

A Study on the Planning Criteria of Block-Unit Redevelopment to Improve Residential Environment - Focused on Redevelopment Project in Seoul -

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Abstract—In Korea, elements that decide the quality of residential environment are not only diverse, but show deviation as well. However, people do not consider these elements and instead, they try to settle the uniformed style of residential environment, which focuses on the construction development of apartment housing and business based plans. Recently, block-unit redevelopment is becoming the standout alternative plan of standardize redevelopment projects, but constructions become inefficient because of indefinite planning criteria.

In conclusion, the following research is about analyzing and categorizing the development method and legal ground of redevelopment project district and plan determinant and applicable standard; the purpose of this study is to become a basis in compatible analysis of planning standards that will happen in the future.

Keywords—Shape Restrictions, Improvement of Reagulation, Diversity of Residential Environment, Classification of Redevelopment Project, Planning Criteria of Redevelopment, Special Architectural District (SAD).

I. INTRODUCTION

IN Korea, elements that decide the quality of residential environment are not only diverse, but show deviation as well. However, people do not consider these elements and instead, they try to settle the uniformed style of residential environment, which focuses on the construction development of apartment housing and business based plans. Recently, block-unit redevelopment is becoming the standout alternative plan of standardize redevelopment projects, but constructions become inefficient because of indefinite planning criteria.

In December 2011, the Built Environment Renewal Development Act was amended to move away from whole demolish method and keep the existing current urban function by maintaining and managing its quality, but planning criteria that corresponds to amended act is not clear; standard setting and establishment is needed immediately [1], [2].

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II. IMPROVEMENT OVER THE STANDARD-SETTING PLAN PRESENTED

In this research, we are going to understand problems with their current project and view the planning process of special architectural district regulation as the replacement of this project, since they are looking for an alternative urban management plan for this standardized redevelopment project. We want to clarify planning criteria and its relationship and propose an improved scheme to create well-designed residential environment [3].

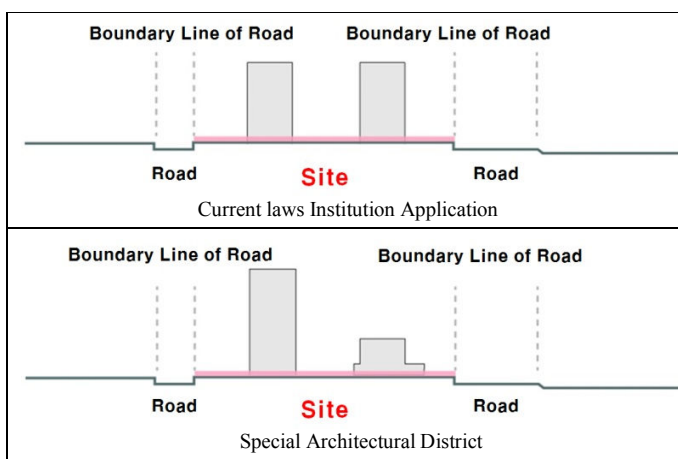


Fig. 1 Details of Building Coverage Ratio Mitigation

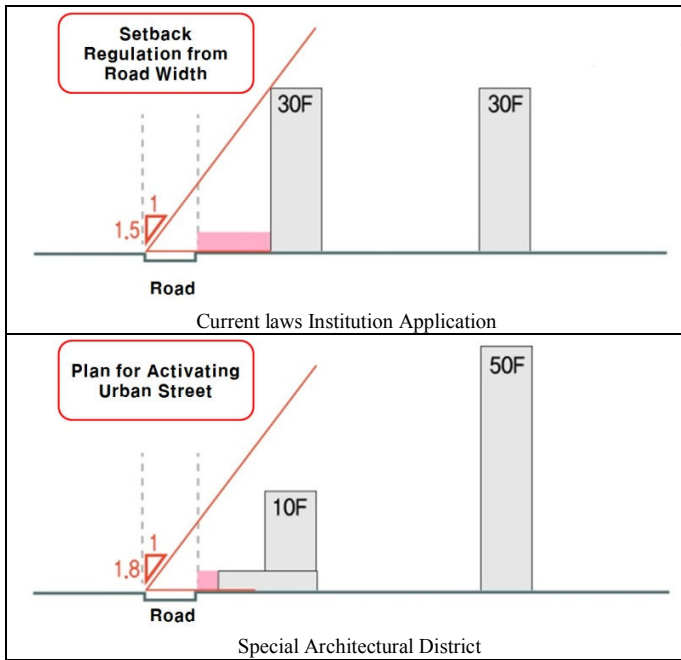


Fig. 2 Limit the Height of Buildings

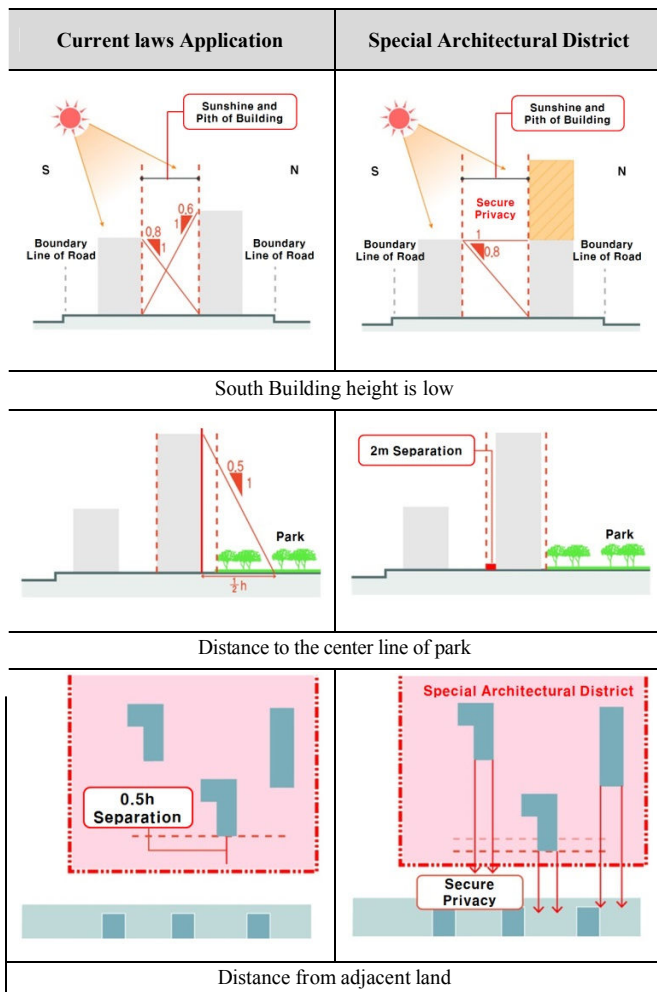


Fig. 3 Limit the Height of Buildings to Secure Daylight

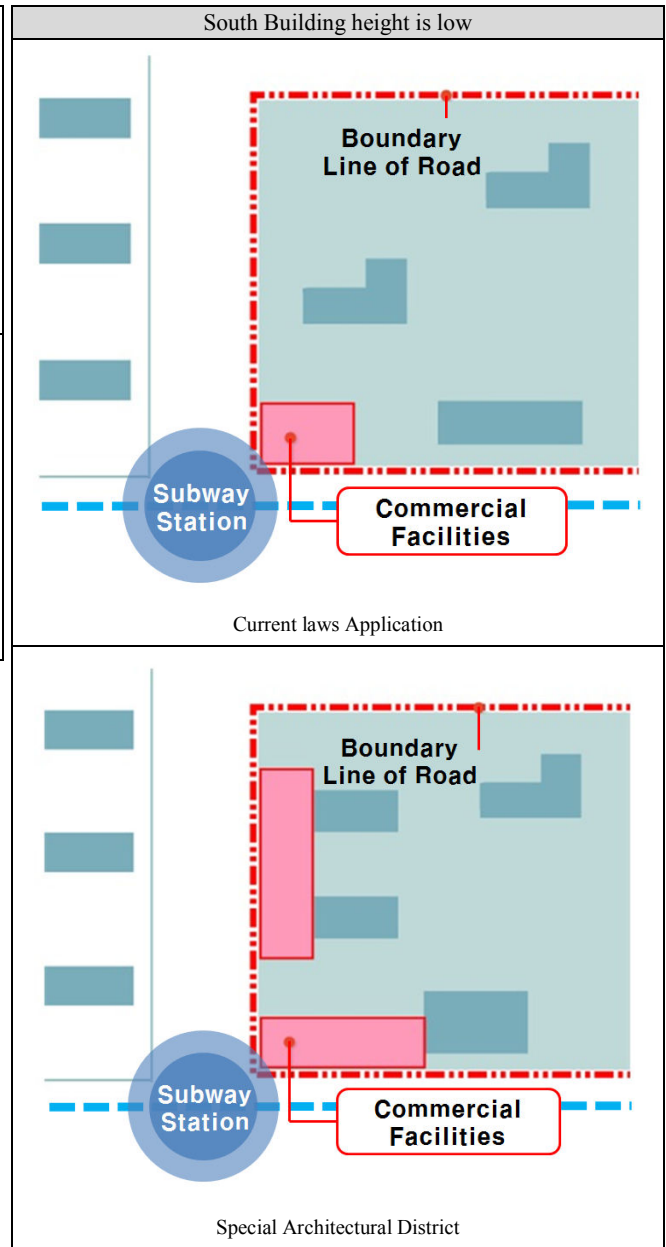


Fig. 4 Mitigation of Neighborhood Living Area

III. VERIFY THE EFFECTIVENESS OF PLANNING CRITERIA

We want to reveal correlation on building standard about how criteria and elements of legal urban management plan are limited by Building Act and Housing Act, thus seek the coordination of standard urban management plan [4], [5].

A. Simulation – JeonNong11 Housing Redevelopment Maintenance business

TABLE I

JEONNONG11 HOUSING REDEVELOPMENT MAINTENANCE BUSINESS ARCHITECTURAL OVERVIEW

	Current laws Application	Special Architectural District
Project site area	28,142.50m ²	28,142.50m ²
Construction area (Building coverage)	3,399.40m ² (17.09%)	6,728.51m ² (33.82%)
The floor area ratio	285.98%	285.69%
Top Stories (Average Stories)	29 F (22.7 F)	40 F (11.2 F)
Total floor area	56,889.81m ²	56,831.16m ²
Households	567(household)	567(household)

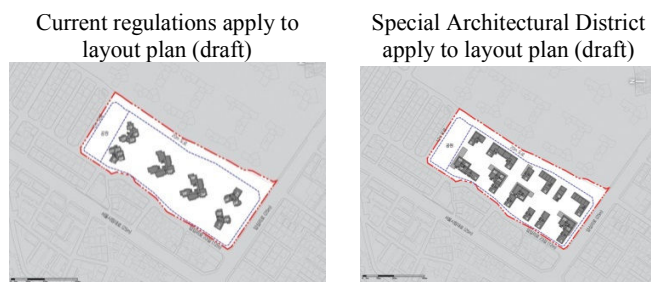


Fig. 5 JeonNong 11 Housing Redevelopment Maintenance business layout plan

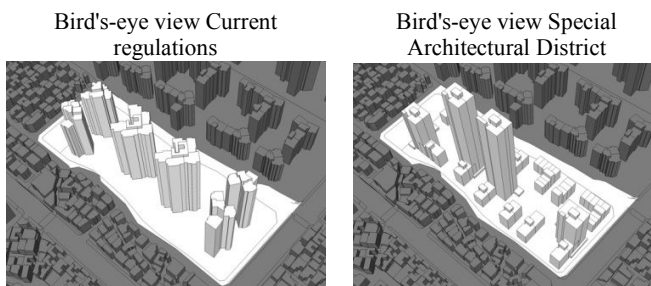


Fig. 6 JeonNong 11 Housing Redevelopment Maintenance business Bird's-eye view

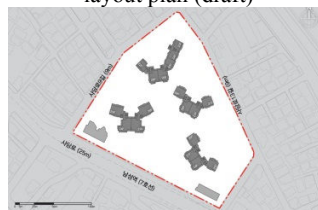
B. Simulation –YoungA Apt. Housing Redevelopment Maintenance business

TABLE II

JEONNONG 11 SIMULATION CONCLUSION

Performance criterion	Current regulations	Special Architectural District	Conclusion
Urban Street Rate	0.0%	50.5%	50.5% Up
Activating the Urban Street	12.4%	32.3%	19.9% Up
Southward ratio	76.7%	100.0%	23.3% Up
Dissatisfied sunshine	4.4%	0.9%	3.5% Down
Elevation Blockage	44.2%	39.8%	4.4% Down

Current regulations apply to layout plan (draft)

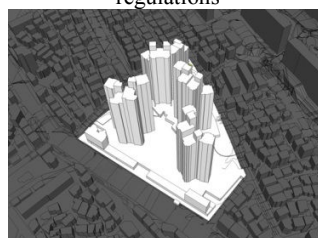


Special Architectural District apply to layout plan (draft)



Fig. 7 YoungA Apt. Housing Redevelopment Maintenance business layout plan

Bird's-eye view Current regulations



Bird's-eye view Special Architectural District

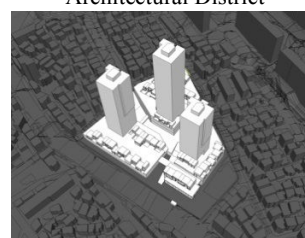


Fig. 8 YoungA Apt. Housing Redevelopment Maintenance business Bird's-eye view

TABLE III

JEONNONG 11 SIMULATION CONCLUSION

Performance criterion	Current regulations	Special Architectural District	Conclusion
Urban Street Rate	10.7%	39.2%	28.5%Up
Activating the Urban Street	20.4%	76.6%	56.2% Up
Southward ratio	78.5%	100.0%	21.5% Up
Dissatisfied sunshine	13.8%	1.8%	12.0% Down
Elevation Blockage	63.1%	47.1%	16.0% Down

IV. CONCLUSION

In conclusion, the following research is about analyzing and categorizing the development method and legal ground of redevelopment project district and plan determinant and applicable standard; the purpose of this study is to become a basis in compatible analysis of planning standards that will happen in the future.

One other significance is that we prove the relationship between planning elements and process of spatial hierarchy from site planning to building planning using simulation analysis of different types to prove and raise the reliability on this data [6].

REFERENCES

- [1] Hardt-Walther Hämer, 'Careful Urban Renewal in Kreuzberg', International Bauausstellung Berlin, 1987.
- [2] Lore Ditzén, 'IBA: International Architectural Exhibition in Berlin 1987, a+u Writer series', Jibmunsa, 1999.
- [3] Peter Wolf, 'The Future of the City', Whitney Press.
- [4] Roger Sherwood, 'Modern Housing Prototypes', Harvard University Press, 1978.
- [5] Gwon, Hyeok-Sam, 'A study on the model development of mid-rise high-density urban housing applicable to Korea', Chung-Ang University, 2000.

- [6] Kim, Chul-Young, Seo, Soo-Jeong, 'An Analysis of Challenges and Improvement Directions in Operating the Special Architectural District (SAD)', Architecture Urban Research Institute, 2011.