Politecnico di Milano

Scuola di Architectura e Societa

Large Scale Architecture and Urban Design Studio

THESIS DESIGN PROJECT

New York Theatre City

Head Professor: Bertelli Guya

Assistant Professor: Rolla Sandro

Shen Yuanjie

762730

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INDEX

ABSTRACT

The New York Theater City Project is try to activate the abandoned area near the Penn Station with the multiple connections which similar to the New York Highline.

The New York Theater City Project is like a small multi-functional city , not only the theater functions but also the living functions.

In this City Project the Underground Trains Level, Passing Exhibition Level and Ground Landscape Level are connected together with vertical connections.

Three cities under the same scale

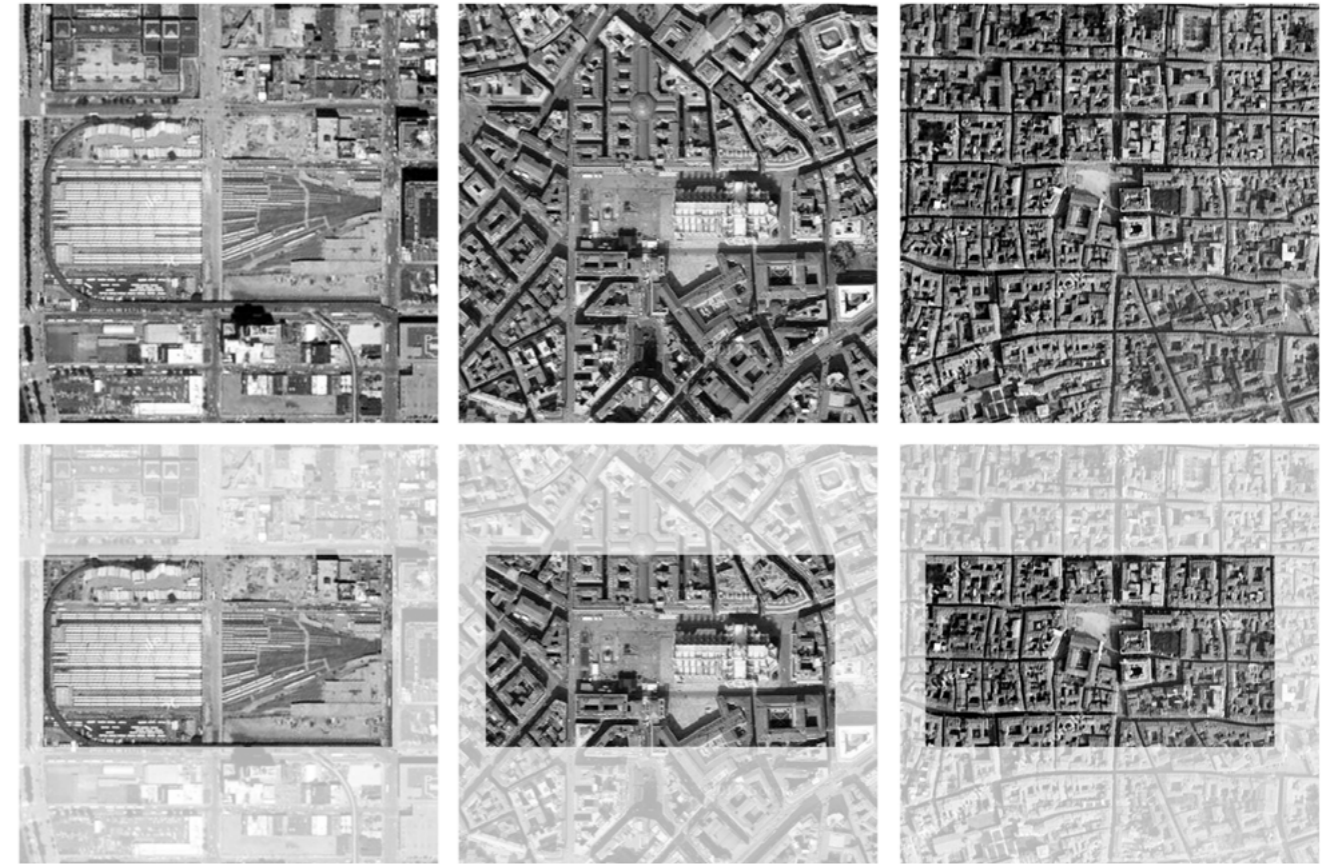(a) New York city, USA   (b) Milan, Italy   (c) Piacenza, Italy
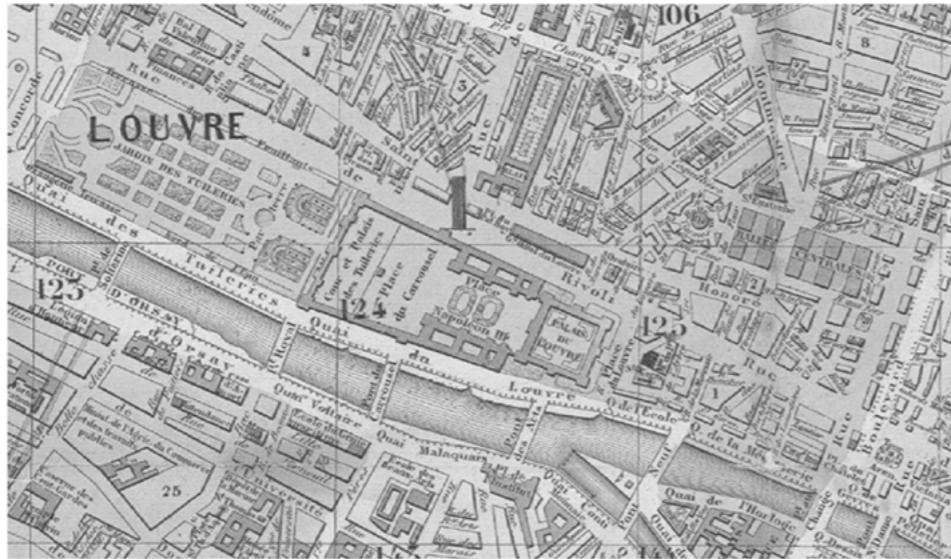
THE SCALE IS URBAN SCALE

The New York city is not like an european medieval city, but a large modern city. Hence the dimension of the city blocks is totally different from the old medieval cities, the dimension goes much larger. As an illustration above, the three cities are compared together under the same scale 1:5000 which are New York, Milan and Piacenza. Milan is a large medieval city which its average width of the main street is about 15 meters, and Picanza is a small roman city which its average width of the main street is about 8 meters, meanwhile the average width of the main street in New York is about 20 meters. If we put the same size of the site into city Milan and Piacenza, we could realize that area of Piazza duomo of Milan is only half the site, and even the area of Piazza Cavali is just one fifth the site. As result, the site is not on an architectural scale but obviously an urban sacle, so the phase of design is more like an urban design other than the architecture design.

CHINESE TRADITIONAL CITY SPACE
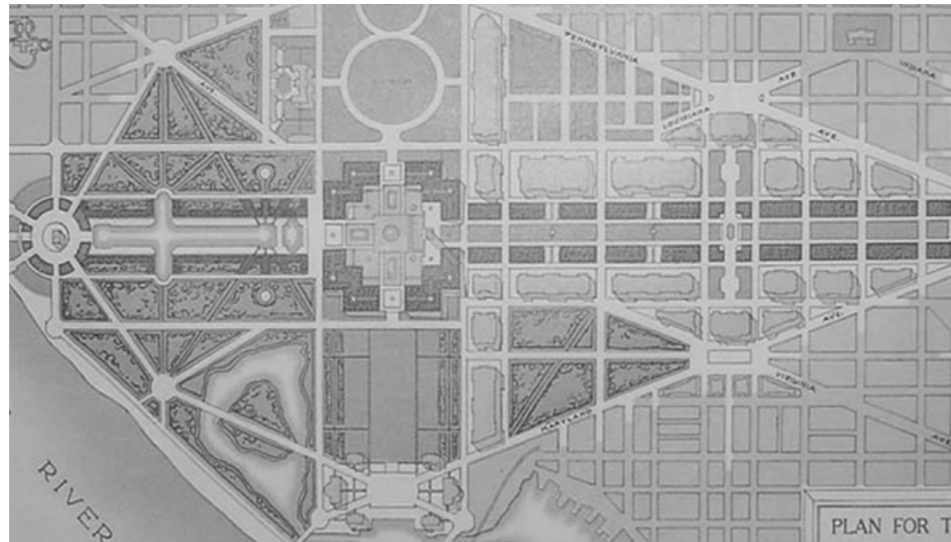

EUROPEAN SPACE AND CHINESE SPACE

Typical European Urban Plaaning often create a special area with special planning compared to the outside area, especially the geometry form and the symmetry shape.

There are no specific boudary between the city plaza and the surrounding, but from the formology the difference is quite clear. And the water landscape are often strictly followed geometry shape.

Traditional Chinese Urban Planning has walls system around and water system inside.

Residential area: Hutong(courtyard). Lanes were separate residential units, similar to today's residential community. They were orderly arrayed and planned in unification.

Commercial zone: east market and west market. It was a place where a dazzling array of commodities and numerous businessmen gathered. It was the economic activity center of Chang'an City, and the industrial and commercial trade center of the country.

EUROPEAN SPACE AND
AMERICAN SPACE

The squares of the medieval European cities tend to have the legendary charm, especially the Italian cities like Venice and Siena. The reason for these success of such City Square is the strong contrast between void and solid, of which the open space represents the void and the surrounding dense buildings represent solid.

The evidence of the streets needs, however, to be checked in every case. It would be rash to assume a Roman origin for an Italian town simply because its streets are old and their plan rectangular. There are many rectangular towns of mediaeval or modern origin. Such is Terra Nova, near the ancient Gela in Sicily, built by Frederick Stupor Mundi early in the thirteenth century. Such, too, Livorno, built by the Medici in the sixteenth century. Such, too, the many little military colonies of the Italian Republics, dotted over parts of northern and middle Italy. Often it is easy to prove that, despite their chess-board plans, these towns do not stand on Roman sites. Often the inquiry leads into regions remote from the study of ancient history.

Some of these occur in the Lombardy plain where, both under the Republic and at the outset of the Empire, many 'coloniae' were planted full-grown and where town-life on the Roman model was otherwise developed. Not all these towns survive to-day; not all of the survivors retain clear traces Ancient Town-Planning, by F. Haverfield of their Roman town-plan; in nine cases, at least, the streets seem unmistakably to follow Roman lines. Four of the nine date from early days; in the late third and the early second centuries (218-183 B.C.), Piacenza, Bologna, Parma, and Modena, were built as new towns with the rank of 'colonia'. The first three of these were later refounded, about 40-20 B.C.—whether their streets were then laid out afresh is an open question—and Turin and Brescia were added. In addition, Verona, Pavia, and Como won municipal status in or before this later date, though when or how they came to be laid out symmetrically is not certain.
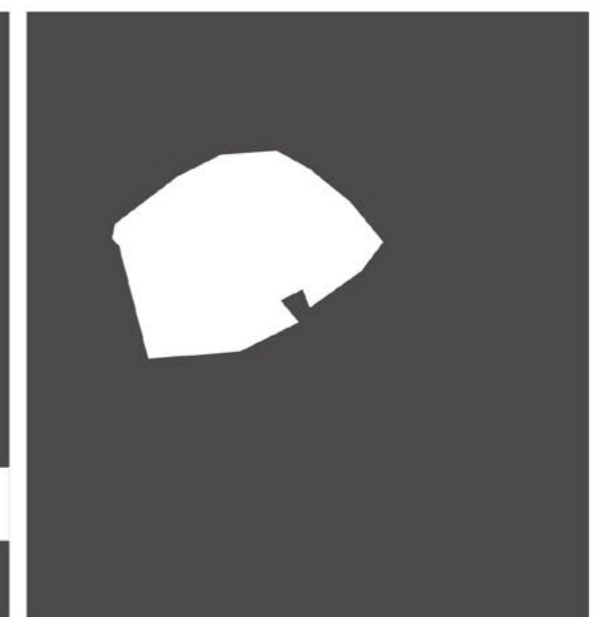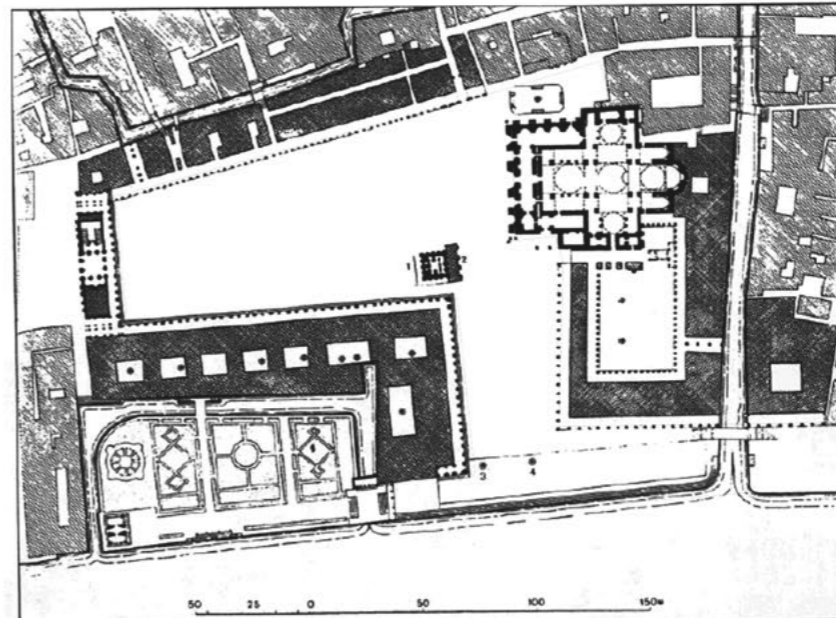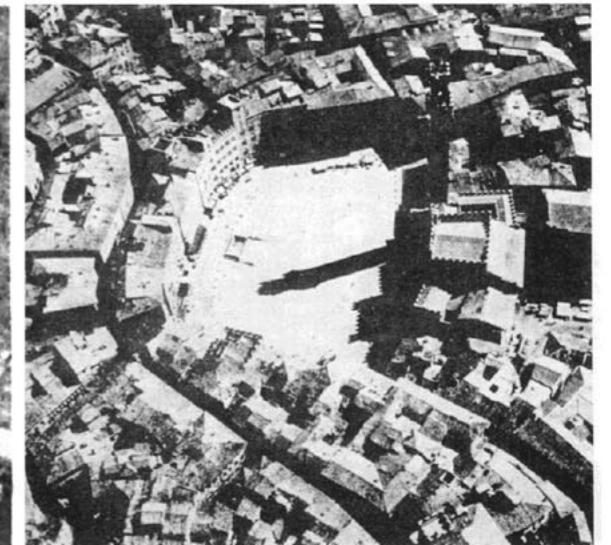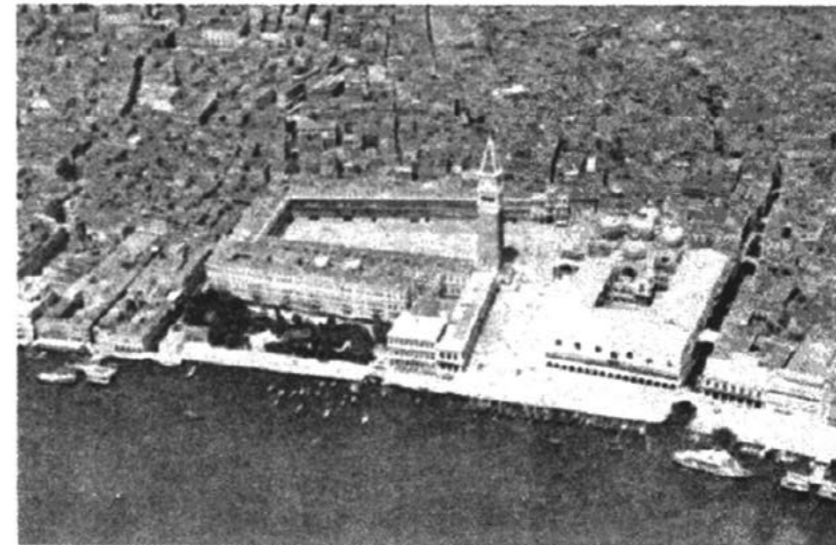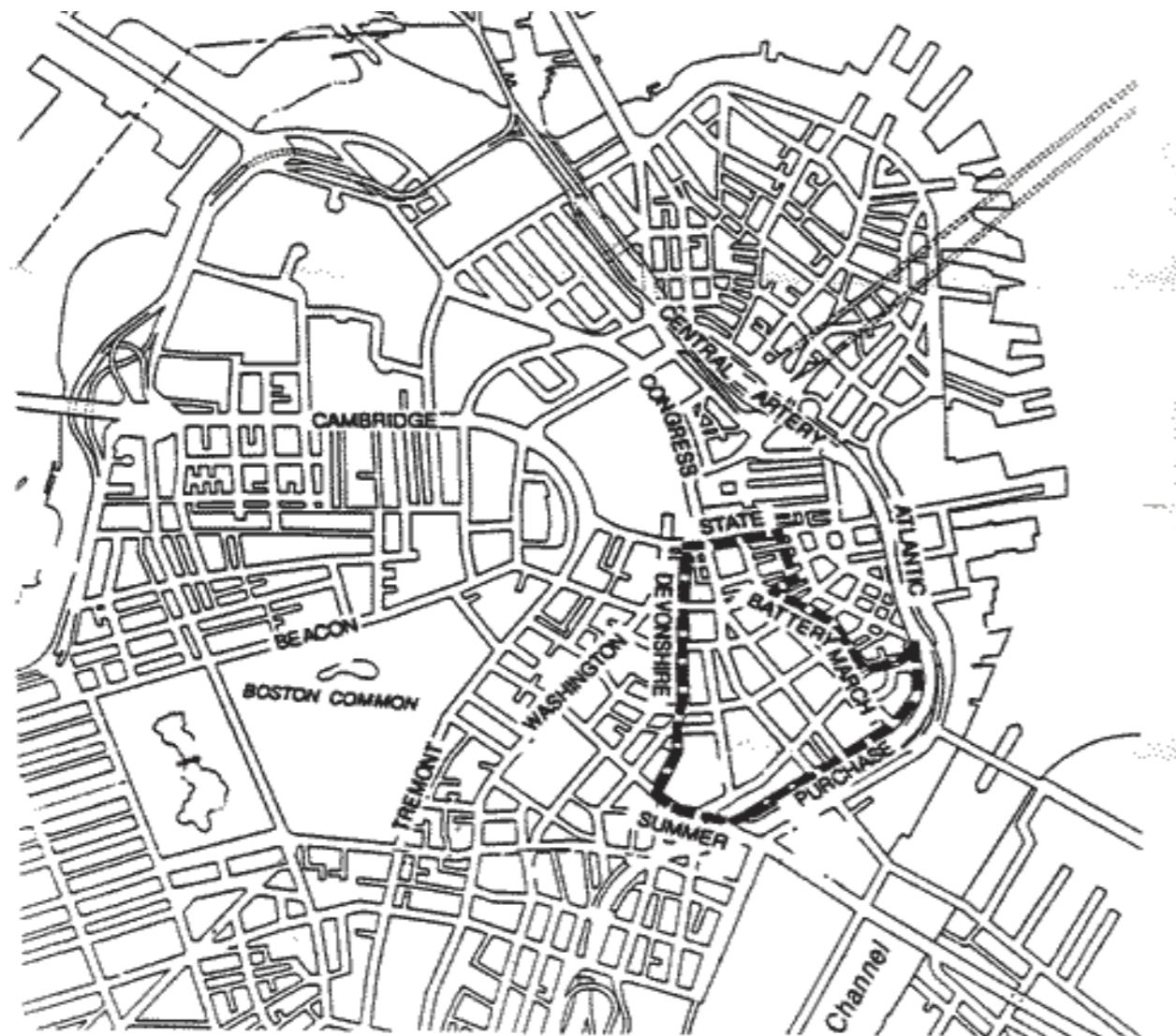
PLAN OF BOSTON CITY
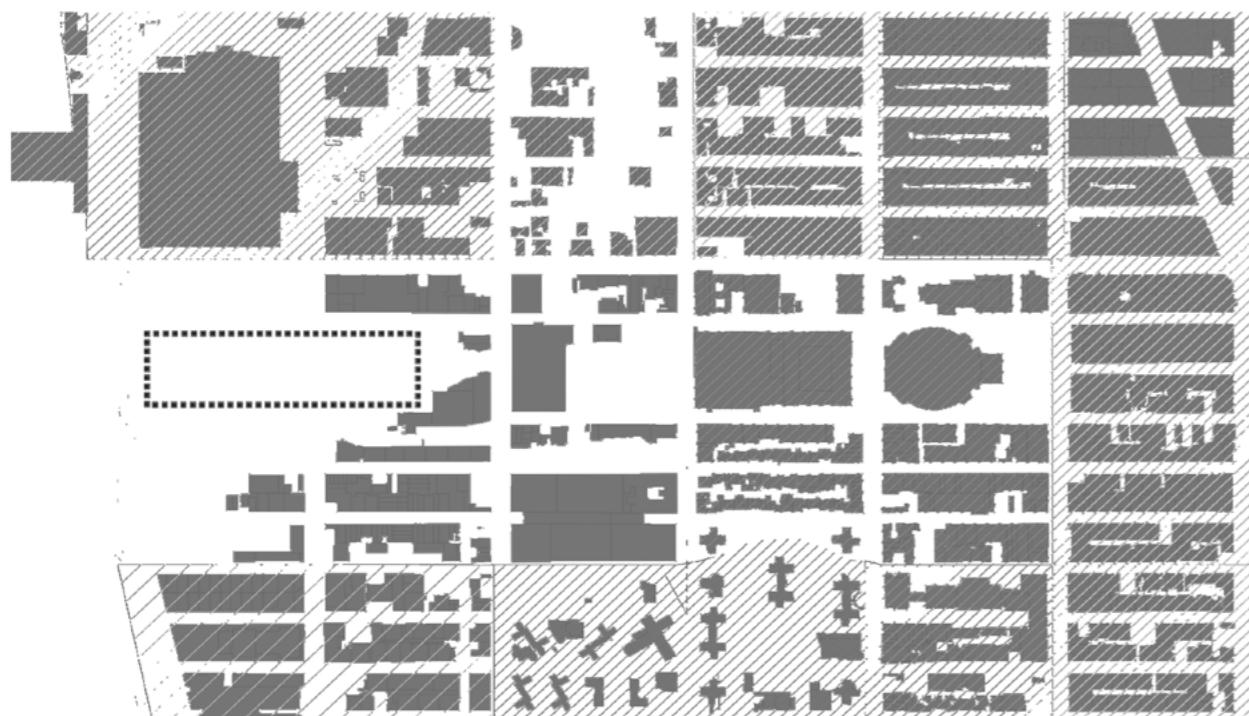
PLAN OF NEW YORK CITY

However, in the modern cities of the United States, such as New York and Boston, those streets are wide and grids are clear. The open space of the city is adjacent to the street rather than the dense building blocks like those European cities. Hence, urban open space in the United States can not form a strong contrast as similar as European cities.

Urban planning in the United States focuses almost exclusively on controlling and shaping the effects of growth and is ill-equipped to deal with cities or neighborhoods experiencing sustained disinvestment and depopulation.

Few U.S. planners choose to work in places where little development is occurring; those who do choose such work find few jobs. By "planners," we mean anyone with or without formal training in urban planning who works on envisioning the future of cities and neighborhoods as places and on implementing those visions. Even formally trained planners have had little exposure to ways that they can apply planning knowledge and techniques to situations where disinvestment, rather than investment, is the principal challenge.

Some planners and allied professionals have begun to investigate the challenge of depopulation, abandonment, and disinvestment in this country's historically industrial communities. Various universities and policy centers have brought scholars and practitioners together to think through these issues. Several graduate schools in the Great Lakes region now offer courses and design studios that specifically address historically industrial communities. Based on our experiences working in several legacy cities, we suggest redefining the planners' traditional roles to address the characteristics of these cities and the historically industrial communities within them and recommend seven strategic directions that planners can pursue in order to understand and more effectively address the change taking place in these cities and neighborhoods.

## TOO MUCH DESITY MAKES THE CITY LIKE A HELL
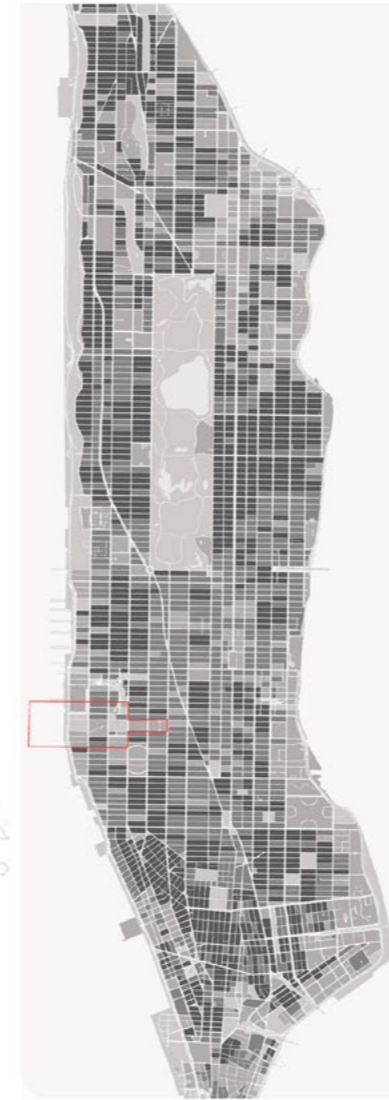
Buildings' Density of New York
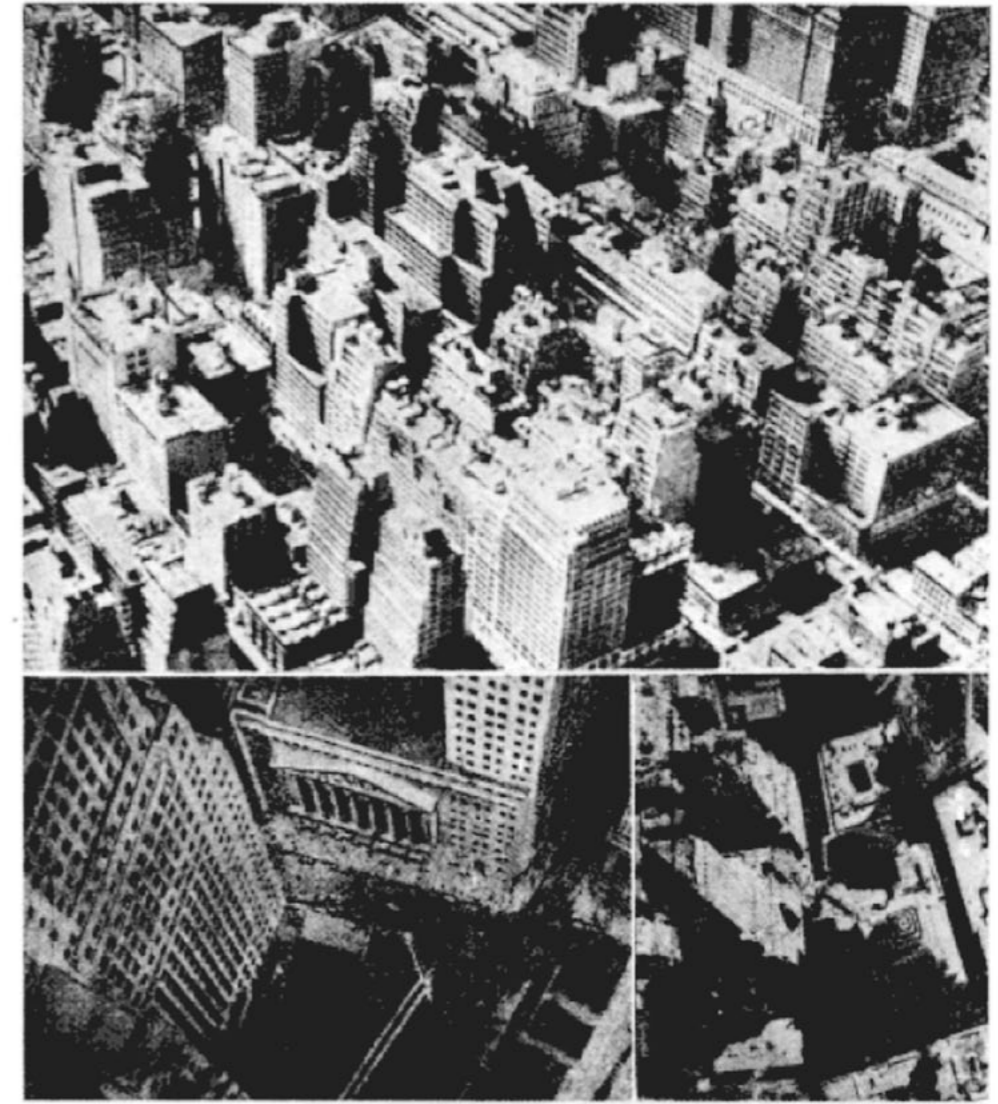
New York City: A Forest of Concrete

"Every day the anxiety and depression of modern life spring up afresh: the city is swelling, the city is filling up. The city simply builds itself anew on top of itself: the old houses towered in a cliff at the edge of the streets; the new house still tower in the new cliffs along the same streets. All the houses are on streets, the street is the basic organ of the city, and the house is the individual, infinitely repeated mold. The street becomes appalling, noisy, dusty, dangerous; automobiles can scarcely do more than crawl along it; the pedestrians, herded together on the sidewalks, get in each other's way, bump into each other, zigzag from side to side; the whole scene is like a glimpse of purgatory. Some of the buildings are office buildings; but how is it possible to work well with so little light and so much noise? Elsewhere, the buildings are residential; but how is it possible to breathe properly in those torrid canyons of summer heat; how can anyone relax, or ever give a cry of joy, or laugh, or breathe, or feel drunk with sunlight?
How can anyone live!"
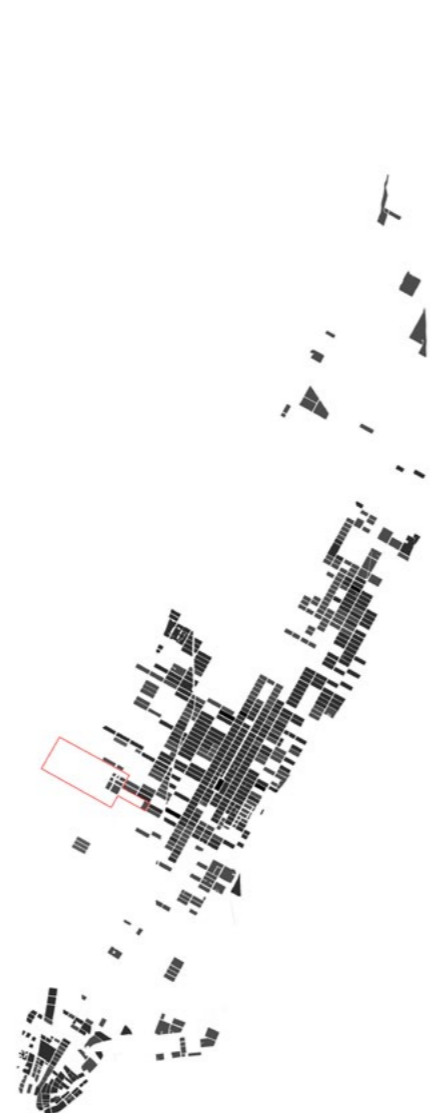
by Le Corbusier, writtren in La Ville Radieuse
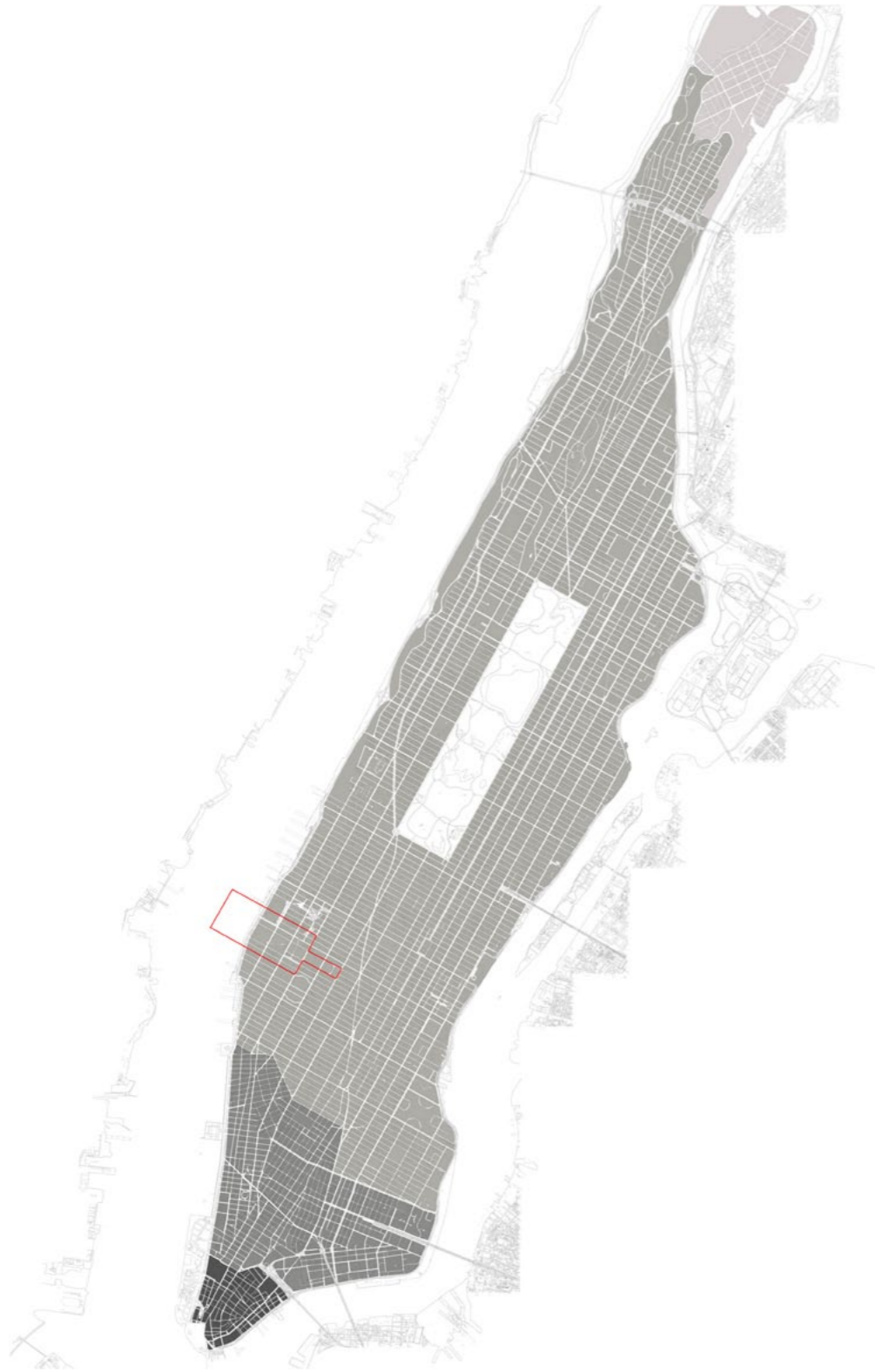
Construction History Map of New York City Manhattan

Building Desity Map of New York City Manhattan

New York City Manhattan
Map of Lowrise Buildings

New York City Manhattan
Map of Midrise Buildings

New York City Manhattan
Map of Highrise Buildings

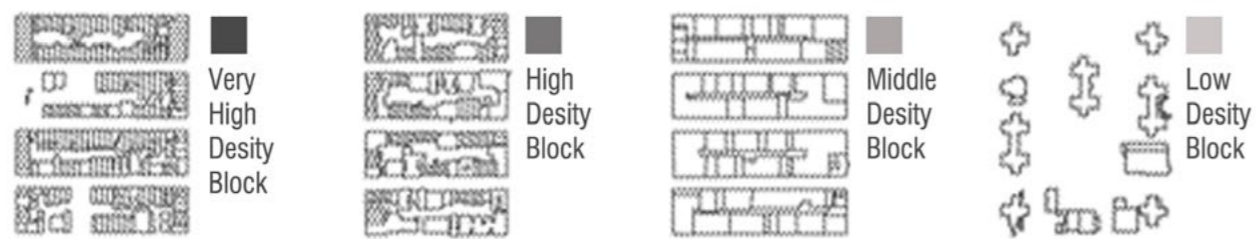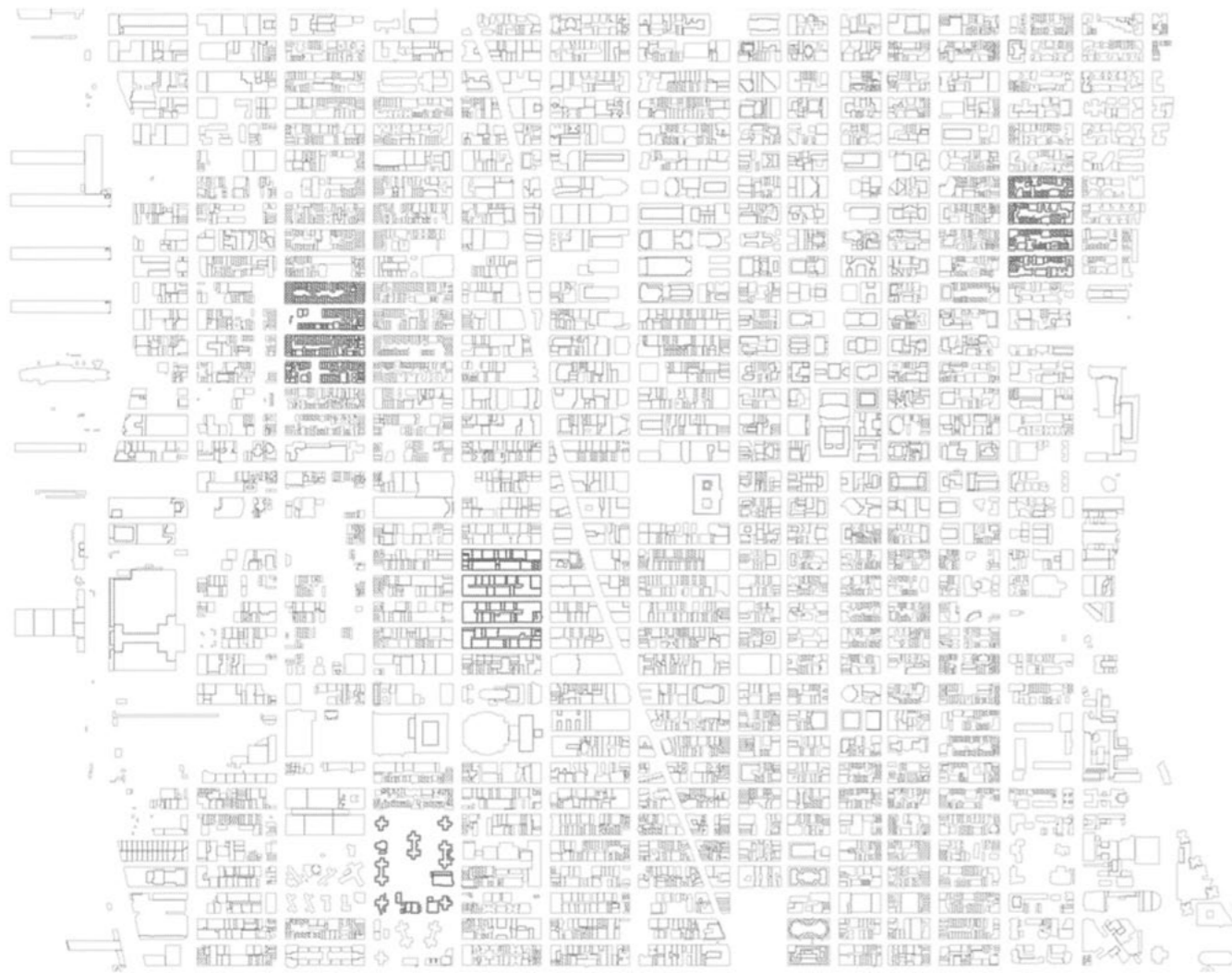New York City Manhattan
Map of Buildings' Height

Very High Desity Block

High Desity Block

Middle Desity Block

Low Desity Block

Illustration of divison of the Buildings' Density of New York

The participation and involvement of residents has to extend beyond addressing legacies of distrust and division. In Youngstown, planners led the process that brought widespread acceptance that Youngstown could become a smaller, better, and more sustainable city. A critical factor in the success of the planning process was the decision early in the process to engage residents "early and often" by using many different forums and marketing channels and to advance the planning process at a pace that would enable people to trust that the process—and the plans that resulted from it—truly reflected their aspirations and concerns. The case study following this chapter details this process.

The experience of planners working in Youngstown and Detroit suggests several other lessons about public participation, as well. Planners who themselves see possibilities in planning after decline can give residents the facts. They can communicate the scale and extent of the transition taking place in neighborhoods and open a dialogue that enables residents and civic leaders to discuss the reality of becoming a smaller city and the possibility of adjusting their metric of success from size to quality. Planners can use geographic information systems (GIS) and simulation to identify the patterns of decline and growth in their cities and focus limited public dollars on interventions that directly address quality of life by reducing crime and blight, improving mobility and the perception of safety, and identifying economic development projects—such as neighborhood grocery stores— that the smaller market can still support. And they can assume the role of "practical visionary" and help city leaders and residents to imagine an achievable future as a smaller but more sustainable city. Techniques that visualization and representation software make possible can enable planners to show residents and city officials the city's current conditions and help them illustrate what new ideas would mean in neighborhood changes.

Isolated Courtyard or Continued Space?

"The houses are cliffs facing one another across the street. Worse still, behind the houses that face the street these are more houses still. They are built around courtyards. Where is the light? What do I see out of my windows? Other windows, only six or ten yards away, with people behind them looking back at me. Where is freedom here? There is no freedom for men in this present age, only slavery.

The houses look out onto the streets, or the houses look out onto a court. Offices too. Workshops as well. More, the office, the workshop and the houses are heaped pell-mell on top of one another: din, smells, noise, a bubbling poison brew. How does one live? How does one laugh?"

These sentences also written by Le Corbusier in the same book which shows that if city without enough open spce will be dreadful for human beings. He also compared the New York City with his Plan of The Radient City (La ville radieuse) which are showig above explained that one 'bad' city without large open space within the blocks and one 'good' city with largr open space within the blocks

The New York city chose the inner courtyard within the block as open space, but they are too small, too narrow, definitely undesigned, and the worst problem is these courtyards are never connected with eachother. From one to another, people must cross through the dangerous city's streets.

From the illustration on the right, we can understand if the open spaces are connected the sequence will appear which can create a kind of rhythm of cityscape and the countined space can be convenient for the walking people. So the area will become a wonderful place from a dreadful place by creating large continuous open spaces.

separated courtyard

linear courtyard

semi open courtyard

courtyards of two neighbor blocks
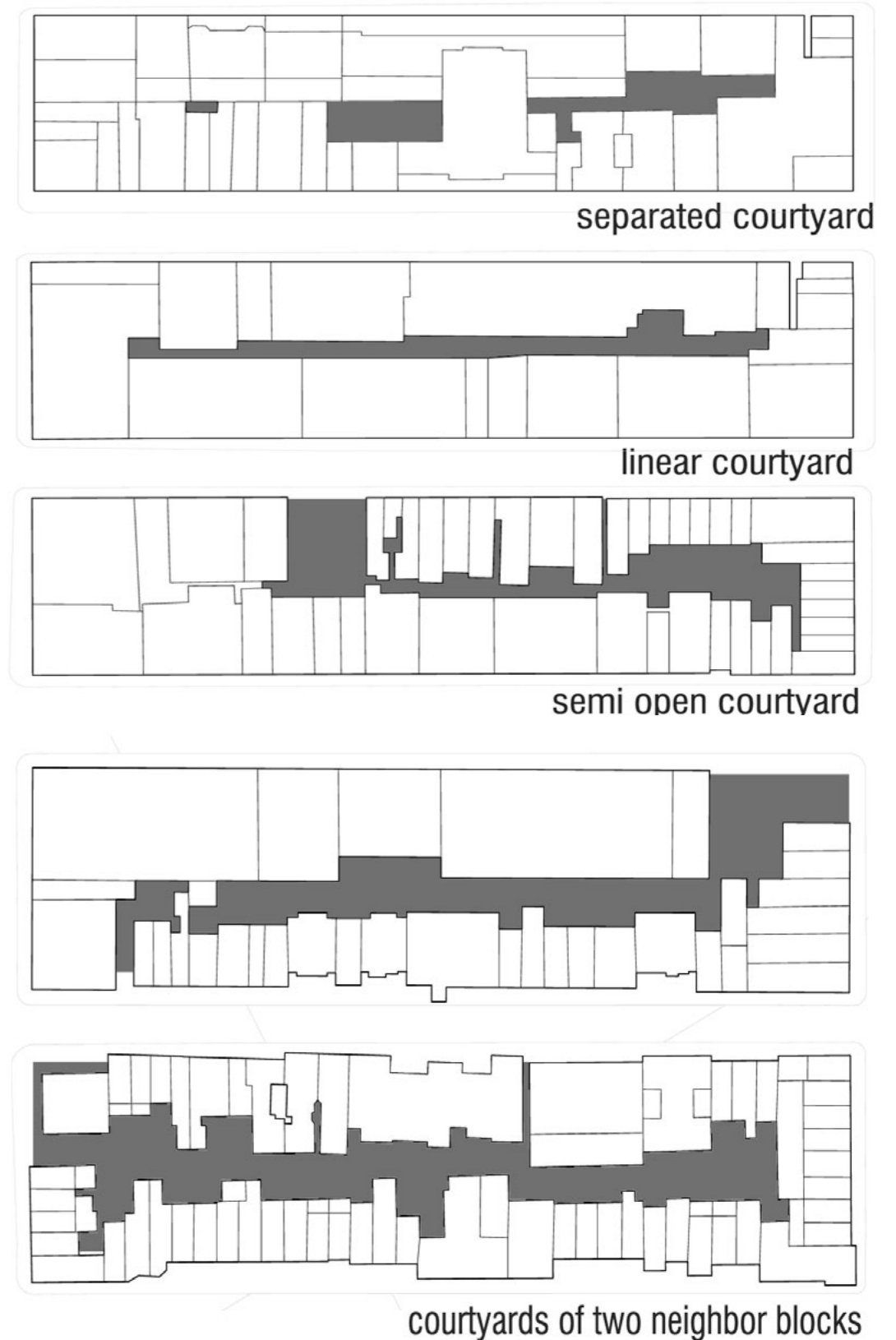
Typical New York's block, the only open space within the block is the courtyard, but unfortunately there are small and narrow, and the worst is non of them is connected with others.

Space Sequence and Space Feeling

[SPACE, TIME AND ARCHITECTURE]Sigfried Giedion wrote the book. In the ninth and the last chapter of the book, "Space-Time in City Planning", Giedion aims to analyze the contemporary approach towards town planning. He states right at the beginning of the first paragraph that the preliminary aspect of the city is not technique nor economy but the human being.198 Due to the changing characteristic of the city, the planner must now struggle with different types of social groups. So the town planning cannot be reduced to accomplish straight lines of streets anymore, but it should consider the rise in the population density. On the other hand, town planning should syncretize the existing goals and facts of the era. As an example given by Giedion, modern traffic brings about a new awareness of environmental perception.199 So the new town should not overlook the new conditions of life. As well as traffic, the frequent menace of wars should be another factor to consider in order to realizing a new town. Giedion perceives the city as an organic entity, which must be saved from the preeminence of industrial machines. The metropolis comes under investigation at this point. There are two opinions about the future of the metropolis: the first one is for the abolition of the metropolis, that the big cities should be divided into smaller zones in order to introduce nature to people again and to bring agriculture back to the center. The second opinion on metropolis is for the transformation of the city. The supporters of this opinion affirms that there has been a misuse of the city since the industrial revolution, and it can be saved with the attempt of bringing the necessities for a harmonious living together, first of all the present conception of life and its expression through contemporary artistic means.
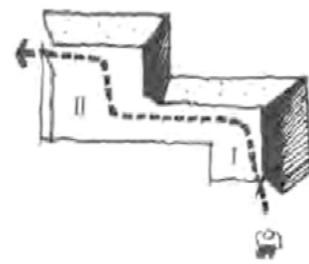

When several spaces are combined together the sequence will appear.

Gordon Cullen.
Perspective Sequence of Townscapes.
Gordon Cullen's graphic illustrations of the experience of moving through urban spaces capture the unique sense of place from street level. His works area powerful demonstration of the need to understand and graphicallyanalyze the individual character and sequence of public spaces in the built environment. (Drawing: Gordon Cullen from Townsacepe. Courtesy Van Nostrand Reinhold Company)
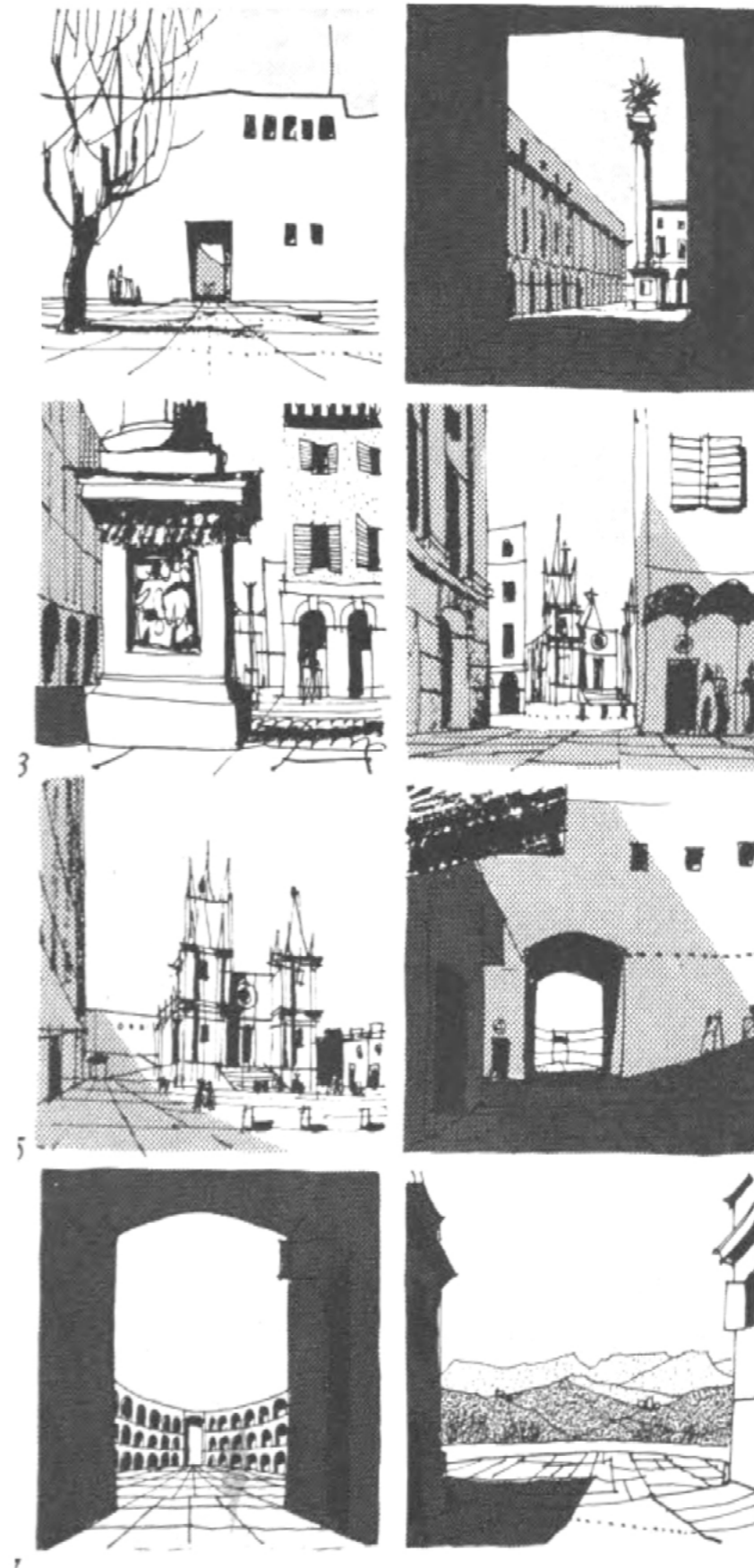
The sequence starts from Pic 1. Pic 2 is passing the gate of the fortress and then is the pillar in Pic 3. Pic 4 showing walking through a narrow space and Pic 5 is the mian open space which is the center of the town. Pic 6 is the corridor which narrow again. Pic 7 a little wider and Pic 8 is the end.
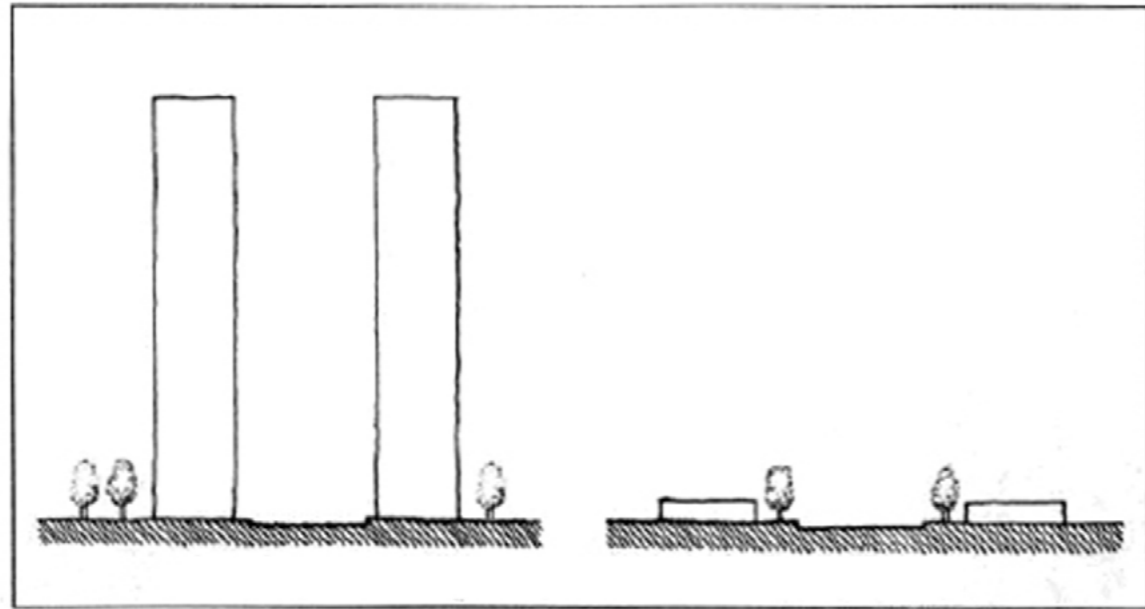
To the same open space, the different heights of the surrounding buildings will create different feelings for the people inside. The European Cities have lower buildings so people will regard a small space as a large open space, and American Cities have higher buildings so people will regard a large space as a small open space

Why do people need urban parks?
Which benefitsdo they get from visiting them?
And, do these benefits really affect their quality of life?

Open space provides a range of benefits to citizens of a community, beyond the benefits that accrue to private landowners. Parks and natural areas can be used for recreation; wetlands and forests supply storm-water drainage and wildlife habitat; farms and forests provide aesthetic benefits to surrounding residents. And in rapidly growing urban and suburban areas, any preserved land can offer relief from congestion and other negative effects of development.

It is one thing to recognize that open space provides these benefits but quite another to place a monetary value on them. To make important policy and planning decisions about zoning, restrictions on land use, government purchase of lands for parks, and similar initiatives, however, estimates of preferences and even dollar values can be essential. In this study, we review more than 60 published articles that have attempted to estimate the value of different types of open space.

The two major approaches for estimating open space value from the economics literature are the focus of this study: revealed preference methods and stated preference methods. In the first category are hedonic property value studies in which the open space value is inferred by estimating the sales price or value of a property as a function of measures of proximity to open space and other property and neighborhood characteristics. In the second are studies that use carefully designed surveys to elicit preferences or values households place on various types of open space amenities. Both contingent valuation and contingent choice studies are reviewed.

Both the revealed and stated preference studies generally show that there is value to preserving most types of open space land uses, but the values tend to vary widely with the size of the area, the proximity of the open space to residences, the type of open space, and the method of analysis. One conclusion we draw from this review is that the extant literature tends to be case study specific. However, it is possible to draw conclusions from the range of studies about the direction of particular effects, how values vary by location and other influences, and the differences among the methodologies used to estimate values. In addition, we suggest areas where additional research is needed to improve valuation estimates. We also conclude that more analysis is needed about how to conduct studies with broader applicability.

Open space provides a range of benefits to citizens of a community, beyond the benefits that accrue to private landowners. Parks and natuZral areas can be used for recreation; wetlands and forests supply storm-water drainage and wildlife habitat; farms and forests provide aesthetic benefits to surrounding residents. And in rapidly growing urban and suburban areas, any preserved land can offer relief from congestion and other negative effects of development. Both publicly held and privately held lands can provide open space benefits, but because people who do not directly own the land still enjoy the benefits, open space is likely to be underprovided by the private sector.

People derive different types of nonmarket values from open space. One category of these benefits is called use value. In this case, the benefit is related to seeing or using the open space, such as having a pleasant view, experiencing improved water quality, or having increased opportunity for viewing wildlife. Another set of values derives not from direct use of the open space or services from it, but rather from knowing the open space exists. These are referred to as nonuse or passive use values.

People may get utility, or satisfaction, from knowing that farms on the periphery of an urban area exist as they have for generations, even if they never plan to visit those areas. Some studies reviewed here attempt to measure only use value, and others attempt to capture total value, which may include both use and nonuse components.

European Style   American Style

To create an inner order of the open space,
the most important step is to make a connection with the outer urban context.
Learning from the R.Venturi's plan in Boston, in which he propsed a "filled" square refers to the grid of the historic Back Bay, we discovered that the New York has its obvious traditional grid system - "the manhattan grid". In the conclusion, the inner order must repect to the manhattan grid.

In cities that have experienced sustained decline, the planning process should, on the one hand, acknowledge the history and civic identity of the city and its neighborhoods as assets and, on the other hand, enable residents to address openly the wrongs and divisions that are also the legacies of the past. In cities that formerly depended on manufacturing, the deep divisions of race, class, and ethnicity and the profound disruption of urban renewal and interstate highway construction often remain vivid memories.
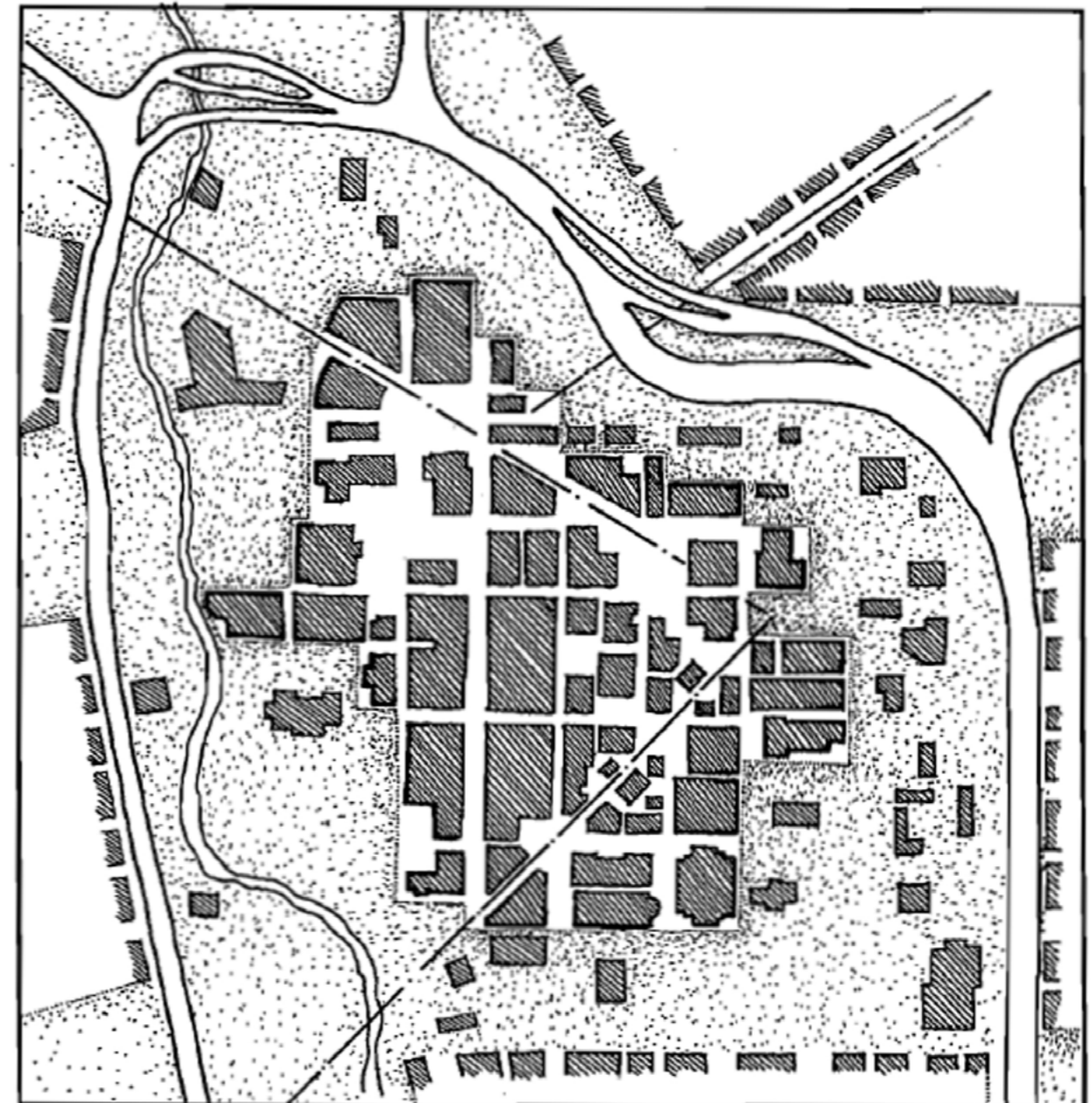

Figure 1-12. Diagram of the Form of the Typical American City.
The high-rise core (hatched area) is surrounded by a belt of parking lots and highways created during urban renewal (stippled areas)—a ring of lost space that segregates downtown from residential neighborhoods. This diagram is based on the form of downtown Syracuse, New York.

The firm's early urban concern is seen in the design for the Copley Square Competition, by Venturi and Rauch with Gerod Clark and Arthur Jones, of 1966. The competition was for the square in front of Boston's Trinity Church. In one of the most sensitive examples of modern urban planning, they used a dense planting of trees both to keep the space open and to give it definition and solidity. The ground is covered with a grid of planters repeating in miniature the city's street grid. It is at one repetitive and different, owing to the diagonals cutting through it.

Modern city planning, developing parallel to modern architecture, had also divorced itself from the realities of urban experience. Historic buildings were destroyed, small towns were ignored; the automobile was never realistically dealt with, visual vitality was replaced with sterile store fronts and the Helvetica Medium typeface in lettering; the street as a social institution was destroyed; and meanwhile zoning by use assured both the need for commuting and the desolateness of downtown areas at night. Venturi, Denise Scott Brown (a partner in the firm Venturi and Rauch) and their colleagues were among the first to take the automobile seriously in terms of its impact on urban scale and in light of the visual experience of the driver. They were also among the first to deal with graphics as a developed part of commercial enterprise with a long history; to deal with high-rise housing in terms of its impact on street scale; to deal with the American vernacular commercial landscape; or to analyze American houses from an "anthropological" point of view. In short, they were among the first to relate architecture to urban, suburban, and rural reality.
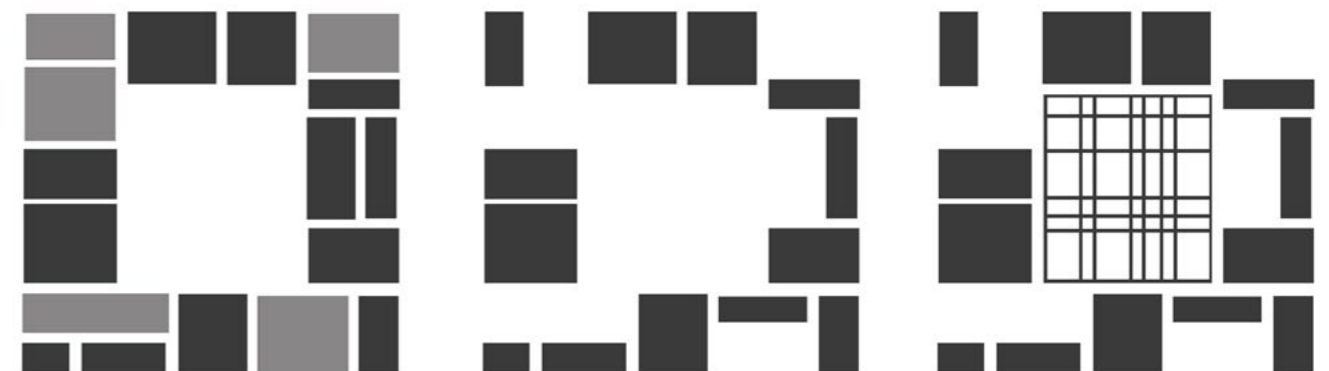
The issue in architecture now is not function, construction or style (Vitruvius' "commodity, firmness and delight"). Rather it is how function, construction, and style can architecturally establish an appropriate place for humanity in nature. The function of architecture rests on the question: are we ahistorical, born apart from any significant spatial or temporal context, with the mind only a blank, unprogrammed computer? And are we then subject only to the laws of rational causality? Or are we historical creatures, born in a particular place and at a time that is somehow special in the evolutionary continuum, with structures of consciousness by which we participate in a complex process of reality that transcends space, time and causality? I believe the latter, and I believe that Kahn's and Venturi and Rauch's thought can together form the basis for architecture of Being-in-context, responsible to such an understanding of the human place in nature.
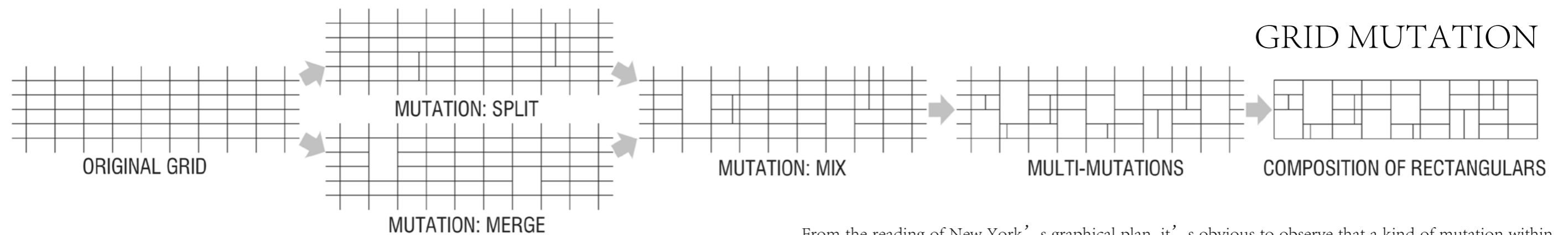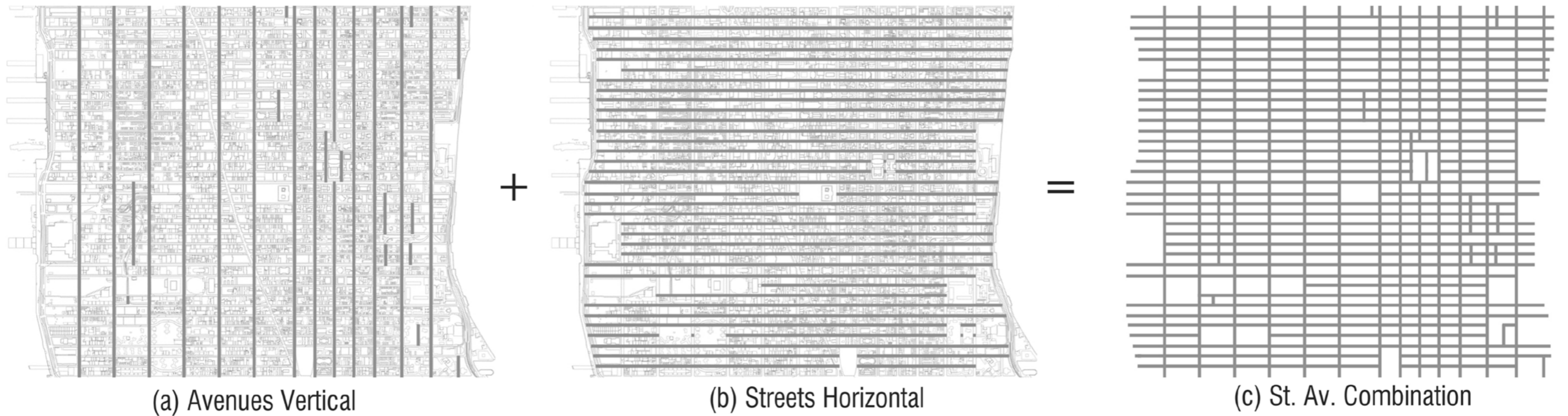
A historical context also comes into play in Venturi's design. The house for his mother goes back to a whole cluster of roots of modern architecture: to the earliest work by Le Corbusier, which is seldom published; to Frank Lloyd Wright before he developed the Prairie Style; and especially to the American Shingle Style houses of New England--particularly the W. G. Low House in Bristol, R.I., 1887, by McKim, Mead and White. Thus Venturi related his mother's house to the American tradition and to the mainstream of early modern architecture, as well as to one of the innovative periods in the history of houses.
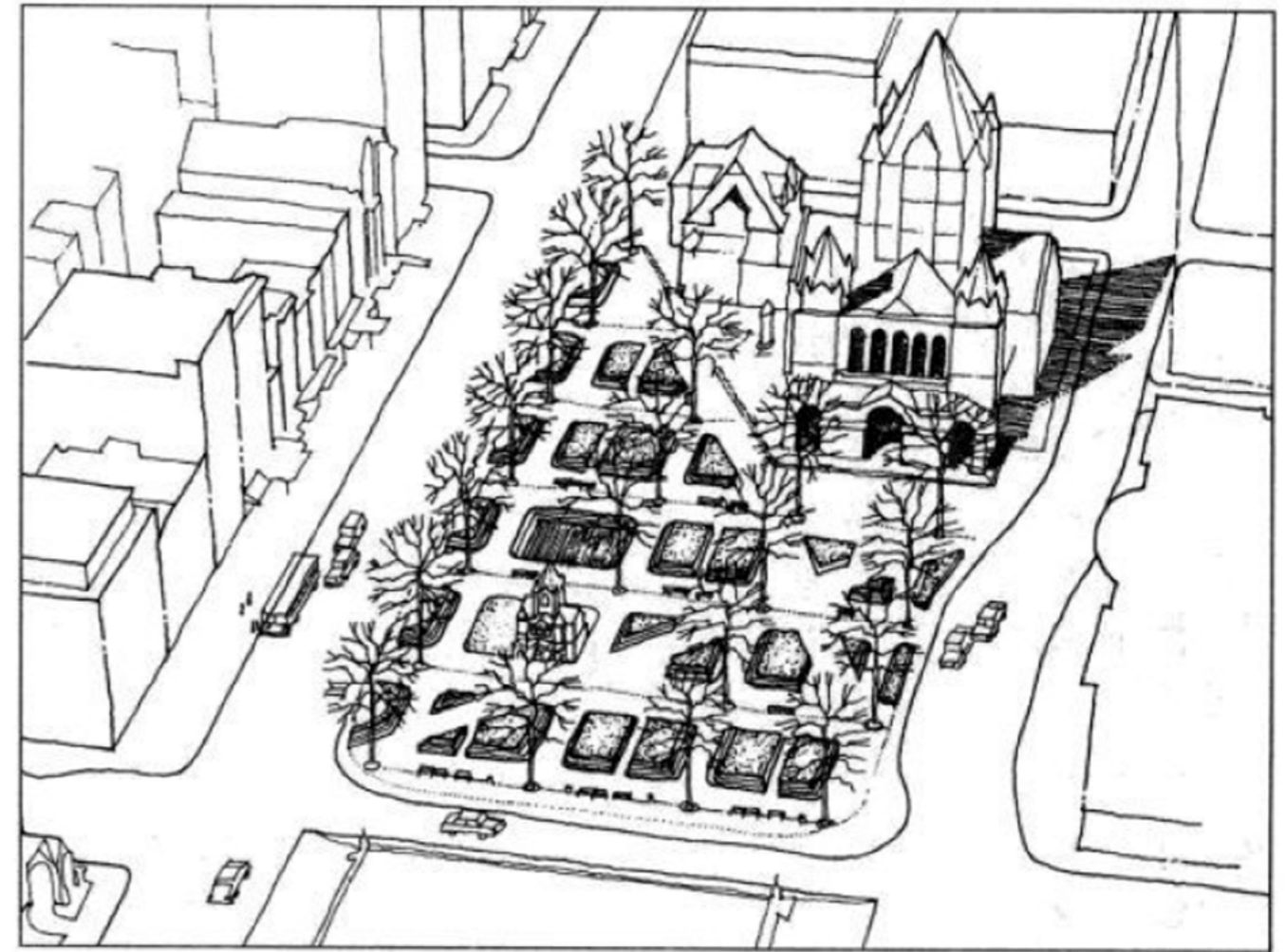
Robert Venturi. Competition Entry for Copley Square. Boston 1969.

Venturi submitted a scheme in marked contrast to the Sasaki design. His argument was that the buildings surrounding the site didtnot provide sufficient enclosure to create a European Piazza. and that Americans did not,in any case, use open space in the same way. He proposed a "filled" square, heavily planted that would symbolically represent the grid of the historic Back Bay of Boston.

(a) Avenues Vertical　　　　+　　　　(b) Streets Horizontal　　　　=　　　　(c) St. Av. Combination

GRID MUTATION

ORIGINAL GRID　　　MUTATION: SPLIT　　　MUTATION: MIX　　　MULTI-MUTATIONS　　　COMPOSITION OF RECTANGULARS

MUTATION: MERGE

From the reading of New York's graphical plan, it's obvious to observe that a kind of mutation within the grid system of the city of New York. The former original grid system from the master plan by governers which designed in 19th century is strictly rigid and all the cells are exactly uniformed. But since the time was changing, some changes happened by various reasons during the urban extension.

There are mainly two kinds of mutations: the first one is the splitting mutation which one cell is splitting into two parts while a new sub street passing through it; and the second one is the merging mutation which two adjacent cells are merged into a new larger cell while the previous street being demolished. The splitting mutation almost happened horizontally because the horizontal length of the cell in some occasions is too long, while the merging mutation almost happened because the vertical width of the cell in some occasions is too short. When these two kinds of mutation happened together and repeated in different areas, the nowadays urban grid appears.

If we multiple this kind of mix-mutation in a small region, then we could discover that the final grid will be like a composition of several rectangular with different sizes. If we just select some of those rectangular as the base to build buildings on it, we observe that the graph is mostly close to the Compositional Form as we learned before. If we design a region with one of those three types, and we list the results together, the Compositional Form is responding the urban context with the same design language.Hence we can have the inference that the Compositional Form is the most suitable form within the context of Ney York among those three types.

THE LINKAGE OF SPACE
organizing coherent spatial relationship under the context during the urban design.

Since we decided to create a continuous space system, now another question is coming ahead that is how to organize the space and what is best kind of linkage under the context of New York? Let's have a study of the linkage of space.

Urban design is concerned with the question of making comprehensible links between discrete things. Linkage is simply the glue of the city. It is the act by which we unite all the layers of activity and resulting physical form in the city… As a corollary, it is concerned with making an extremely large entity comprehensible by articulating its parts.

From Fumihiko Maki's landmark treatise, Investigations in Collective Form, he defines three different formal types of urban space: compositional form, mega form, and group form.

Compositional form, he says, consists of individually tailored buildings in abstract patterns that are composed in a two-dimensional plan. Linkage is implied rather than overt, and reciprocal tension is a product of the positioning and shapes of freestanding objects. Linkage elements are static and formal in nature. Maki cites as examples of compositional form Chandigarh Government Center and the new city of Brasilia. In compositional form, perimeter edges to open space are not considered as important as important as the object buildings themselves.

The second formal type in Maki's linkage theory is the mega structure, in which individual components are integrated into a larger framework in a hierarchical, open-ended, and interconnected system. In mega form, linkage is physically imposed to make a structure. In describing mega form, Maki points out several administrative and engineering advantages, principally the advantage of efficiency in ordering varied functions and investment within a simple infrastructure. The tight structure of mega form encloses the internally covered space and perimeter is formally defined, but the structure is indifferent to exterior space. It tends to turn its back on the physical context and creates its own milieu by embracing a very large room without specific reference to human scale. In such examples the form generator is often the high-speed road network.

Maki calls his third formal type of linkage space "group form." This is the result of incremental accumulation of elements in space along an armature and is particularly typical of the spatial organization of many historic towns. In group form linkage is neither implied nor imposed but is naturally evolved as an integral part of the organic, generative structure. In group form urban spaces are derived from the interior, and the rural space outside imposes limitations and conditions that define the place of the community within the landscape. The structure of the settlement responds to a necessary grid progress between factors of the internal and external site.

In all three formal types, Maki stresses linkage as the controlling idea for ordering buildings and spaces in design. What emerges from his important work is that the composition of public space is established as totality before either individual spaces or buildings are planned during the phase of design of organizing coherent spatial relationship.

individual buildings are composed on a two-dimensional plane.

(a)

structures are connected to a linear framework in a hierarchical.

(b)

from an incremental accumulation of structures along an armature of open space.

(c)

Three types of spatial linkage

(a) Compositional Form   (b) Mega Form   (c) Group Form
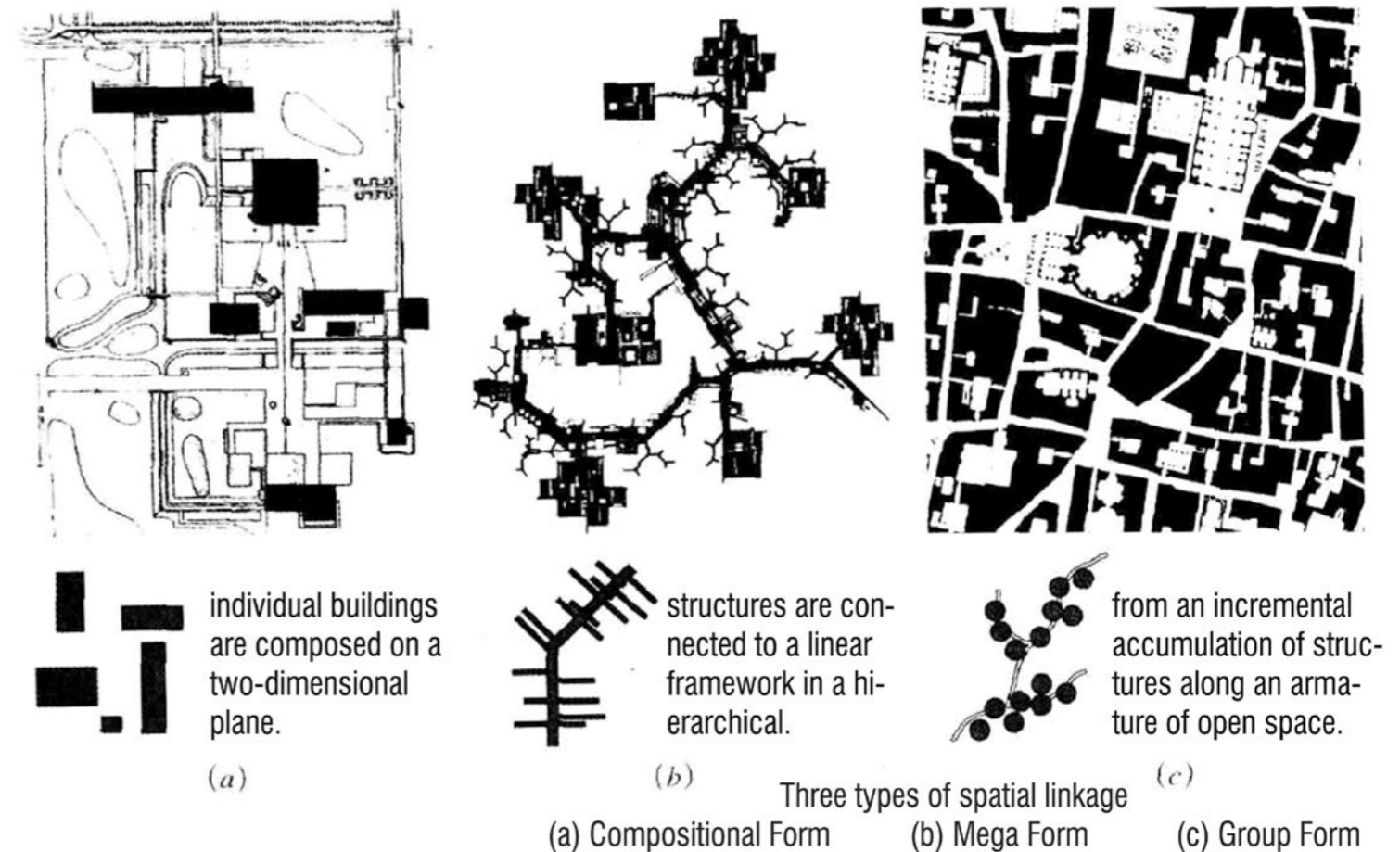
People require a relatively stable system of places in which to develop themselves, their social lives, and their culture. These needs give manmade space an emotional content – a presence that is more than physical. The boundary, or definite edge, is important to this presence. As Martin Heidegger says, "a boundary is not that at which something stops, but as the Greeks recognized, the boundary is that from which something begins its presencing."

Architecture and landscape architecture must respond to and, if possible, enhance environmental identity and the sense of place. The essence of Norberg-Schulz's influential Genius Loci is contained in the following statement:

A place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize the genius loci and the task of the architect is to create meaningful places where he helps man to dwell.

The role of the urban designer, then, is not merely to manipulate form to make space but to create place through a synthesis of the components of the total environment, including the social. The goal should be to discover the best fit between the physical and cultural context and the needs and aspirations of contemporary users. Often the most successful design of places stems from minimal interference in the social and physical setting instead of radical transformation. This "ecological approach" to design (a term popularized by Ian McHarg in Design With Nature) aims at discovering and working with the intrinsic qualities of a given locale and is diametrically opposed to the internationalism advocated in the early Modern Movement.

The crucial question becomes: How do we as designers respond to time and place, when overdesigning and too much planning are almost as dangerous as allowing the marketplace to shape cities in a random, and fashion? At the same time the dangers of under design, of what happens in the modern city when all is left to individual developers. Our cities must of necessity be historically and physically fluid and mobile; we cannot lose that flexibility as we impose our designs. The critical issue of this book, even beyond that of dealing with our contemporary urban space, is how designers, architects, and landscape architects should perceive their roles. Perhaps the most destructive aspect of the Modern Movement and of recent trends in planning has been the self-aggrandisement of designers and a tendency to make simplistic assumptions about human needs. The humility to look at the historical context, to respond to the self-perceived desires of the community, and the flexibility to allow the community, present and future, to alter its own environment, are perhaps what contemporary design needs most pressingly.

Considering the context of New York city, especially the grid system, the situation is naturally much more closer with the compositional form.

IIF HATCHED MUTATION PARTS

Compositional Form

Mega Form

Group Form
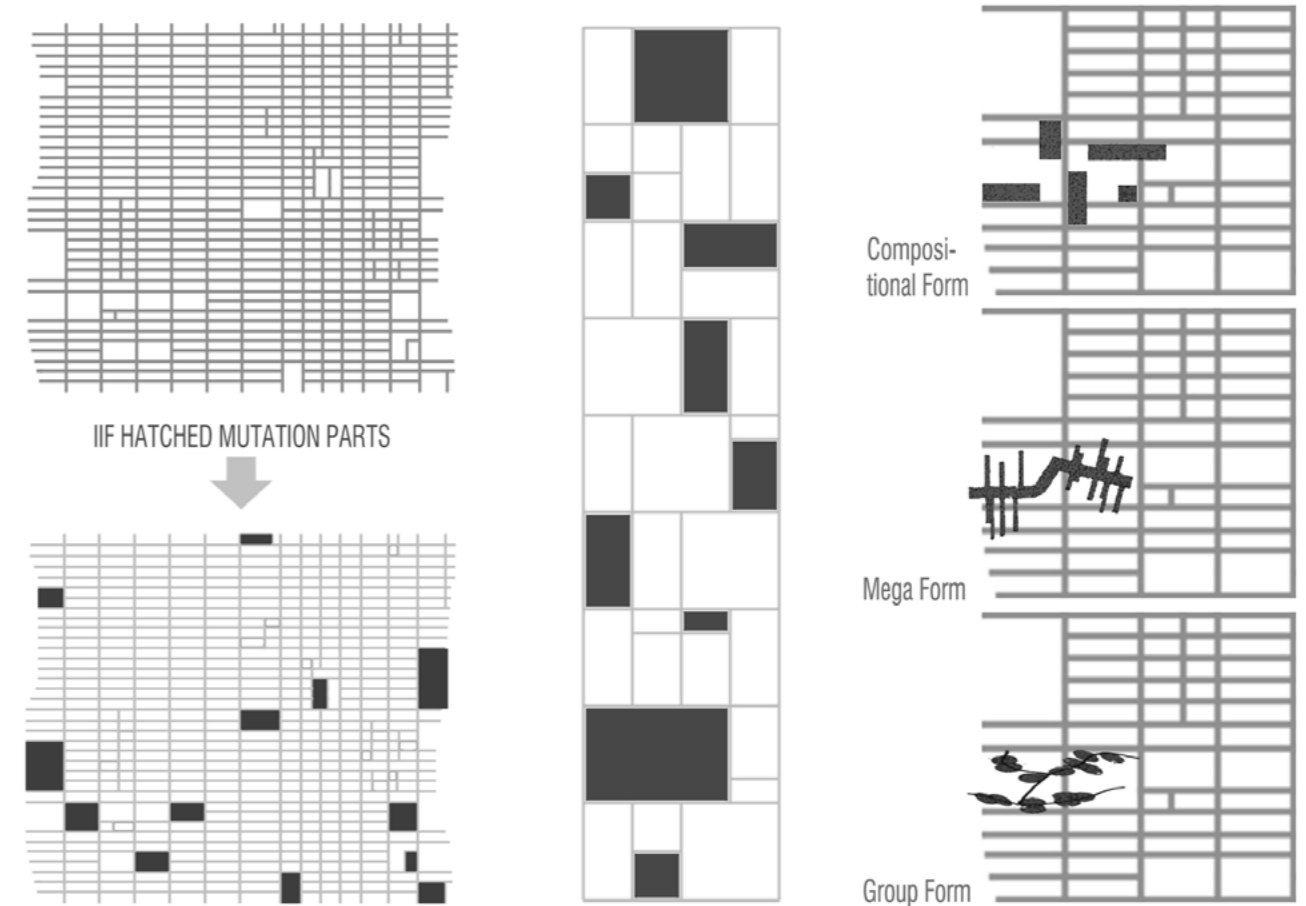
THE DUSK OF THE WALKING CITY

The age of the horse-drawn vehicle stops with Haussmann. Till then, from the beginning of civilization, cities did not need to take anything into account when designing their ground plans except the human pedestrian and the horse – except very low rates of speed that were naturally in perfect harmony with our biological functions.

The first carriage appeared IN THE CITY in about 1650! From that moment on, the history of Paris has continued to reverberate with vituperative tirades on the subject of traffic congestion. Louis XIV found himself up to his neck in it: he tried to straighten out the city's winding streets; he went in for wholesale rectification; he decreed not only that the city should have a new ground plan but that it should be redesigned on a new scale. A new doctrine was born: intelligence pitted against the hand-to-mouth, day-to-day conglomeration of chaos. Louis XIV was the Sun King, he put forth beams like the beams of the sun; and the beams of the sun are straight as arrows flying straight to their goal. Even till Napoleon times, the road reform action was still carrying on which like the graph below showed: They destroy the existing houses in order to straight the roads… Now, two centuries later, the automobile age owes it itself to raise a monument in commemoration of those Great Kings.

During the horse age, the great cities served to provide a lodging for the sovereign and the princes… as well as for the people, the working classes. For the princes, the city meant clarity and intelligence: order and government, broad views, discipline, wide vistas: architecture. And this is what history clings to, these titles to splendor: the beauty of an architecture inspired by a noble intention.

Road Reform in 1829
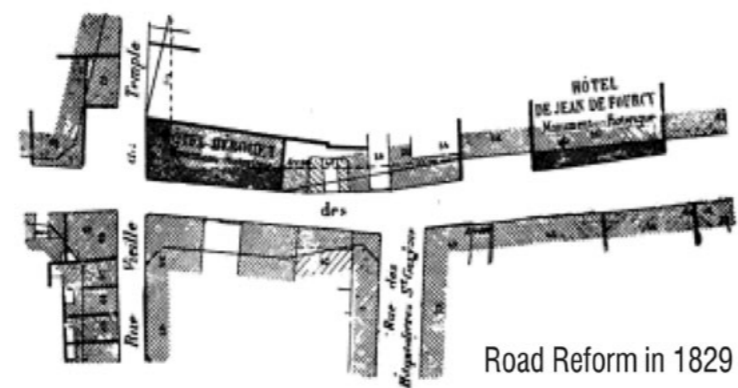
Louis XIV (1638-1715)   Napoléon I (1769-1821)
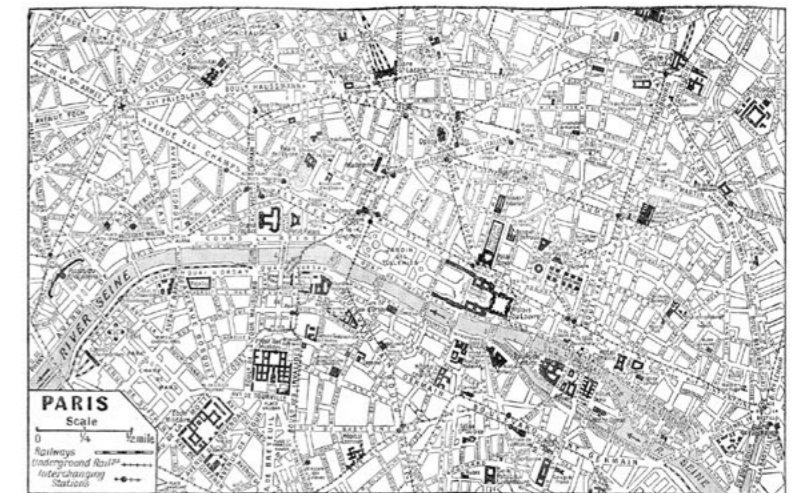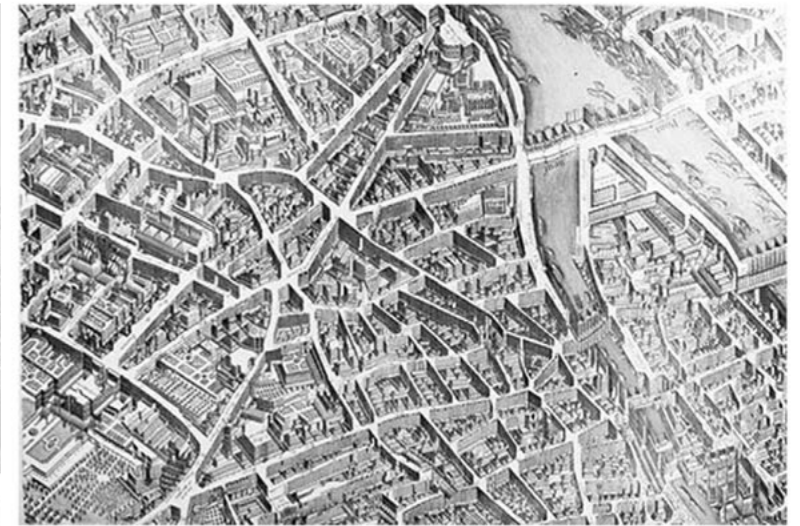
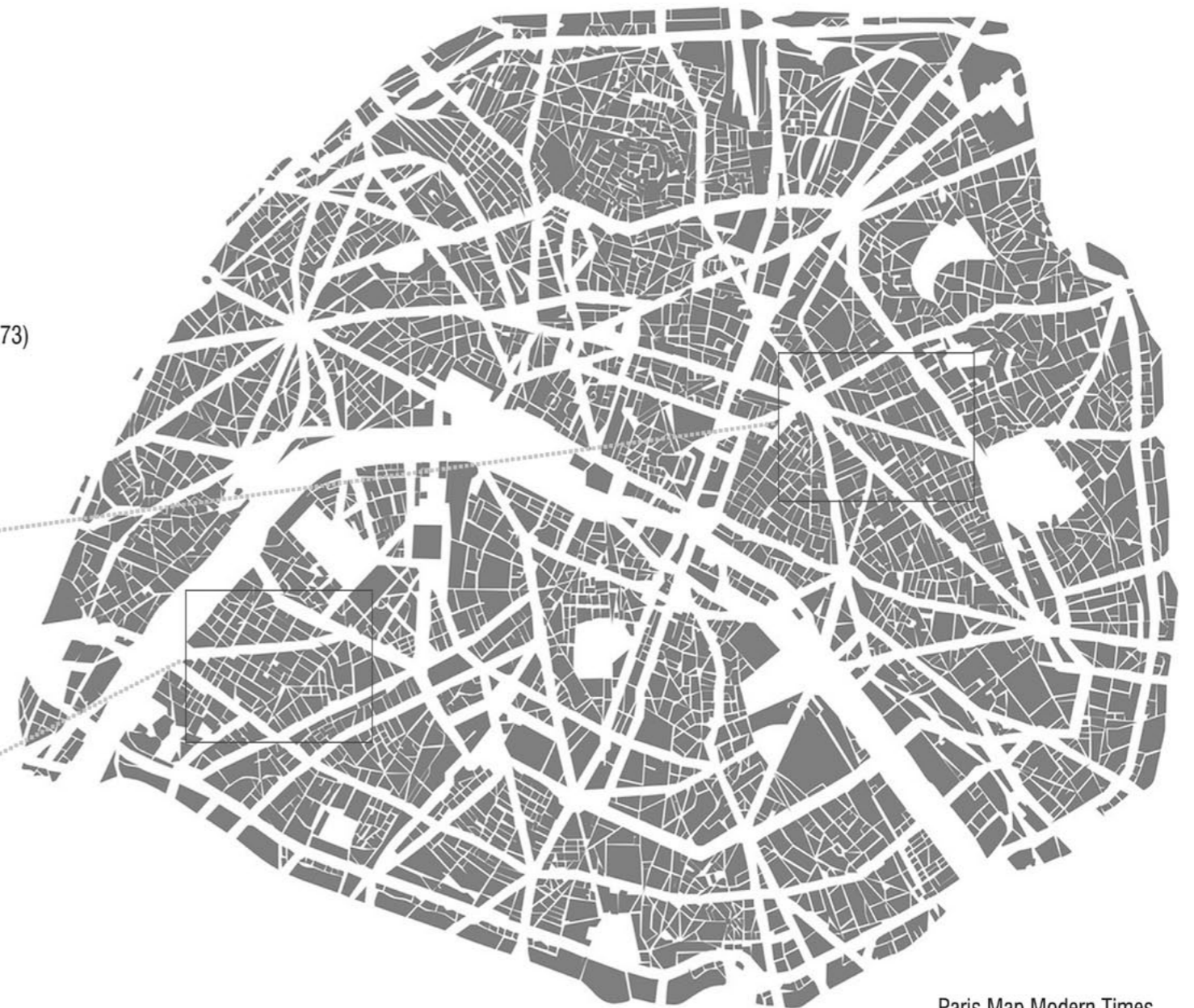| | Map of Paris in 1739 |
| | Map of Paris in 1932 |
| Map of Area of Arc de Triomphe | Street Illustration of Area of Arc de Triomphe |
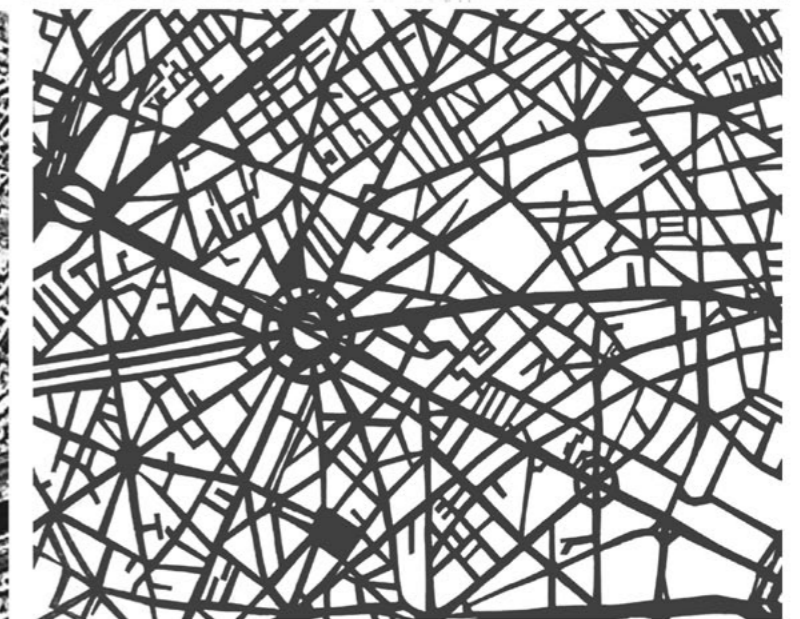
French Revolution in 1848 and Napoléon III (4.20.1808 - 1.9.1873)

Paris Map Modern Times

Paris Map Modern Times

Paris Map Modern Times

THE DAWN OF THE DRIVING CITY

What a great Horse Age governed by the King! But how about the people? Like worker bees or ants, they came and went, crawled in and out, slept in their tiny honeycomb cells, and bustled about in constricted, tortuous alleyways. The "Rights of Man" were still to be proclaimed. The aristocrat still the depths of grimy lairs (in Rome – the Rome of the Caesars – the plebs lived in an inextricable chaos of abutting and warren – like skyscrapers), there sometimes came a hot gust of rebellion; the plot would be hatched in the dark recessed of an accumulated chaos in which any kind of police activity was very difficult. Soldiers would be sent to flush the conspirators out, to massacre, to burn, "order was restored." Occasionally, it was arranged that the city should burn down. History is more or less silent about such things: it prefers to recount the splendors of courts.

Christianity alone, spreading from hearth to hearth, from floor to floor, was able to mobilize a new state to oppose the State. And one day it toppled the whole structures. St Paul of Tarsus was impossible to arrest while he stayed in the slums, and the words of his sermons were passed like wildfire from mouth to mouth.

Then, the Rights of Man, the Revolution came. Exactly the same process. Until one day, Napoleon III said: "This can't go on, it's too dangerous. I want all this cleared up, I want this impenetrable warren sliced up into sections, I want straight avenues opened up through all the slum blocks that my cannons can fire along. Then we shall see if they can still get up these revolutions of theirs." Haussmann obeyed those instructions. Napoleon's cannons brought a new speed into city life. Seventy years later the automobile age owes it to itself to raise a monument in gratitude to Napoleon-Haussmann.

Ancient Age :   Master Plan of Nolli Rome, Italy

Medieval Age :   Master Plan of Barcelona, Spain
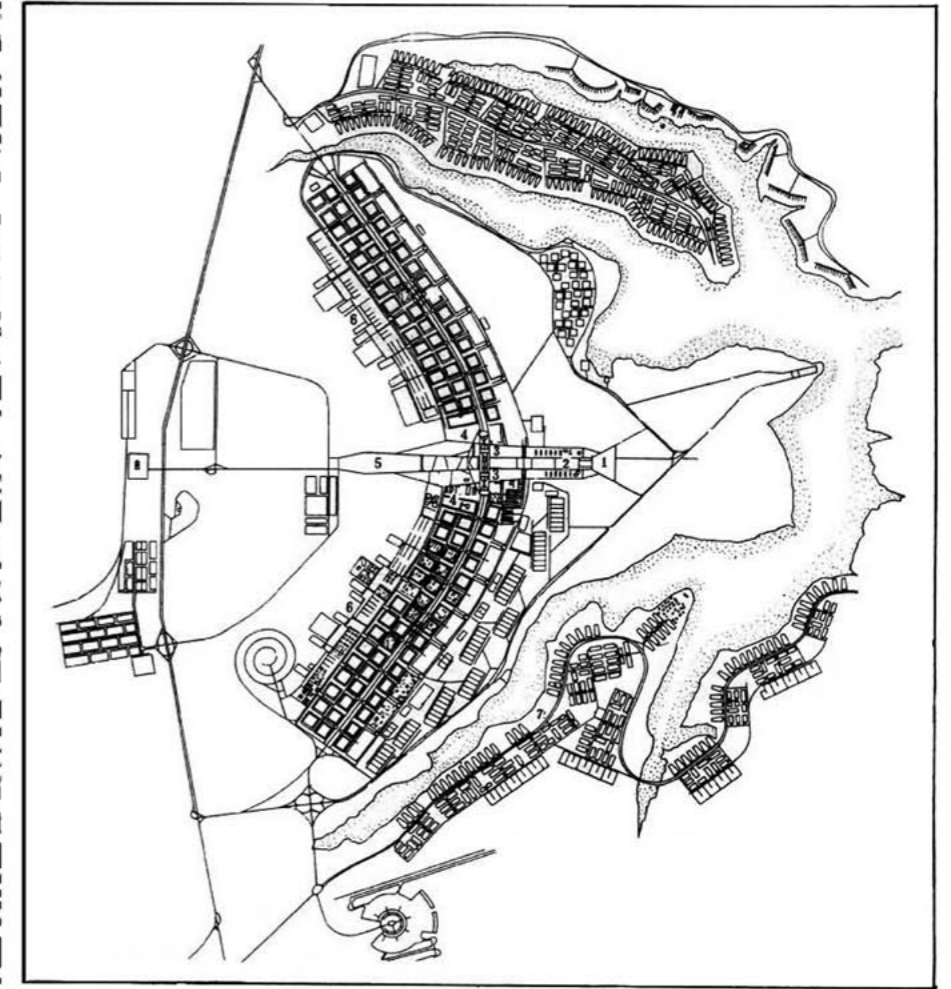
Modern Age :   Master Plan of Brasilia, Brazil

In ancient time, ancient cities such as Rome, often plan the city like this: there is no obvious main road connection through the city, free direction of the roads with so many branches jointing to the town plazas. This kind of city planning is to put the human' traffic as priority, which is in order to let the people can reach any area of the city as soon as possible, and scale of city grid is also based on the walking system.
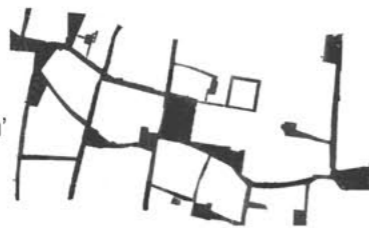
After the invention of cariages, medieval cities such as Barcelona, often plan the city like this: rigid clear grid road system, which extends at both hortizontal and vertical, the width of the streets often according to the width of the two cariages. This kind of city planning is to put the cariages' traffic as priority, which is in order to let the cariage can reach any area of the city as soon as possible, and scale of city grid is also based on the riding system.
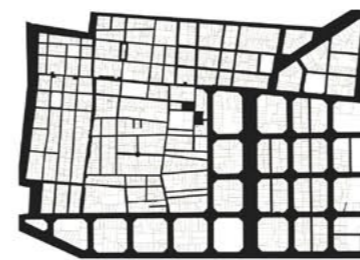
After the invention of cars, modern cities such as Brasilia, often plan the city like this: one wide main avenue, which extends at both ends through the main areas of the city, then the secondary roads joined to the main avenue in the sequence. This kind of city planning is to put the cars' traffic as priority, which is in order to let the car can reach any area of the city as soon as possible, and scale of city grid is also based on the driving system.
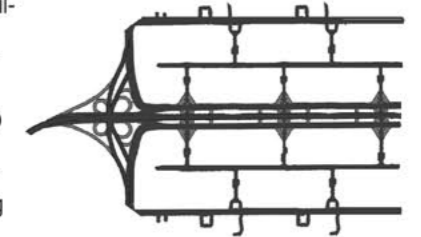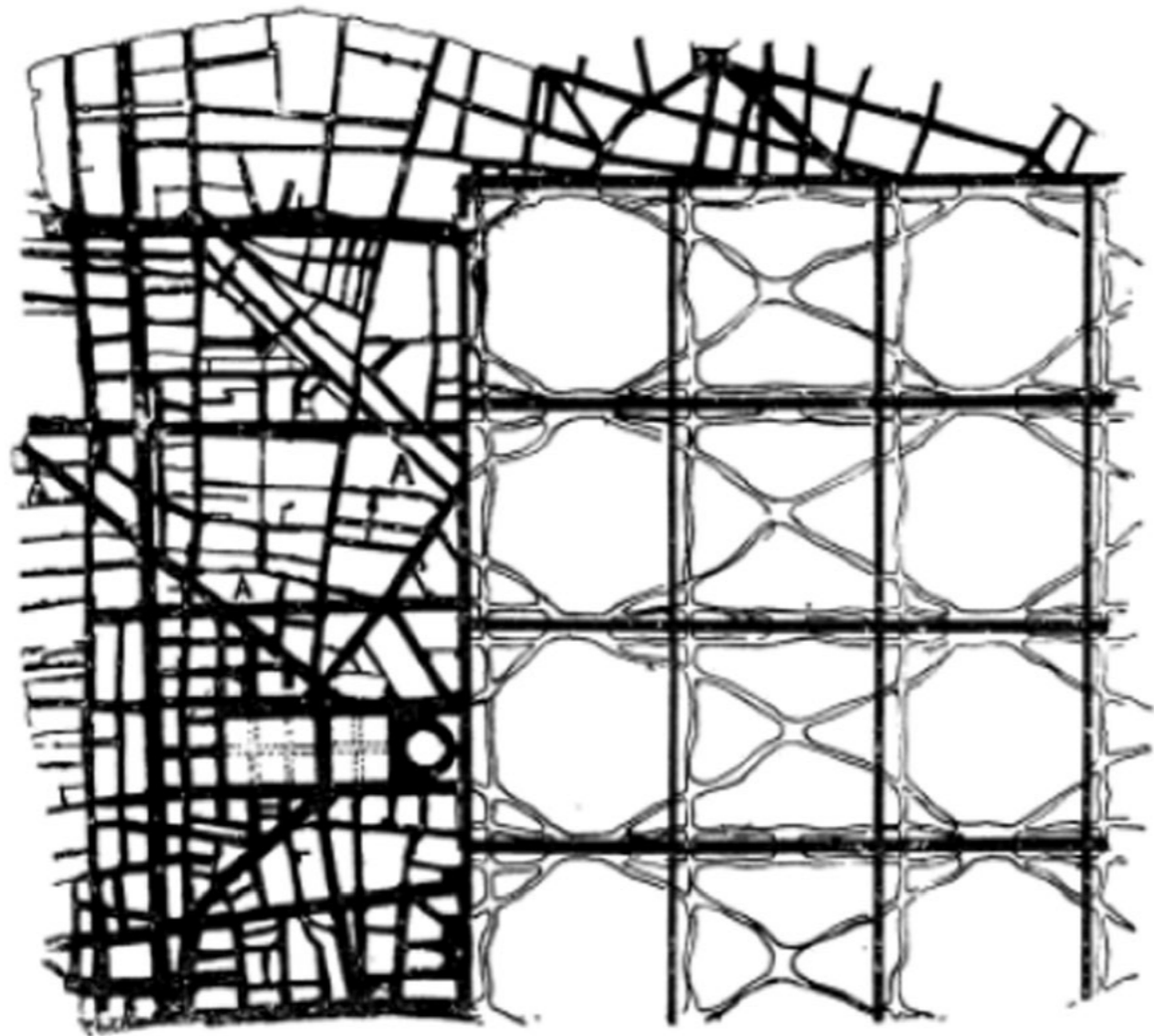
Compare the old Paris grid with La ville radieuse 1922
the Age of Carriages   the Age of Cars
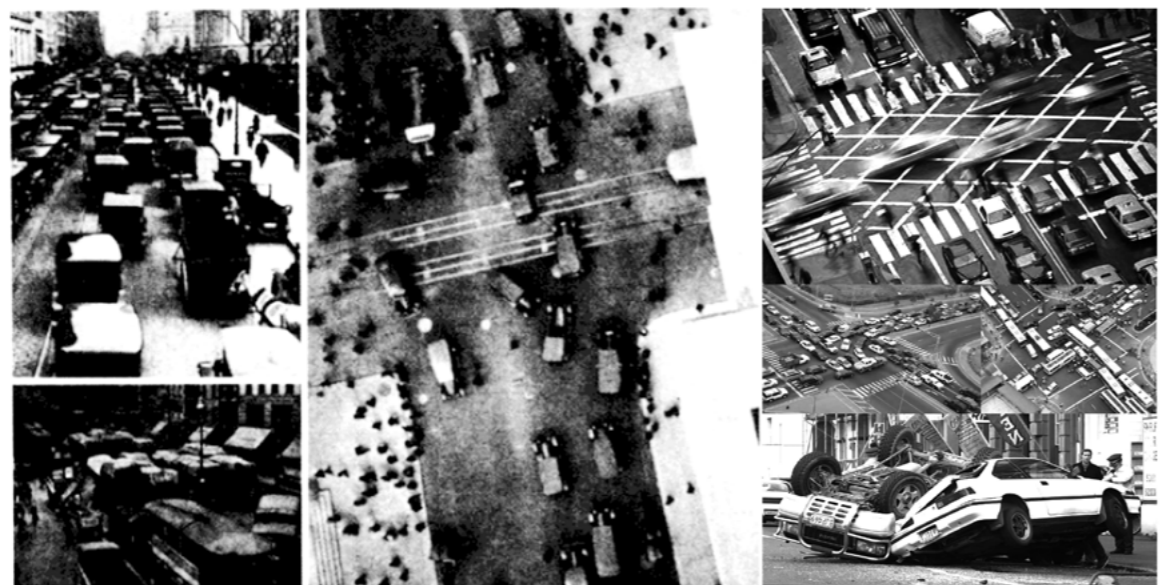
HUMAN AGE, HORSE AGE AND AUTO AGE

The age of the automobile has arrived. And it would be pointless for me to tell you what that means: you have only to walk out into the street to see for yourselves. Human biology is now in the grip of a new speed. Our legs (alternating movement) have been replaced by the wheel (continuous movement); our bottoms run on four wheels; the horse has become a horsepower unit. Instead of a horse, we have 5 or 10 or 15 or 40 horsepower vehicles that whisk us off, not at twice the speed we went before, but at ten times, at twenty times, at forty times that speed!

Consider this aquarium containing 100 fish (in a small space), some of them large, some small. They are all swimming at more or less the same speed. The aquarium is functioning properly and the fish go on living their fishy lives. Now replace a third of the fish with fish that swim at twenty times the speed of the others. The results will be a massacre, the complete destruction of all the fish, large and small, because the aquarium is too small for such high speeds. The little fish are the pedestrians in our cities, the big fish are the cars, the buses, the streetcars, etc··· and other vehicles that will probably or possibly occur in the future.
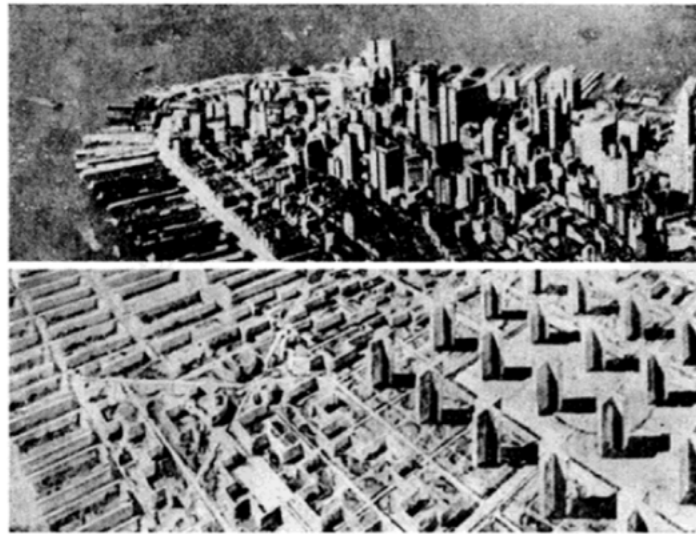
New York and Plan Voision
Le Corbusier create

CLASSIFICATION OF SPEEDS

Classification of speeds. Normal biological speeds must never be forced into contact with the high speeds of modern vehicles.

Le Corbusier's Plan is to create an individual motor way system above the streets and free the ground for the walking people. But that is an utopian proposal which needs to demolish the original roads and rebuild the whole infrastructure.
Meanwhile the New York has its own way, the New York Highline, which is create an individual waliking system above the streets and leave the ground to the autos. This method is much more realistic to the situation of New York.
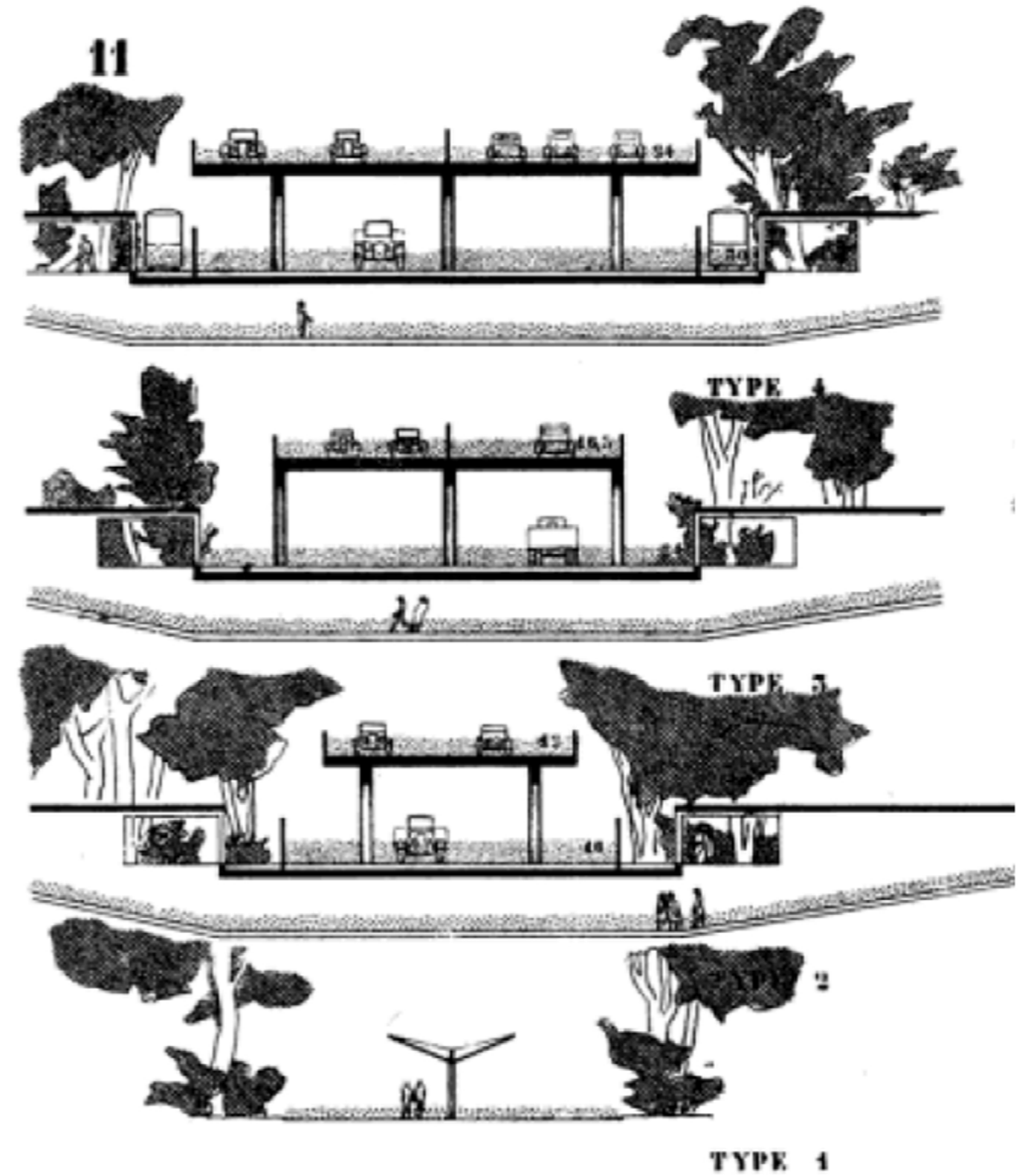
The High Line, which is under the jurisdiction of the Department of Parks & Recreation, was the former West Side industrial railway. It is a 1.45 mile-long elevated, steel structure built in the 1930s for freight trains; the last train ran on it in 1980. Stretching across the west side of the city, it runs from Gansevoort Street, in the Meatpacking District, through the West Chelsea gallery neighborhood, and ends at 34th Street, next to the Jacob Javits Convention Center. In 2003, an open competition was held to convert the existing infrastructure into a public park.

The winning proposal by James Corner Field Operations with Diller Scofidio + Renfro includes over a dozen access points to the elevated park. Whichever entrance is activated, a key component will attract users to spend time and explore the complete park. For instance, enter a little past 14th St. and enjoy the sundeck and water feature; enter close to 23rd St. to lounge on the open lawn and seating steps; or enter past 26th St. to enjoy the viewing area.

Inspired by the wild seeded landscape left after the line had been abandoned, the team created a paving system that encourages natural growth which creates a 'pathless' landscape." Through a strategy of agri-tecture - part agriculture, part architecture – the High Line surface is digitized into discrete units of paving and planting which are assembled along the 1.5 miles into a variety of gradients from 100% paving to 100% soft, richly vegetated biotopes," explained DS + Renfro. This undefined and unobtrusive environment allows the public to meander and experience the park as they wish.

Before the new landscape could take form atop the High Line, every component of the structure was tested and treated to ensure its structural strength. As each piece of rail was removed, it was marked and mapped so that later, it could be returned to its original location as an integrated planting piece. Energy-efficient LED lights gently illuminate the park's pathways and allow the eyes to adjust to the ambient light of the surrounding city sky. Lights installed on the underside of the High Line illuminate the sidewalk below. For the vast garden, soil was delivered and distributed to specific areas and more than one hundred different species of plants, selected from nurseries along the East Coast, were planted by a team of horticulturists to match the plans created by landscape architects James Corner Field Operations and planting designer Piet Oudolf.

Mr. Bloomberg called the High Line, "an extraordinary gift to our city's future….It really does live up to its highest expectation." The promenade has initiated more than 30 new projects in the nearby neighborhood, including Renzo Piano's new satellite for the Whitney Museum of American Art. The new space will offer greening opportunities, alternative transportation options, and social benefits to meet changing needs in urban environments. It is expected that the radical infrastructure conversion will attract thousands from around the world in its opening season.
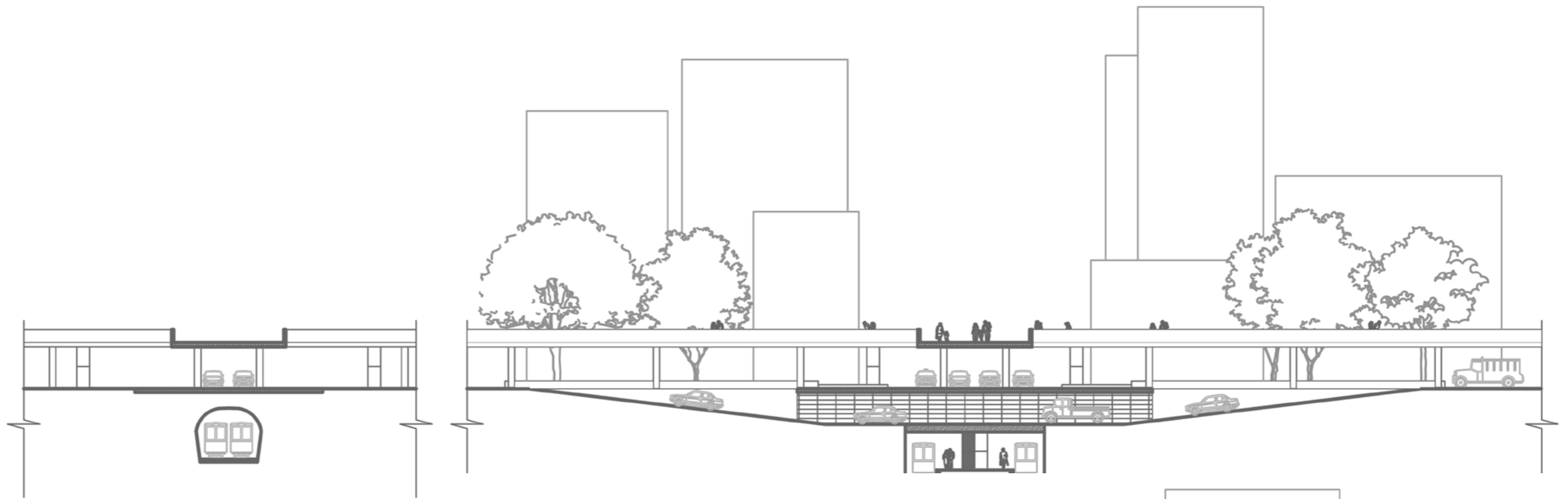
WALKING HIGHLINE SYSTEM

These are the sections of pedestrians' walking system in the conjunction part. It has four levels.

The top level is the high lines for pedestrians only; the second level is the ground level for autos and public transportations; the third level is the tunnel for autos driving through main avenue and tickets hall of metro; and the last level is the platform of metro.

The four levels are connected by stairs.
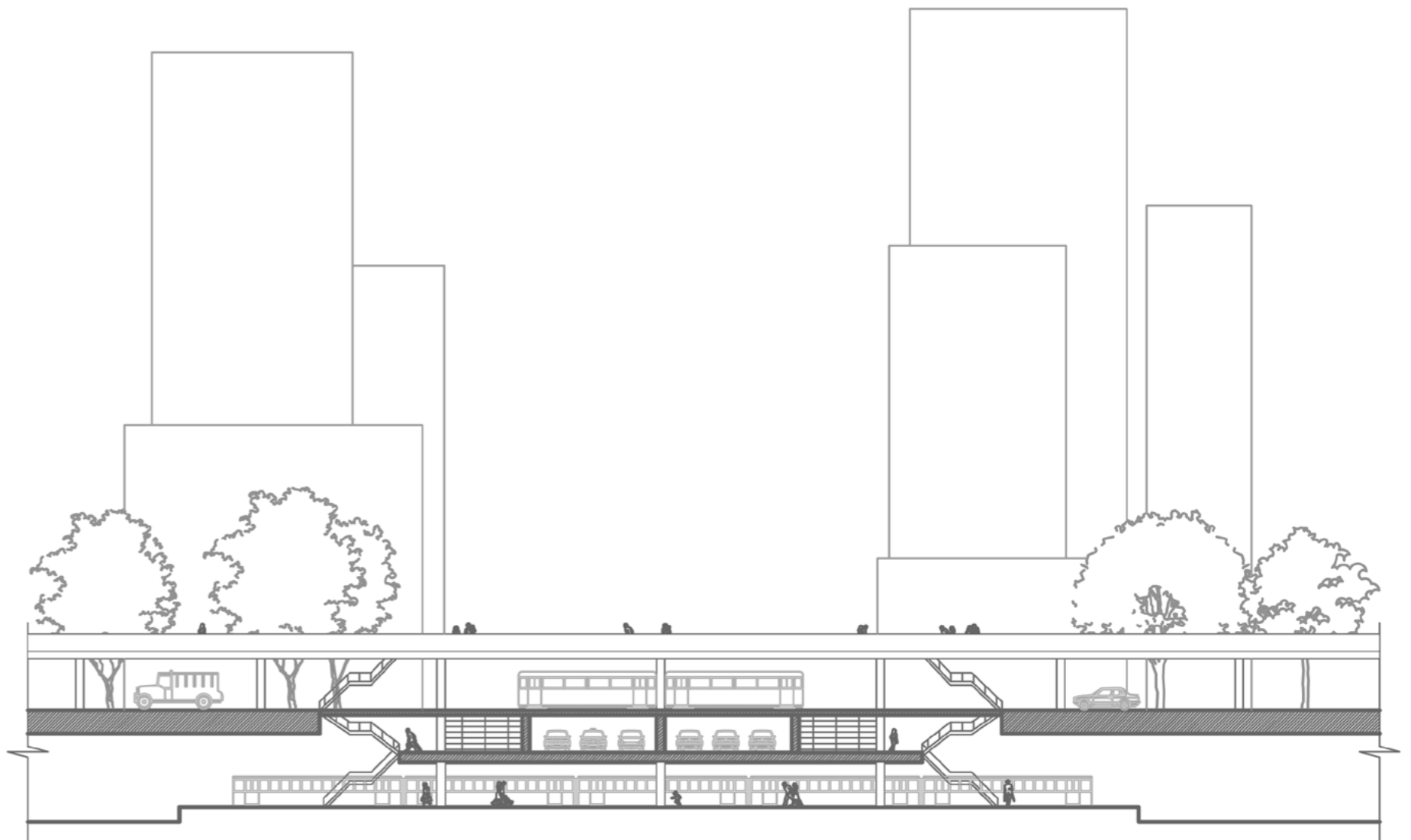
PEDESTRIAN SAFETY AND COMFORT

Pedestrian safety is an important problem of global dimensions. A World Health Organization report describes traffic accidents as one of the major causes of death and injuries around the world, accounting for an estimated 1.2 million fatalities and 50 million injuries. In low-income countries, a large majority of deaths are not the vehicle occupants but the vulnerable road users (VRUs), consisting of pedestrians, bicyclists, two wheelers, and other small vehicles.

In high-income countries, pedestrian fatalities are relatively lower but still represent large societal and economic costs to the nations. According to theWorld Bank website, pedestrians account for 65% of the fatalities out of the 1.17 million trafficrelated deaths around the world, with 35% of these being children. In the United States, according to the National High-way Traffic Safety Administration report, there were 4641 pedestrian fatalities during 2004, which accounted for 10.9% of the total 42 636 traffic-related fatalities. In Britain, pedestrians are twice as likely to be killed in accidents as vehicle occupants.

In developing countries such as India and China, the problem is much worse. During 2001, there were 80 000 fatalities on Indian roads, which grew in last decade at 5% per year. In fact, $60\% - 80\%$ of the road fatalities are the VRUs, many of them from low-income groups. In China, pedestrians and bicyclists accounted for 27% and 23% of the fatalities, respectively, in 1994, compared to 13% and 2% in the United States .

With the rapid increase in the number of vehicles in these countries, the number of accidents and fatalities is likely to increase before they can be reduced. Furthermore, the problems faced by developing countries are often different from those faced by developed countries. In developing countries, there are a large number of two wheelers, three wheelers, bicyclists, and pedestrians sharing the same road space with cars, buses, and trucks . Hence, the solutions for developed countries may not all be directly applicable for developing countries. In fact, the first steps for these countries lie in improving infrastructure design and developing appropriate infrastructure-based solutions, as described in Sections II-A and C, particularly for new constructions.

Pedestrian Comfort Levels classify the level of comfort based on the level of crowding a pedestrian experiences on the street. Guidance is provided for different area types and times of day. Pedestrian crowding is measured in pedestrians per metre of clear footway width per minute. This is calculated from data on pedestrian activity and the street environment.In particular, the Pedestrian and Bicycle Safety Research Program seeks to enhance the safety and mobility of pedestrians and bicyclists.

Enhancing comfort and safety of the pedestrian is quite important. Pedestrian safety can be improved at several stages, as shown in Long-term measures include design enhancements in infrastructure as well as vehicles to reduce the fatalities. These enhancements can be complemented by systems that detect the pedestrians and prevent accidents by warning the driver or triggering autonomous braking.
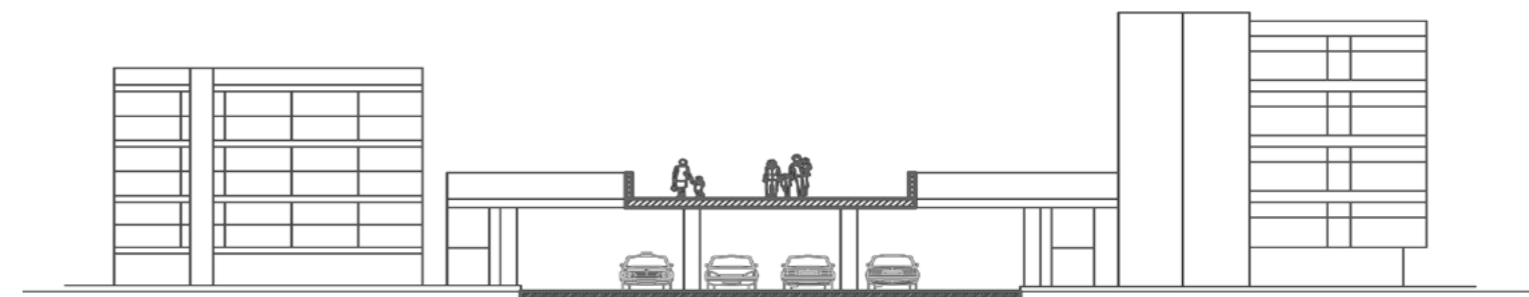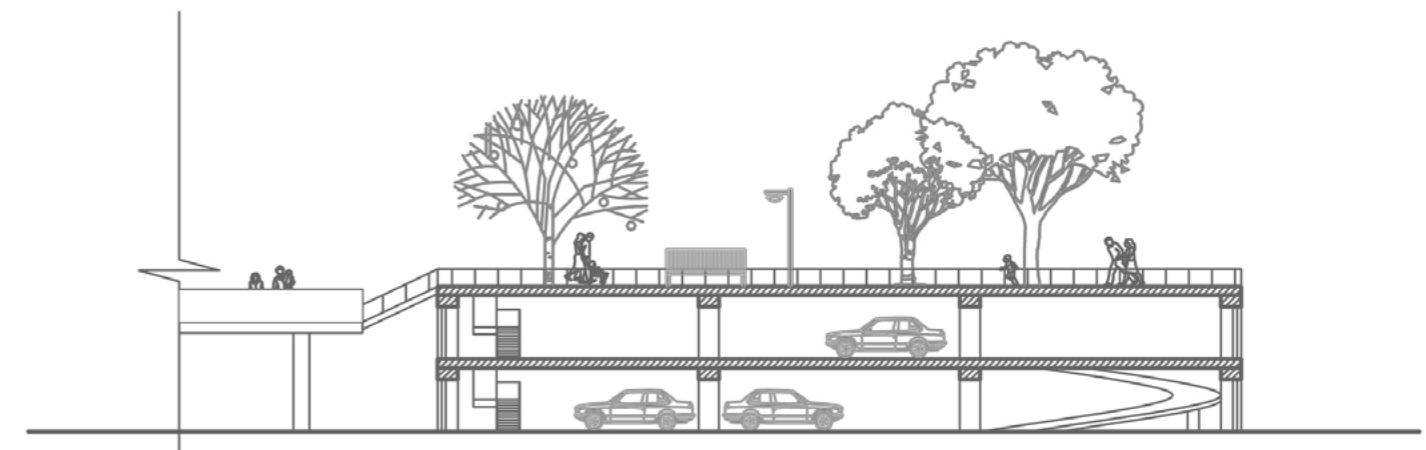
RESTAURANT

SHOPPING AREA

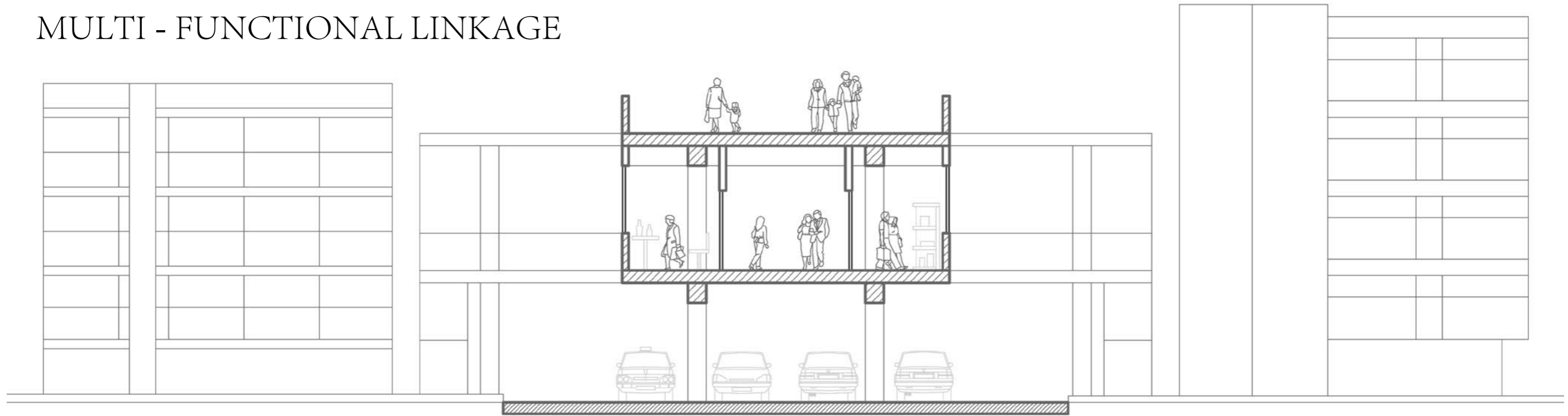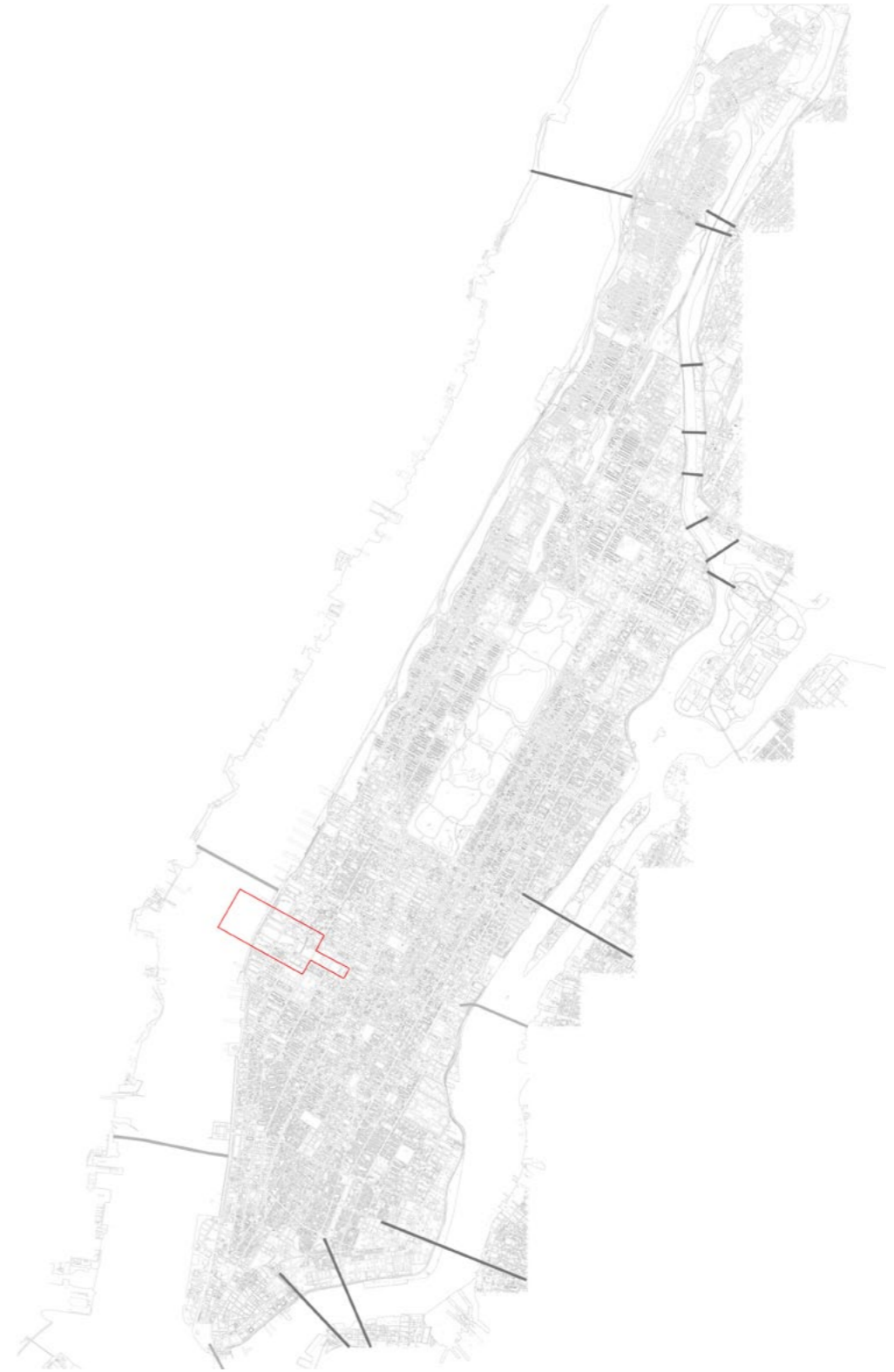EXHIBITION

SPORTS FIELD

HOUSING

ART STUDIO

GYM

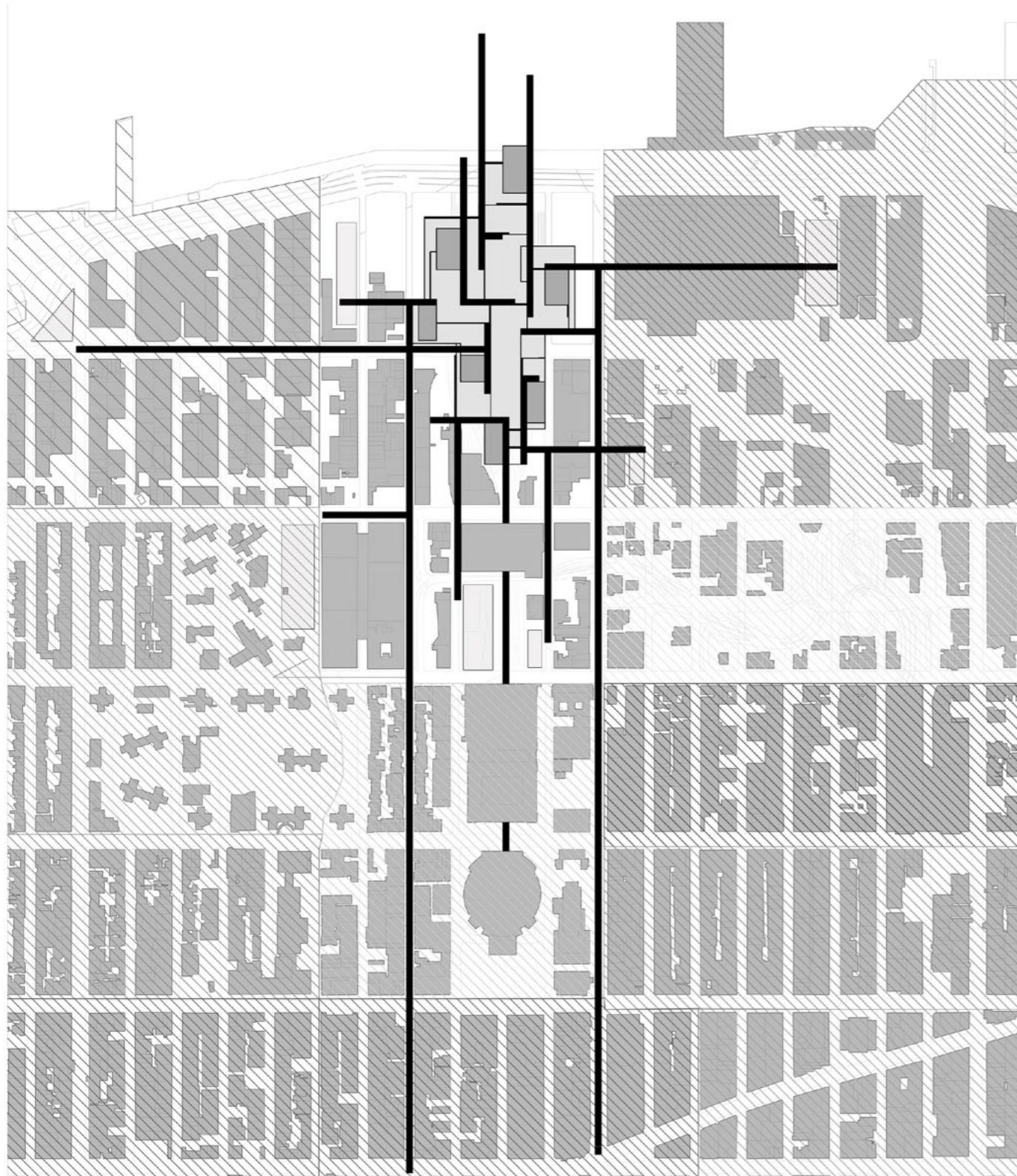CLASSROOM

MULTI - FUNCTIONAL LINKAGE

Connection with Broadway

Connection with bridge&tunnel

New York city is alive, millions of people habitating in the city, walking on the street, passing under the ground, sitting in the offices, living in the house.

In the network system of the this kind of metropolitan city, different places of city are "points" and the people living inside the cities are "actors". The "actors" are always moving from one "point" to another "point", also staying in one "point" for a while then shifting to the next "point".

But not all the "points" are active and some areas are abandoned because several reasons. One of those reason is the point itself is not attractive enough, and another reason is the ways connecting to the point are not adequate enough.

Actually the site of our project right now is becoming an abandon area. To change this situation, the first thing we can do is to make the site itself turns into attractive point by designing a wonderful multi-functional buildings, meanwhile another thing we can do is to making more efficient connections in order to let the people reach the site much more convenient.

About the connections, there are inner connection within the New York city and the outer connection between the Manhattan Island and New Jersey.

The inner connections can be the linkage from the site to the Broadway, the most important road of New York city, and also the linkage from the site to the park/public open plaza/parking lot around the site.

The outer connections can be the ferries linkage from the site to the New Jersey and the autos linkage like tunnels and bridges.

CONNECTION OF SHIPPING ROUTES

VOLUME BEFORE   6
VOLUME AFTER   6

SURFACE BEFORE   22
SURFACE AFTER   36   ENERGY SAVING

SPLIT THE SINGLE HUGE VOLUME
SAME VOLUME, MORE SURFACE,
MORE SUN-LIGHTING, MORE FRESH AIR

In order to less the density and create open space, we should split the large volume into sevral small parts and keep the enough distance between those parts.

In an energy-conscious society, many designers and consumers are looking for ways to cut costs while promoting better energy-saving practices. Utilizing natural lighting is a great way to create a sense of organic unity within a space as well as lift mood and productivity levels. Known as daylighting, the use of natural light lifts spirits and encourages natural harmony within an area. A daily dose of sunshine has been proven to have positive effects in an individual's overall sense of well-being.

The use of natural ventilation is definitely an advantage with the raising concerns regarding the cost and environmental impact of energy use. Not only does natural ventilation provide ventilation (outdoor air) to ensure safe healthy and comfortable conditions for building occupants without the use of fans, it also provides free cooling without the use of mechanical systems.

Hence all the main benefits of creating an more sunshines and more views system are listed below:
1) More Energy-Saving by using natural lighting;
2) More Energy-Saving by using natural ventilation;
3) Natural Sunshines and Fresh Air are good for people's mental health and physical health;
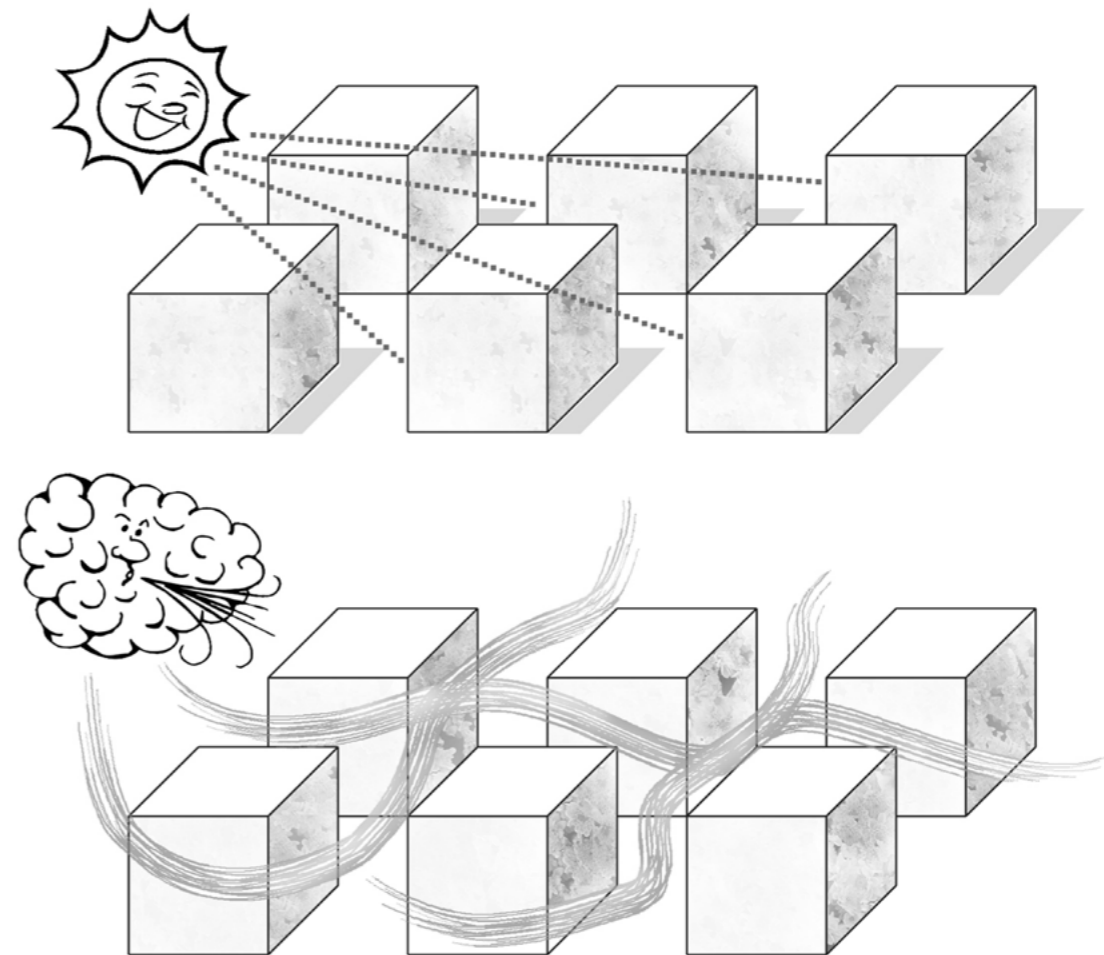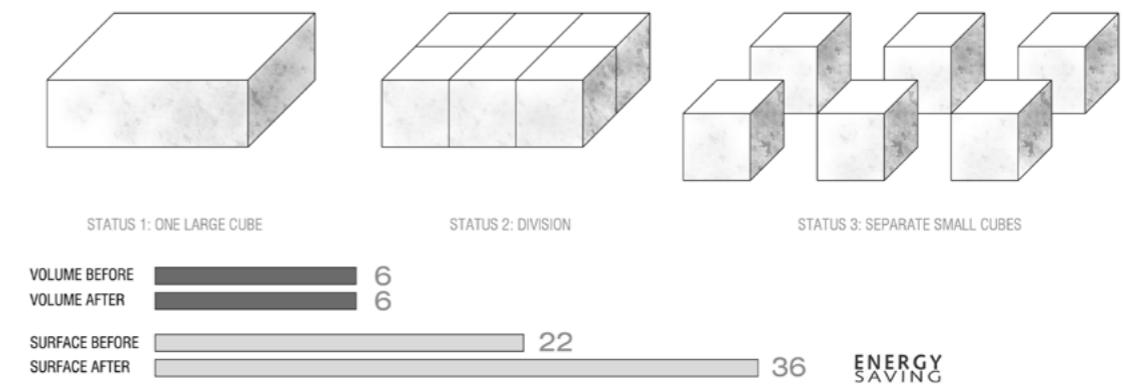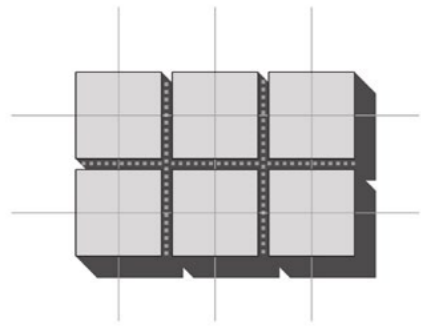
Phase1
a) Six Buildings in a Matrix;
b) Most of the Facades are in the Shad-
ows of Oher Buildings;
c) Most of the views out of the windows
are blocked by the Other Buildings.
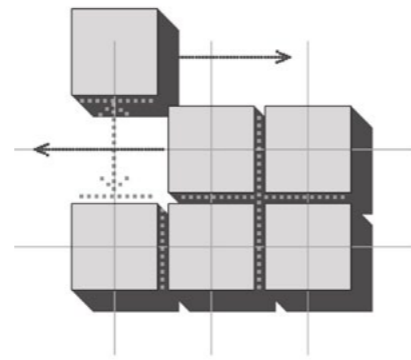
Phase2
a) One Buildings out of the Matrix;
b) Release two Facades from the Shadows
to the Sun shining;
c) Unblock two views out of the windows
which were blocked by the Other Buildings.
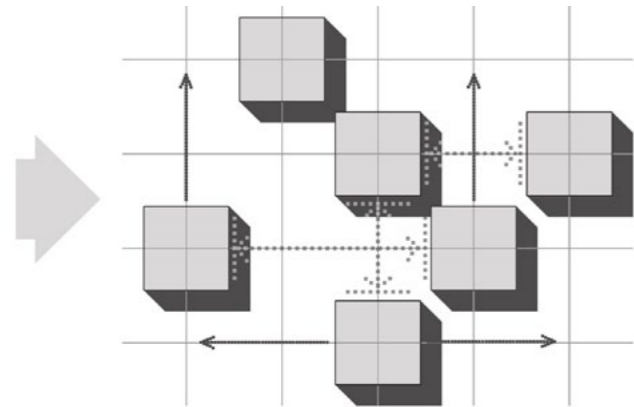
Phase3
a) More Btuildings out of the Matrix;
b) All Facades are having the Sun shining;
c) Unblock more views out of the windows.
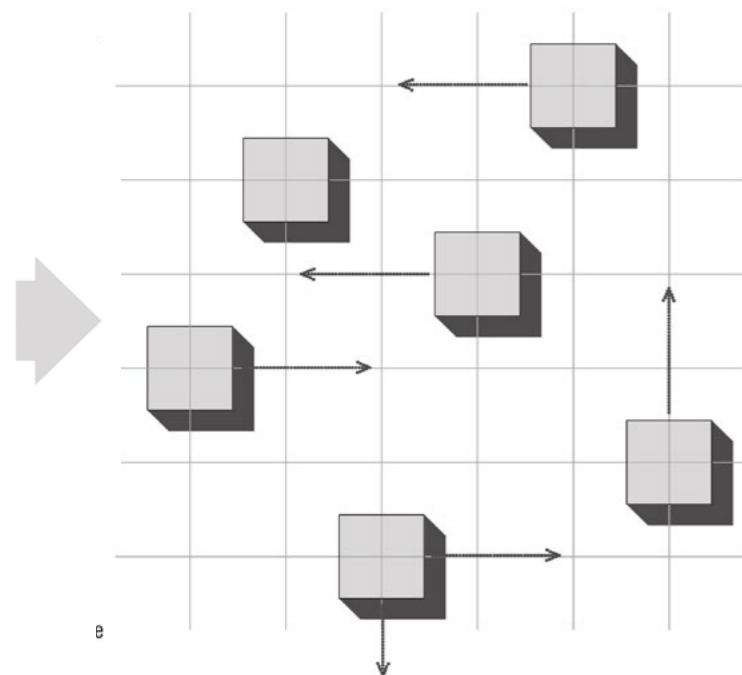
Phase4
a) All Buildings out of the Matrix;
b) All Facades are having the Sun shining;
c) None of the views out of the windows are
blocked by the Other Buildings.

REARRANGE THE SMALL PARTS
MORE SUNSHINES AND MORE VIEWS

Simply looking at nature can be healing. Less stress, lowered blood pressure, fewer headaches and illnesses, greater job satisfaction among workers and quicker recovery rates for post-operative patients have all been linked to feasting the eyes on natural landscapes.

Hence all the main benefits of creating an more sunshines and more views system are listed below:
1) More Energy-Saving by using natural lighting;
2) Natural Sunshines are good for people's mental health and physical health;
3) Wonderful outside views can delight people and the feeling of undepressive can make people calm, which will improve the working efficiency.

PLANNING STRATEGY:
Making each building of the whole zone become the only building both in the vertical axis and the horizontal axis of the whole planning system.
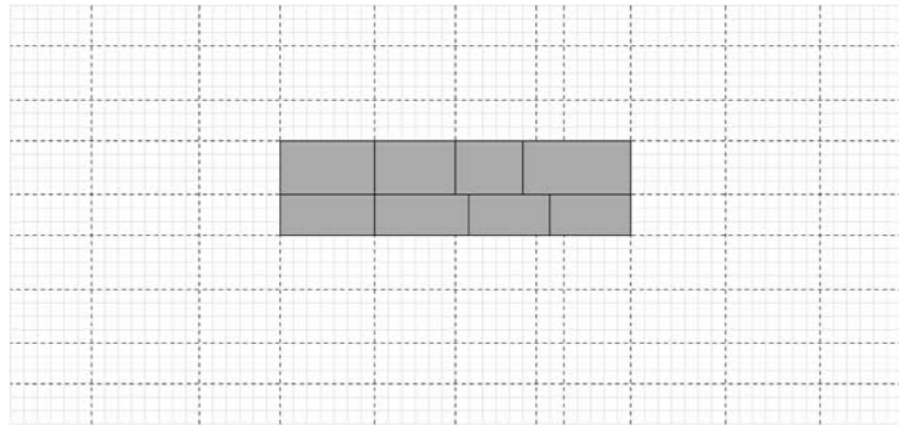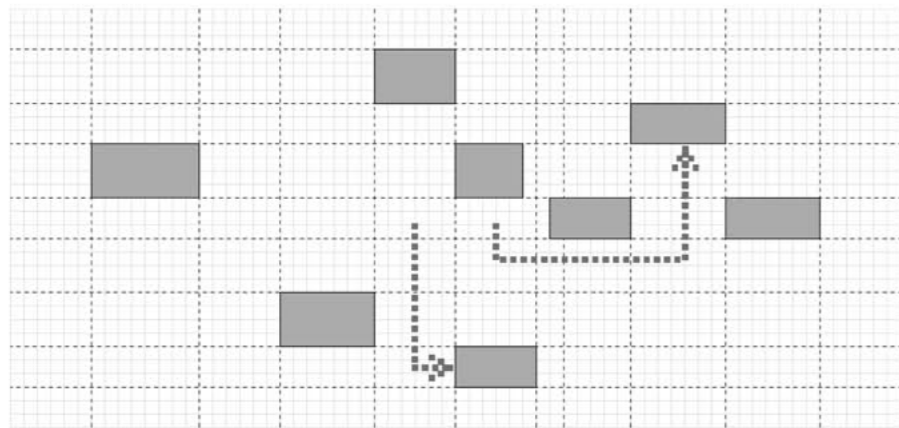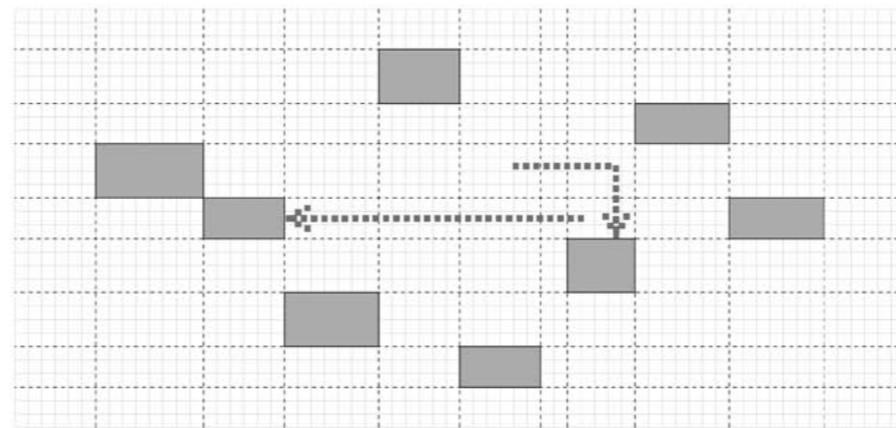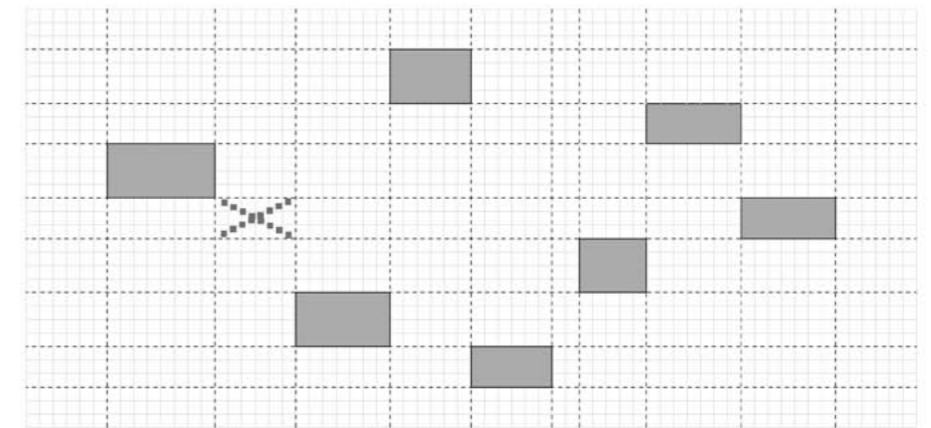
SPLIT THE WHOLE VOLUME
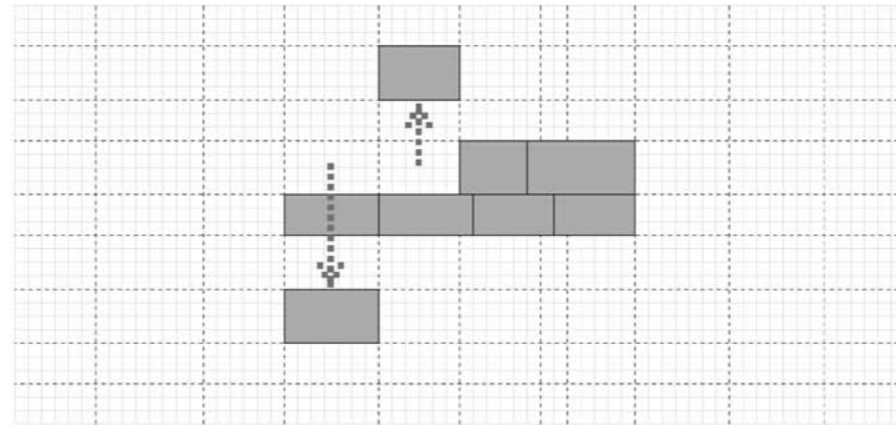
MOVE TWO PARTS
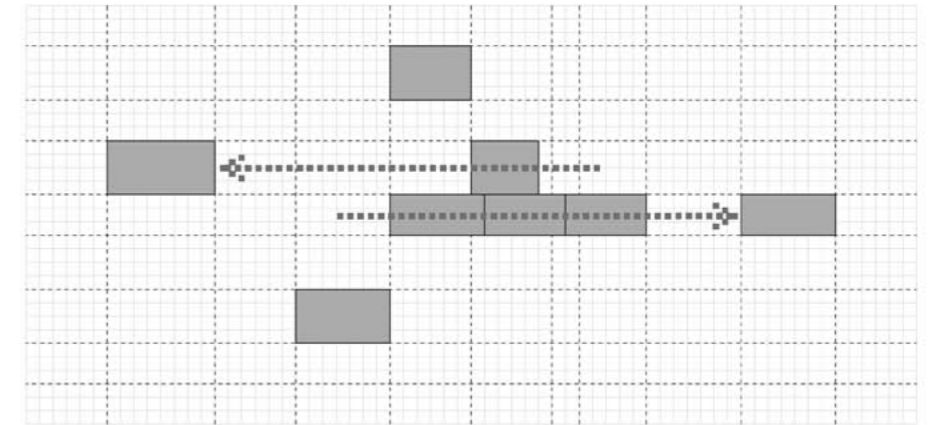
MOVE ANOTHER TWO PARTS

MOVE ANOTHER TWO PARTS
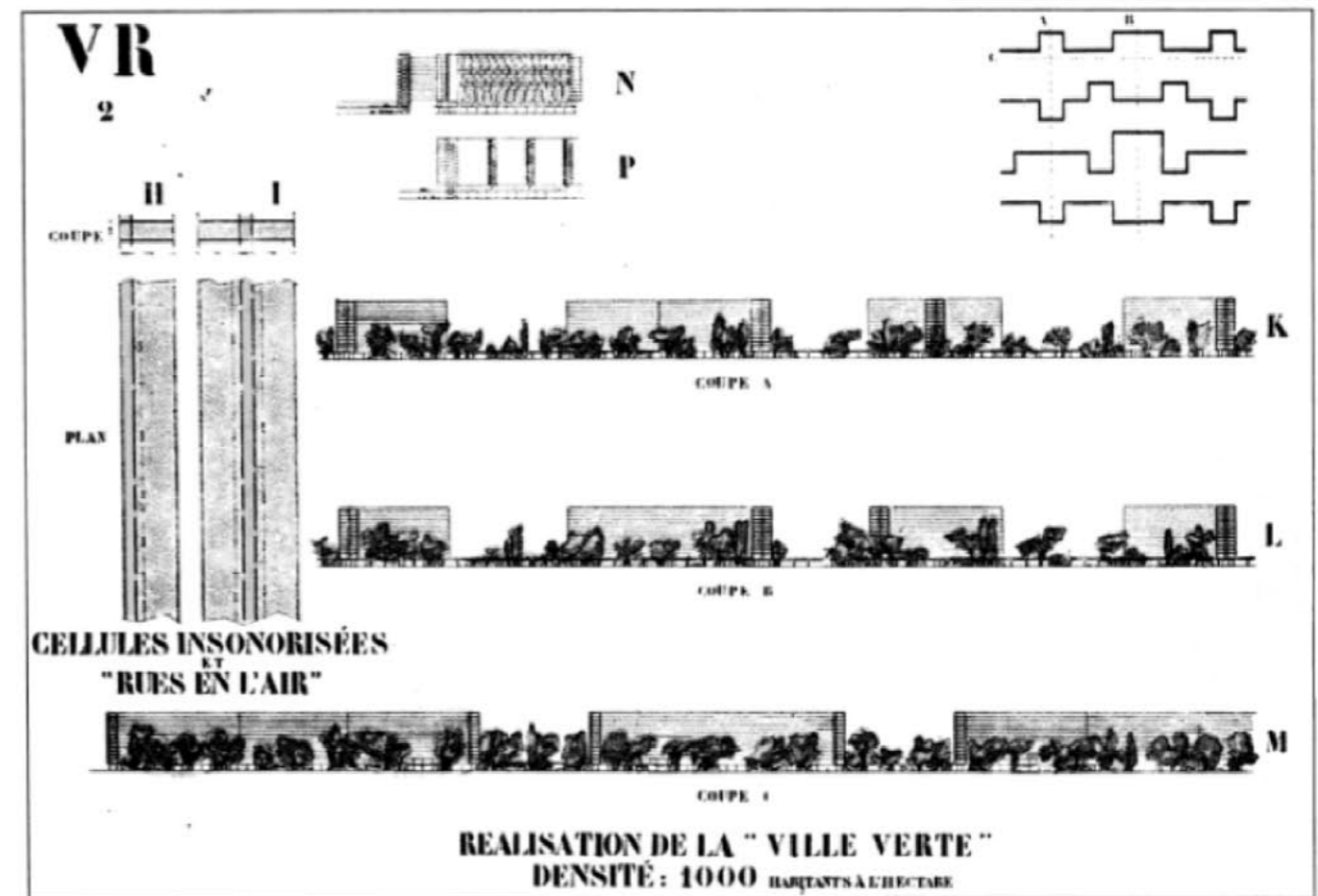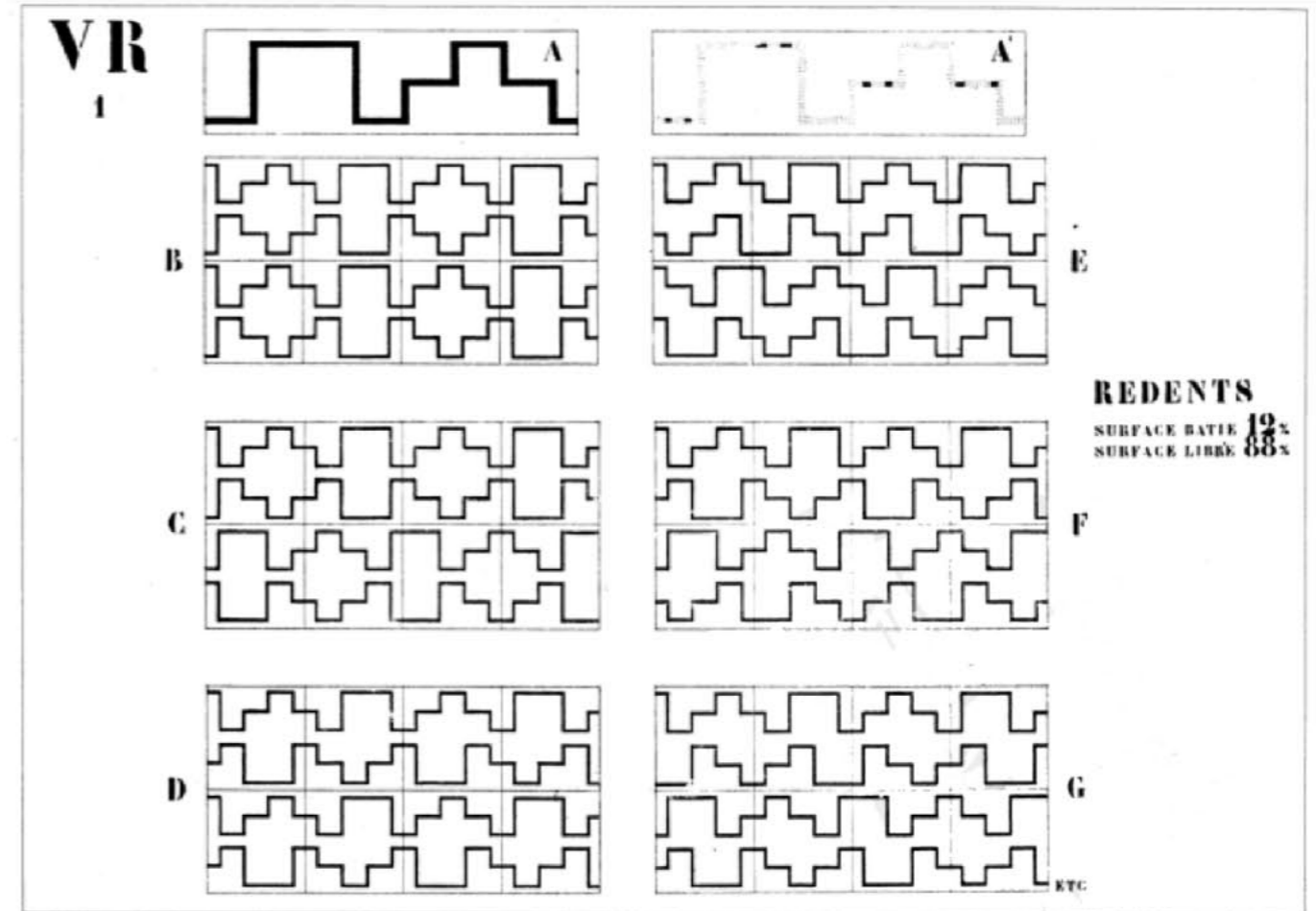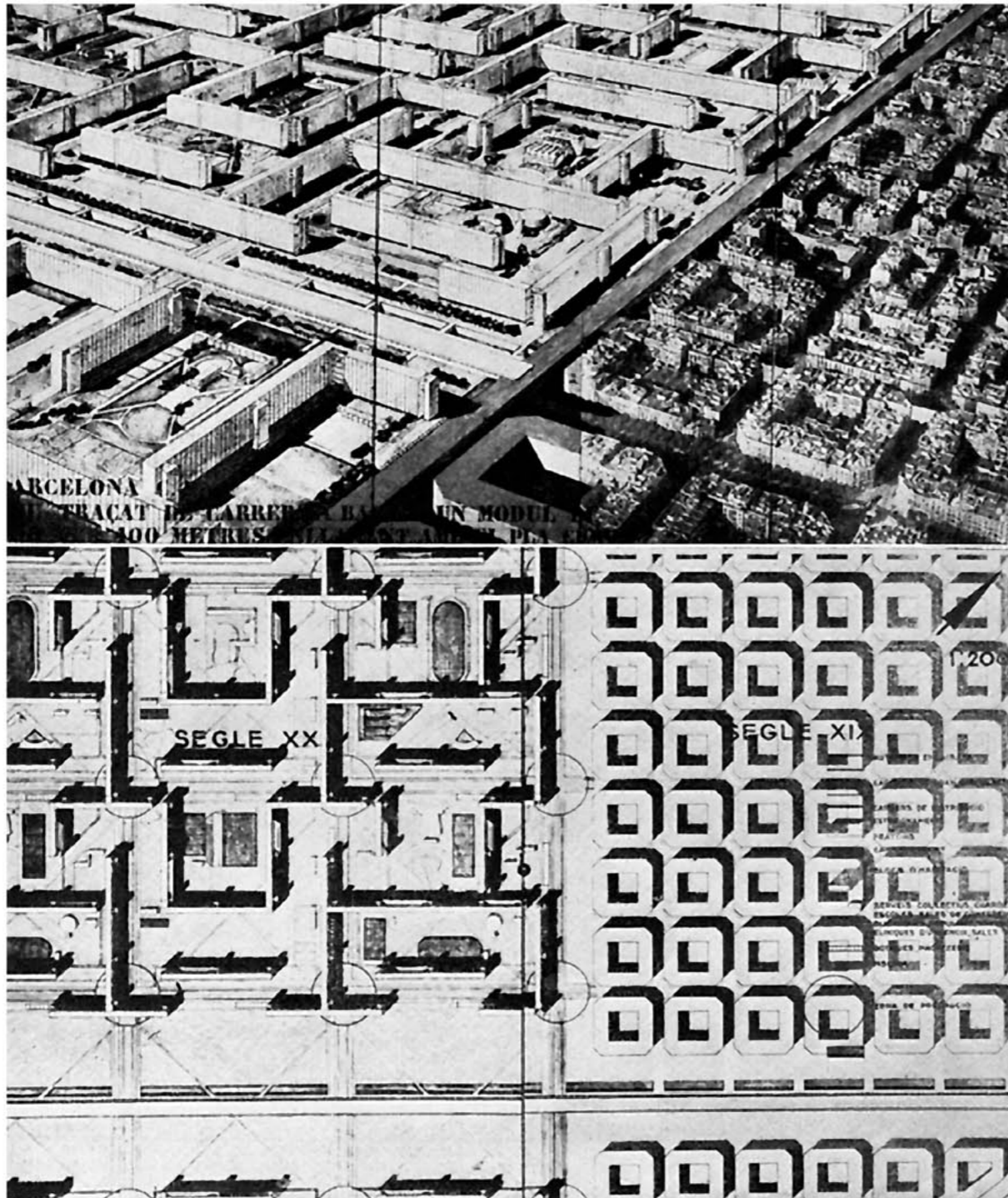
MOVE LAST TWO PARTS

DELETE ONE PART

GENERATING THE PLAN

According the methods which we discussed previously, we can generate the master plan in the condition of site in New York. Compare to the other two options, the best option has the large open space which is closed and in the center of the site. All buildings share only one open space and people from the farest two buildings must cross the only common open space to reach another. The crossing point of all the routes is the meeting point which all the people can meeting at this point. People at this point can have interactive activities.

PLAN REFERENCE

ELIMINATION OF THE DICHOTOMY: BUILDING - STREET
SETTING UP OF A SERIES BY MEANS OF "RECESSED PATTERN"
"RECESSED PATTERN" SUSCEPTIBLE OF ARCHITECTURAL VARIATIONS
BETTER ILLUMINATION AND BETTER VENTILATION

Jose Luis Sert, Studies for a Master Plan for the City of Barcelona, Barcelona, Spain, 1933-1935

VR 1

REDENTS
SURFACE BATIE 12%
SURFACE LIBRE 88%

VR 2

CELLULES INSONORISÉES ET "RUES EN L'AIR"

REALISATION DE LA " VILLE VERTE "
DENSITÉ : 1000 HABITANTS À L'HECTARE

PLAN REFERENCE Barcelona Pavilion

The Barcelona Pavilion, a work emblematic of the Modern Movement, has been exhaustively studied and interpreted as well as having inspired the oeuvre of several generations of architects. It was designed by Ludwig Mies van der Rohe (1886-1969) as the German national pavilion for the 1929 Barcelona International Exhibition, held on Montjuic. Built from glass, travertine and different kinds of marble, the Pavilion was conceived to accommodate the official reception presided over by King Alphonso XIII of Spain along with the German authorities.

After the closure of the Exhibition, the Pavilion was disassembled in 1930 when the Germany's Goverment failed to find a buyer. As time went by, it became a key point of reference not only in Mies van der Rohe's own career but also in twentieth-century architecture as a whole. Given the significance and reputation of the Pavilion, thoughts turned towards its possible reconstruction.

In 1980 Oriol Bohigas, as head of the Urban Planning Department at the Barcelona City Council, set the project in motion, designating architects Ignasi de Sol à -Morales, Cristian Cirici and Fernando Ramos to research, design and supervise the reconstruction of the Pavilion. Work began in 1983 and the new building was opened on its original site in 1986.

The pavillion itself has no real function. The plan is asymmetric and fluid with a continuous flow of space. Wall partitions are made of both transparent and opaque glass as well as highly polished marble. The low flat roof is supported by delicate metal supports. As has often been noted, the building has a kind of classical serenity.

Despite its apparently simple rectangular plan, there are almost no corners in the building, or anything that might suggest you are in a box. The generous canopy roof, walls that stop well short of abutting one another, and the floor-to-ceiling glazing break down the distinction between inside and outside. Even the doors are in the form of two halves of an all-glass wall, which rotate about a pivot in the floor and ceiling a few inches from the edge: the result is that when opened through ninety degrees each door becomes just another freestanding, parallel glass plane in keeping with the other planes defining the spaces in the building.

The materials: Glass, steel and four different kinds of marble (Roman travertine, green Alpine marble, ancient green marble from Greece and golden onyx from the Atlas Mountains) were used for the reconstruction, all of the same characteristics and provenance as the ones originally employed by Mies in 1929.

Mies van der Rohe's originality in the use of materials lay not so much in novelty as in the ideal of modernity they expressed through the rigour of their geometry, the precision of the pieces and the clarity of their assembly.

Barcelona Pavilion
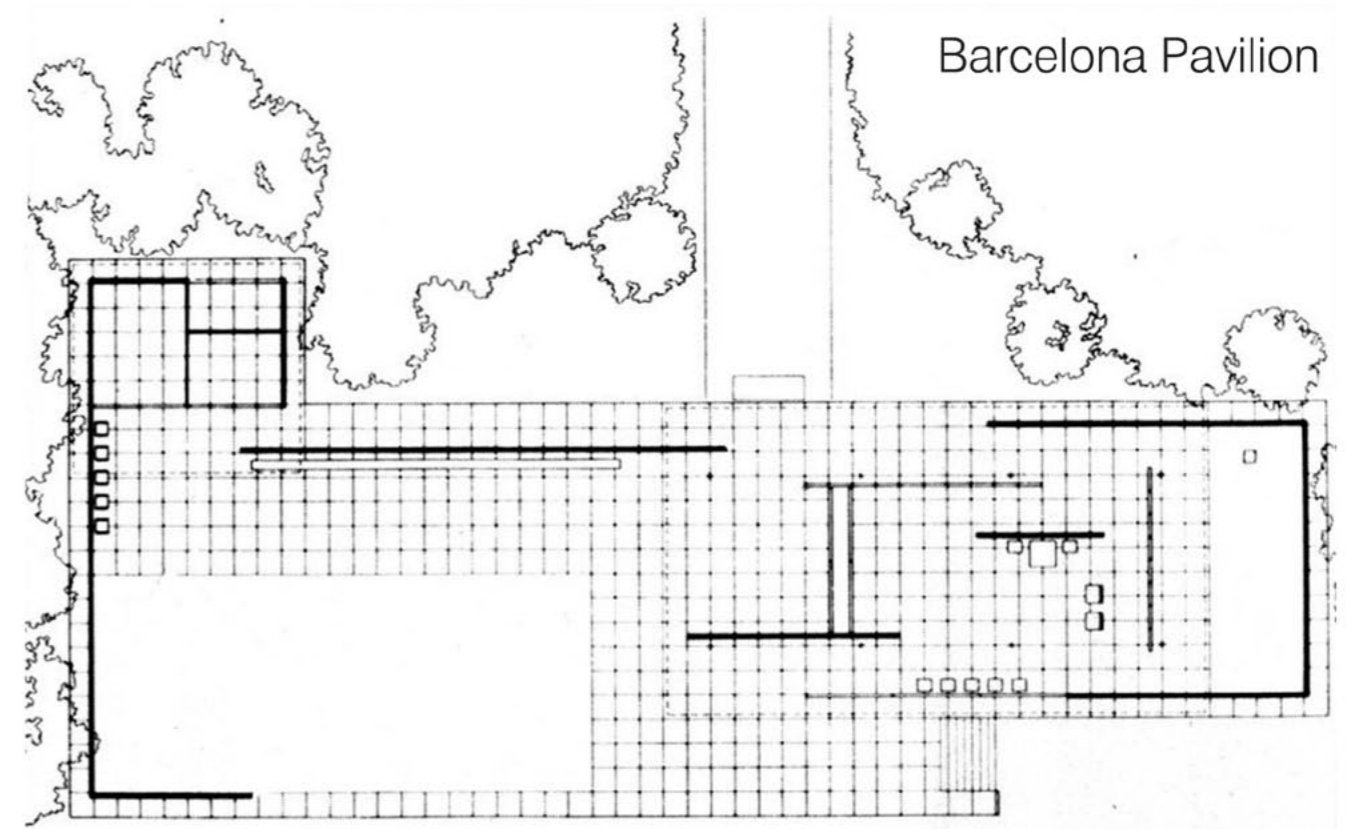
PLAN REFERENCE   Country Brick House

This wonderfully free-flowing 1923 'pinwheel' plan for a country house project by Ludwig Mies van der Rohe combines elements of Frank Lloyd Wright, De Stijl Art (see below left for example from 1918), Berlage and Malevich.

The plan itself is almost pure abstraction. Rather than cutting up space into little boxes, walls thrust out into the landscape--almost as Frank Lloyd Wright first had them do a generation earlier--only here in this house they are simpler and the whole composition less 'centred'; they 'hold' space rather than 'grasp' it, and being less ordered their reach is less centrifugal, and the thrust correspondingly less.

The elevations themselves are less successful -- Mies was still working out how to roof such a plan (something he worked out with his 'floating roof' of the Barcelona Pavilion) -- but it's fair to say that with this floor plan a new thing was brought into the world.
It was a plan that fully justified a 'Eureka!'

 It contains all the comforts and necessities of human habition which is required in a residential structure. However, it is abstract, and foreign in many ways. I admire the ways in which Mies has used the corner in this project. Humans react to walls. We stand against them, sometimes leaning against them, for strength and solidity. They provide a reinforcement, both physicially and emotionally for us in the environment, which is naturally horizontal. They allow us to be embraced, much the same as being in the embrace of a loved one.

However, the corner, comforts us even more. It provides a safe area, in which the human body feels comfortable and protected by. And Mies has included a comforting corner in each room of this project. These corners provide a sense of security and solidity in this project. In most rooms in this project, the corner is opposite an open wall, which provides a sweeping view of the surrounding landscape. This is a powerful statement; the securities and comfort of home, along with the views to the site, the landscape, which the occupant is part of. Architecture is not significant purely on its own right, it needs to interact with the surrounding landscape, which this project does.

Additionally, the four projecting walls, confine the extent of the views from each room. In this way, the architect provides a guiding hand as to what the occupant should focus on. In doing this, the architect has created completely new forms, but still accomplishes the same goals of traditional architecture. He has found the basic elements in architecture and completely reinvented them in a new form.
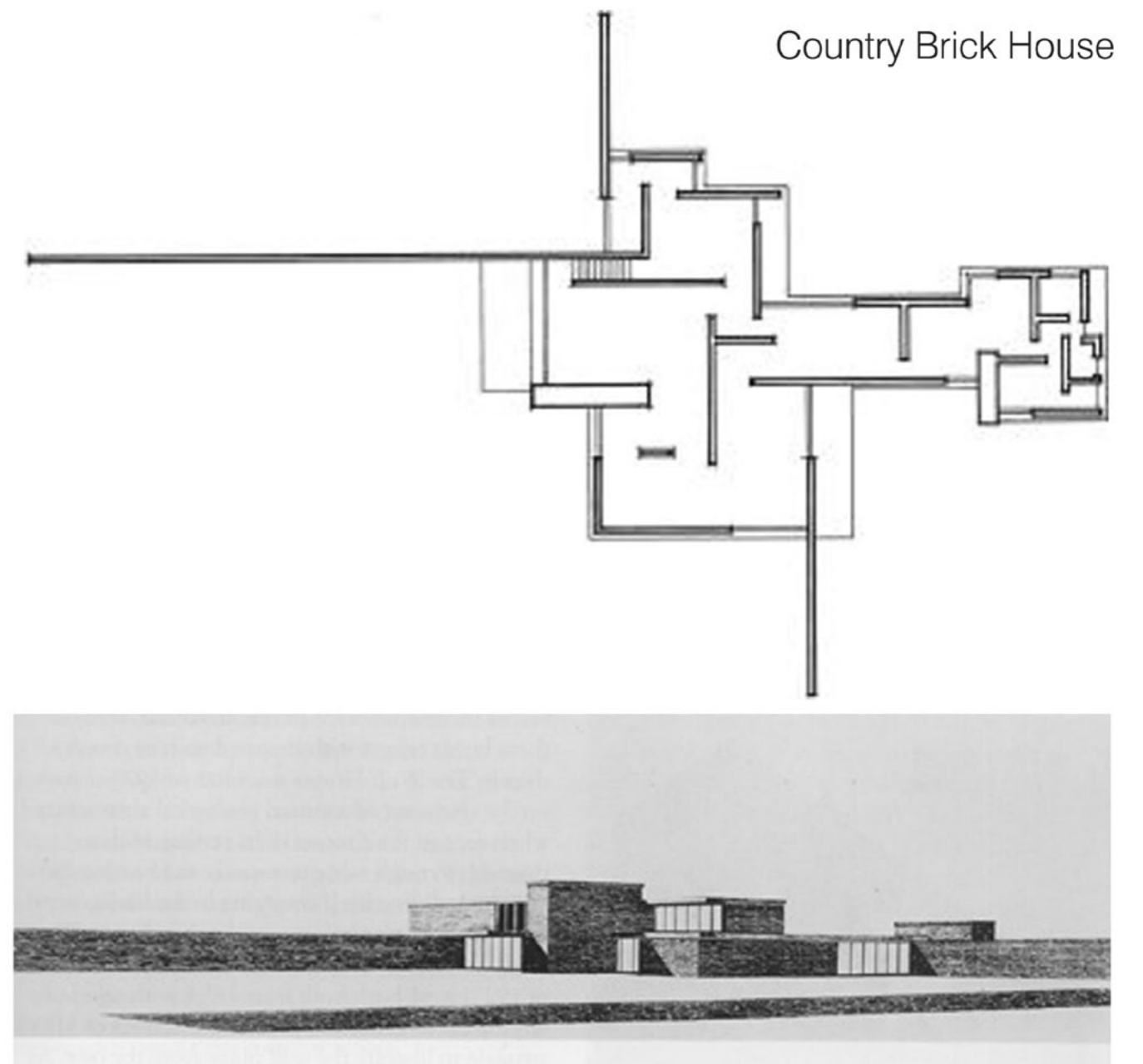
Ludwig Mies van der Rohe (1886-1969) strived towards an architecture with a minimal framework of structural order balanced against the implied freedom of free-flowing open space. He strived towards an architecture with a minimal framework of structural order balanced against the implied freedom of free-flowing open space.
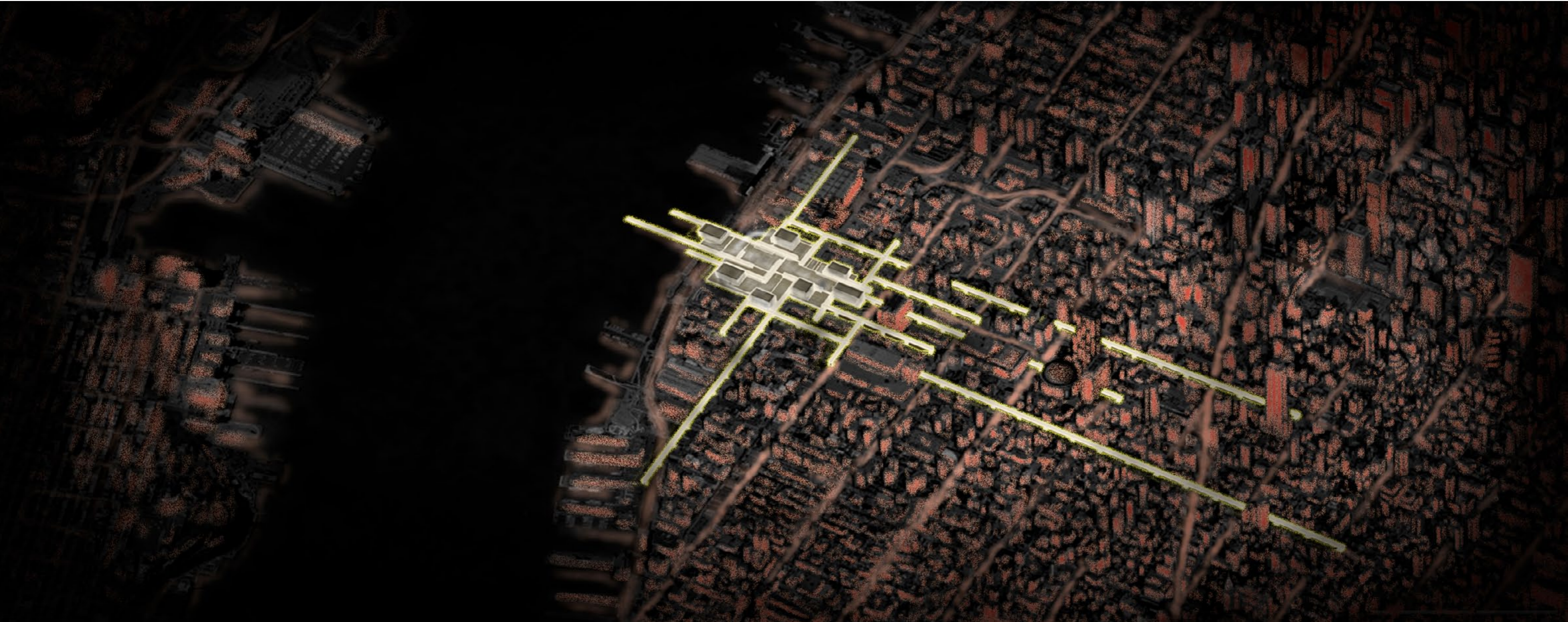
From "Free Plan" by Le Corbusier to "Free-flowing Space" by Mies van der Rohe, Unity Space, the masters wanted to create an new kind of the space. Traditional spaces are defined by the clousre walls and separated, but the new spaces are fulluy connected and being equals. It's the unity of the space.
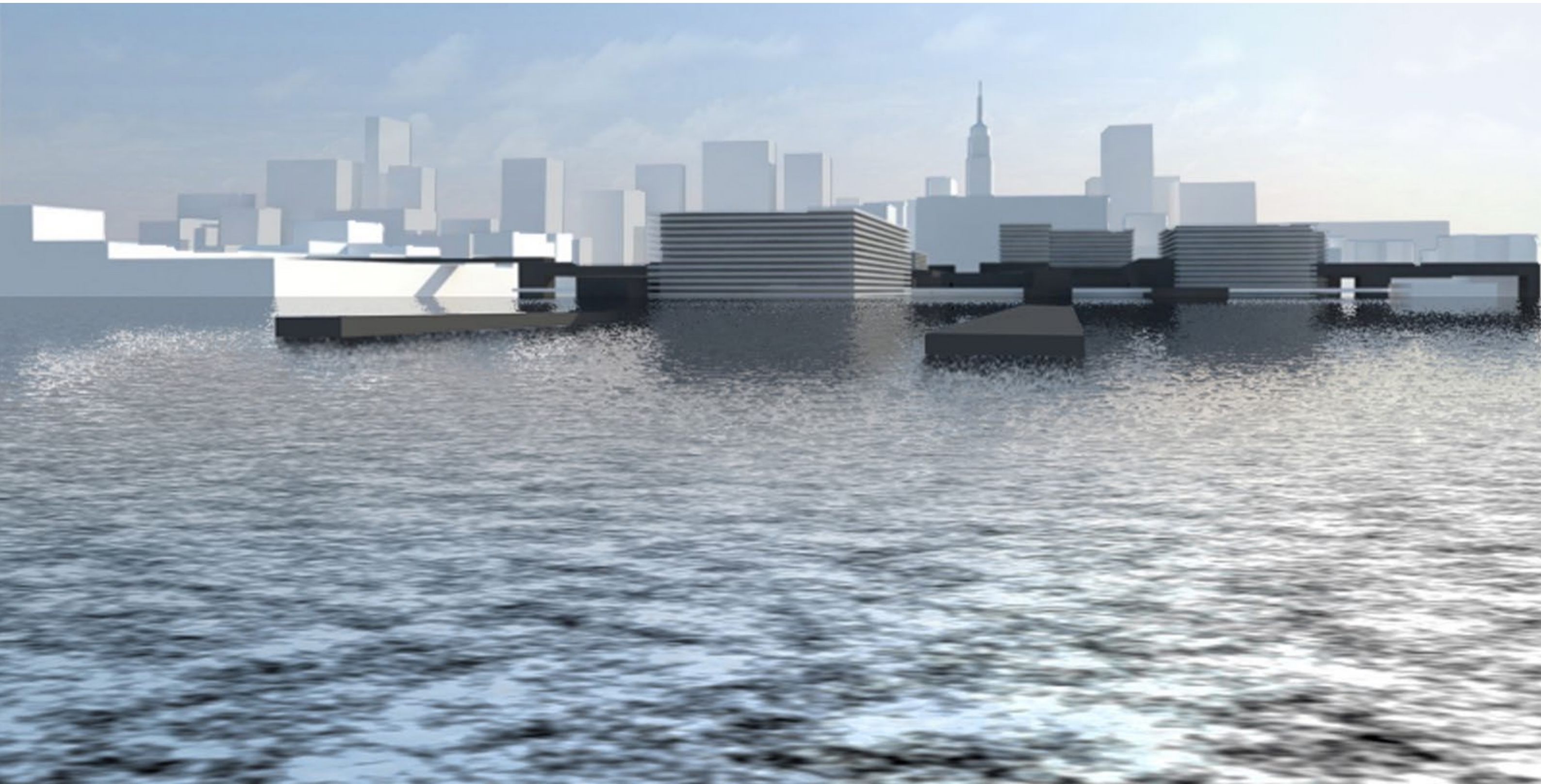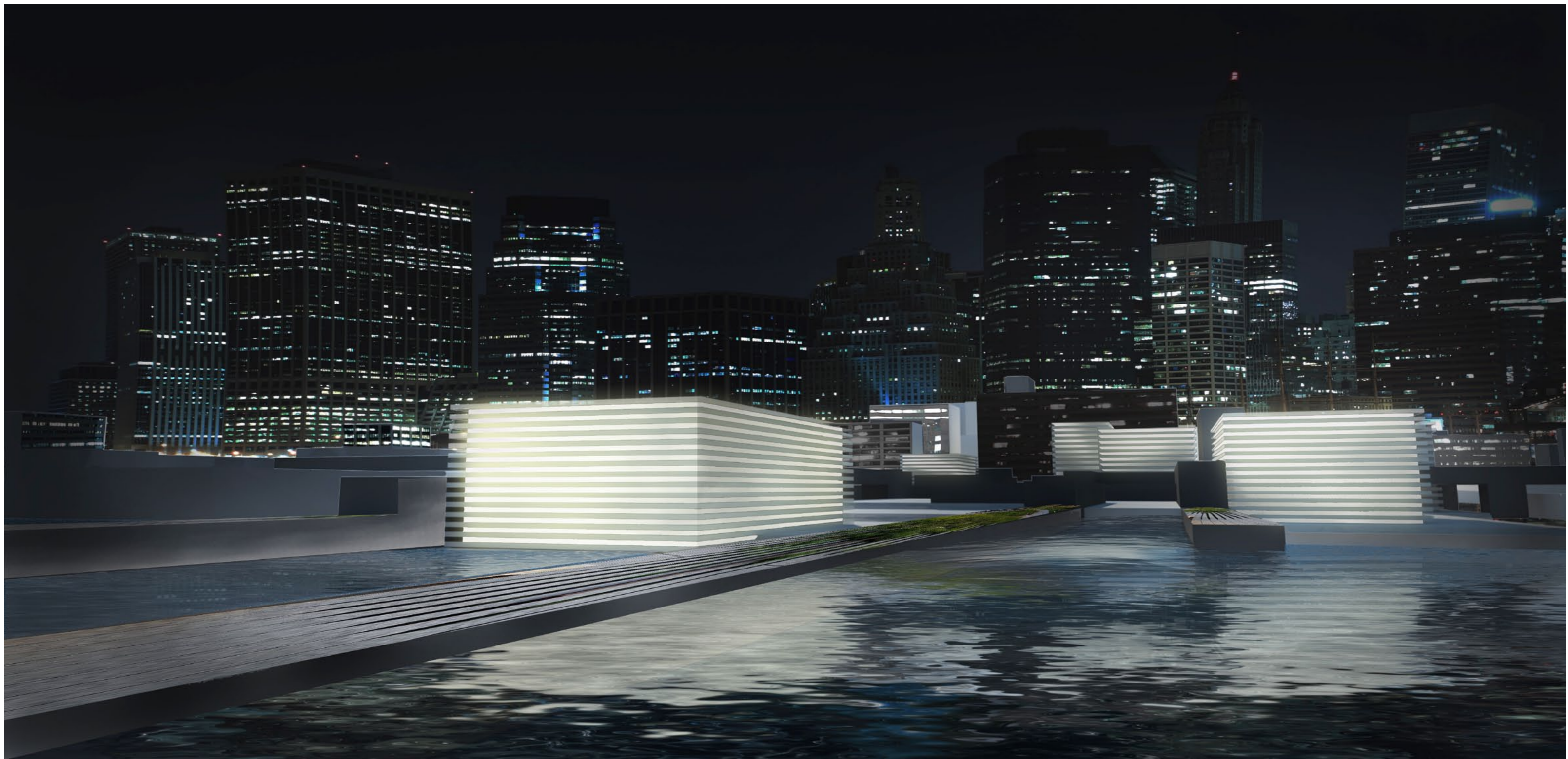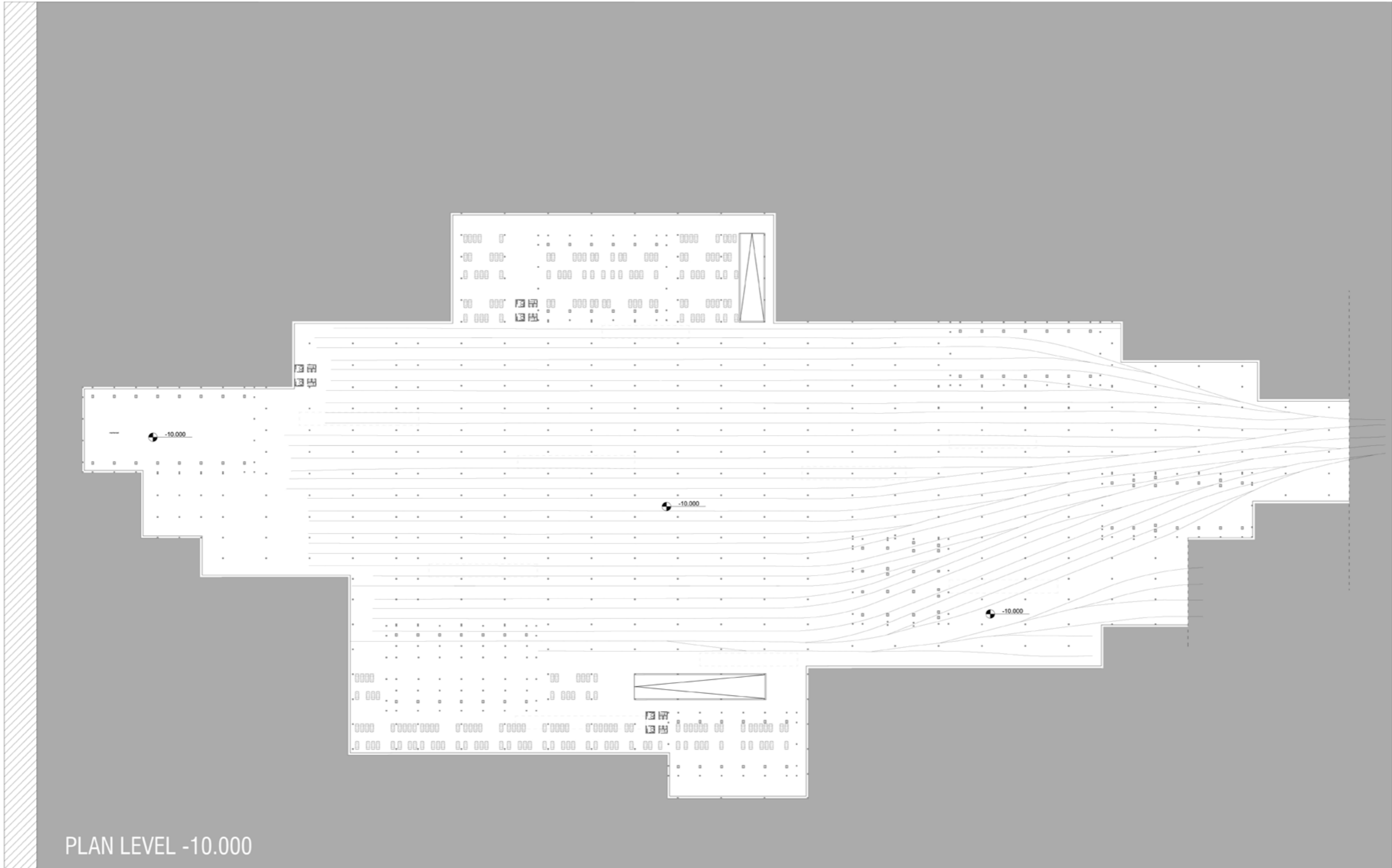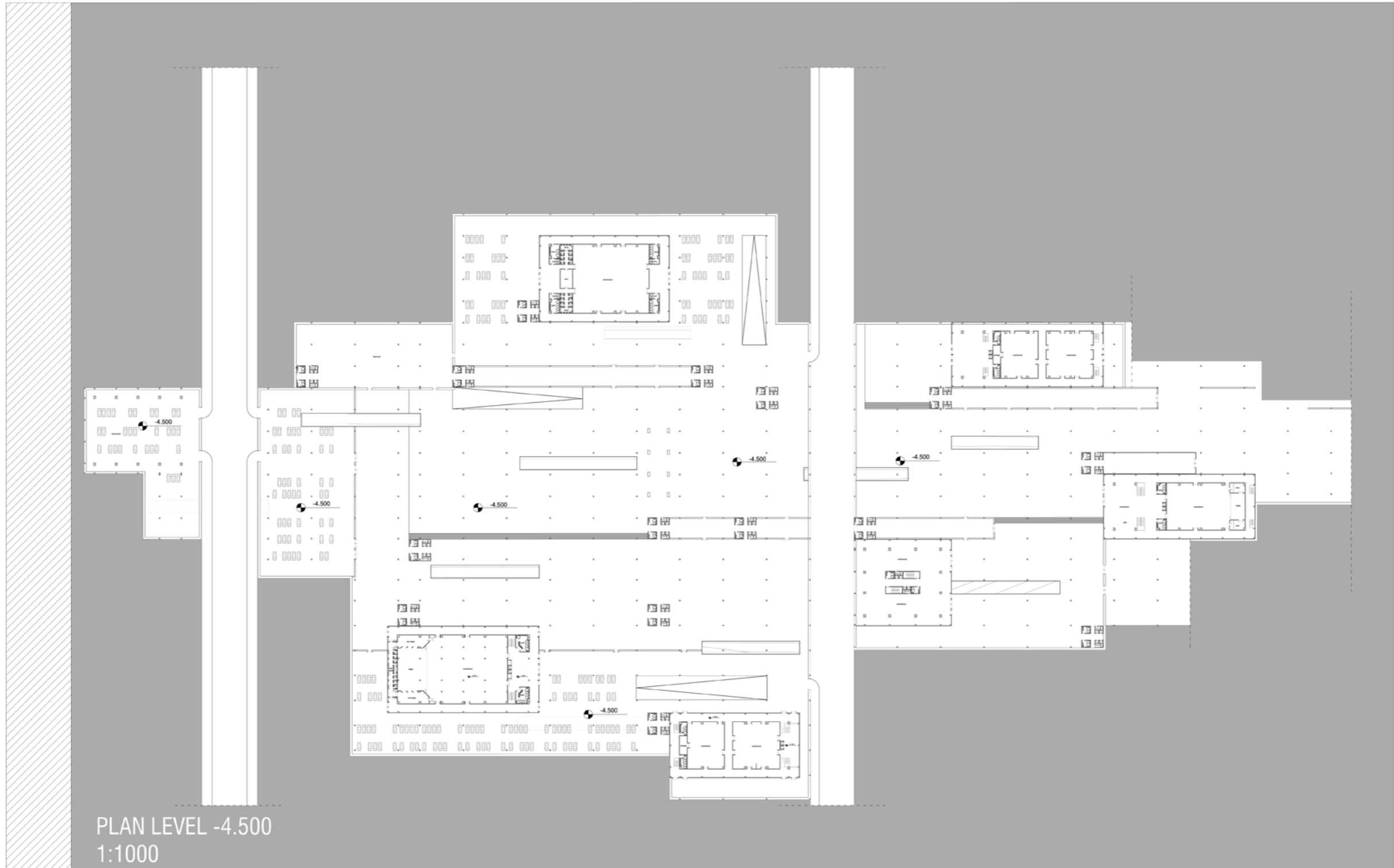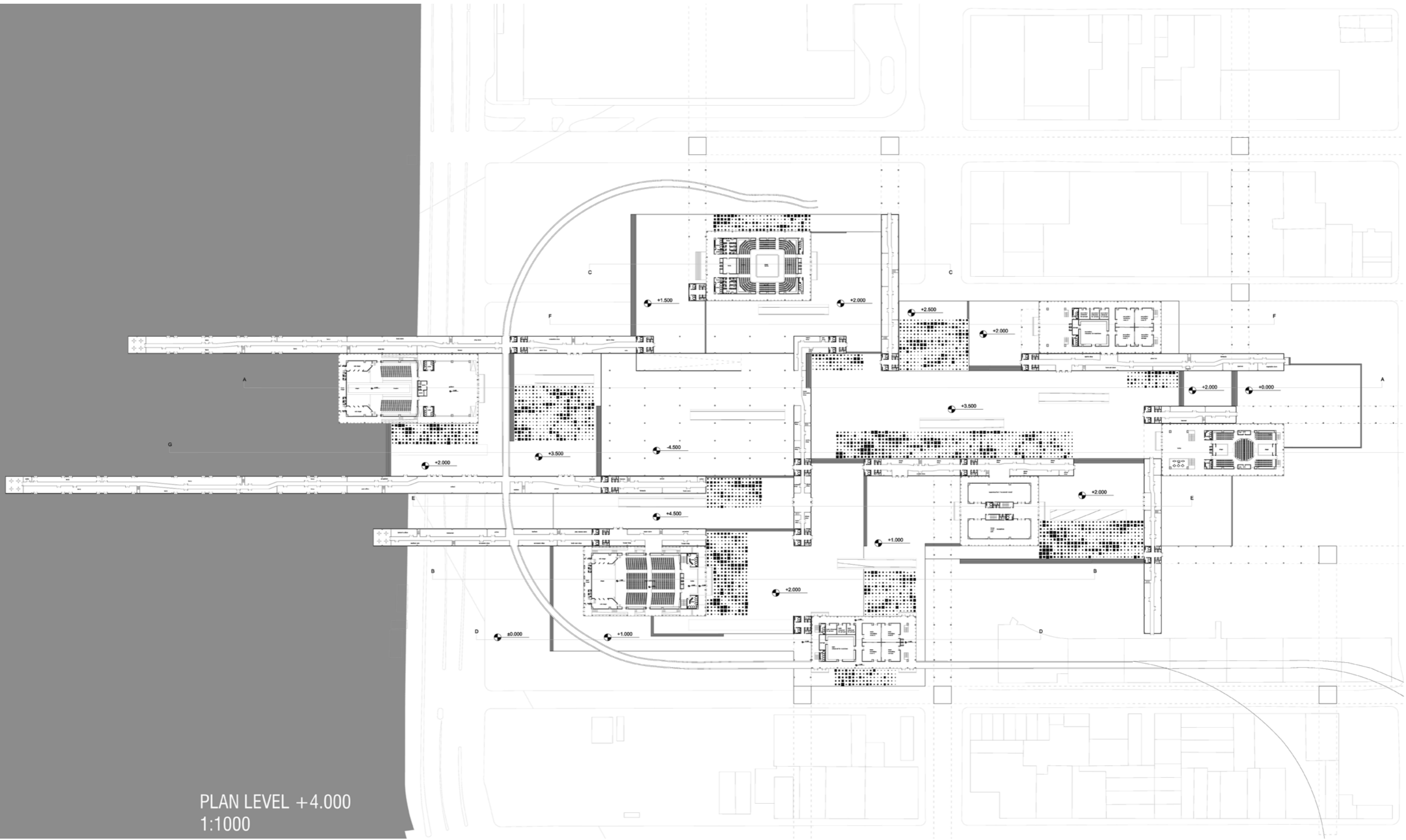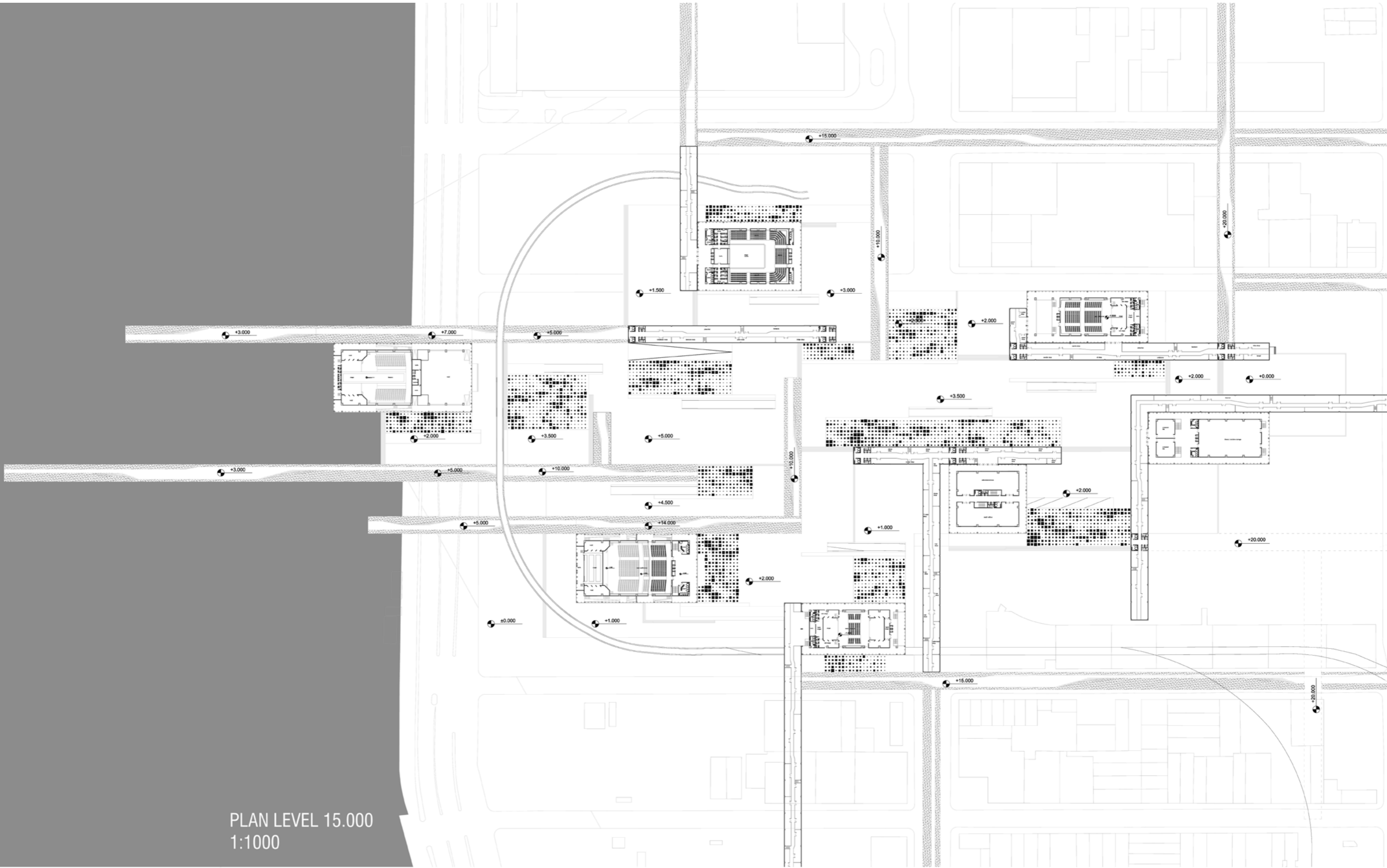
II   PROJECT PART
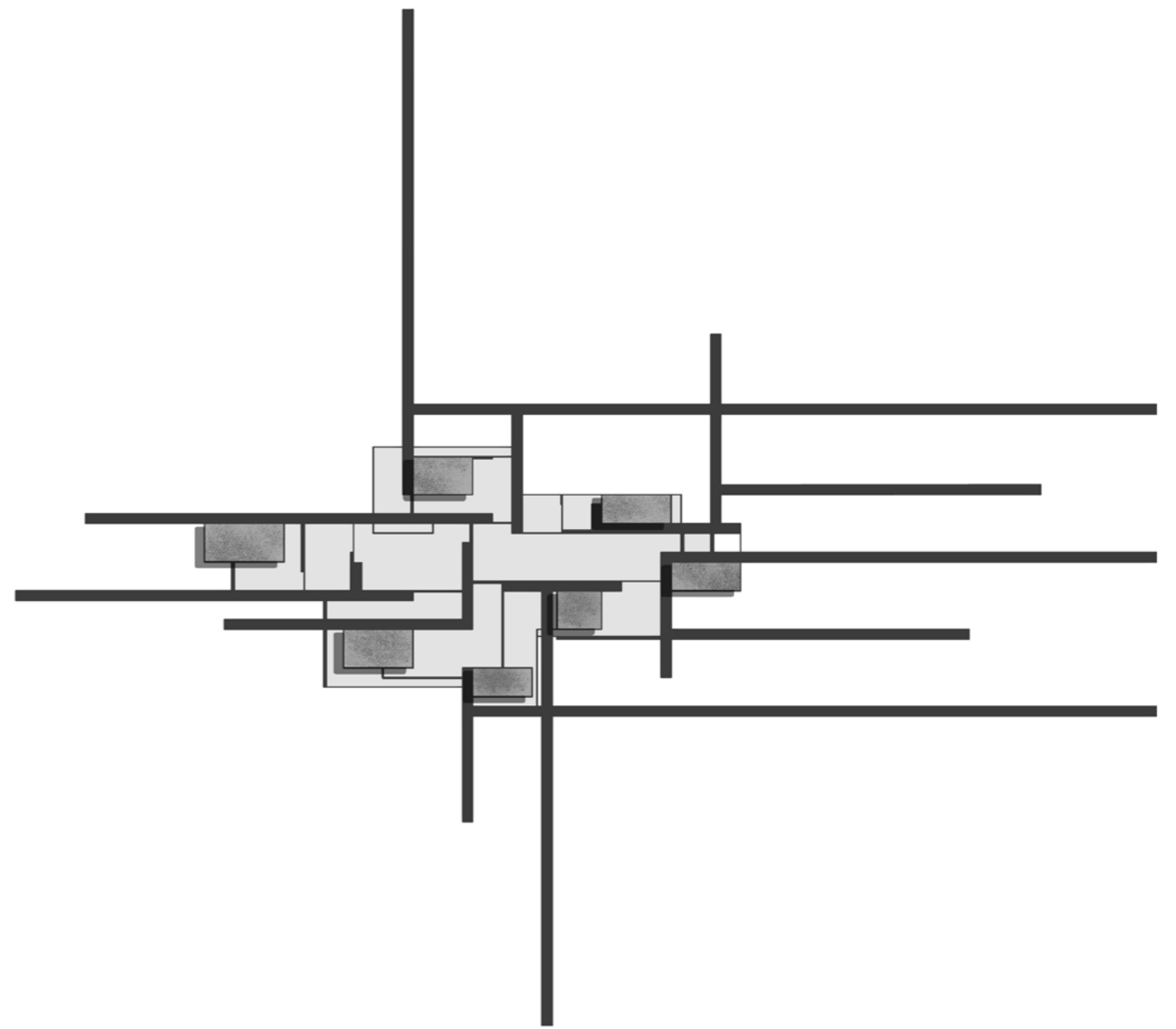
PERSPECTIVE

ILLUSTRATION

DAY VIEW

NIGHT VIEW

DETAIL VIEW

MASTERPLAN 1:2000

PLAN LEVEL -10.000
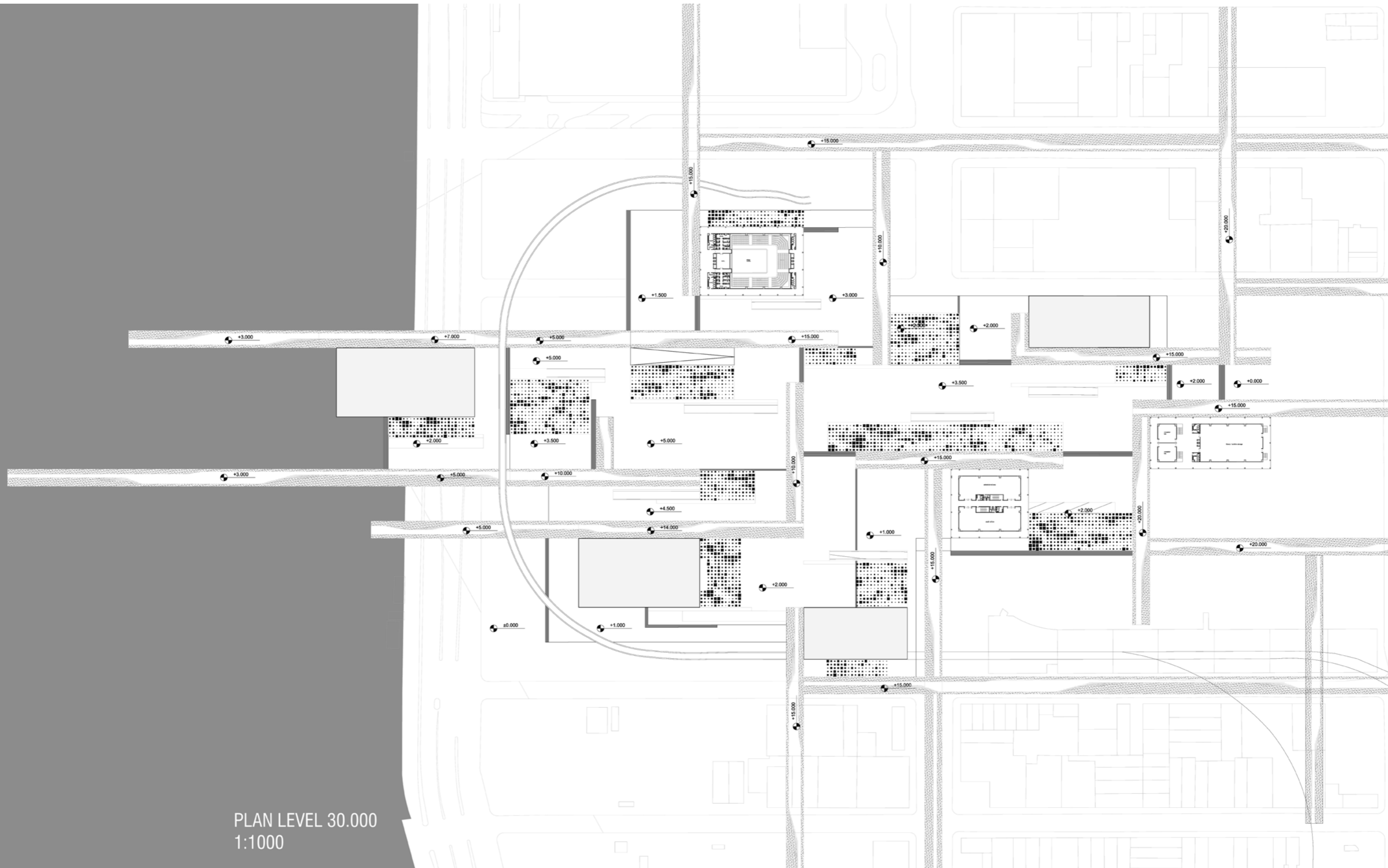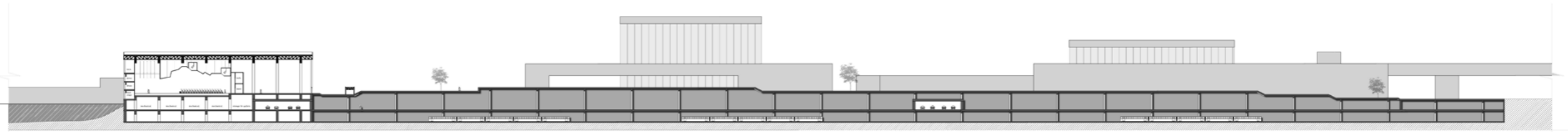
PLAN LEVEL -4.500
1:1000

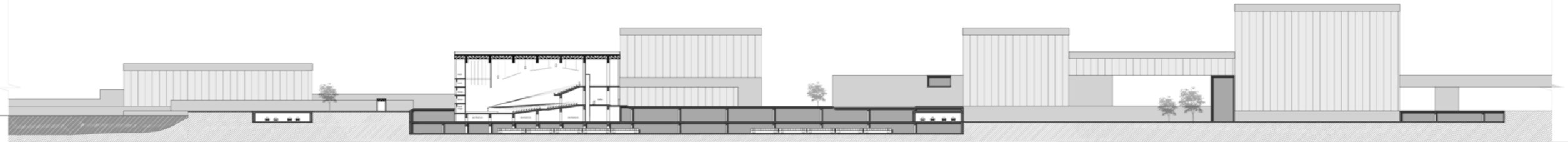PLAN LEVEL +4.000
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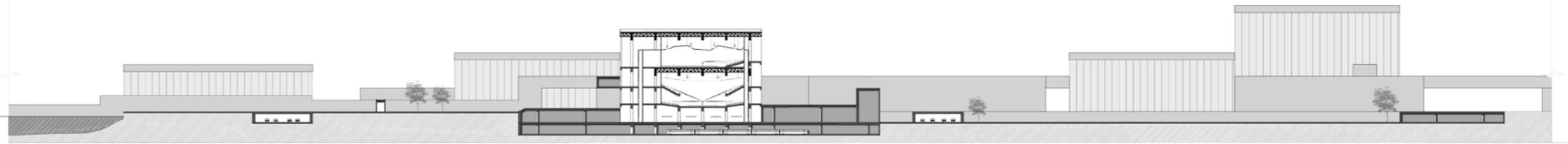PLAN LEVEL 15.000
1:1000

PLAN LEVEL 30.000
1:1000

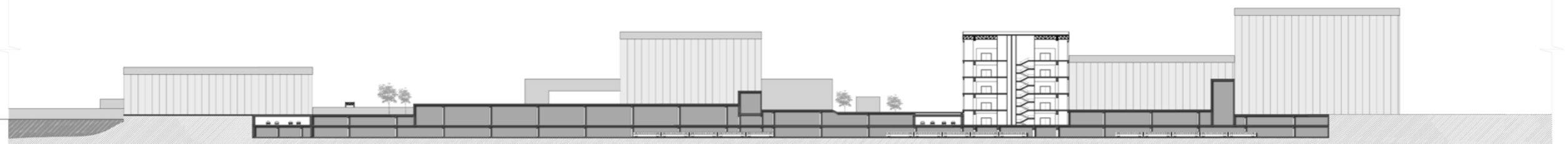SECTION A-A 1:2000

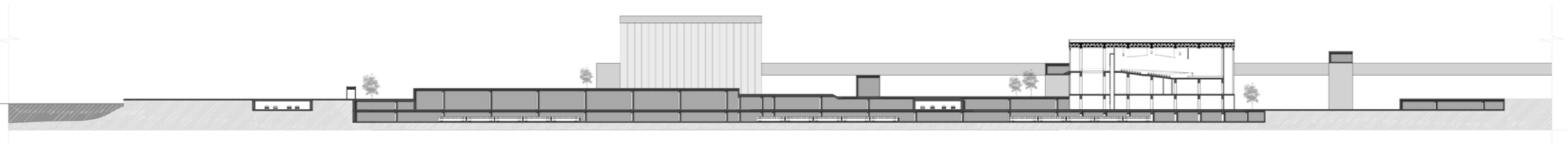SECTION B-B 1:2000

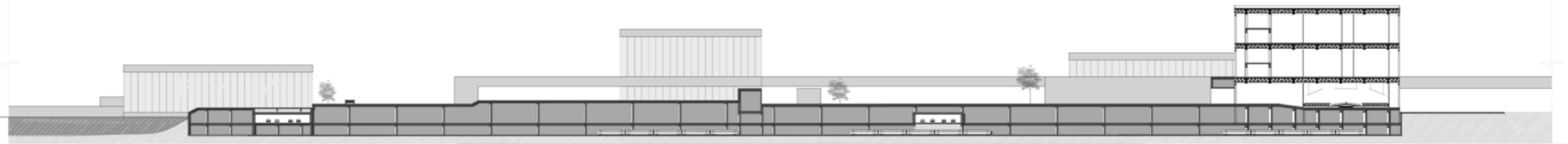SECTION C-C 1:2000

SECTION D-D 1:2000

SECTION E-E 1:2000

SECTION F-F 1:2000

SECTION G-G 1:2000

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