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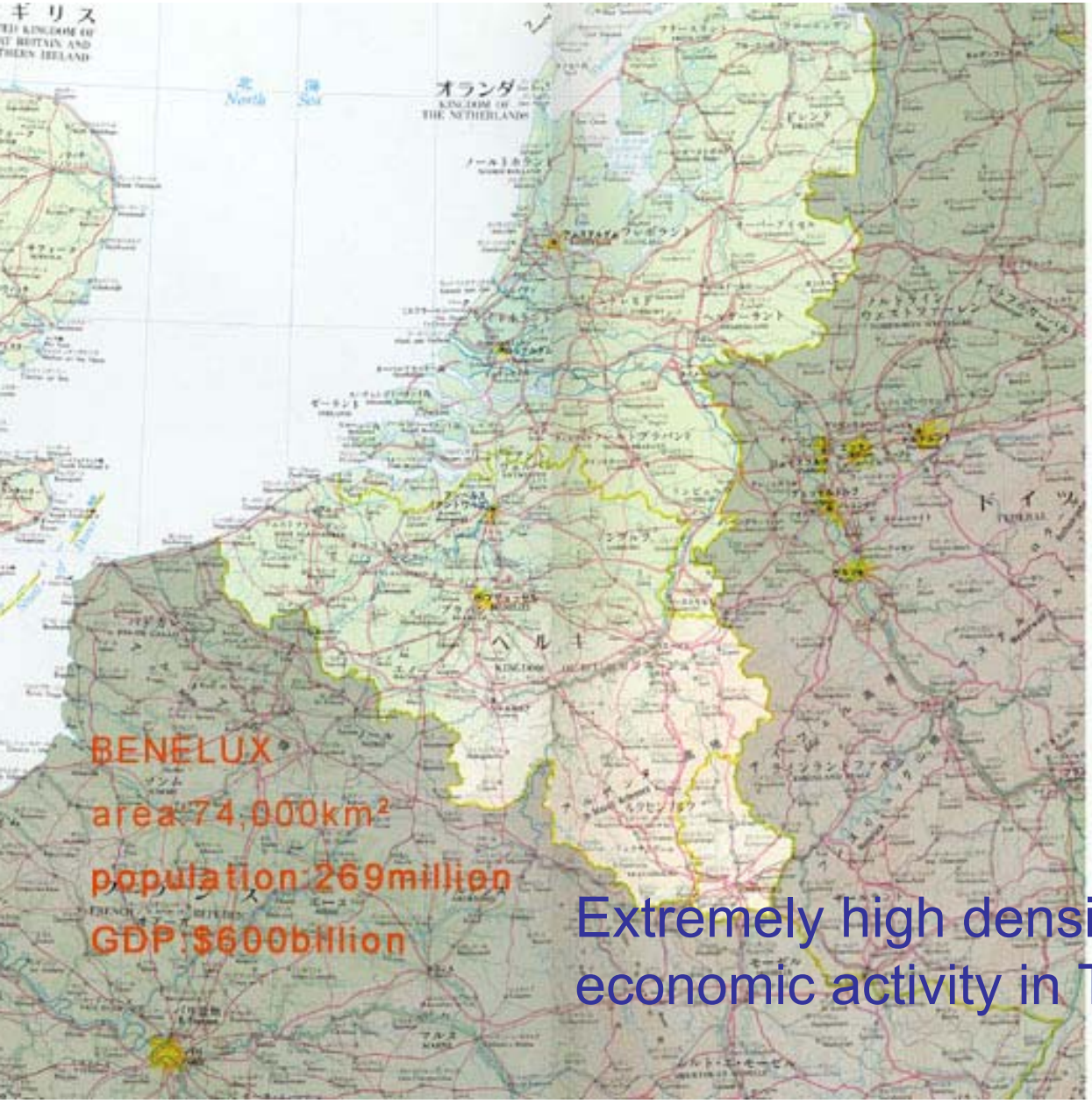
2004.3.29

1. How the 30 million population in the TOKYO Metropolitan Area can manage their urban activity without any trouble in such small area ?
2. How the commercial facilities are organized in the city centers in terms of railway networks?
3. How the suburban communities are organized in TMA in terms of railway networks?
4. What urban form will most appropriate to survive shrinking phase?

1. How the 30 million population in the TOKYO Metropolitan Area can manage their urban activity without any trouble in such small area ?

- Urban activities in the Japanese big cities, especially Tokyo metropolitan area is mainly depending on the railway network.
- One reason for the success of traffic planning in Japanese cities is the fact that high-speed railroads were accepted in the towns, and a large number of stations were arranged as if the high-speed lines were just street cars.



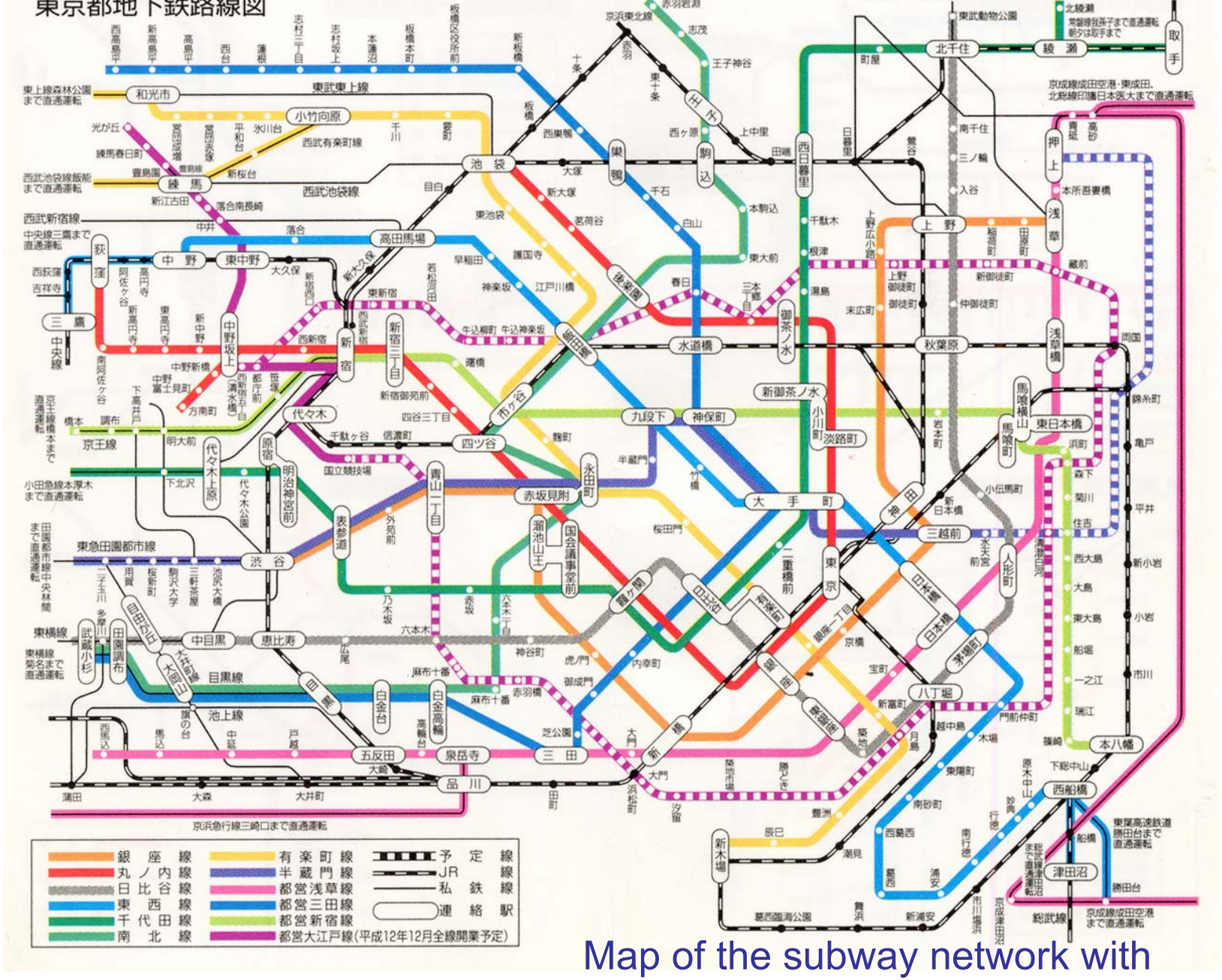
TMA

area:13,600km²

population:300million

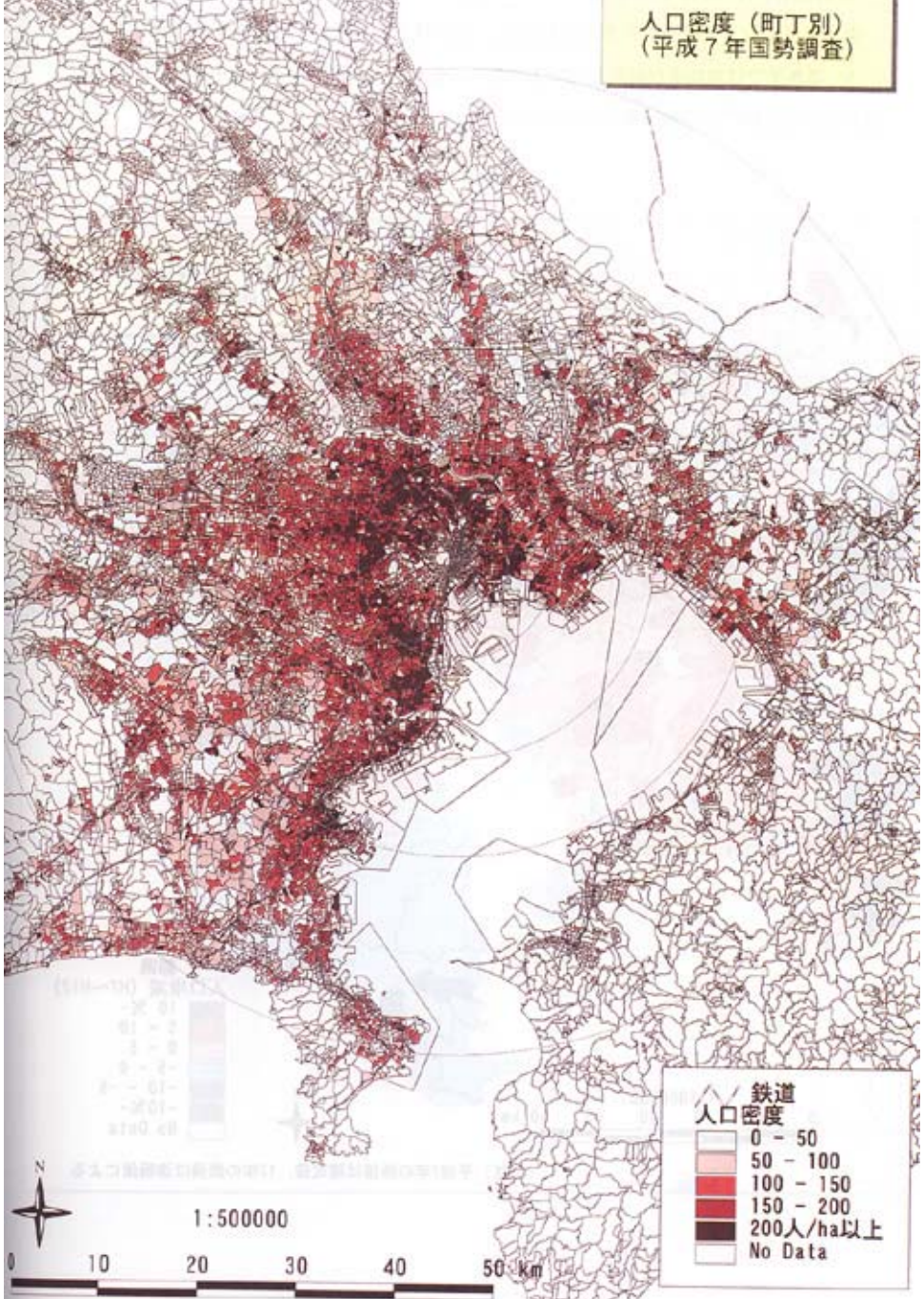
GDP:$1300billion

Extremely high density in living and economic activity in T.M.A.



Map of the subway network with surface railway network in Tokyo


5
緊急特集 竹中改革突入!?
生活不安防衛術
証券マンが警告 株は下がる、今すぐ全部売れ
買い時ではないが、買ってしまったらよほどな
つぶれる会社、社長でわかる
公共は割安 大ウソ
銀行だけじゃない 痛みの全貌
なりたい顔No.1の秘密はベースにあった!
今年の結論「セレブ系」&「シンプル系」をきわめる!
「働くお嬢さん」の最強5アイテムで冬じたく
矢田亜希子さんのMILANOショッピング・デビュー
スーツはどれだけ着くずせるかで決める
2002年式コンサバのつくり方
コート選びの正解
1stコート▸2ndコートの法則
STORY
CLASSY.12



T.M.A. continuously spread out along the railway line to make a huge conurbation area.

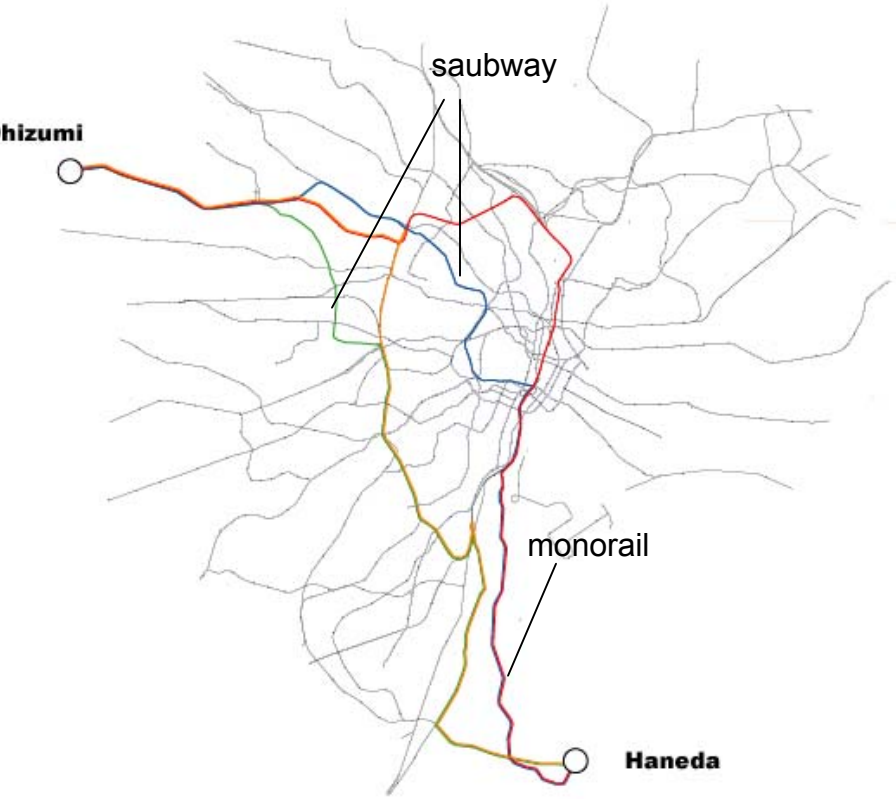
Elevated freey way network

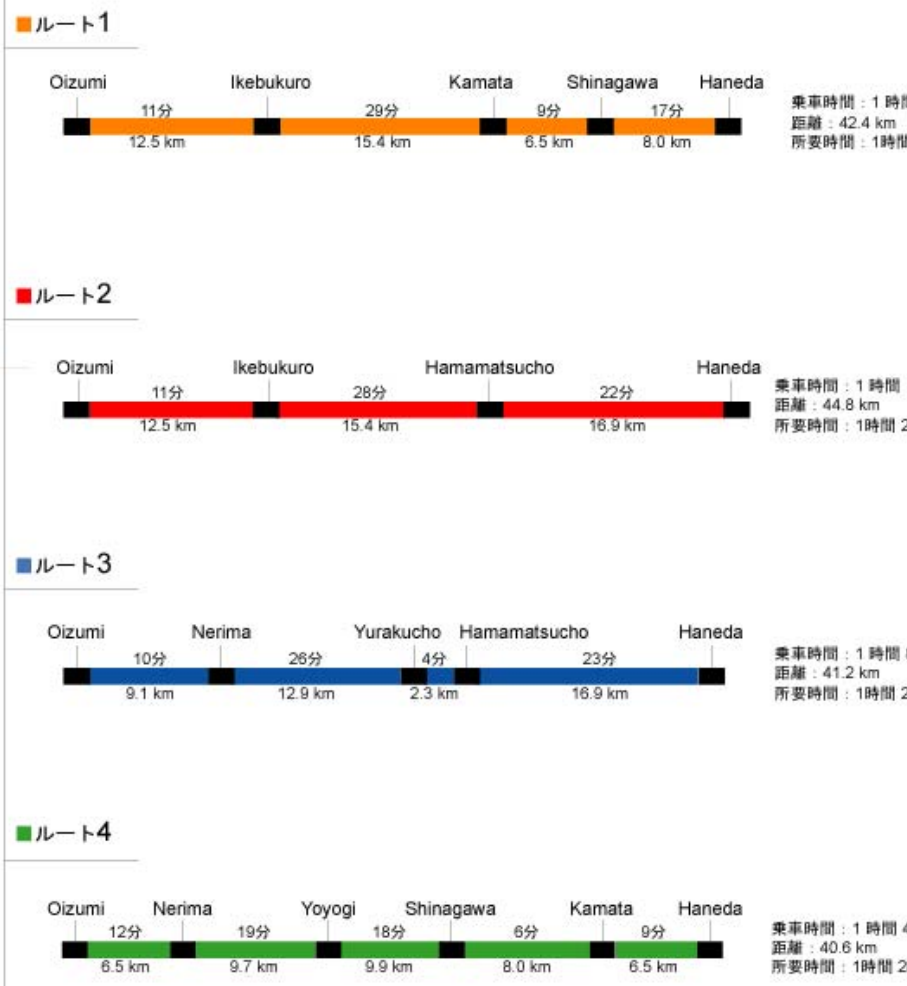
Whole railway network

(Tokyo central wards)

TOKYO 23 WARDS : TRANSPORT NETWORK COMPARISON

FROM-**Oizumi**⇒TO-**Haneda**



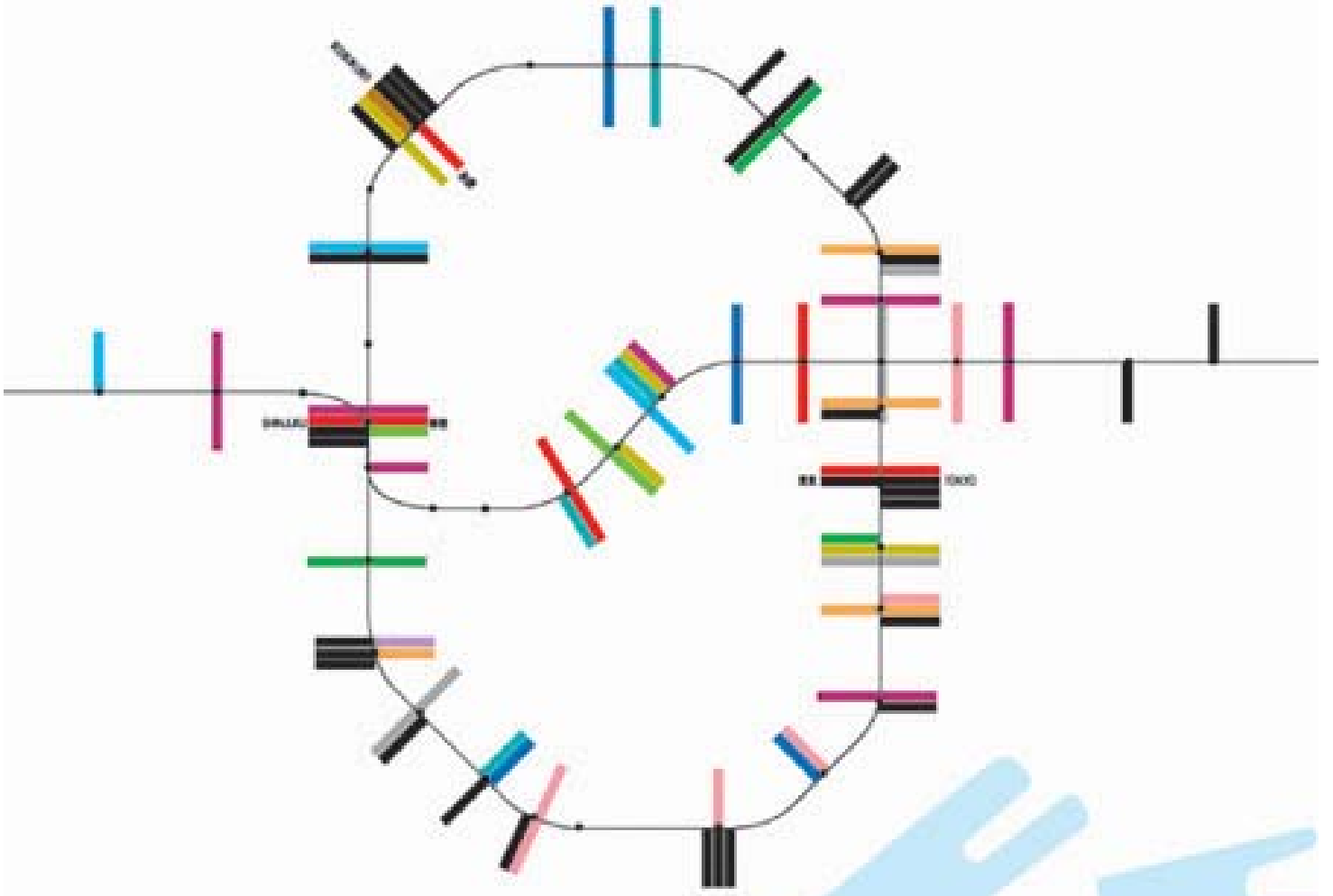


Dense railway network make a semi-lattice structure insead or tree structure.

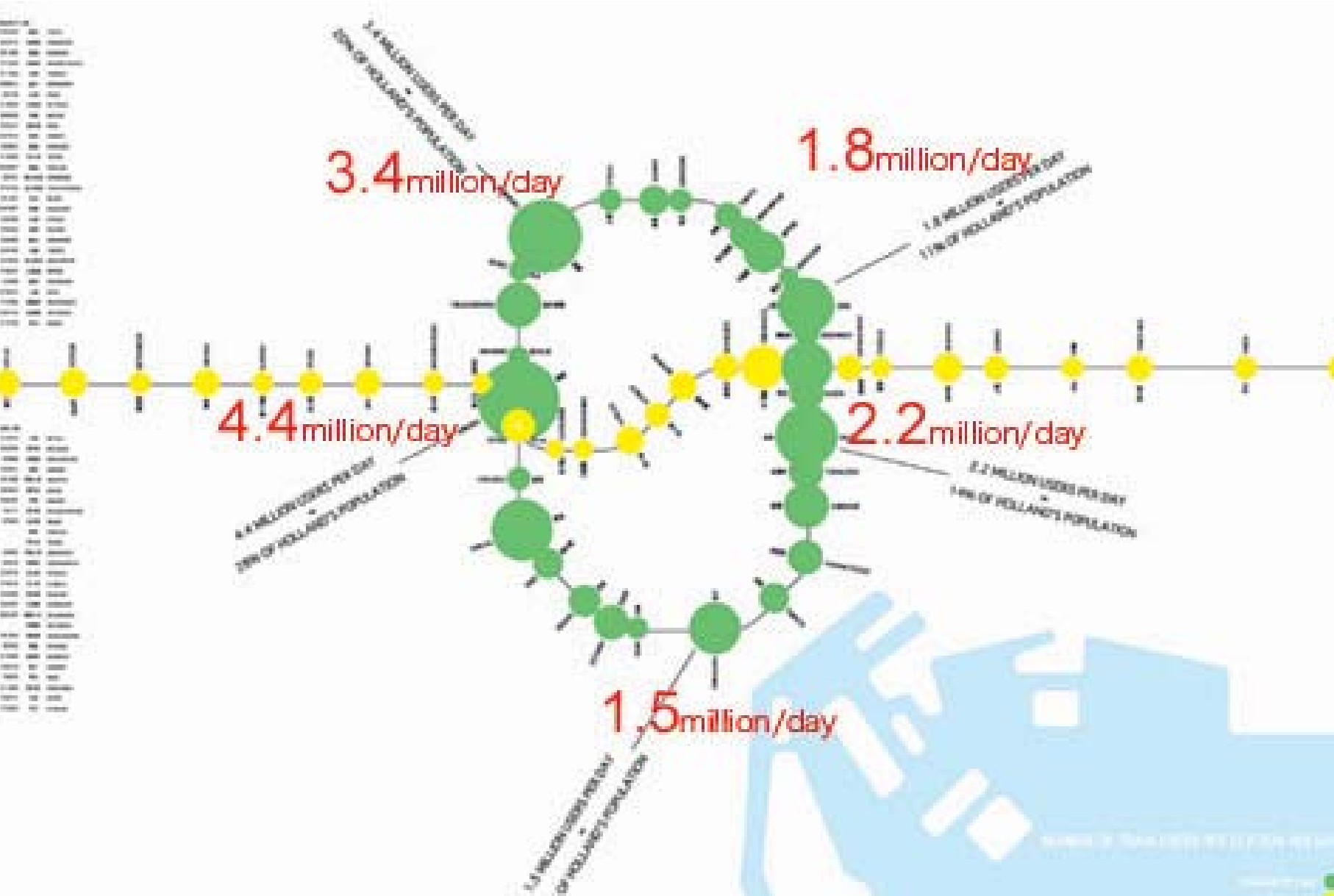
Case study: Four alternative routes from my house in the suburb to the Haneda Airport

2. How the commercial facilities are organized in the city centers in terms of railway networks?

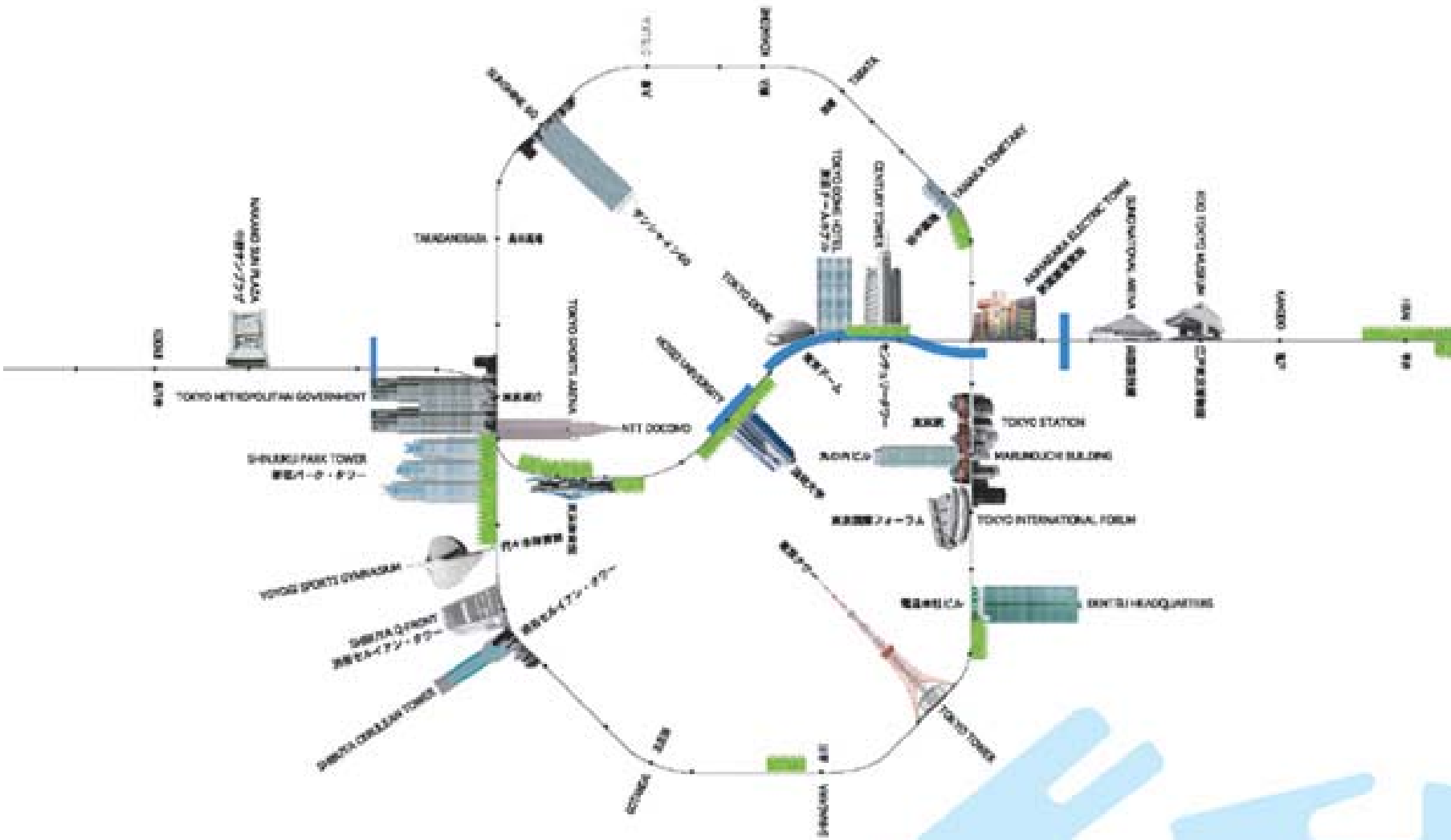
- T.M.A. is organized in the centripetal pattern of the railway network. Circular *YAMANOTE* line avoids the over-concentration of radial suburban lines in the center, multiplying the possibility of commercial business in the central area.
- On every intersection there are huge accumulation of commercial facilities which make enormous three-dimensional bazaars around the railway stations.



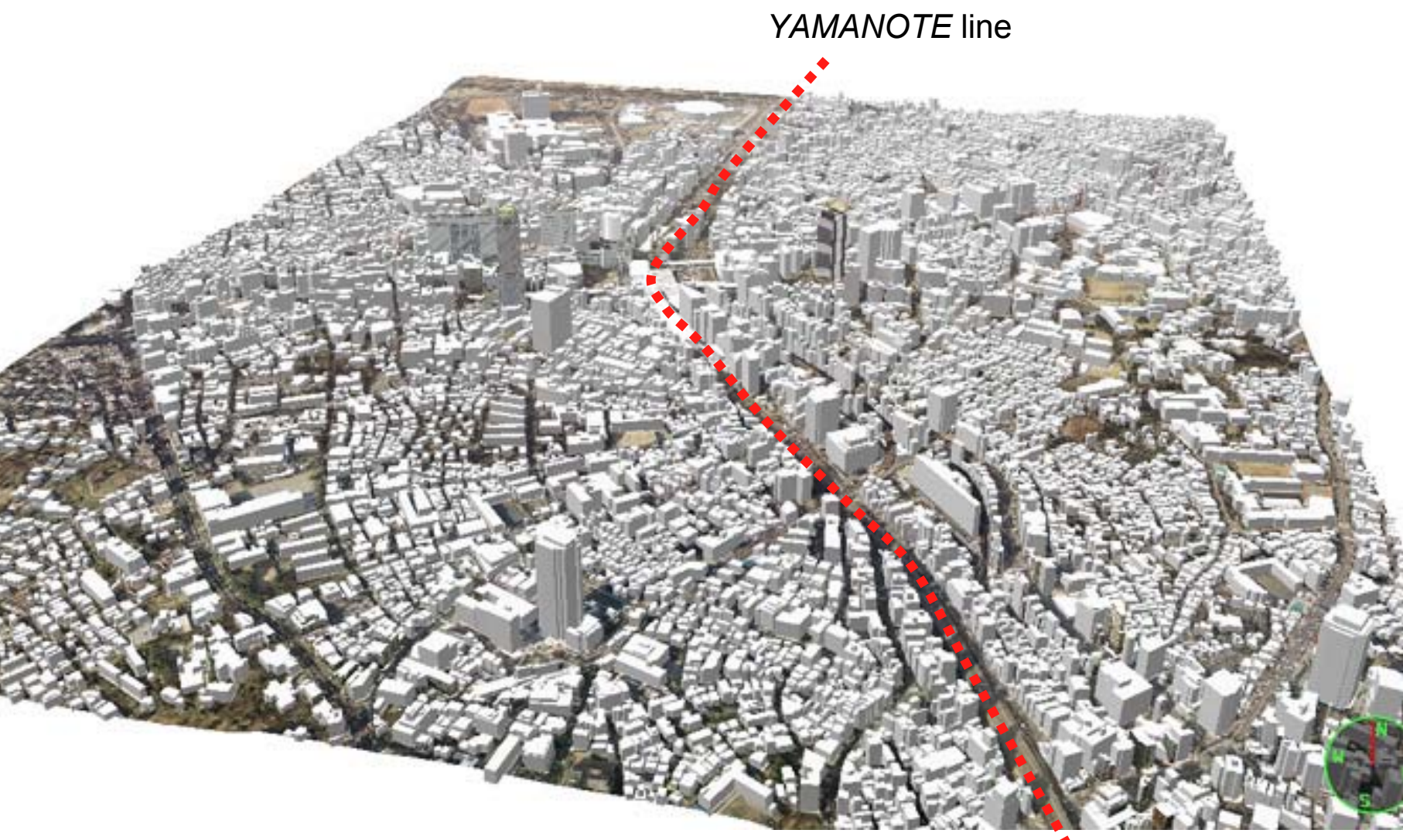
Intersection of *YAMANOTE* circle line with other railway lines(including subway)



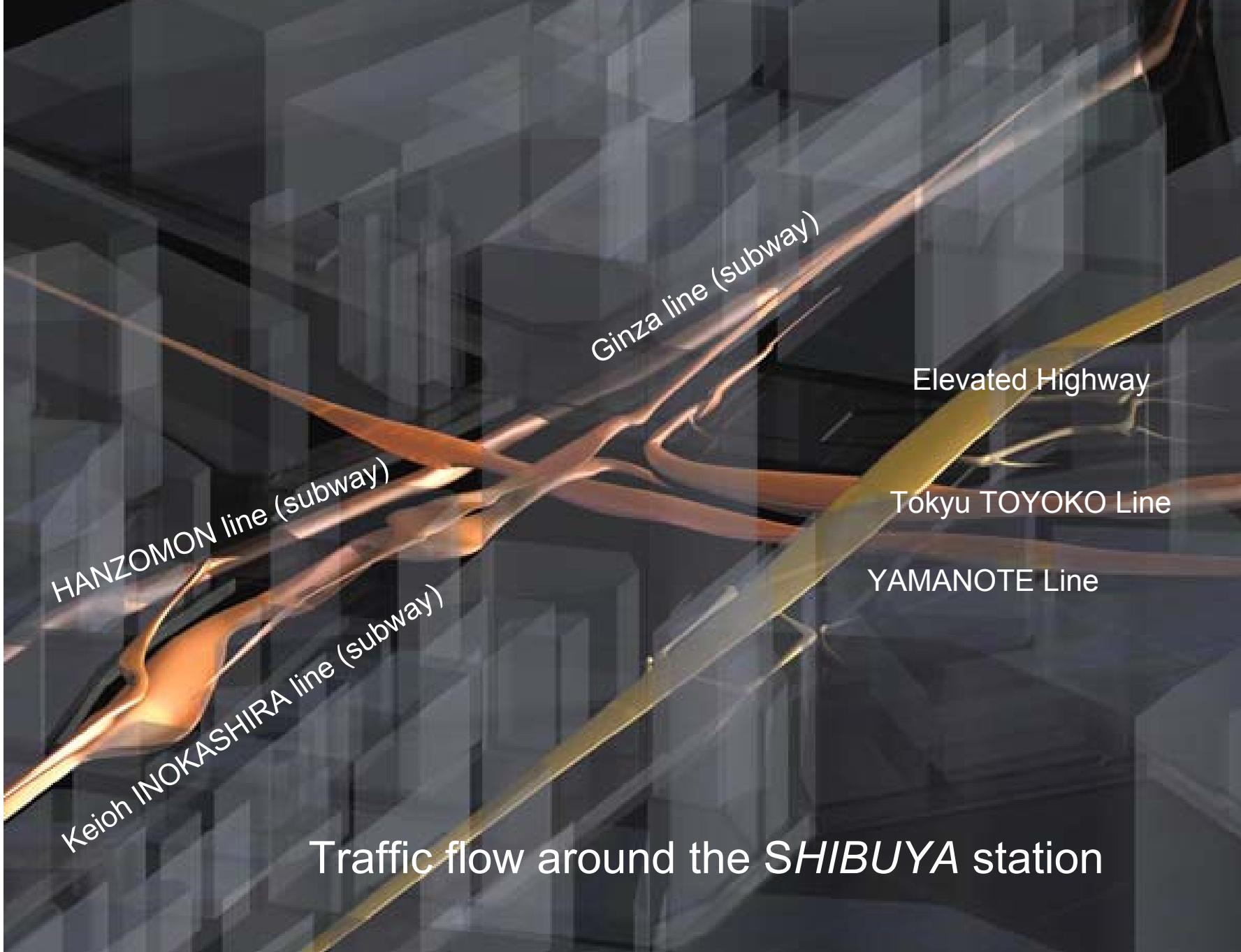
Number of passengers of main stations on the Yamanote line



Yamanote line is the ‘Ringstrasse’ of Tokyo



Model of the Shibuya area



Traffic flow around the S*HIBUYA* station

Traffic channels around the S*HIBUYA* station

Hybrid composition of the *SHIBUYA* station-commercial complex

3. How the suburban communities are organized in TMA in terms of railway networks?

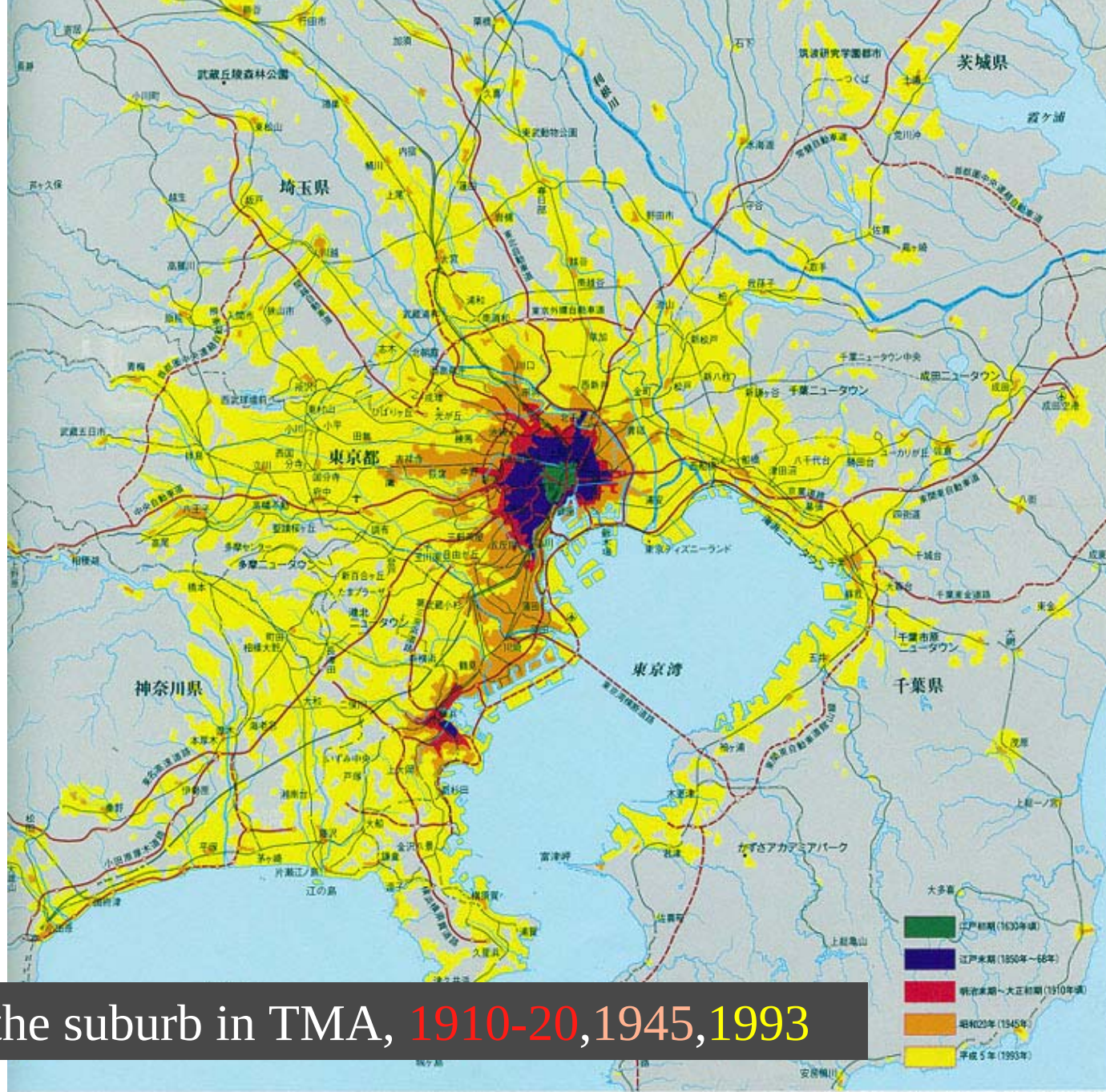
- The suburban developments in the Japanese big cities were initiated by the railway companies.
- They provided Japanese people with a package of suburban lifestyle.
- In current TMA, we see typical suburban communities are established around the railway stations. They take a shape of cross or + composed from shopping streets and railway viaduct structure

Suburbanization

- “Suburbanization” was not merely a case of moving residences from the downtown areas to the peripheries; it was a major lifestyle revolution.

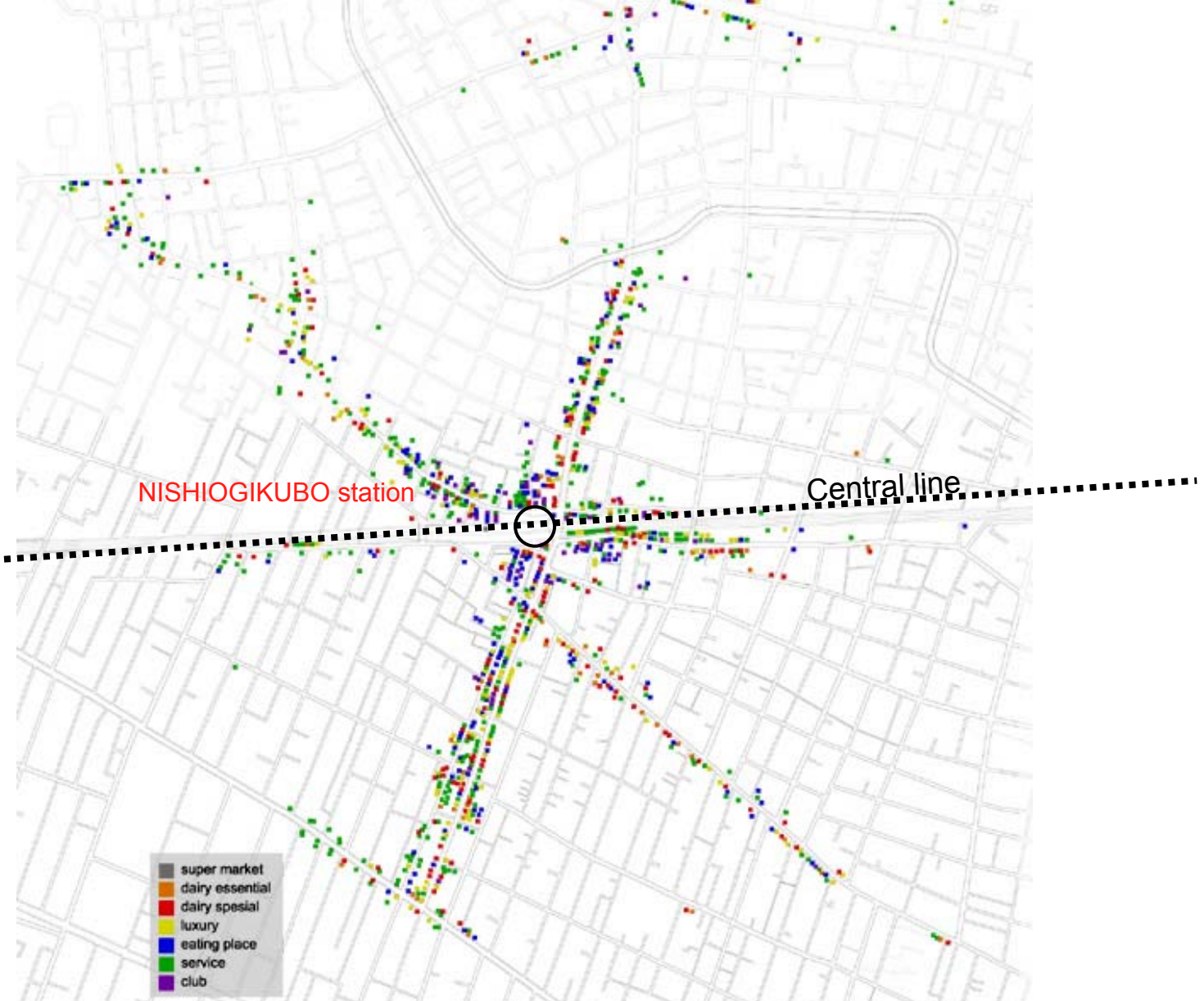
- The railroads advocated the lifestyle of the modern Japanese family.

- Ichizo Kobayashi of Hankyu Railways in Osaka, who created family amusement parks at the suburban ends of the suburban rail lines. In the downtown terminals, department stores were established to cater to the shopping demands of housewives.



Expansion of the suburb in TMA, 1910-20,1945,1993

Crosse shapes (+) formed by shopping streets and railway lines
preads throughout T.M.A.

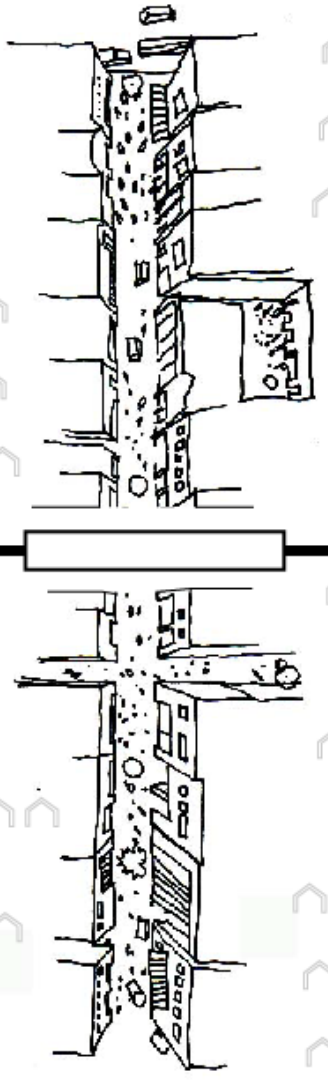


Example of crossing:shopping streets around *NISHIOGIKUBO* station on the central line (15minutes from *SHINJYUKU*)


秋山歯科
30

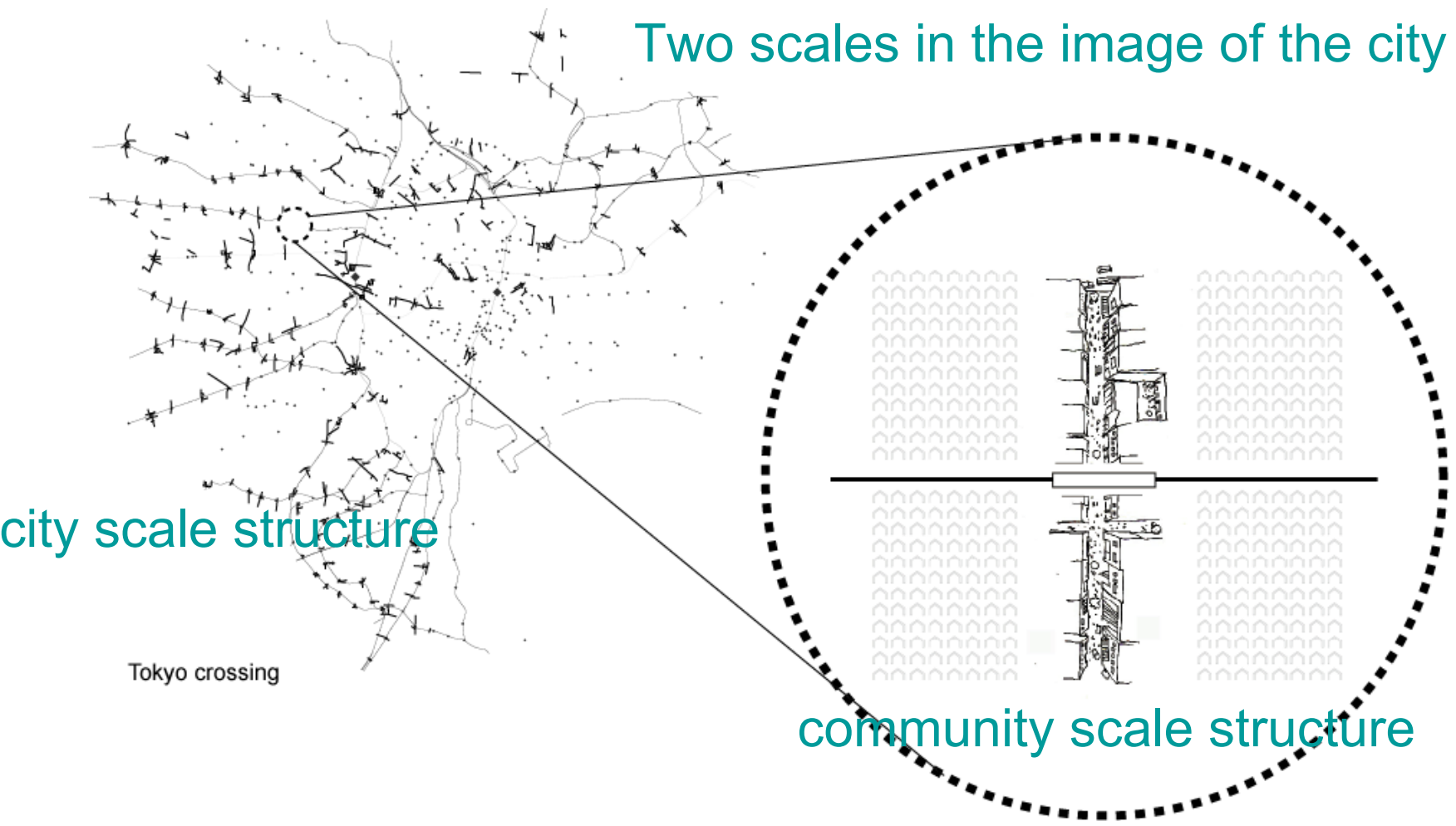
crossings

The stations have become central to residential communities, and their shopping streets extend perpendicular to the tracks



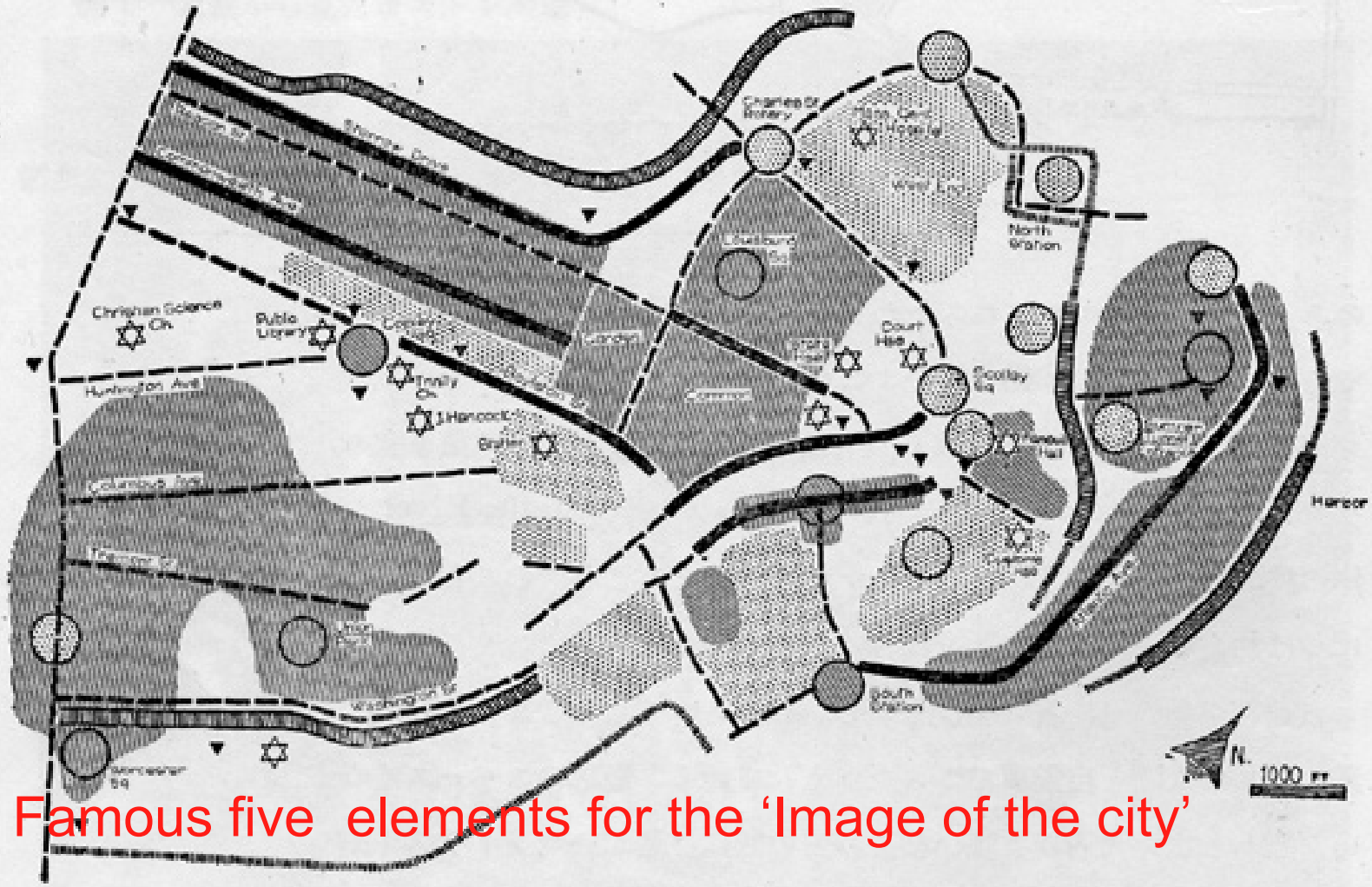
- Every day, hordes of commuting workers and students use these cross-shaped intersection points to board and alight from trains.
- Daily shopping is mostly carried out in the linear shopping street

Two scales in the image of the city

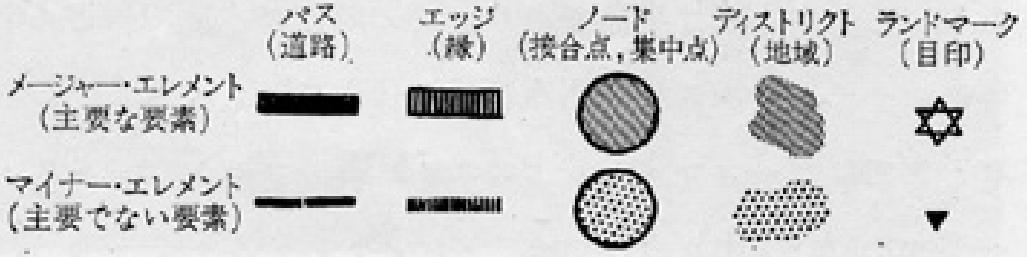


•these cross-shaped structures can be understood as the intersection of two lines corresponding to two scales of the city: on the one hand the shopping street - local, linear, central, public open spaces - on the community scale and on the other hand, the railroad arteries - on the city scale.

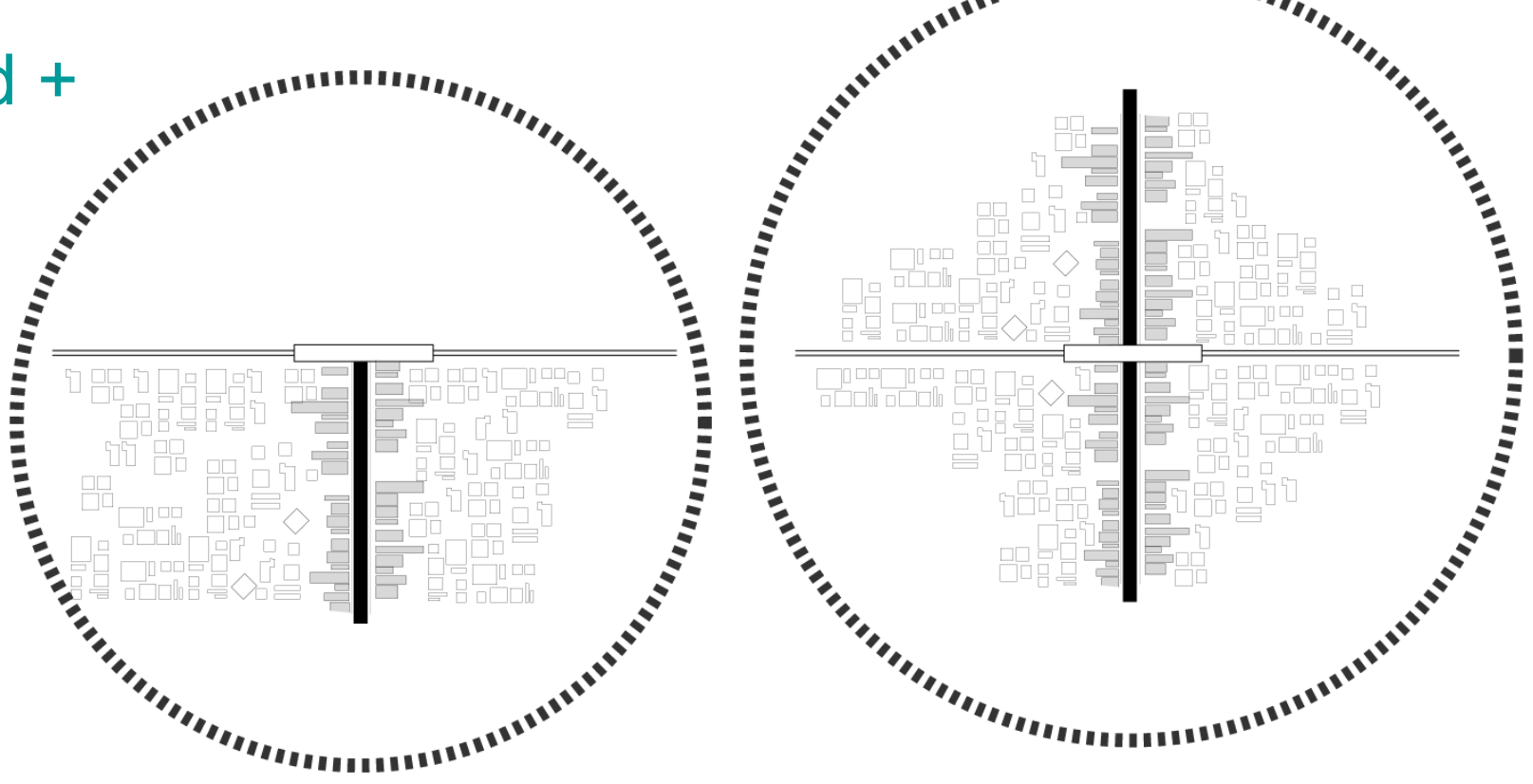
•These cross shapes exist throughout Tokyo. They have become a primordial organizing element of the urban spatial domain. Crossing become the reference positioning a community within the spatial structure of the metropolis.



Famous five elements for the ‘Image of the city’



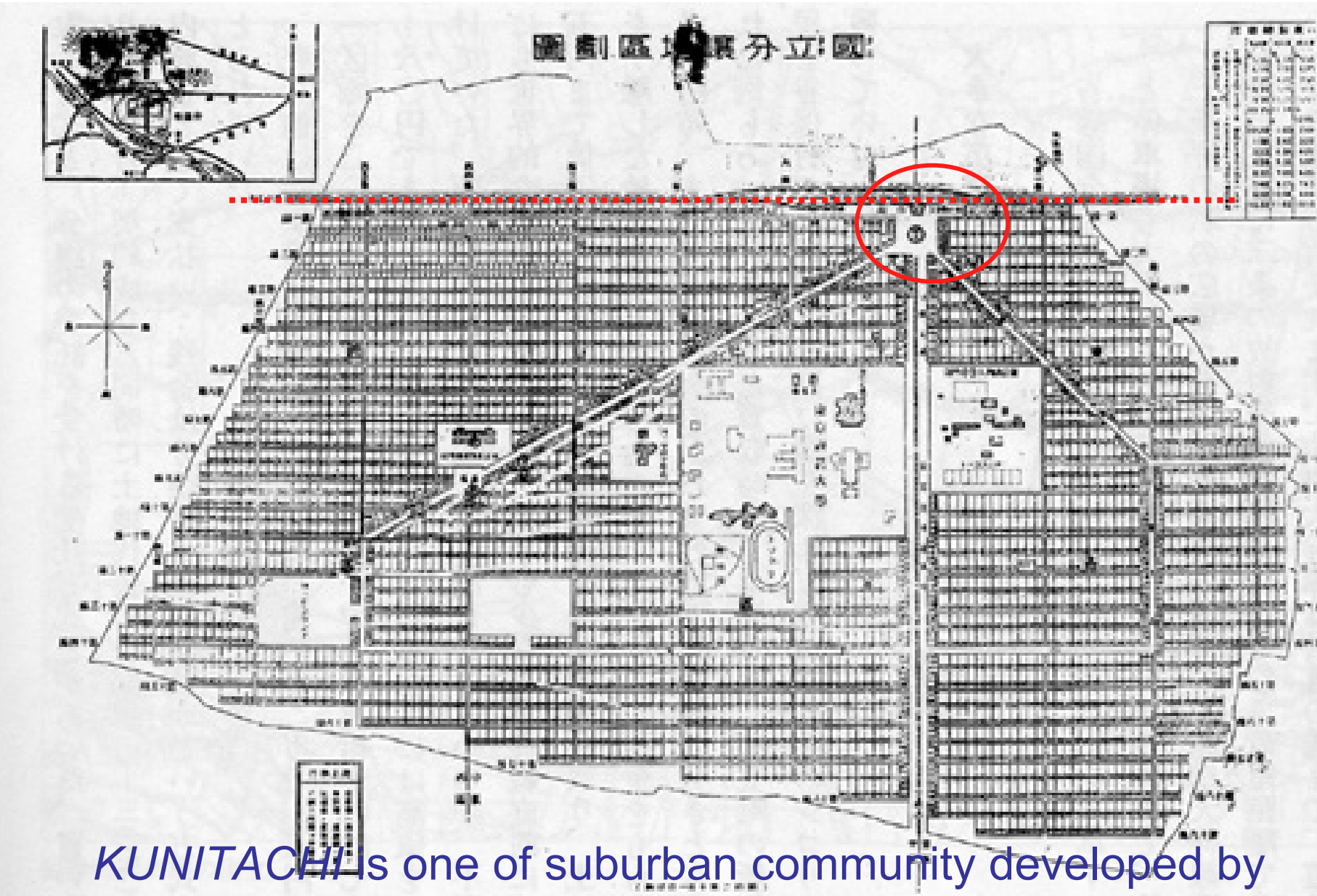
T and +



•The railway stations of Western cities, terminal stations in particular, are located at the city's edge

•The station in the T is regarded as a gate to a community. It wants to be monumental.

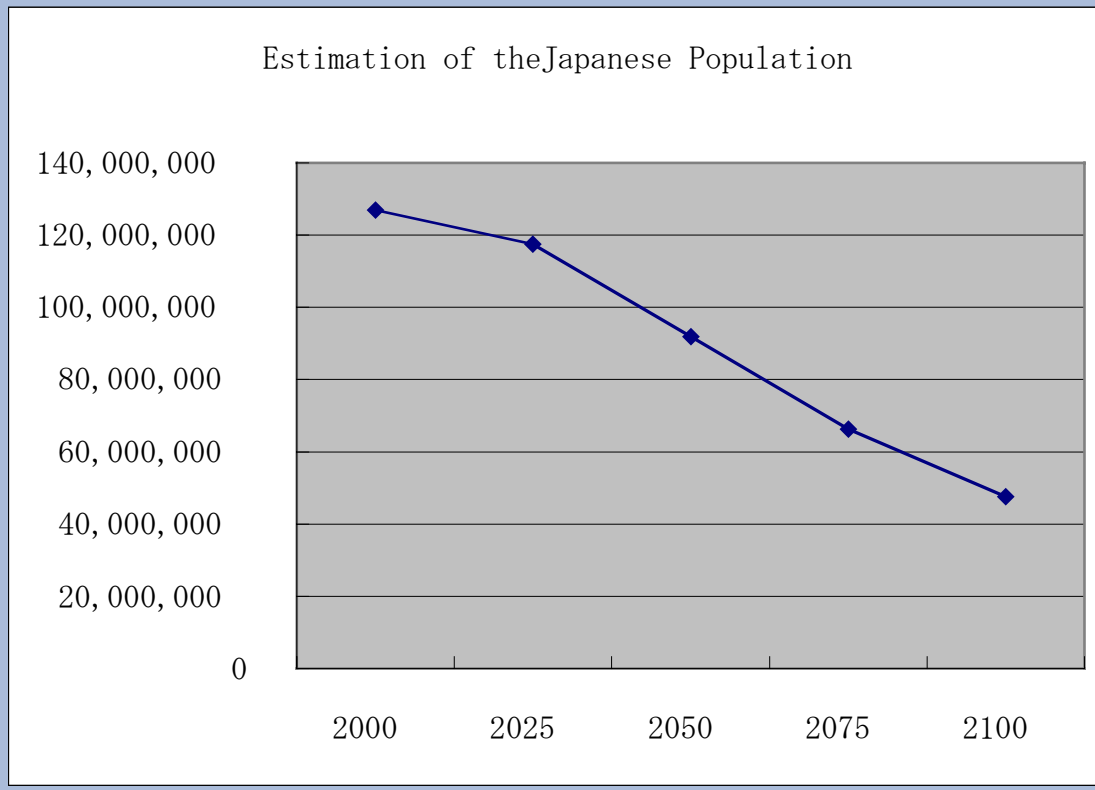
• The station in + is regarded as a interchange of two flows. It lacks a desire to be monumental.



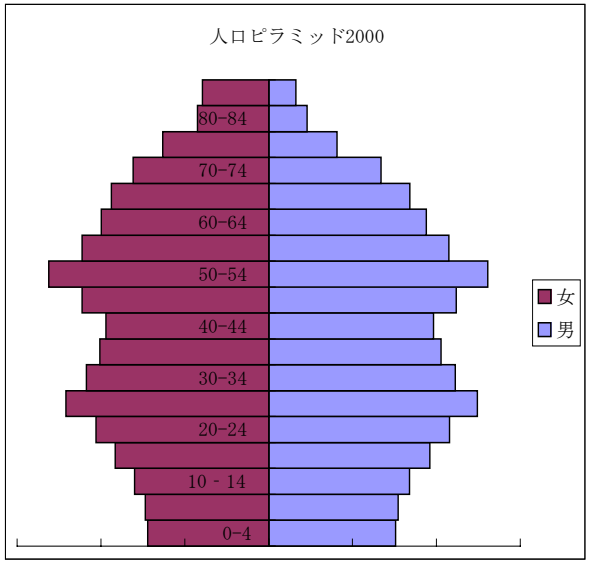
KUNITACHI is one of suburban community developed by the railway company in the 1920', following Western idea.

4. What urban form will most appropriate to survive shrinking phase?

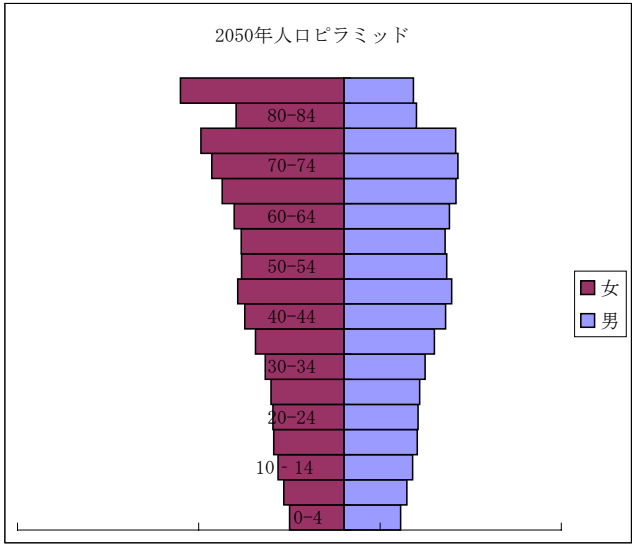
83 Japanese is estimated in the year of 3000A.D!!!!!!



- the average number of births per woman =1.32
- life expectancy :men = 78 years, women = 84 years.
- 50 years from now, the population will be 3/4 of the current level= over thirty million people lost
- senior citizens (over 65) will make up 1/3 of the population.



2000



2050

a declining population and aging

- Population reduction and aging will cause a decline in productivity and social vitality, thereby increasing the expense of pensions, medical care and nursing care - and that is not all. The most frightening aspect is that the very aspirations of society will vanish.
- Rather than watching and doing nothing as the city shrinks, we require the wisdom to “turn evil into good”.

Woman and elderly must work

- it would be impossible to compensate for the total decrease in population in Japan by foreign workers, the Japanese themselves will have to work more to sustain present quality of life. Simply put, elderly people and women will be required to fully participate in production.
- .As it is physically difficult for elderly people to work to the same extent as people in their 20s or 30s, in particular with regard to overtime, a diversification of labor types will be required - work sharing, for example.

Living in the city center instead of suburb

- when elderly people and women are working more, it can be easily predicted that demand for residences in the downtown area will increase.
- For example, commuting for two hours is uneconomical if one is only working during the morning.

Legacy of the rich railway web shall be consumed up by the next generation

- If the population density of Japanese cities continues to decline, and this smaller population becomes dispersed, the fear is that the railways will become impossible to maintain.
- If we do not implement any urban planing interventions, the magnificent railway network of Japan will collapse and workplaces move out to the suburb to make edge cities like in USA, meeting the automobile society.

4. What urban form will most appropriate to survive shrinking phase?

- To build up new paradigm for the T.M.A. in the 21 century

1. Alternative to the Atomic city model ?
2. Creating city to editing city
3. Big city or small city
4. Exchang and mobility

Atomic City Model

- The Atomic Model of Modernity is a genetic inheritance from the Renaissance
- comprising a “mother city” and several satellite cities is able to combine the economic appeal of a big city and the humanistic environment of a small city.
- The paradigm of the satellite city may also have a metaphysical connotation
- a paradigm for describing the world

Atomic City Model

- The Atomic Model is a centripetal model
- Renaissance
- The Chinese cosmological idea
- Paris

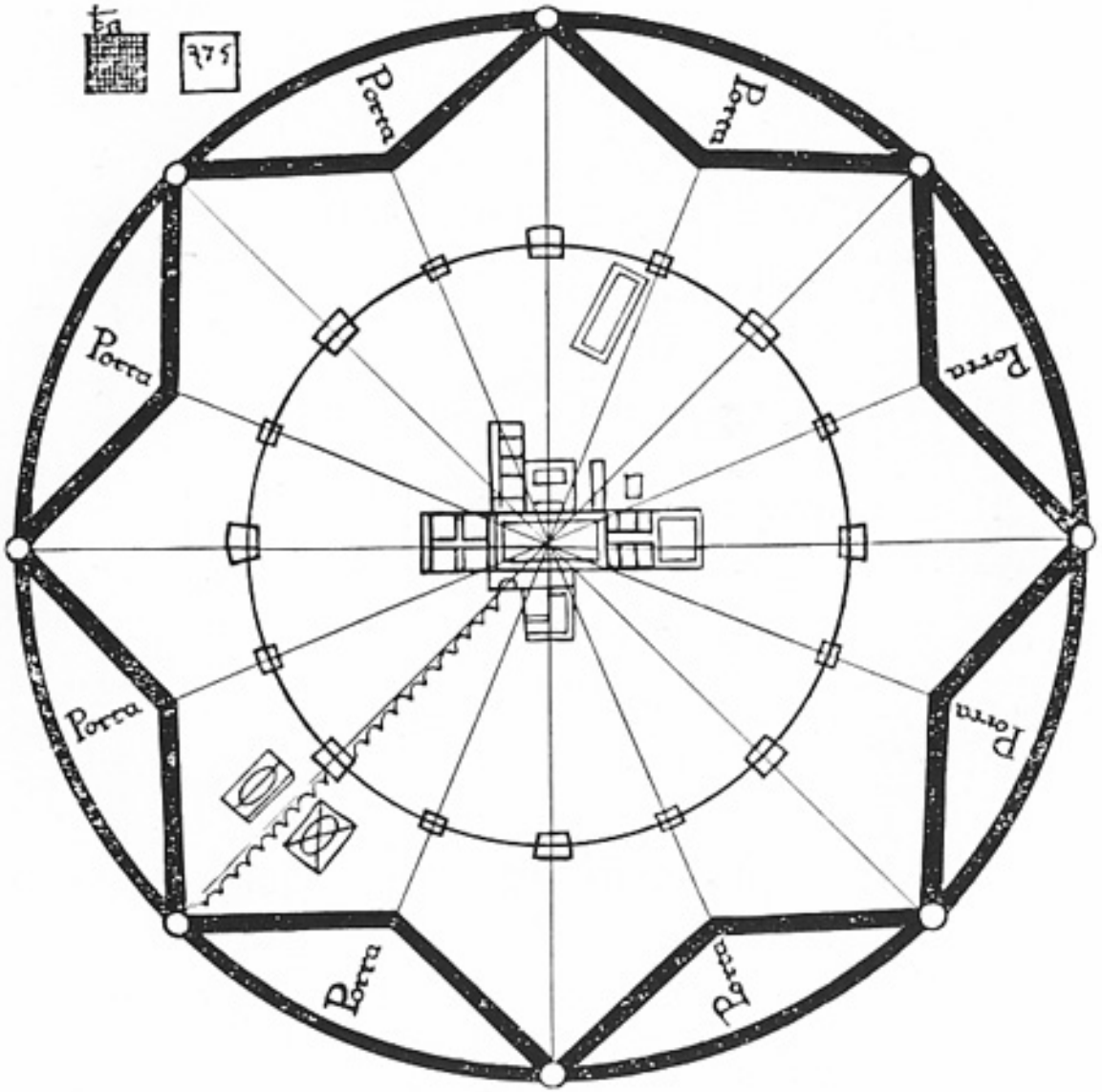
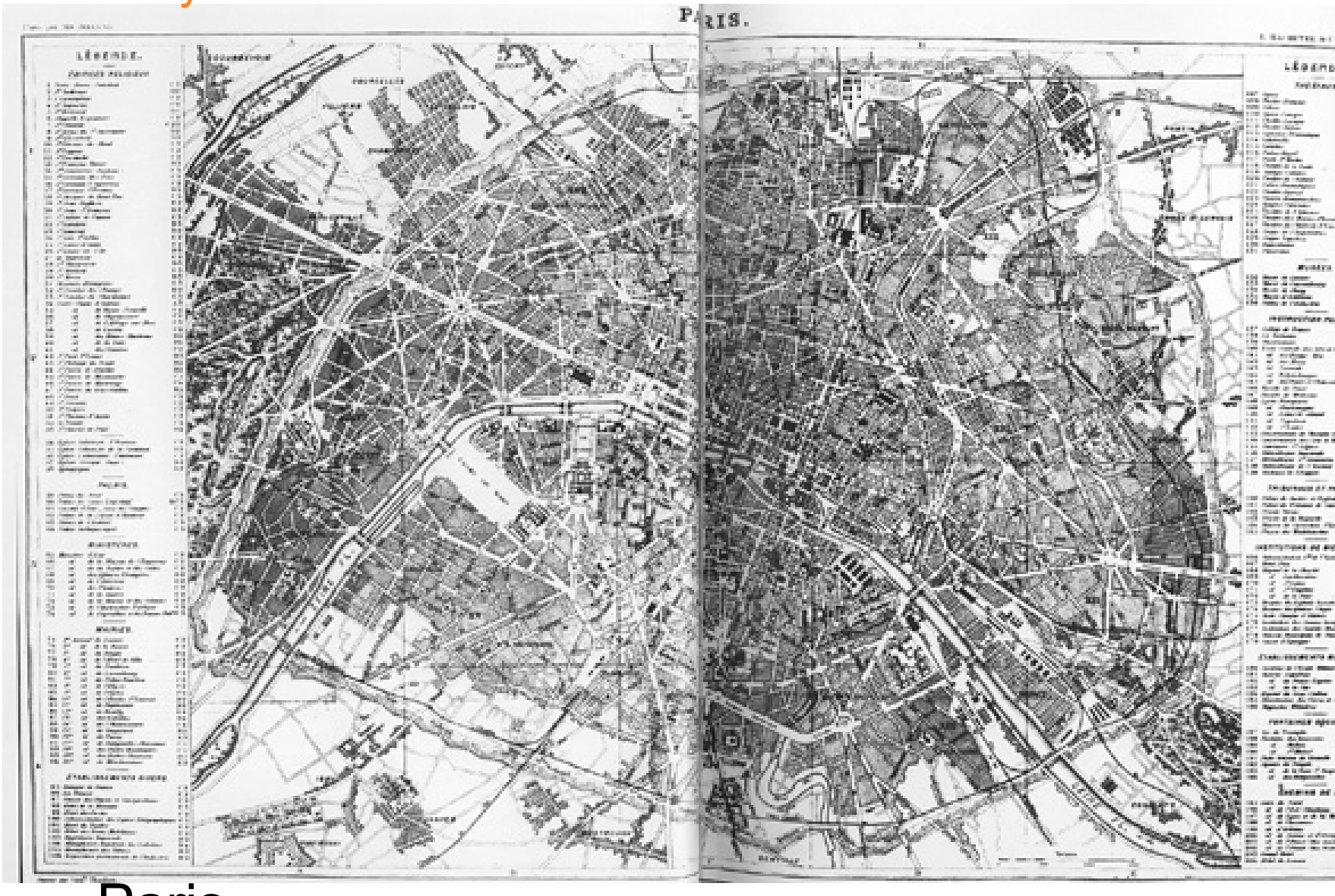


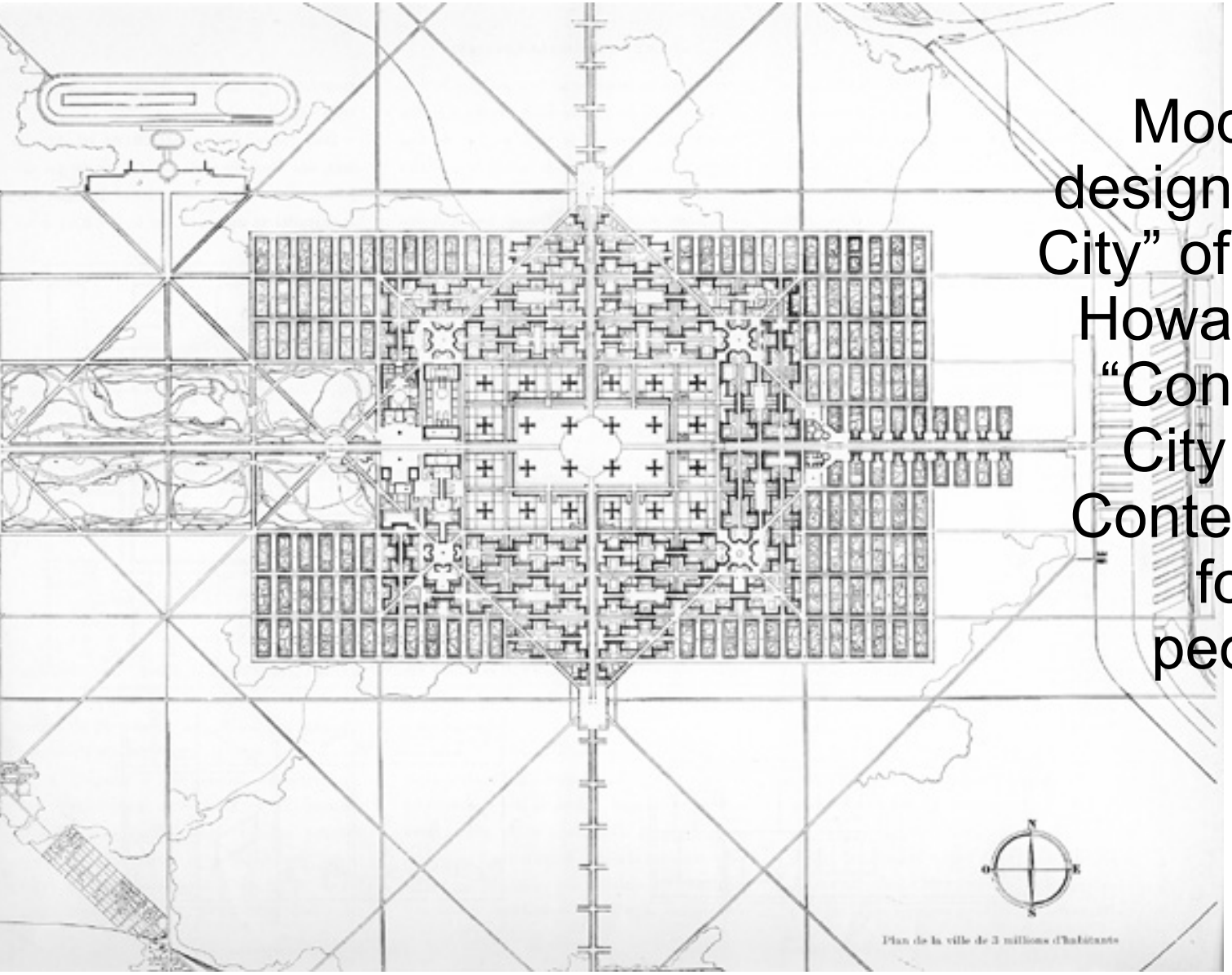
Fig. 803 The plan of the ideal city of Sforzinda, from a treatise by Filarete (*c.* 1465).

Atomic City Model



- Paris

Atomic City Model



Modernist cit
design , “Garde
City” of Ebeneze
Howard and th
“Contemporar
City (Une Vill
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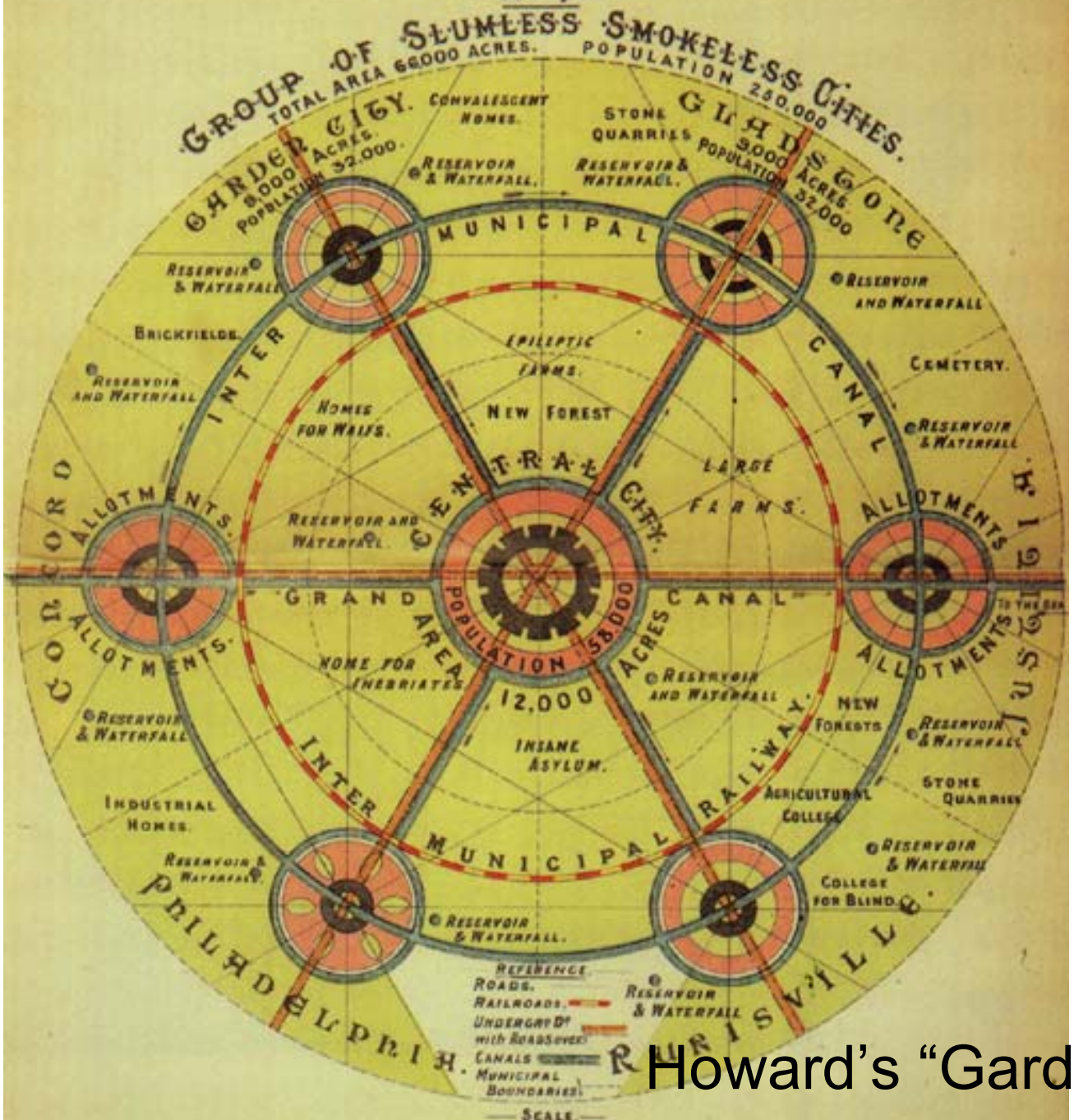
people” of L
Corbusie

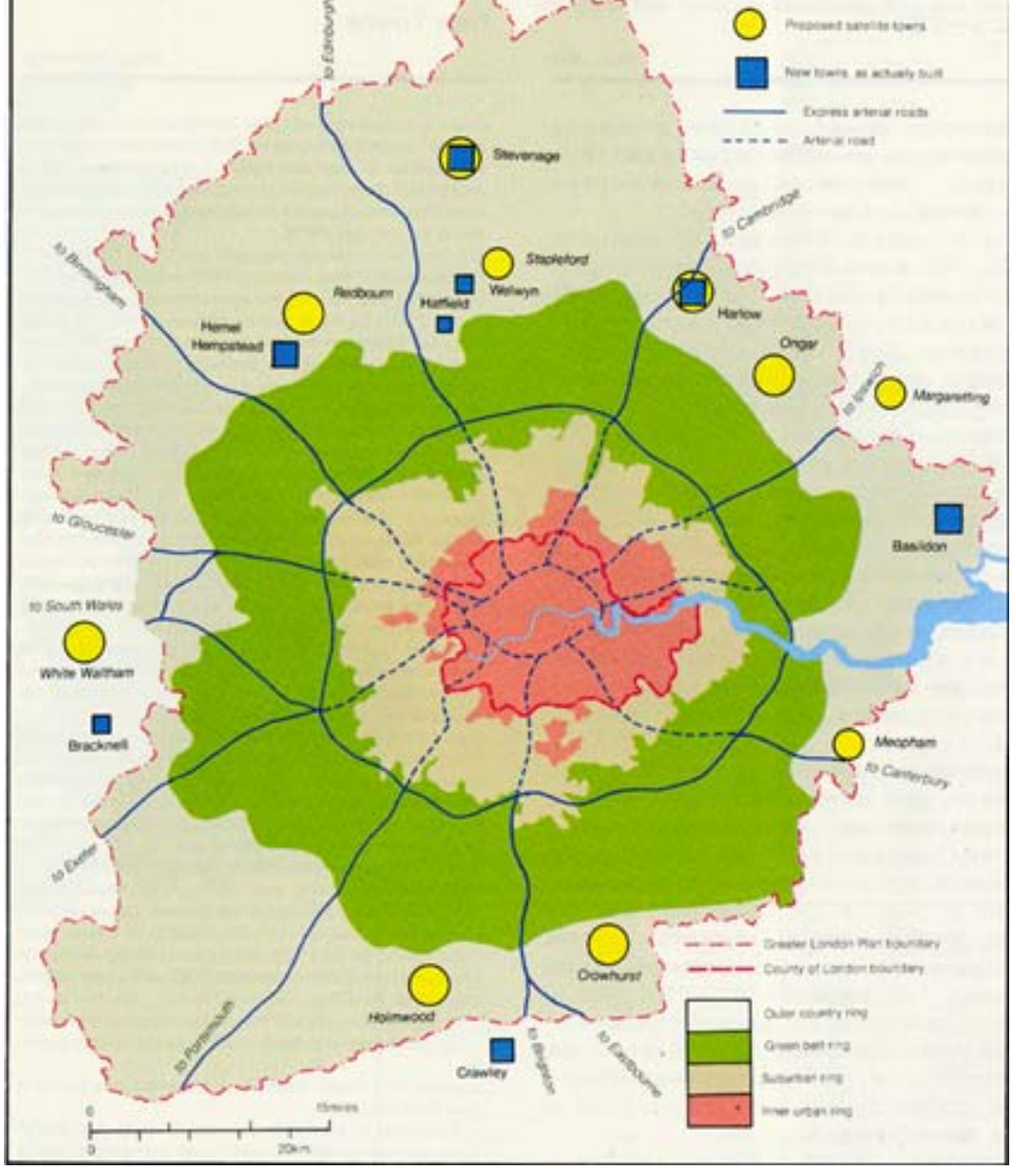
Atomic City Model

satellite city paradigm as a modern version of the atomic city model

- In the 20th Century, many metropolises were afflicted by huge population increases.
- One 20th Century method of tackling urban planning is using the satellite city paradigm to restructure growing cities, based upon Howard's "Garden City".
- In other words, new towns were constructed in suburbia,

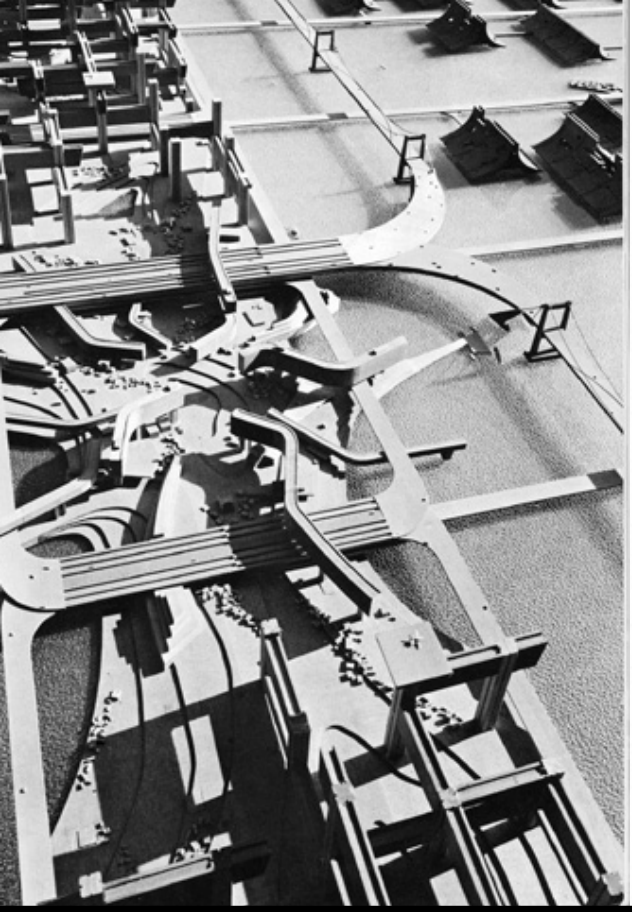


Howard's "Garden City"



New towns were favored by the 20th century urban growth control policy

First alternative image of Tokyo to the atomic city model

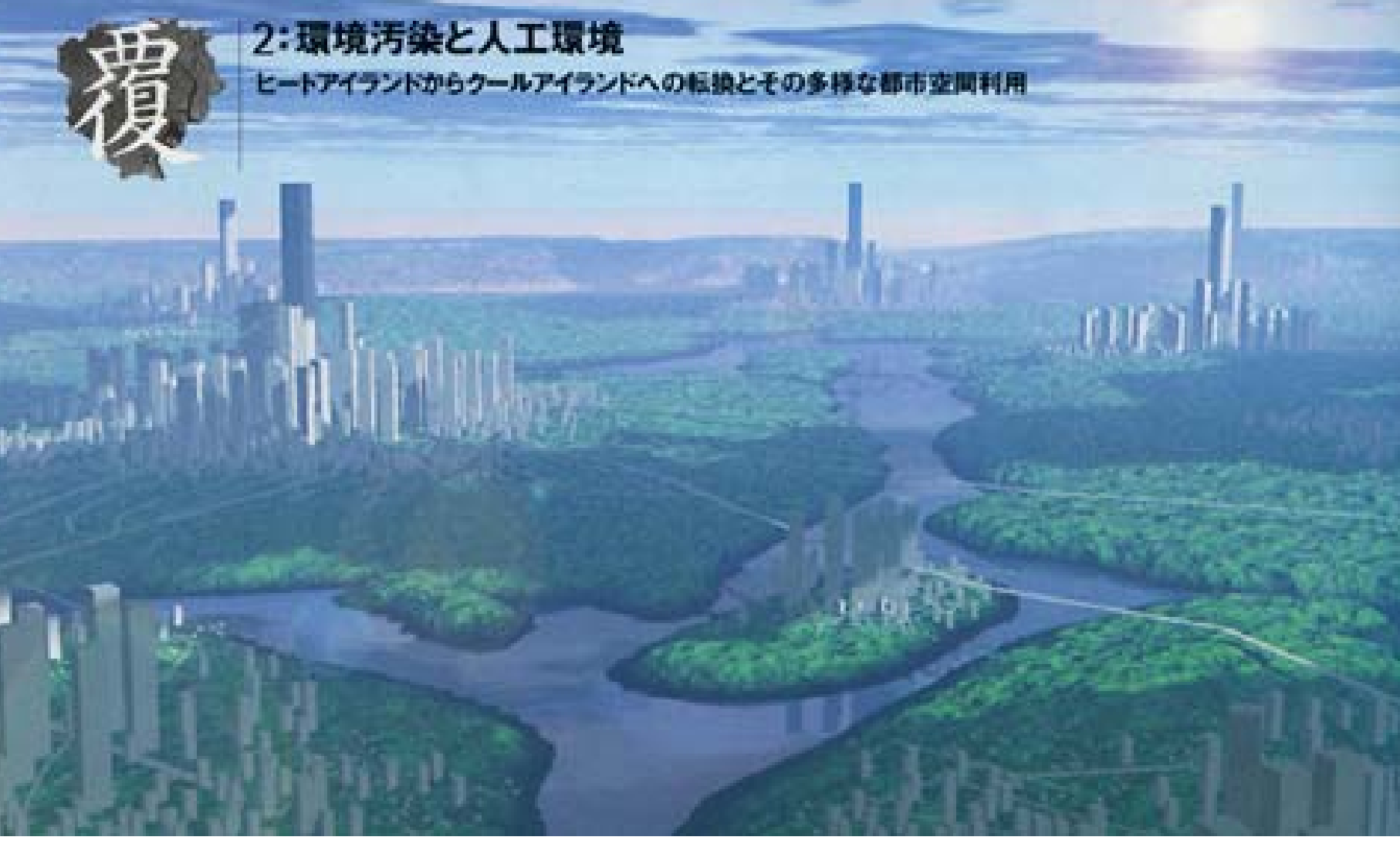


Kenzo Tange's "Tokyo 1960" plan

Kisho Kurokawa

Shin'ichi Okada

Their plan was entirely focused on expanding the city into Tokyo Bay, and showed very little interest in the existing built-up area.



OJIMA’s proposal for the central area of Tokyo,

a Mixture of compact city and Manhatanism

- Ministry of Land, Infrastructure and Transport proposed the future image of the TMA with the satellite city paradigm.

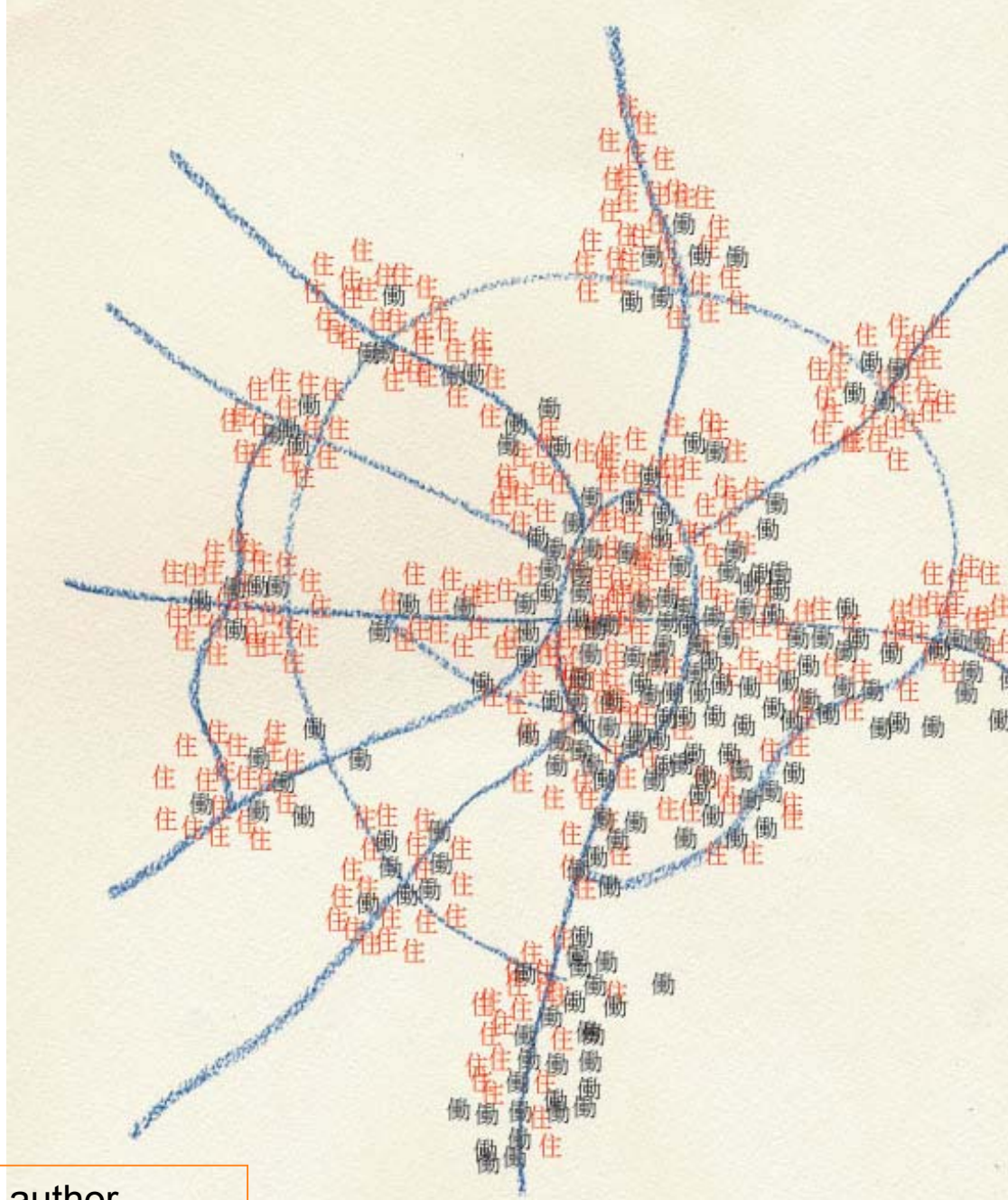


Image is redrawn by the author

2.
the role of city planning should shift from ‘creating a city’ to ‘editing a city’.

- the Atomic Model works well as an image for a new city.
- Modernism is a revolutionary approach predicated on constant growth.
- in Asian cities, including Japan, this idealism - that is, “scrap and build” - is widespread amongst both administrative officials and the general public, who believe that an existing context should be turned into a “tabula rasa” and that anything existing is old-fashioned and functionally deficient.
- But we cannot expect any such strong growth as we ever did in the latter half of the 20th century at least in Japan.

3.
Big city or Small city

- The urban debate during the second half of the 20th Century was like a tug of war between big cities and small cities.
- Although big cities are more efficient than small cities. But many scholars and professionals asset that all the so-called urban problems are caused by the immensity of cities.
- Why populace prefer the bigger cities, although many professionals and scholars are pro small city?

4. Exchange and mobility

- the vitality of a city is actually found within the exchange of goods and information between different domains.
- However, the pioneers of the early 20th century perceived the fact that the essence of the 20th Century city is its fluidity, but they were relatively uninterested with exchange.
- In reality, the abundance of choice of exchange is always most interested by those in power in the whole history.

democracy of mobility

- There used to be innumerable goods that could only be obtained in their place of production, and there was an essential diversity before the arrival of our present mass consumption society.
- Vast abundance of choices is secured by the power over the mobility.
- Only contemporary big cities can provide all the inhabitants with the abundance of choices by its public mobility: democracy of mobility

Speed, high-speed mobility

- One distinctive characteristic of the modern era is speed, or high-speed movement.
- From ancient times, freedom of movement has constantly fascinated humanity.
- Looking at the way human beings endlessly attempt to enlarge their range of movement, it is doubtful whether the idea that a small city = utopia, which has captured the hearts of so many contemporary urban planners, is really supported by the populace.

SPEED—
the world salutes each victor
. . . each conqueror of time

HS stood agape when headlines told of
ocean liner clipping nearly nine hours from
Atlantic voyage . . . eyes popped when a
ttained a speed of nearly four miles a min-
nen a roaring plane hurtled through the
blish a new mark of 355 miles an hour.
business executives, too, have commented as
ernational engineers and builders, created
eed records . . . erecting a mammoth six-story
ing building in Northern Jersey 23 working
of the guaranteed 90-day completion date
Midwest, designing and constructing a com-
of 125,000 square feet for efficient straight
tion, in the short span of 60 working days.
f research and toil precede the perfected
hat sets a record. In like manner, the
anization has progressed by ever seeking
plying better methods . . . by developing
ring the improvements which provide low
and rapid construction of industrial plants
ercial buildings.
ot to the exclusion of all else . . . but
permits occupancy of your buildings weeks
had expected . . . speed that puts you into
on that new article before competition is
s existence . . . speed covered by a rigid
penalty clause in the contract if you desire

4. What urban form will most appropriate to survive shrinking phase?

if we are to conceive of new urban design paradigm in the Japanese context, they should

1. make use of existing railways, maintain their world-class high-density network for the environment and aging society, and secure the abundance of choice,
2. produce maximum result with minimum intervention into city fabric.

From Atomic City Model to Fiber City Model

As a new paradigm of urban planning ‘Fiber City Model’ is proposed against the conventional ‘Atomic City Model’

1. The space organizing image should be shifted from machine to fabric.
2. The target of design should be changed from surface to line.

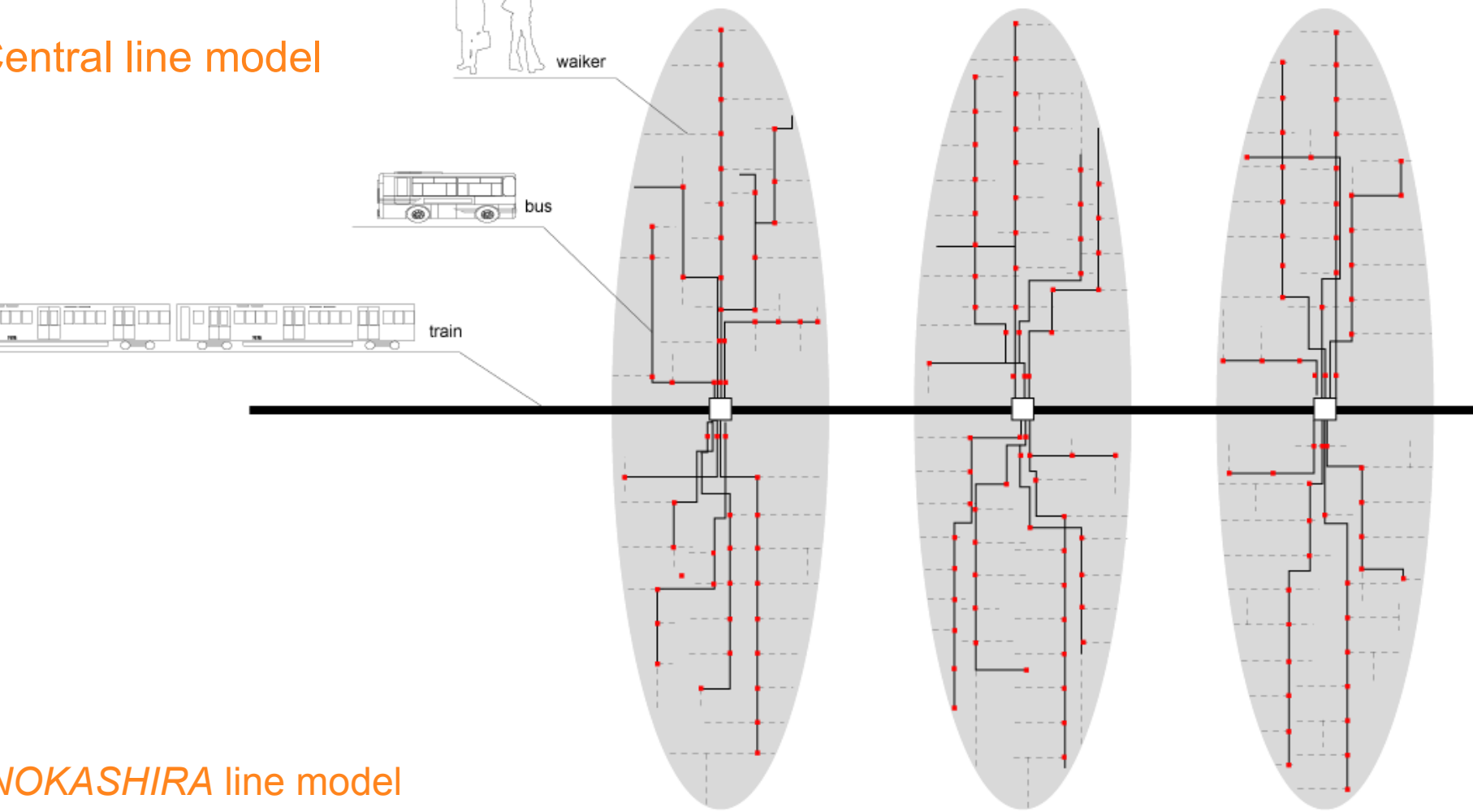
From machine to fabric

- A flexible and powerful model is required, one that permits contingency and heterogeneity amongst the components, and allows a variety of relationships between them without the loss of overall coherency.
- Fabric is different from a machine in being both soft and supple. Fabric is constituted o threads, each of which is mutually entangle
- It is not necessary for each of these thread to span a sheet of fabric from one edge to the other. There is no need for these threads to be glued to one another.
- Even if there is a hole in one place of the fabric this does not mean the entire piece will tear.

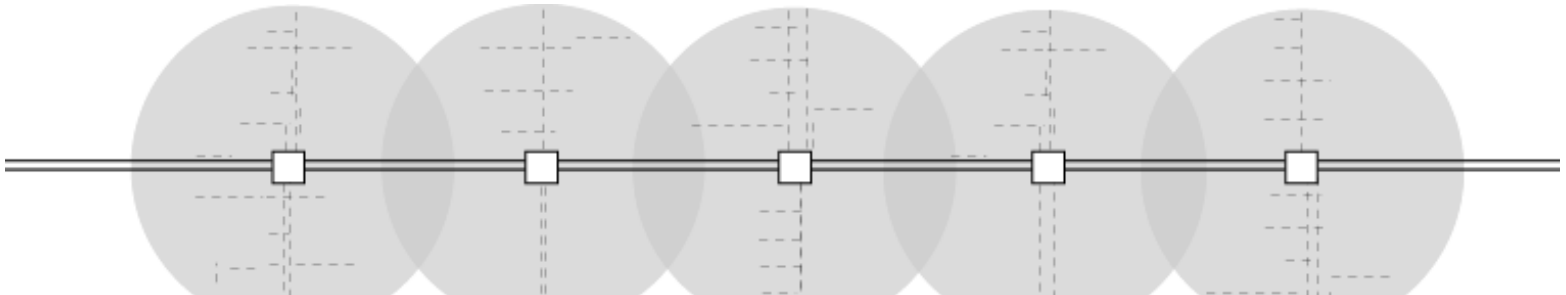
From surface to line

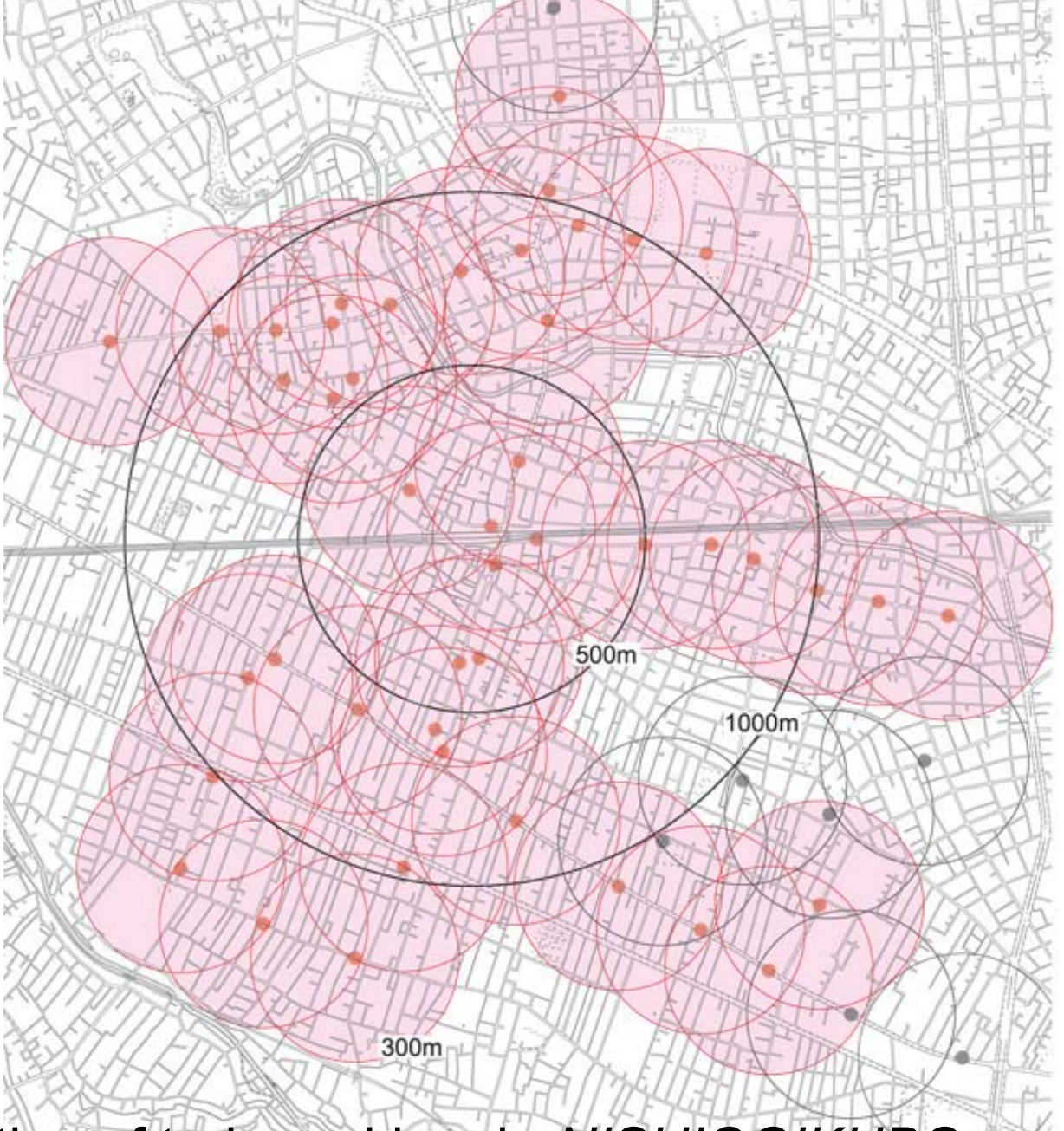
- New city planning ought to edit surfaces by manipulating lines.
- Focusing on the manipulation of lines is also a natural outcome of the desire to edit the pysical environment without denying the existing cultural context.
- In considering the suppression of development costs for land purchases and attempting to minimize the destruction of the existing environment, one logically arrives at a linear intervention.

Central line model



NOKASHIRA line model



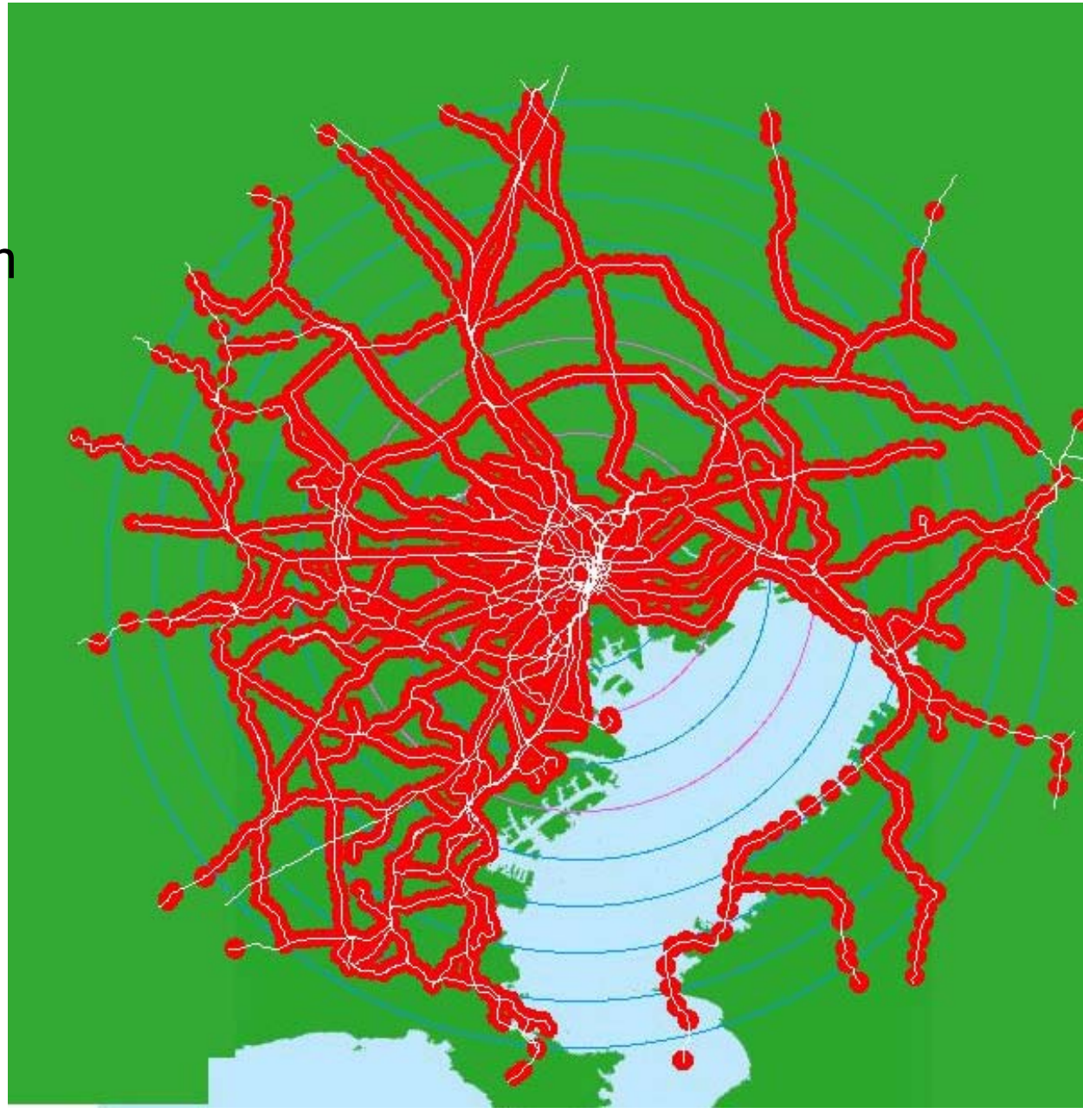


Combination of train and bus in *NISHIOGIKUBO*

To increase the
umber of stations,
nlarge the
esidential areas from
hich one can walk
o the stations,

To make residential
reas only in such
laces.

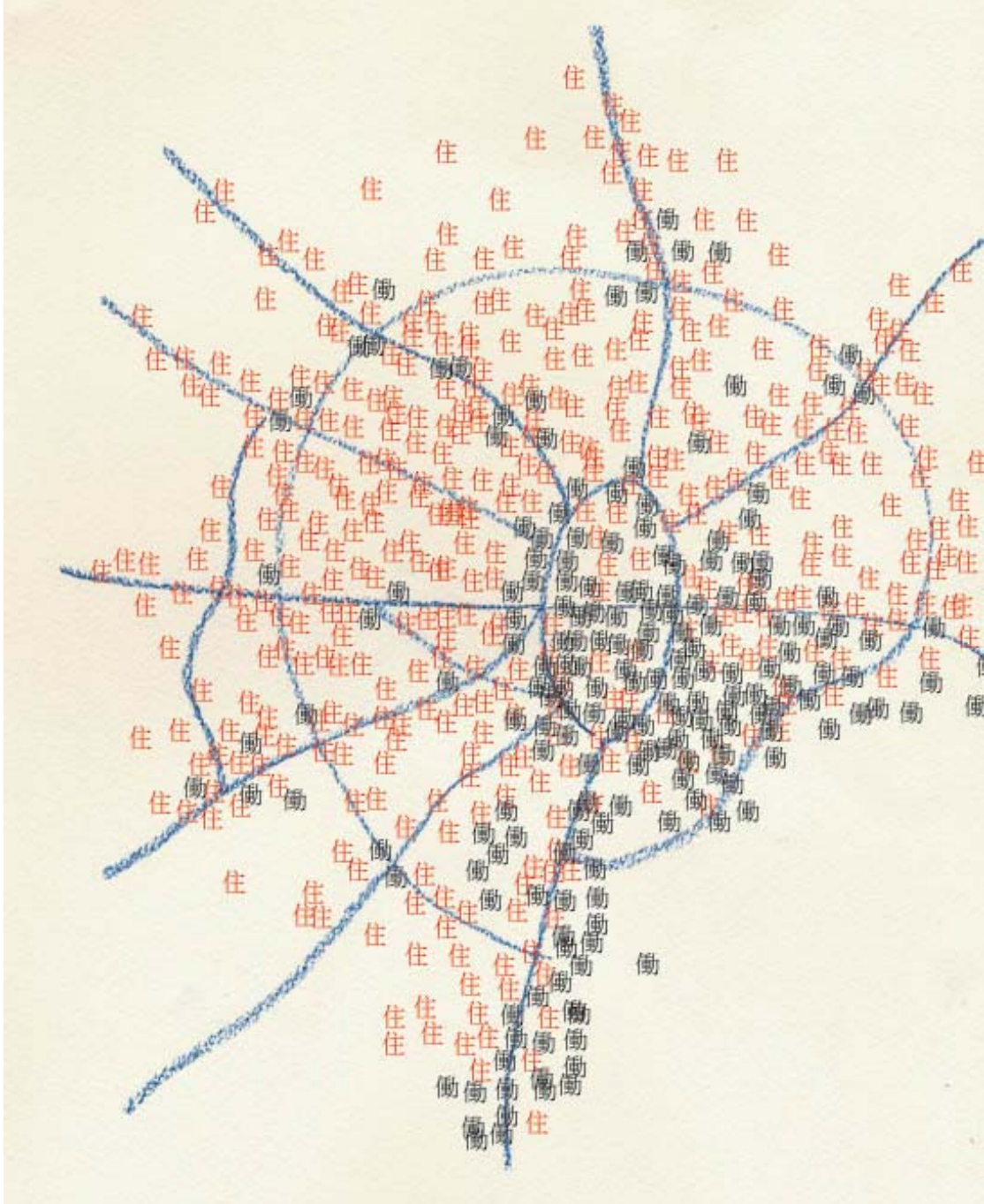
This is an exact
eneralization of the
elationship between
he residential areas
nd the
NOGASHIRA Line



- Because it is fundamental to sustain the existing railroad network even as the cities shrink, securing passengers on the suburban railways is a priority.
- Concentrating residential areas along the rail lines is therefore necessary. More stations should be built on the existing lines in order to shorten the intervals between stations.
- a hierarchy of transportation modes: railroads / busses etc / walking and cars leads to a tree-shaped transportation network in order to efficiently transport people to their home in the suburbs. However, in reality it takes considerable time to transfer between trains and busses, and if this is factored in, the total commuting time becomes exceedingly long even if the nearest station to one's home is close to the downtown area.

- The first barrier to any proposal for increasing the number of stations is the extra cost of management and construction.
- It seems possible that new stations could be constructed and maintained at a far lower cost compared to the traditional system by means of ticket computerization, which is currently in progress.
- The construction costs of the new stations may also be compensated for by the rise in land values throughout the metropolitan area as a result of increasing the size of the areas that are within walking distance of railway stations.
- the areas around the new stations could be provided with new housing and large numbers of people will be able to live in a place from which they can walk to the nearest station.

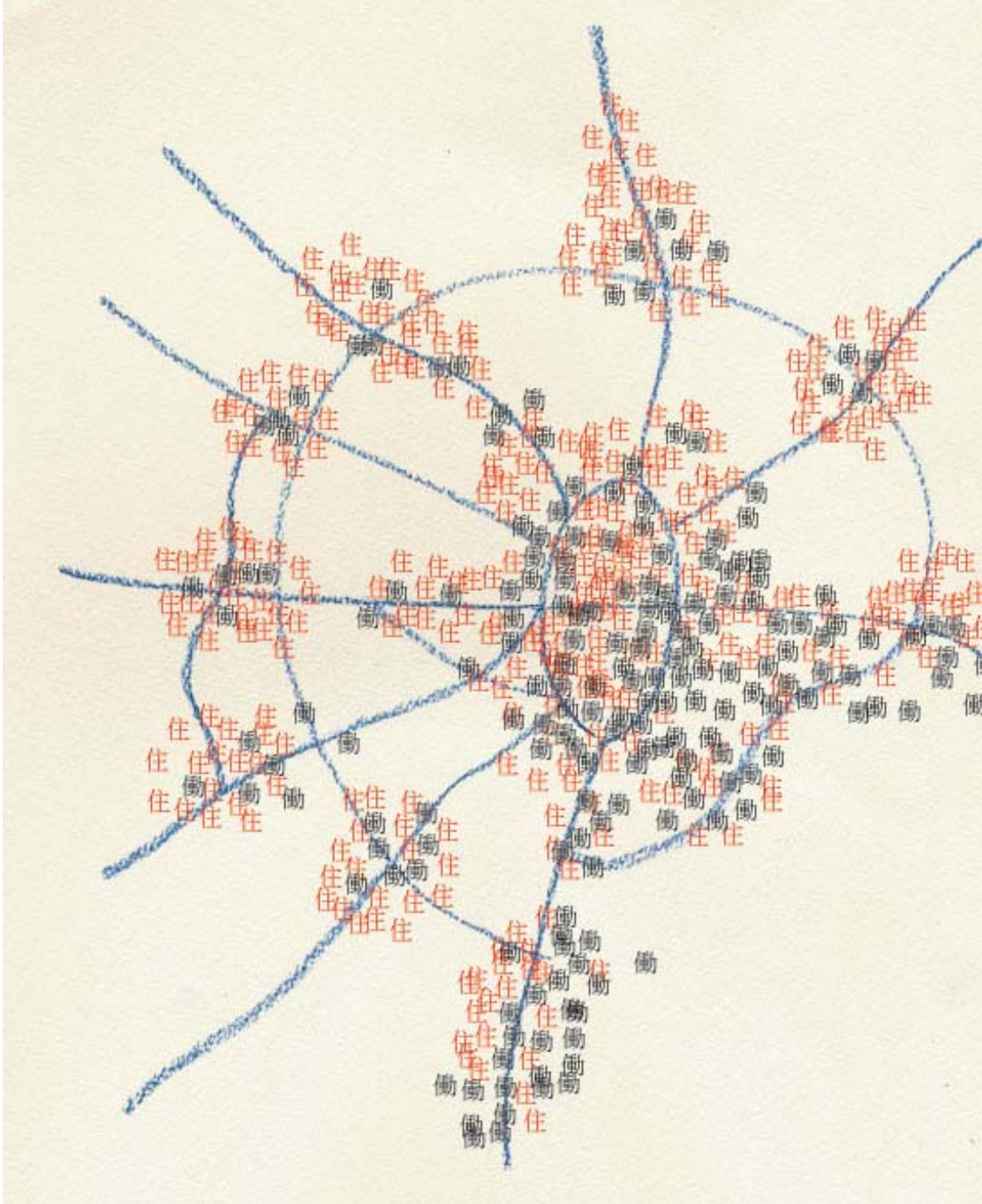
Present land use pattern of TMA



Government's proposal to improve dispersed city configuration of TMA

Reorganization by the Satellite paradigm which is based on the ideological judgment that small town is always good.

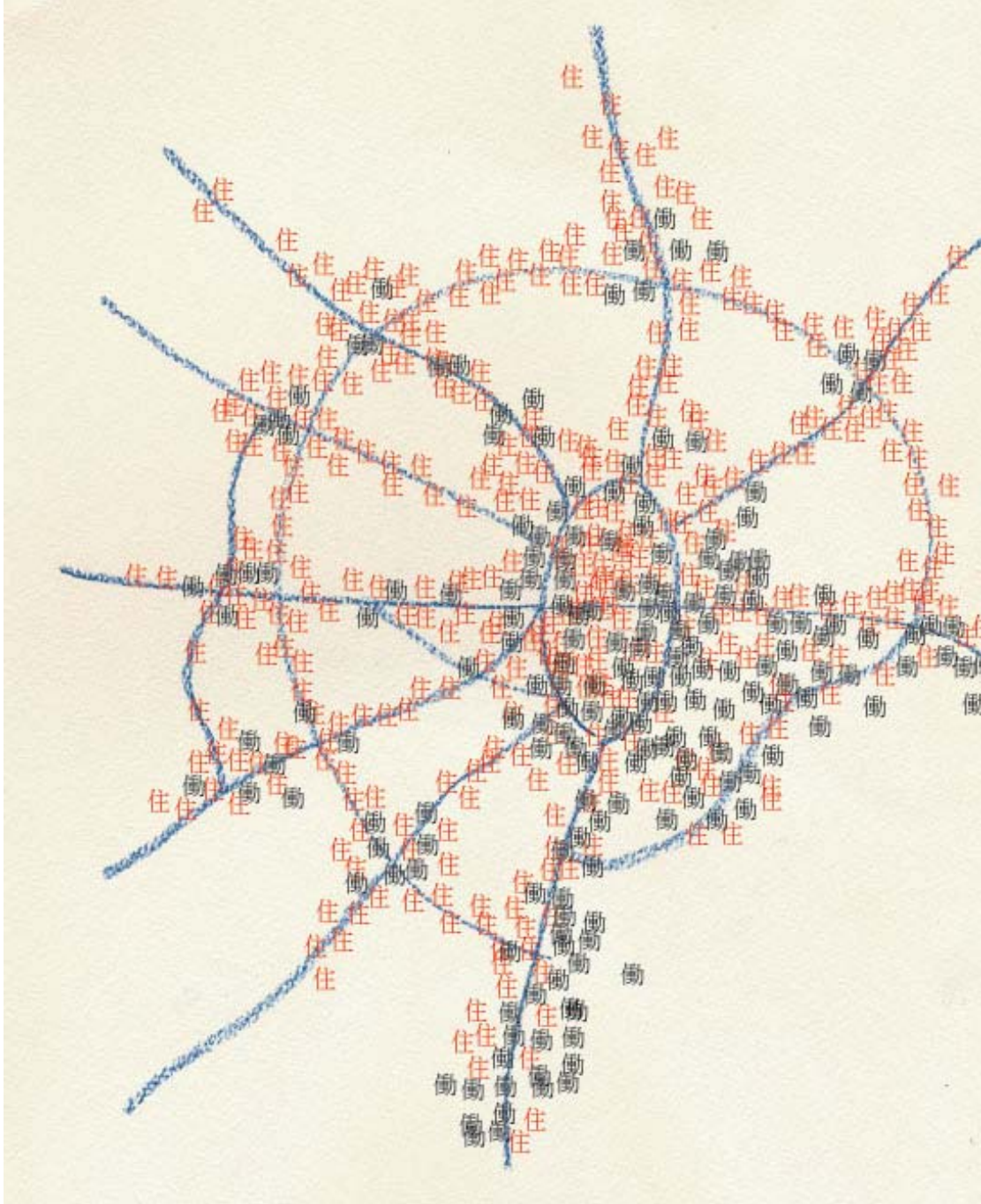
However this idea is not always popular among habitants because small towns have not any charm that only big city can provide



Reorganization of TMA
by Fiber City

houses will be concentrated
long the railway lines to make
near continuous towns. High
obility is secured by the
roximity to the railways.

**inear compact city with high
obility**



How the vacant land between condensed ‘fibers’ can be used?

he weakest spect of the urrent suburbs of okyo is the fact hat although they re called suburbs, he residential reas are located a ong way from reen tracts of land

- parks or gricultural land
- schools and ultural facilities
- universities and esearch aboratories