

THE FAR GAME

CONSTRAINTS SPARKING CREATIVITY

The front line of the architectural battles waged in Korea inexorably runs through its capital city of Seoul. Korean architects may think they have the vision of field generals, but when handling their missions in Seoul, they are often asked to operate more like foot soldiers.

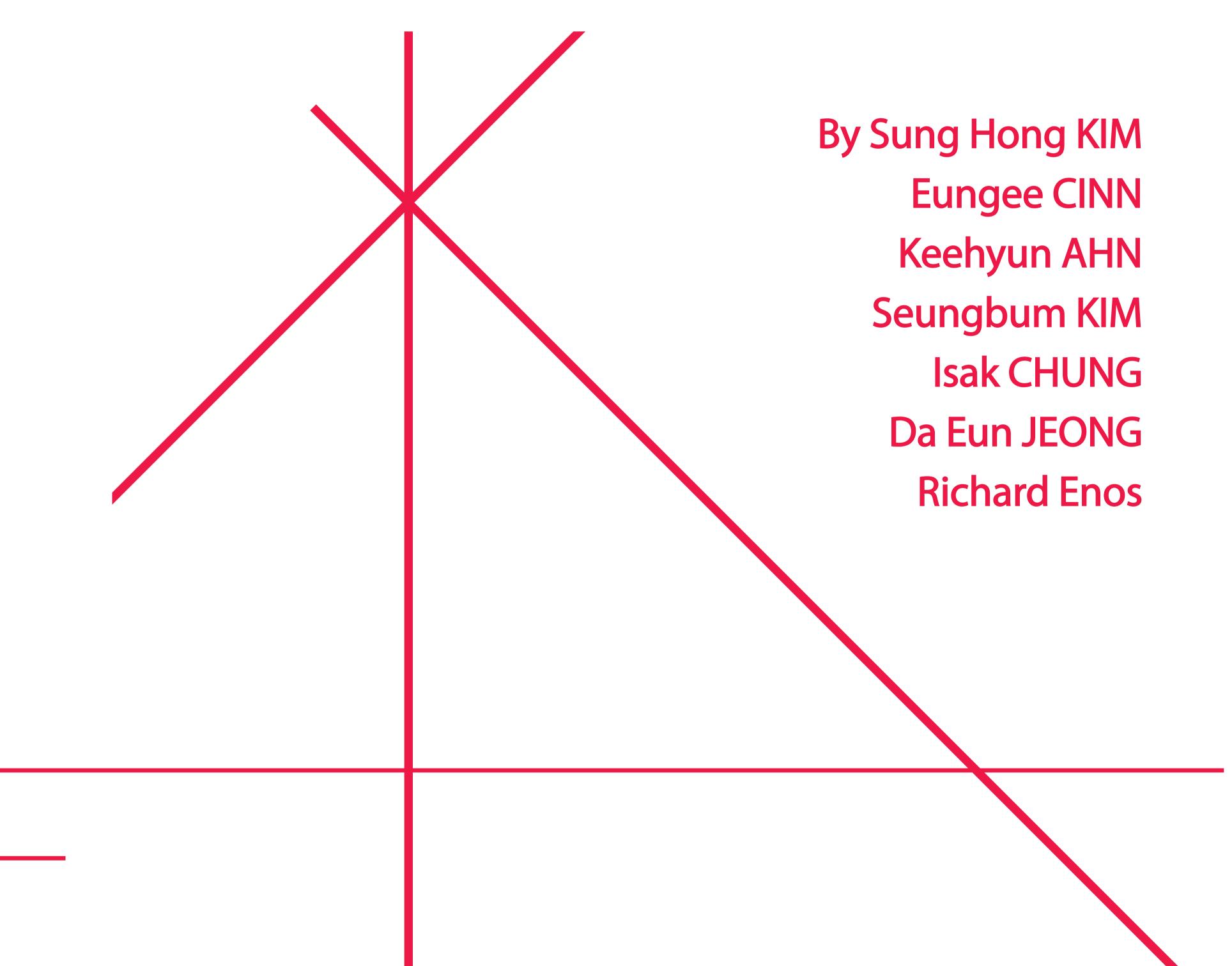
The Korean urban architect works under the constant pressure of two opposing forces. One comes from Seoul's hyper-density; the greater Seoul metropolitan area, representing 12% of Korea's land mass, is home to nearly half of the citizens of the entire country. Hence plot prices are at a premium, and the architect is always under strict orders to augment useable floor area in order to maximize a developer's and land owner's profits. The other is an urban building regulatory system where strict and unyielding rules give public officials little discretion for negotiation.

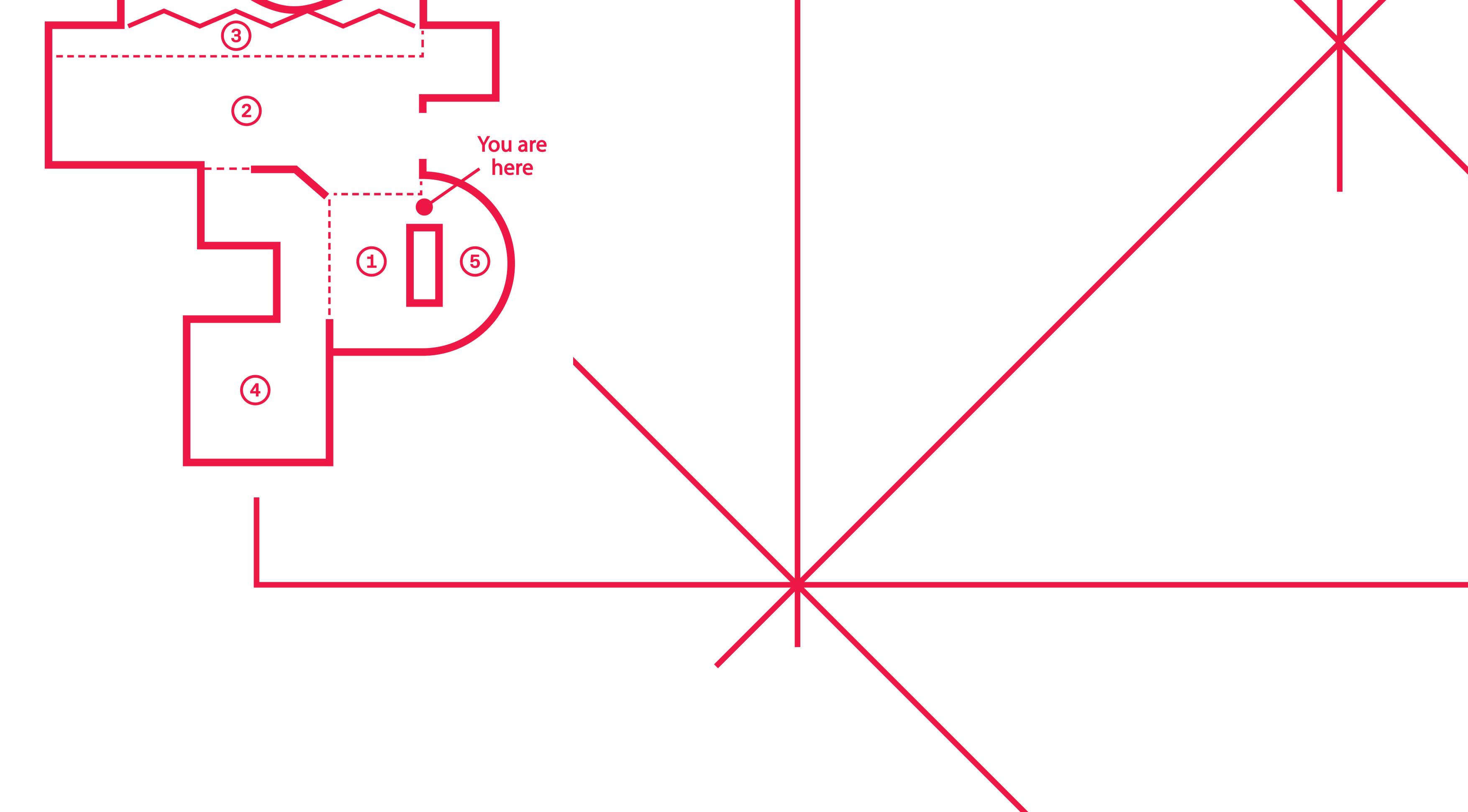
Korean architects must therefore always be prepared to perform a high-wire balancing act. Their endeavor to deal optimally with these opposing forces in the planning and execution of their buildings is known euphemistically

The main target is medium-scale multi-family houses or mixed-use buildings, which in earlier times would not have been on the radar of most architects. Yet, as this exhibit will show, these projects are now providing fertile grounds for creative responses to the intense high-stakes pressures of the FAR Game.

as 'playing the FAR Game'.

Facing this tug-of-war between private profit and public regulation, how is the Korean architect truly to ply his trade, and infuse his work with some form of aesthetic or socio-cultural considerations? The answer from today's Korean architects, evidenced by the 36 buildings showcased in this exhibit, is to use the constraints brought on by the FAR Game to spark creativity rather than stifling it.





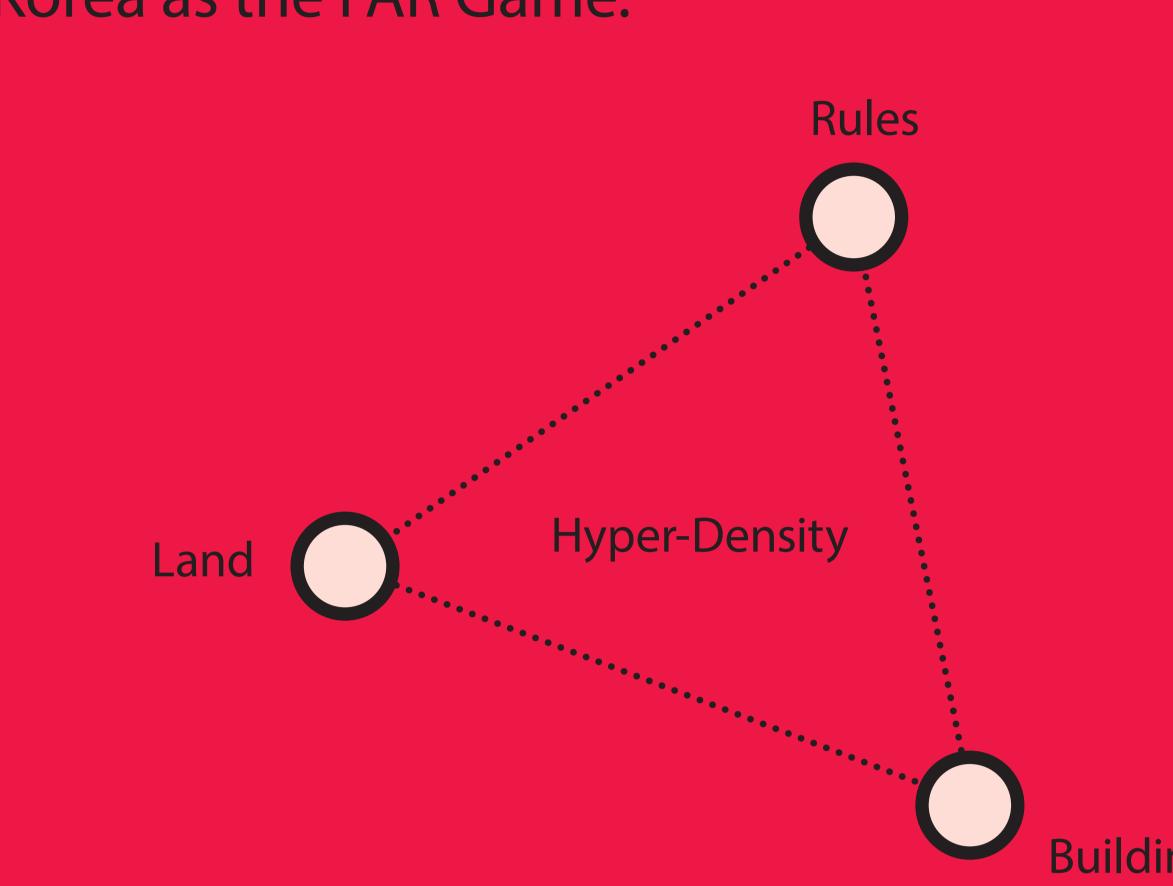
The FAR Game Defined

Any and all architectural projects in Seoul, whether large-scale demolition and reconstruction projects or piecemeal regeneration, first have to consider the viability and the return-on-investment (ROI) for the land owner and developer. The unparalleled migration to the capital city in recent history and the ensuing high demand for living and working space led to a rapid rise in the cost of land.

As a consequence, it is natural that land owners and developers would urgently seek to maximize the useable floor space in the buildings that will be constructed for them in relation to the actual size of the land plot. In architectural terms, the relationship between these two values is called Floor Area Ratio (FAR).

The problem for land owners is that Korea, especially in its hyper-dense urban centers,

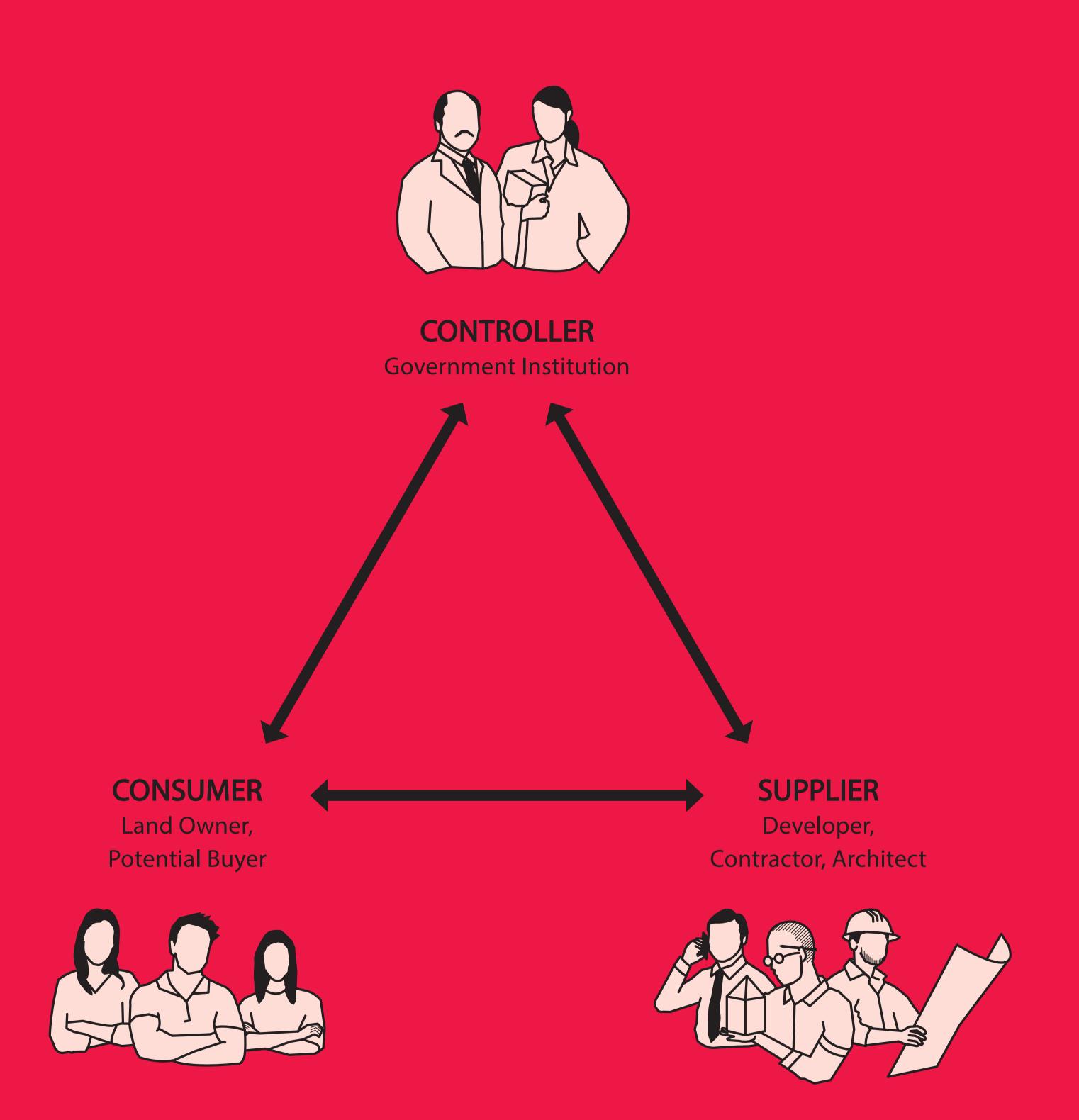
has long maintained strict limits on FAR for each zoning area, as part of the urban rules that all building designs are subject to. And so, it is the interplay between the triad of land, rules, and building that makes floor area ratio so important. The endeavor to design buildings with the most useable floor space possible in the context of these variables is known in Korea as the FAR Game.



Triad of Variables of the FAR Game

The Player

The FAR Game consists in the interactions of three players: the consumer demanding suitable living/working space, the supplier attempting to deliver it through maximizing floor area, and the controller restricting it based on the dictates of urban building rules.



The Player of the FAR Game

While the intensification, amplification and verticalization of buildings that came as a result of the mass migration to Seoul had been a boon for the construction industry, it left architects with few voluntary decisions in their

building designs. It was really the developers and contractors, not the architects, who first took the initiative in the FAR Game.

After the financial crisis of 2008, however, both direct consumers (land owners) and indirect consumers (potential buyers) began to sense the decay of the 'real estate myth.' Controllers—government institutions—began to notice signs of economic uncertainty in large-scale development and redevelopment, and consequently turned their attention to piecemeal renewal and regeneration.

One of the consequences was an emerging new role for architects in the small and medium scale building market. Previously, these buildings were essentially designed and executed by the developers, following standard building code, with little or no input from actual architects. The projects were considered too small, and paying commission to an architect was seen as reducing ROI without providing any tangible benefits.

Land owners started awakening to the possibility that if they did hire architects for their design ingenuity, they could increase and ameliorate the useable floor area, and would attract better tenants and be able to solicit higher rent. This is how architects in Korea began to become players in the FAR Game.

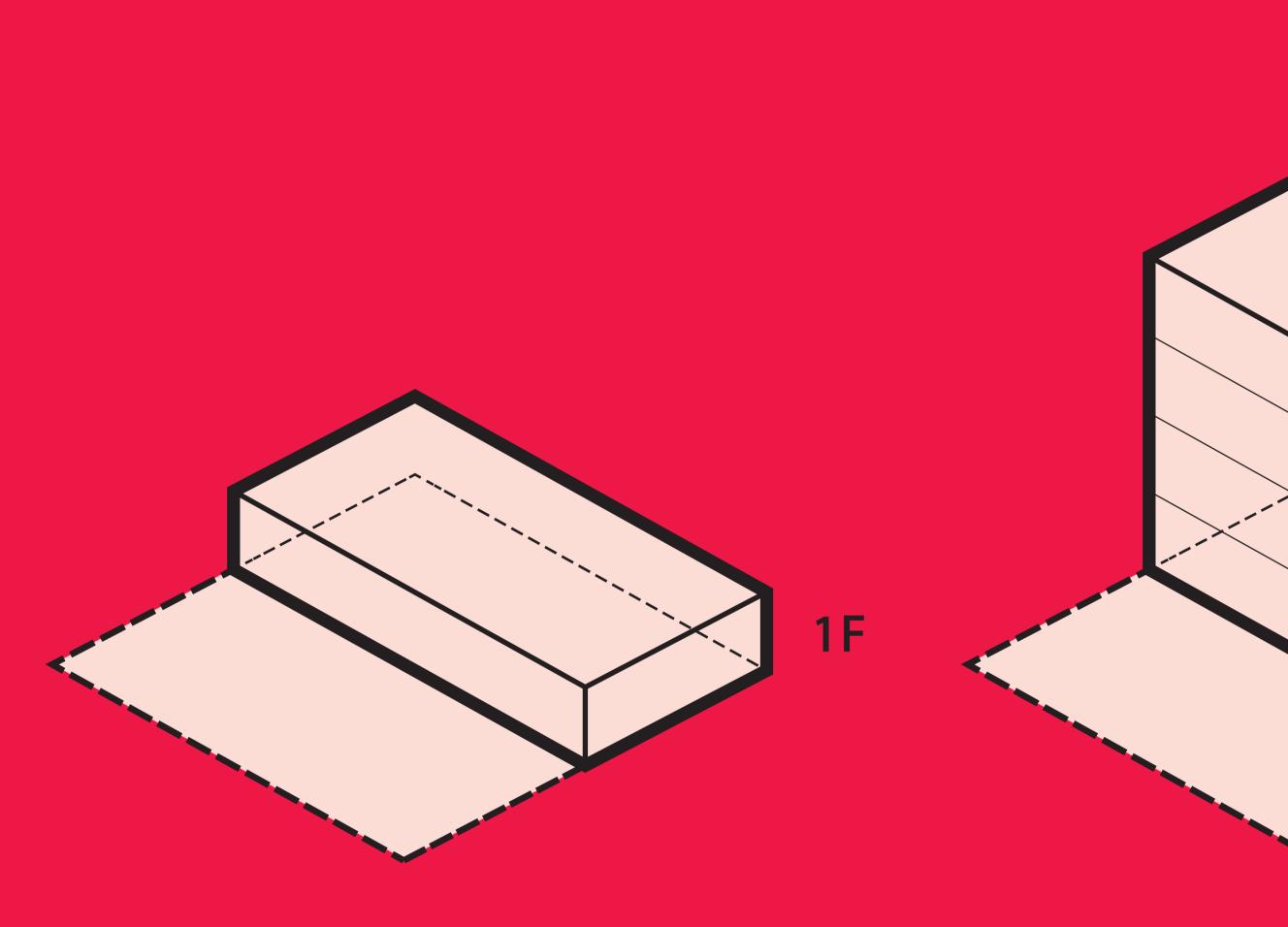
Playing the Game in Korea

STEP Calculate FAR (and BCR)

The Korean word for Floor Area Ratio is yongjeong-nyul (용적률, 容積率), which actually means 'volume ratio,' and not 'area ratio.' Thus, there is some discrepancy between the definition of FAR in theory and its application in practice. Between the planes of twodimensional surfaces and three-dimensional volumes is where the FAR Game is really played. So while FAR is calculated this way,

FAR = gross floor area / plot area x 100

the FAR Game involves design strategies to increase not only floor area but also volume.



50% BCR / 50% FAR

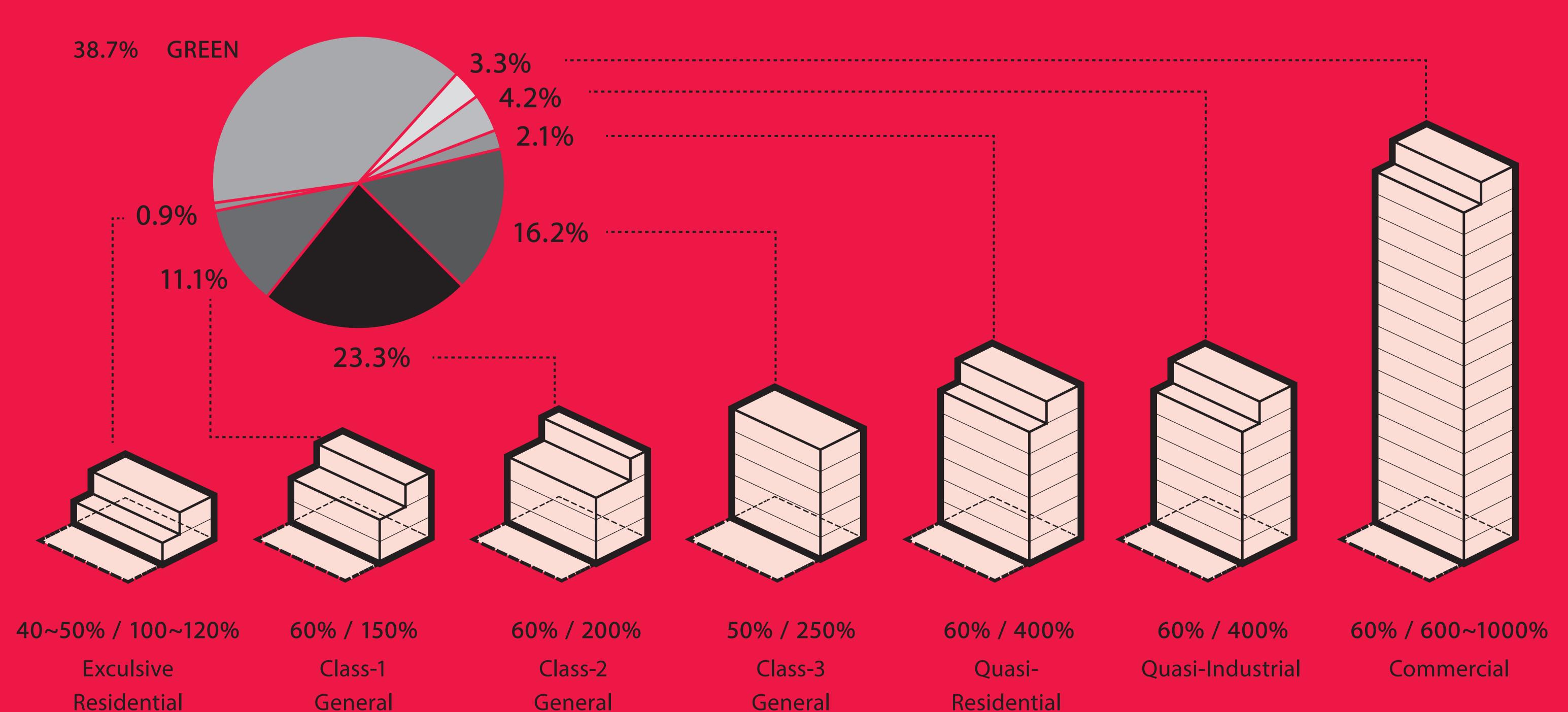
50% BCR / 200% FAR

Relation between Plot, BCR and FAR

In the diagram we see a one-storey building that occupies half the plot. Hence the building's FAR would be 50% and its BCR would also be 50%. If the building was 4 stories high the FAR would be 200%, and 10 stories high would make the FAR 500%. The BCR remains the same for all three buildings.

Zoning Area In Seoul

Residential



BCR and FAR Limits in Seoul by Zoning Designation

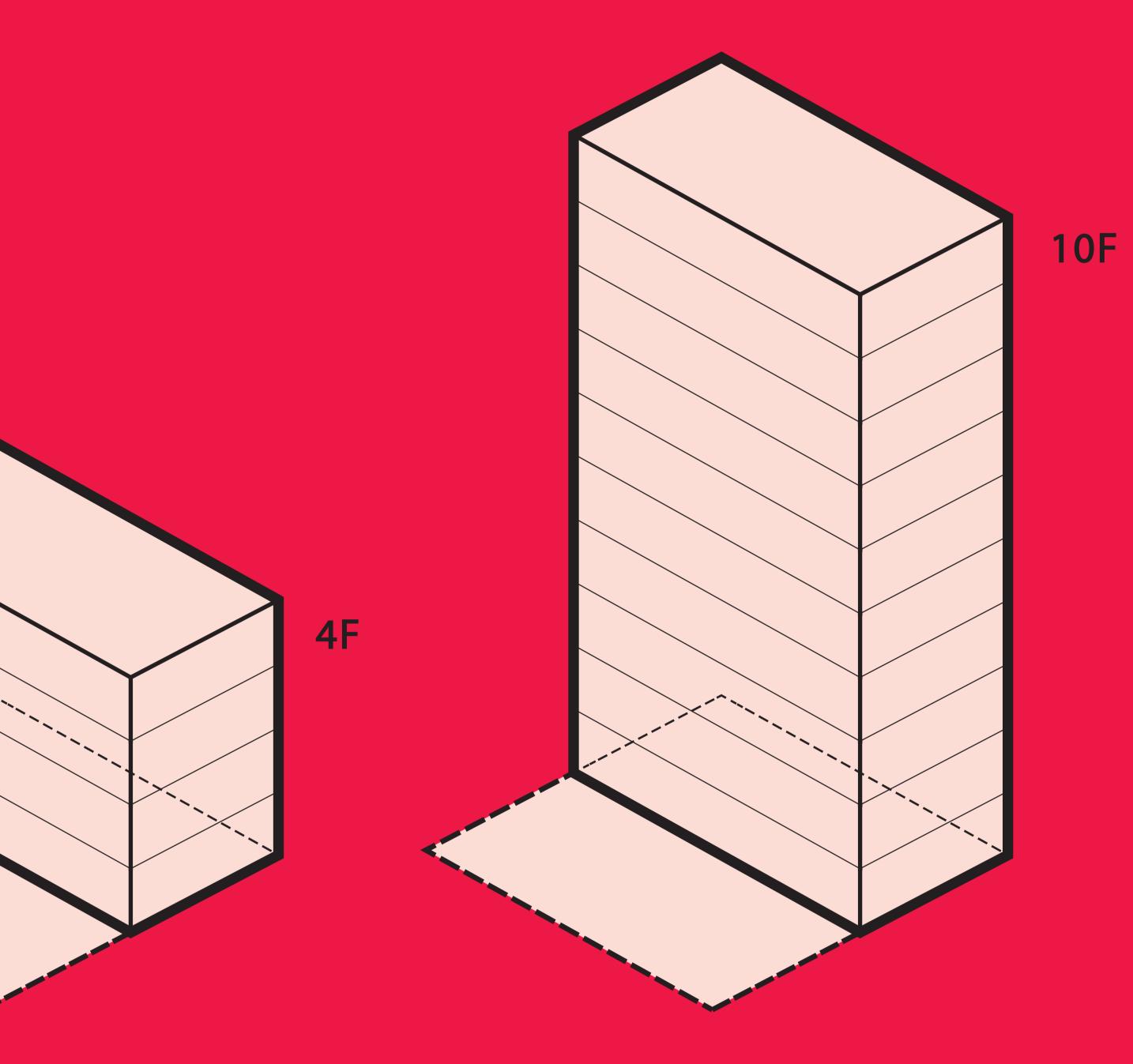
Residential

Residential

In order to do this, not only is the Floor Area Ratio considered, but another metric as well called the Building Coverage Ratio (BCR). BCR represents the relationship of the built area to plot area, and is calculated as follows:

BCR = built area of a building / plot area x 100

The built area is defined as the footprint of a building projected from 1m above the ground level.



50% BCR / 500% FAR

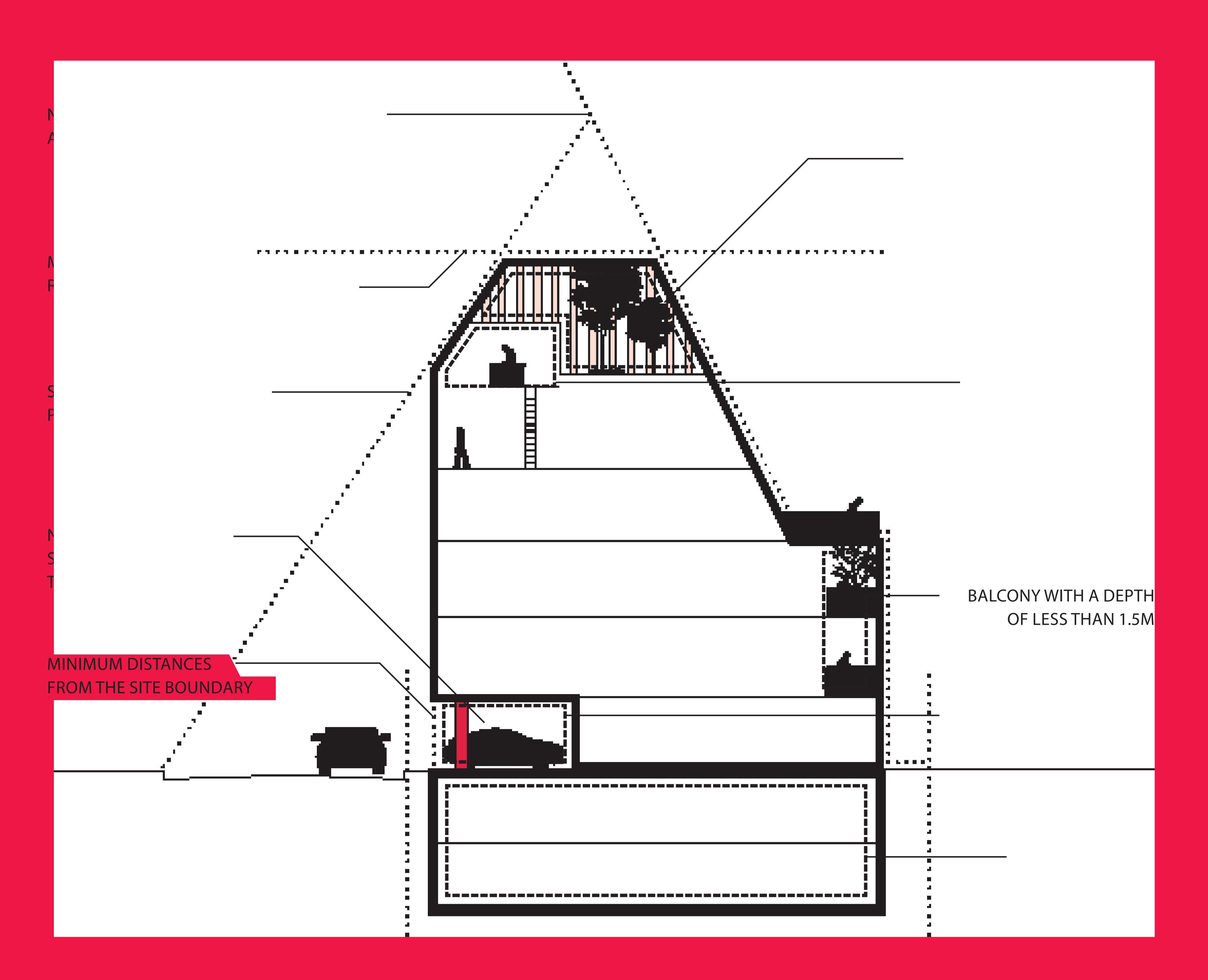
The actual limits imposed by the government vary based on the zoning of the region the architects are building in. Note the chart below:

(BCR / FAR)



The next step for architects is establishing a hypothetical 'building envelope', which is a three-dimensional figure that encapsulates the shape of the maximal area the building can legally occupy, measured by floor area, storey height and number of stories.

To properly create the building envelope, the architect has to factor in these five additional critical regulations:



The five most critical building and exemption regulations for the FAR calculation



There are some building elements whose floor areas are exempt from the FAR calculation:

- underground floor area
- •ground floor parking area with *pilotis* (support columns)
- •attic with a height of less than 1.5 meters
- •exterior areas enclosed by walls whose opening ratios are greater than 50%
- handicap elevator areas (from 2014)

within the framework of their design.

STEP 2 Create the Building Envelope

- minimum distances from the site boundary
- street width diagonal plane control (abolished in 2015)
- north-south orientation setback and diagonal plane control
- maximum height and number of floors (for multi-family houses and for areas regulated by the 2002 District Unit Plan)
- required number of parking spots in relation to floor area

- balcony with a depth of less than 1.5 meters
- It is incumbent on the architect to utilize these
- exemptions to the fullest extent possible

A large part of playing the FAR Game is taking advantage of the additional floor space afforded by these exemptions.



1#Playing the Gamein Korea

STEP **Organize Space Considering All Requirements**

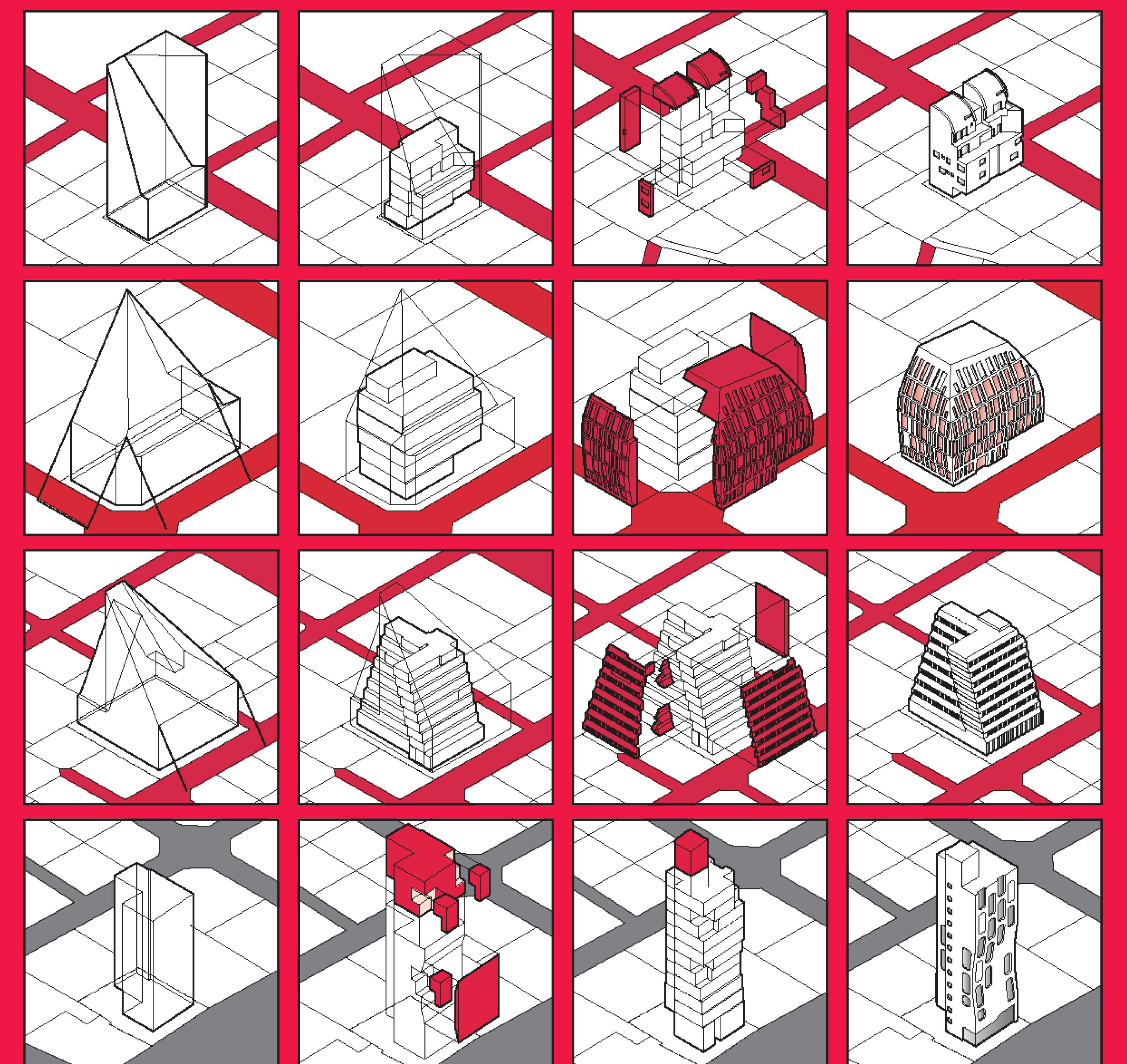
The challenge here for architects is to arrange rooms, corridors, and hallways to accommodate the specific functions required by clients without losing floor area or volume within the envelope.

STEP 5Extend the Building Envelope

with Formal and Configurational Innovations

In order to maximize rentable space and minimize un-rentable space, architects need

to be masters in formal and configurational innovation, and sometimes outright invention.



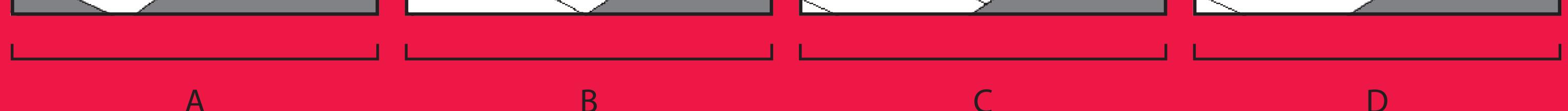


Diagram A (Step 1–3)

A hypothetical building envelope regulated by the limits of urban and building regulations

Diagram B (Step 4)

A hypothetical building mass accomodating the specific functions required by clients without losing floor area within the envelope

Diagram C (Step 5)

The extended volumes or surfaces with formal and configurational innovations

Diagram D

The realized building

[NOTES]

The curators acknowledge that their interpretations and analyses of the 36 buildings may differ from the design intentions and processes of the architects.

The manuscript for this exhibit is partly extracted and modified from papers and essays written by the curator, Sung Hong KIM. Footnotes are not indicated in the texts displayed in the exhibit space.

[DATA SOURCES]

https://data.oecd.org/emp/self-employment-rate.htm
http://data.seoul.go.kr/openinf/fileview.jsp?infld
=OA-1180&tMenu=11
http://data.worldbank.org/indicator/SP.POP.TOTL
http://dev.vworld.kr/dev/api.do
https://en.wikipedia.org/wiki/Demographics_of_New_York_City
https://en.wikipedia.org/wiki/Demography_of_Imperial_Japan
https://en.wikipedia.org/wiki/List_of_cities_proper_by_population

http://factfinder.census.gov/faces/tableservices/jsf/pages/ productview.xhtml?src=bkmk
http://kosis.kr/
http://kosis.kr/statHtml/statHtml. do?orgId=101&tblId=DT_1C65&conn_path=I3
https://open.eais.go.kr/opnsvc/opnSvcInqireView.do?viewType=7
http://stat.seoul.go.kr/
http://www.metro.tokyo.jp/ENGLISH/ABOUT/HISTORY/history03.htm

https://www.nsic.go.kr/ndsi/

http://www.toukei.metro.tokyo.jp/tnenkan/2013/tn13q3e002.htm
http://www.visionofbritain.org.uk/data_cube_page.jsp?data_ theme=T_POP&data_cube=N_TOT_POP&u_id=10097836&c_ id=10001043&add=NBOK Economic review No.2015-6
http://map.naver.com/
http://map.daum.net/
http://gis.seoul.go.kr/