

Effect of Streets Construction in the Context of Iranian Cities on Transformation from Traditional to Modern Housing, Case Study: Hamadan

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Abstract: The purpose of this study is to investigate effect of streets construction in the context of Iranian cities on transformation from traditional to modern housing. Morphologic study of Iran's old city declares that one of outstanding characteristic is continuity in urban texture. New roadways built in the beginning of present century led to disconnection of city texture and subsequently change in spatial hierarchy. Because of change in urban spatial hierarchy and providing roadway accessibility, Street's surrounding the houses. This transformation in the city of Hamadan was launched in 1931 AD with the plan as a "street map". Prior the transition from house to the city, including through the hierarchy: Darband (private realm), Kooy (Semi-private realm), Gozar (Semi-public realm) and the wider streets and market orders. It directs and controls the activities and behaviors. While today, the transition from house to the city is done in many cases immediately. In particular, assuming that the street construction and the loss of hierarchy have an impact on houses typology and are one of the evolutions of traditional houses to modern housing converting, this research is done. By examining the city before and after streets construction through the study of maps and documents and also the comparative study of contemporary and traditional examples of house in the city of Hamadan, The results obtained. Our findings show that the system of streets and the resulting segmentation of land for construction, change style of house from the central courtyard to establishment of open space on one side and mass on the other side.

Keywords: Hierarchy, modern housing, street constructing, traditional home, urban texture

INTRODUCTION

Cities damaged in the 20th century due to increasing the proliferation of independent neighborhood, with different form of single functional development, that arising turbulence in their appearance and structure instead of organic growth. In recent years there have been many qualitative and quantitative studies of the street construction and street patterns of cities. For example, as in many cities of the developing countries, locating the highways in context of Yazd as one of the Iranian old city disordered and unplanned the texture of city (Zanganeh Shahraki *et al.*, 2011) and landscape street constraints may have great effects not only on the overall geometric development and current shape of a city, but also on its street pattern (Mohajeri, 2012). How street construction effect on houses typology have received less attention, however. Here we address question: How Streets construction (large scale) effect on the evolution of housing (small scale).

With the establishment of the Pahlavi government and modern days in Iran, there has been a new interpretation in shifting from tradition to modernism. Therefore, there was a lot of change in Iran urban community. In this transformation and evolution, concepts and traditional function are kept out from

considering and the city as result of this spatial and physical change lost the old value of spatial organization away. In this regard, the large interference of old physical texture have been beginning in the Iranian cities including Tehran, Hamadan, Isfahan, Yazd and etc.

Therefore, many cases have eclipsed the social and physical cohesion of the cities (Mozayeni, 1991). At this historical juncture, the government as the institution of intervention for the first time in the history of urban planning of the country had changed the spatial structure of the cities. The first map of change was for Tehran in the year 1930 AD that called the "streets map". The map prepared for Hamadan was in 1930 AD as well as the same title (Habibi, 1995). This article tried to find Iranian architecture deformation process influenced by urban development.

MATERIALS AND METHODS

As regards urban developments impact on housing, is a socially and physically process underlying complex and at the last time happened, in this research with the expressing-narrative and holistic orientation uses the historical-interpretation method. The research process is that after collecting and organizing the evidence related

to the housing of Hamadan, we evaluate the information and have holistic analysis to form the concludes. Since this research is quality and nature, then used fewer case studies but were studied more targeted that based on the theoretical framework of research and had more richness of information in the context of the research objectives. Based on the study of basic, range of the case study was specified and they were targeted to select deeper cases. Select a town of Hamadan, as a city for studying based on this reason that first, with field survey can be said that Hamadan had the greatest amount of the historical texture destruction under the influence of the construction of the street. Second, Hamadan was one of the first cities that had drawn street on traditional texture. After the selection of Hamadan, the city's total texture changes in big (large) scale analyzed through the study and analysis of maps and aerial photographs before and after the street drawing. Also in small scale, which was the home typology, at the first phase 80 cases studies was selected in the fields of traditional and modern houses randomly. Then total type of homes were placed in a table consists of 9 cells. With using this 3*3 module that represent the mass and space of houses, houses were compared.

RESULTS AND DISCUSSION

Hamadan is the first capitals of Iran and throughout the ages, in its current location alternatively build and destructed and therefore, it has very wide historical urban texture. Due to go along with cold climate region the city's ancient body has compression places and Interconnectedness that are spatially for these areas. Hamadan in Iran is the only city that has been

implemented on a regular radial design and because of construction of three intersecting streets at a central point it has had relatively wide paths on organic texture, Karl Frisch, currier engineer and the manager of Hamadan leather factory, proposed the map of construction of Hamadan streets (Habibi, 1995). He designed and that presented it to the government. The plan adopted in 1931. This design has created a central square with 150 m diameter in the center of the city with six radial streets from center, that they receive wide streets at a distance of 750 m at termination. According Fig. 1 the central square, plaza and six radial street destroyed neighborhoods of the city. In 1966 with implementation transverse reform in the region at the same time, the Hamadan had the first urban master plan. The first phase of the plan prepared in the year 1968 by Marjan consulting company, the second phase were in 1971 and detailed plan adopted in 2006 (Izadi, 2005).

The consultant suggested the second ring of city organization that formed the city such as Karl Frisch as the main square, with the centralization of the ring but in the range between the new paths, segments as proposed within the form-oriented introverted neighborhood. Ten years later, in 1987, the foresaid plan entitled "plan of development and construction of Hamadan city" reviewed by Mojda consulting company, that most major physical changes proposed was to create relatively wide passages in old texture of main paths and then creating the third ring and devoted a part of the city center for pedestrian moving. Constructing the street would require due to the entering cars need to the city and the car is like a power that has different impact on the form and the form that

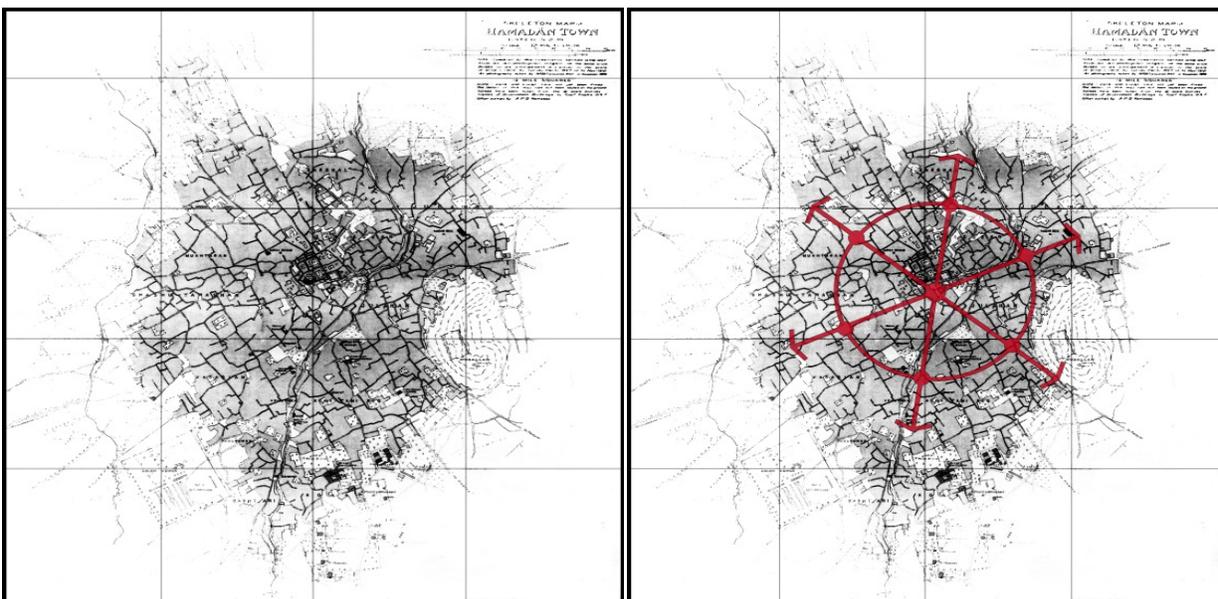


Fig. 1: Left: map of Hamadan before street construction (1905), right: street map plan (1931)



Fig. 2: Aerial photos of city before street construction

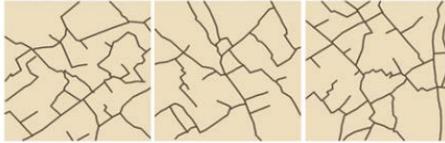


Fig. 3: Abstract structure of Fig. 2



Fig. 4: Example of the map of city after street construction



Fig. 5: Abstract structure of Fig. 4

was resulted of this power has different motifs with initial field, for example, rows of shops on either side of the main street in Hamadan was created. Other consequence of the system of consulting street was segmenting land for the piece to construct building. Comparing Fig. 2 to 5, the presence of street the urban texture was seen organic that in the city we did not see any arranging, networking and smooth lines.

With the construction of the street, people have transfer their life little by little out of the introverted texture and have built house buildings the on the side of the streets that constructed newly. Consequently, with this streets new development will be constructed in the city. Despite efforts to control it by next plan was prepared in 1968 and 1989, it has caused many problems in the current texture and internal relations encountered a variety of problems, such as its porosity in the path passes, Alexander believes pedestrians has an important role in this problems. It means a shaded alley and the solitude and quiet squares.

Before the year 1921, the entrance of a traditional house was in a narrow alley and generally dead end, Several homes were generally in a cul-de-sac, with a private gate and it turn into a semi-private space that called "Darband" and they determined more private realm for their own. In order to pass out of the house (as completely private realm) you must first enter the

Darband (private sphere realm). Each Darband would arrive in a low traffic path named Kooy (semi-private realm) and the Kooy to the intersection of the cross arrived Gozar (semi-public domain realm). After the Gozar, passages gradually extended and other businesses, governmental and ritual were connected market orders and workshops, mosques and other commercial activities, governmental and ritual (Haeri, 2010). Now streets causing a change in hierarchy of the town through changes in traditionally transmitted passages.

House in new city: The segmenting system of Hamadan city follows the model that Leon Karier's viewpoint says it is the same row patterns and simple and geometric shapes consisting of streets and squares. This model formed artificial texture and in most cases with direct conflicts with the geography and topography imposed on the rural areas and the city. Since the land boundary limit classifying of row houses, the type, size, mass and architecture of the house largely determine with split a block to one or more plot of land. Package "urban master plan" that after 1961 decade took responsibility of the spatial-activity layout in cities of Iran verified and stabilized the park of the car within the yard of houses. Prior to this, yard was an unbroken and inseparable part in the traditional architecture. But the package in the form of urban activity leded segmentation system of land for constructing house and building to the main south-north and eastern-west streets. And street system and segmentation of the land, beside the cars traffic at home has been the main constituent for outer new homes space organization in cities and towns of Iran. Thus, the system of traditional house with paths and inside-yard has turn to the spatial separation network within the land parts of the street drawing. Reviews of old part of the city of Hamadan on air photos from 1956 that still has not constructed the streets, indicate that it had an organic texture, in a way that has not been generally direct passages. Residential texture that also formed among these passages thereby set this particular form. But the modern-day city of indicates that residential texture affected by the streets and alleys encompassing its blocks. The rules of construction in 60% of the ground for buildings and keep 40% of it as open space have had a huge and decisive effect in the shape of the urban texture and have impressed on the architecture of houses more than it. One the other hand, central yard was turned to beside yard and the buildings part on one side designed with a continuous form and massive.

Compare the texture of the city in past and present time shows how to divide the land after the drawing streets such as that a piece of urban blocks were put together and these blocks came two new forms. In the first case, a city block was between two paths or two streets and the light and ventilation of buildings were supplied from two sides. Because the two other sides of the building located adjacent blocks only for a piece of

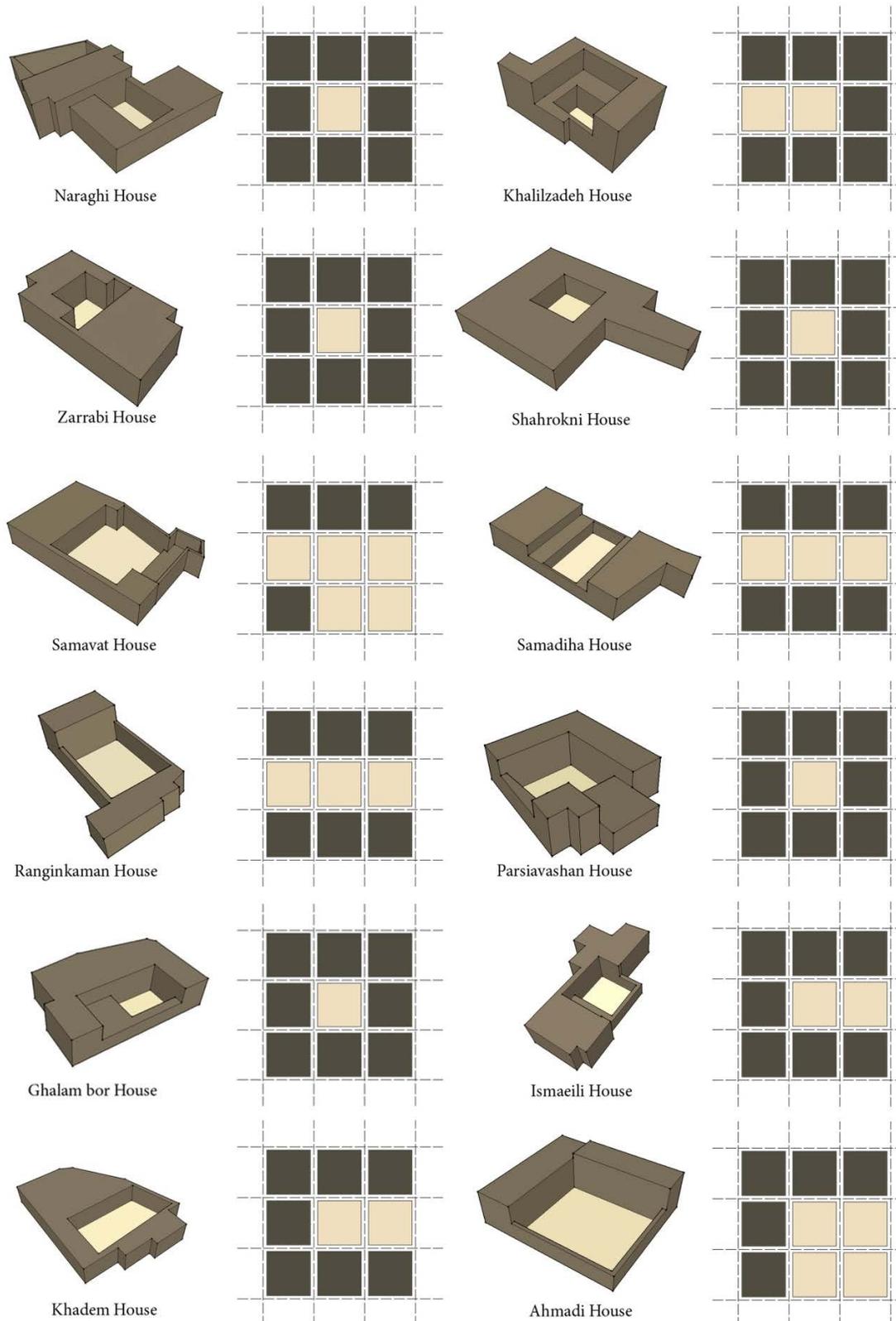


Fig. 6: Examples of traditional houses typology analysis by 9 square model

land located in the corner of a block, we could supply light by three sides. In the second mode, urban land

blocks were joined together in form of north-south way and by two passages, one of the blocks for north unit

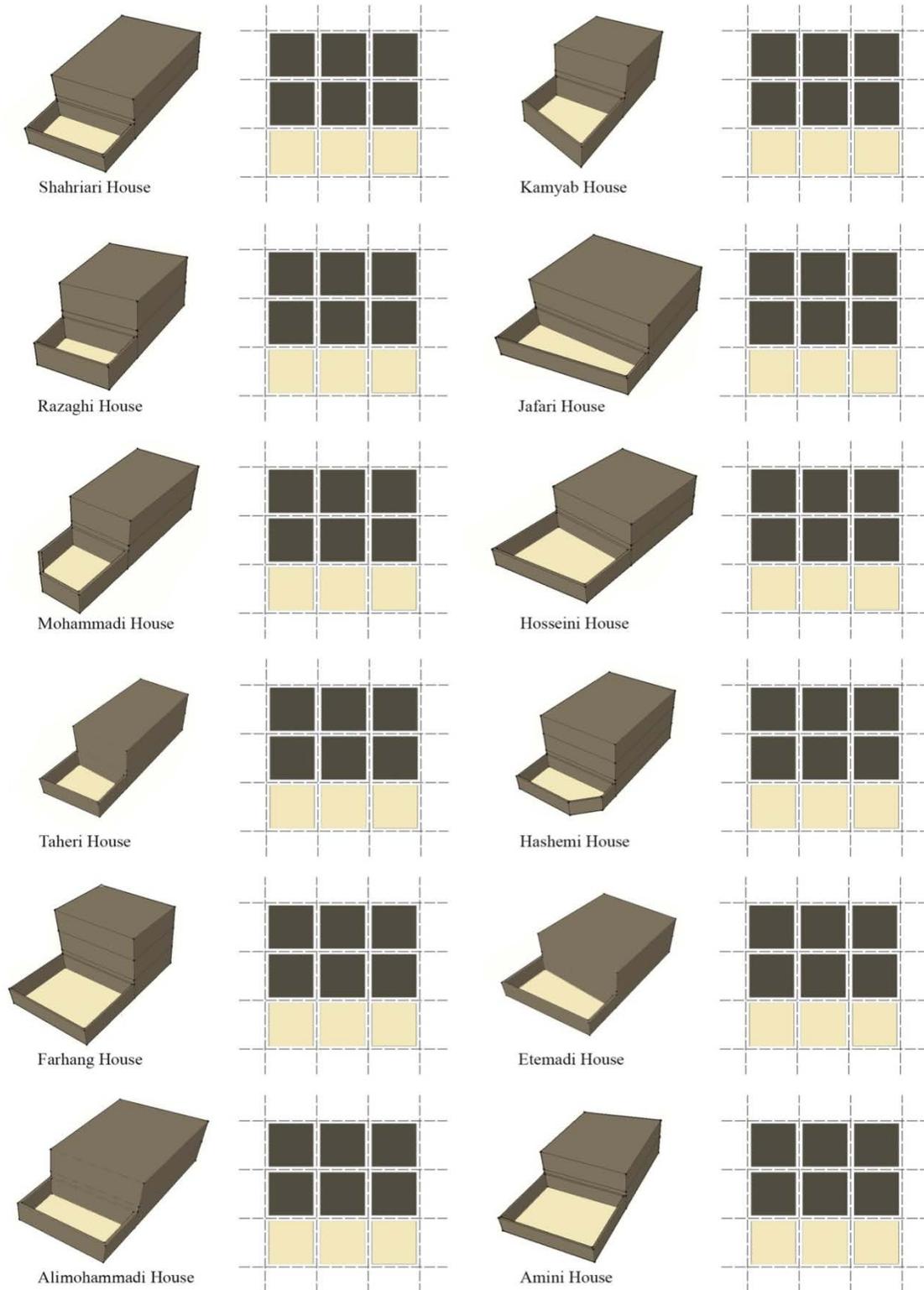


Fig. 7: Examples of modern houses typology analysis by 9 square model

and the other for access to the south unit. After reviewing the urban texture, the analysis of the house also was done using a pattern which is composed of the 9 square cells.

So that, as Fig. 6 and 7 the template had squares that represent the four geographical directions (North, South, East and West) and four for geographic subdivision (North West, North East, South West and

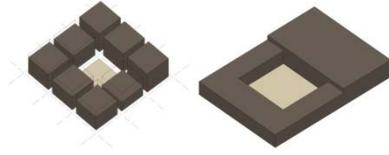


Fig. 8: Analyzed model of traditional houses

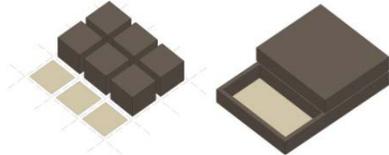


Fig. 9: Analyzed model of modern houses

South East). A square is also a representative of the center. For the analysis of the samples, types of houses were summarized in patterns. So that, if in the northern part of the house was built building then, on the pattern the square for North representative was dingy. And if, for example, the central part of the house was empty (the yard), the square representative of central part became in bright colors. Similarly (In the same manner), other sectors of house also were fit in this pattern. Figure 8 and 9 represents an example of this review process. With a selection of 40 examples of traditional houses and also 40 examples of modern housing and obtain corresponding pattern related to typology of these house, the following results was obtained: The number inside the square indicates the number of instances that it had this state. For example, in the pattern of the traditional houses in the square indicates the direction of the west number 34 on the dark color and number 6 on the bright color, this indicates that the sample in the west in the direction of 34 homes have mass and 8 sample space. Compare these two patterns indicates that traditional houses had a blank space in their center that called yard and around it had filled mass but modern house mass deployment on one side and an open space called the courtyard was on the other side.

CONCLUSION

With examining the city of Hamadan as its traditional urban texture under the influence of the street construction has been drawing paper in two parts, the first part of the overall analysis performed on the entire scale and conclude that the land system and packaging piece Street, parallel to the urban context and the main topics in the car outside, the space agency's new House constituent in Hamadan and makes the block and has a row of houses. In the second part of the traditional houses compared with typology and the transformation of modern House architecture. The results represent the traditional houses have a blank space as courtyard in the center and around it has filled mass but modern house mass deployment on one side and an open space called the courtyard on the other side.

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