# Historic city centers under threat: The case of Sharjah, UAE

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**Abstract:**
In 1998, UNESCO selected the Emirate of Sharjah as the cultural capital of the Arab World. At present though, Sharjah's historic center (Al Mureijah and Al Shueiyheen) is suffering from traffic congestion and environmental degradation that make it unattractive for visitors and inhabitants. These issues need urgent attention in order to reverse any further degradation of the historic city center, achieve economic and social gains, conserve the environment, and preserve the cultural heritage.

This research addresses the challenge of revitalizing historic Sharjah by identifying, understanding and providing solutions to problems that have emerged through its recent rapid growth. The main goal is to develop an analytical framework that will be utilized for future development strategy and urban design guidelines for revitalizing the historic core of Sharjah.

The proposed research will use Space Syntax as a diagnostic tool to understand how the history and evolution of the city's structure had led to patterns of density, land use and socio-economic settlement. We hope to identify spatial causes of what are seen as barriers to social cohesion and develop a priority list of objectives for future development in Sharjah's heritage area. We aim to scientifically evaluate the current problems, determine which land uses are appropriate for the continuance of economic and social gains, and develop priorities for: safeguarding cultural heritage; protecting the environment; increasing livability for visitors and inhabitants.

The fundamental achievement of this research will be an analytical framework that will serve as a guideline for future urban regeneration of Sharjah's historic area. The findings of this study will shed fresh light on future research in the field or urban design and conservation and can be used to evaluate proposals to regenerate historical city centers that are under threat or have lost their economic, social, environmental and cultural vitality.

*Keywords: Regeneration, historic city centers, space syntax, movement.*

## 1. Introduction

The city of Sharjah is one of the port cities of the Persian Gulf on the south eastern part of the Arabic peninsula, an area also known as eastern Arabia (Fig. 1). The development of Sharjah's urban form is directly related to the water body in the Persian Gulf called Al *Khalijin* both Arabic and Persian. This body of water was historically the space for interactions between buyers and sellers, and exchange between indigenous cultures and the subsequent empires (both regional and European). Each Khaliji city was a portal to the land, playing a significant and distinct role in facilitating the primacy of the Indian Ocean trading route from the seventeen through the nineteenth centuries. Until the mid-20th century, Al Khalij was a unifying agent facilitating the development of the city of Sharjah as the other cities nearby,transforming Sharjah from a small fishing town to a settlement and then to a Portal city.



*Figure 1. Sharjah and other portal cities along Arabian / Persian Gulf.*

Today, Sharjah is the third largest emirate in the United Arab Emirates (Fig. 2). It is also the only one with ports both on the Persian Gulfand the Indian Ocean, thus having crucial access to global trade routes, and ensuring its contemporary placement as a centre of international commerce. In 1998, UNESCO selected the Emirate of Sharjah as the cultural capital of the Arab World in appreciation of Sharjah's cultural achievements and the success the Emirate has shown in preserving its heritage. It would be fair to say that Sharjah has been an historically emblamatic port city in the region until recently. At present however,Sharjah's historic center is suffering from traffic congestion and environmental degradation that make it unattractive for visitors and inhabitants. Furthermore, the port that once satisfied the city with its vibrant lively athmosphere has been lost since the trade function is no longer allowed to take place. These issues need urgent attention in order to reverse any further degradation of the historic city center, achieve economic and social gains, conserve the environment, and preserve the cultural heritage.

The city of Sharjah shares a common threat to its historic center as many other cities worldwide and there is a growing body of research that focuses on various aspects of these threats. Some of the studies focus on social issues such as issues related to the sense of place and place identity (Smith and Luque-Azcone, 2009; Ünlü, 2009; Özen and Saka, 2009) while others focus on physical aspects and interrogate issues related to the revitalization and regeneration of the physical fabric in historic centers (Sevinç, 2009; Kermani and Luiten, 2009) still some others are more inclined to examine the development strategies in historic centers (Wei and Heng, 2009). With regards to threats that modenization has caused on historic city centers, there is also a major number of research studies utilizing space syntax theory and methodology focusing on spatial aspects of historic city centers and how they spatially connect with the rest of the modern city (Kubat et al, 2003, 2007 & 2009; Space Syntax Lab. 1999; Space Syntax Ltd. 2006; Kayvan, 1997; Kayvan, 2003; Vaez, 2013). Most of these studies are about non-western cities as the effect of modernization has had a major impact on the spatial structure of these cities.
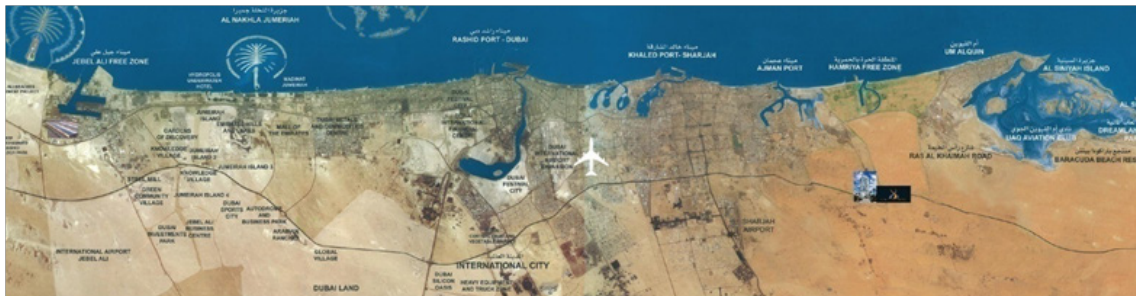


*Figure 2. Sharjah and neighbouring port cities on the Gulf Coast.*

This study also aims to investigate problems in the historic area of Sharjah through the application of the Space Syntax methodology. Space Syntax is used as a diagnostic tool to understand how the history and evolution of the city's structure after modernization had led to patterns of density, land use and socio-economic settlement. The methodology of the study also includes observations on existing pedestrian and vehicular movement patterns and activity schemas within the historic core. Through the evaluation of analyses, we aim to identify, understand and provide solutions to problems in the historic area that have emerged through the recent rapid growth of Sharjah. We hope to identify spatial causes of what are seen as barriers to social cohesion and develop a priority list of objectives for future development in Sharjah's heritage area.

## 2. Development of the city of Sharjah

Sharjah, as one of the port cities of eastern Arabia along the Persian Gulf, also known as *Khaliji*, has had a distinct character due to its significant role in facilitating the primacy of the Indian Ocean trading route for centuries. As such, the development of the urban form of Sharjah as other *Khaliji* port cities is quite distinct from traditional cities called "madinas" of the Arab-Islamic world such as Fez, Damascus, and Allepo (Akbar, 1988; Bonnie, 2005). While most madinas were typically developed as, and actively participated in, trading activities across land, *Khaliji* portal cities relied on the water exchange and only secondarily traded with the nomadic hinterland. While inhabitants of most madinas, even when they were situated on a river, considered the water as a

vulnerable edge of the city requiring forts and towers for protection, most port cities in eastern Arabia considered *Al Khalij* as a "friendly" zone. Rather, *Khaliji* portal cities were heavily protected from the desert maintaining an open space for secured interaction with the tribal hinterland (Fuccaro, 2009; Rab, 2011).

As Sharjah evolved from a small fishing village to a permanent settlement, it facilitated maritime trade and transactions of goods between port dwellers and the interior *bedouin* tribes. The continuous port activity along Al Khalij waters generated a linear pattern in the initial urban form. Four types of distinct but inter-connected spaces had emerged to support the internal dynamics of urban life. The internal market districts *(souqs)* spread along the creek *(sahil)* through almost the entire length of the settlement. A gated protective wall with Al Hisn Fort marking the central entrance comprised the defined outer limit of the settlement. Immediately outside the Hisn Fort was the space of the external market (*saht Al Hisn*-Today known as Rolla Square) where the settled community came in contact with nomadic families of the hinterland. The residential quarters *(fareej)* between the souqsand the wall were generally divided into two main uneven sectors located to the east and west of the Hisn Fort (Kubat et al, 2012a).



*Figure 3.* A view of Sharjah historical core (Kubat et al. 2012a).

The spaces along the *sahil* have persistently been used as places for interaction by Sharjah's diverse inhabitants even after the introduction of vehicular roads which have disrupted the former relationships with and access to the water. Currently, the port function has been discontinued but the *souq* continues to exist along the sahil despite its disjointed state due to the introduction of a main thoroughfare, The Bank Street (Kubat et al, 2012a; Kubat et al, 2012b).

The Bank Street, with its unique island in the middle housing the reconstructed Al Hisn fort, divides the historic core into two distinct zones: *Al Mureijah* Heritage Area and *Al Shuweyhein* Arts Area (Fig.3). Two distinct types of commercial activities characterize each part: the reconstructed *Souk Al Arsah*

with largely staged traditional handicrafts commodities that attracts tourists and the evolving old souk that is maintained by individual shop owners bringing the city's inhabitants along the cornice to search for objects of daily life. The objects sold and the souq display techniques have certainly changed over time, but its link to the sahil, and its persistence and its evolution to cater to the changing needs of Sharjah's inhabitantsis an important element of urban continuity (Kubat et al, 2012b).

Across the Bank Street, there is the official "Heritage Area", the *souq* is maintained more as a relic of the past as opposed to an evolving urban continuity. Introduction of modern architectural interventions along the Bank Street resulted in the demolition of a major part of the historic district. It is the *fareej* and its community of inhabitants living within a tightly knit dense urban fabric that has mostly been lost, reconstructed and cleansed for the benefit of Sharjah's visitors. The *Saht Al Hisn*, the open space outside the Al Hisn Fort, has survived through the three centuries of Sharjah's existence along *Al Khalij*. Until last year, it functioned as the only all inclusive public space in Sharjah called the Rolla Square (Kubat et al, 2012b). While only the continuity of district names mostly based on the affiliations of its original inhabitants commemorate the lost *fareej*, the *sahil*, *souq* and *saht Al Hisn* have persisted and evolved as urban continuities throughout the history of this exemplary *Khaliji* portal city.

The process of land demarcation and subdivision in the early formation of port cities of eastern Arabia is quite distinct from the process undertaken for allocating land to public and private uses in madinas (Bennison et al, 2007). Since port cities in eastern Arabia were settled by people from different origins from those that occupied the settlement, the patterns of land tenure, ownership rights, and control of space were very fluid (Bonnie, 2005). Moreover, merchant patrons financed development of residential areas and the provision of services for the population, including the establishment of mosques since the institution of *Waqf* was not in effect in these port cities until after 1930s (Fuccaro, 2009; Owen, 2000; Leeuwen, 1999).
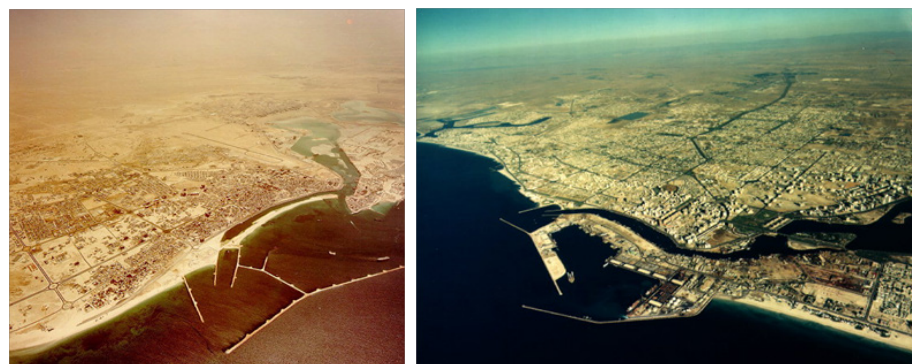


***Figure 4.*** *Sharjah; 1976 Air view (left) and 1994 air view (right) (Kubat et.al. 2012a).*

Sharjah's historic urban development thus has shared three main characteristics with other port cities ofthe Gulf: it naturally fit in and was open to a body of water; it was protected from the desert edge by a wall and a fort; and it maintained a diverse and multi-functional life connected to the waterfront (Rab, 2011). It is with the start of the exporting of oil in 1960s that the society

and economy for *Khaliji* part cities also started transforming themselves. For the city of Sharjah, it was after joining the United Arab Emirates in 1970s when the planned modern interventions disrupted and disconnected the traditional spaces. The planners imagined a new city encountering the desert for the first time in its history as opposed to historically defending itself from its nomadic inhabitants.

A strategic move to pull the urban growth of Sharjah internally toward the desert and away from the waterfront led to the development of the University City and the ensuing residential development around the ancient Muweilah site. The waterfront that once provided a vital foreground and a primary entry point to Sharjah started to act as an industrial backdrop for the larger metropolis. Sharjah now presents itself as a primarily a landed community with water inlets as a source of recreation, as opposed to a vital portal city along *Al Khalij* (Rab, 2011).

In the 1990s, the loss of place identity resulted in the documentation and restoration of the historic buildings, demarcation of the Heritage Area, and the reconstruction of selected lost structures, including Al Hisn Fort and the city wall. There are 85 listed buildings in the Muriejah and Shuweihein areas that are constructed before the 1970s, 44 are unrecorded and 37 have been restored since 1990 (Rab, 2011).



**Figure 5.**.*Study area within the city of Sharjah.*

### 3. Methodology
The methodology included analyses at two different scales (Fig.5): the first is the city scale spatial analysis; and the second,analysis at the local scale consisting of the spatial examination of historic core of the city supplemented with pedestrian and vehicular movement and followings within the study area.

For the spatial analysis at the city scale the segment map for the entire city of Sharjah has been prepared based on the space syntax methodology. Utilizing

DepthmapX v.28 software, segment analysis both for integration and choice values has been conducted for the city of Sharjah. The aim was to see how the study area of the historic center of the town is related to the city in general.

For the analysis at the local level, the historic core of the city has been examined including the two distinct zones: *Al Mureijah* Heritage Area and *Al Shuweyhein* Arts Area, and the street that divides these areas, the Bank Street with Al Hisn fort in the middle (Fig.6). For the analysis, the first step was to analize the spatial configuration of the historic center, for which segment map of the study area has been prepared and analyzed using DepthmapX v.28 to obtain integration and choice values. The next step was to survey the pedestrian and vehicular activity in the study area in order to understand movement patterns. Data obtained from the analyses generated a multi-level, electronic database of urban form and function, containing various spatial values of street networks as well as pedestrian and vehicular movement data. Finally, the results achieved from these analyses have been comparatively and statistically evaluated.



***Figure 6.*** *Study area in detail showing the two zones: Al Mureijah heritage area and Al Shuweyhein arts area.*

## 4. Analysis at the city scale

### 4.1 Spatial analysis of the city of Sharjah
When we look at thecity scale segment analysis of global integration (rN), we see that the roads running paralel to the waterfront and connecting Sharjah

to Dubai city such as Second Industrial Avenue and Al Nahda Street and the roadsthat run perpendicular to these, such as King Faisal and King Abdulaziz Streets are found to be the most integrated streets forming a gridal pattern (Fig.7). We can say that these integrated streets, as important streets in terms of the intensity of activities, are properly highlighted showing the underlying structure in the urban grid of Sharjah. What is interesting about this gridal pattern is that, inside of each integrated gridal road system, the center, where the residential neighborhoods are located, is rather segregated. This finding might be reflecting the characteristics of residential neighborhood where privacy is emphasized.  Furthermore, when the gridal pattern in the industrial area located on the southeast of the lagoons are examined, we see that the streets here inside the gridal pattern is more integrated that the centers of the residential neighborhoods, supporting the notion that privacy is emphasized in residential areas.



**Figure 7.** *City scale segment analysis of Sharjah: Global integration, rN(left) and local integration, r500 (right).*

Another interesting observation based on the global integration (rN) is that there is no indication of an "edge effect" as the properties of the integrated lines near the borders of the map are not much different then the ones within the map. Only the border where the lagoons are located, i.e. the waterfront, shows a disjointed effect. The reason for this lack of "edge effect" might be related with the segregated nature of the center streets in the gridal pattern where the residential neighborhoods are located. Since these streets are rather segregated they might not have any effect on the structure of the integration at the global level.

At the local level, three different segment analysis has been conducted at different radiuses for local integration values: r500, r2000 and r5000. The main difference from the city level analysis was observed at the r500 segment analysis and it is given at Figure 7. It can be observed that the local centers are highlighted at this level. The historic core of the city is one of the most integrated at this level followed by the areas to the northeast along the waterfront that was historically developed before 1970s. The newer developments towards the inland do not show this distinct character and they are rather segregated all around in comparison to earlier developments. This might indicate that there are significant differences between the old settlement structure versus the modern one.

Another spatial analysis conducted at the city scale is the segment analysis conducted to obtain choice values both at the global (rN) as well as local levels (r500). The maps showing the choice values are given in Figure 8.
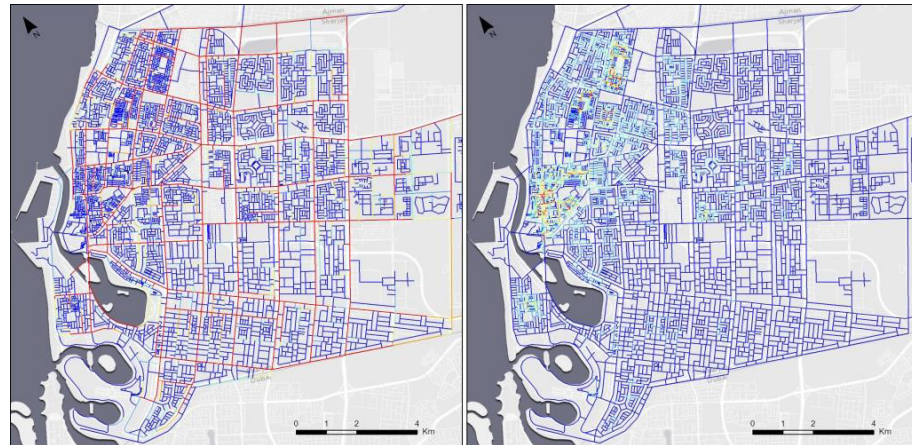


**Figure 8.** *City scale segment analysis of Sharjah: Global choice, rN (left) and local choice, r500 (right).*

The choice map seem to highlight the integrated gridal system of the axial integration: The streets that create the gridal system is much more clearly differentiated then the ones within the grid. Moreover, the choice map is even less sensitive to edge effect and the values look more properly distributed among space so that some important streets are more clearly highlighted even if they are located in the periphery of the map, such as Al Meena Street on the waterfront. The analysis local choice is similar to the local integration analysis in that the local centers are also highlighted in this map. One more major difference is the higher integration value of the historical core and its surroundings suggesting the potential of this area. The modern developments towards the inlands almost totally lack any local centers, which demonstrates how the modern developments do not follow a similar pattern as of the developments near the waterfront.

## 5. Analysis at the historical center

### *5.1 Spatial analysis of the study area*
A 'spatial modeling' study has been used to assess the accessibility of linkages through the study area. Space syntax method has been used to analyze the spatial configuration of Sharjah Historic area. A segment map has been constructed showing all the accessible space in the study area. The segment map has been processed using the DepthmapX v.28 software and integration and choice values for each line on the map has been calculated.

When segment maps are analyzed for integration values at the global level, it is seen that the streets surrounding the heritage area as well as the Hisn Avenue are more integrated. At the local level, Sharjah heritage area located within the reconstructed historic wall is more integrated.

When segment maps are analyzed for choice value at the global level, the streets surrounding the heritage area as well as the Hisn Avenue show similar characteristics as the heritage area is less integrated. At the local level (r100), the choice value for Sharjah heritage area located within the reconstructed historic wall is higher then the rest of the historic area.
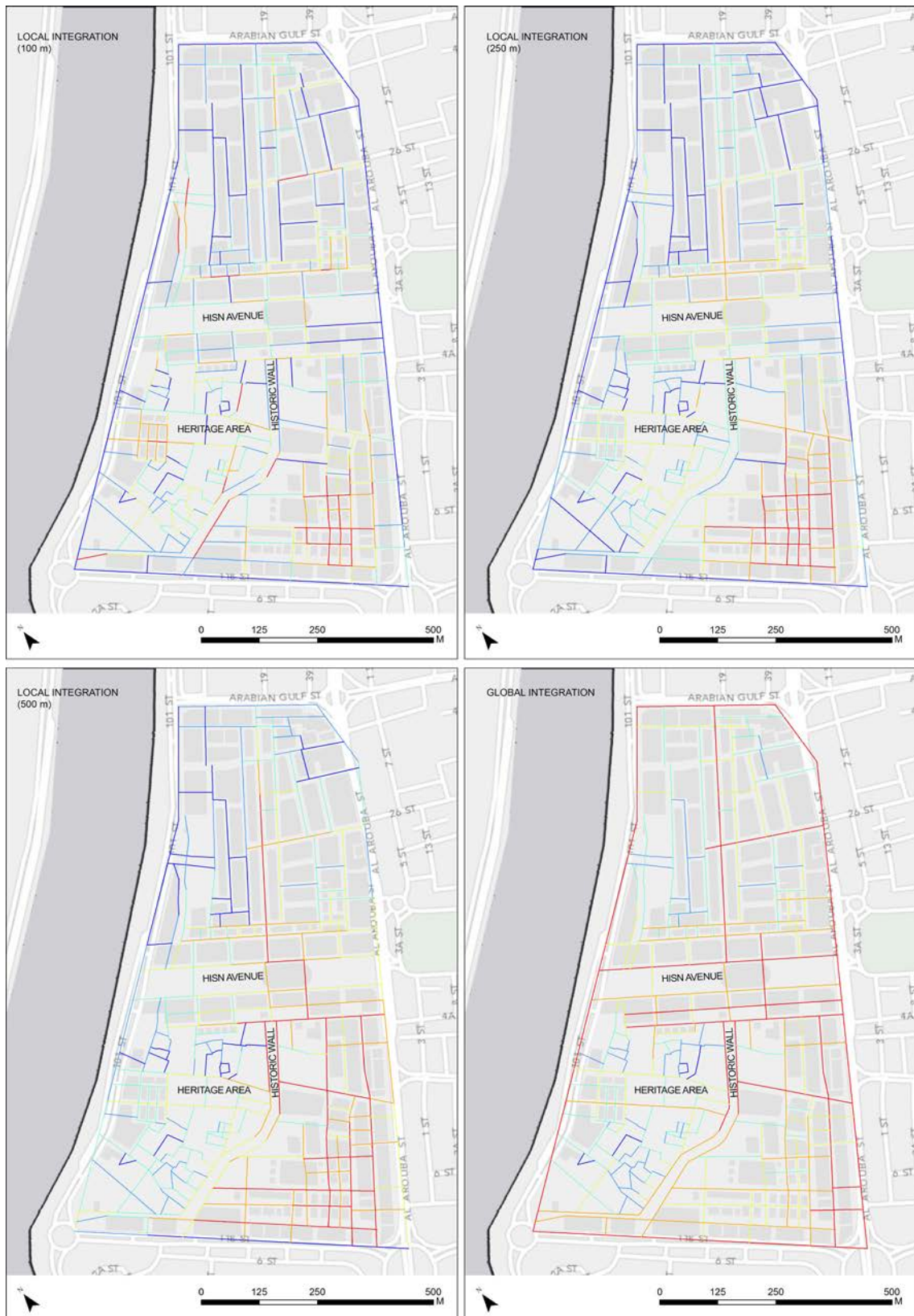
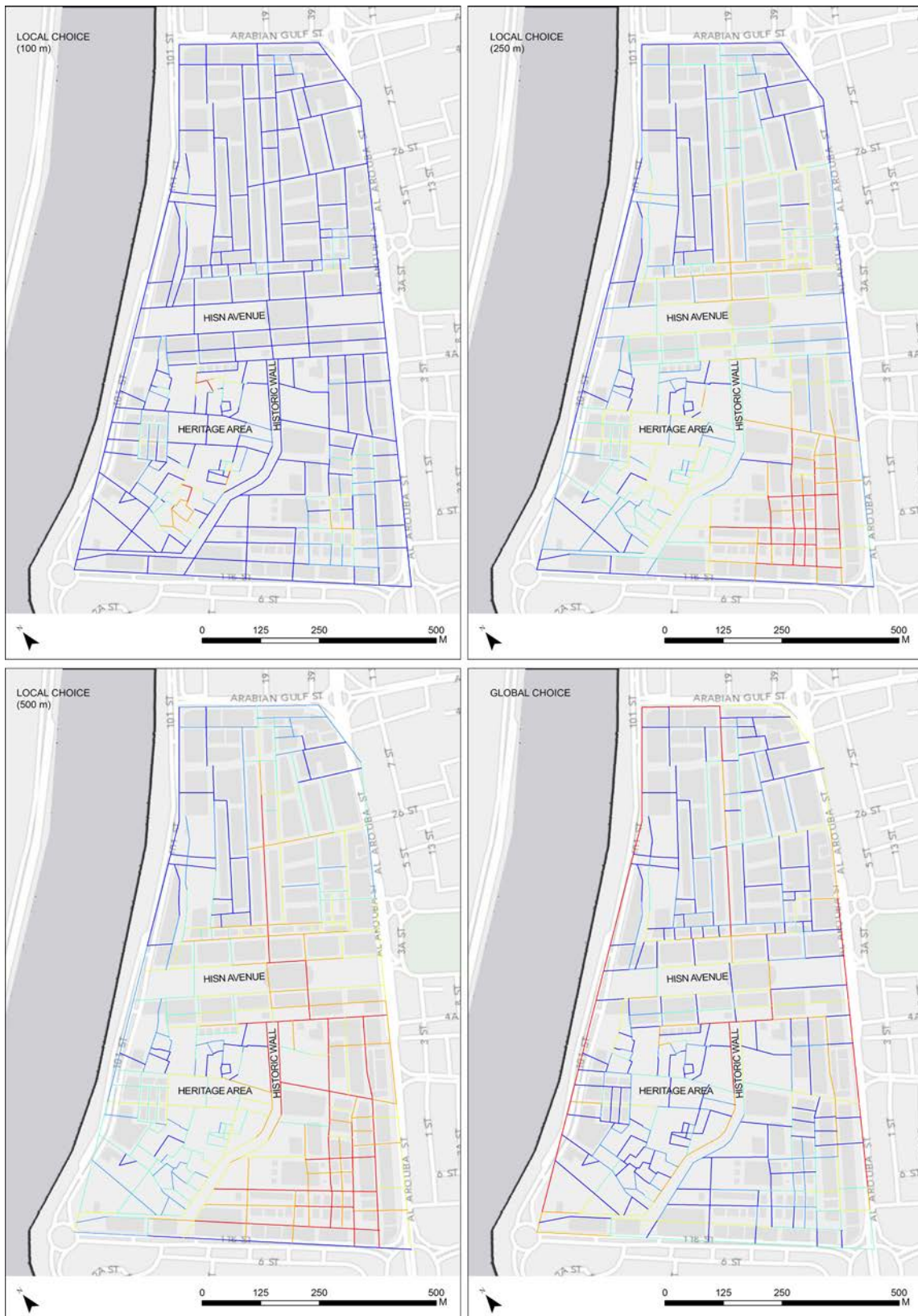**Figure 9.** *Segment analysis of the city of Sharjah showing global (rN) and local integration (r100,r 250 and r500).*

*Figure 10. Segment map of the city of Sharjah showing global (rN) and local choice (r100, r250 and r500).*

### 5.2 Pedestrian and vehicular movement analysis of the study area

The next step of the research was to observe how people and vehicles are flowing through Sharjah historic area. This has been done by counting pedestrian and vehicular flow rates at a total of 130 locations in Sharjah Historic area (Fig. 11). The survey of pedestrian and vehicular activity to designate the relations between movement patterns and the function areas has been done using the gate method on April, 2011. To define daily densities in both working days and holidays the counts has been conducted on a day on weekday,on a day on weekend, and on a Friday, both a weekend and an Islamic religious holiday. The counts have distinguished five different categories of people (adult men, adult women, elderly, teenagers, children) and one category of vehicle and were conducted in two-hour time periods, to define peak hours between



*Figure 11. Gates observed in the study area.*

08:00am till 20:00pm. The observed pedestrian and vehicular movement levels have been digitized to create the movement database which has then been related to a map document showing the locations of observation points.

The different categories of people (men, women, elderly, teenagers and children) as well as vehicles observed in the study area have a similar pattern in distribution of movement but there is a significant difference among their volumes of movement (Table 1).

**Table 1.** *Pedestrian and vehicular movement volumes for each day observed.*

| T h u r s d a y (Weekday) | 08:00 - 10:00 | 10:00 - 12:00 | 12:00 - 14:00 | 14:00 - 16:00 | 16:00 - 18:00 | 18:00 - 20:00 |
|---|---|---|---|---|---|---|
| Male | 13800 | 14664 | 15828 | 10608 | 21876 | 30228 |
| Female | 1476 | 2472 | 2592 | 1416 | 4380 | 9060 |
| Elderly | 492 | 768 | 696 | 312 | 660 | 936 |
| Teeneager | 396 | 576 | 192 | 216 | 792 | 2592 |
| Children | 228 | 456 | 792 | 960 | 2772 | 7728 |
| Vehicle | 18864 | 22908 | 20916 | 15900 | 20028 | 21132 |

| Friday (Religious Holiday) | 08:00 - 10:00 | 10:00 - 12:00 | 12:00 - 14:00 | 14:00 - 16:00 | 16:00 - 18:00 | 18:00 - 20:00 |
|---|---|---|---|---|---|---|
| Male | 3060 | 13584 | 48132 | 17232 | 29244 | 42480 |
| Female | 228 | 900 | 948 | 1788 | 5112 | 9996 |
| Elderly | 84 | 420 | 1260 | 612 | 660 | 900 |
| Teeneager | 24 | 348 | 996 | 228 | 840 | 2496 |
| Children | 132 | 396 | 1596 | 684 | 3588 | 6960 |
| Vehicle | 3996 | 11868 | 12396 | 14352 | 17904 | 24060 |

| S a t u r d a y (Weekend) | 08:00 - 10:00 | 10:00 - 12:00 | 12:00 - 14:00 | 14:00 - 16:00 | 16:00 - 18:00 | 18:00 - 20:00 |
|---|---|---|---|---|---|---|
| Male | 14196 | 15888 | 17748 | 13260 | 18840 | 27516 |
| Female | 1104 | 1644 | 2880 | 1944 | 3780 | 7992 |
| Elderly | 300 | 516 | 696 | 216 | 708 | 1224 |
| Teeneager | 132 | 216 | 300 | 312 | 804 | 1848 |
| Children | 132 | 660 | 1044 | 516 | 2508 | 5124 |
| Vehicle | 15456 | 20688 | 21348 | 15228 | 19248 | 24552 |

Most of the time, the vehicular movement is dominant except Thursday late afternoon and Friday all day when the male pedestrian volume is higher than the vehicular volume. The female pedestrian volumes, on the other hand, are always lower than the male figures. Female volumes starts low in the mornings and are usually higher in the afternoons. The male pedestrian volumes make a peak on the religious holiday, Friday. Especially after 10:00am, male pedestrian volume is drastically higher than the others and it is especially higher during the Friday sermon period, between 12:00-14:00pm and similarly high between 18:00-20:00pm. This is expected as the Friday sermon is a must for Muslim males while females usually stay at home during this period. On Friday late afternoons both male and female pedestrian volumes are higher.

The relationship between pedestrian movement volumes for different categories of people and vehicular movement volume is summarized in Figure 12 below. As can be seen the vehicular movement dominates the weekday and weekend followed by male movement rates. The pedestrian volume for male is the highest for the religious day Friday followed again by the vehicular movement volume. The female pedestrian volumes are the second highest pedestrian group for movement volumes. Movement levels of children follow them and the categories elderly and teenager is rather weak.
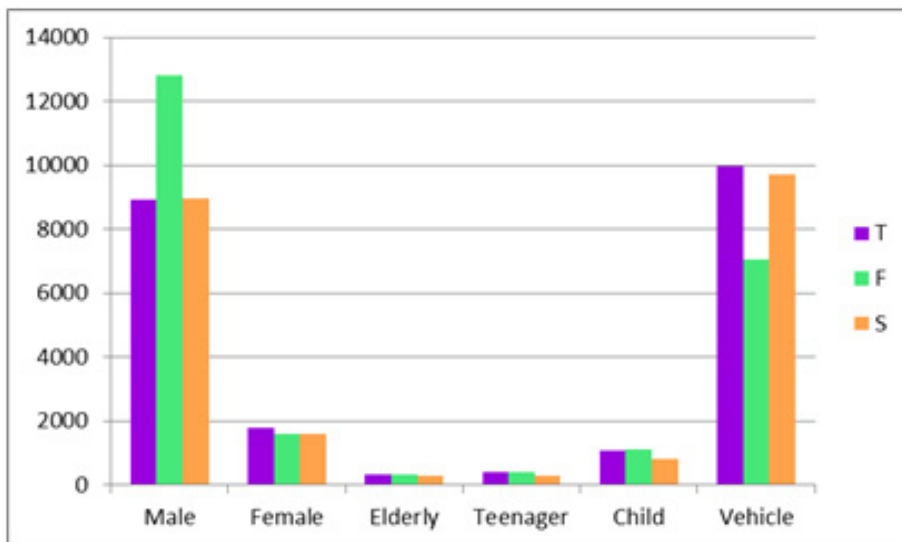


*Figure 12. Total pedestrian and vehicular movement levels compared.*

### 5.3 People followings in the study area
Pedestrian counts have observed the exact number of pedestrians passing through the specific observation point at the moment of observation. However, the paths that the pedestrians have followed until that point remain uncertain. In order to understand the pedestrians' route choice behavior and the most commonly used routes, pedestrians entering the study area have been followed until they left the area and their routes have been traced on digital maps. The followings were conducted by a designated single observer who is from Sharjah during the same time that the pedestrian and vehicle counts have been observed.

For each different day observed, i.e. Thursday, Friday and Saturday,  a different map of the study area has been prepared indicating the routes followed by pedestrians as lines and pedestrian counts as dark circles(Fig. 13). In the figure, the total pedestrian counts and mean pedestrian density has

also be given. This analysis has enabled to comparatively examine the results of pedestrian counts and followings.
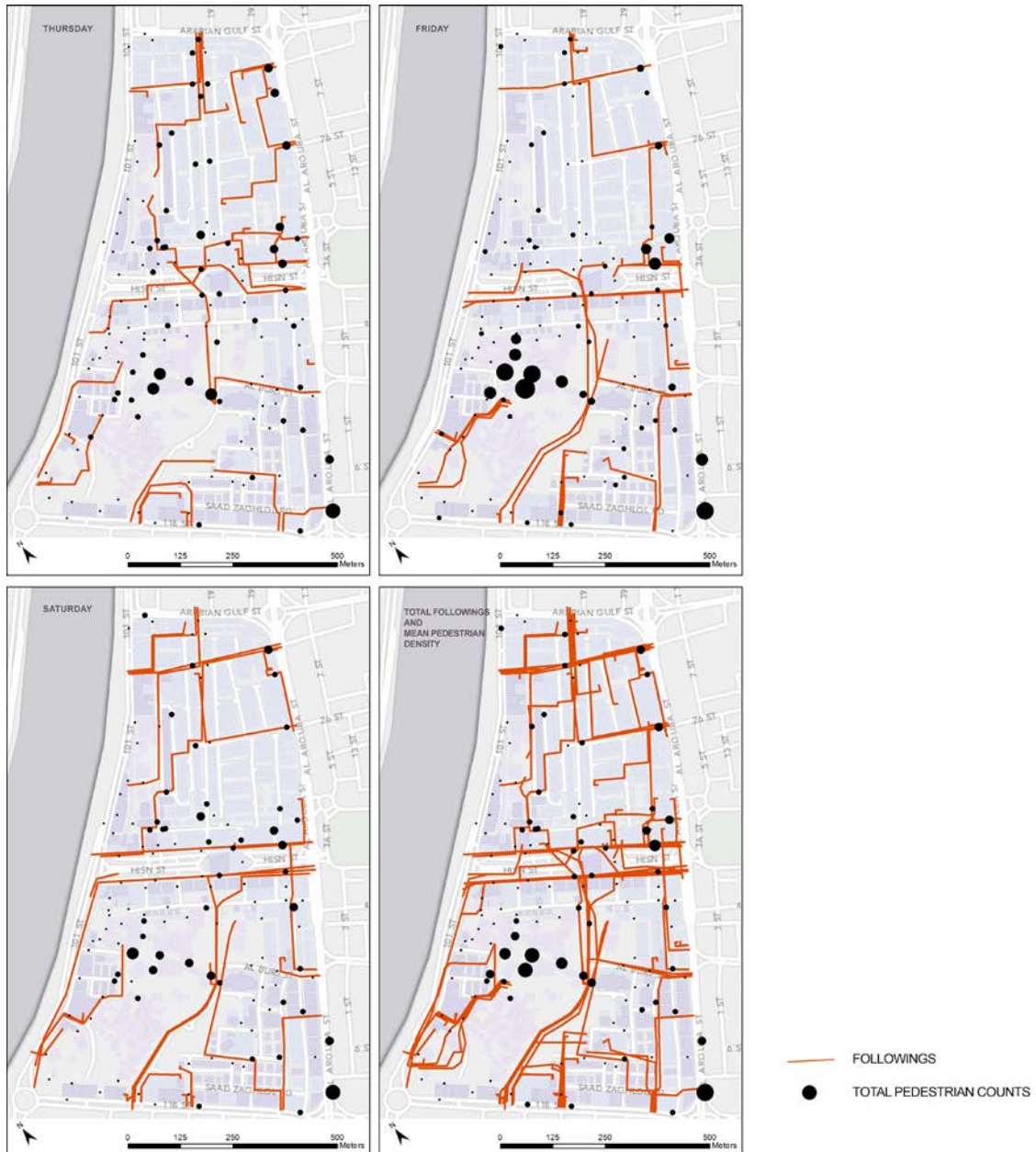


***Figure 13.** Pedestrian followings and pedestrian density on thursday, friday, saturday and all days together.*

It can be seen from the Figure 7 that, the pedestrian followings do not comply with the pedestrian densities. It can be assumed that pedestrians move about following the routes where they need to go, but where most of the people are found is related to the function of the spaces.

It is also clear that the major pedestrian movement happens inside the Wall area where the old mosque is located. Even though there is a bigger mosque towards the northwestern corner of the Wall, the fact that the area where the old mosque is located is used much more indicates the significance of the

continuation of the traditions. The area where the pedestrian density is found next is the South corner of the heritage area. This is also expected as this is a major crossroad, a node in public transportation of the city.

*5.4 Analysis of the relation between movement patterns and spatial configuration*
The next stage of the study was to comparatively evaluate the pedestrian and vehicular counts and spatial analyses. In the evaluation, the overall observation data for all three days are compared with the spatial integration and choice values. This comparison has been conducted through statistically analyzing the correlation between the pedestrian and vehicular movement levels and the values of the spatial structure both at the global as well as local levels. SPSS software has been used for the correlation analysis. In order to comprehend if a specific time period or a category of users correlates better with the spatial values, a series of correlation analyses has been conducted for each observed category separately in addition to the total values.

Results of the analyses have shown no significant correlation between pedestrian movement levels and spatial values. However, it has been observed that total number of vehicles correlate better with both spatial integration and choice values (Table 2 & 3).

** Correlation is significant at the 0.01 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

*Table 2. Correlations between vehicular movement and choice values.*

|  |  | Choice (n) | Thursday Total Vehicles | Friday Total Vehicles | Saturday Total Vehicles |
|---|---|---|---|---|---|
| Choice (n) | Pearson Correlation | 1 | ,353** | ,351** | ,337** |
|  | N | 130 |  |  |  |

*Table 3. Correlations between vehicular movement and integration values.*

|  |  | Integration (n) | **Thursday Total Vehicles** | Friday Total Vehicles | Saturday Total Vehicles |
|---|---|---|---|---|---|
| Integration (n) | Pearson Correlation | 1 | **,337**** | ,334** | ,339 |
|  | N | 130 |  |  |  |

## 6. Discussion and conclusion
Sharjah, as the third largest emirate in the United Arab Emirates, occupies a crucial access to global trade routes with its ports on Al Khalijand the Indian Ocean, thus ensuring its place as a centre of international commerce in the region. Historically Sharjah developed along the waterfront up until 1970s modern planning interventions that pulled the urban growth toward the inland. The University town and the residential neighborhoods around the ancient Muweillah site are the first modern developments. These developments inevitably changed the social and spatial structure of historic Sharjah.

In the historic center of Sharjah, some of the most drastic changes in recent years include the major demolition to open up the Bank Street for modern architectural interventions, total reconstruction of the historic wall in the heritage area, and the most recent; the port on Al Khalijloosing its function. These changes are surely related to the fact that the historic center has been found as segregated in the analysis. Similiar to Margate (Space Syntax Ltd 1999) and Galata (Kubat et al, 2007) studies, we believe that if we could connect the historical core with the movement on the waterfront area, even though it's limited in comparison to when the port was active, it will help increase the integration of the historic core.

Another important point to consider is related to the souq area lying along the waterfront. These shopping units as a whole are one of the important urban form components of the city of Sharjah as any other traditional Islamic city. Though today there is a vehicular road between the sea and these shopping units, the souq used to provide a direct access to the material goods brought to the city from the sea. The materials were unloaded from the ships directly to the depot area of the shops and from the other side they were delivered to the customers. Since the port has lost its function and the vehicular road constructed on the waterfront cut the relation of these shops with the sea, the traditional role of the space for interaction and exchange between buyers and sellers has been lost. It would be advisable to restore the link between the souq and waterfront, which will also make it possible to recreate and strengthen a continuance of waterfront to the heritage area and in turn lead to an increase in the vitality of the center and thus create an economically productive historic core.

Furthermore, as can be seen from Figure 6, the newer developments on the other side of the souq area consist of thin and long rectangular blocks running parallel to waterfront, the longest beng the museum building. Even though these building are further inland from the waterfront, since they are one big continuous piece they cut the breeze coming from the sea to cool of the streets and make the space attractive for pedestrians.

The analysis of the pedestrian and vehicular movements in the heritage area has shown that spatial structure of the area has more correlation with the vehicular movement than the pedestrian. In other words, pedestrian movement is not as much related with the spatial structure of the area and thus there might be other factors at work for directing the pedestrian movement. The fact that there is quite a lot of pedestrian movement in the area might be related to the activities that the area houses such as the old mosques and the major banks on the Bank Street. Moreover, the dominance of male movement might also indicate that land use characteristics and religion related uses are important factors in the study area. It is the limitation of this study that we were not able to examine the land uses of the area and compare them with the pedestrian as well as vehicular movements. Thus, it might be the next step for this study.

It is also important to keep in mind that land uses are important determinants of the pedestrian movement in an area, and any interference with the land use might have a significant effect on the movement potential of the area. Thus, it would be important for any future design proposal for the area to have land uses that promote active uses such as services, accommodation and entertainment that would also help protect the vitality of the heritage area.

Another important result of this analysis is related to the historical wall that is totally reconstructed within the heritage area. The analysis has shown that the wall separates the space defined by the wall from the rest of the heritage area and in turn adds to the segregation of the historic core from the rest of the city. It is understandable that the aim was to protect the heritage of this area, however, the end result has been that it is causing the area to be segregated from the rest of the city. It is clear from the integration and choice maps that this area has a potential as it still protects its historical spatial structure. Thus, utilizing space syntax techniques one can propose to transform some selected local alignments to form a network of larger scale streets that would connect the heritage area with the rest of the city similar to the Jeddah case (Hillier,2008). This could also enable to link the waterfront area with the rest of the city as well.

We believe that the problem Sharjah heritage area faces is very similar to the cases of other Islamic cities such as Jeddah (Hillier, 2008) and Isfahan (Karimi, 1997; Karimi, 2003) where the modern development of the city has caused the old center to lose its importance. In these cases as in Sharjah, as the city developed based on modern urban planning principles focusing on the primacy of vehicular traffic the scale of the context increased. The historic fabric of these cities has changed as a result of major program of road building and physical reshaping which in turn has shifted the structure of the integration core and thus weakened the connection of the historic centers. In all these cases we can observe that the historic core has a structure itself but as the city gets developed this structure gets disconnected from the city and the complex of local centers and sub-centers fade away. Thus we can conclude that, as stated in earlier studies, the problems faced in historic city centers are not local but global and the task is not to redesign but to reconnect.

**References**
Akbar, J.(1988). *Crisis in the Built Environment: The Case of the Muslim City*, Concept Media, Singapore.
Bonine, M. E. (2005). Islamic Urbanism, Urbanites, and the Middle Eastern City, in Y.M. Choueiri (ed.), *A Companion to the History of the Middle East*, Blackwell, Malden.
Bennison, A.K., and Gascoigne, and Alison L., (2007). *Cities in the Pre-modern Islamic World: The Urban Impact of Religion, State and Society*, Routledge, New York and London.
Fuccaro, N. (2009). *Histories of City and State in the Persian Gulf: Manama since 1800*, Cambridge University Press, Cambridge, New York.
Hillier, B. (1999). The Common Language of Space: A Way of Looking at the Social, Economic and Environmental Functioning of Cities on a Common Basis, *Journal of Environmental Sciences*, Vol.11, No.11: 344-49.
Hillier, B. (2007). A Theory of the City As Object: or, How Spatial Laws Mediate

The Social Construction Of Urban Space, *Urban Design International*, Vol.7, 153–179.

Hillier, B. (2008). Using Space Syntax to Regenerate the Historic Centre of Jeddah or Why We Need Architectural Models of Whole Cities, presented at *UIA World Congress*, Torino, Italy.

Karimi,K. (1997). The Spatial Logic of Organic Cities in Iran and the United Kingdom, in M. D. Major (ed.), *Proceedings of the 1st International Space Syntax Symposium*, University College London, London, UK.

Karimi, K. (2000). Urban Conservation and Spatial Transofrmation: Preserving theFragments or Maintaining the Spatial Spirit, *Urban Design International*, Vol.5: 221-231.

Karimi, K. (2003). The Tale of Two Cities: Urban Planning of the City of Isfahan in the Past and Present, in J. Hanson (ed.), *Proceedings of the 4th International Space Syntax Symposium*, University College London, London, UK.

Kermani, A.A., and E.Luiten (2009). Revitalisation of Iranian Historic Urban Cores: The Case Of Kerman, inHulyaTurgut&YaseminInceGuney (eds.), *Proceedings of International Symposium*, *REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses*, *Jointly Organized by IAPS-CSBE and the IAPS - Housing Networks*, Istanbul.

Kubat, A.S., S.Rab, Y.Ince Guney, O. Ozer, and S. Kaya (2012a). Application of Space Syntax in Developing A Regeneration Framework for Sharjah's Heritage Area,in M. Greene, J. Reyes and A. Castro (eds.), *Proceedings of the 8th International Space Syntax Symposium*, Pontificia Universidad Católica de Chile, Santiago, Chile.

Kubat, A.S., Y.InceGuney, O.Ozer, and S. Kaya (2012b) Final Report of the Research Project titled "Application of Space Syntax in Developing a Research Framework for Sharjah's (UAE) Heritage Area", supported by the Emirates Foundation, UAE.

Kubat, A.S., E. Eyuboglu, and O. Ertekin (2007). A New Urban Planning Approach for the Regeneration of a Historical Area within Istanbul's Central Business District, *Journal of Urban Design*,Vol.12, No.2: 321-339.

Kubat, A.S., E. Eyuboglu, O. Ertekin, and O. Ozer (2003). An Urban Redevelopment Proposal for Istanbul's Galata District, in J. Hanson (ed.), *Proceedings of the 4th International Space Syntax Symposium*, University College London, London, UK.

Kubat A.S., Y. InceGuney, O. Ozer, M.Topcu, and S. Bayraktar (2009). The Effects of New Development Projects on the Urban Macroform of Dubai: A Syntactic Evaluation,in D. Koch, L. Marcus and J. Steen (eds.), *Proceedings of the 7th International Space Syntax Symposium*, School of Architecture and the Built Environment, KTH, Stockholm, Sweden.

Owen, R. (2000). *New Perspectives on Property and Land in the Middle East*, Center for Middle Eastern Studies of Harvard University, Harvard University Press, Cambridge.

Ozen, H., and E. Saka (2009). Rehabilitation Of the Historic Urban Quarter In Tokat,in HulyaTurgut & Yasemin Ince Guney (eds.), *Proceedings of International Symposium, REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses*, Jointly Organized by IAPS-CSBE and the IAPS - Housing Networks, Istanbul.

Paccione M.(2005). City Profile: Dubai, *Cities*, Vol.22, No.3: 255-265.

Rab, S. (2011). Sharjah: Seascape Urbanism in a Khaliji Port City, paper

presented *ACSA Association of Collegiate Schools of Architecture Annual Meeting*, Montreal, Canada.

Sevinc, A. (2009). Imaginary Interventions to Revitalize Endangered City Centers, in Hulya Turgut & Yasemin Ince Guney (eds.), *Proceedings of International Symposium, REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses, Jointly Organized by IAPS-CSBE and the IAPS - Housing Networks*, Istanbul.

Smith, H.C., and E.J. Luque-Azcona (2009). Requalifying and Disqualifying, in Hulya Turgut & Yasemin Ince Guney (eds.), *Proceedings of International Symposium, REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses, Jointly Organized by IAPS-CSBE and the IAPS* - Housing Networks, Istanbul.

Space Syntax Laboratory (2006). Margate Historic Core—*Report on the Space Syntax Study*. Report preparedfor North Kent Architecture Centre, The Bartlett School of Graduate Studies, University College London, London.

Space Syntax Limited (2006). Jeddah, *Unplanned Settlements Strategy*, Saudi Arabia.

Unlu, A. (2009). Urban Regeneration, Renewal or Rehabilitation: What For And For Whom,in Hulya Turgut & Yasemin Ince Guney (eds.), *Proceedings of International Symposium, REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses, Jointly Organized by IAPS-CSBE and the IAPS - Housing Networks*, Istanbul.

Vaez, S. (2013) Meeting Place on Different Interface: Bursa And Yazd, Master of Urban Design Thesis, Istanbul Technical University, Graduate School of Sciences.

Wei, J., and C.K.Heng (2009). Blending of old and New as a Development Strategy, in Hulya Turgut & Yasemin Ince Guney (eds.), *Proceedings of International Symposium, REVITALISING BUILT ENVIRONMENTS: Requalifying Old Places for New Uses, Jointly Organized by IAPS-CSBE and the IAPS - Housing Networks*, Istanbul.

## Tehlike Altındaki Şehir Merkezleri: Sharjah, UAE Örneği

Arap Yarımadasının güneydoğusunda yer alan Birleşik Arap Emirlikleri'ne bağlı üçüncü büyük emirlik olan Sharjah, Basra Körfezi kıyısındaki diğer kentler gibi ufak bir balıkçı kasabası olarak gelişmeye başlamıştır. Körfez'deki bu kasabaların, yedinci yüzyıldan on dokuzuncu yüzyıla kadar Hint Okyanusu üzerinden geçen ticaret ağında önemli bir konuma sahip olmaları liman kenti olarak gelişimlerine yön vermiştir. 1930larda petrolün bulunması ve 1960lardan itibaren ithal edilmesi bu bölgenin ekonomik yapısını olduğu kadar toplumsal ve sosyal yapısını da etkilemiştir. Son yıllarda ise modernleşme ve küreselleşmenin etkileri bu kentlerin doğal, tarihsel ve kültürel yapılarının bozulmasına neden olmuştur. On dokuzuncu yüzyılda Doğu Arabistan olarak adlandırılan bu bölgedeki kentlerinin Avrupa ve Amerika'daki diğer liman kentlerinden farklı bir gelişim gösterdikleri ve kendilerine has bir yapıları olduğu literatürde yeni ele alınmaya başlayan bir konudur.

Hem Basra Körfezi'ne, hem de körfezin Hürmüz Boğazı ile açıldığı Hint Okyanusu'na kıyısı olan Sharjah kenti, körfezdeki diğer liman kentleri gibi, dünya ticaret ağı içinde önemli bir konuma sahip olması nedeni ile ticari bir kent olarak önemini yüzyıllardır sürdürmüştür. Sharjah kentinin diğer körfez kentlerine nispetle, tarihi kent dokusunu korumuş olması, 1998 yılında UNESCO tarafından Arap Dünyasının kültürel başkenti olarak seçilmesini sağlamıştır. Bu zamandan sonra, Sharjah kent merkezinin korunması ve yenilenmesi çalışmaları hız kazanmıştır. Ancak, yapılan bu çalışmaların her zaman olumlu yönde ilerleme olarak algılanması mümkün olmamıştır. Kent merkezinde yer alan ve tarihi dokuyu oluşturan yapıların beton kullanarak restore edilmelerinden, "suk" adı verilen alışveriş mekânlarının restore edilerek kurgulanmış bir alış veriş mekânına çevrilmesine ve shat-Al-Hisn Kalesi'nin yeniden inşa edilerek çevresindeki tarihi dokunun temizlik adı ile yok edilmesine kadar pek çok olumsuz yapılanmadan bahsetmek mümkündür. Günümüzde Sharjah tarihi kent merkezi yoğun trafiğin etkisi

altındadır ve yer yer çöküntü bölgeleri ile kaplıdır. Kent merkezinin, yapılan müdahalelere rağmen çöküntü bölgesi olma potansiyelinin her geçen gün artması dikkat çekicidir. Bu bozulmanın nedenlerinin bulunması ve tarihi merkezin çöküntü bölgesi haline gelmesinin tersine çevrilmesi Arap dünyasının başkenti olarak seçilmiş bir kent için gereklidir.

Bu makale, Sharjah kent merkezinin günümüzde yaşadığı sorunların nedenini bulmaya odaklı bir araştırma projesinin sonuçlarını sunmaktadır. Mekân Dizimi (Space Syntax) metodu kullanarak yapılan bu çalışma, tarihsel süreç içinde kentin nasıl geliştiği, bu gelişimin arazi kullanımı, yoğunluk ve sosyo-ekonomik yapıyı nasıl yönlendirdiğini incelemiştir. Amaç, Sharjah kent merkezindeki tarihi bölgelerinin kentin geri kalanı ile kopuk bir yapı sergilemesinin nedenlerini ortaya çıkarmak ve bu kopukluğun giderilerek kent merkezinin kentin tamamı ile daha bütüncül bir ilişki içerisinde olmasını sağlayarak hem bu bölgelerde yaşayanlar hem de ziyaretçiler için daha yaşanabilir bir kent merkezi yapısına kavuşmak için bazı ipuçları ortaya koymaktır. Bu çalışmada uygulanan yaklaşımın, kent merkezlerinin çöküntü alanlarına dönmesi konusu ile ilgili yapılacak gelecek çalışmalar için yön gösterici olması beklenmektedir.