeast Asia in the Early Modern Era*: Cornell University Press.
- Kevin, L. (1960). The image of the city. *Cambridge Massachusetts*.
- Kostof, S. (1992). *The City Assembled: The Elements of Urban Form Through History* (Boston: Little, Brown).
- Kropf, K. (1996). Urban tissue and the character of towns. *Urban Design International*, 1(3), 247-263.
- Latif, M., Hairuddin, H., & Abdullah, C. A. (2008). Islam dalam perlembagaan Malaysia: kewajarannya berdasarkan faktor Kesultanan Melayu. *REKAYASA—Journal of Ethics, Legal and Governance*, 4, 1-12.
- Lynch, K. (1960). *The image of the city* (Vol. 11): MIT Press.
- McDonogh, G. W. (2017). The Street: A Quintessential Social Public Space. *Geographical Review*, 107(4), e61-e63.
- Mehta, V. (2013). *The street: a quintessential social public space*: Routledge.
- Mohidin, H. H. B., Ismail, A. S., & Abdullah, A. M. (2012). *A Study Of Styles Classification And Influences on Administration Building in Malaysia (15th–21st Century)*. Paper presented at the Seminar of International Convention: Bridging Between Old & New.
- Musa, M. (2015). The Memory Of The World Register: The Sultan Abdul Hamid Correspondence And Kedah History. *Kajian Malaysia*, 33, 53.
- Muslim, N., Hassan, W. Z. W. & Umar, A. (2013). The Role of the Malay Royal Institutions According to the Constitution in Safeguarding Malay Position from the Higher Education Perspective. *International Journal of Humanities and Social Science* 3(13), 267-272.
- Nasir, A. H. (1990). *Kota-kota Melayu*: Dewan Bahasa dan Pustaka, Kementerian Pendidikan Malaysia.
- Opping, R., Marful, A., & Sarbeng, Y. (2018). Conservation and character-defining elements of historical towns: A comparative study of Cape Coast and Elmina streets and castles. *Frontiers of Architectural Research*, 7(1), 37-55.
- Peterson, S. (1979). Urban design tactics. *Architectural Design*, 49(3-4), 76-81.
- Pocock, D. C. D., & Hudson, R. (1978). *Images of the urban environment*: Macmillan.
- Qamaruz-Zaman, N., Shaberi, W. S. W., Bakri, A. F., & Ahmad, S. S. (2014). Functional Dimension of Spillover Activities towards the Liveliness of Sungai Besi Market, Kuala Lumpur. *Procedia-Social and Behavioral Sciences*, 153, 629-638.
- Rapoport, A. (2016). *Human aspects of urban form: towards a man—environment approach to urban form and design*:
- Rasdi, M., & Tajuddin, M. (2007). Mosque architecture in Malaysia: Classification of styles and possible influence. *Jurnal Alam Bina*(3).
- Relph, E. (1976). Place and placelessness (Vol. 67). *London: Pion*.
- Rosengren, K. E. (1981). *Advances in content analysis* (Vol. 9): SAGE Publications.
- Samsudin, N.A., Rosley, M.S.F., Shahminan, R.N.R., & Mohamad, S. (2018). Preserving the Characteristics of Urban Heritage: An insight into the concept of Malaysian Royal Towns. *Environment-Behaviour Proceedings Journal*, 3(7), 277-283.

- Shamsuddin, S. (2011). *Townscape revisited: Unravelling the character of the historic townscape in Malaysia*: Penerbit UTM Press.
- Sheppard, M. (1962). Malay Palaces of the past: part one.
- Shukri, S. M., Manteghi, G., Wahab, M.H., Amat, R.C., & Wong, H.M. (2018). Preserving and Conserving MRTs Identity in Malaysia. *4*(6), 852-860.
- Shukri, S. M., & Wahab, M. H. (2019). The Origin of MRT Concept of Urban Form. *Test Engineering and Management*, *81*(19), 1004 -1013.
- Shukri, S. M., Wahab, M. H., & Amat, R. C. (2020). *Revealing MRT Identity: Seri Menanti, Negeri Sembilan*. Paper presented at the IOP Conference Series: Earth and Environmental Science.
- Shukri, S. M., Wahab, M. H., Ibrahim, M. A., & Rozaly, M. Z. (2017). SD 26-Physical Characteristics of a Public Square in MRT. *Sustainable and Resilient Cities: The Way Forward*, 81.
- Utaberta, N., Sojak, S., Surat, M., Che-Ani, A., & Tahir, M. (2012). Typological study of traditional mosque ornamentation in Malaysia: Prospect of traditional ornament in urban mosque. *World Academy of Science, Engineering and Technology*, *67*, 624-631.
- Walker, T. D. (1991). *Planting design*: John Wiley & Sons.
- Warnaby, G. (2009). Look up! Retailing, historic architecture and city centre distinctiveness. *Cities*, *26*(5), 287-292.
- Winstedt, R. O. (1920). History of Kedah. *Journal of the Straits Branch of the Royal Asiatic Society*(81), 29-35.
- Zakri, W. (2008). *Appropriate urban public open space*. Ph.D, Thesis, University Technology of Malaysia, Kuala Lumpur.



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