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THE EVOLUTION OF URBAN PUBLIC SPACE UNDER SOCIAL INFLUENCE: A CASE STUDY OF SAVANNAH HISTORIC DISTRICT

Abstract: This article discusses the evolution of urban form and public space influenced by the development of society based on the intensive research on the wards in Savannah Historic District. Savannah Historic District consists of 22 wards, almost preserving the original urban planning of James Oglethorpe, the founder of Savannah city. In the process of urban development, new architectures and functions appeared, such as Jepson Center Arts Museum and some big parking buildings. Gradual changes of the surrounding buildings and constantly changing of people's demand influenced the street scale and public space. Street is an important form of urban public space, whose scales and structure are closely linked with cars and pedestrian. In Savannah Historic District, each standard unit is approximately 205m*205m, with a pocket square in the center. Each ward consists of four Tything Blocks and four Turst Lots. Eight street types and various public space forms are shown in and between these wards. By analyzing the changing texture of blocks and streets of this district, this article concerns the adaptability of the original planning layout. The results of the analysis can be used for the renewal and development of the public space system in other "small-unit" historical blocks.

Keywords: urban design, renewal, Savannah, ward, public space.

Savannah overview

Savannah is the oldest city in the southeastern Georgia State. It was founded in 1733 and has become a major port in the United States since the early 19th Century. Savannah has attracted visitors from all over the world for its unique urban architecture (especially a large number of preserved colonial buildings) and historical blocks. This paper focuses on Savannah Historic District, one of the largest national historic landmarks in the United States. It retained the original urban planning elements and functionality designed by its founder James Oglethorpe maximumly. Today, Savannah has become a vibrant downtown and a regional hub of business, government, higher education, culture, and entertainment, which probably proves that Oglethorpe plan has remarkably adaptability and can be well suited to the demands of modern urban society.

Oglethorpe Plan

Planning process. In 1735, Oglethorpe's planning for Savannah was six wards along the river. Since then, despite the continuous expansion of Savannah, the planning of the historic district has always followed this structure and gradually formed a set of order: the wards as units were arranged to become a city. By 1851, the number of wards increased from 6 to 24. After that, the city adopted a conventional urban grid as a template for new growth. The urban structure in the old district is clear and the wards are repeated (Fig.1) The development of the city has basically followed the historical structure. When it comes to the new urban area, the order changes, which means wards are no longer repeated, but the structure of the city is still clear. It is closely linked with the old district from the road organization to the block scale.

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Figure 1. Layout of Savannah City

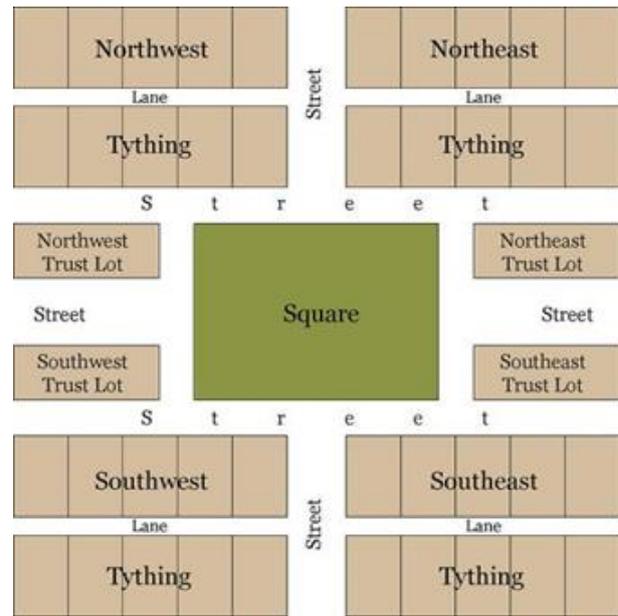


Figure 2. Multiple land types in a ward

Analysis of the ward. Each ward (group unit) in Savannah Historic District contains multiple land types. The Savannah organization model has a high degree of subdivision. Specific plots and streets have specific uses. At the same time, the uniformity of the ward design contributes to the efficient provision of public services and infrastructure.

The scale of the ward in Savannah reflects the definition of a suitable urban design by Oglethorpe. Each ward consists of blocks, streets and public space, with a scale of 205m*205m roughly. There are four Tything Blocks and four Trust Lots in each ward (Fig.2). The size of one Tything Block is approximately 91m*61.5m, and each row of buildings can be further subdivided into about 5 units used for residential. The size of one Trust Lot is approximately 54.5m*18.5m, and the function orientation is school, bank, church, hospital and so on. The streets vary in width and type. The size of one public space (square) is 74m*60m (Different square have different sizes, here is the average value) whose ratio is close to 1:1 and has a suitable scale.

The short side of Trust Lot faces the central square, and there is no entrance in the long side direction generally. Similarly, each unit of Tything Block also faces the street with its short side. This layout of Oglethorpe creates more small units inside the Tything Block, with the advantage of enhancing the identifiability of block by creating multiple units facing the street. They are combined together by attractive facade design or other ways to create little islands of neighborliness and intimacy that are seldom found in a big city. This pattern of linked units allows more storefronts on the main street, effectively encouraging local businesses investment here.

Each Tything Block consists of two rows of buildings. The alley in the middle is the logistics freight lane required by the bottom commercial shops in the Tything Block. At the same time, the both ends of alley do not face the center square, which is more concealed, and effectively realizes the separation of pedestrian, vehicular route and logistics route. With the development of the city, the function of Tything Blocks and Trust Lots has been gradually changed. Today, some banks enter the Tything Block and some large commercial volumes occupy the original Trust Lot position, which reflects although the building volume of Oglethorpe's planning is relatively fixed, it can support multiple functions. Under the control of the same FAR, Savannah Historic District provides a variety of possible layouts (Fig.3).

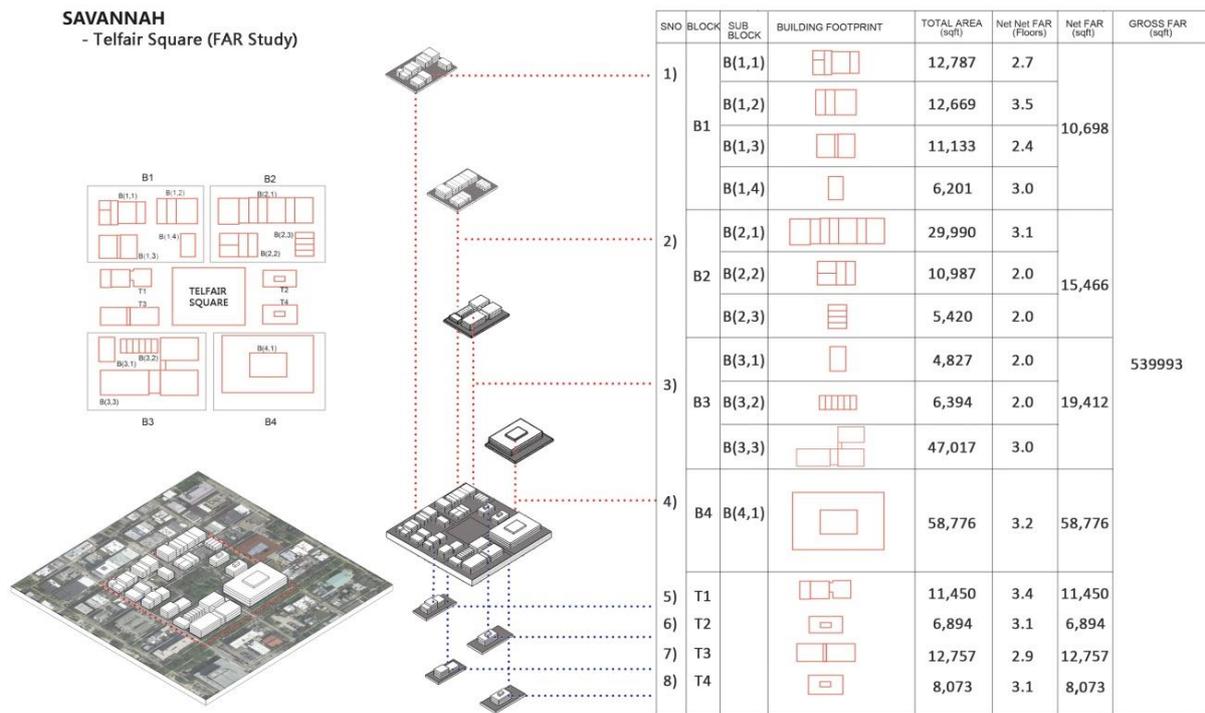


Figure 3. The FAR of the Heathcote Ward

Analysis of the street. In each Savannah ward, there are eight street types (Fig.4). Different types of the streets, from the main road to the alley, form a system, which are connected with the whole city and divide the blocks and public space clearly. The wide sidewalks and street landscape create a rich visual experience, and the small units in the ward counter the linear effect.

The main advantage of Oglethorpe’s planning about streets lies in its ability to create an ideal environment for both pedestrian and motorized traffic. Streets within the ward form a connected system, which disperses traffic by providing various pedestrian and vehicular routes to any destination and allows continuous vehicular movement. In addition, the vehicular speed in each ward is controlled by a combination of short travel segments and right-angle turns, which reduces the speed to less than 20 miles per hour and creates an enlarged civic space while allowing the continuous traffic flow. This is similar to what provided by roundabouts. The difference is that roundabouts usually allow higher speed while requiring a slight angle of more than 90 degrees to keep pedestrian safe. It’s an uncomfortable turn for the driver’s neck. As a consequence, the roundabouts and traffic circles are often lack of pedestrian activities, while the squares of Savannah can always be active.

Savannah historic district is a dimorphic system of spatial orientation, in which the visual connectivity is maintained through the alignment of the squares. The identifiability of wards is provided by the central square and streets: the square provides a landmark, and the linear pattern of streets provides a grid system, a geographic orientation. Therefore, in a complex urban environment, these two route-finding systems enable the orientation by people. In Savannah, each ward is connected to other wards on the east and west at 5 points (including alleys) (Fig.5). The wards are connected by a wide avenue on the north-south axis. Therefore, there are 12 connecting points between each group and its four surrounding groups. Such street organization creates a suitable environment for pedestrians. In the interior of each ward, the streets are relatively narrow and the center square is shaded by rows of trees, which causes drivers to instinctively slow down. At the same time, narrow streets with trees aside strengthen the visual experience, and form an excellent environment case in which pedestrians share the same space with vehicles safely and comfortably.

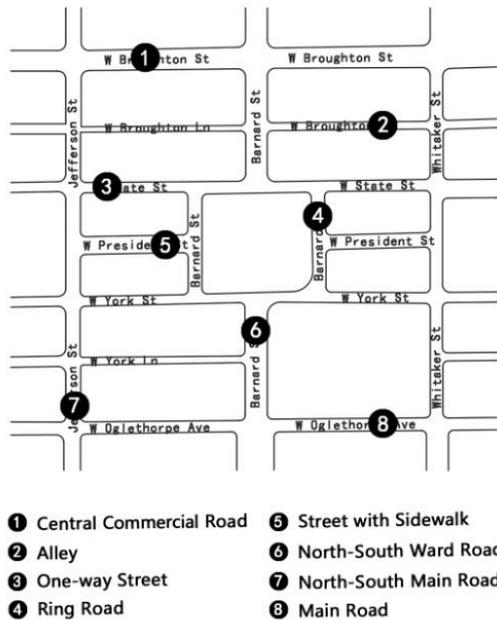


Figure 4. Eight street types in the Heathcote Ward

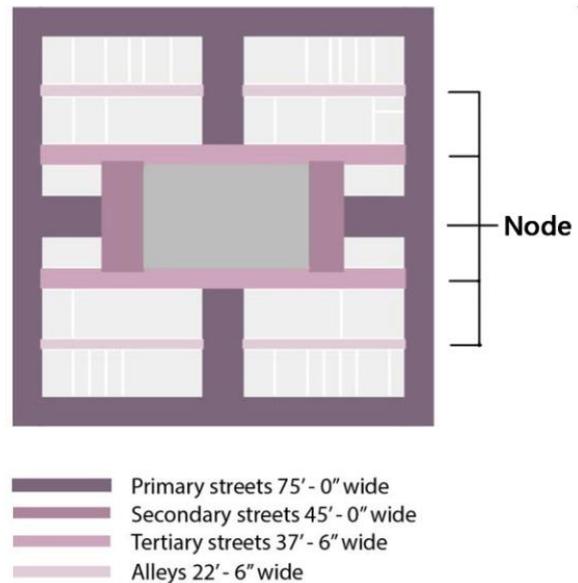


Figure 5. Connections between wards

Analysis of the square. New Urbanism emphasizes the importance of a discernible center in communities and towns. In Savannah, the most discernible center in the wards is the square. Therefore, it becomes the core of a pedestrian-oriented community. The layout of the squares in the Oglethorpe Plan is multi-centric, meeting the layout of an ideal town centre (Ideal centers of towns should be no more than a half mile from any residential area. Smaller centers within neighborhoods should be no more than a quarter-mile from any residential area): the one-arc central square and eight approaching streets create a sense of place and produce a rich urban texture within a larger spatial framework. The positive effect is to decentralize commercial and civic activities without eliminating strong commercial cores or main streets.

The squares in Savannah are multifarious and vary in size, which are often directly related to the residential uses. They are on the main axes of the overall city network, with the widest streets of the city arriving at all four sides of each square. The strong continuity of the wide axial streets links the squares which are the intervals between different wards. In Oglethorpe’s planning, the wide but circuitous streets are displaced by the narrower but continuous ones for slow vehicular circulation.

The surrounding architectural elements are important parts of a square. In Savannah neighborhood, certain prominent sites in the center are used for civic buildings. These buildings provide place for community meetings, education, religious or cultural activities. They create a sense of place that represents the collective spirit of community residents, which makes the street segments become a part of the community. Oglethorpe’s planning terminates all wide interior street segments at the square and places the prominent buildings in a linear array between units in order to enhance familiarity and identity.

Evolution of Savannah urban planning

In the initial planning of Savannah, the two-row wards along the river only formed an east-west street, Broughton Street. In this case, only Broughton Street can provide alleys on both sides of the street that pass through the back of Tything Blocks to provide logistics routes for street-level businesses. The layout can ensure the continuity of business, giving commercial layout the potential for street extension, while reducing the commercial pressure on the square and the

smaller streets, so that the residential and civic service buildings in the interior of the wards are free from commercial interference. Therefore, the Broughton Street became the city center at that time.

The 18 following-built wards basically kept the same configuration with the initial six ones. However, since the middle of nineteenth century, the scale of the Trust Lots has changed. As described in chapter 2.2, population growth and urban expansion divided the standard 60-foot area in the planning into smaller areas. The residential plot was 20-foot, while the commercial land or the collective housing was about 30-foot, which was a popular scale of commercial, residential and main street at that time.

With the development of motorized transportation in the 20th century, many cities and towns in the United States expanded extensively, leading to many cities that are not suitable for walking. Similarly, in 1950s, in order to enhance the competitiveness of retail and entertainment in the suburbs, Savannah built a large parking garage in the Ellis square of Decker Ward where the historic city market complex was located (Fig.6). This was the first Savannah urban renewal plan. In the 21st century, with the study of Oglethorpe plan and the demand for public space, the restoration plan for Ellis square was completed in 2010. The parking garage was demolished and a new parking facility was built under the square, which allowed Ellis Square to be the original form in Oglethorpe plan (Fig.7).



Figure 6. Parking garage in the Ellis square



Figure 7. New Ellis Square after restoration

In the 20th century, many major-street plans in America failed. However, Savannah has always maintained an active main street with a good environmental condition. Its generally changing and mixed uses are impressive. The east-west main street parallel with Broughton Street in the ward is undoubtedly one of the factors for urban vitality.

Conclusion

Oglethorpe plan is hailed as a high-quality model of modern urban design. From the perspective of morphology, the wards in relation to the entire city structure create alternating centripetal and centrifugal forces (inward to the center square and outward to the main streets at the boundary of the ward). Translating this typology into the real planning, one of the two forces may be easily dominated by the other, but Savannah plan enables the development of its inner streets and neighborhoods grow closer to each other. Therefore, the centripetal and centrifugal forces are in a tense equilibrium, which prevents Savannah from becoming a collection of separated wards or an independent system with continuous units.

From the perspective of the street organization, Oglethorpe's planning creates a linear corridor-style main street, which may be more suitable for the slow expansion of the city, because the main street can be organically extended under more intensive use. In the case of mixed use

advocated by New Urbanism, the multi-center commercial pattern in Oglethorpe plan is highly efficient.

From the perspective of the ward design, Oglethorpe's planning focuses on the center of each ward, while ensuring the external connectivity of the ward network, which enables the direct interaction between residential, commercial areas and civic buildings. Central square in each ward is the focus for those who live and work there or pass by. Such kind of design contributes to a strong sense of neighborhood identity and creates a uniformed dot-grid pattern, which allows the orientation by all people through landmarks and the geographic orientation. Each ward creates a suitable micro-environment, while each central square can see the adjacent groups, forming a coherent and intimate sense of community.

From the perspective of urban planning, compared with centralized grid plan, the non-centralized one in Savannah makes each node open. There is no definitive focus in the grid, but the types of streets and blocks vary a lot. Theoretically, such unusual small groups will constrain the large-scale development of the city, but the units in Savannah support the urban network successfully. The characteristics of the units form the urban identity. The increasing street edges provide opportunities for the communication in public and private space. For Savannah, the unit form is both a constraint and a support for the urban texture. This kind of design allows the community to build identity and characteristics without relying on the large-scale urban design elements such as central business district. It allows city to grow organically, while forming main street on the "linear artery" between the wards, which is a positive case with good adaptability.

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