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Author: Heeji Lim, Associate Research Fellow, Seoul Development Institute

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Managing Mixed-use Housings within Urban Design District in Seoul

Heeji Lim

Associate Research Fellow, Center for Urban Design, Seoul Development Institute

Abstract

Recently, mixed-use residential buildings in Seoul tend to be extremely tall and form housing pods. Built in no relation to the urban center hierarchy of Seoul, the high-rise housing pods have caused many problems such as incongruity in landscape, disturbance of sunlight or view, and privatization of outdoor spaces. In particular, a number of high-rise mixed-use housings are being built within the urban design district, which was intended to manage the development conforming to the urban and local conditions.

This study examines why high-rise mixed-use housings have been developed excessively in the urban design districts and proposes ways to control the excessive development and increase publicity of the high-rise mixed-use housings.

Firstly, criteria of controlling the use and height of buildings at the city-level should be included in the Urban Design Guidance and large-scale sites should be managed separately by Special District. Furthermore, there should be Special District Guidelines in order to maintain the publicity in the various local contexts, such as city centers, areas near subway stations, artery roads, and traditional markets.

Lastly, there is a need for Design Review Criteria controlling the forms and arrangement of buildings.

Keywords: high-rise mixed-use housing, urban design, special urban design district, design review

1. Introduction

1.1 Background and Objectives

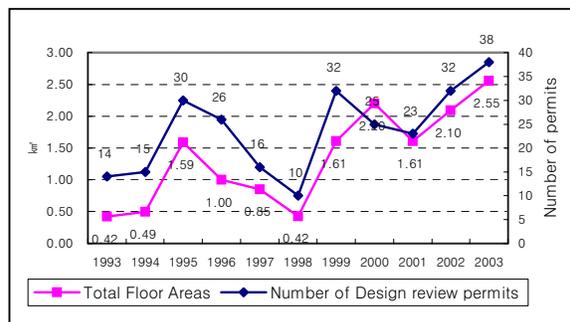
Investment in housing market of Seoul is still very active due to lack of housing supply in the city. Super tall mixed-use housings¹ are leading the recent housing market in Seoul. Mixed-use housing was first introduced in Korea in 1970s, but only became active in mid 1990s. As there was no more large-scale sites within Seoul to develop new-town in town, the mixed-use housings were the best way to generate profit through infill development within the city. Under this condition, the regulations on mixed-use housings were gradually eased. The limitation on the number of households in mixed-use housings, which was intended to differentiate mixed-use housings from apartment housings, was abolished in 1995. And mixed-use housings were permitted in semi-residential districts, not limited to commercial districts. In result, among the large-scale buildings subject to design review, the number of mixed-use housings that were given permits in 2003 has tripled compared to 10 years ago and the floor area taken up by these housings has grown by 5 times. These mixed-use housings are usually taller than 25 stories and some are taller than 60 stories leading the super tall buildings within Seoul

Contact Author: Heeji Lim, Associate Research Fellow,
Center for Urban Design, Seoul Development Institute
Address: 391 Seocho-dong Seocho-gu, Seoul, 137-071, Korea
Tel: +82-2-2149-1055 Fax: +82-2-2149-1060
e-mail: heeji@sdi.re.kr

(Table 1).

Except for a few specific areas including downtown, there is no height restriction in Seoul and super-tall mixed-use housings can be built in any places where high-rise buildings are allowed. Consequently, those built neighboring low-rise housings have caused incongruity in landscape and disturbance of sunlight and view. With the deregulation of the number of household limitation, these housings tend to become similar to apartment pods. However in reality the streets are losing their vitality as the lower part of the mixed-use housings are designed without taking the street conditions into account. In many cases green areas at the mixed-use housings are privatized by blocking pedestrians' entry. Thus, the intrinsic meaning of mixed-use housings as urban housing prototype has been faded.²

Table 1. Transition of Mixed-use Housings in Seoul (1993~2003)



On top of these negative effects of super tall mixed-use housings, more than half of these housings are built within the urban design districts (UDDs). This problem is even more serious since the urban design guidelines are the tools for controlling these types of development. It may seem that the urban design guidelines have promoted the high-rise mixed-use housings. In other words, the urban design guidelines may have promoted the large-scale developments through lot-assemblage and permitted mixed-use housings by up-zoning from residential districts to semi-residential districts. Furthermore, the public spaces are not facilitated appropriately even though it was one of the criteria for up-zoning.

With these backgrounds, the objective of this study is to understand the current development problem of high-rise mixed-use housings within the UDDs and propose an amendment in urban design policies.

1.2 Research target and method

This study looks at the current urban design districts within Seoul, focusing on the special urban design districts (SUDDs) within the urban design districts that manage large-scale raw lands or relocated sites in which super-tall mixed-use housings can be developed.

The urban design guidelines and development plans of the super-tall mixed-use housings within the current UDDs were compared and analyzed. Field surveys were done in the areas that were already developed. In the areas which were in the process of development, site plans and perspectives of the development plan were examined.

2. Analysis on the recent trend of high-rise mixed-use building in Seoul

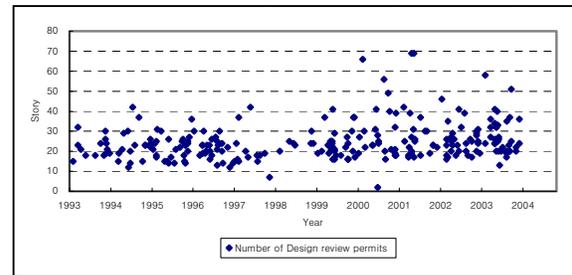
2.1 Mixed-use housings become extremely tall

When the concept of mixed-used development was first introduced to redevelopment of the city in order to solve the problem of urban doughnut effect in 1970s, there was a minimal construction of mixed-use housings. Since 1980, in order to promote development of mixed-use residential housings, building regulations were gradually eased. In 1981, control on the distribution price of new houses and mandatory community facilities were exempted to mixed-use housings of less than 100 households. In 1994, this was further eased to mixed-use housings of less than 200 households, and the sunlight control was eased so that these housings could be built in semi-residential areas as well as in commercial areas.³ In 1995, the limitation on the number of households was abolished (Jeong, 2003).

With this deregulation policy, the number of permitted mixed-use housings after 1994 has increased radically except during the IMF period. The mixed-use buildings built since 1994 tend to be high-rises, in the average about 25 stories and some even taller than 60 stories. In reality, all high-rises

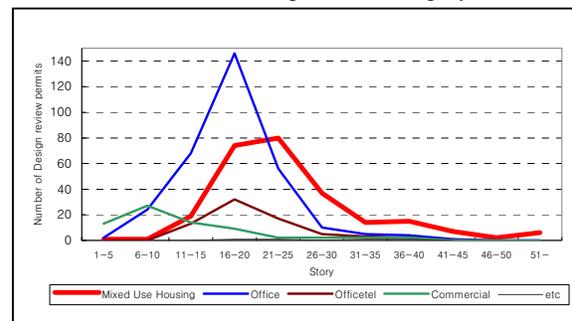
taller than 50 stories built after 1990s were all mixed-use housings and thus the usage of high-rises has changed to residential from official (Lim, 2004, Table 2, Table 3).

Table 2. Distribution of Height of Buildings under Design



Review in Seoul (1993~2003)

Table 3. Distribution of Height of Building by Uses under



Design Review in Seoul (1993~2003)

2.2 Mixed-use housings form large-scale housing pods

As the exemption of the control on the distribution price and mandatory community facilities were widely applied without household limits, mixed-use housings began to form housing pods with multiple buildings. Furthermore, in 1998 the mandatory commercial unit ratio was dropped to 10% from 30% and the form of mixed-use housings began to be similar to apartment housing pods with strong residential characteristics. With the current trend of apartment buildings becoming super tall towers, the distinction between apartments and mixed-use housings tend to be ambiguous. As it is seen in the below picture (fig.1), the I-Park, Samsung-dong, which was recently permitted as apartment, is very similar to mixed-use housings in its form and layout.

Even though officetels used to take a form of studio for both residential and commercial uses, recently with the booming housing market for mixed-use housings, an increasing number of “residential officetels” are built with 2-4 rooms in semi-manufacturing districts. In addition, supplying residential officetels for the purpose of the mandatory non-residential uses in developing mixed-use housings is another reason for the increase. These residential officetels are very similar to mixed-use housings in their building forms and layouts, except for not having balconies (Fig. 1).



Fig. 1. Apartment (left), Mixed-use housing (Middle), Officetel (Right)

2.3 Various types of mixed-use housings

Up until mid 1990s, mixed-use housings were built in single buildings with vertically mixed uses, such as in Jamsil Sigma Tower and Boramae Nasan Suites. From the late 1990s, the typical form of mixed-use housings, with twin towers on a commercial base began to appear.

With the abolition of the limitation on the number of households, mixed-use housings formed pods in large-scale lands without the commercial bases, like Dogok-dong Tower Palace, Seocho Superville, Samsung I-Park, Konkuk university district Star City, Mok-dong Hyperion, Seocho Acrovista, and Yongsan City Park. These pod-type mixed-use housings are composed of 4-5 freestanding towers in a large-scale lot, parking and commercial areas in the basement and partly on the ground, and plenty of green and pedestrian spaces. In addition, there are court-type mixed-use housings in downtown and other height-limited districts. In this type, buildings of about 15 stories stand by the streets, with a court in the center, and commercial facilities in the lower part (Lim, 2004, Fig.2).

3. Analysis on management of mixed-use housings within Urban Design Districts

3.1 Inadequate use controls in Urban Center

Super tall mixed-use housings are built near the intersections or main roads where high-rise buildings can be developed. Particularly, they are usually found in the major centers of Seoul like downtown, Yongsan, Youndeungpo, Jamsil, and Mok-dong, which are designated as the UDDs⁴. In fact, among 232 cases of mixed-use housings built since 1993, 134 cases (58%) were built within the UDDs. Almost all large-scale mixed-use housings like Yongsan City Park, Mok-dong Hyperion, and Konkuk university district Star City were built within the UDDs (Table 4, Fig.3).

According to the urban center hierarchy set by Seoul city comprehensive plan, almost all mixed-use housings are situated in the sub-downtown, regional centers, or district centers. However, 24% of the 232 cases were located in neighborhood centers or near main roads in which high rises of about 25 stories could effect the landscape or local conditions.

Developing the large-scale sites within the urban design districts mostly into mixed-use housing may thwart the characteristics of the city centers and take away the future development opportunity of the centers. In residential centers with nearby low-rise housings, super tall mixed-use housings can cause a number of problems like deteriorating the landscape and disturbing views or sunlight.

In reality, urban design guidelines are not sufficiently playing the role as a controller. In many parts, they are drawn up in a way that they allow almost all uses but reject only a limited use. In some districts, mixed-use housings are rather encouraged and some do not even have use controls.



Fig. 2. Types of Mixed-use housings in Seoul

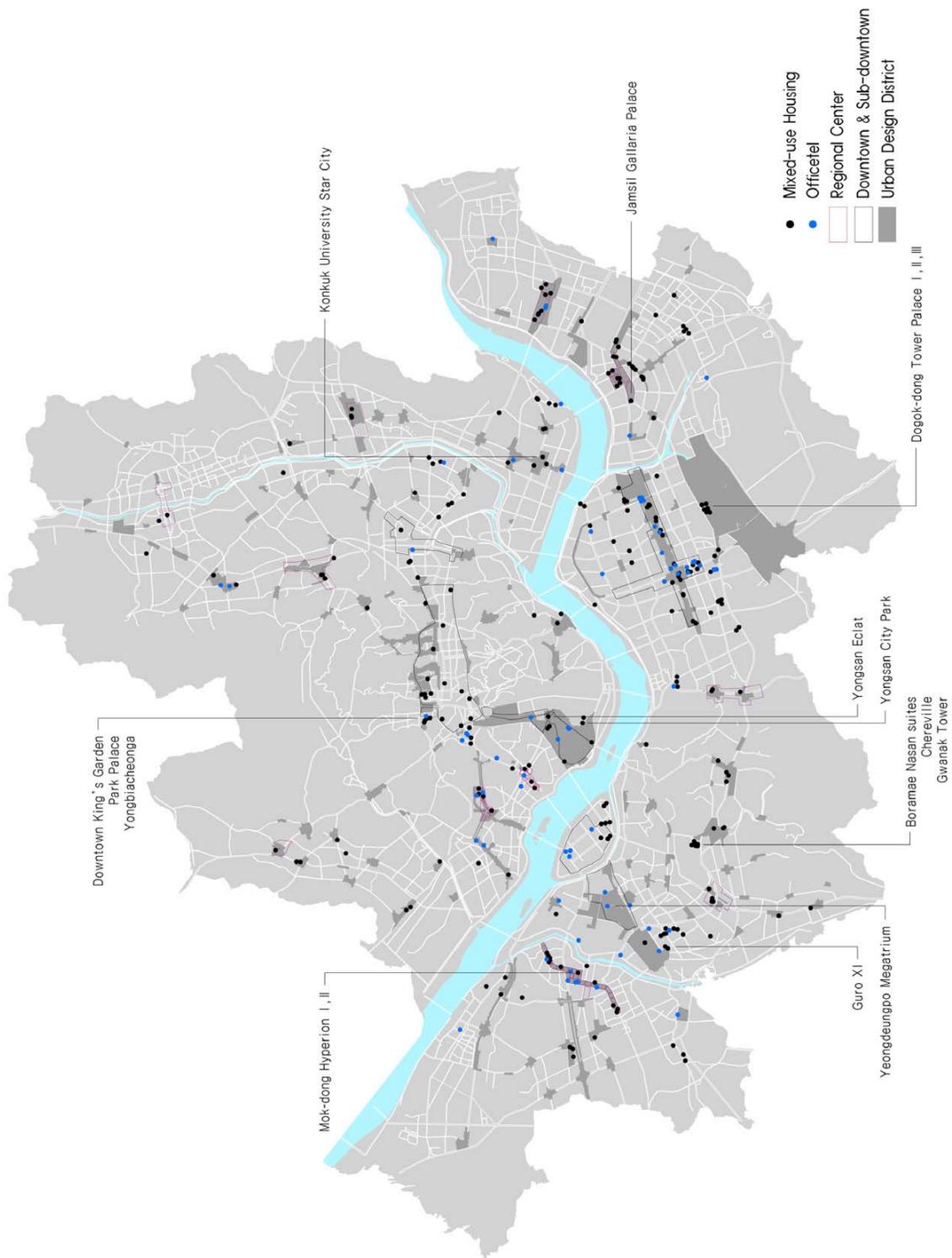


Fig. 3. Distribution of Mixed-use housing within UDDs of Seoul

Table 4. Number of permitted Mixed-use housings by the hierarchy of urban centers in Seoul

District	Downtown	Sub-Downtown	Regional Center	District Center	Neighborhood Center	Total
Total	18 (7.8)	42 (18)	61 (26.3)	54 (23.3)	57 (24.6)	232
UDD	5 (3.7)	31 (23.1)	55 (41.0)	34 (25.4)	9 (6.8)	134 (57.8)
SUDD	2 (7.4)	11 (40.8)	3 (11.1)	8 (29.6)	3 (11.1)	27 (11.6)

3.2 Permitting excessive development scale and building forms

Rezoning is closely related to high-rise mixed-use housings being built frequently within the urban design districts. Mixed-use housings are only permitted and given appropriate floor areas in the semi-residential or above districts. Because of these regulations, the places where mixed-use housings can be built are very limited even though the sites are adjoining the main roads. Accordingly the urban design districts designated within the semi-residential or above districts are subject to development of mixed-use housings. In particular, the sites within UDDs that were rezoned to be semi-residential and were previously developed in low density are in the best condition for the development (Fig.4).

Currently the urban design guideline includes various development criteria in order to provide publicity when up-zoning but has no restrictions on the development scale. Therefore any legally viable height and floor area ratio are permitted. If a developer dedicates a part of the site to be roads or public spaces, then he can build even higher with a

Konkuk University Star City

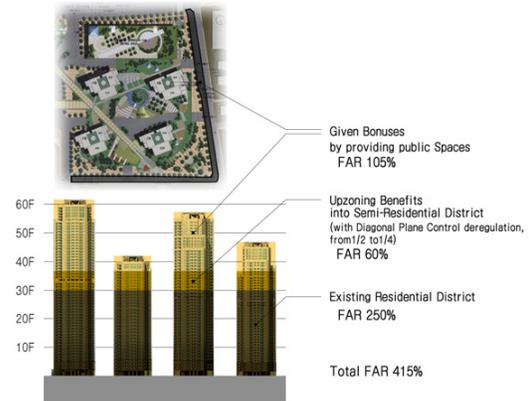


Fig.4. Development process of high-rise mixed-use housing in the UDDs

floor area ratio incentive. This lack of control over development scale may cause serious problems in the landscape and view in residential centers neighboring low-rise residential area (Kim and Lim, 2002).

Another problem is lack of bulk control while super tall high-rises are permitted. Some mixed-use housings are built in long slab-type in order to maximize the profit and some are in abnormal wing-type in order to insure the sunlight. When these wing-types and slab-types are built super tall, they will stretch like a wall and result in a threatening landscape and may cause lawsuits on disturbing the sunlight and view from the surrounding areas. Jamsil Galleria Palace, built recently with a width over 80m, resembles a fortress and is disturbing the sunlight access in the neighboring apartments and even an elementary school. In addition, Guro Xi, which has recently obtained a building permit, has two



Fig. 5. The scene and layouts of super-tall mixed-use housings within UDDs in Seoul

wings at each side of the tower. Besides the abnormal form of the building, the width of the building close to 100m would probably harm the surrounding landscape. If the high-rises form a pod, they will look like one big mass from a distance if each building is not spaced appropriately, even if they are built very slim (Fig. 5, Fig. 6).



Fig. 6. Sunlight Access Simulation of Jamsil Galleria Place

3.3 Privatization and low utilization of the open spaces

Various standards for publicity stated in urban design guidelines should be met in order to benefit from up-zoning. In large-scale sites, a certain percentage of the sites must be designated as roads or public spaces. However, the effect of public spaces provided is very minimal compared to the up-zoning benefit in the most of the high-rise mixed-use housings within the UDDs.

The roads designated for up-zoning are usually

used for access to the building or minimizing the traffic impact in the surroundings. The roads provided by Dondaemoon Googanmaeul and Konkuk University district Star City must be established through traffic impact assessment. In many incidences, the left-over pieces of land with not many pedestrians on the side roads are usually given up for public spaces. GooganMaeul and Hwayang district are both planning for access roads for their residents and public spaces in the less useful places, separated from the site.

In cases where the public spaces are provided at an adequate place, these spaces are often privatized as green areas for the residents. Even though it was decided that a promenade connecting Yongsan station to Yongsan Park would be developed by Yongsan City Park, in reality the green areas and ponds tend to cut off the pedestrians' path and become privatized. In Yongsan Moonbae district and Youngdeungpo Bangrim manufacturing sites, the public spaces are being used as access plaza to the buildings (Fig.7).

Consequently the most public spaces provided as a result of urban design guidelines are often located inappropriately or too small for their use, and many times these public spaces are privatized for the residents' use.

4. Conclusions

As the mixed-use housings tend to become super tall, largely effecting the landscapes of the city and the surroundings, the city and local conditions should be taken into account in managing these mixed-use housings. The centers designated as semi-residential and above districts need a special control because

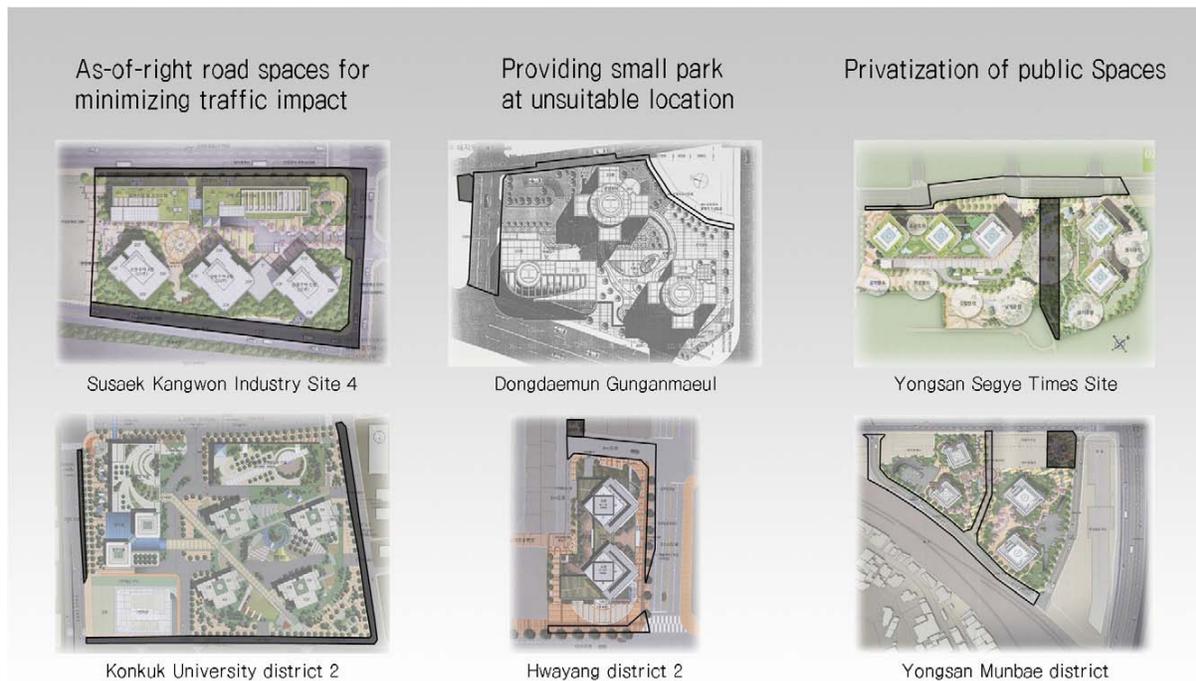


Fig. 7. Examples of public spaces provided under the UDD Plan

there are a very high possibility of mixed-use housing development. Most of these centers are usually designated as UDDs to control large-scale developments. The lack of control standards reflecting the city or local conditions has caused confusions in urban design guidelines. The urban design guidelines should be drawn up with explicit principles and standards in the future. In places that need landmarks, heights can be permitted but at the same time the ways to improve city image and local conditions must be sought actively. In neighborhood centers, there needs to be a plan to control heights considering the surrounding local conditions. In other words, in the regional centers and above levels, in which super-tall buildings already exist or are appropriate, clear land-use plan should be drawn up considering the development demand and future development potentials of the whole district. Further in places of below district center level, mixed-use housings can be permitted while controlling the appropriate heights.

In addition to these management standards at the city and local levels, there should be various means of securing publicity of mixed-use housings as a form of urban housing. In particular, there should be an explicit plan for securing publicity in mixed-use housings built within the UDDs where various incentives are offered. First of all, detailed design guidelines and location of the public spaces should be directed so that the public spaces are fully utilized. In addition, there is a need for building standards that can provide a layout, building form, and width that correspond to the streets and surrounding other buildings. Since the roads are something that must be planned for access to the building or for minimizing traffic congestion, the roads within the site should be mandatory dedication without any floor area ratio incentives. Furthermore, to improve the local welfare and facilitate the cultural lives, there should

be a floor area ratio incentive scheme for increasing welfare and cultural uses such as providing nursery, sports center with a swimming pool, post office, movies, theater, and etc. Incentive scheme can also be applied to providing rent-housing in order to supply affordable housings.

Notes

1. Mixed-use housings are defined as co-housings mixed with other uses with less than 90% of the total floor area taken up for residential use.
2. Due to the highly heated housing market, the government intensified the restricts on mixed-use housings such as reviving the limitation on the number of households to 300 in 2003 and restricting the size of bathroom and space division in the residential officetels.
3. According to the Seoul city building ordinance (Clause 2, Art. 29), when mixed-use housings are built in semi-residential districts, the height of each side of the building should be less than 4 times the distance from the building to the border of the site.
4. In Seoul, there are currently 166 urban districts designated within the downtown, sub-downtown, subway station impact areas, and areas neighboring main roads.

References

- 1) Kim, K. H. and Lim, H. J. (2002) A Study on Improvement of the Urban Design Policies on the Special Districts in Korea, *Journal of the Architectural Institute of Korea*, 18(2), 127~135
- 2) Lim, H. J. (2004) Improvement of High-rise Mixed-use Residential Buildings Policies in Seoul, *Proceedings of The Korea Super Tall Building Forum the 4th International Symposium*, 44~46
- 3) Jeong, E. J. (2003) A Study on the Locational Characteristics and Regionally Specific Residential Characteristics of "Residential-Commercial Mixed Use Buildings" in Seoul, *Phd at Seoul National University*, 44~46