# Study on the Residential Renewal to respond to Urban Spatial Tissue

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## Chapter 1. Introduction

Urban spatial tissue existing for a long time is the urban form having its values as the cultural asset. This contains not only the value of physical form but also common memory accumulated for ages, such as varied lives, local economic system, and the images which the residents have shared as time goes by. Destruction of urban spatial tissue means the loss of local history and place, the erosion of socioeconomic mechanism, and the loss of memory about the local residents' hometown.

Despite the loss of such values, most residential renewal projects underway have been carried out as land clearance redevelopment and the newly inserted layout of apartment buildings has got rid of diversity in housing environment of existing urban area, such as organic connection system and various opportunities. Most redevelopments have focused on large sized district, closed and unsuitable for the sites in terms of both function and form.

On this background, the main objective of this study is set for the purpose of introducing the basic direction of renewal planning as the implementing way of residential renewal for residential area consisting of small-and medium sized units with low-medium rise and high density. The detailed objective proposes a practical alternative securing street network system and urban morphologic responding method to improve the connectivity to the surrounding area; publicness of development of small and medium sized units and infrastructure; various housing types of medium

rise and high density and neighborhood street.

Case study for the comparative analysis of urban spatial tissues between existing urban area and renewal area is carried out on renewal promoted district or redevelopment district where large sized district development is underway. The area is composed of concentrated multiplex housings and multi-family housings with well-preserved existing plot system and designated as the second residential zone.

Specific action plan should seek considering analysis methodology of urban spatial tissue such as the system of street structure, plot structure, and configuration of the building layouts, and the relationships between the system and buildings.

The difference from the previous studies is the attempts to identify the corresponding factors to urban spatial tissue in detail. Also empirical comparative analysis and diagnosis of current situation is made to find the cause and this leads the proposal of the practical renewal model and principles corresponding to the urban spatial tissue of renewal promoted district with the consideration of institutional improvement for the realization.

## Chapter 2: Concept of residential renewal corresponding to the urban spatial tissue

In order to provide the basis of residential renewal way corresponding to urban spatial tissue Problems are defined focused on such factors as relationship with the surrounding area and disturbed harmony, failed relationship with the streets, privatization of the residential district, uniform land use plan and residential types, and low resettlement rate of the original residents in terms of socio-economic viewpoint.

In order to identify the correspondence to urban spatial tissue, it is required to define the theory and concept of urban spatial tissue. Conceptual definition of urban spatial tissue is specified from connectivity, continuity, diversity to connectivity to the surrounding area, continuity in urban history, and diversity of living conditions. Analysis and response methodology for the comparative analysis of the real site is defined by considering analysis methodology for understanding urban spatial tissue,

prevailing in Europe and urban morphology in terms of urban context, and approach methodology considering urban spatial tissue.

According to the documentary survey, urban spatial tissue is defined as the composition system of street, plot, household and building at the level of urban spatial composition unit with the structural and functional characteristics. Analysis factors are derived in terms of relationship between components. This helps the meaning and value corresponding to urban spatial tissue be more specifically identified as securing urban organic connectivity, harmony with the urban landscape, sustainability of urban structure, conservation of the value of the place, diversity of housing types, ensuring the utilization of neighborhood street defined as meaning a more detailed response from the meaning of these corresponds to a plan to refine the case study was conducted on the conditions. Case study about the planning condition is carried out in order to specify the application methods.

Seventeen application methods are identified; building up connection system with major public facilities, plotting for small-and medium-sized household units, maintaining the height of surrounding street space and the line of building frontage, creating low and medium rise residential area with high density, re-allocation of plots with the conserved main road network system, unit level co-development through the conserved plot structure, forming household through small sized lot merging, diversity in the housing types, hierarchy in road system, diversity in the roadside building type, and mixed use of roadside neighborhood facilities. Main directions for the renewal model is proposed based on those application methods, and more detailed principle is specified in model suggestion for each application method.


## Chapter 3: Current Status of the domestic residential renewal projects and related laws

Survey about current situation of domestic residential renewal projects aiming the improvement of aging living condition of detached housing area and insufficient infrastructure reveals that housing renewal projects are spreading from the metropolitan area and metropolis to the local districts.

The implementation process is to be reviewed such as the law for the

residential renewal project and related urban and residential environment maintenance, and special law for urban renewal promotion. Difference between two laws is analyzed by comparison.

In particular, legal system is reviewed such as building codes controlling building distance, building length, and height in order to solve the problems caused by the mixed layout of city planning road in the residential area with small sized units; regulations containing provisions for residential construction standards regulating welfare facilities within the complex.

## Chapter 4. Problem diagnosis of residential renewal projects through the case study of existing urban spatial tissue

Three sample sites are selected for the comparison of existing residential area and disagnosis of current situation of renewal. Imun renewal promoted district; unmeditated and atypical road network. Sinjeong renewal promoted district; mixed road system of grid network planned by land readjustment and unmeditated network. Anyang Howon renewal promoted district; grid network system. Documentary survey about the general features of urban spatial tissue in domestic existing residential area is carried out in order to ensure objectivity in case study.

The problem found in the comparative analysis of the change before and after the renewal is the altered street network system. Existing neighborhood street is entirely cleared and city planning road installation is minimal in order to increase the profit of the high-rise oriented project and to minimize the spending on the infrastructure. This aims to increase efficiency in land use and business value. Existing plot system in the redevelopment promoted district is totally lost and the destruction of urban spatial tissue is serious and in the worst case, adjacent unit is severed in order to meet business requirements for designation. Regional characteristics such as terrain and streets are ignored in order to reduce the risk and construction costs through the homogeneous housing types.

The characteristics of the roadside neighborhood street are inconsistently designed according to the condition of promoted district and the type of buildings in close contact to the street is not to found. These problems lead some improvement

issues in the size of a district, boundary condition of the district, standards for planning of community facilities and infrastructure installation and cost sharing ratio, and height and setback controls.

## Chapter 5. Residential renewal model corresponding to the urban spatial tissue

In chapter 5, renewal models for sixteen urban spatial tissues are provided based on the concept definition, empirical case study, and diagnosis of current situation about the factors corresponding to the urban spatial tissue, such as theories about the urban tissue, and urban form analysis methodology.

In order to ensure publicness in the infrastructure installation, in principle, road, park and greens are purchased and invested by the public institution first, and each implementation body shares the cost when the project is carried out according to the cost sharing ratio. District boundary is set along the road surrounding the concentrated area of homogeneous housing types.

Road system is designed with the hierarchy from 6m to 16.5m and main public facilities are connected along the pedestrian network for the pedestrian-friendly environment.

Small and medium sized housing planning system ranging between 5000㎡ and 15,000㎡ is proposed and large sized district planning is to be improved. Neighborhood housing is suggested by planning both neighborhood facilities and collective housing in divided plots in the same project site.

Relaxation of setback regulation from road width is required in order to realize diverse street-contact medium-rise high density housing types in harmony with the surroundings. Also the regulation controlling distance between buildings can be relaxed if practical day lighting condition is satisfying the regulation.

## Chapter 6. Conclusion

In order to enhance the urban identity by conserving or keeping the cultural

properties of existing urban area, more research should be conducted on existing urban spatial tissue with proper respect. Also the residential renewal accompanied by existing urban tissue should be carried out very carefully. Most of all, public interest of a project should be recovered in order to secure the diversity and publicness of roads and public facilities. This requires the establishment of public support system and public-private partnership at city level.

Instead of infrastructure supply relying on district-based project promoter-oriented, guideline covering the whole district facilitates the realization of small scale residential renewal projects. Even small scale merging lots developments require planning and financial support at the level of urban environmental publicness. Relaxation of building height regulation is required in order to realize diverse street-contact medium-rise high density housing types. Also it is required to make legal public facilities planning securing publicness not reliant on the site boundary and informal urban forma planning.