

## **CENTRALITY THROUGH THE HISTORY: A DISCUSSION ON SPACE SYNTAX AND URBAN MORPHOLOGY OF SOUTH KLANG CITY CENTRE**

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### **Abstract**

Centrality is seen here as a process of vibrant public realm resulting from the spatial and historical qualities on streets. With an aim of analysing walkability and public realm, the paper investigates South Klang City Centre (South Klang CC), a traditional but almost forgotten city in Malaysia. The method was to employ Space Syntax, a set of techniques for the representation, quantification and interpretation of spatial configuration in buildings and settlements. The investigation on the urban fabric revealed the complex facts that a) the morphology of the city has deeper meaning in the qualities projected by the city; and b) the aftermath of the contemporary layers of highways actually fragment and almost crack the city's structure. The findings imply that the centrality is a coalition between syntax and the history, resulting tension in the urban configuration. There are three typologies of centralities observed, namely, i) South Klang CC with high syntax values and fragmented public realm, ii) South Klang CC with high syntax values and precarious public realm and iii) South Klang CC with altered (new) but lower syntax values and diversified public realm. Such findings accelerate innovation on community driven spatial interventions and regenerations at the micro and macro scales respectively.

Keywords: Centrality, Klang, Morphology, Public realm, Space syntax, Typologies.

## 1. Introduction

Centrality is a process. A process that is activated. The activating aspects, from urban design point of view, vary. The variance is from a) place-making aspects through local attractors such as nodes and landmarks; and b) structural aspects through urban configurations such as paths and enclaves/districts and the natural and the manmade edges. Kevin Lynch's elements to be discussed as a whole to offer to the centrality. Hillier [1] elucidates in his paper that historically, the (urban) centres not only grow and shrink, but also shift and diversify, and with growth to large town or city level, a whole hierarchy of centres and subcentres usually appears diffused throughout the settlement. The challenge was to understand centrality as a process, rather than to describe it as a state. This paper is an attempt to find (if any) hierarchy or typologies of such centrality as process, exist/s in the city of Klang.

Klang is one of the forgotten cities through the history. Once, Klang as a Royal Town prided itself as the principal port of the state of Selangor, the gateway to the Malayan peninsula as well as a major agricultural centre. However, today, the young families, business and even its bus terminal have been dragged out of town. The livability of the town is declining and gangsterism activities are not uncommon in Klang [2-4]. It faces urban problems such as economic decline, poverty, young families moving out to suburb (Shah Alam, Kota Kemuning, etc.), pollution of Klang river, flash flood, criminality, illegal immigrants, refugee, derelict neighbourhood and traffic congestion [5, 6]. This paper is an attempt to investigate the idea of urban structure and place, in order to comprehend the issues on walkability and public realm.

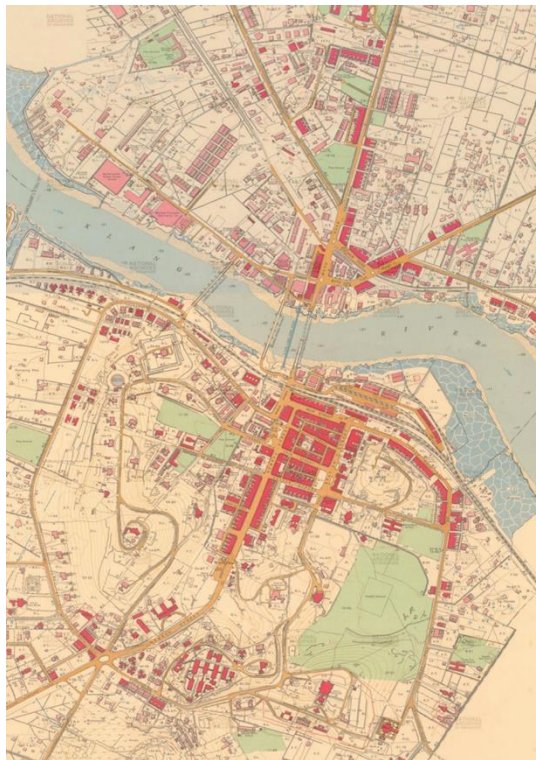
The investigation aims to analyse the quality of public realm of South Klang City Centre using Space Syntax analytical tool. In order to comprehend, correlations have been drawn from Space Syntactic integration to history, land use and activities on the streets. The conclusions are derived from the significance in such correlations, as typologies projected by the city.

### The content of Klang

**History:** In Malaysia, Klang is considered to have the longest history marked here, dating back to before Parameswara first founded Malacca in 1400. Klang's history goes back to at least 2,000 years. The city experienced a whole spectrum of activities [7] from being a jungle by the river to a village in 1872, to a centre for agriculture in 1880, port city in 1898, to manufacturing centre in 1920. It faced many major developments such as Connaught Bridge in 1870, railway network in 1898, port Swettenham in 1915 and many industries from 1920 onwards, resulting in considerable changes in urban morphology.

**Geography:** Klang is located at the lower reaches of the River Klang but a few miles away from the estuary. Klang was practically located at the ridge of the surrounding marshes in 1900 [8]. It was geographically a strategic location that never offered directly access from the open waters of the Straits of Malacca that offered security for the locals and was a preferred route for the traders by then. The river has been known to be the export route of tin mined from the interior since ancient times. The River divides the town as North and South Klang City Centres (Fig. 1).

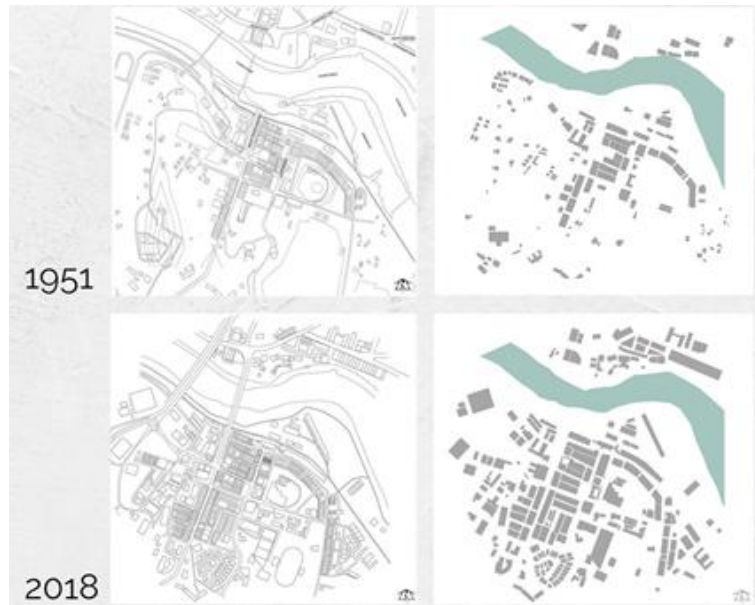
**Morphological context:** The beginning of industrialization in Malaysia was in Klang, during the late 19th and the early 20th Centuries. It was the principal port of Kuala Lumpur and Selangor back then, when the river was preferred over the railway lines for trading in the early 19th C. The shift of the State capital from Klang to a strategically located Kuala Lumpur marked a beginning of a perception by Malaysians on Klang that ‘a place enough heard of but elicited little excitement’ [7]. The latest intervention being the extension of the Federal Highway from Kuala Lumpur to Klang. Such changes on the accessibility to the city vastly influenced the land use and thus the figure-ground diagram of the city (Fig. 2). In this lines of thought two time frames of South Klang City Centre were analysed, namely of 1951 where the urban configurations begin to show a city of its own and of 2018 when the actual research is being carried out. This time almost offers parallels to the history, pre and post-independence of Malaysia from the colonial regime, 1957. It also marks the occurrence of extended Federal High way from Kuala Lumpur to Klang in 1959.



**Fig. 1. Map of Klang City Centre (Klang CC), 1951.**  
 Source: National Archives of Singapore

Figure 2 shows the distinctive impact of the various ways of accessibility to the city. First the railway station in Jalan Besar prior to 1951 offers connection to Kuala Lumpur though public transport and the second the extension of Jalan Tengku Kelana to cross the River and to reach North Klang. Both of these accessibility pulled the city’s centre to orient north-south, rather than the then existed east-west orientation of the city, through Jalan Dato’ Hamzah. Third, the inclusion of Federal

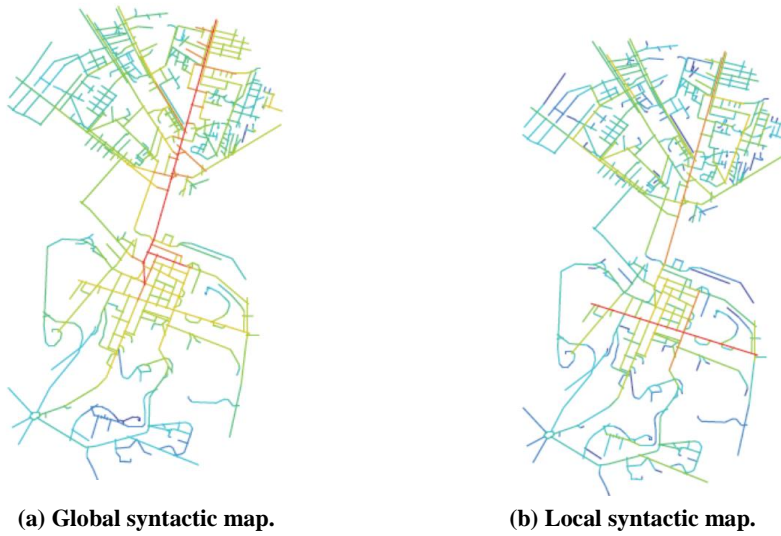
Highway, that caused more development to the South-west fringe, just south Jalan Dato' Hamzah. All these offered significant changes in the urban morphology through the figure-ground relationship, urban grain and grid or the scale of building footprint, functionality of a street from residential to commercial and urban enclaves fragmented for various functional aspects of the city such as shopping, services and tourism. Thus the local population who actually lived there, fading away to Shah Alam or elsewhere. South Klang CC has now become a place for transactions and logistics.



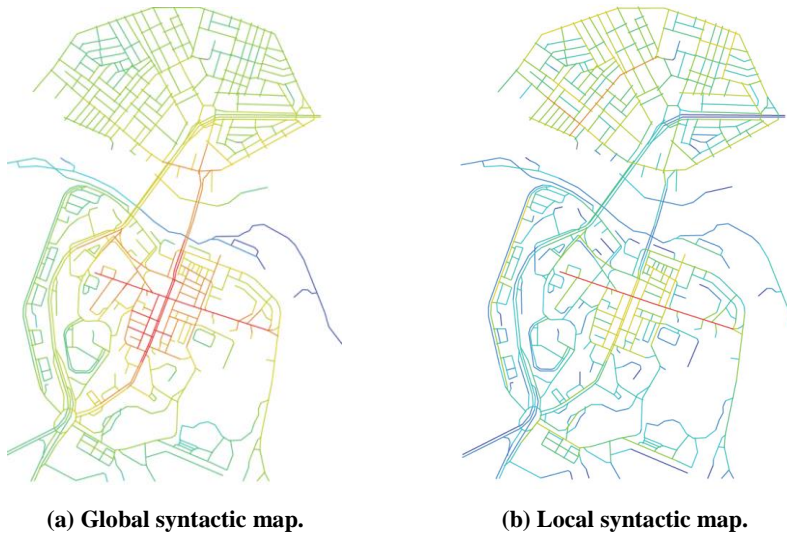
**Fig. 2. Morphological comparison between 1951 & 2018, South Klang CC.**

## **2. Space Syntax findings of Klang City Centre (Klang CC)**

Hillier and Hansen [9] explained that Space Syntax studies were undertaken both in the city and local contexts investigations. It can be interpreted on the streets of high (red in colour), medium (yellow and green in colour) and low (blue in colour) integration values. The street structure of Klang consists of the central core with patches of deformed grids, and a few very long and radial roads, which connect this core to the periphery. The contemporary interventions mostly has non-orthogonal grids, with a broken line structure, since every road does not cross over the highway, river and railway lines of the city. It is highly important to note that the lower integration of streets is caused mainly by the highway, running through city and dividing the settlements into two. It is therefore important to note two key findings that these highways are the reasons for the poor connectivity with in the city and therefore affect the pedestrian quality of the city. This leaves the city the archipelago effect, i.e., islands in the city causing cities within the city. In addition, the historic enclaves of the city, holds the deformed grid structure and therefore higher syntactic values.



**Fig. 3. Space syntax maps of Klang CC, 1951.**



**Fig. 4. Space syntax maps of Klang CC, 2018.**

Global syntactic map, Fig. 3(a) suggests that a strong legibility with centric spine from where the secondary and tertiary networks of street growing from centre to the periphery and a distinctive connection between north and south, almost at the geometric centre of the entire development. While local syntactic map, Fig. 3(b) suggests that a central axis that is introverted and inward looking in the South Klang CC and a central axis that is extended and responding to the South, in the North.

Such patterns confirm the value of the morphological growth of the city through the history; to explain, the South Klang CC preceded the North Klang CC; and thus

the former being a place for the locals and the latter being a service or transaction enclave responding to the communities.

Global syntactic map, Fig. 4(a) suggests that a quality of island effect i) with more syntactic values to the main streets in the traditional core, ii) separation of the West of the Federal Highway to the East of the same and iii) by pulling the town's integration onto the south when it descends to ground plane. Additionally a disconnection to the West of the South Klang CC by the new Federal Highway, offering more to the island effect to the traditional city centre.

Local syntactic map, Fig. 4(b) suggests that the historic centre continues to be centre in the South Klang CC but with lesser syntactic values. And formulation of a new centre in the North Klang CC and disintegrated from the South

### 3. Syntax and Land Use studies

The following discussion is on South Klang City Centre (South Klang CC) considered for both Global and Local Syntactic maps. Persiaran Sultan Ibrahim and the separation and elevation of Jalan Tengku Kelana from the ground plan affected the spatial integration of the South Klang CC within itself as well into the global structure.

While we compare the structural logic of the city generated by the Syntactic maps (Fig. 5) to the land use diagrams (Fig. 6) of the city, it is interesting to find that the city's structural logic has significant patterns with the contemporary commercial hubs and the traditional community enclaves in the City. As in any other city, the commercial zone mostly follows the streets with highest integration. The commercial manifestations in the city fall into two categories, namely, a) the traditional commercial streets such as parts of Jalan Besar and b) the contemporary shopping complexes such as Jalan Tengku Kelana. Ideally, both of these categories occupy the streets of highest connectivity (red in colour).

The historic cores of Klang form an array of sequential high connectivity pattern and mostly exhibit the qualities of mix use development. Whilst the residential land use occupies the zones of poor and moderate connectivity, the institutional land use is plugged right in the central zones. The industrial zones are scattered outside the centre.

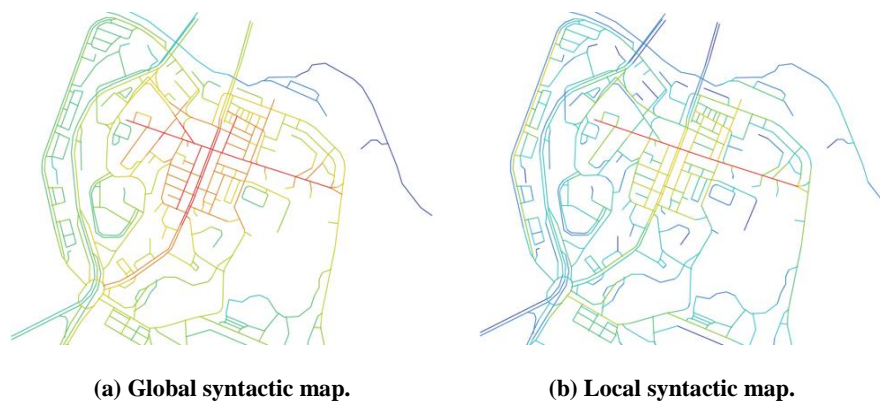


Fig. 5. Space syntax maps of South Klang CC, 2018.



**Fig. 6 (a). Map of South Klang city centre (South Klang CC), 2007, (b). Land use map of South Klang CC, 2018.**  
 Source: Directorate of National Mapping, Malaysia



**Fig. 8. Land marks and syntax map of South Klang CC, 2018.**

In order to offer more clarity on the relationship of spatial structure to the aspects of history and place making, the traditional landmarks have been layered onto the Syntactic Maps of South Klang CC (Fig. 8). It suggests that the traditional landmarks are dotted on the streets of high syntactic values, such as Jalan Tengku Kelana, Jalan Dato’ Hamzah and Jalan Besar. The longest street, Jalan Tengku Kelana has an identity of its own. This street has the highest integration values with a diversified set of landmarks occurring at intervals. And another interesting point to note is that the high-end places such as Club and Palace (Istana Alam Shah) are located far from the centre, on the streets of least syntactic values. This is contrasting to the Western idea of the High Street.

#### 4. History and the Syntax

From the Table 1 below it can be seen that the urban structure of the 1951 landscapes were tightly integrated within to formulate an introverted centrality. The closeness of the spatial configuration reinforces (and enforces) the communal

familiarity. In other words, the urban configuration was an expression of the innate quality of community networks on business, housing and a hierarchy of connectivity to the outside such as adjoining industries and the Port. It can also be seen that the North was responding to the South as a service to the served, i.e., the communities living in the South. The nodes of entertainment such as cinema theatres and shopping malls of the North was a response or service to the communities in the South.

**Table 1. Syntactic values through the history.**

<b>Klang City Centre</b>			
Global		Local	
1951	2018	1951	2018
Formulation of strong centrality	Distributed and pulled with a quality of Island effect to South Klang CC	Historical core of the South Klang CC was responded by the new configurations of the North Klang	The new networks in North Klang CC, begin to formulate a new centre.
<b>South Klang City Centre</b>			
Global		Local	
1951	2018	1951	2018
Formulation of strong centrality	A quality of Island effect to South Klang CC	Formulation of strong centrality	Diffused connectivity and integration

In contrast, the urban structure of 2018, diffuses the integration within the city that pulled the integration to the West, the new Federal Highway. It offered a tension in the city pulling towards further south and it added the integration values of the South Klang CC offering an island effect. This distorts the beauty of the existing urban landscape that by so far responded within the city, introvertly, to respond to the city without, extrovertly. Klang CC has been demanded to respond a dominance from elsewhere, i.e., a highway from Kuala Lumpur. Besides, there is a formulation of a new centre in North Klang, Jalan Nanas with commercial aspects responding to globalization rather than the local commercialization of the Chinese Shop-house typology of the South Klang CC in the 1951s.

It can be noted that South Klang CC has recently undergone a shift that is common to any developing country to respond to conurbation, an attempt to connect (back) to the State Capital Kuala Lumpur, that strives to be global city. The shift last time in early 20th C witnessed the move of the State Capital from Klang to Kuala Lumpur [7], always attempted to connect both cities through port and railway through the history and the highways currently.

Thus, it can be summarized that the urban landscape of South Klang CC is a resultant of city's structure and various activities that has been happening over the history. Based on this understanding the following pages summaries three typologies of centralities:

- South Klang CC with high syntax values and fragmented public realm
- South Klang CC with high syntax values and precarious public realm
- South Klang CC with altered (new) but lower syntax values and diversified public realm



It should also be noted that to elaborate on the details of the ways of the urban space being used, a further explanation of the content has been listed under each typology. These aspects are ethnicity in the enclave and edge of buildings.

**5. Typological Formulations**

Temporal and vibrant public spaces are found in varied characteristics. From the above discussion it can be derived that there are three typologies of centralities that the city projective of itself.

**5.1. South Klang CC with high syntax values and fragmented public realm: Jalan Dato’ Hamzah**

Jalan Dato’ Hamzah (Fig. 9) is occupied by public (services) buildings such as museum, banks and post offices along with a set of shops for durables. In addition to the above, public realm is high here due to dual intersections of two major roads, Jalan Tengku Kelana and Jalan Besar with a railway station, feeding in from North Klang and Kuala Lumpur. Both these streets offer legible accessibility to Jalan Dato’ Hamzah.



(b) Global Syntactic Map (part).



(c) Local Syntactic Map (part).

(a) Photograph of Jalan Dato’ Hamzah.

**Fig. 9. Typology 1: High syntax values and fragmented public realm.**

Ethnicity of the enclave: this is street is fragmented by multiple ethnicity through Chinese enclave at Jalan Besar junction; through Indian enclave at Jalan Tengku Kelana junction and service based diversified enclave in-between these two junctions. This street also evidences landmarks of multi-religions such as Saint Barnabas Church, Sri Nagara Thandayuthapani Temple and Masjid India Klang Mosque. It is interesting to note that the triangular open space between all the three landmarks, being used as a shared public space by the multi-religions.

Enclosed edges: there is a variance of building edges in this street. Jalan Dato’ Hamzah is offered with building frontage only between the intersection of Jalan Tengku Kelana and Jalan besar. This results in the fragmentation of the public realm in the street.

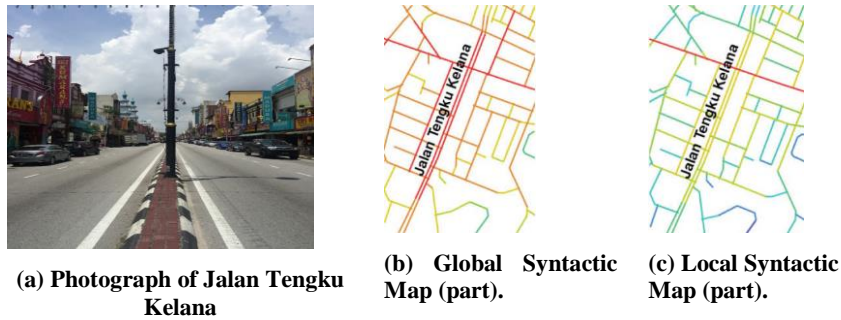
**5.2. South Klang City Centre with high syntax values and precarious public realm: Jalan Tengku Kelana**

Cultures of legibility [10] exhibit here through the values of religion and service transactions (Fig. 10). This street is occupied by mosque and shops of everyday

needs and durables. Public realm is precarious here on traffic-oriented movement pattern. It is also a destination for tourists especially for retail shops for Indian fashion and jewellery.

**Ethnicity of the enclave:** This is a vibrant enclave predominantly occupied by Indian ethnicity; popularly referred as Little India.

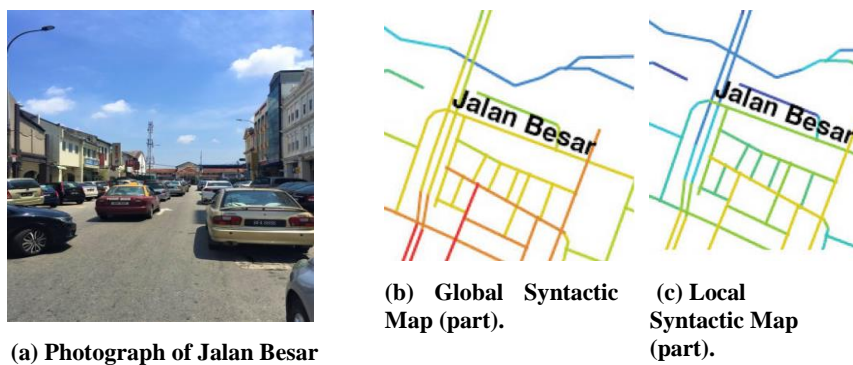
**Enclosed edges:** the Jalan Tengku Kelana continuously obtains building frontage that receives shops with colourful facades. The pedestrian pavement is protected with barriers for the safety of the pedestrians and the shops.



**Fig. 10. Typology 2: high syntax values and precarious public realm.**

**5.3. South Klang City Centre with altered (new) but lower syntax values and diversified public realm: Jalan Besar (East-West orientation) and its extension to the East, Jalan Raya Timur**

The street stretches along the railway track and it is known for being a node for the locals (Fig 11). Cultures of legibility exhibit here through the values of community based services. For example, the shop-houses are still occupied by the owners with skill on offering services to the local communities. Public realm is high here through diversified activities with a strong presence of local communities, a successful railway station and traditional food culture. The functional aspects of this enclave offers to mixed typologies ranging from Chinese shop-houses for the local communities to work, bustling railway station, traditional restaurants and services.



**Fig. 11. Typology 3: Altered (new) but lower syntax values and diversified public realm.**

Ethnicity of the enclave: This is a vibrant enclave with diversified floating population but predominantly occupied by Chinese ethnicity to live and work.

Enclosed edges: The streets continuously obtain building frontage. This results in the shopping street being active with colourful facades.

According to Gehl [11], in all three streets, indoor activities extended to public spaces as life between buildings. Spaces such as the five-foot walkway, pavements have been privatized by for retail and restaurant activities

## 6. Conclusions

The initial discussion of the paper offered a research position of finding the hierarchy or typologies of centralities in the city of South Klang. Syntactic and historical understanding and underpinning have been elucidated as the aspects offering to the varied liveliness in the city. It can be concluded that there is no hierarchy that the city exhibits rather a heterogeneity and complexity of it, which were derived as typologies above. These typologies manifest as demanded or articulated by the logics of structure and place.

The built-environment of the Klang City Centre can be seen as being at the same time the object of scenery, the tool or the instrument and the result of continuous tensions between domination and resistance. Within the existence of economic and social constraints, the inhabitants of the Klang CC have been able to create a sense of identity through the use of typology, multiple use of public space and urban form such as scale and continuity of facades.

It has been evidenced in the paper that the impacts of the new highway have been high and mainly reflected on the city's structure of street networks. It can be noticed that the history and morphology still strive to continue the functionality in the contemporary scenario purely as a cultural manifestation of ethnicity, business and typologies. Such findings accelerate innovation on community driven spatial interventions and regenerations at the micro and macro scales respectively.

In addition, the next task in this syntactic research cluster would have to be on synthesis the changing roles of public spaces, the area better known as open space that can be used in a meaningful way to the urban public. Aspects of behavioural settings could be analysed for the typologies manifested by Space Syntax in this paper.

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## References

1. Hillier, B. (1999). Centrality as a process: Accounting for attraction *inequalities* in deformed grids. *Urban Design International*, 4(3-4), 107-127.
2. Suppiah, V.S.; Othman, J.; and Ismail, I.A. (2013). The involvement of secondary school students in gang and gangsterism. *Proceedings of the International Conference on Youth*. Seri Kembangan, Selangor, Malaysia, 170-180.

3. Malay Mail. (2015). Gang killings on the rise in Klang over drug trade war. Retrieved October 20, 2017, from <https://www.malaymail.com/news/malaysia/2015/02/16/gang-killings-on-the-rise-in-klang-over-drug-trade-war/841967>.
4. Star Online (2017). Another student gang creates ruckus outside Klang school. Retrieved October 20, 2017, from <https://www.thestar.com.my/news/nation/2017/04/22/another-student-gang-create-ruckus-outside-klang-school/>.
5. New Straits Times. (2017). Residents face flood hassle at least six times a year. Retrieved January 15, 2018, from <http://www2.nst.com.my/news/nation/2017/11/300462/residents-face-flood-hassle-least-six-times-year>.
6. Star Online. (2017). Floods in Klang. Retrieved January 17, 2018, from <https://www.thestar.com.my/news/nation/2017/11/26/floods-in-klang/>.
7. Kim, K.K. (1989). Klang district and town: History and historical resources. *Kekal Abadi*, 8(2), 1-16.
8. Gullick, J.M. (2006). The fall and rise of Klang, 1967-1900. *Journal of the Malaysian Branch of Royal Asiatic Society*, 79(1), 1-26.
9. Hillier, B.; and Hansen, J. (1984). *The social logic of space*. Cambridge: Cambridge University Press.
10. UK Research and Innovation. (2009). *Cultures of legibility: Emergent urban landscapes in Southeast Asia*. Retrieved April 20, 2018, from <http://gtr.ukri.org/projects?ref=AH/F011040/1>.
11. Gehl, J. (1987). *Life between buildings: Using public space*. Washington, D.C. United States of America: Island Press.