東京ハイかびリチ

TOKYO | HIKE-ABILITY

SCENARIOS FOR UTILIZING SPACE ABOVE GROUND FLOOR

CANDIDATE JOSTEIN FARDAL | TUTOR MARKUS SCHWAI

"In my view, an architect must essentially be a THINKER, whose mission is not only to realize works, but also to put forward IMAGES OF THE CITY'S FUTURE AND SOCIETY'S FUTURE."

Kisho Kurokawa

"To create architecture: is it not to create a new TOPOGRAPHY?"

Sou Fujimoto

"Jo HØYERE vi bygger, jo mer TEKNOLOGISK AVANSERTE vi blir, desto FLATERE blir vårt BEVEGELSESMØNSTER og med det vår livsverden. Vi bygger for høyt for trapper og KAN IKKE LENGER KLATRE, vi må løftes på plass [...] Man får ingen opplevelse av OMGIVELSENES FORANDRING og ingen genuin forståelse av HASTIGHET, MÅLESTOKK eller STØRRELSE"

Christian Lysvåg

"Mobility in the 20th century is characterized by the combination of HORIZONTAL (VEHICULAR) and VERTICAL (ELEVATOR) movement. The efficiency of this system has so far defined our framework of space. But perhaps it is time to consider a new logic that is based on a wider premise. The possibility of a THREE-DIMENTIONAL MOBILITY, the redefinition of building boundaries, and the reconsideration of the relationship between the city's geography and climate are all issues worth exploring."

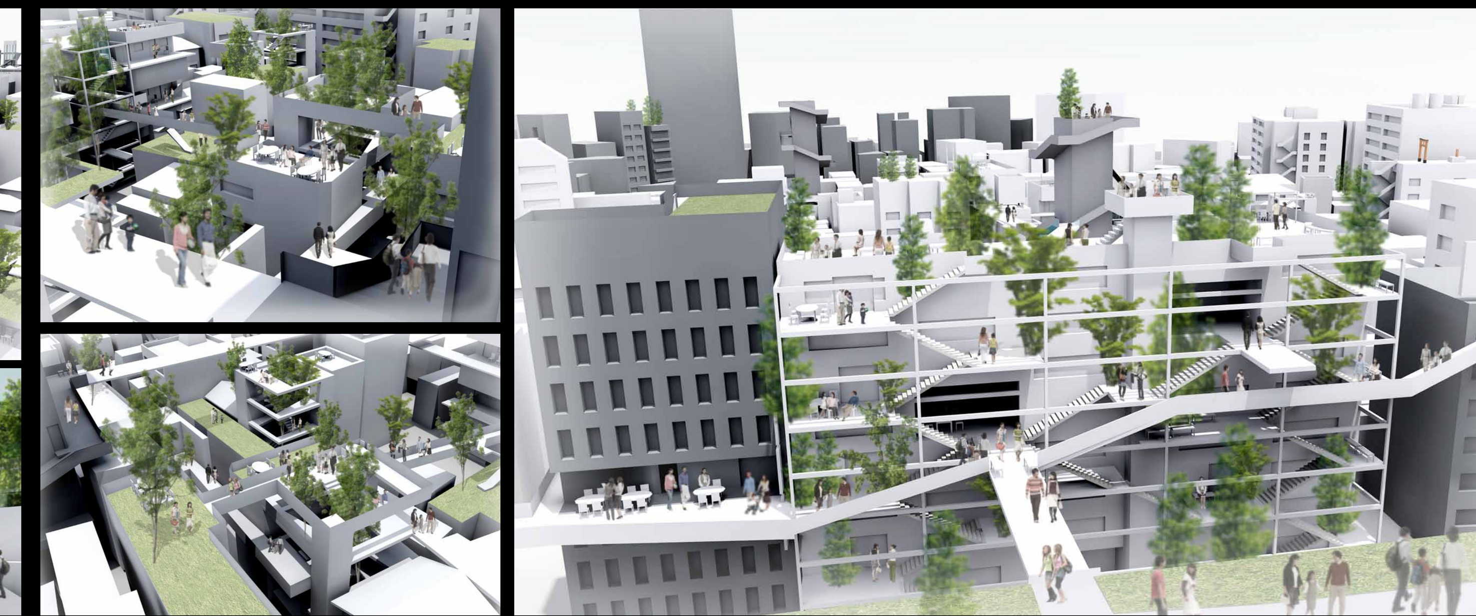
Akihisa Hirata

"RAPID URBANISATION has bred increasing numbers of people who have NEVER KNOWN THE JOYS OF RURAL LIFE, chasing rabbits in mountains, fishing for crucians in streams, whose only home is a tiny appartment in some huge city."

Kakuei Tanaka, former Prime Minister of Japan

"In response to the term WALKABILITY, "hike-ability" is proposed as a means of investigating divers means of affording HEALTHY, ENVIRONMENTALLY SENSITIVE ways to engage vertical movement in the city"

Minsuk Cho



In "POST-3/11" JAPAN, OLD URBAN IDEALS will have to be REEVALUATED, and not just in the disaster-stricken regions. Most Japanese cities will have to undergo MAJOR STRUCTURAL CHANGES to survive the 21st century. That said, despite having experienced the 3/11 DISASTER, I fear we will be PLAGUED BY UNCREATIVE PROPOSALS THAT FAIL TO TRANSCEND 20TH CENTURY GROWTH IDEALS.

Jun Hashimoto

"The existence of INDIVIDUAL BUILDINGS can be treated as potentially important influence on the QUALITY OF COLLECTIVE SPACE"

Yoshiharu Tsukamoto

"In the past few decades, especially in Asian megacities, RAMPANT URBAN EXPLOSION was faciliated by these horizontal and vertical schemes at an UNIMAGINABLE SCALE. This has replaced the quality of life in cities generated by ever increasing movement of machines seeking an excessive functionalist convenience driven via quantative considerations that have reached levels of absurdity."

Minsuk Cho

THEME | DENSITY AND MOVEMENT IN URBAN SPACE

HORIZONTAL + VERTICAL EXPANSION

The expansion of cities in the 20th century is characterized by the invention of the automobile and the elevator, which made a horizontal and vertical extension possible beyond an imaginable scale. Both schemes represent a planar system of planning, which either considers a horizontal limit (x-axis) or a vertical limit (z-axis) and does not neccesarily take into account the relationship three dimentinal space above ground floor.

WHAT HAPPENS IF WE INTRODUCE A THREE-DIMENTIONAL UTILIZATION OF SPACE PLANNING?

EXTREME BUILDING DENSITY

Rampant urban development often causes extreme density, lack of space on ground floor and high land values that make it difficult to only consider a two-dimentional utilization of space in order to achieve natural qualities such as greenery, air and space on top of the neccessary infrastructure, water/sewage systems, energy and ressources that a city needs.

WHEN THE GROUND IS ALREADY OCCUPIED, HOW DO WE CREATE MORE SPACE?

HIGH POPULATION DENSITY

Humans are social beings, and have always lived together in communities. As the world population continues to grow, we have to get used to live closer each other, even on top of each other. Huge concentrations of people in densly built areas needs special attention terms of planning in order maintain harmony and balance, both for the community and the individual needs.

HOW CAN AN INCREASED ACCESSIBILITY INCREASE THE QUALITY OF URBAN SPACE AND THE RELATIONSHIP BETWEEN PEOPLE?

HIGH LAND COST AND TDR

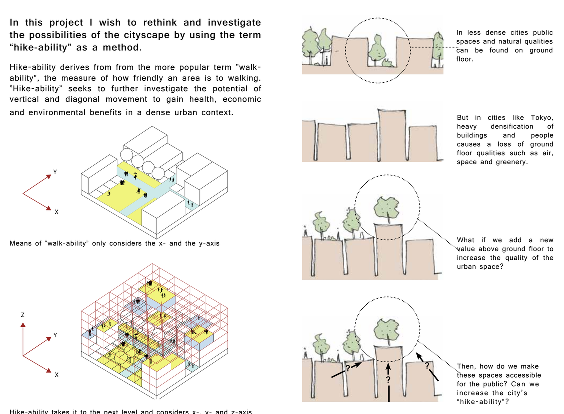
Central parts of cities are often very expensive and hard to get. Developers seek to get the highest possible profit which often result in densly packed conditions. The price of a lot is indisputably connected to the physical conditions of the ground floor such as its location, size and surroundings. Generally speaking, the building has realtively low value compared to the lot. But when density is high, air rights becomes valuable, allowing lot-owners to sell transferable development rights (TDR) in order to develop space not connected to the physical ground floor.

CAN ONE PROPOSE STRATEGIES THAT ADDS QUALITY OF SPACE TO THE VOLUM, NOT ONLY THE FLAT LOT?

METHOD | HIKE-ABILITY

In this project I wish to rethink and investigate the possibilities of the cityscape by using the term "hike-ability" as a method.

Hike-ability derives from from the more popular term "walk-ability", the measure of how friendly an area is to walking. "Hike-ability" seeks to further investigate the potential of vertical and diagonal movement to gain health, economic and environmental benefits in a dense urban context.



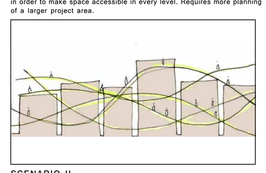
Means of "walk-ability" only considers the x- and the y-axis

Hike-ability takes it to the next level and considers x-, y- and z-axis

TWO SCENARIOS FOR A HIKE-ABLE STRATEGY

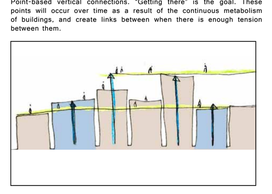
SCENARIO I

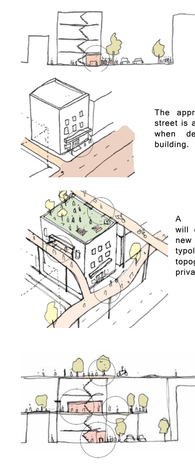
The urban landscape is transformed into a continuous diagonal movement in order to make space accessible in every level. Requires more planning of a larger project area.



SCENARIO II

Point-based vertical connections. "Getting there" is the goal. These points will occur over time as a result of the continuous metabolism of buildings, and create links between when there is enough tension between them.

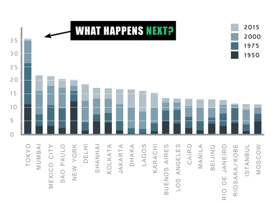




CONTEXT | TOKYO

LEARNING FROM TOKYO

Tokyo is the worlds largest meteropolitan area, both in terms of size and population. It has a highly developed and efficient infrastructure, low crime-rate and is a realtively comfortable city to live in despite its density and size. But it is also a city that has reached the limit of growth in many ways; it will not significantly expand or become more densly built. This brings us the opportunity to work in a context where expansion and densification are already dealt with, and we can take it to the next level. What happens at this stage? What are the challenges of this kind of city? What can we learn by studying complexity of Tokyo?



ENERGY CRISIS

Japan is known for its high energy and resource consumption. On March 11, 2011 Japan suffered perhaps the largest ever natural disaster yet to afflict an advanced industrial economy, causing the meltdown of the Fukushima nuclear power plant and eventually the temporary shutdown of 52 of 52 reactors nationwide. This triggered an ongoing debate on the policies regarding renewable energy and sustainable development.

BEFORE 3/11 JAPAN RELIED ON NUCLEAR POWER TO SUPPLY NEARLY 30% OF ITS ELECTRICITY, AIMING TOWARDS 50% IN 2020.

77 % ARE WILLING TO ACCEPT STRAIGHT ELECTRICITY SAVING INITIATIVES AND ROLLING BLACKOUTS FROM THE MUNICIPALITIES

Japanese people show a strong willingness to pay the price of no nuclear power at the local level.
-Asahi Shimbun polls

SOCIAL AND DEMOGRAPHIC CHANGE

Japan is facing both a diminishing and a rapidly aging population which triggers huge changes in the society. The local community becomes more important, as a economical recession causes declining and more expensive welfare offers. Lack of faith in politicans and a growing community participation are also shifting the way of planning for the future. Japan is shifting from a strong governmental rule towards local autonomy and a more horizontal hierarchy in terms of decisicion-making.

SHORT BUILDING LIFESPAN

Japan has a tradition for renewal (Ise Shrine). Buildings, especially in Tokyo, has a very short lifespan, which is not sustainable in terms of resources and energy use. Lots are expensive, while buildings are not. An entire cityscape is likely to be renewed within 30 years. This is outrageous, but also an oportunity to look into the situation and design strategies for a more suitable development.

STRATEGY | PLANNING FOR AN INCREASED ACCESSIBILITY

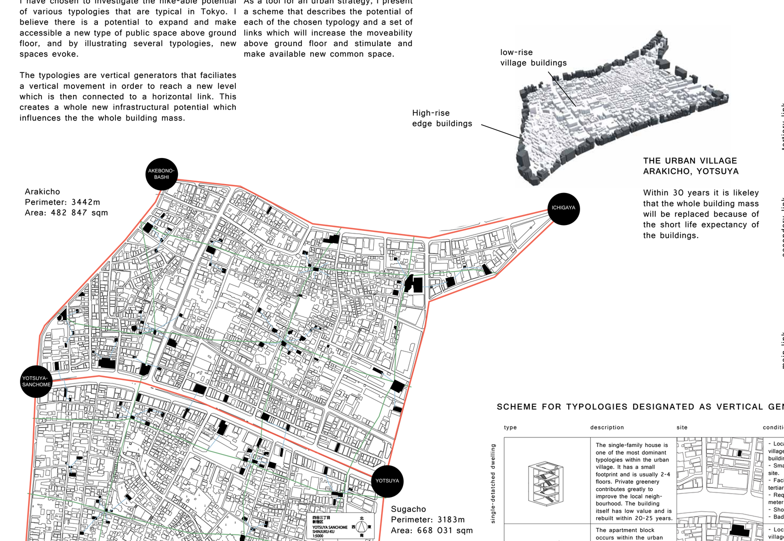
CASE STUDY SITE: YOTSUYA

THE URBAN VILLAGE

I have chosen to investigate the hike-able potential of various typologies that are typical in Tokyo. I believe there is a potential to expand and make accessible a new type of public space above ground floor, and by illustrating several typologies, new spaces evoke.

The typologies are vertical generators that faciliates a vertical movement in order to reach a new level which is then connected to a horizontal link. This creates a whole new infrastructural potential which influences the the whole building mass.

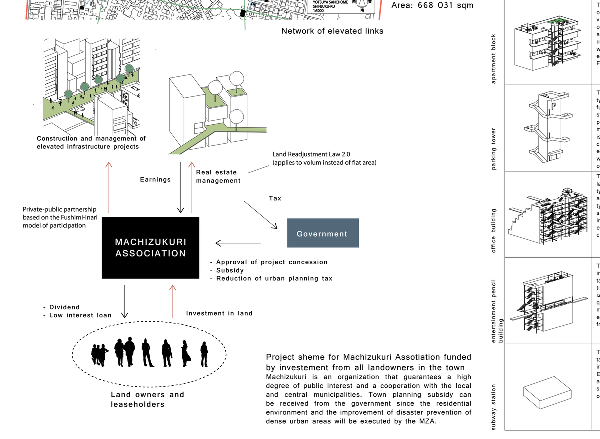
As a tool for an urban strategy, I present a scheme that describes the potential of each of the chosen typology and a set of links which will increase the moveability above ground floor and stimulate and make available new common space.



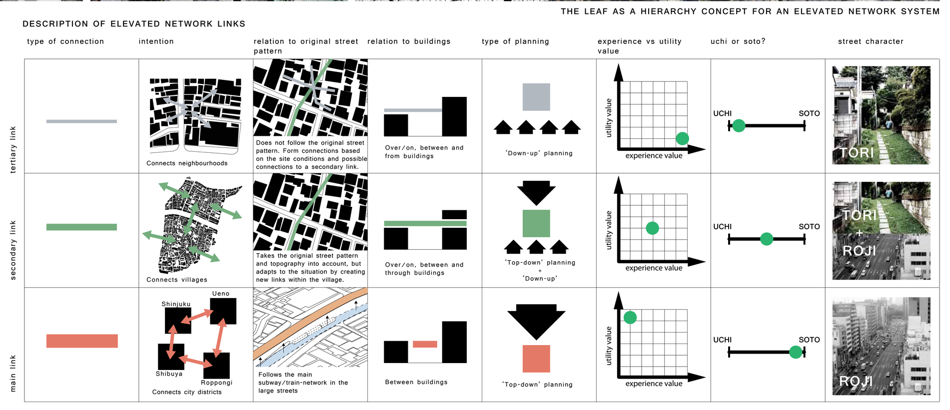
THE URBAN VILLAGE
ARAKICHO, YOTSUYA

Within 30 years it is likeley that the whole building mass will be replaced because of the short life expectancy of the buildings.

Network of elevated links

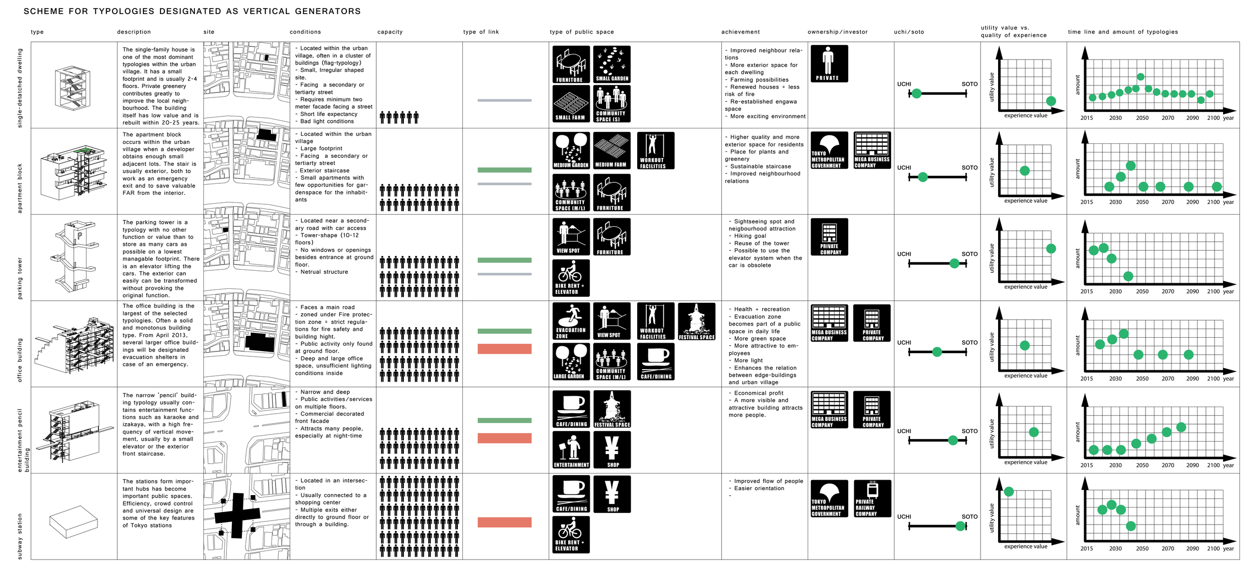


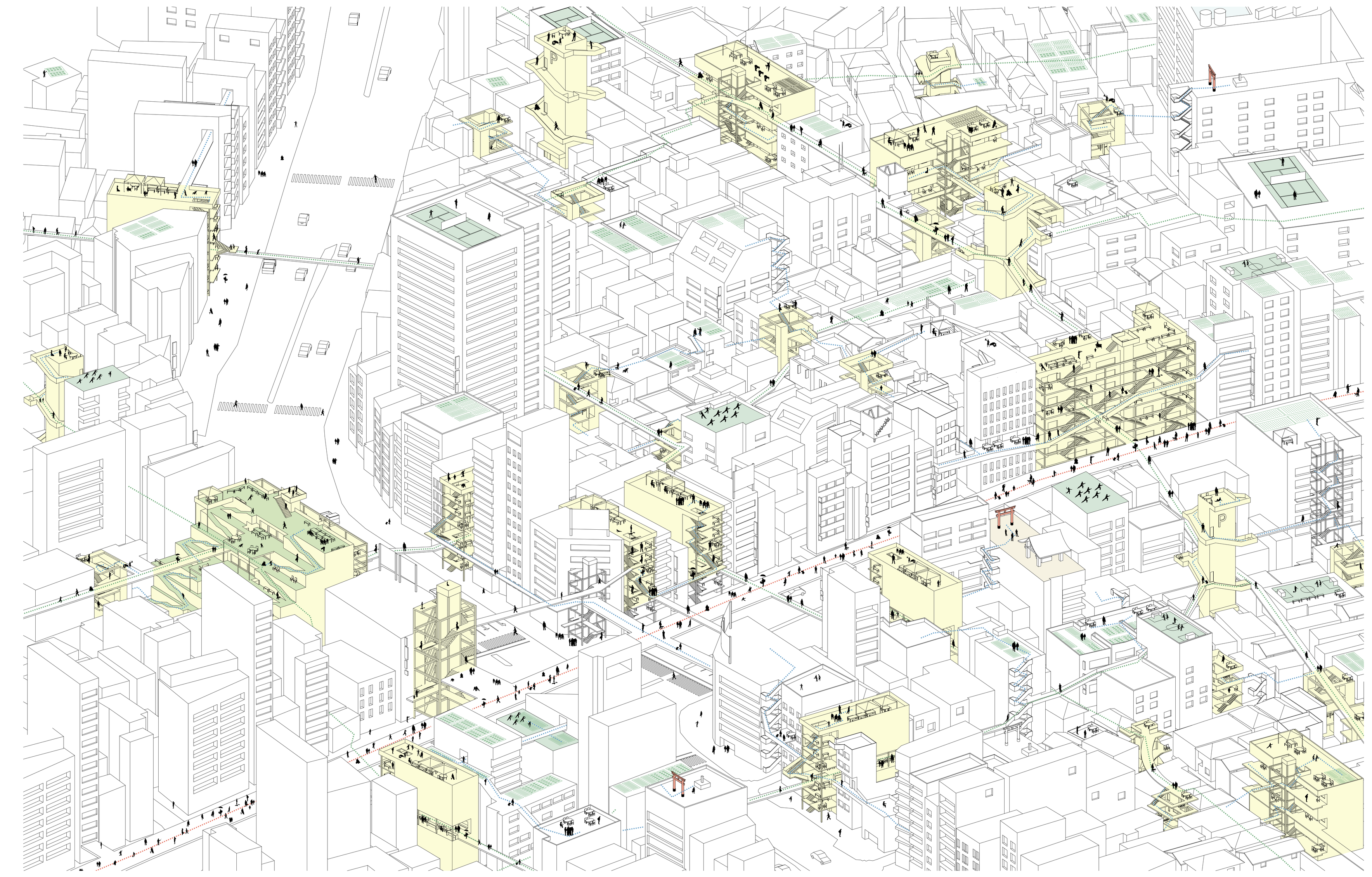
DESCRIPTION OF ELEVATED NETWORK LINKS

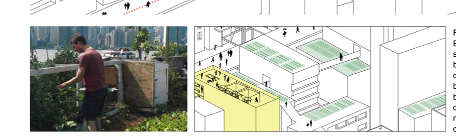


THE LEAF AS A HIERARCHY CONCEPT FOR AN ELEVATED NETWORK SYSTEM

SCHEME FOR TYPOLOGIES DESIGNATED AS VERTICAL GENERATORS

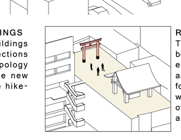




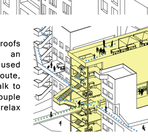


FARMING COMMUNITY
By accessing the rooftops, small-scale urban farming becomes possible. Water distribution will be provided by a hike-able generator building nearby. The farming communities also become nice scenery for the nearby common space on the roof.

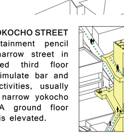
CONNECTING BUILDINGS
When the adjacent buildings start to form connections with the generator typology they will adapts to the new network system in the hike-able cityscape.



ROOFTOP TEMPLE
Temples situated on the roofs become accessible by an elevated pathway. It is used as a pause on a daily route, for instance when you walk to work, you can spend a couple of minutes to slow down, relax and pray.



ELEVATED YOKOCHO STREET
In an entertainment pencil building, a narrow street in the subtracted third floor space can stimulate bar and food-stand activities, usually found in the narrow yokocho sidestreets. A ground floor phenomenon is elevated.

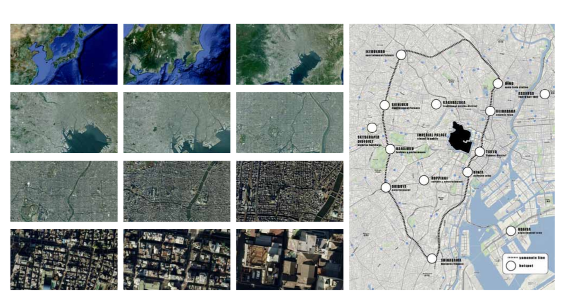


PARKING TOWER TOP
The parking tower becomes a vertical link which connects several paths. It is also a nice sightseeing spot, offering beautiful views of the green urban valley and distant landmark buildings such as Tokyo Sky Tree.

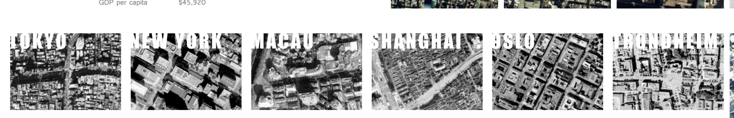
ANALYSIS | TOKYO

Japan is a country of tradition and technology. Located in East Asia, it is a highly developed and modernized country that can boast to be the third largest national economy and Tokyo as the world's largest urban metropolis. It is the home of karaoke, manga, sumo and sushi, and attracts many foreign visitors who wish to experience the kawai-culture that also has a great influence abroad.

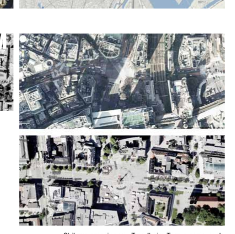
Area	377,944 km²
Density	337.1/km²
Population	127,799,000
Capital	Tokyo
Official language	Japanese
Ethnic groups	98,5 % Japanese
	0,5 % Korean
	0,4 % Chinese
	0,6 % other
Currency	Yen (¥)
GDP total	4.440 trillion
GDP per capita	$45,920



DENSITY COMPARSION

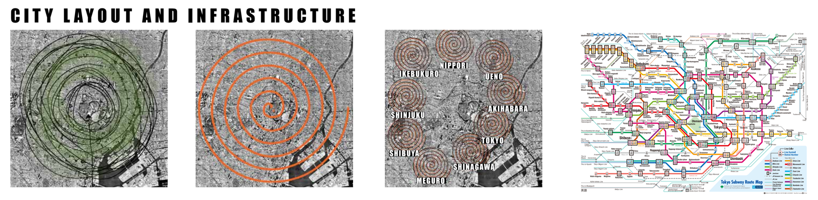


	TOKYO	NEW YORK	MACAU	SHANGHAI	OSLO	TRONDHEIM
SIZE KM²	13 572 km²	784 km²	29 km²	6340 km²	427 km²	322 km²
POPULATION	35 000 000	8 245 000	547 000	22 824 000	613 000	180 000
DENSITY CITIZENS/KM²	6 000/km²	10 500/km²	16 900/km²	3 600/km²	1 500/km²	520/km²



Shibuya crossing vs. Trondheim Torg - same scale

CITY LAYOUT AND INFRASTRUCTURE

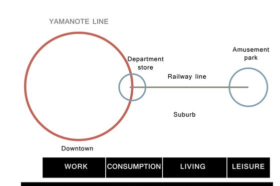


CENTERLESS CITY
Tokyo can be experienced like a tornado. The geographical center where the Emperor's palace is located, is dead in terms of activities most of the year. Activities takes place along the Yamanote-loop.

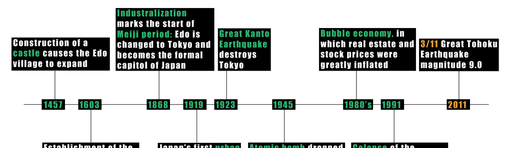
SPIRAL CITY
Tokyo can also be characterized as a spiral with few straight lines pointing towards the center.

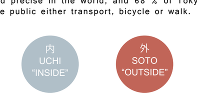
SPIRAL HOTSPOTS
Activities spirals out from each of the main stations along the Yamanote line.

METRO SPAGHETTI
The public infrastructure is one of the most efficient and precise in the world, and 68 % of Tokyoites use public either transport, bicycle or walk.

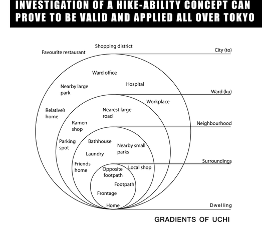


CONCLUSION: SINCE TOKYO CONSISTS OF MANY HOTSPOTS AND NOT A MAIN CENTER LIKE EUROPEAN CITIES, A SITE-SPECIFIC INVESTIGATION OF A HIKE-ABILITY CONCEPT CAN PROVE TO BE VALID AND APPLIED ALL OVER TOKYO



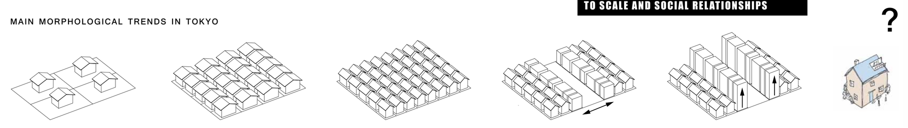


IF YOU TRANSLATE THE WORD 'PRIVACY' INTO JAPANESE YOU GET: プライバシー WHICH IS WRITTEN IN KATAKANA. THIS INDICATES THAT IT IS A LOANWORD AND DOES NOT NECESSARILY HAVE THE SAME MEANING IN JAPANESE LANGUAGE. CONCERNING THE TERMS 'PRIVATE' AND 'PUBLIC', IT IS BETTER TO USE 'UCHI' (内) AND 'SOTO' (外), LITERALLY MEANING 'INSIDE' AND 'OUTSIDE', TERMS THAT RELATES TO SCALE AND SOCIAL RELATIONSHIPS



GRADIENTS OF UCHI

MAIN MORPHOLOGICAL TRENDS IN TOKYO



1500
Before the Meiji period the two-story wooden family house was basically the only urban dwelling typology available in Japan, opposed to the Roman collective housing originating from the 2nd century.

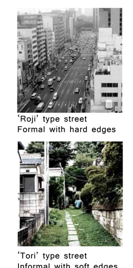
1868
When industralization was brought to Japan during the Meiji perid (1868-1912), large properties gradually became subdivided and expansion occured on horizontal level.

1920
Subdivision of lots continued to occur, resulting in a densly packed accumulation of very flamable wood houses and many small odd-shaped sites.

1923
The Great Kanto Earthquake devastated Tokyo in 1923. One of the following restoration projects was to expand designated main roads to create fire-breaks and increase the accessibility.

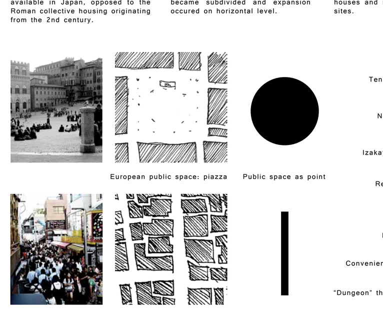
1950
The rapid development in the post-war period finally caused Tokyo to grow vertically, mainly around the main roads and stations connected to the Yamanote line.

2012
Today Tokyo consists of number of typologies, ranging from the small single detatched family house to mega-company offices.
What is next? A horizontal and a vertical scheme has already played its role and the city is not expanding anymore.



'Roji' type street
Formal with hard edges

'Tori' type street
Informal with soft edges

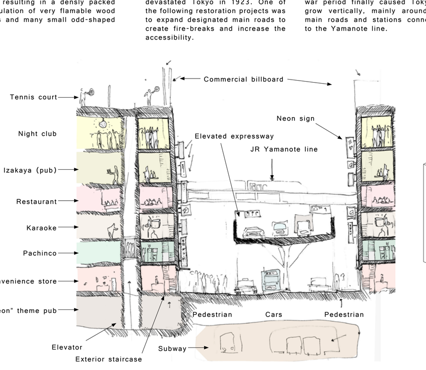


European public space: piazza

Public space as point

Japanese public space: the street

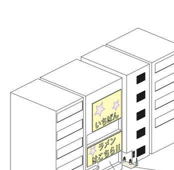
Public space as movement



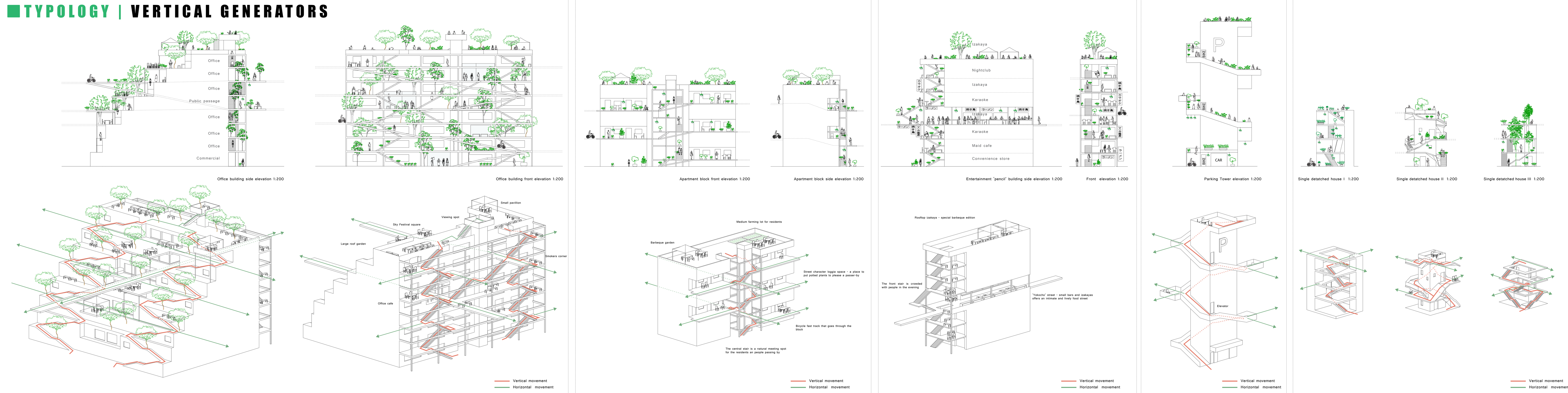
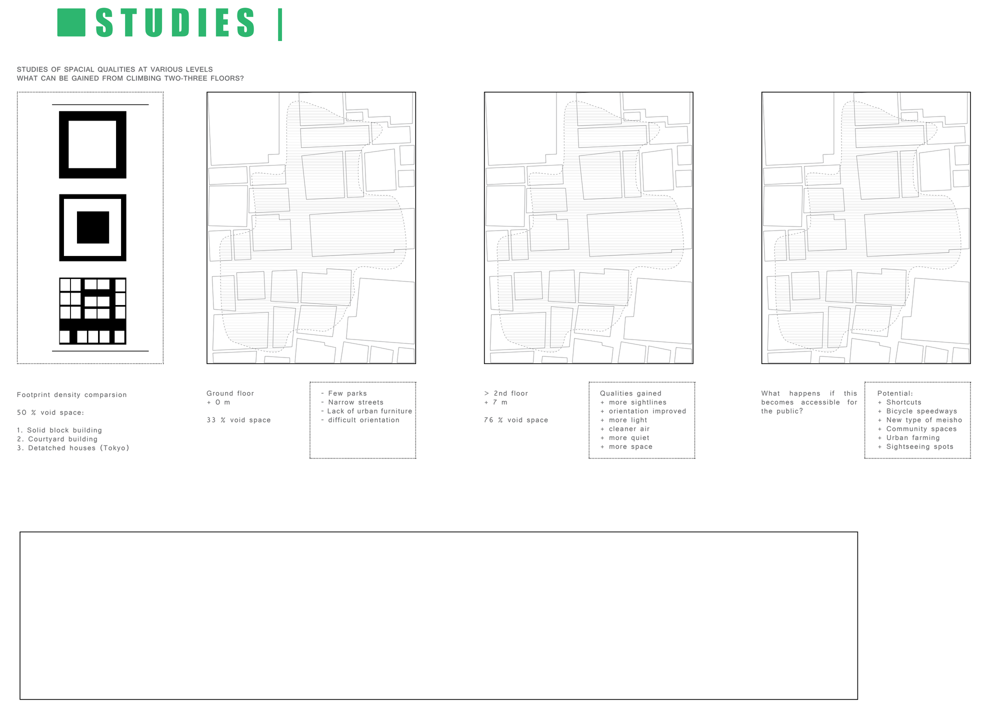
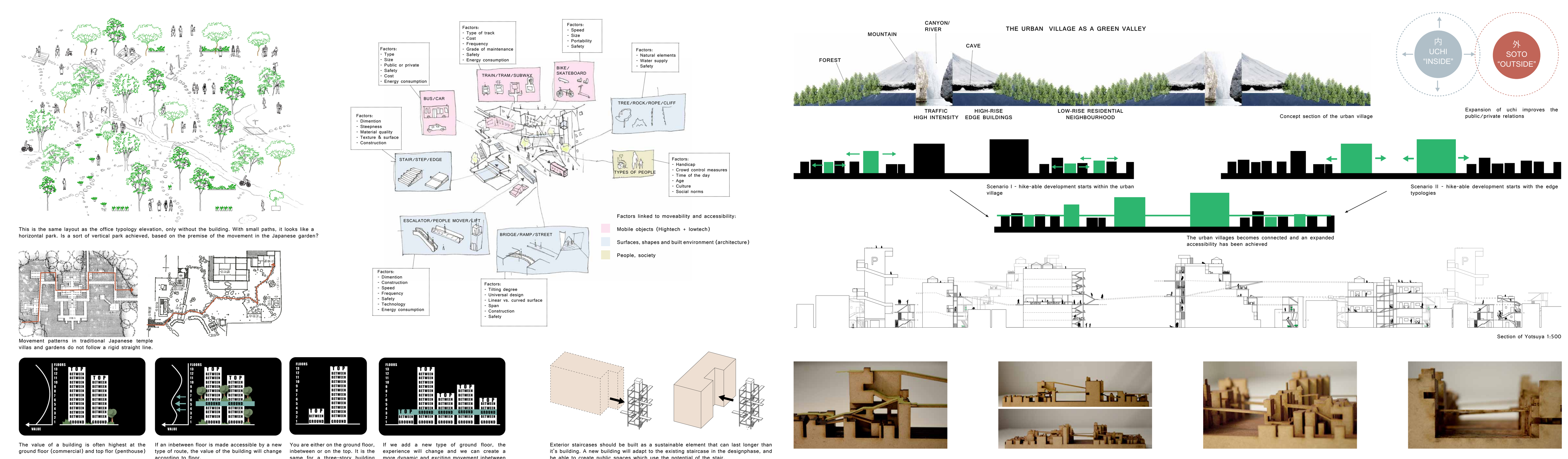
Sectional study of activities in a wide street

SELECTIVE CLIENTELE

The more reserved invitation, the higher status of the bar/cafe. Good places can be difficult to find for those who cannot read the signs.



TYPOLOGY | VERTICAL GENERATORS



STUDIES |