

The FAR Game:

Constraints Sparking Creativity

The FAR Game is played on the front lines of Korean architecture.

Seoul is the war zone of architecture. It is the capital of South Korea, but one could go so far as to say it essentially *is* South Korea. All the battles are fought and the frontlines are expanded from there. Among the battles, the FAR Game is what 99% of Korean architects must wage for their survival.

The Game has been a driving force behind the growth and amplification of Korea and its architecture for the last 50 years. It rages underneath the struggle between conflicting agendas - demolition vs. regeneration, private interests vs public welfare, the aesthetics of high-end architecture vs the mediocrity of functional buildings. It touches the everyday lives of both the rich and the poor, and the white-collar and the blue-collar.

The overt goal of the FAR Game is to figure out how to make the most out of every square meter because floor area equals money in Seoul. But the covert goal is turn constraints into advantage; quantity into quality, and economic motives into other socio-cultural values.

After the global economic crisis of 2008, many young Korean architects begin to enter the turf that the previous generation of architects ignored. They are fighting the good fight, and expanding the battlefield of the FAR Game from there.

The question is, why is the FAR Game played, and how particularly is the FAR Game played in Korean cities? Ultimately, in what sense does the FAR Game matter to architecture in general?

The FAR Game at the Korean Pavilion is both an analytical and an imaginative exploration of Korean cities, using Seoul as the core. The exhibition anatomizes the front at the core of the current transformation of Korean architecture and culture.

(The statement will be displayed at the circular room.)

Ten Questions for the FAR Game

1. What is the FAR Game?
2. Who are the players?
3. What are the variables of the FAR Game?
4. How to calculate FAR in Korea?
5. Which building elements are affected by the FAR Game?
6. How is the FAR Game played?
7. What are the pressures upon the FAR Game?
8. Which urban characters and rules makes the Korea's FAR Game so particular?
9. What is the backdrop of the FAR Game?
10. In what sense does the FAR Game matter to architecture in general?

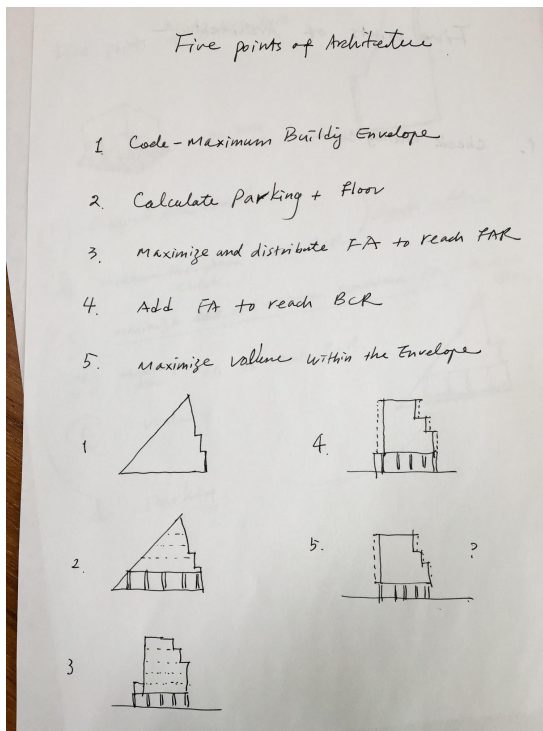
(At the entrance of the pavilion, ten questions will be displayed.)

PART I

1. What is the FAR Game? (Circular Room)

FAR is the ratio of a building's total floor area to the size of the plot it is built upon.

The FAR game involves design strategies to make extra floor areas and extra volumes as much as possible within the three-dimensional building envelope given by rules, in addition to maximize BCR as well as FAR. The goals of the game, in other words, is to design a building as fat as possible to reach the maximum developable volume, and sometimes over the limits by rules.



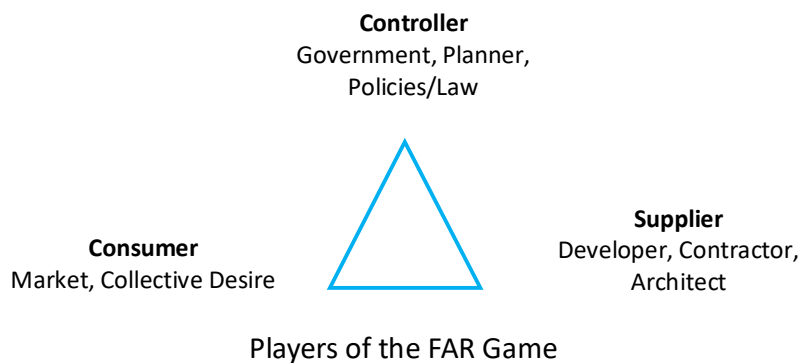
(4 steps of diagrams and captions will be displayed)

The Korean word for FAR is *yong-jeong-nyul* (용적률, 容積率), which is translated as 'volume ratio,' 'not 'area ratio.' Thus, there is the discrepancy between the **practicality** of FAR and the **definition** of FAR, that is, between the two-dimensional surfaces and three-dimensional

volumes. The FAR Game is played in-between.

2. Who are the players? (Circular Room)

The game is played through the interactions of three players: the consumer desiring maximum volume, the supplier attempting to achieve it, and the controller restricting it. The architect is a professional at the bottom of the supplier pyramid.....



(This diagram will be redrawn and displayed)

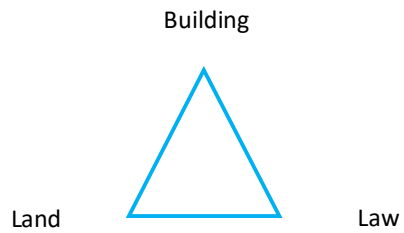
The architecture may have been 'arty,' but in reality it was virtually synonymous with 'construction' for the last 50 years in Korea. Architects have been behind contractors and developers who have taken initiatives for the game.

The intensification, amplification and verticalization of buildings has been a great opportunity for the construction industry, but has left architects with few voluntary decisions besides massive destruction and calcifying preservation.

After the 2010s, architects appear in front of the table of the game.

3. What are the **elements(? variables?)** of the FAR Game? (Circular Room)

The game is played upon a triad of elements - land, law, and building. Land and law are invariables, and building is a variable.



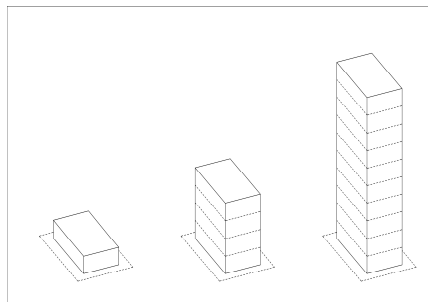
Triangle of the FAR Game

(This diagram will be redrawn and displayed)

???

4. How to calculate FAR in Korea? (Circular Room)

By definition, FAR is the gross floor area to plot area ratio; and BCR is the built area to plot area ratio. The built area is defined as the footprint of a building projected from 1m above the ground level. It excludes overhanging or underground built areas. The projection of FAR and BCR together is the first step of design in Korean cities.



$$\text{FAR (floor area ratio)} = \text{gross floor area} / \text{plot area} \times 100$$

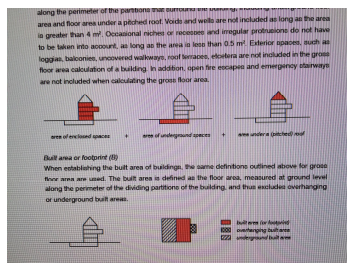
$$\text{BCR (building coverage ratio)} = \text{built area of a building} / \text{plot area} \times 100$$

(This diagram will be redrawn and displayed)

A building's FAR is 50% if it occupies half of the plot, thus its BCR is 50%, and it is single story. Its FAR is 200% if the building is 4-story high with the same BCR; 500% if the building is 10-story high with the same BCR.

However, the calculation of FAR is far more complex and sometimes elusive in Korea.

There are rules of exceptions: 1) underground floor area, 2) parking garage, 3) balcony with its depth are less than 1.5 meter, and 4) exterior areas enclosed by walls whose opening ratios are greater than 50% - are not included in the gross floor area calculation. The exclusion of these elements affects the horizontal and vertical profiles of buildings.

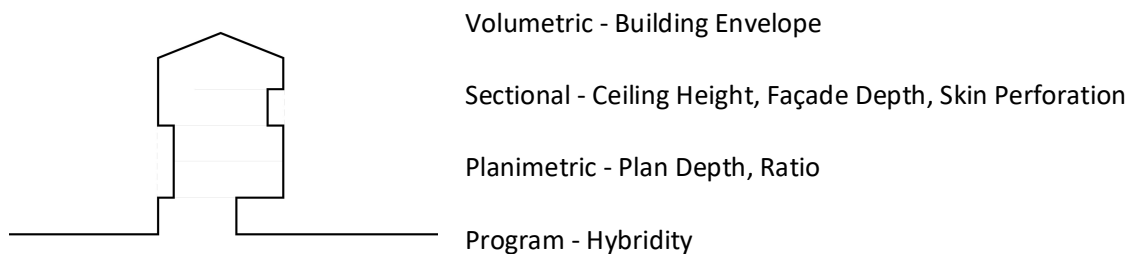


(This diagram will be redrawn and displayed)

<Refer to the diagram of FAR and BCR, Pont, p.94 >

5. Which building elements are affected by the FAR Game? (Circular Room)

External constraints of the FAR Game confront internal principles of architecture. They impose themselves on building elements such as height, number of floors, underground parking, building envelope, ceiling height, façade perforation, depth and ratio of plans, and vertical profiles of programs.



(This diagram will be redrawn and displayed)

When several heterogeneous functions are combined horizontally and vertically to make one envelope, buffer spaces are inevitably formed. There is market pressure to minimize this un-rentable area to maximize rentable area.

Interestingly, the area between rentable and unrentable space of a medium, dense and complex building is where the FAR Game is played most.

II. PART 2

6. How is the FAR Game played? (Main Hall)

- **Stereotypical Medium Multifamily Housing**

The game works across all building types and scales from super tall buildings and vast apartment complexes to miniature houses.

Among them, the mid-rise, medium-scale, and mixed use residential building is for the lower middle class. More than half of the households in Seoul live at this type. It consists about 30% of the total number of buildings in Seoul. It is the prototype urban architecture.

The design of this building is for the local builders and developers without professional design education.

(The model of the Prototypical Medium Multifamily Housing at the scale of 1/20 will be displayed at the far front of the Pavilion. The model will be seen through the window from outside. The plan and elevation drawings with the above description will also be shown).

- **The FAR Game at 36 buildings**

This section shows the creative responses of Korean architects seeking to maximize FAR while creating a sense of spaciousness and freedom. The extraordinary geometrical and compositional inventiveness that characterizes current architecture is the outcome of this effort. Korean architecture that gives the emerging dense city a distinctive identity. It is part of an urban culture which creatively absorbs high density and turns it into a strength.

Year of Construction: These buildings, the total 36 buildings, are built after 2010.

Location: 34 building are in the Greater Metropolitan Seoul Area, with 29 are in the city of Seoul proper, and 2 are in Busan, the second largest city in Korea.

Size: The average gross floor areas for the 36 buildings are 600 m², the average numbers of floors are 6 story's, and one underground floor. The average plot size is 300 m².

Zoning: 24 buildings are built on the urban areas formulated by the urban planning tool, Land Readjustment (LR) project, between 1960s and 1970s. The majority of zoning classification is General Residential.

Architects: They are designed by architects at small studios. Many are the starters at the Korean architectural community. Some claim they are in the minor league at the increasingly stratified structure. Being knowledgeable about and skillful at the FAR Game is thus not only desirable for architects; it is a prerequisite for their survival.

(72 models, 2 models per each building, for the total 36 buildings at the scale of 1/75 will be displayed at the center of the Pavilion. 4 diagrams, and a photo per each building will be also shown. These are the core of the exhibition)

- **Tetris House**

(Among the 36 buildings, Tetris House is selected and enlarged at the scale of 1/20, which is the same scale of Prototypical Medium Multifamily Housing in front)

7. What are the pressures upon the FAR Game? (Curvilinear Right Wall)

Population Density:

Seoul holds the Triple Crown of density: the most populated, densest, and most concentrated. Half of the population of South Korea resides in the Greater Seoul Metropolitan Area, with about half of that, or over 10 million people, living in the capital city proper.

It took only 45 years for Seoul's population to reach 10 million from 1 million. Compare that with London, which went from 1 million to 8 million in 150 years, or New York City which took 170 years to accomplish the same feat.

Between 1960 and 1980, about 780 people moved into Seoul every day, meaning that on average a 20-story apartment had to be built each day.

(Diagrams or graphs for Seoul's population, density, concentration and its growth will be shown)

Land Price:

Between 1963 and 2007, land prices of major large cities grew 923 times, while Seoul's land prices grew 1,176 and a portion land in Gangnam, site of a new commercial and business center, has risen in value by a factor of 300,000.

The cost of land occupies about 60 to 70% of the total construction cost in Seoul. The land values determine success or failure in the development. The building is often not valued at the sale of land and building. The building is considered as the stacking of land.

To compensate for the rising land acquisition prices, developers and clients need to pursue the maximum FAR. Ultimately, floor areas are the verticalized land. Land is money, so are floor areas.

(Diagrams or graphs for Seoul's land prices and their growth will be shown)

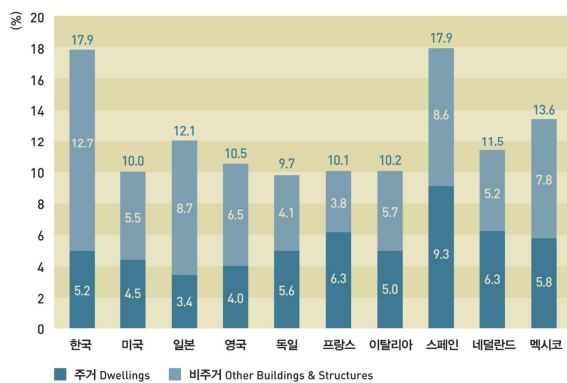
Construction Driven Industry:

The impetus for the FAR Game was due to the construction driven economy in Korea. Just

before 2008, the ratio of construction investment to the total GDP was nearly 18%, about 6-8% higher than that of other OECD developed countries.

It is an accepted fact in Korea that the lifespan of a building is shorter than that of a human being. High-rise apartments built less than 30 years ago are being demolished and built again to sustain higher volumes.

But the global recession in 2008 served a deadly blow to the high-rise apartments and mega-scale urban projects.



OECD 국가 건설투자 비율, 2007년 2007년 한국은 OECD 선진국보다 건설투자 비율이 7% 이상 높다. 예외는 국가 부도까지 거론되는 스페인이다.¹⁰ ©김성홍건축도시연구실 (기초자료: OECD)

(This will be redrawn. Graph of OECD Construction Investment Rate)

8. Which urban characters and rules makes the Korea's FAR Game so particular? (Left Wall)

Discrepancy of Building Density:

The average FAR of the 640,000 buildings in Seoul is only 145%. Today, 200% is expected as the minimum threshold for new development. Many buildings in Land Readjustment project areas often do not get the designated FAR by rules. The areas affected by LR represent nearly 40% of the total urbanized areas in Seoul. 24 buildings among 36 buildings exemplify these.

Small Plot and Compact Urban Fabric

The average plot size of Seoul is only 267 m². This is about three times the size of a typical apartment unit. The average building height in Seoul is only about 2.5 stories.

The average lot sizes are between 150 to 160 m² at the north of Han River, and between 250 to 300 m² at the south of Han River. This comparative small plots form compact, irregular and discontinuous urban fabric

Superblock and its Zoning Layers

Because of the large scale of block, it consists of more than two zoning areas. The perimeters of the blocks are surrounded by either Commercial or Quasi-Residential areas in a linear pattern, whereas the inner blocks are divided into Class-3, Class-2, or Class-1 Residential areas. Each zoning has different FAR and BCR.

- Superblock of Gangnam

Gangnam, South of River, was the single largest area to undergo LR in Korea, and it became the new commercial and business center while supporting upscale residential areas.

Along the wide street, a new business corridor with high-rise office buildings is formed. But the areas in the middle were packed with medium rise residential and commercial buildings, converted from single story houses continuously from the 1970s.

The combination of building types and urban fabric formulated by Land Readjustment projects as Seoul Grid makes a unique grid pattern.

Plot-based building rules

The irregular and heterogeneous urban grain, coupled with plot-based building ordinances, provides very limited opportunity to increase the city's overall FAR.

-Distance length from plot perimeters: The continuous buildings are not allowed in Korean cities.

-Street Setback Ratio (deregulated in 2015)

-North-South Daylight Setback Ratio (in Residential Areas)

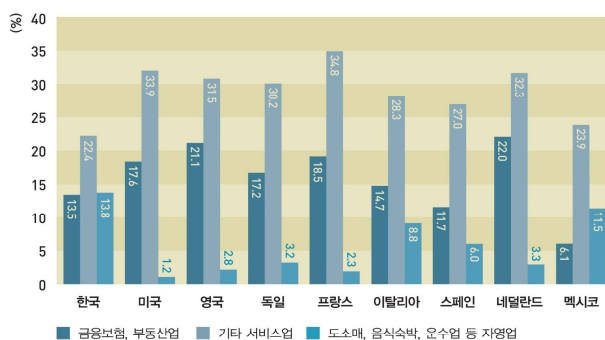
-Number of Car Parking Surfaces

-These variables make it difficult to maximize FAR and BCR, thus, the building volumes often appear smaller than the developable envelope.

Zoning and Buildings Rules that make heterogeneous buildings

-allows the penetration of retail function into residential areas easily

- A new building must be not only larger, higher, and deeper, but also more complex in functional uses..



OECD 국가 경제활동 인구 비교 한국의 자영업자 비율은 기형적으로 높고, 지식서비스산업 종사자의 비율은 낮다. ¹³ ©김성룡건축도시연구소(기초자료: OECD)

PART 3

9. What is the backdrop of the FAR Game? (Separate Square Room)

At this room, three artists portray the mundane urban buildings and landscape from non-architectural and non-planner's perspectives. The esthetic judgments are suspended here. The curating team sees the places at their drawings, photos, and video images are of the ordinary everyday life are unfolded, and they are the backdrop of the FAR game currently underpinning.

(The work of a painter Seongeun Kang and a photographer Seungwoo Baek are displayed on the 4 walls and the floor. Yeondoo Jung, a visual artist, displays the street scape on the large video monitor)

PART 1-2

10. In what sense does the FAR Game matter to architecture in general? (Circular Room)

-Architects intervene and participate in the formation of moderate-scale programs of everyday urban architecture.

-Alternative paradigm for the urban regeneration

-Possibility of small investment and small industry in the polarized market at the area of post-development and growth in Korea

-dynamics of market into social dynamics

-Economic > cultural side

-Inner urban culture for the new middle class

-Thus the specifically architectural and the broader cultural responses to FAR offer a useful lens to better understand the current frontiers of Korean society as expressed in the architecture of the physical environment at the scale of buildings, urban areas, and cities.

-The FAR Game, rooted in our past, will continue to exert itself on the development of architecture in Korea well into the future. A *far game*, indeed.

[Note: The manuscript for the exhibition are partly extracted and modified from the following. The footnotes are not indicated at the texts displayed at the exhibition space.]

Kim, S.H., "Housing Site Development and a Shift in Urban Architecture at Mok-dong in Seoul," *The Journal of Seoul Studies* (ISSN 1225-746X), Vol. 59, pp.125-162; Kim, S.H., "Changes in Urban Planning Policies and Urban Morphologies in Seoul, 1960s to 2000s," *Architectural Research, International Journal of the Architectural Institute of Korea* (ISSN 1229-6163), Vol. 15, No. 3(September 2013). pp.133-141; Kim, S.H., "The Paradox of Public Space in the Korean Metropolis," In Limin Hee, et. al. Eds, *Future Asian Space: Projecting the Urban Space of New East Asia*, Singapore: NUS Press, pp.31-40; Kim, S.H., "Korean Architects Standing in the Middle," In *New Horizon in Korean Architecture*, Seoul: USD Publication. Introduction, pp.6-11; Kim, S.H., "Megacity Network," In S.H. Kim & P.C. Schmal Eds., *Megacity Network: Contemporary Korean Architecture*, Berlin: Jovis, pp.42-59.