
BUILDING AN ARCHITECTURE OF EVERYDAY LIFE IN SOUTH KOREA MASS HOUSING ESTATES IN SEOUL AS AN INSTRUMENT OF MODERNIZATION, 1962-2008

DOCTORAL DISSERTATION / VOLUME II: ANNEXES

Submitted as partial fulfillment of the requirements for the degree of Doctor in Urbanism
Universitat Politècnica de Catalunya (BARCELONA TECH)
Departament d'Urbanisme i Ordenació del Territori (DUOT)
Barcelona, 2019

Doctor Carlos Llop Torné, Tutor
Marc Brossa i Balcells, Candidate

**BUILDING AN ARCHITECTURE OF
EVERYDAY LIFE IN SOUTH KOREA
MASS HOUSING ESTATES IN SEOUL AS AN
INSTRUMENT OF MODERNIZATION, 1962-2008**

DOCTORAL DISSERTATION / VOLUME II: ANNEXES

**Doctoral dissertation submitted as partial fulfillment of
the requirements for the degree of Doctor in Urbanism**

**Universitat Politècnica de Catalunya (BARCELONA TECH)
Departament d'Urbanisme i Ordenació del Territori (DUOT)**

Tutor: Doctor Carlos Llop Torné

Barcelona, 2019



This work is licensed under the Creative Commons
Attribution-NonCommercial-NoDerivs License.

No es permet l'ús comercial de l'obra original
ni la generació d'obres derivades.

Marc Brossa i Balcells
brossam@yahoo.com

CHAPTER 4
EVOLUTION OF MASS HOUSING ESTATES IN SEOUL
IN RELATIONSHIP TO URBAN INFRASTRUCTURE

4.1 PRECEDENTS - CAPITAL OF THE JOSEON DYNASTY: 'HANYANG' (1394 - 1910)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

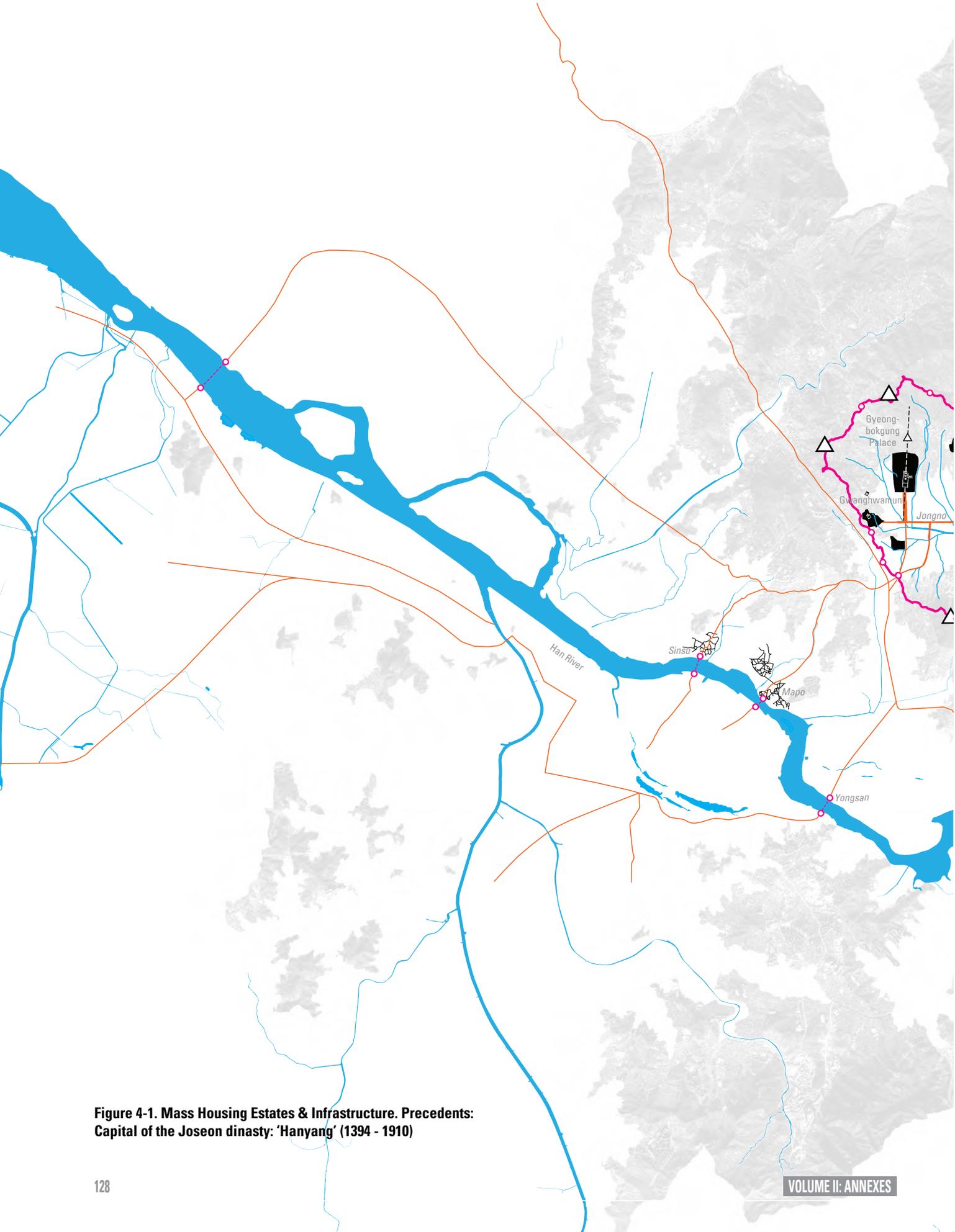
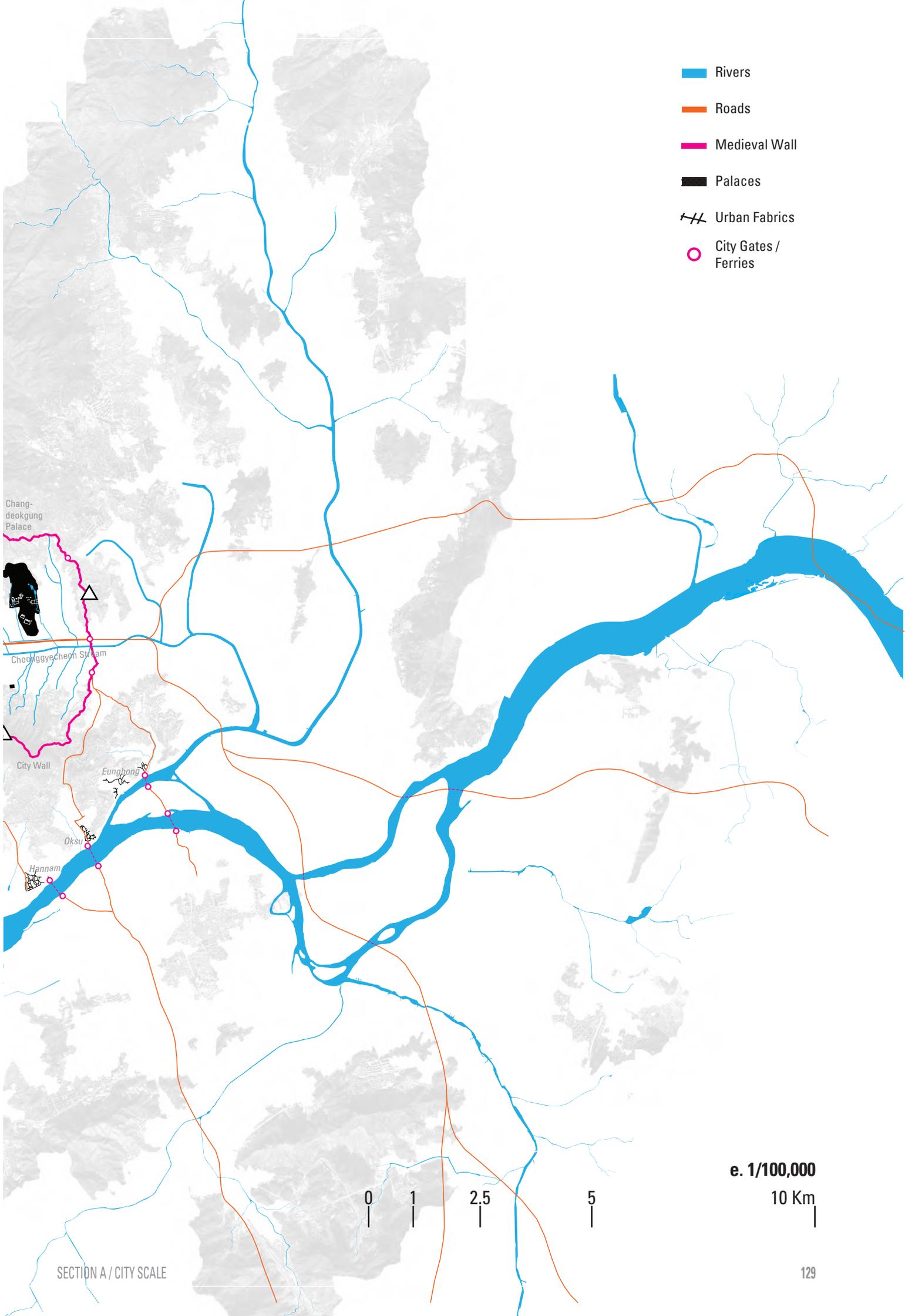


Figure 4-1. Mass Housing Estates & Infrastructure. Precedents: Capital of the Joseon dynasty: 'Hanyang' (1394 - 1910)



- Rivers
- Roads
- Medieval Wall
- Palaces
- Urban Fabrics
- City Gates / Ferries

Chang-deokgung Palace

Ched Aggyecheon Stream

City Wall

Eunghong

Oksu

Hannam

e. 1/100,000
10 Km

0 1 2.5 5

SECTION A / CITY SCALE

4.1 PRECEDENTS - CAPITAL OF THE JOSEON DYNASTY: 'HANYANG' (1394 - 1910)

As a capital of the Joseon dynasty, the main character of Seoul (or Hanyang, as it was known at the time) was its condition of walled city. The wall was thus its main defining infrastructure. It recognized and strengthened existing topological features surrounding the capital, encircling a large valley surrounded by mountains. This valley was basically the watershed of the Chunggye stream, an affluent of the larger Han river system with a gentle slope towards the East.

The wall had four major gates on its northern, southern, eastern and western sides, and eight more secondary gates. The main urban features inside the wall were the system of tributary streams that lead to the central artery of the Chunggyecheon, the planned regular avenues of Jongno and Gwanghwamun, and the walled perimeters of the palaces. The city was composed of dense and homogeneous 1-storey fabrics that adapted to the natural features of the land.

Beyond the city wall, the many roads that lead to the capital were part of a complex communication system that was crucial for the monarchy to control its territory, receive supplies and collect taxes. The Han river was a major vehicle of communication, both to other parts of the country as well as westwards to imperial China. The ferry crossings were also important infrastructural points that would develop into markets and tax-collecting offices due to the affluence of goods and people on their way to the gates: Sinsu, Mapo, Yongsan, Oksu, Eungbong. They would develop as well into important storage facilities of grains, rice and other supplies for the kingdom. The proximity of the river and the freezing temperatures during the winter allowed for ice to be kept in special facilities in order to preserve perishables (Seobingo).

The hydrological network was so important for transportation, irrigation, water supply, in the layout of the city and in establishing the yearly cycle of floods, that the capital of the Joseon dynasty could be seen as a 'water city'.

4.2 PRECEDENTS - JAPANESE COLONY: 'GYEONGSEONG' (1910 - 1945)

The main infrastructural feature of the Japanese colonial machine in Asia was the development of a wide railroad network that could allow the empire to connect and control the large territories under its grasp, and to extract goods and people from them. Within this scheme, Korea was a necessary land bridge linking the metropolis in the island to the colonies in the continent. Seoul in particular (or Gyeongseong, as it was called under Japanese occupation) was an important hub in the network, from which the railroad network split towards either China to the west or Russia to the east.

"Japanese imperialism, in its early-1900s advance into Manchuria, chose to assume the form of a railroad company." Ito Takeo & Joshua A. Fogel (2016): 'Life Along the South Manchurian Railroad'.

The implementation of the railroad infrastructure in Seoul completely changed its urban structure, as the city was stretched along the line, especially towards the south. The first two bridges on the Han river allowed the city to grow towards the important harbor of Incheon, establishing the new industrial sector of Yeongdongpo on the way. The Japanese also built two air fields on the southern banks of the river: Gimpo and Yeouido.

The stretch between the new Seoul station, right outside Namdaemun (the southern gate), and the Han river was occupied with train depots, industrial facilities and warehouses. A vast military camp was established on the wide land south of Namsan (the southern mountain), strategically overseeing the railroad and the bridges over the river.

The Japanese also optimized the medieval structure of Seoul by widening streets and creating new avenues, demolishing portions of the wall in order to allow for urban development, and expanding the incipient tramway infrastructure. New residential areas were laid out, mainly for the Japanese population.

4.2 PRECEDENTS - JAPANESE COLONY: 'GYEONGSEONG' (1910 - 1945)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

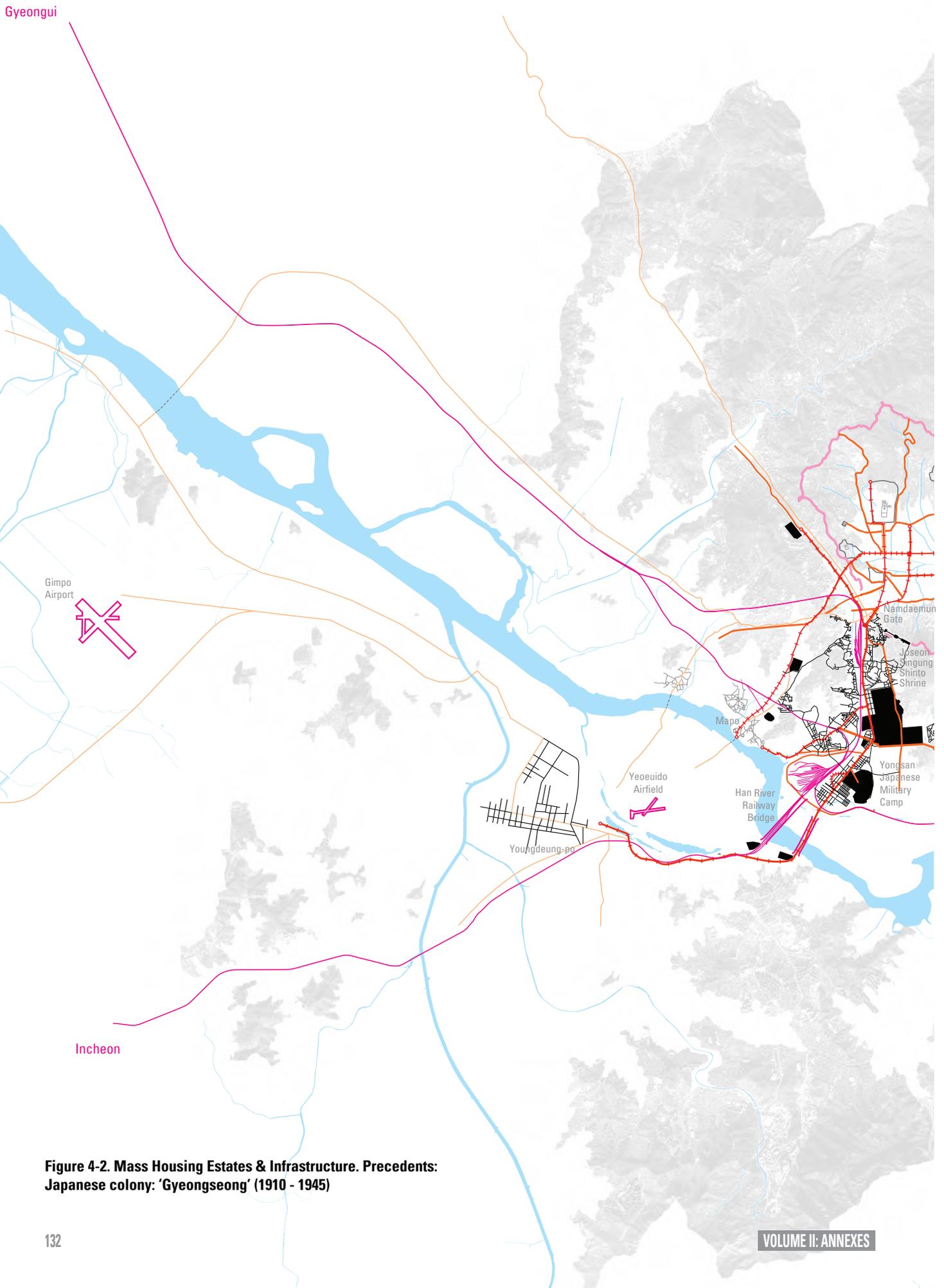
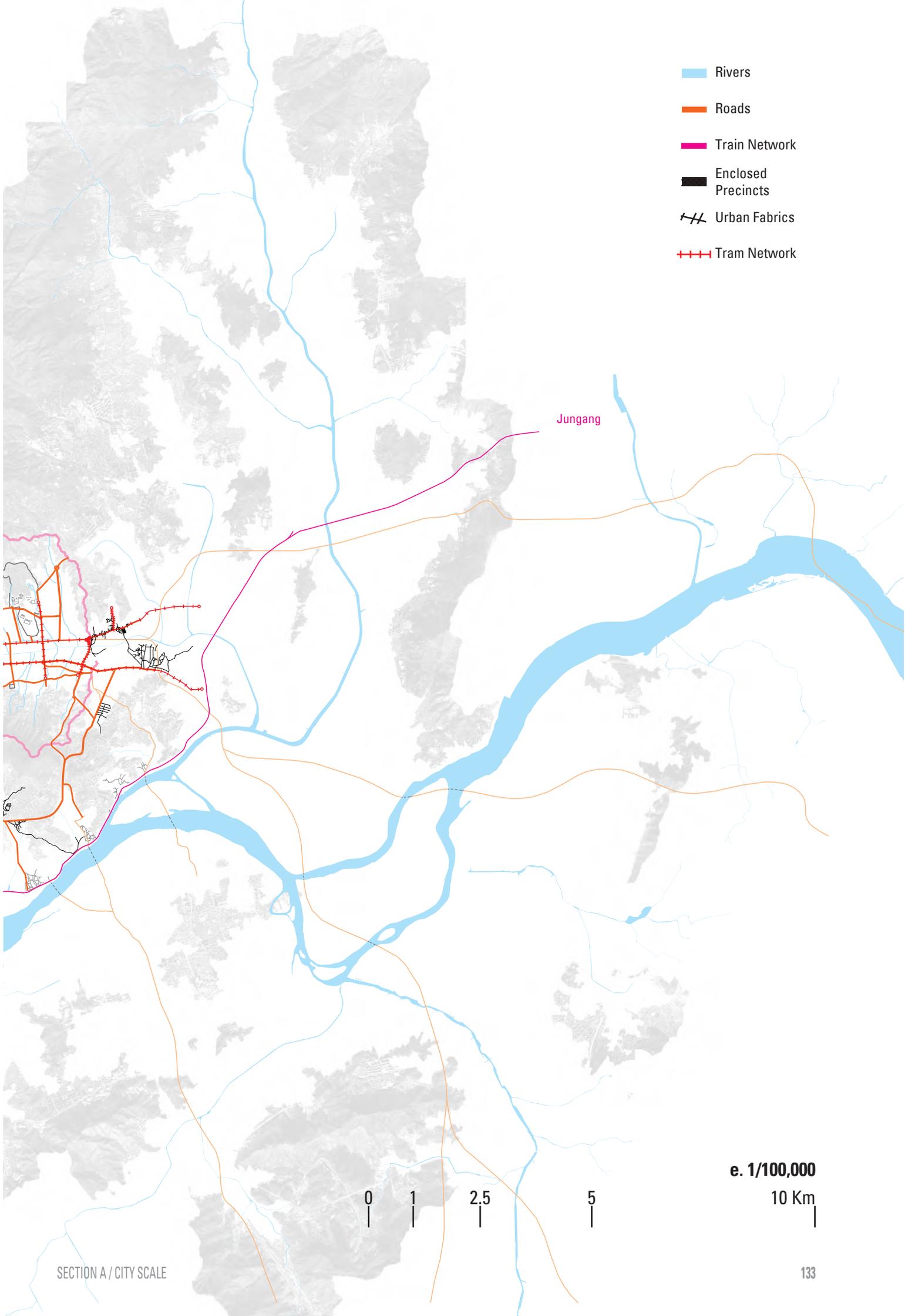
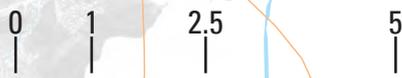


Figure 4-2. Mass Housing Estates & Infrastructure. Precedents: Japanese colony: 'Gyeongseong' (1910 - 1945)

- Rivers
- Roads
- Train Network
- Enclosed Precincts
- // Urban Fabrics
- + + + Tram Network



Jungang



e. 1/100,000
10 Km

4.3 Phase 1: PROVISION OF MINIMUMS & EXPERIMENTS IN MASS HOUSING (1962 - 1972)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

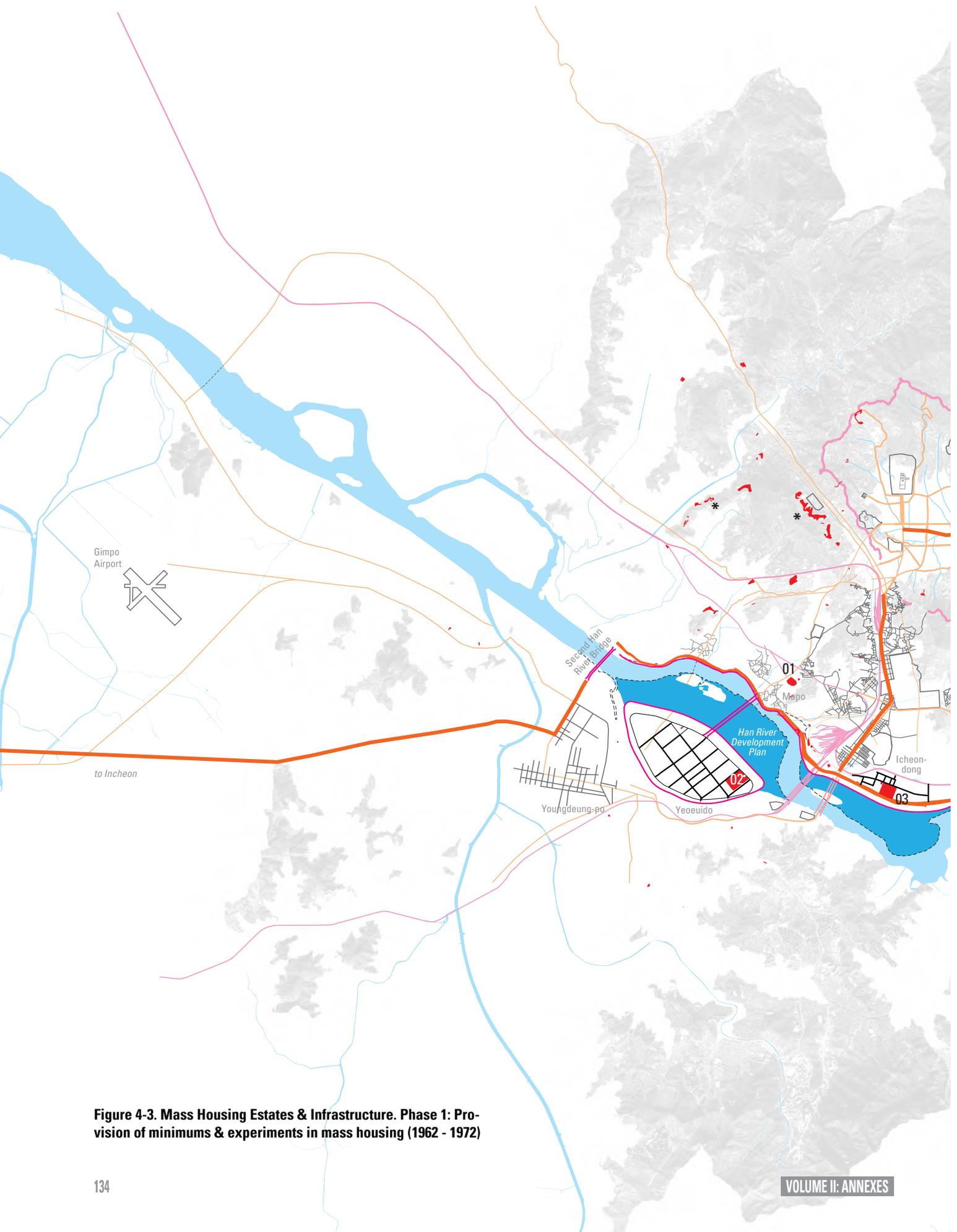
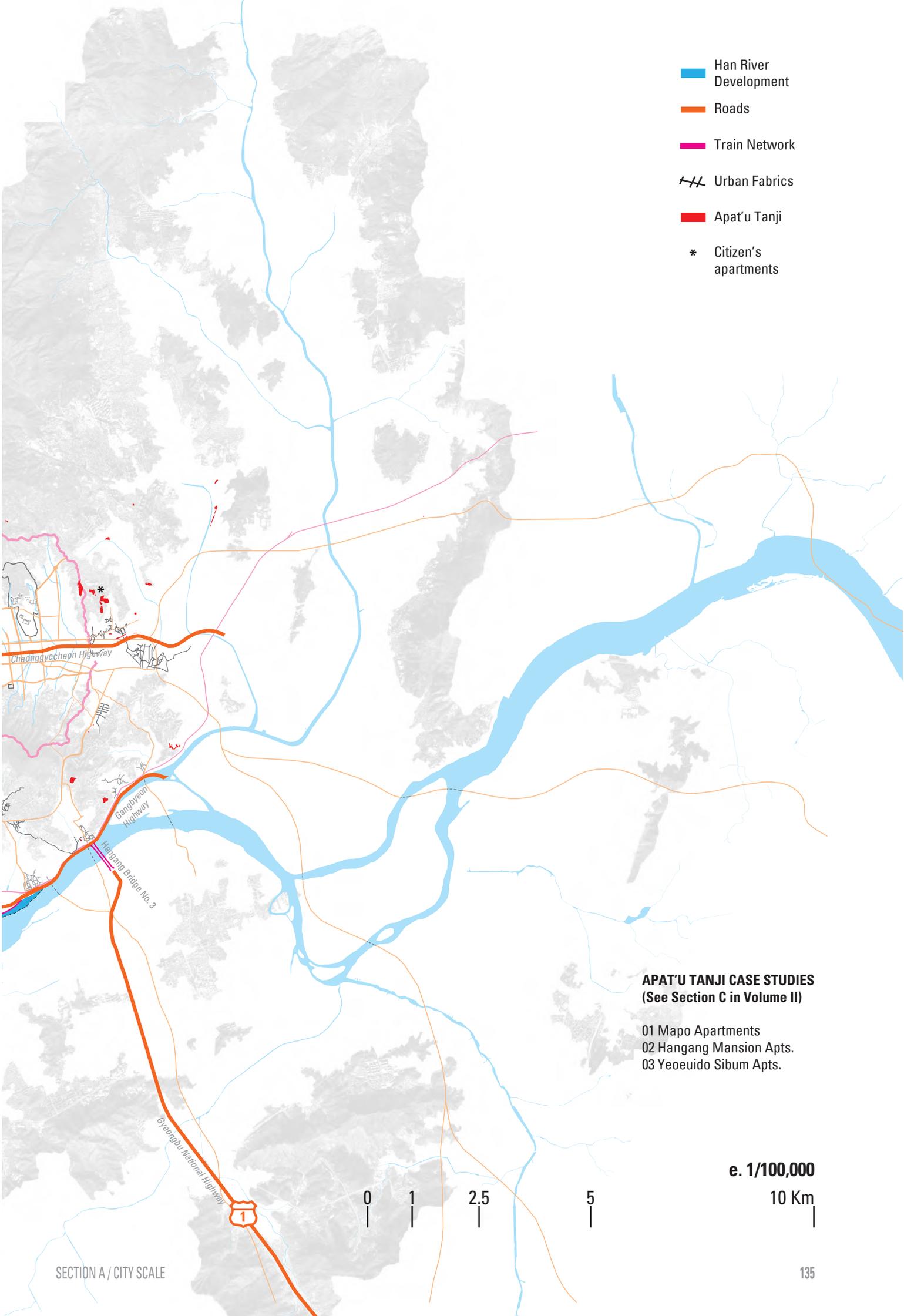


Figure 4-3. Mass Housing Estates & Infrastructure. Phase 1: Provision of minimums & experiments in mass housing (1962 - 1972)

- Han River Development
- Roads
- Train Network
- Urban Fabrics
- Apat'u Tanji
- * Citizen's apartments



APAT'U TANJI CASE STUDIES
(See Section C in Volume II)

- 01 Mapo Apartments
- 02 Hangang Mansion Apts.
- 03 Yeouido Sibum Apts.

e. 1/100,000
10 Km

4.3 Phase 1: PROVISION OF MINIMUMS & EXPERIMENTS IN MASS HOUSING (1962 - 1972)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

This period corresponds to the two first 5-year economic cycles implemented under the administration of General Park Chung-hee, who accessed power through a *coup d'état* in 1961 (see Chapter 04 of Volume II, *'Definition of Phases in the Evolution of Mass Housing in Seoul'*). Already in 1962 a series of laws were passed in order to facilitate public investment and the implementation of mass housing. In the same year, the Mapo Apartments (1) were built as a model of the new housing policies and of the modernization efforts of the regime.

Initially, housing policies were destined to the relocation of the dwellers from the many slums along water courses and hillsides surrounding the traditional city, so land could be freed for urban development. Apartment buildings were humble structures hosting small units of 28 to 33 m² (see '3.6 Citizen's Apartments Project, 1969' in Chapter 3, Volume 02). But soon the lack of proper financing resulted in shabby construction techniques, which brought many building pathologies and social unrest. The collapse of the Wow Apartments in 1970 after 3 months of being built and its 33 casualties signified a turning point in the housing policies of the regime: from then on, they would focus on providing modern housing for the growing middle class. In order to change people's perception towards apartments, a series of pilot projects were implemented.

Mass housing for the middle class was to be built on public land on the shores of the river. The natural direction for the growth of the city was SW, following the train tracks to Incheon. The government experimented with planned grids in Icheon-dong (the strip of land between the US Army base and the river on the northern bank) (2) and in the island of Yeouido (3).

These mass housing projects were tightly related to extensive infrastructural works along the river, according to the Han River Development Plan (1967-69). In order to prevent flooding due to the yearly summer floods, the river was regularized and an embankment was constructed on both sides. Besides flood control, this embankment would become the base for a transportation corridor of highways and bridges along the river, and would free up land for development on previously floodable land.

4.4 Phase 2A: GENERALIZATION OF APAT'U TANJI (1972 - 1976)

This phase was initiated by the beginning of the third 5-year economic plan, the Yushin Constitution of 1972, and the approval of the Housing Promotion Law and the Provisional Law for the promotion of the development of special housing districts of 1972. The Yushin Constitution was a change in South Korea's constitution that granted dictatorial powers to Park Chung-hee, in the face a perceived weakened role of the state due to international political instability related to the Cold War and domestic social unrest. The closing date of 1976 signals the first time when private development of mass housing overtook public development for the first time (see Chapter 04 of Volume II, *'Definition of Phases in the Evolution of Mass Housing in Seoul'*).

In response to the political climate, the regime chose to lure the growing middle class by providing means to own real estate in the form of mass housing, thus securing its political support. After the experiments on mass housing of the preceding period, the Housing Construction and Promotion Act of 1972 was catered to promote mass housing estates in dedicated areas on the southern banks of the river specifically (Gangnam), and housing construction benchmarks are established in connection to national economic plans. Development on the southern banks of the river was seen as an opportunity to define a modern capital according to international planning precedents. Different types of planned grids were adapted to the existing agricultural patterns and topography: Banpo, Gangnam and the Jamsil New Town.

Following the infrastructural works along the river, the so-called *'wall of apartment complexes'* continued eastwards: Banpo (4), Apkujeong (6), and Jamsil (5) -where the Olympic facilities would also be located.

The National Highway #1 to Busan (Gyeongbu Highway) built over the precedent period articulated urban growth towards the SE in Gangnam, while a formation of new bridges connected new residential areas with the consolidated city and opened up new development possibilities.

4.4 Phase 2A: GENERALIZATION OF APAT'U TANJI (1972 - 1976)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

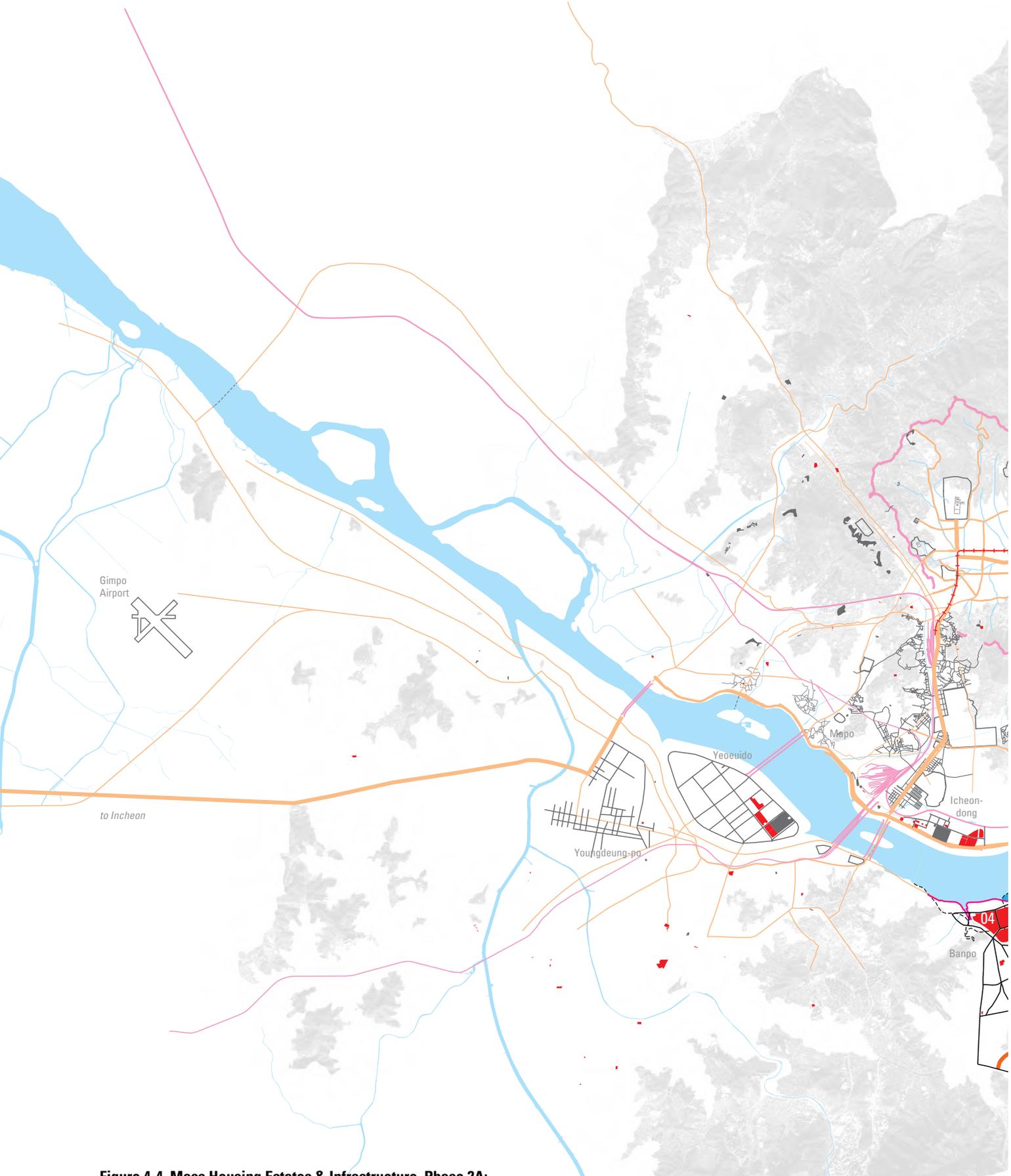
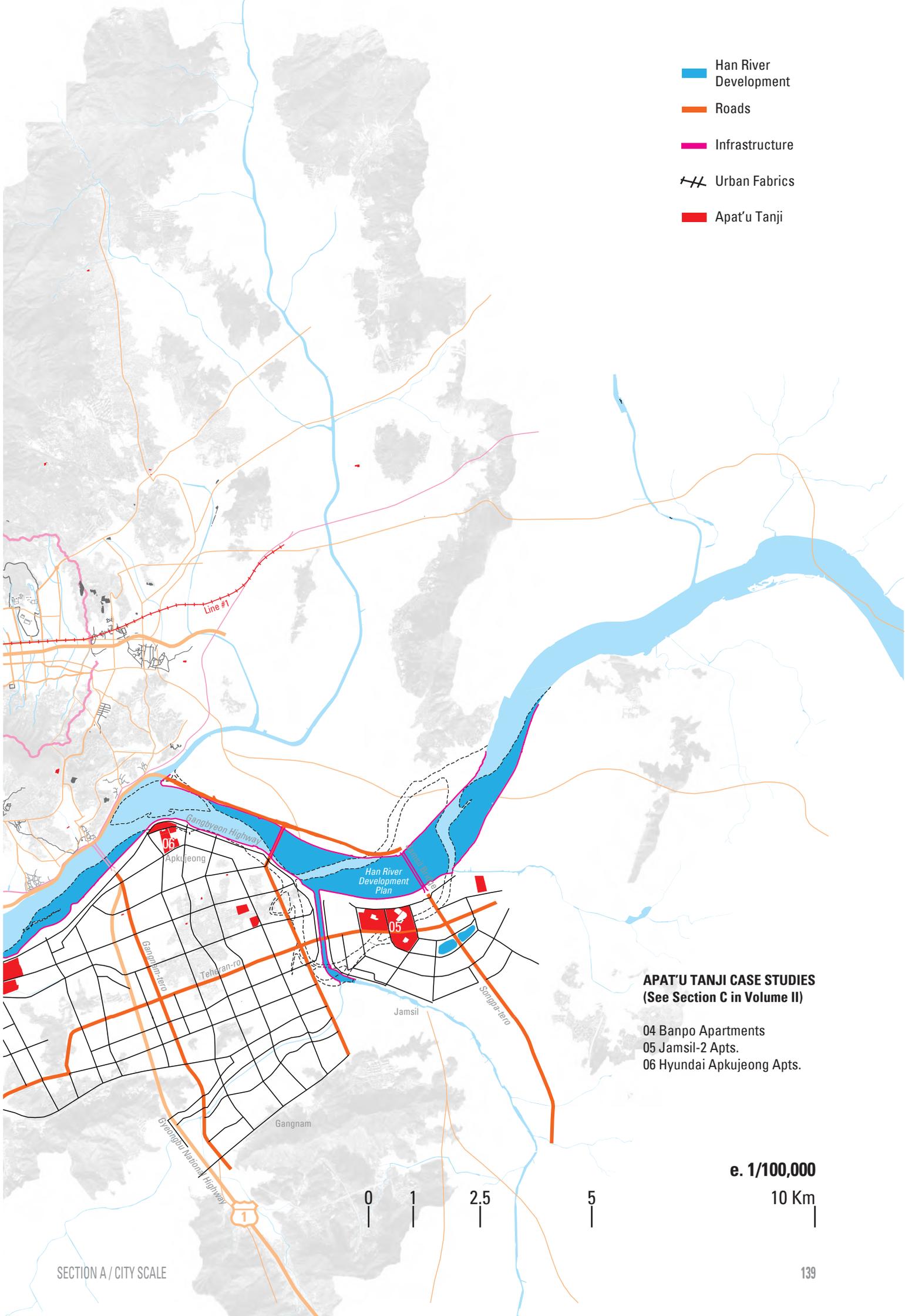


Figure 4-4. Mass Housing Estates & Infrastructure. Phase 2A: Generalization Of Apat'u Tanji (1972 - 1976)

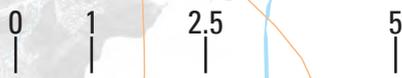
- Han River Development
- Roads
- Infrastructure
- Urban Fabrics
- Apat'u Tanji



APAT'U TANJI CASE STUDIES
(See Section C in Volume II)

- 04 Banpo Apartments
- 05 Jamsil-2 Apts.
- 06 Hyundai Apkujeong Apts.

e. 1/100,000
10 Km



4.5 Phase 2B: TRANSITION TO THE PRIVATE SECTOR (1976 - 1986)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

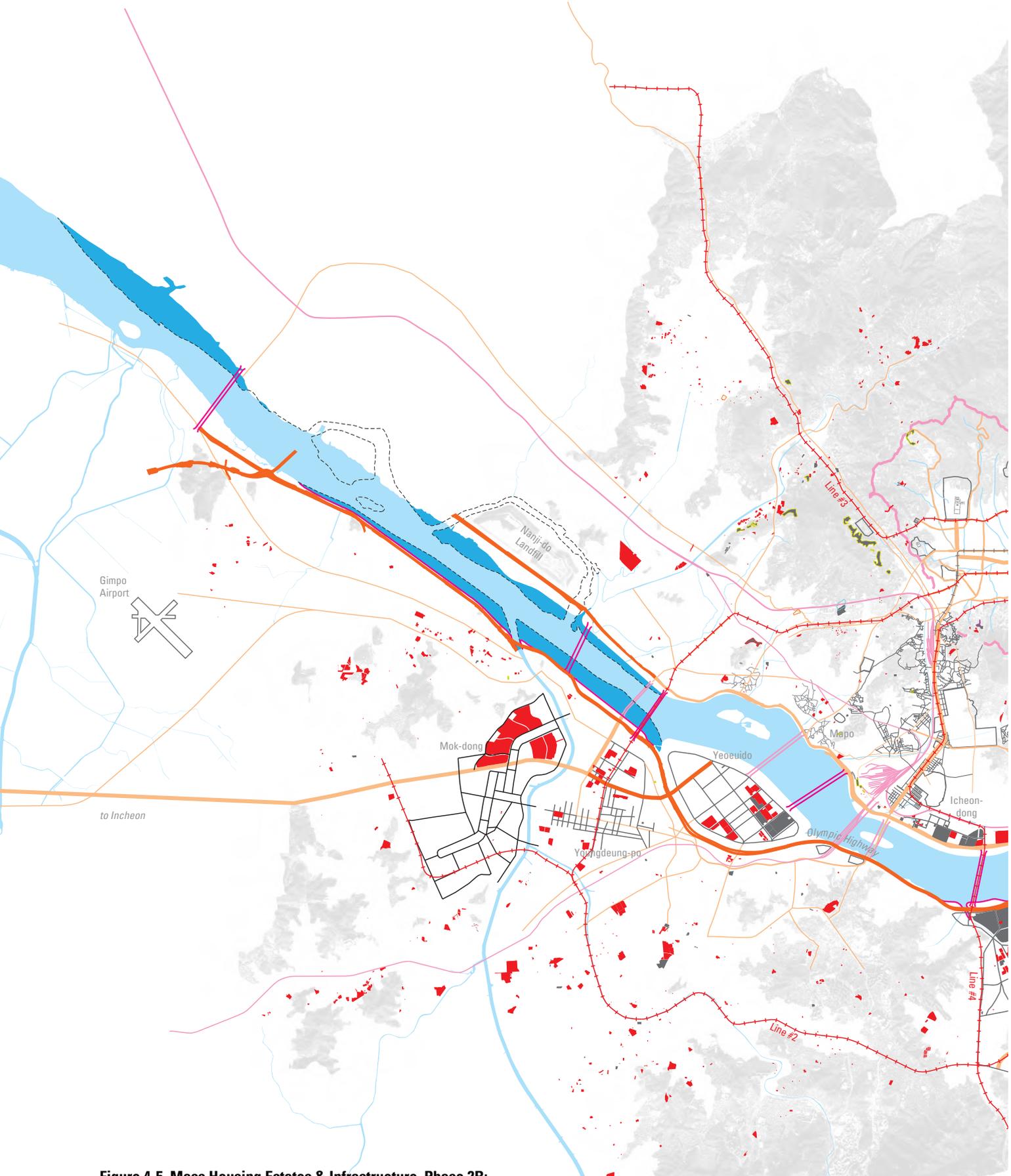
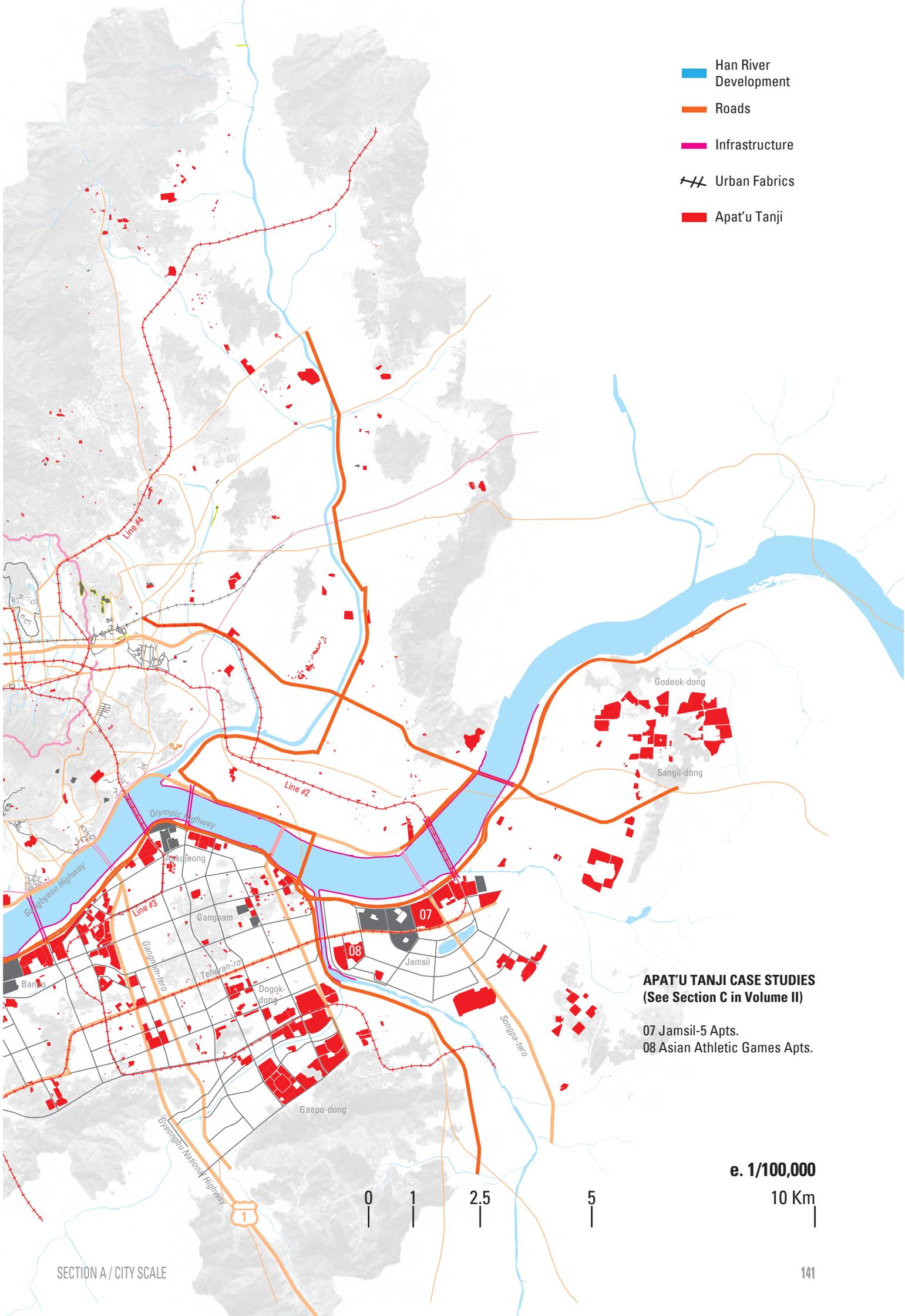


Figure 4-5. Mass Housing Estates & Infrastructure. Phase 2B: Transition to the private sector (1976 - 1986)

- Han River Development
- Roads
- Infrastructure
- Urban Fabrics
- Apat'u Tanji



07 Jamsil-5 Apts.
08 Asian Athletic Games Apts.

e. 1/100,000
10 Km

4.5 Phase 2B: TRANSITION TO THE PRIVATE SECTOR (1976 - 1986)

Period between the moment when private development of mass housing equaled public development, up until the conclusion of a massive national program to build 5 million housing units in 1986. From then on, the private sector continued to increase and dominate the housing market.

The Housing Construction and Promotion Act of 1972 was modified in 1977 in order for the government to control the price of new housing below market, thus generating an even bigger demand. Progressively, the public sector yielded its active role in the construction of housing to private companies and adopted a facilitating and managerial task. The central government's policies for population control and dispersion were abandoned after the assassination of President Park in 1979, and Seoul could finally address its ongoing demographic crisis through mass housing. In parallel, a massive housing program of 5 million housing units was implemented between 1980 and 1986.

With the generalization of mass housing and the shift to the private sector, housing became a source of revenue for the government. Housing taxes and the sale of buildable land to the private construction companies took care of public infrastructure needed to supported urban growth.

The selection of Seoul as the host for the Asian Athletic Games of 1986 and the 1988 Summer Olympics further increased demand for housing and triggered a second wave of improvements along the river in order to provide an identity feature for the event. New hydraulic works were carried westwards from Yeouido with the Han River Development Project (1981-86), providing new land for housing.

If until now mass housing had been mostly contained within the new towns developed by the government on reclaimed land along the river, the full adoption of mass housing and the privatization of its development saw an explosion in the construction of apartments. The map shows different logics:

- Infill of grids previously planned along the river: Jamsil, Yeouido.
- Infill of the Yeongdong Apartment District in Gangnam along the river and National Highway #1.
- New towns: Sangil-dong and Godeok-dong in the east, Dogok-dong and Gaepo-dong south of Gangnam, and Mok-dong in the west, planned to provide a pleasant backdrop to Olympic visitors landing in nearby Gimpo airport.
- Individual developments not included within planned new towns began to emerge in a scattered fashion. On the north side, along the river and on hilly areas away from the city center, and on the south in Yeongdongpo, along the river and on hilly areas south of Yeouido.
- Beginning of the Joint Redevelopment urban renewal system (JR) for substandard housing areas through mass housing.

The construction of more bridges and of subway lines #2, 3 and 4, plus the extension of line #1 across the river further improved the connection between the traditional city and the modern one.

4.6 Phase 3A: CONSOLIDATION OF HOUSING MODELS (1986 - 1990)

Period between the end of the national plan to build 5 million housing units and the planning of the five satellite cities beyond the greenbelt.

The period of intense growth until the 1988 Seoul Olympics brought Seoul and South Korea to an urbanization rate of 70%, similar to developed countries. Similarly, housing quality indicators reached levels comparable to European and north-American societies. Finally the housing shortage index started to recede. The rate of urban growth slowed, while at the same time the lack of buildable land, strong demand and speculation raised the price of apartments and of housing in general. Since 1988, a set of anti-speculation measures was implemented in order to control housing prices.

Still, the lack of buildable land, escalating prices and overall real estate speculation led the national government to implement the Two Million Housing Construction Plan (TM-HCP). In Seoul it favored the planning of five new satellite cities beyond the greenbelt: Ilsan, Bundang, Jungdong, Pyeongchon and Sanbon.

Besides the ongoing infill of grids planned in the previous phases, scattered developments and Joint Redevelopment projects throughout the city, notable events of the period were the construction of the Olympic Apartments in Jamsil, the construction of the western end of Mok-dong New Town, and the construction of the new town of Nowon-gu in the NE corridor of Seoul as the last frontier of development inside the city.

4.6 Phase 3A: CONSOLIDATION OF HOUSING MODELS (1986 - 1990)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

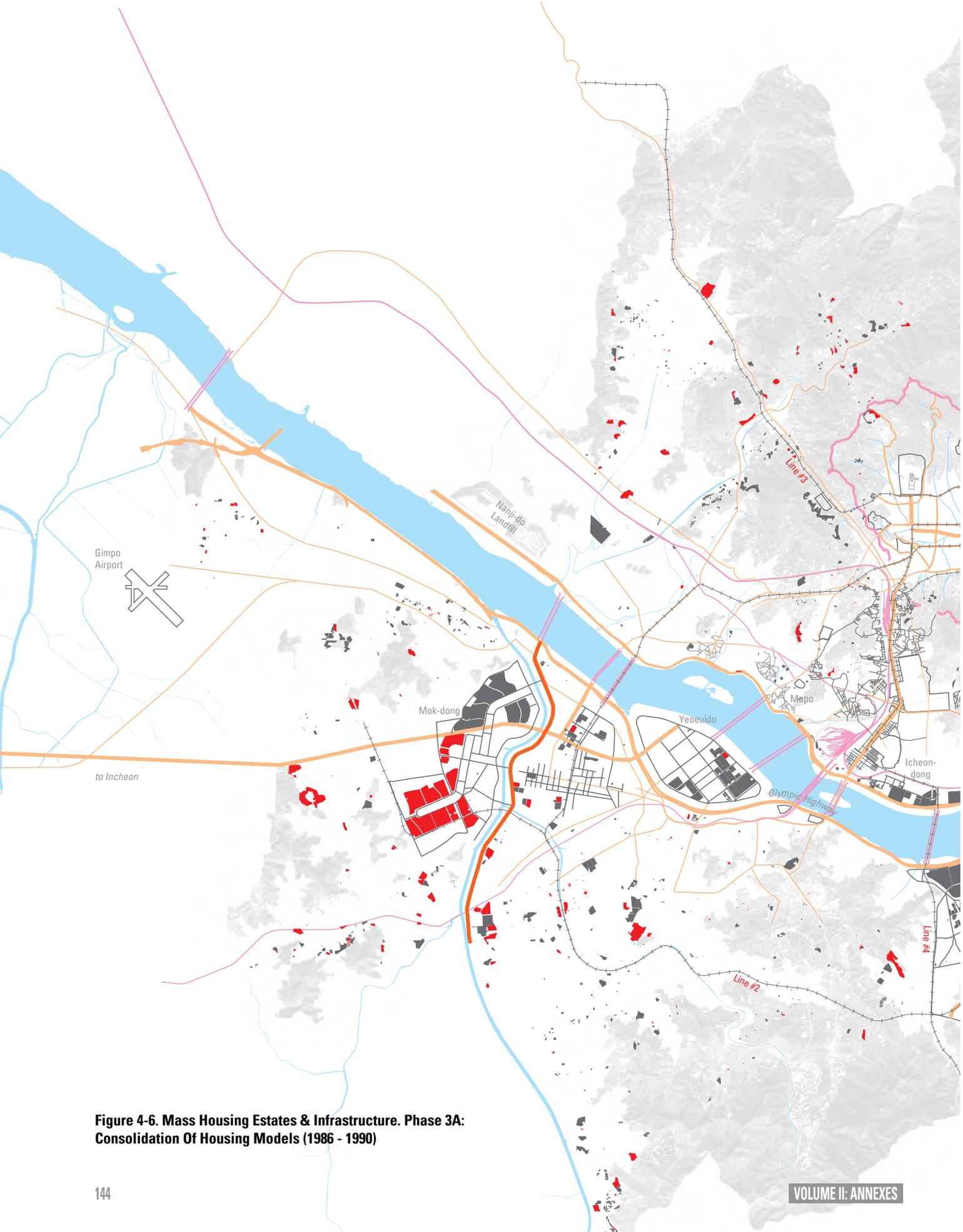
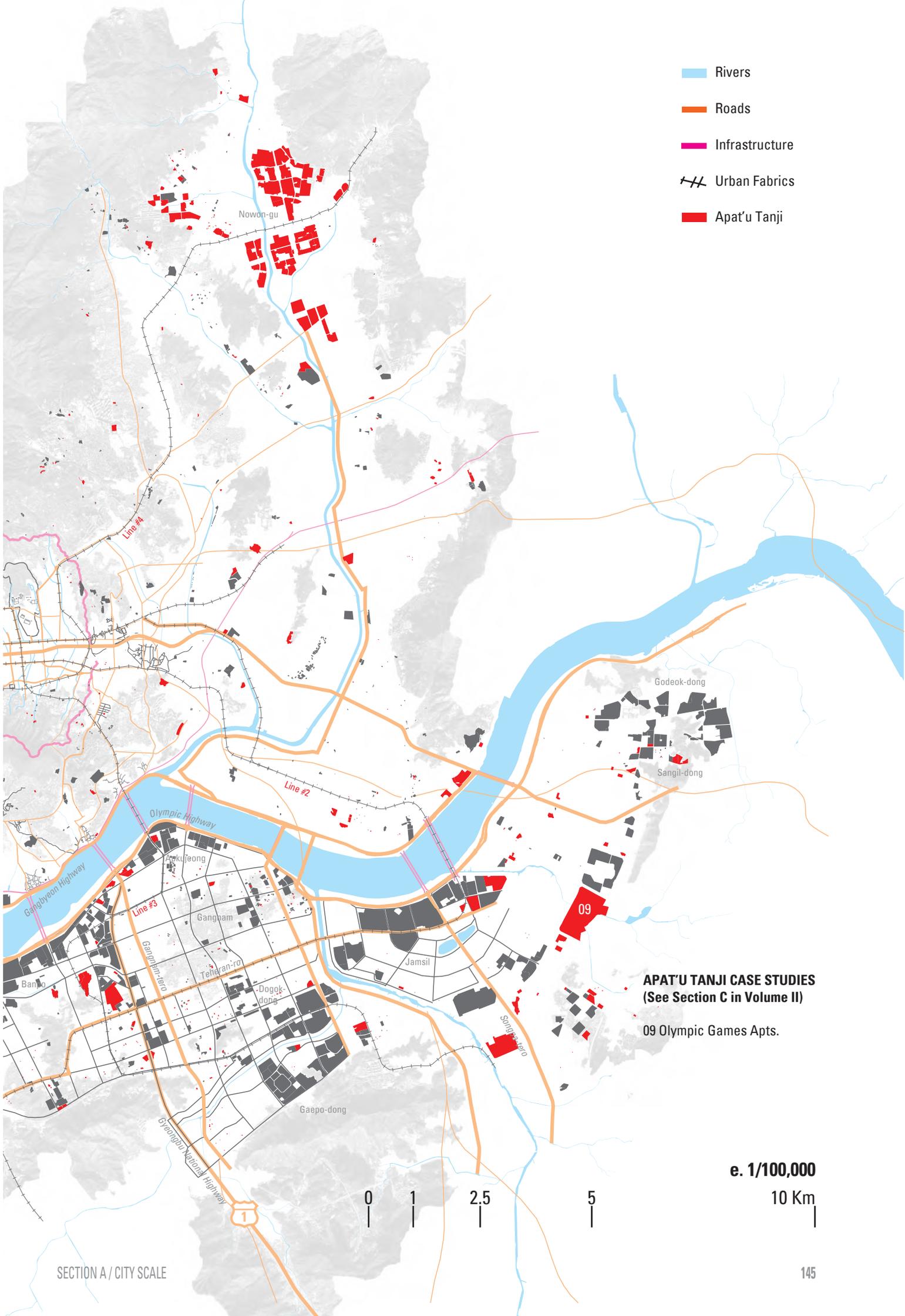


Figure 4-6. Mass Housing Estates & Infrastructure. Phase 3A: Consolidation Of Housing Models (1986 - 1990)

- Rivers
- Roads
- Infrastructure
- Urban Fabrics
- Apat'u Tanji



APAT'U TANJI CASE STUDIES
(See Section C in Volume II)

09 Olympic Games Apts.

e. 1/100,000
10 Km

4.7 Phase 3B: EMERGENCE OF THE SATELLITE CITIES (1990 - 1997)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

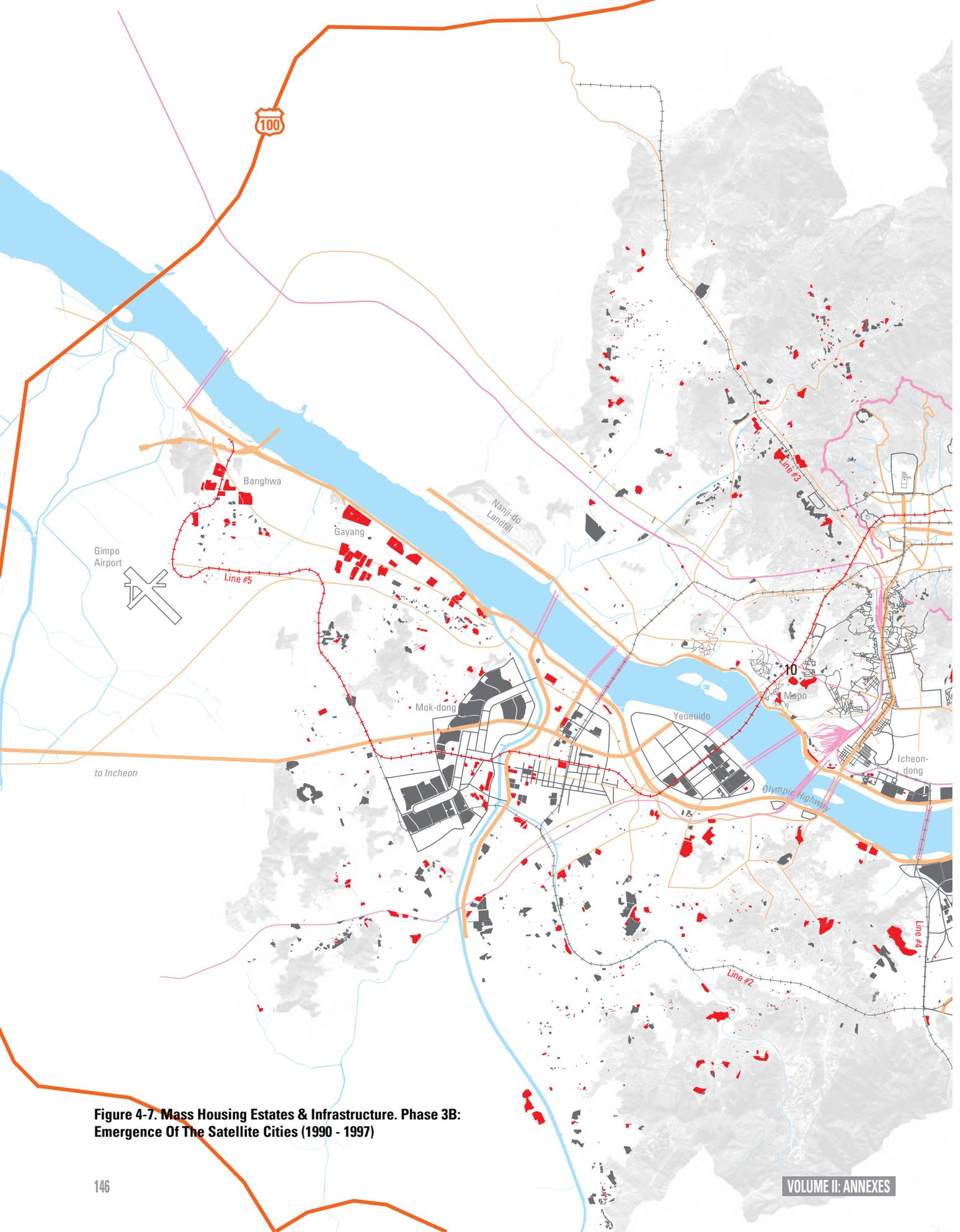
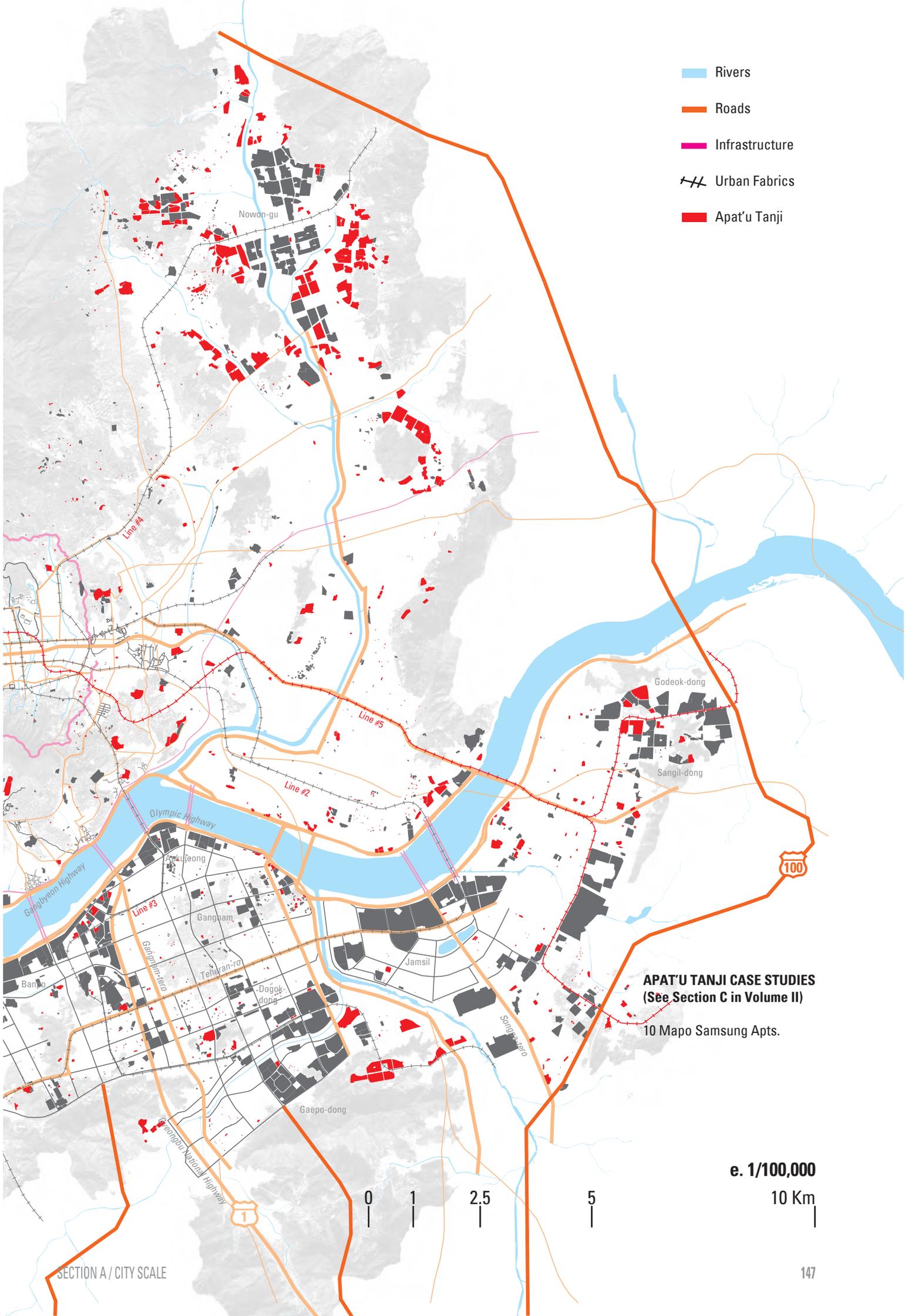


Figure 4-7. Mass Housing Estates & Infrastructure. Phase 3B: Emergence Of The Satellite Cities (1990 - 1997)

- Rivers
- Roads
- Infrastructure
- Urban Fabrics
- Apat'u Tanji



APAT'U TANJI CASE STUDIES
(See Section C in Volume II)

10 Mapo Samsung Apts.

e. 1/100,000
10 Km

4.7 Phase 3B: EMERGENCE OF THE SATELLITE CITIES (1990 - 1997)

In 1989 the government approved the creation of 5 new satellite cities (Bundang, Ilsan, Pyeongchon, Sanbon, and Joongdong) beyond the greenbelt in order to alleviate problems related to the increasing density, housing speculation and the lack of rental housing. After 1995 there was a gradual liberalization of prices for new housing. This fifth period ended with the financial crisis that affected East Asia in the winter of 1997.

Except for the satellite cities, the construction of new mass housing during this period occurred as infill of the planned urban grids from the previous periods or in renewal of traditional fabrics, and was thus not as focused in specific areas as it had been in the previous phases. Still, we can observe denser concentrations around Nowon-dong in the NE corridor and in Gayang and Banghwa on the western edge.

The jump of Seoul to the metropolitan scale was reflected in terms of infrastructure with the creation of a new ring road (Highway #100), that articulated the relationship of the city with the greenbelt that surrounded it and the 5 satellite cities beyond. The new subway line #5 connected the recent areas of growth East and West with the city center.

4.8 Phase 4: ECONOMIC DEREGULATION & URBAN RENEWAL (1997 - 2008)

Period between the 1997 East Asian financial crisis and the 2008 global crisis. The construction sector, a driver of the national industry, took a serious blow in 1997. The macro-economic policies and structural reforms implemented by the IMF in order to control government interference in the economy and the close linkages between banks and conglomerates had a direct effect in the housing market. Since 2002, the ratio of housing supply has been above 100%. The effect of the 2008 world financial crisis in South Korea made evident that the socio-economic background that supported the mass housing model had changed, challenging its continuity (see Chapter 04 of Volume II, *Definition of Phases in the Evolution of Mass Housing in Seoul*).

During this period took place a gradual deregulation of the economy and a liberalization of the markets, linked to the widespread globalization phenomenon. The price limitation policy was cancelled and the Housing Bank was privatized.

The main effects of these policies were widespread speculation and the emergence of new housing typologies. At the same time, the obsolescence of older housing complexes and the expectation of real estate profit favored the renewal of older apartments, with the related process of gentrification and the gradual substitution of tenants. The New Town in Town project initiated by Mayor Lee Myun-bak in 2002 was highly representative of this process of urban renewal.

The map shows different logics:

- The last new towns: The remaining empty plots in the municipality of Seoul were dedicated to new towns featuring mass housing complexes: Magok, Ujang-san.
- Infill of previously planned new towns: Nowon-gu, Mok-dong, Jamsil, Sangil-dong, Godeok-dong, Dogok-dong, Banghwa, etc.
- Urban renewal of older housing complexes: Icheon-dong, Gangnam and Jamsil, etc.
- Widespread Joint Redevelopment projects throughout the city: Oksu, Keumhwa, Mapo, Muak-dong, etc.
- The first phases of the New Town in Town project: Gupabal, Gil-eum, Mia, Wangsimni, Ah-yeon, etc.

Subway lines #6 running East - West on the northern side and #7 running SW - NE complemented the public transportation infrastructure and provided access to the last new towns.

4.8 Phase 4: ECONOMIC DEREGULATION & URBAN RENEWAL (1997 - 2008)

Ch. 4 / EVOLUTION OF MASS HOUSING ESTATES IN SEOUL IN RELATIONSHIP TO URBAN INFRASTRUCTURE

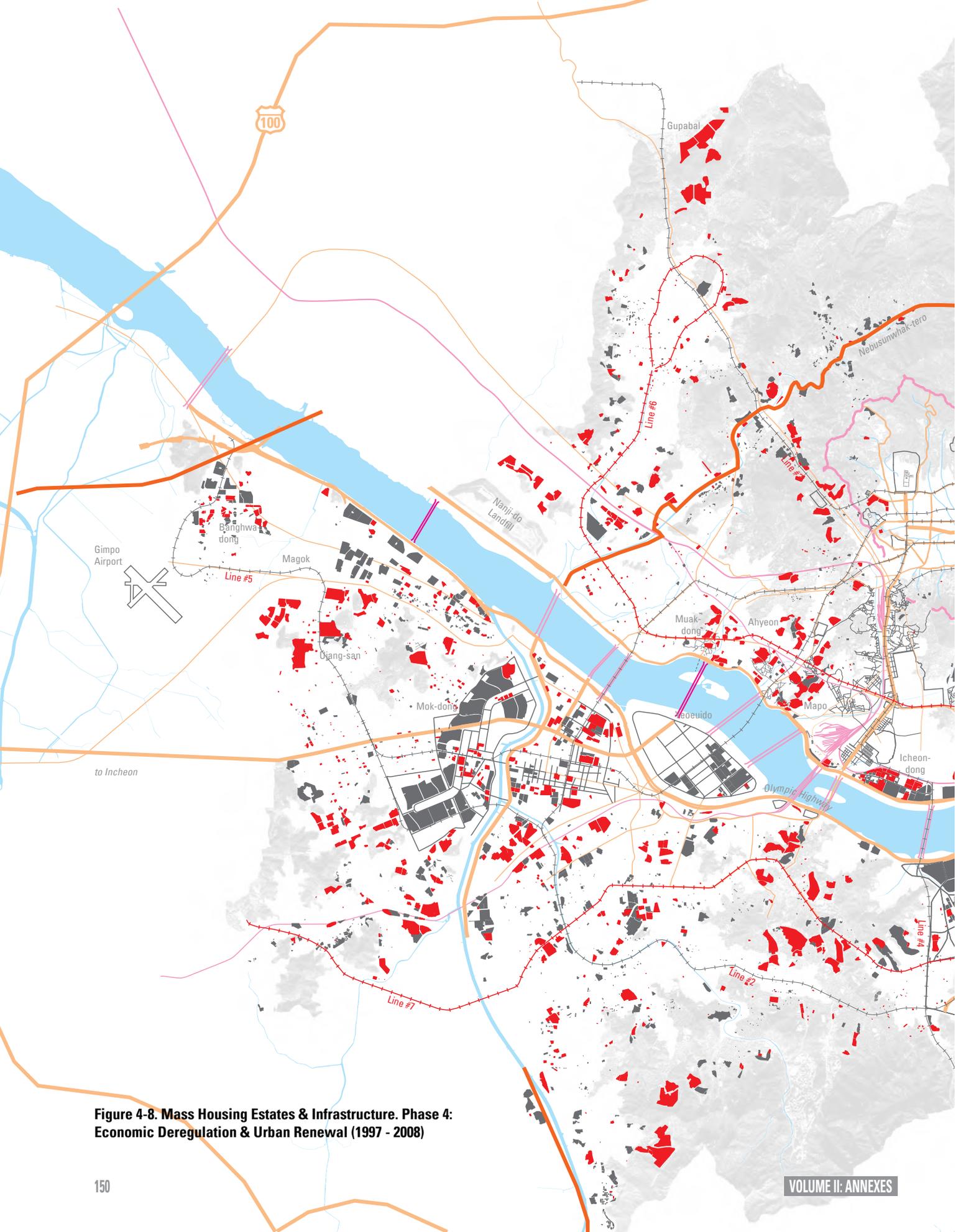
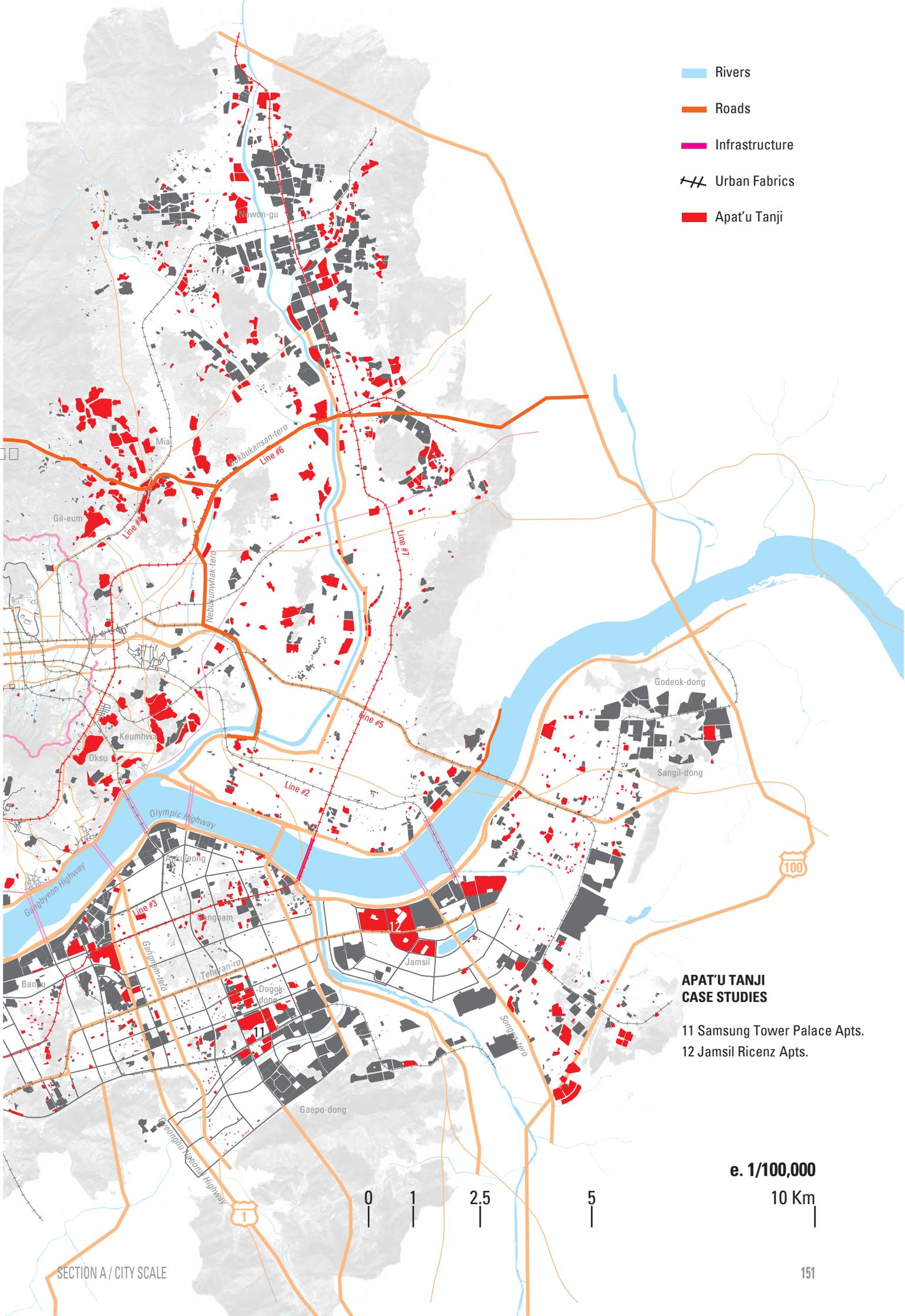


Figure 4-8. Mass Housing Estates & Infrastructure. Phase 4: Economic Deregulation & Urban Renewal (1997 - 2008)



- Rivers
- Roads
- Infrastructure
- Urban Fabrics
- Apat'u Tanji

**APAT'U TANJI
CASE STUDIES**

11 Samsung Tower Palace Apts.
12 Jamsil Ricenz Apts.

e. 1/100,000
10 Km

