INVESTIGATING THE POTENTIAL OF BUILT ENVIRONMENT IN PROMOTING SOCIAL COHESION WITHIN AN URBAN ENVIRONMENT

Wisnu Setiawan[1] and Monty Sutrisna

School of the Built Environment, University of Salford, Salford, M5 4WT, UK

Economic crisis, particularly in the mid 1990s have been directly and indirectly linked to the occurrence of social friction and conflicts between different social and/or ethnic groups within an urban context. These conflicts and frictions have been considered the leading factors towards physical conflict in many urban environments around the world. In some countries, the diversity of social culture groups has been evidently taken into account as a significant issue that influences their urban design and planning, while in some others there is a lack of supporting evidence on this. There appear to be questions more than the answer on the actual role and impact of the built environment on social cohesion of the communities to either promote social harmony or prevent further social conflicts. In light of this, a research has been set to investigate the most appropriate ways for the built environment, particularly in urban design and planning premises, to promote social cohesion in the communities. As an integral part of the investigation, this paper reports the findings from a literature study. Cognitive mapping analysis was used to describe the centrality of the related aspects and the connectivity of the issues. The findings indicated that there are potential of built environment to support such cohesion through urban planning and design mainly by considering particular issues such as socio cultural, economics, housing and settlements, city structure and homogeneity. The outcomes of this stage are expected to support further stages of this study by identify and classifying various aspects of built environment into categories as well as establishing their potential relationship in promoting social cohesion in the communities.

Keywords: cognitive mapping, social cohesion, urban design, planning.

INTRODUCTION

The World Bank has positioned urban development as one of its critical concern since that population of urban area has reached 49.9% of world's total population in 2008 (World Bank, 2009). Urban development and migration issues have become more popular politically especially in 21st century (Feldman, 2006). Urban environment appeared as an interchange' of people through tourism, economics, culture and so on brought by many ways, such as migration. Migration has a strong relationship with urban environment related to workplace and settlement space provision (Schiller and Caglar, 2009). Urban environment in developed countries mainly faces migration on a global level related to labour division, mobility, and capital (Schiller and Caglar, 2009), whilst in developing countries, it mainly experiences 'rural-to-urban migration' (Fan and Stark, 2008).

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[1] w.setiawan@pgr.salford.ac.uk

Within an urban environment with various types of interests, possible friction among the inhabitant might occur and can be related to poverty, inequality, income shocks/uncertainty, unemployment and inequitable development, the effect of industrialization, decentralization, lack of clarity inland rights, regional economic disparities and natural resource management (Barron *et al.*, 2009). There are examples of these conflicts such as communal violence in India (Varshney, 2001), some various social unrest in Indonesia (Barron *et al.*, 2009), conflict on social economic, political, groups right, autonomy, territorial, and ethnic differences in Belfast (Cunningham and Byrne, 2006), or conflict related to disagreement over land, territory, security, demographic issues (Bagaeen, 2004), ethnicity, ideology, nationality, settlements, and economics (Bollens, 1998) in Jerusalem.

In attempt to address multi social and ethnical groups, Bollens (2006) indicated urban designer's and planner's roles in designing public spaces, neighbourhoods, historic areas, housing, and so on. The Egan Review of Sustainable Communities in the UK (ODPM, 2004) put social cohesion as one of the main concerns showing the importance of social cohesion issues. Nevertheless, Varshney (2001) argued that social ethnic peace can actually happen even though current evidence only suggest occurrence on a smaller scale such as small town or villages by day-to-day engagement among social ethnic groups.

Issues on built environment and social cohesion appear to be problematic. In light of this, a research has been set to investigate the most appropriate ways for the built environment, particularly in urban design and planning premises, to promote social cohesion in the communities. This paper focuses on preliminary findings of potential areas and aspects from literature. The study is expected to provide a platform to and determine the direction of the further research stages.

A cognitive map has been used to display the 'relationship' among the text to represent the concepts of particular domain and show the relationships among the text (Miles and Huberman, 1994) in a simple framework. The research methods can be classified as qualitative methods particularly in interpretation of the selected papers. There are steps involved, such as data reduction, coding, and clustering. The final cognitive map is drawn using network analysis software called "Pajek" to describe relationships between members of social systems by its 'between-ness', centrality, closeness, clustering, degree, density and cohesion and so on (Burt, 1997).

LITERATURE CONTEXT

Urban development

Research in the last decade has been increasingly focusing on the urban development. Even, the World Bank put urban development as one of its critical concern. It is reported that in 2008, population of urban area has reached 49.9% of worlds total population (World Bank, 2009). Further analyses in the report revealed further trend. For instance, Latin America and Caribbean countries are on the top spot with 78.6% of the population living in urban area, whilst Europe and Central Asia countries share 63.7% of their population in the urban settlement. The emergence of urban development has been associated not only with developed countries but also developing countries.

Planning and architecture has been commonly perceived as two of the main tools in urban development. In fact, together with development and people, planning is of three main arenas for achievement and implementation of urban quality (Parfect and Power, 1997). Developed countries, in particular, have experienced long history of planning and urban

development initiated by the first industrial revolution. The magnitude of industry as the new economics generator generally attracted new inhabitants to the urban environment.

City as one of the urban environment can be considered an 'interchange' of people through tourism, economics, culture and so on. Cultural and social differences can be brought to the urban environment by many ways, such as migration. The discussion about urban development and migration has become more popular politically especially in 21st century (Feldman, 2006).

As the scale of the urban environment is continuously increasing, its quality is challenged. The challenges vary from transportation, housing, economics, ecology, community, crime, pollution, public health and so on. Urban environment became a place of 'competition' for individual or groups of individuals with different ways of thinking, physical appearance, belief, and way of life. There are many contemporary concepts forwarded on how to deal with the complexity of urban development. The concept of sustainable development, for instance, is quite recent to respond to this complexity. It generally incorporates three basic elements in approaching urban development, which are economics, environments, and social aspects (Giddings *et al.*, 2002).

Social diversity, friction and social cohesion

Within an urban environment with various type of interests, it is not uncommon for friction among the inhabitant to occur. In Indonesia, for example, there are situation which might mediate the tension among people such as poverty, inequality, income shocks/uncertainty, unemployment, inequitable development, the effect of industrialization, decentralization, lack of clarity inland rights, regional economic disparities and natural resource management (Barron *et al.*, 2009). Conflict can also occur due to the social dynamics of group friction (across religious and ethnic groups) and institutional factors (the extent to which conflict is effectively mediated or, conversely, sanctioned by the state apparatus, including the police, and the legitimacy and effectiveness by which power/leadership is exercised in a community).

Varshney (2001) indicated that in urban areas, daily interaction are insufficient to bridge ethnic/religious groups which should be able to minimize the chance for conflicts escalating into communal violence. Communal violence is less likely occur where associations can act as a bridge across groups. Among the groups, religious or ethnical groups commonly form inter-group organizations. In India, as the focus of Varshney (2001) research, the presence of this inter-group organization failed to prevent intra-group conflict or riot. It was even suspected having active role on communal violence. In this sense, local institutions and leadership are expected to provide the mechanism for reducing or mediating conflict.

However, not only developing countries but also developed countries faces problem of inequality in urban development. Belfast is one of the famous examples of conflict within a city. There are various issues suspected as the main causes of the conflict such as social economic, political, groups right, autonomy, territorial, and ethnic differences (Cunningham and Byrne, 2006). In Israel, particularly Jerusalem city, conflict had long history mostly related to conflict over land, territory, security, demographic issues (Bagaeen, 2004), ethnicity, ideology, nationality, settlements, and economics (Bollens, 1998). The Sao Paulo government in Brazil have been struggling to improve the low-income neighbourhood in particular area called the Cultural Pole (Sandler, 2007). They have used cultural institution and urban design as part of on-going urban and economic development. In Britain, the issue of ethnicity can also be considered rather crucial. There is evidence that the effect of ethnic heterogeneity existence towards perceptions of

antisocial behaviour area is insignificant (Taylor, Twigg and Mohan, 2009) or inconsistent (Ray and Smith, 2004). Nevertheless, British public appear to be concerned with immigration as threats in customs and traditions of British society on group level (McLaren and Johnson, 2007).

Nowadays, social cohesion is perceived as multidimensional phenomenon. Friedkin (2004) elaborated the various approach underpinning the term. In classical research, he pointed out that social cohesion can be observed by two main indicators which are membership attitudes and behaviour. This view was used mostly by psychological research. The more current research are increasingly undertaken by sociologist focusing on social structural conditions as the indicator. Social cohesion is then presented as the network among the community and focuses on interpersonal ties as well as group ties.

The issues around social cohesion are quite popular nowadays among researcher, not only psychologists and sociologists. Manzi and Smith-bowers (2005) observed social cohesion from housing point of view. They argue that gated communities can somehow help encountering social cohesion especially to reduce crime, protect parked vehicles, increase safety and enhance the local environment by preventing unsolicited entry. Social cohesion is also discussed as an important subject by the European community. Territorial cohesion has been put as one of the important issues in spatial justice dimension (Davoudi, 2005).

Potential role of the built environment

In one of the models, Giddings *et al.* (2002) related the issues of social diversity with sustainable development. Sustainable development is usually presented as an intersection between environment, society, and economy and is a balance position forming a triangle. The research presented that sustainable development often focuses on environmental issues, much as Britain did in County Durham in 1997 and County Northumberland in 2000. Currently, sustainable development is very much associated with economic issues. Furthermore, economics and physical development are more popular indicators out of the three. On the other hand, social aspect of society has been discussed less.

Giddings *et al.* (2002) also presented the Haughton's (1999) idea of a new model in sustainable development. The model combines society and economics as one irregular form called "human activity and wellbeing". The irregular form represents the fact that society and economics are happening naturally in very dynamic situation and taking place in a particular environment. In other words, human activity and well being are included in the environmental issues. The basic principles of this model are related to equities on inter-generational (social justice and futurity), geographical, procedural, and biodiversity aspects.

Bollens (2006) indicated the role of urban designers and planners towards urban development to address multi social and ethnical groups. They should be able to work with some related areas such as public spaces, neighbourhoods, historic areas, housing, and other urban public facilities to promote good 'inter-group' life. First step would be to ensure the urban form to be flexible and porous enough to allow integration in urban processes. Secondly, the city planning should engage marginal groups by encouraging and facilitating public participation during the planning process. Thirdly, cities should allocate sufficient opportunity for neighbourhoods to present their cultural and historical expression within urban neighbourhood. Fourth step, a sense of 'public-ness' in public space is necessary to respond to all social and ethnical groups. Finally, there is a need to link all the social cultural groups in institutional level, horizontally and vertically, to bring peace and good understanding among the groups.

The importance of social diversity and cohesion issues were also addressed in the Egan Review (2004) by putting them as one of the main concerns. The review mentioned that a sustainable development must involve social cultural aspect related to (1) a sense of identity, (2) engagement and respect among different culture, (3) friendly neighbourhoods, (4) opportunities for social activities, (5) a sense of security from crime and anti-social behaviour, and (6) social inclusion (ODPM, 2004). Then the main objectives of the overall agenda were focused towards effectively dealing with issues of natural resources, environment, social cohesion and inclusion and economic prosperity.

Focusing on different issues within conflict situation, Hope (1995) mentioned three paradigms on preventing crime on community level, namely (1) community organization, (2) tenant involvement, and (3) resource mobilization. From the paradigm of community organization perspective, an urban environment is viewed as a place of free competition among the various users or social group (representing various income, ethnic, and culture), such as industrial, commercial, and residential use. Oc and Tiesdel (1997) presented Jacobs' (1961) and Newman's (1973) ideas to reduce crime by focusing on territoriality, surveillance, social control, and anonymity.

Nevertheless, those kind of social cohesion concepts have been considered potentially less successful in larger urban settlement such as on the cities level (Varshney, 2001). It was argued that social ethical peace can only happen on smaller scale such as small town or villages enabled by day-to-day engagement among social ethnic groups. In other words, the relationship between built environment and social cohesion has not been found consistent. The importance of built environment in supporting social cohesion with its inherent issues has prompted this research aiming to investigate the most appropriate ways for the built environment, particularly in urban design and planning premises, to promote social cohesion in the communities.

RESEARCH METHOD

This paper reports the early stage of the research, i.e. the findings from the literature study. In this preliminary stage, 20 full journal papers were chosen as pilot study and reported here under various keywords emerged from the analysis namely multiculture + race (4 papers), ethnic + conflict (3 papers), ethnic + planning (4 papers), social cohesion (3 papers), crime + planning (2 papers), and migration and city (4 papers).

The research methods can be classified as qualitative methods particularly in interpretation of the collected papers. Qualitative methodology is broadly used by social science researchers which rely more on text as the resources (Denzin and Lincoln, 2000). The research observes a phenomenon and presents it in term of quality of the data and the depth of the phenomenon in order to understand the context. A qualitative method is used due to the fact that this paper involves text as the main resource of the literature study, particularly related with conceptual frameworks.

According to Miles and Huberman (1994), either graphic or narration can be used to explain the findings using the key factors to construct presumed relationships among the text. In this case, graphical representation has been found useful to visualize information systematically enabling further action to be taken from the findings. There are different types of display, namely (1) partially ordered displays, (2) time ordered displays, (3) role-ordered displays and (4) conceptually ordered displays. Conceptually ordered graphical representation is a useful way to draw concept or variables in less-ordered context. In this research, cognitive mapping technique, as one of conceptually ordered display, is used to map ideas about the meaning of a set of data. A cognitive map is used to display the

'relationship' among the text. It can be considered as a representation of concepts about a particular domain, showing the relationships among the text. In order to draw a cognitive map, there are steps involved, which are data reduction, coding, and clustering (Figure 1 and 2). Computer programmes that permit linking set of data forming higher-level categories are particularly helpful in this analysis (Miles and Huberman, 1994).

In this research, the final cognitive map is drawn and analyzed using network analysis software called "Pajek". The programme works on the representation of the relationship between nodes or vertices (plural form of vertex). Originally, network analysis is used to interpret patterns of social relations between actors, representing by nodes or vertices, particularly exploratory network analysis (de Nooy, 2005). This software has been used due to its ability to describe complex relationships between members of social systems by its 'between-ness', centrality, closeness, clustering, degree, density and cohesion and so on (Burt, 1997). Clustering is used in order to make the mapping more meaningful (Boutilier, 2007).
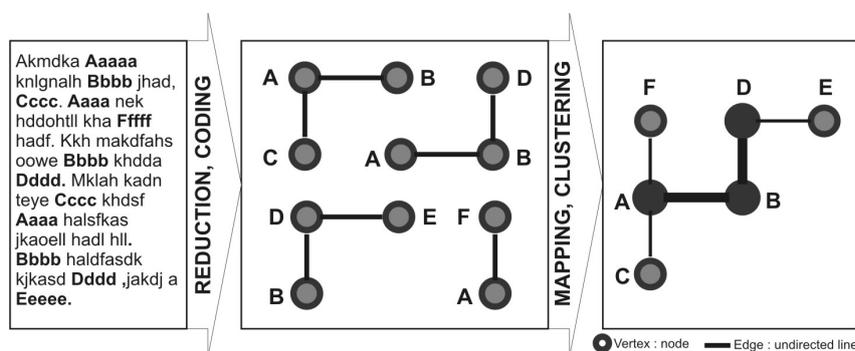

Figure 1: Structure of the methods

FINDINGS AND DISCUSSION

There are two main findings in this stage of research. The first one is the main map based on the actual individual cognitive mapping (Table 1 and Figure 2). The second one is another map developed subsequent to the clustering (Figure 3). Figure 2 shows individual cognitive maps. Although there are some potential connectivity among the issues represented by nodes, the overall map does not visualizing a solid network. Therefore, clustering has been used to make the map more meaningful.

The final map (Figure 3) shows some nodes with strong connectivity determined by 4 bold lines which are (1) urban design elements and (2) urban planning elements. Urban design elements is connected to urban planning, ethnicity, and conflicts, while urban planning elements socio cultural, social cohesions, city structure, and homogeneity.

Less strong connections are determined by 3 strong linkages such are (1) urban planning and (2) urban design. Urban planning is connected to housing and settlement, migrations, and urban design elements; while urban design is connected to urban design elements, urban planning elements, and social cohesion issues.

Some even lesser connections are determined by 2 linkages which are (1) conflict, (2) socio cultural and (3) social cohesion. Conflict is related to urban design elements and economics; socio cultural issues are related to urban planning elements and homogeneity; and social cohesion is connected to urban design and urban planning elements. Some single nodes with even more less connectivity occurs such (1) housing and settlement, (2) economics, (3) city structure and (4) homogeneity.

Some nodes appears as less strong nodes although there are connected with other issues such as (1) institutional, (2) history, (3) demographic, (4) urban design and planning qualities, (5) history and (6) psychology. There is only one node exist as the least with only one connection to other node which is security.

Table 1: Identified keywords to determine the nodes in cognitive mapping

No	Author					
	Multicultural + Race					
1	Williams, 1975	Psychology / Cultural system	Race ethnic relation	Societal group		
2	Rishbeth, 2004	Ethnic group / Activity	Multicultural design / Quality green management	Urban landscape		
3	Gullestad, 2002	Race / Nationality / migration	Equality	Territoriality / Group identity		
4	Lee, 2006	Interethnic / Migrant	Relationship norm	Civility / Routine / Business		
	Ethnic + Conflict					
5	Barron, Kaiser & Pradhan, 2009		Various type of conflict	Form / District / Local factor / Violent conflict / Poverty / Inequality / Economic development		
		Local conflict	Economic factors			
			Clustering	Ethnic groups / Property rights		
6	Townshend & Madanipour, 2008	Characterless urban space / Anonymous public art / Privatized / Social exclusion	Public space	Local diversity	Homogeny / Publicness	
7	Bertrand, 2008	Ethnic conflict	Historical	Time / Cluster	Critical junctures / Changing institutional / Institutional configuration	
	Ethnic + Planning					
8	Bollens, 1998	Economic opportunity	Socio economic equity	Urban planning landscape		
		Local authority / Building regulation / Landuse / Land control / Housing / Urban facilities	Spatial qualities			
9	Cunningham & Byrne, 2006	Intergroup tension	Urban planning policy	housing / Community planning / Socio economic / Ethnic space		
10	Bollens, 2006	Flexibility / Porousity / Participation / Symbol / Public space / Institutional linkage symbol	Urban planning			
		Cultural / Historic / Salience	symbol			
11	Murtagh, Graham & Shirlow, 2008	Consumption	City center	Territoriality		
		Work / demographic		Landuse		
	Social + Cohesion					
12	Talen, 2006	Income	Social structure	Urban community design	Edges / Typology / Housing	
		Race ethnic / Age / Family type	Ecological principles			
13	Williams, 2005	Design / Social structure / Personal character	Co housing	Social interaction	Design variables / Opportunities	
		Design / Social structure / Personal character				
14	Sandler, 2007	Low income	Cultural institution	Spatial domain / Intersection discourse / Social representation / Spatial practices		
			Urban design			
	Crime + Planning					
15	Cozens, 2002	Sustainable development	Environmental design	Social / Physical / Migrants / Public health / Safety / Accessibility		
		Crime prevention				
16	Saleh, 1999	Crime	Space / Territory / Security	Settlement design		
		Design				
	Migration + City					
17	Fan & Stark, 2008	Welfare increase	Migration regulation	Rural urban migration		
		Human capital / Agglomeration				
18	Schiller & Caglar, 2009	Ethnic / Culture / religion	Multiple pathways	City structure / Transnational connection / Migrant settlement		
		Entrepreneur				
19	Faist, 2000	Transnational social space / Cultural citizenship	Concept	Political / Cultural realm		
20	Klink, 2008	Latent hub / Global value chain / Development Framework	Labor flow	assimilation / Development / Urban area		

According to overall cognitive map, the connections forms a core issues such as (1) urban planning, (2) urban design elements, (3) urban design, (4) and urban planning elements, related to some strong issues which are (5) conflicts, (6) social cohesions, (7) socio cultural, (8) homogeneity, (9) economics, (10) city structure and (11) housing and settlements. The connections do not necessary mean causal relationship, but it indicates particular relationship exist among the issues.

Although potential bias could occur with this method, the results indicate potential connectivity between built environment and social cohesion. There are potential to approach social diversity and social cohesion from urban planning point of view (Cunningham and Byrne, 2006; Murtagh, Graham and Shirlow, 2008) and urban design (Talen, 2006). Social diversity is also connected indirect and direct with housing (Williams, 1975; Manzi and Smith-bowers, 2005) and urban environment (Bagaen, 2004).
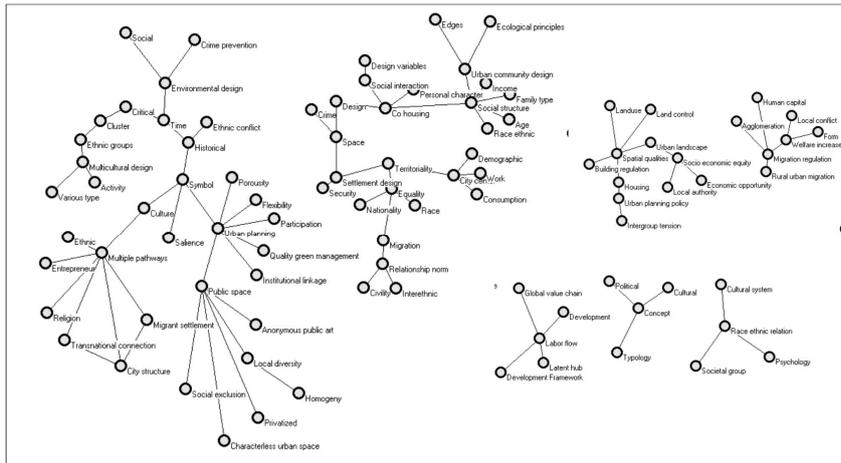
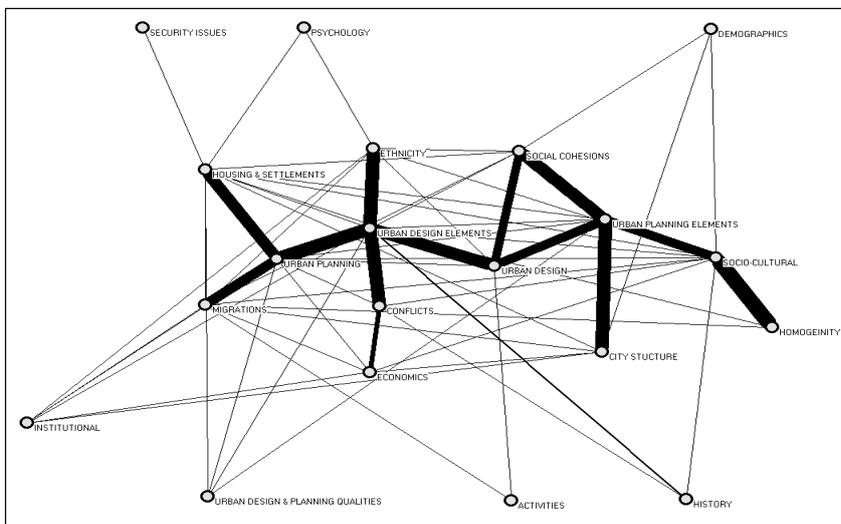*Figure 2: Mapping before clustering*

Figure 3: Mapping after clustering

Cognitive mapping method is useful to visualize the complexity of issues more organized, socially desirable, and systematic, but it allows biases when making analysis's and interpretations (Miles and Huberman, 1994). Therefore, supplementary displays of data are necessary to examine the map.

The limitation of data is suspected on the limited ability to gather larger data. Another aspect of the study is also somehow due to the lack of full computerization, i.e. some parts are analysed using manual approaches (Xu and Chen, 2006). Whilst allowing the researcher to manually manipulate the connectivity to include researcher interpretation in order to give better control over the variable, this manual approach is also prone to human error. There is actually wide potential to utilize computer software which is now going towards the third generation of visualization methods called 'network analysis' which will also be investigated in the further stages of this research.

There are some potential to include psychological and social aspect of social cohesion to the research as suggested by Friedkin (2005). Friedkin (2005) also suggest that in order to understand social cohesion issue, particular research should include the distribution of members' attitudes and behaviours, individuals' membership attitudes and behaviour, and the social processes in the social networks.

CONCLUSION AND FURTHER RESEARCH

The research has been set to investigate the most appropriate ways for the built environment, particularly in urban design and planning premises, to promote social cohesion in the communities as an integral part of overall research agenda. This paper reports the findings from a literature study using cognitive mapping method to describe the importance of the related aspects and the connectivity one to each other. The findings show that there is potential to approach social diversity and social cohesion issues through built environment point of view such as urban planning and design.

The cognitive map has been found useful to help the researcher in better understanding the context of the subject and has informed further stages of the research to focus on core issues such as (1) urban planning, (2) urban design elements, (3) urban design, (4) and urban planning elements, related to some strong issues which are (5) conflicts, (6) social cohesions, (7) socio cultural, (8) homogeneity, (9) economics, (10) city structure and (11) housing and settlements. The findings serve as a platform for further research which will include further literature synthesis and necessary primary and secondary data collection achieve the aim and objectives of this research.

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