

Development of New Towns and Regional Transportation in Seoul Metropolitan Region

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Acknowledgement

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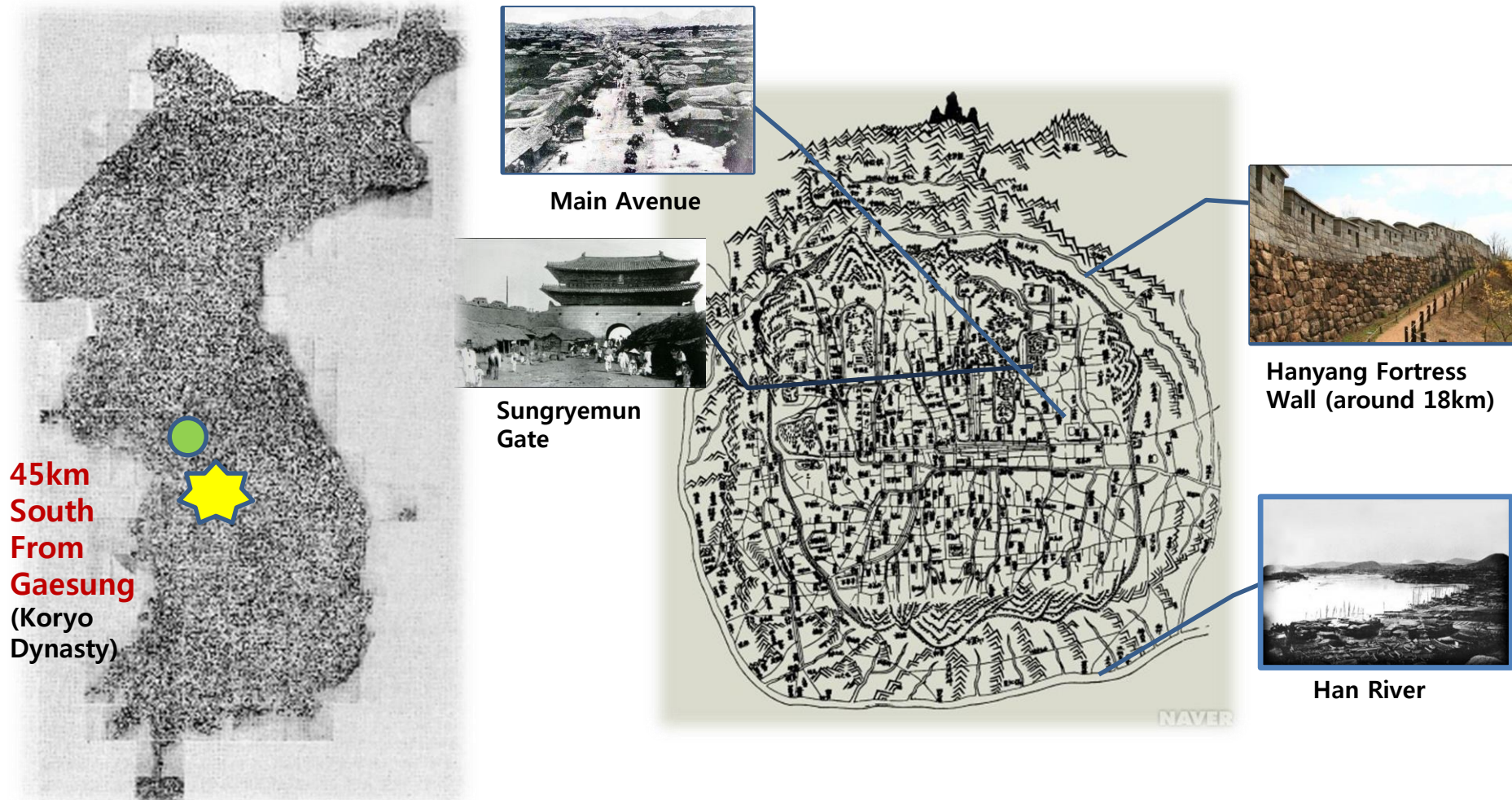
III. New Towns in SMR

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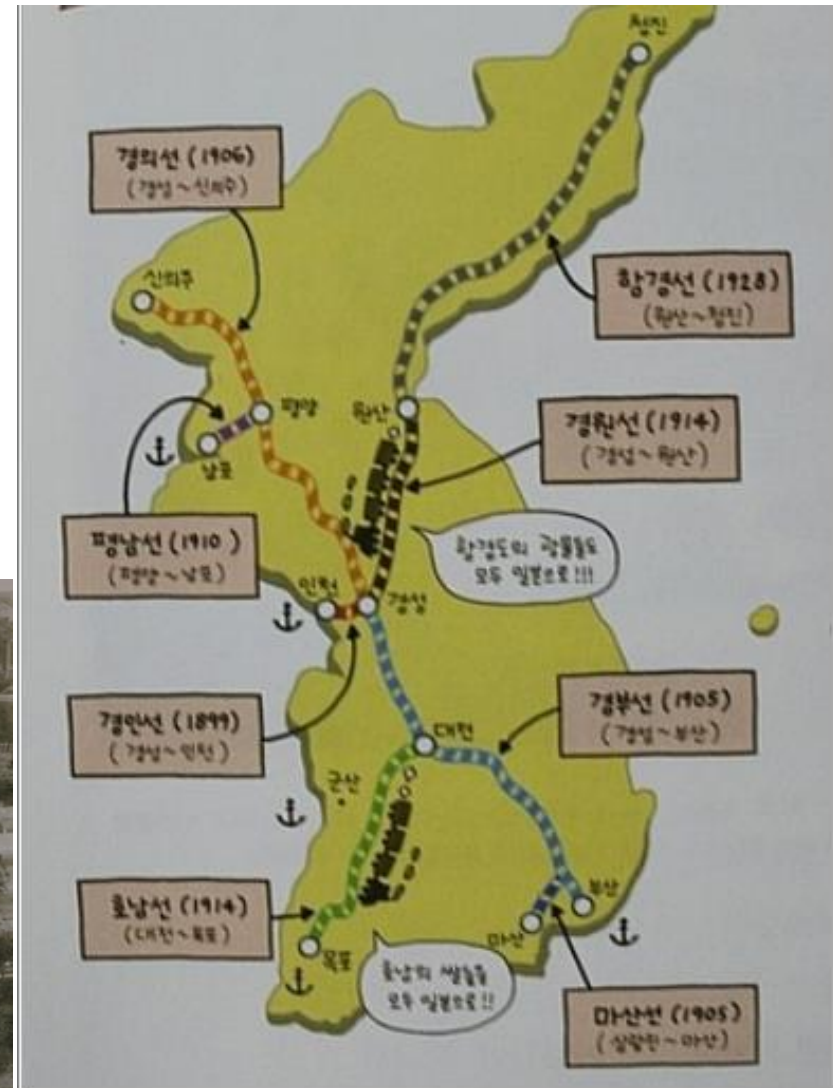
1.1 The Birth of Seoul in 1394

■ New Dynasty (Chosun, ested. 1392) Chose "Hanyang" as New Capital



1.2 Under the Japanese Ruling (1910~1945)

- Seoul became "Geongsung" and grew drastically after the 1920s
 - Industrialization since the 1920s
 - 250,000 in the 1910s
 - 350,000 in 1930
 - 400,000 in 1935
 - Japanese immigrants and urban settlers from rural areas



1.4 The Korean War and Bad Urbanization in the 1950s



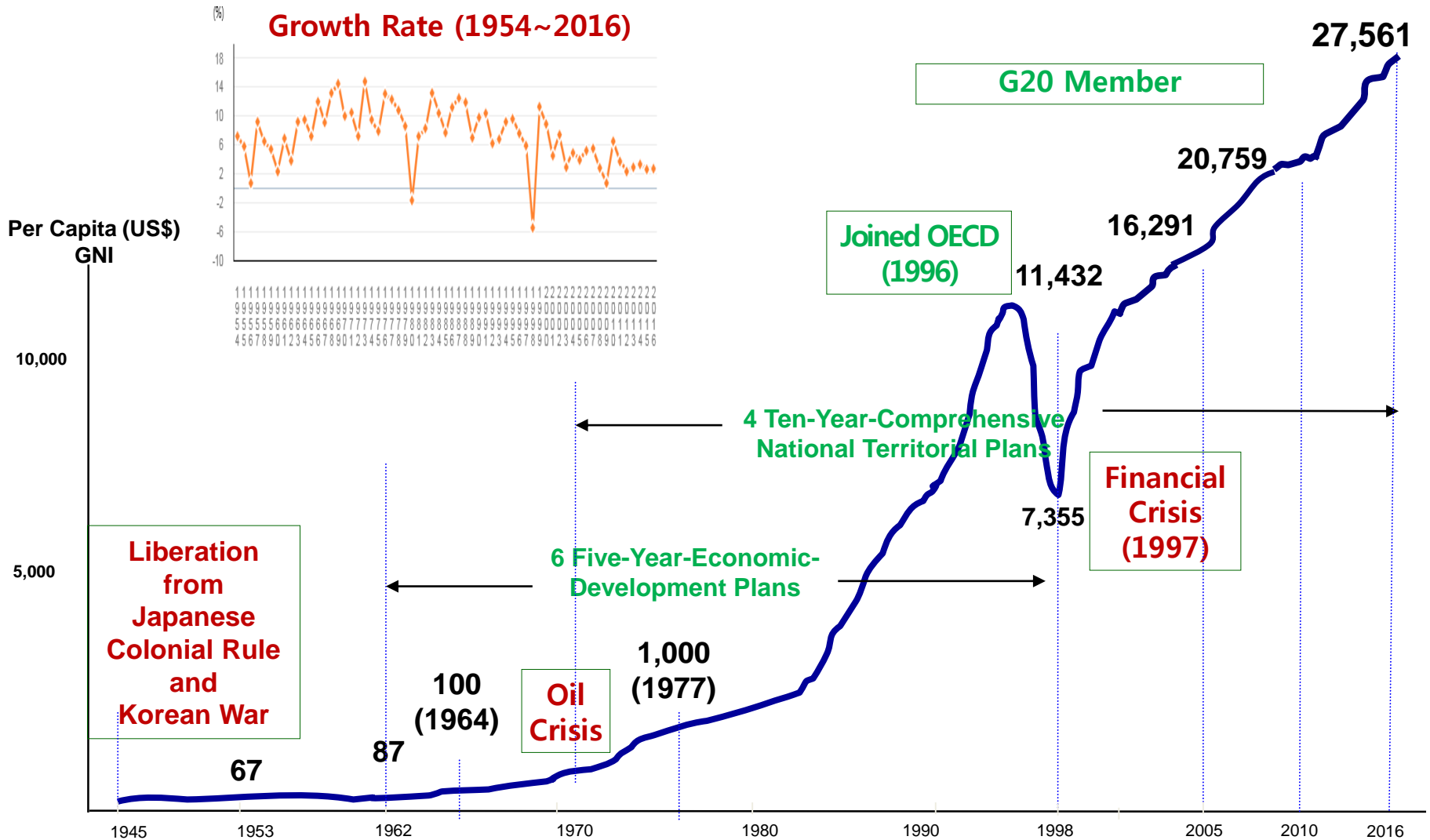
War (1950~1953) and Demilitarized Zone (DMZ)

■ Vicious circle of poverty and “bad” urbanization

- Refugees from North during the War
- Barely survived with US aid (food)
- Extreme poverty in rural areas and blind coming up to Seoul
- Urbanization without industrialization



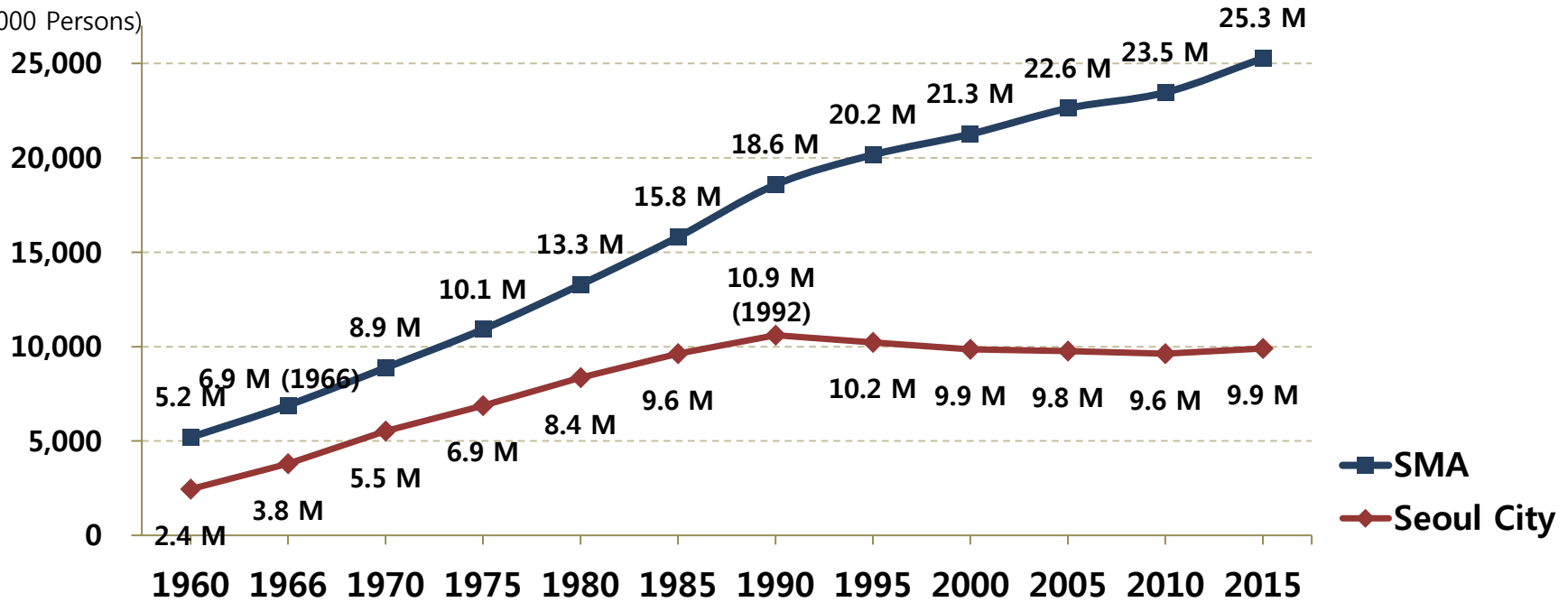
2.1 Economic Growth since the 1960s



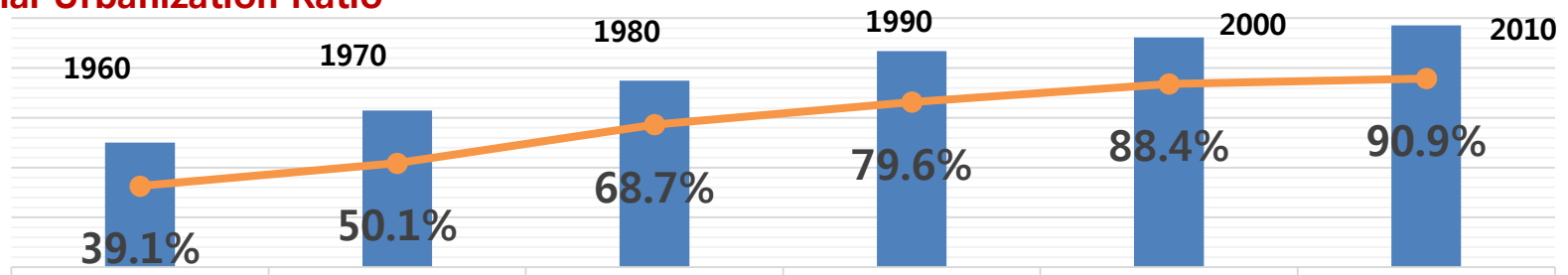
Source: KDI 2005 Updated

2.2 Urban Growth of Seoul Metropolitan Region

(Unit: 1,000 Persons)



National Urbanization Ratio



2.3 Growth Control of Seoul in the 1980s

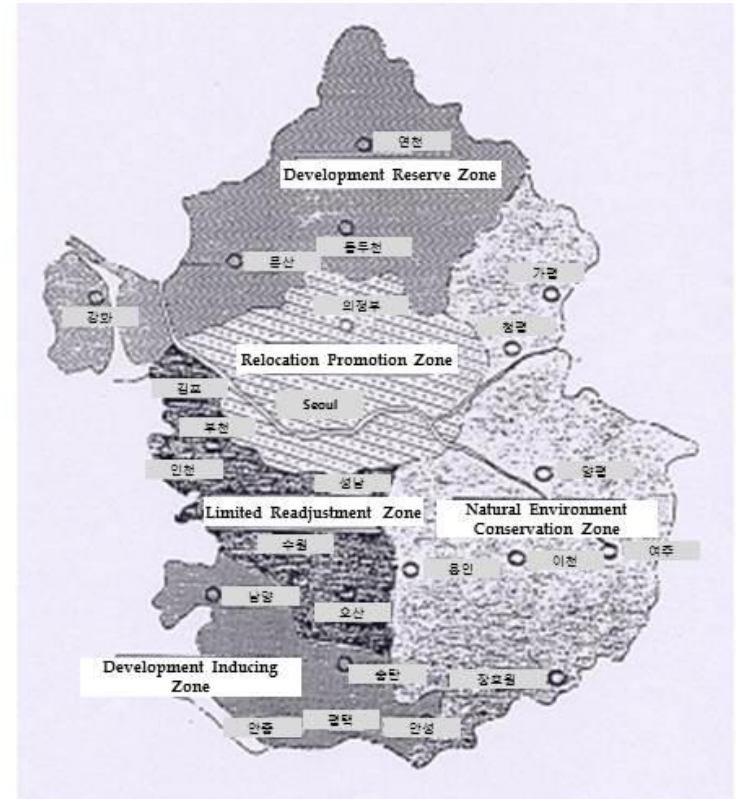
■ Special policies for reduction of over-concentration in the Capital region

- The Capital Region Readjustment Planning Act (1982) were implemented to lessen the concentration of population and industry into the capital region
- The First Capital Region Readjustment Plan (1982-1996) was implemented
- Classified the capital region into **relocation promotion zone**, **limited readjustment zone**, **development inducing zone**, **natural environment conservation zone**, and **development reserve zone**

■ The administrative entities include Seoul, Incheon and Gyeonggi

■ Became "Double Edged Sword"

- Over-growth should be controlled
- **Over-control might be dangerous**

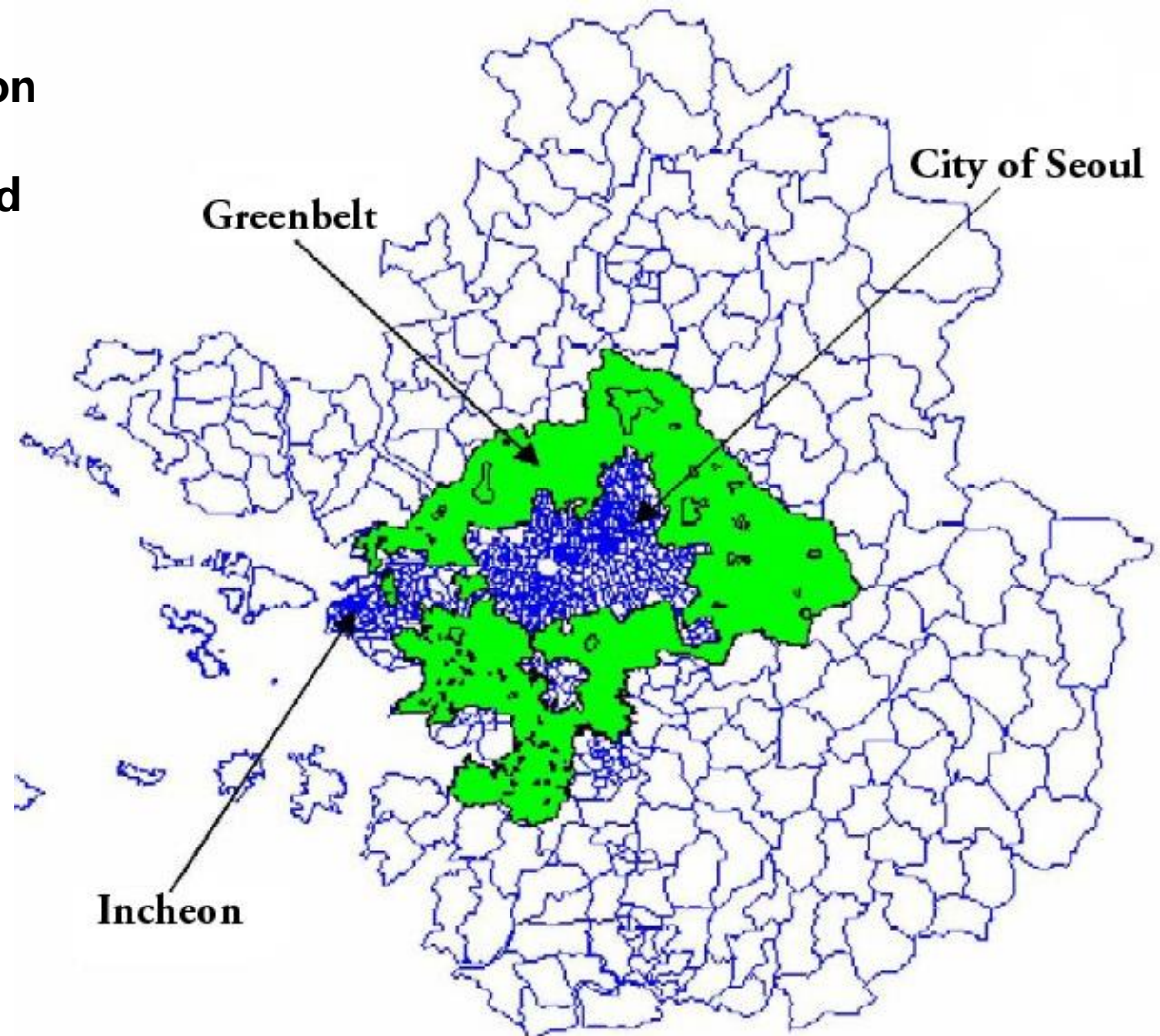


Five zones in Seoul Metropolitan Readjustment Plan

※ Green Belt

■ **Development restriction area (greenbelt) was set in 1971 around the major cities Including Seoul**

- Very strong regulation to prevent unplanned expansion of metropolitan area
- Weakened since 1999 to a degree, yet still effective
- The location of new towns rarely overlapped with GB

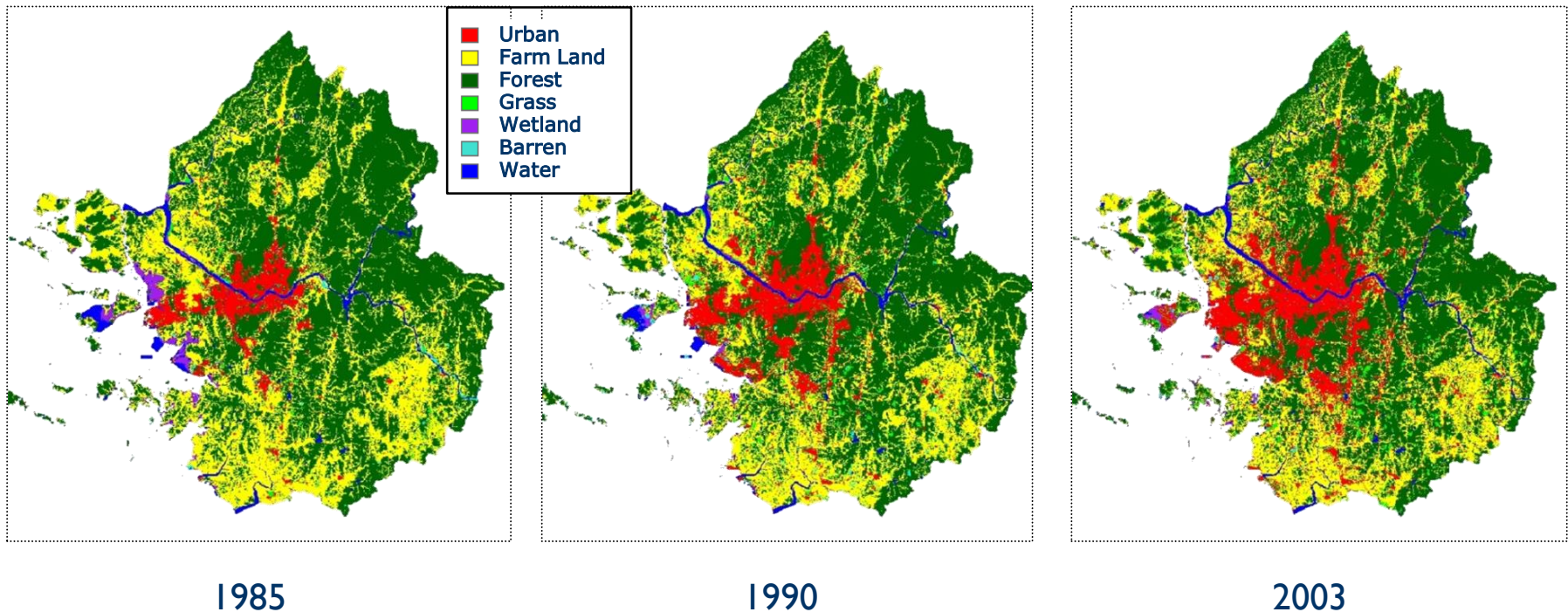


2.4 Issues of Continued Expansion of SMR

- Population Concentration in SMR
- Rising **Land Price** in Seoul
- Limitations in **Housing Provision**



- Spillover to Suburbs for Better Housing Options
- Extrusion of Middle and Low-income Class
- Exacerbated Job-Housing Mismatch

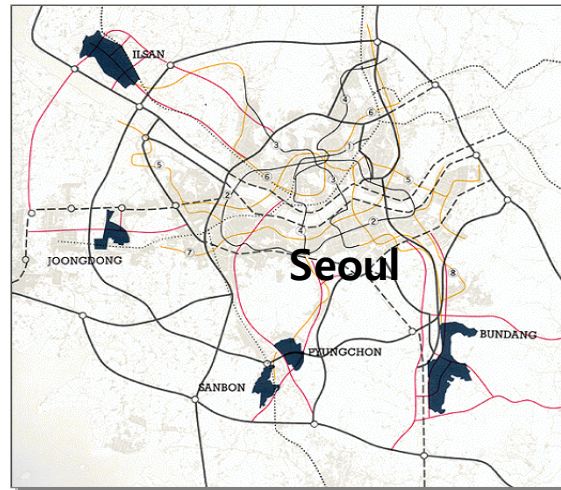


3.1 The First Phase of New Town (1)

- In spite of the growth control of Seoul, drastic increase of housing price resulted in a massive housing supply in the Capital Region
- “Contradictory” Newtown Development
 - To meet housing shortages in Seoul Metropolitan Area, **“2 million housing construction project”** was proceeded ('89-'93)



<Ilsan New Town>



<Bundang New Town>



<Jungdong New Town>



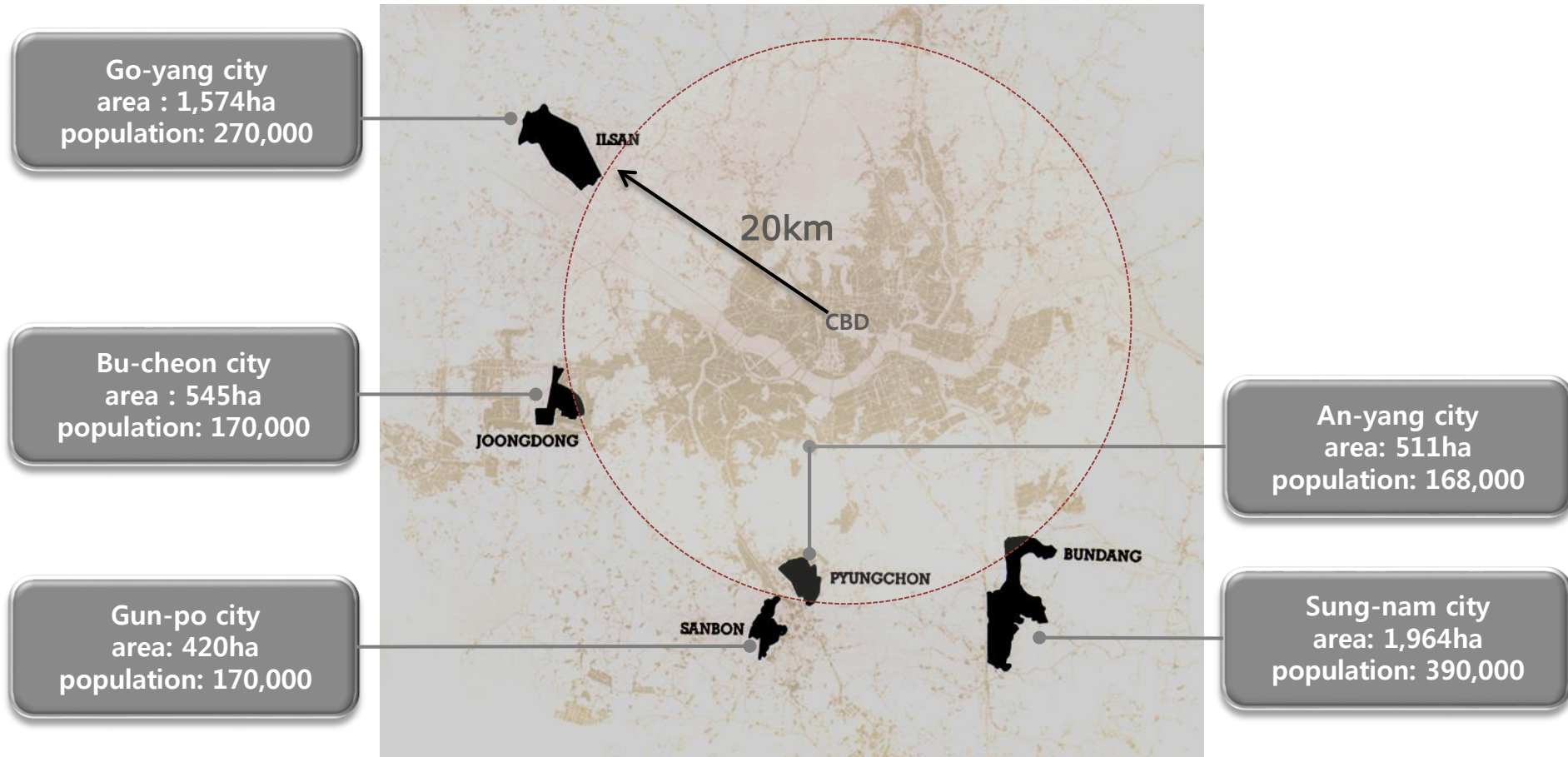
<Sanbon New Town>



<Pyungchon New Town>

3.2 The 5 New Towns in the First Phase (2)

- Housing Provision for 1.17million population in SMR
Supplied 2.14 million housing units nation-wide ('89-'95)



3.3 Bun-dang New Town : The First Phase

Bun-dang New Town

Purpose and characteristics

- self-reliant new town functioning as central business and commercial district in the Seoul Metropolitan Area along with Seoul's Gangnam area
- Pleasant suburban residential area for the middle class

Location

- Located 25km southeast of the Gannam area in Seoul, Seongnam City, Gyeonggi-do

Area

- 1,894ha

Population

- 390,000 people(reduced from 420,000 people)

No. of households

- 97,500 households

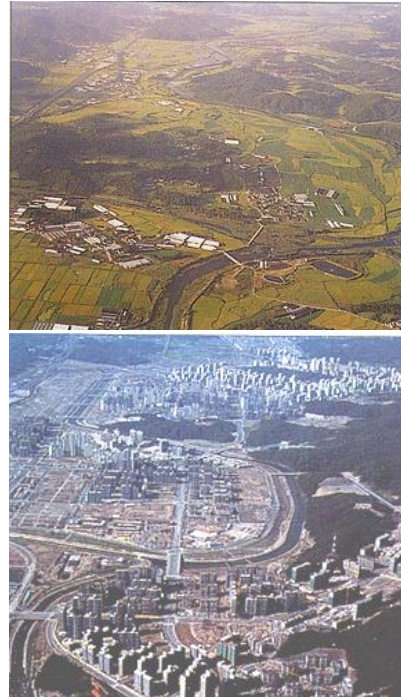
Project implementer

- Korea Land Corporation

Transfer period to local government

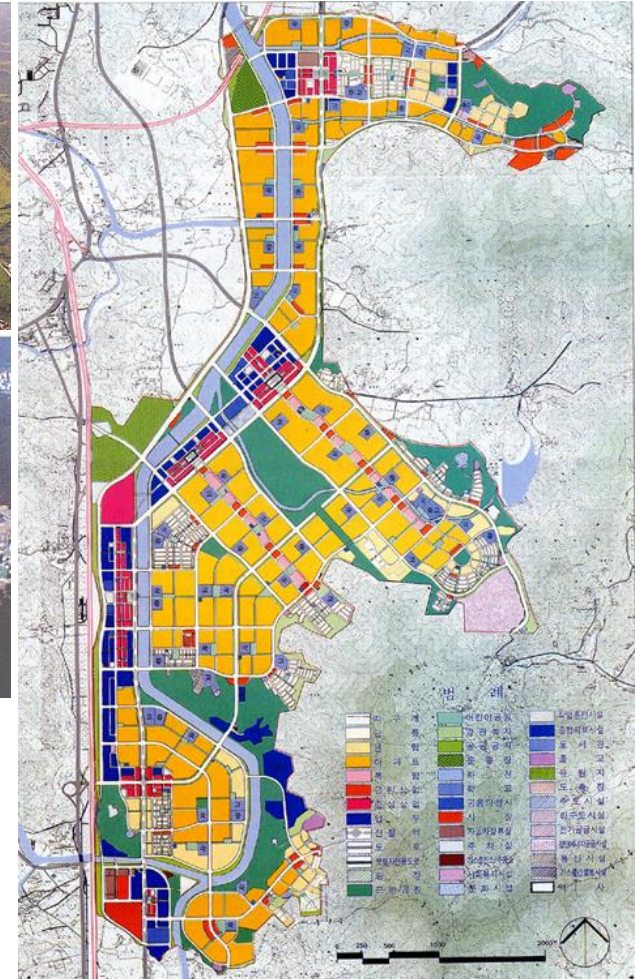
- 1993

<Before>

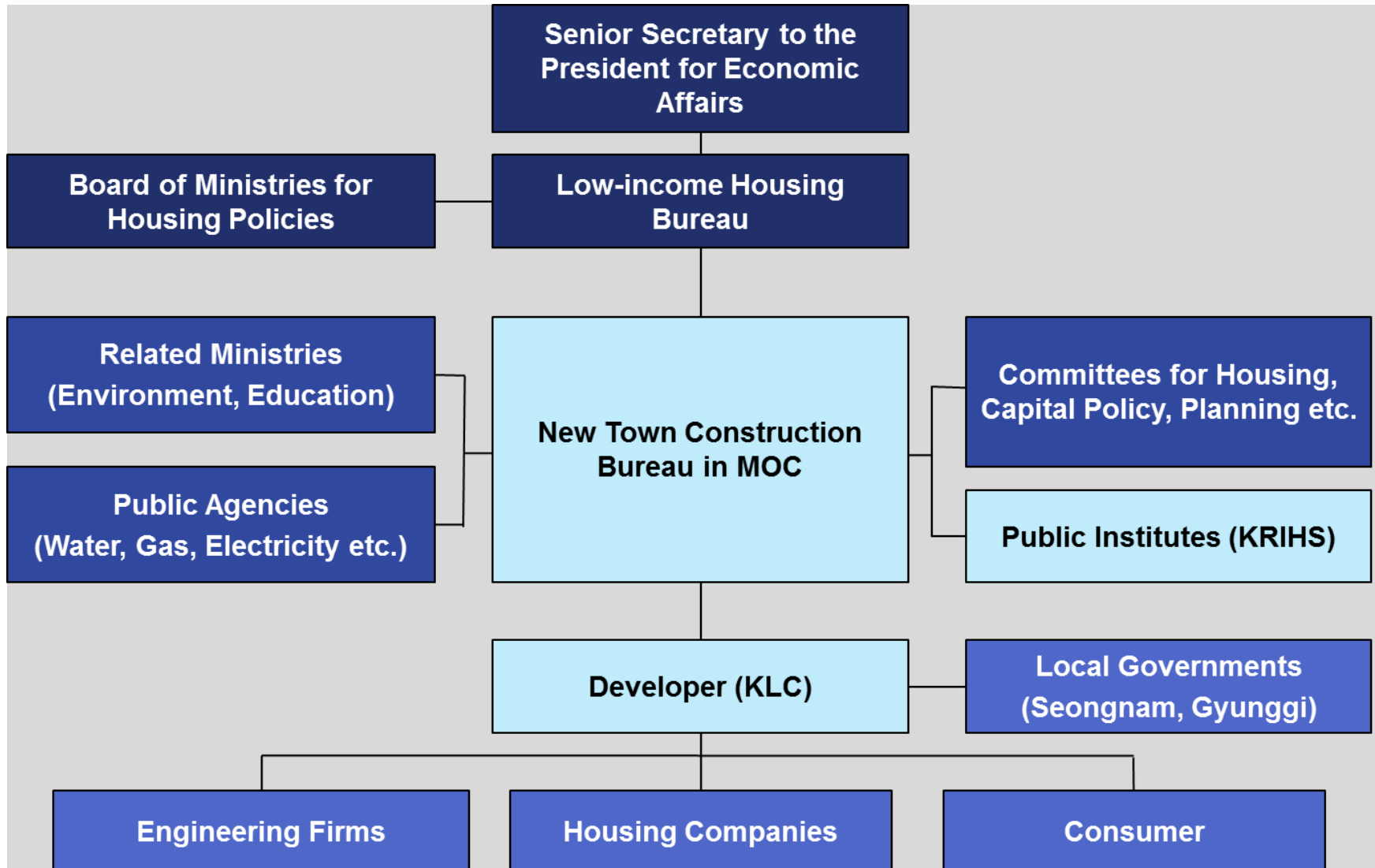


<After>

<Master plan>

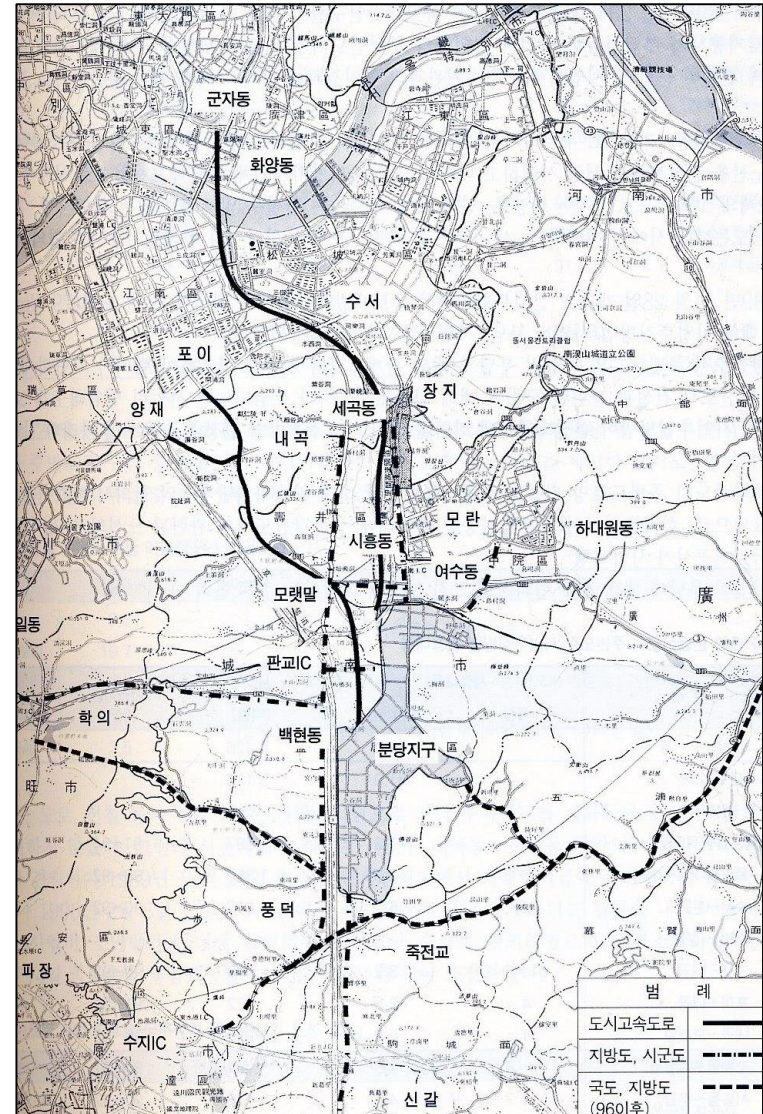


3.4 Implementation Organization of Bun-dang New Town

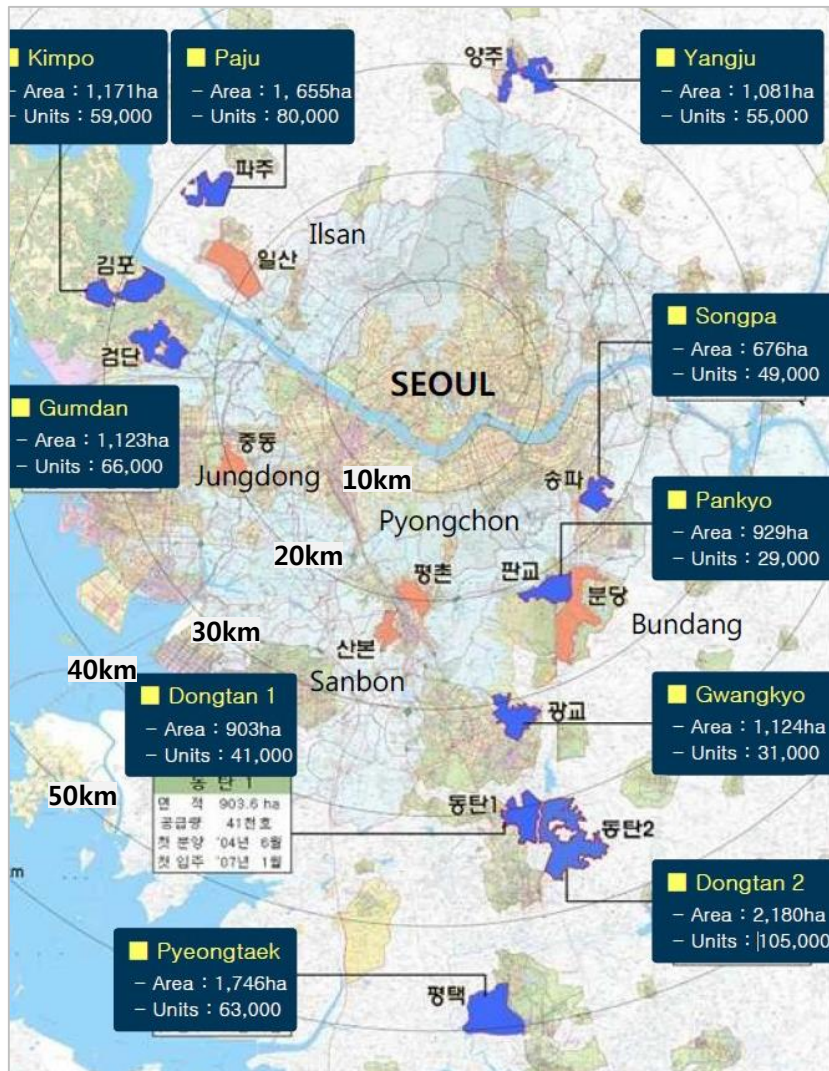


3.5 Provision of Arterial Infrastructure for Bun-dang

- The arterial infrastructures provision plan was based on the Regional Transportation Plan and Traffic Impact Assessment proposed by KRIHS
 - It was realized through several negotiation process between central and local governments, developer(KLC)
 - In the southeastern area of Seoul, 1 subway line to Gangnam area, Seoul and 11 roads connecting surrounding areas were provided by Bundang project
- The provision cost of regional infrastructure was \$1.58 bil., 37.9% of total project cost



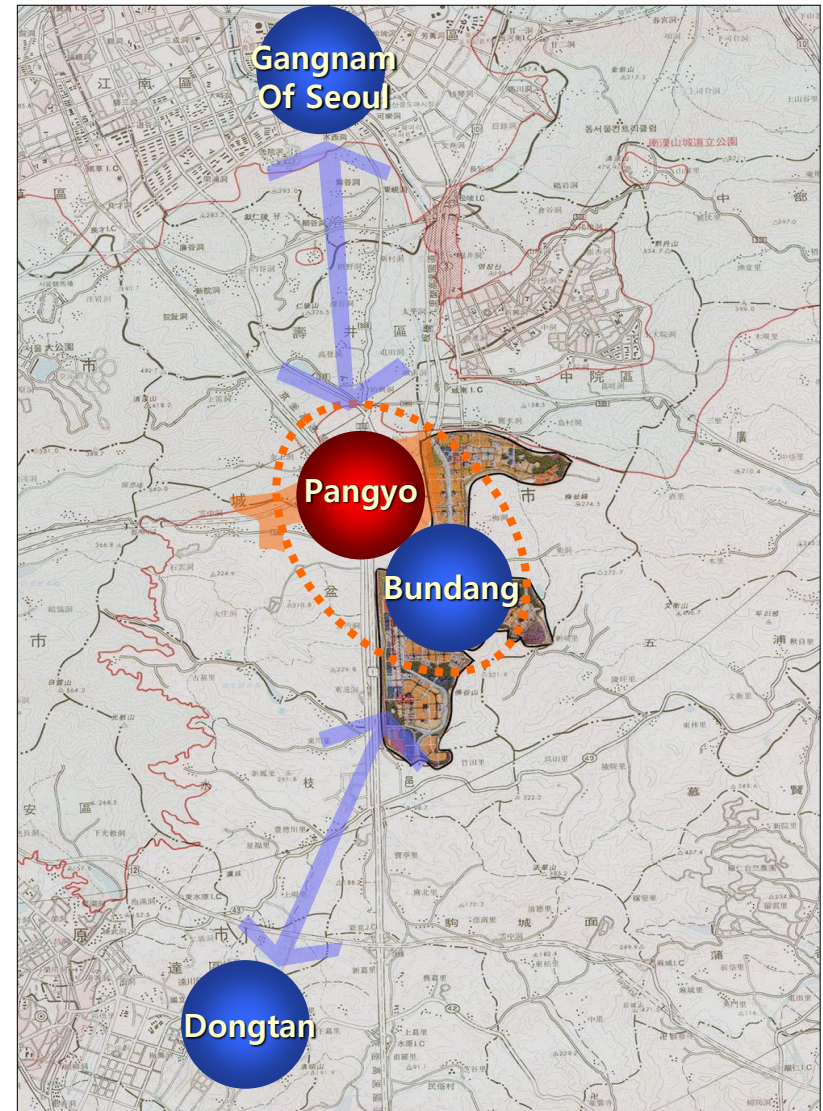
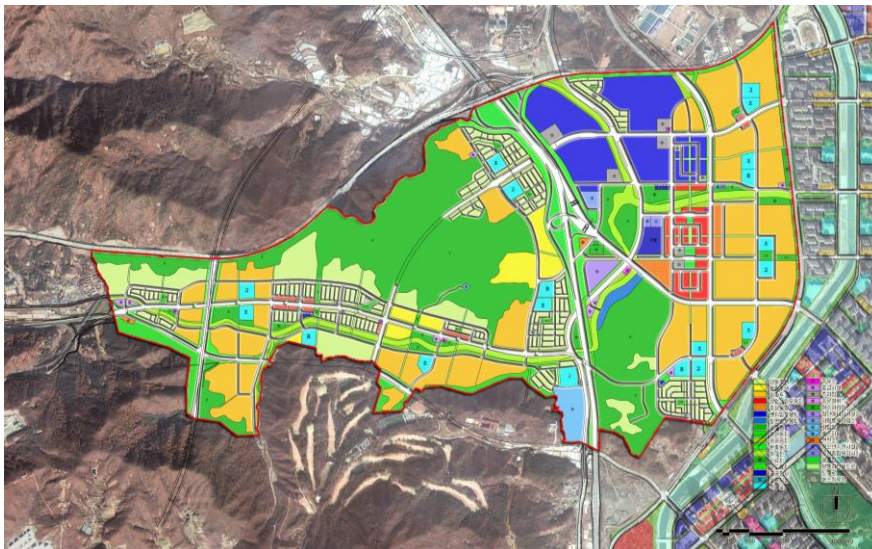
3.6 The Second Phase (2001~Present)



	Before 2000 (Five New Towns in SMA)	After 2000s
Period	1989~1995	2001~present
New Towns	Bun-dang / Il-san / Pyong-chon/San-bon / Jung-dong	Pan-gyo / Dong-tan / Pa-ju / Gim-po
Area	4,925ha	12,593ha
Pop.	1.17M (293,000 HH)	1.53M (578,000 HH)
Average density	240persons/ha	121persons/ha
Characteristics	Housing supply, Stabilizing housing price	Various theme for each new town : venture / ecological/ mass-transit oriented/ environmentally friend
Transportation	Vehicle oriented, Roads, Railways Connection to Seoul	Mass-transit oriented New system connected with vicinity area
Open space ratio	12.5~25%	25~35% Green networks
Self-sustainability	Bed-town	Self-sufficiency

3.7 Pan-gyo New Town : The Second Phase

- Good accessibility to Seoul Gangnam area within 20km
 - Adjacent to Bun-dang and Seoul-Busan Highway
 - Adopt the green and smart city concept
 - Population of 87,800 and houses of 29,300 units

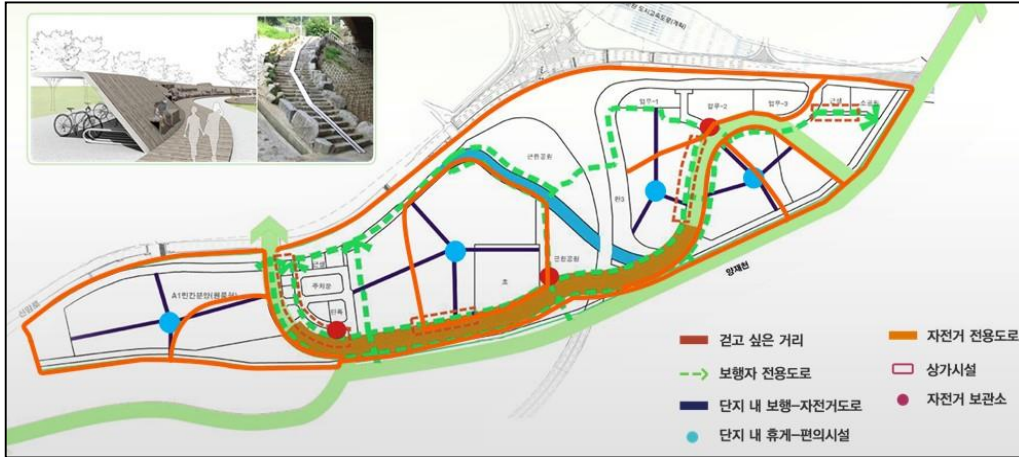


※ Conception of Pan-gyo (1): Self-sufficient Techno Valley

- Designated R&D specialized area of 660,000m² to be a core of IT industry



※ Conception of Pan-gyo (2): Ecological Green City



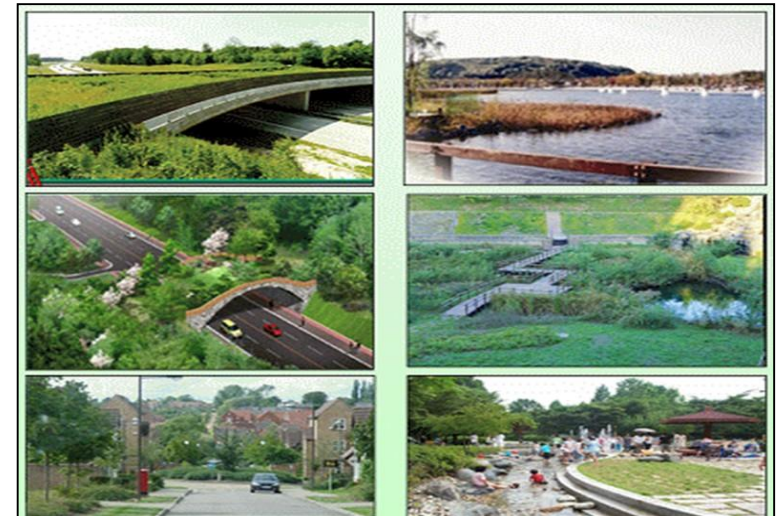
<Bicycle and pedestrian friendly design>



<Wind ways>



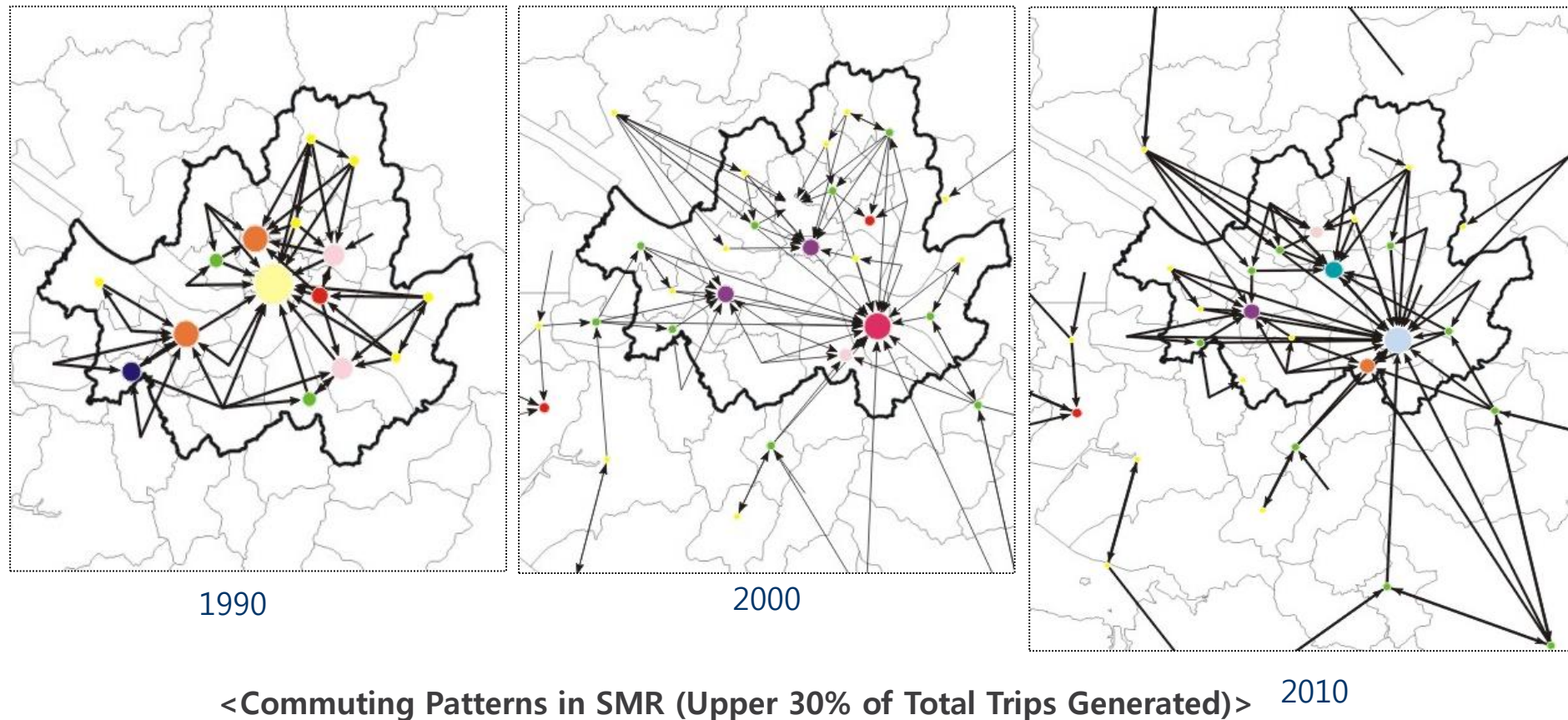
<Natural and eco design for outside spaces>



<Ecological green and water recycling system>

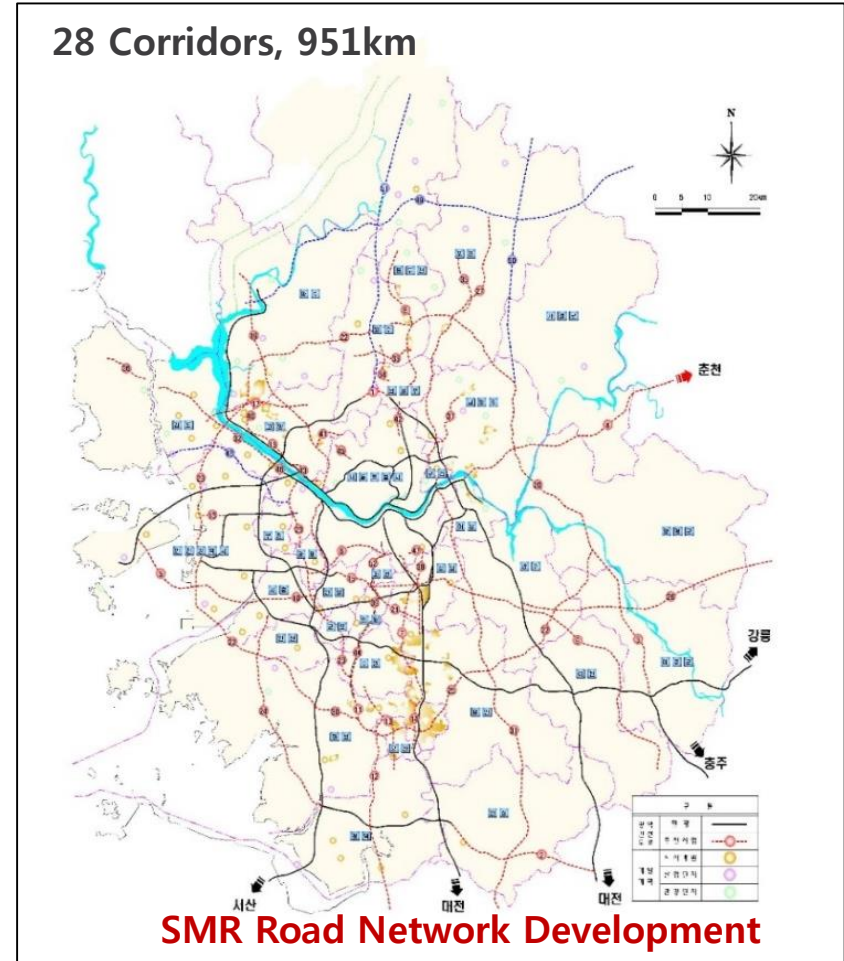
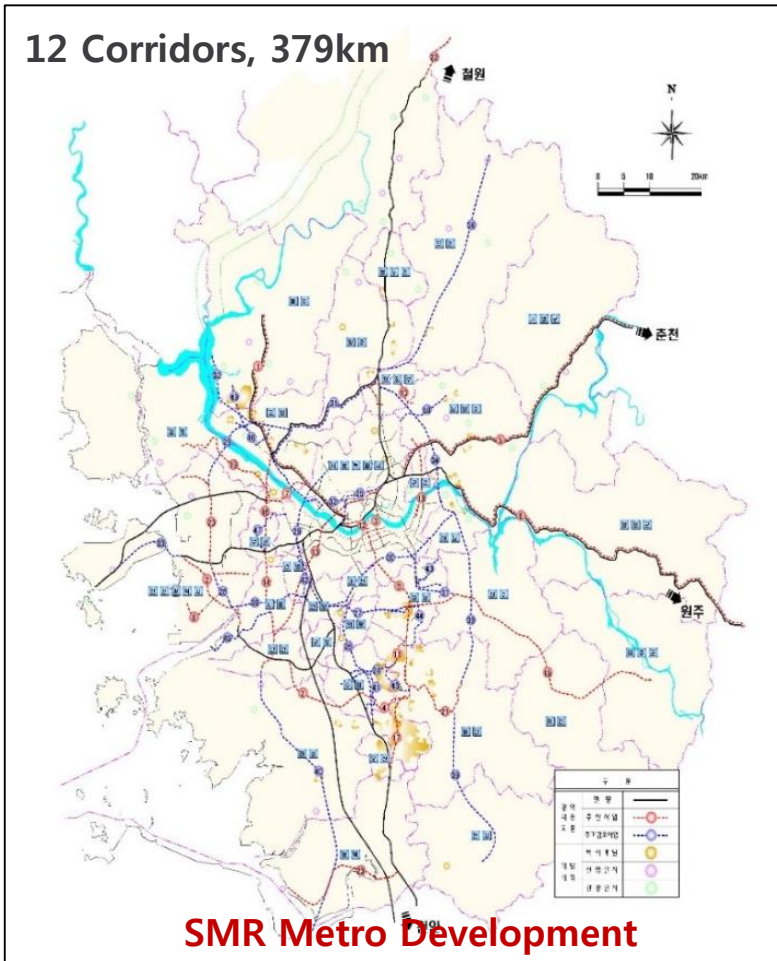
4.1 Spatial Expansion of Trips in SMR

- Expansion of Commuting Space to Metropolitan Scale
- Road Congestion Cost: \$17.44 billion in Seoul and Incheon (2012)



4.2 Metropolitan Transport Network Development (1)

- Transport Mater Plan by Central Government based on 「Special Act on Metropolitan Transportation Management」 (1997)



4.3 Metropolitan Transport Network Development (2)

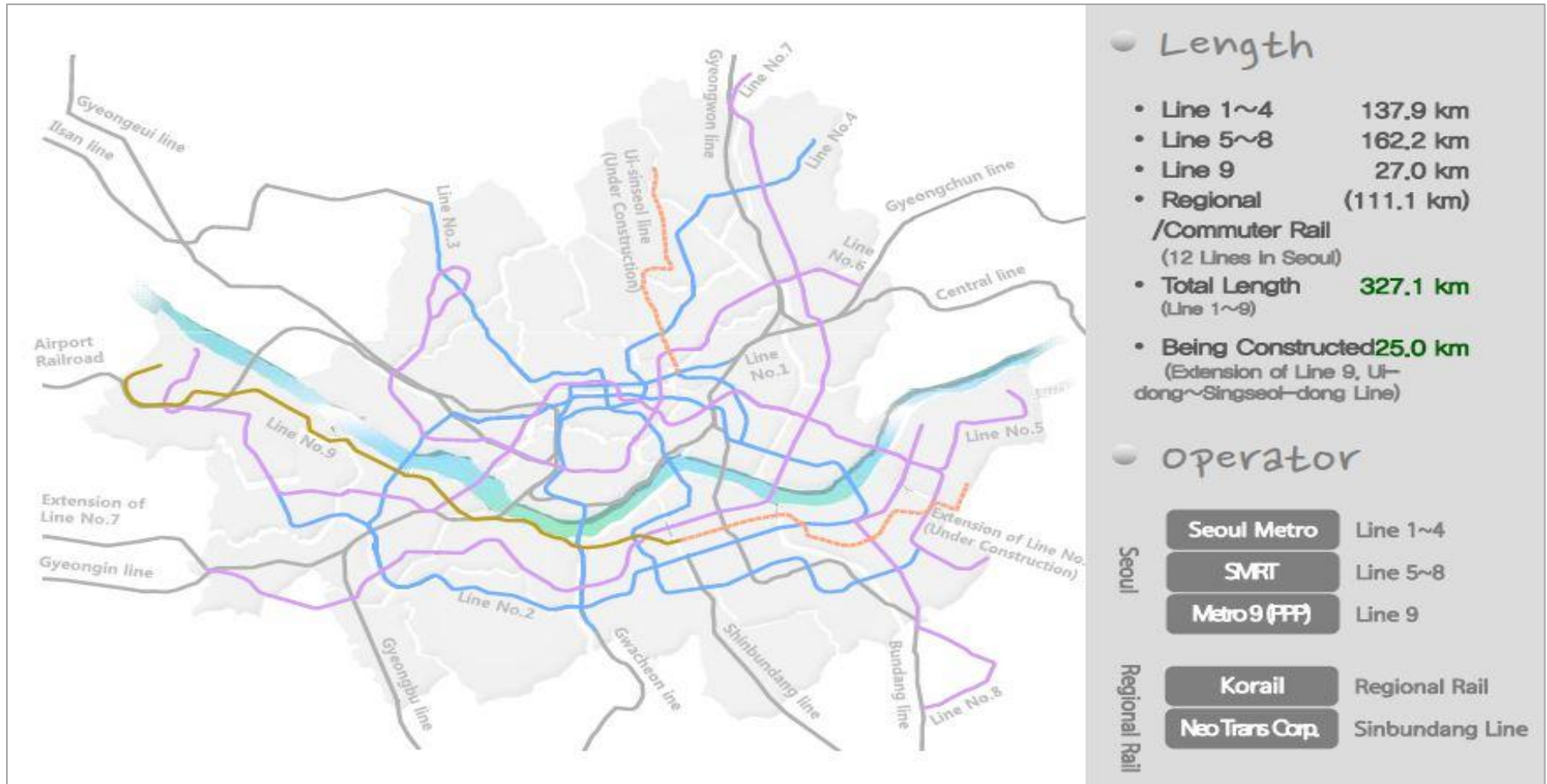
Systematic Development of Arterial Road Network (2001) (Construction of Expressway Network)

- (7×4+3 Ring) Network Plan :
 - 7 South-North Lines
 - 4 East-West Lines
 - 3 Ring expressways
- 2020 : 1,436km
- **Present : 749km**
- **Future : 687km**
 - Const. cost : 30 billion USD
 - Private : 69%
 - KEC : 18%
 - MOLIT : 13%



4.4 Public Transport-oriented Initiatives (1)

- The Expansion of Urban Railway Network: Current Subway Network: 9 lines extending 327.1 km, 7.2 M passengers per day (2.8 B per year)

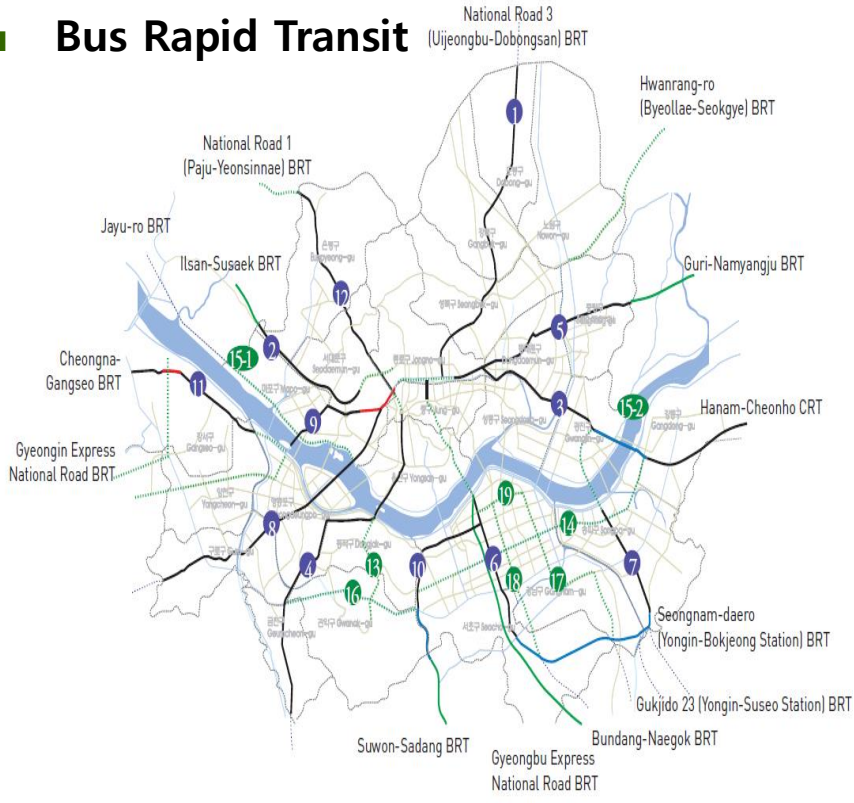


4.5 Public Transport-oriented Initiatives (2)

Transit-oriented measures:

- Redesigning bus routes (hub-spoke bus network),
- Integrated fare system through smart card,
- Semi-public operation system,
- Median bus lane system and public transfer center

Bus Rapid Transit



Bus Transfer Center



Before (Cheongnyangni Station Bus Transfer Center)



After (Cheongnyangni Station Bus Transfer Center)



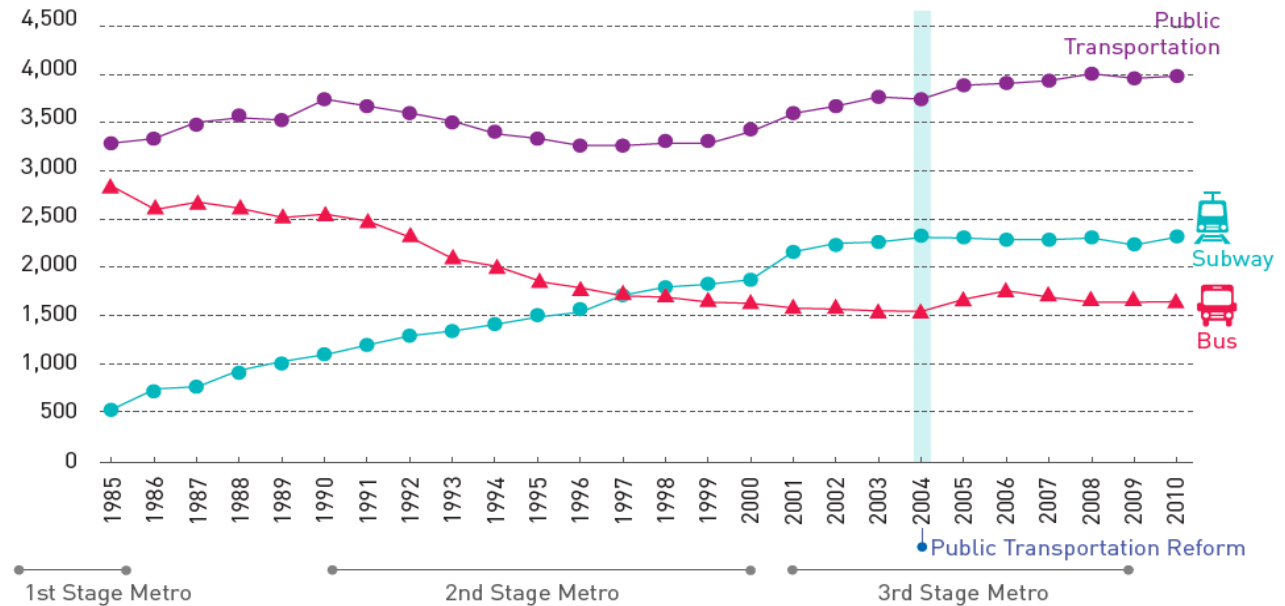
Before (Seoul Station Transfer Center)



After (Seoul Station Transfer Center)

4.6 Impacts of Transit-oriented Initiatives

Change of Ridership
(Million person)



Results of the bus route reform

Goal	Evaluation Index	Improvements
Mobility	Bus operation speed (km/h)	17.2(2003.11) → 18.1(2004.11)
Accessibility	No. of subway stations connected per route	9.66(2002.10) → 10.3(2005.6)

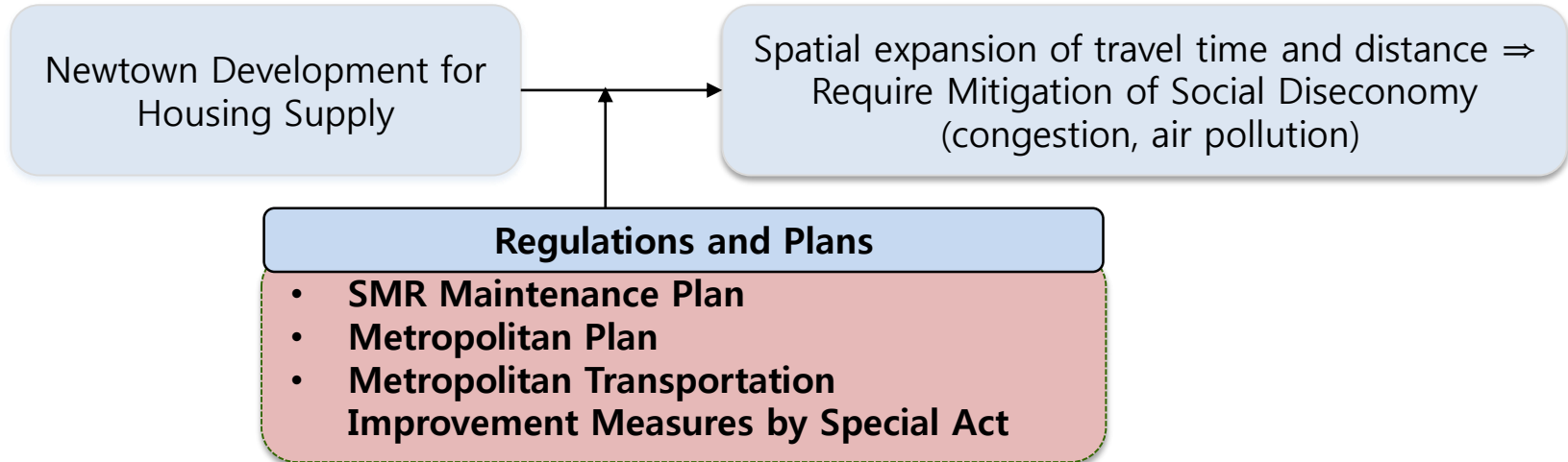
4.7 Inter-local (Regional) Collaboration in SMR

- Capital Region Development Committee (2009~2013)
 - A government agency established in Oct. 2009 under the Special Act on Balanced National Development
 - Aiming at promoting collaboration btw Seoul, Incheon, and Gyeonggi and effectively advancing with regional economic development projects
 - Joint Chairmen : Seoul, Incheon mayors, governor of Gyeonggi province

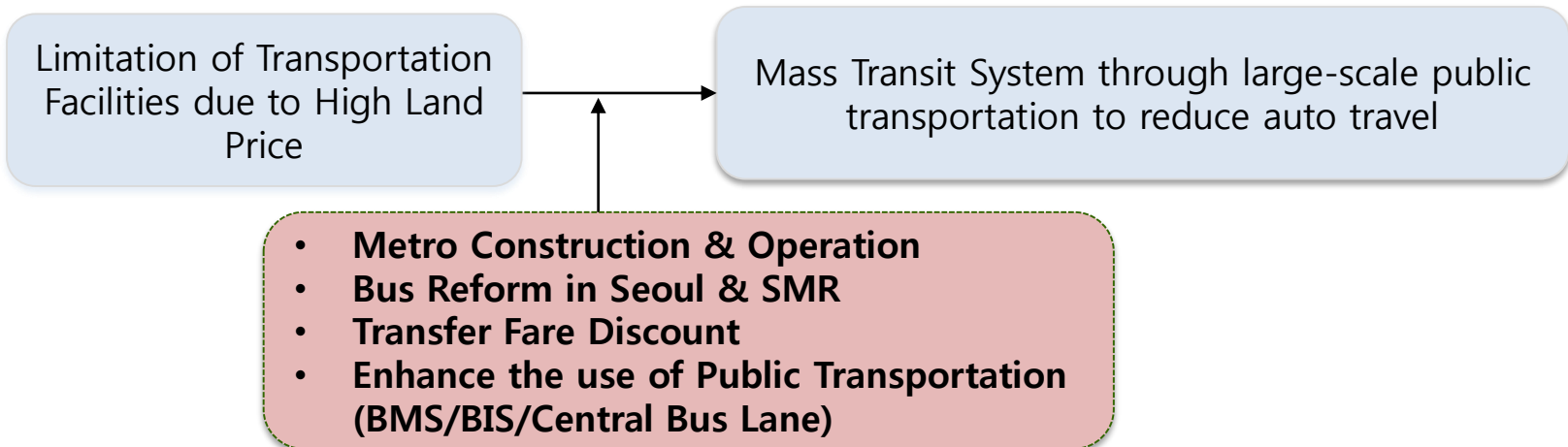
- Metropolitan Transportation Authority (2005~present)
 - Functions include;
 - Establish metropolitan public transportation comprehensive plans
 - Build metropolitan Bus Rapid Transit(BRT)
 - Consultation-adjustment of metropolitan transportation policy
 - Consultation-adjustment of road-rail plan connecting more than 2 cities-provinces
 - Transfer facility system construction of metropolitan intraregional transportation & public transportation

5.1 Successful Aspects

■ Initiatives by the Central Government



■ Timely Provision of Mass Transit System and Regional Coordination



5.2 Limitations

■ Top-down Planning Approach led by Central Government

- Land use and transportation plans established without sufficient coordination
- Inconsistency with upper plans (SMR Maintenance Plan and Metropolitan Plan) in the process of preparing Basic Urban Plans by the local government

■ Ineffective Governance

- Governance framework does not work well
- Limited roles and functions of Metropolitan Transportation Authority (MTA)
- Lack of investments for Transportation Improvement Project in Municipal level

■ Weak linking between Metropolitan Plans and Budgets

- Strict fund matching requirement to local government
- Cost Share by Locals: Metro (25%), Metropolitan Roads (50%)
 - Delay in project implementation

5.3 Current Status of Seoul Metropolitan Region



(As of 2016)

SMR

- **Area : 11,747km²**
- **Population : 25.66 million**
- **Vehicle : 9.48 million**

11.8% of Area

49.03% of population

44.36% of vehicles

49.4% of GRDP₍₂₀₁₅₎

Seoul City

- Area : 605km²
- Pop. : 9.9 million
- Vehicle : 3.07million
- 24 districts

Gyeonggi Province

- Area : 10,184km²
- Pop. : 12.76 million
- Vehicle : 5.02 million
- 31 cities & counties

Incheon City

- Area : 1,010km²
- Pop. : 2.94 million
- Vehicle : 1.39 million
- 10 districts & counties

5.4 Further Questions

■ SMR is still over-concentrated!

- In spite of the robust growth control and decentralization policy

■ Vicious circle of SMR new town and more transportation investment

- Mismatch of housing demand and supply in SMR →
- Need to construct more new town →
- Have to increase investment in transportation infrastructure →
- Bigger demand in SMR and more (or never less) concentration in SMR → → →

■ Does SMR need more new towns?

■ What do we do about SMR for “Balanced National Development”?

- SMR as the primary growth engine of Korea
- SMR vs. the rest of the country: antagonistic disparity?

