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Healthy Urban Planning in Seoul, Korea

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Background

Rapid Urban Changes in Seoul

Photo source: City of Seoul

Photo source: Jeong Yo-han

- **1953, the year of ending the Korean War**

  population : 1,010,416 (Seoul)

  Per capita national income : 67 US Dollars

- **2013, now**

  population : 10,438,000 (Seoul Metropolitan Area) (as of March 2013)

  per capita national income : 23,745 US Dollars (as of Year 2012)

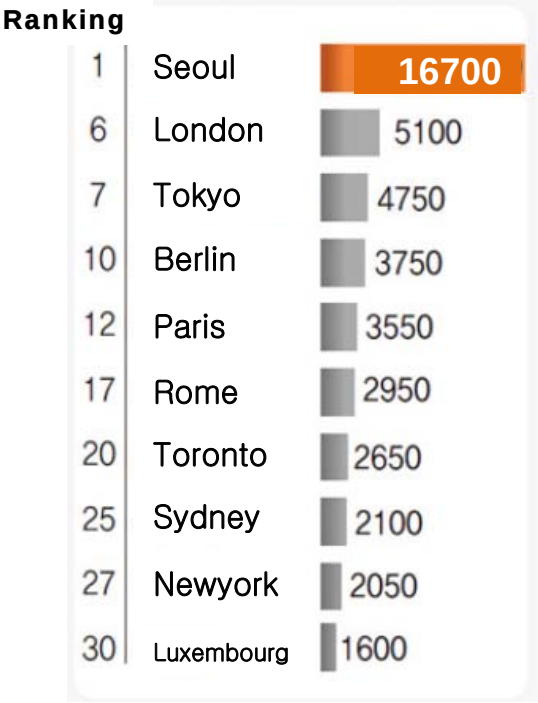
Background

Population concentration and density in Seoul

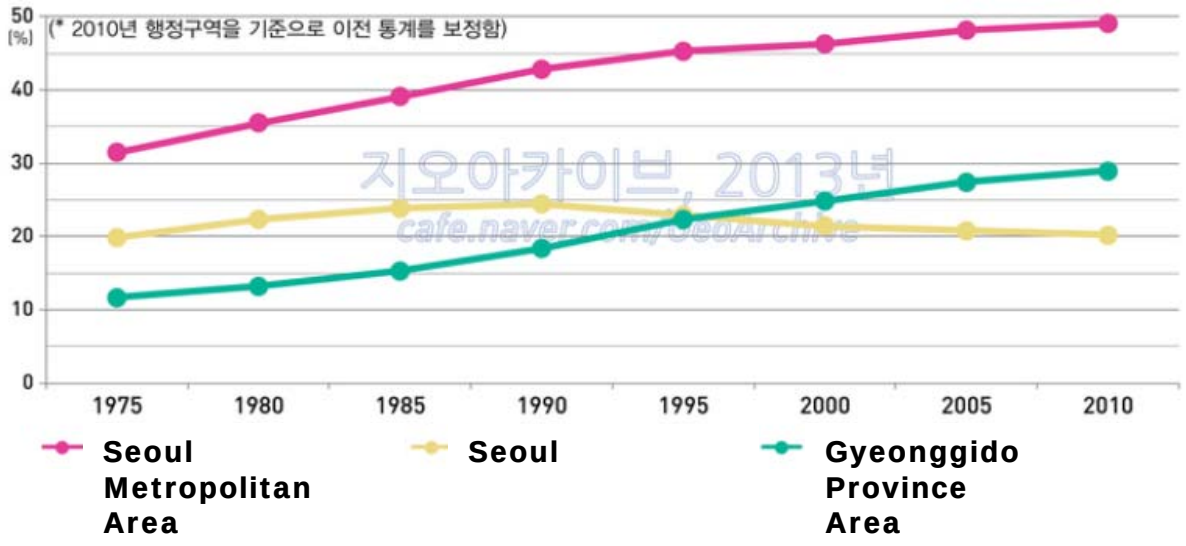
A quarter of the South Korean population resides in Seoul

The highest population density among OECD capital cities

Highest population among OECD capital cities (person / km²)



Population concentrations in Seoul and the capital region (1975-2010)



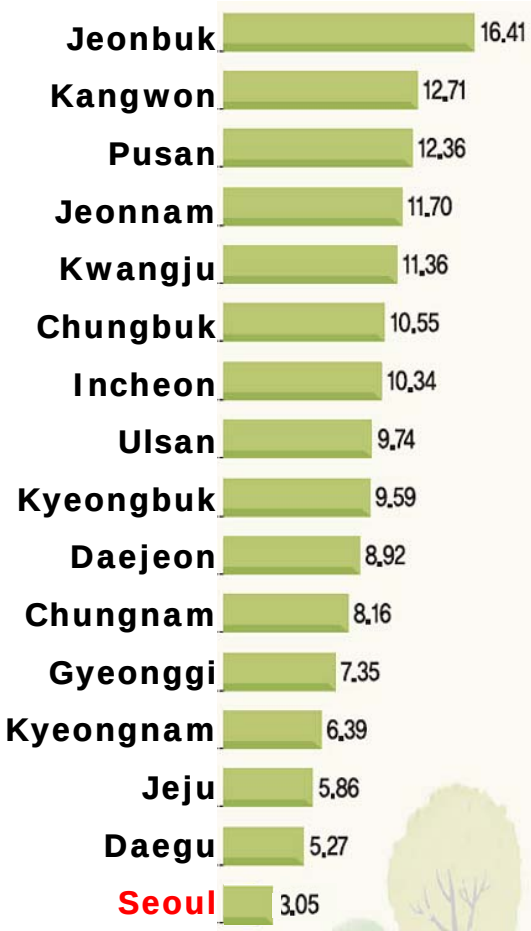
Information source : Korea Research Institutes for Human Settings, 2010

Background

Areas of urban forest in Seoul

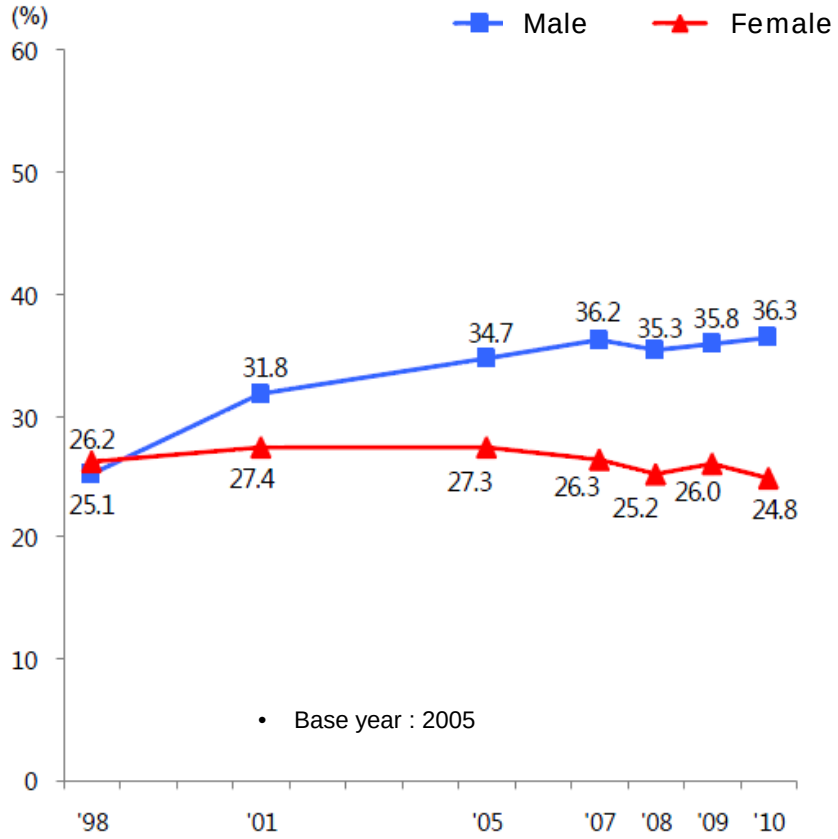
- **Total area of Seoul : 605.25 km²**
- **Total park area : 169.79 km²**
- **Per capita park area : 16 m²**
  (Mountains in Seoul are included)
- **Per capita urban forest area: 3.05 m²**
- **WHO recommendation of per capita urban forest area: 9m²**
- **Other countries' per capita urban forest area:**
- **Paris 13 m²; New York 23 m², London 7 m²**

Per capita Urban Forest Area In Korea
(㎡ / person, 2009)

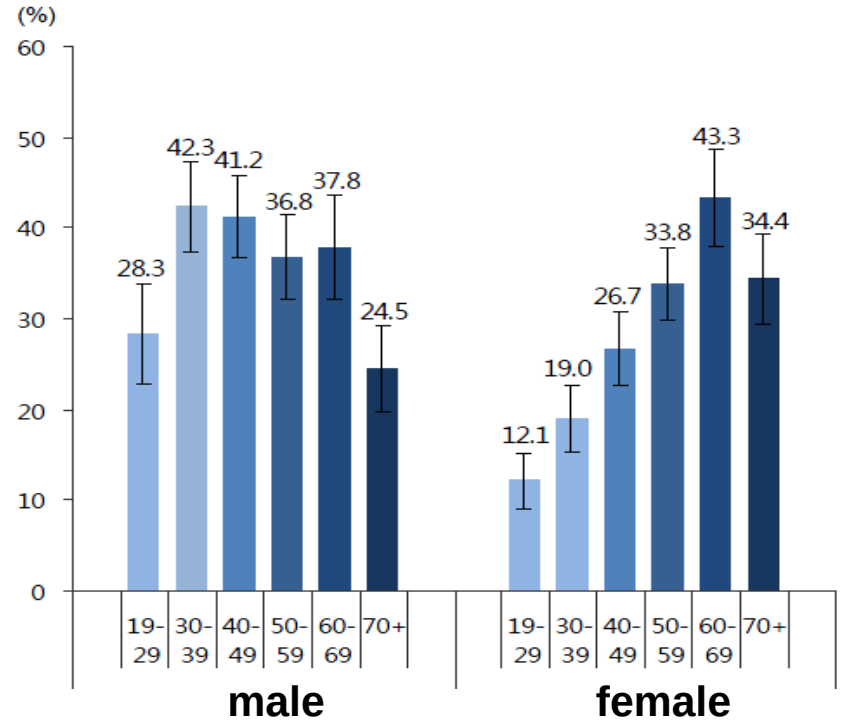


Health Risks in Seoul

Prevalence of Obesity by Gender



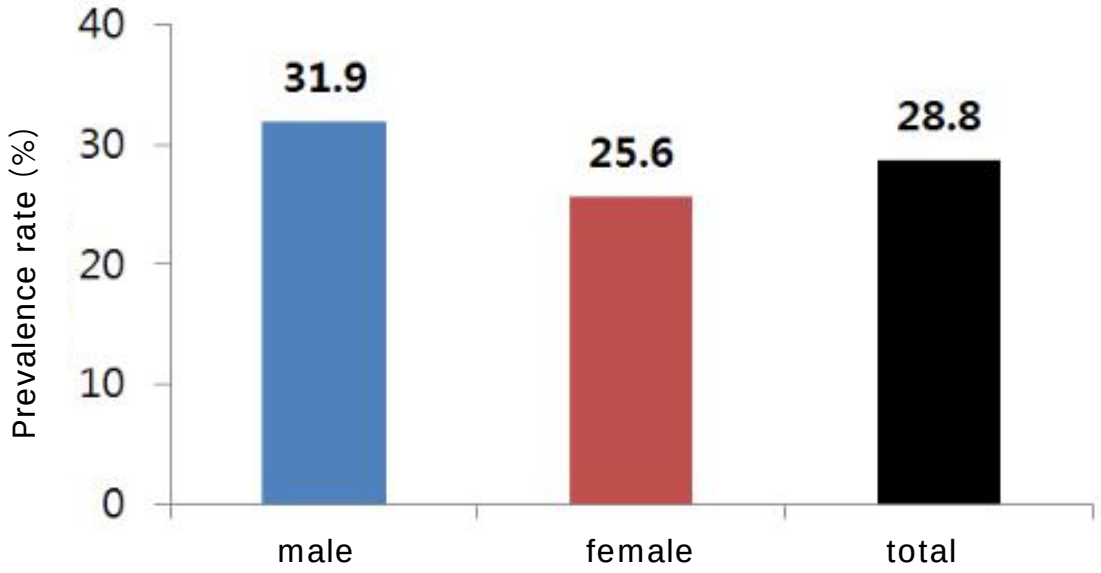
Prevalence of Obesity by groups of age and gender



- **Obesity rate : adults over 19 years old : average 30.8 %**
  (male 36.3 %; female 24,8%)
  (30s ~40s male 42.3%; 60s~70s female 43.3%)

Health Risks in Seoul

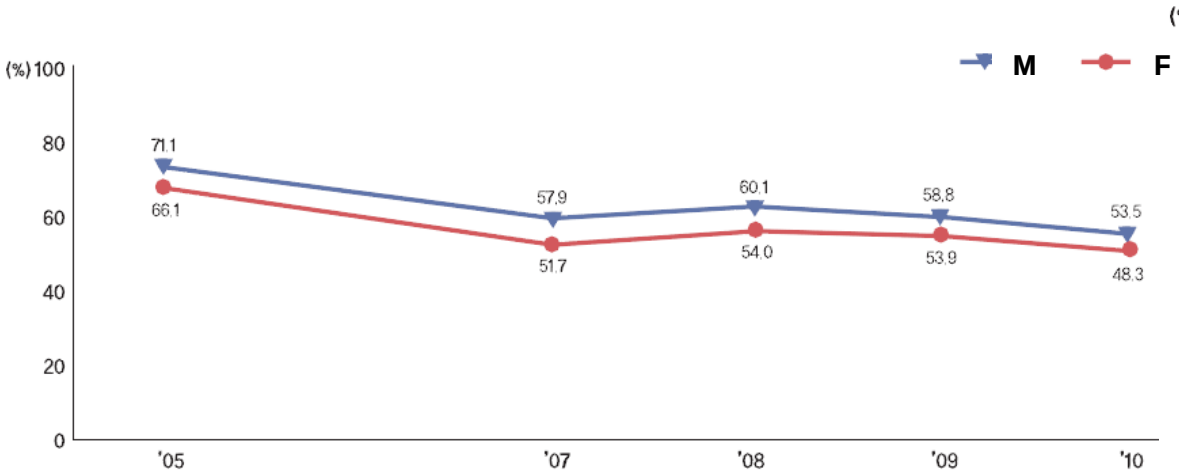
Prevalence of Metabolic Syndrome



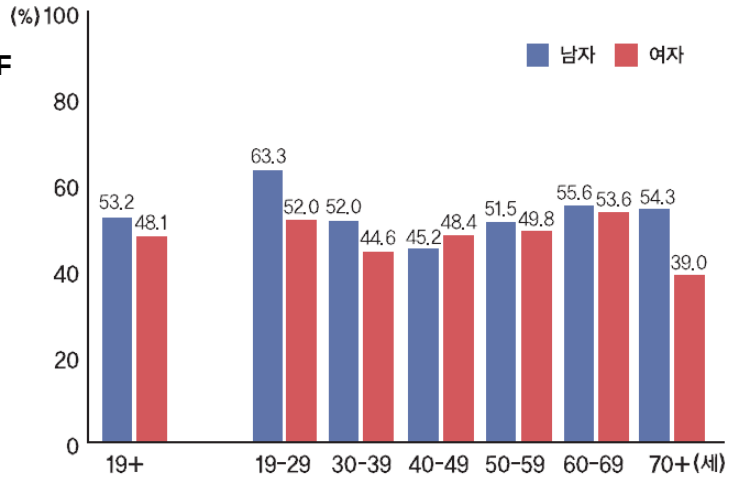
- **Korean National Health and Nutrition Examination Survey (KNHANES) 2007-2010**
- **Adults over 30s : Male 31.9%; Female 25.6; Total Average 28.8 %**
- **Risk of Metabolic Syndrome by gender and professions: Groups with highest risk**
  Female : House-wives Male : Office workers

Health Risks in Seoul

Prevalence of physical activities



By years



By age groups and gender

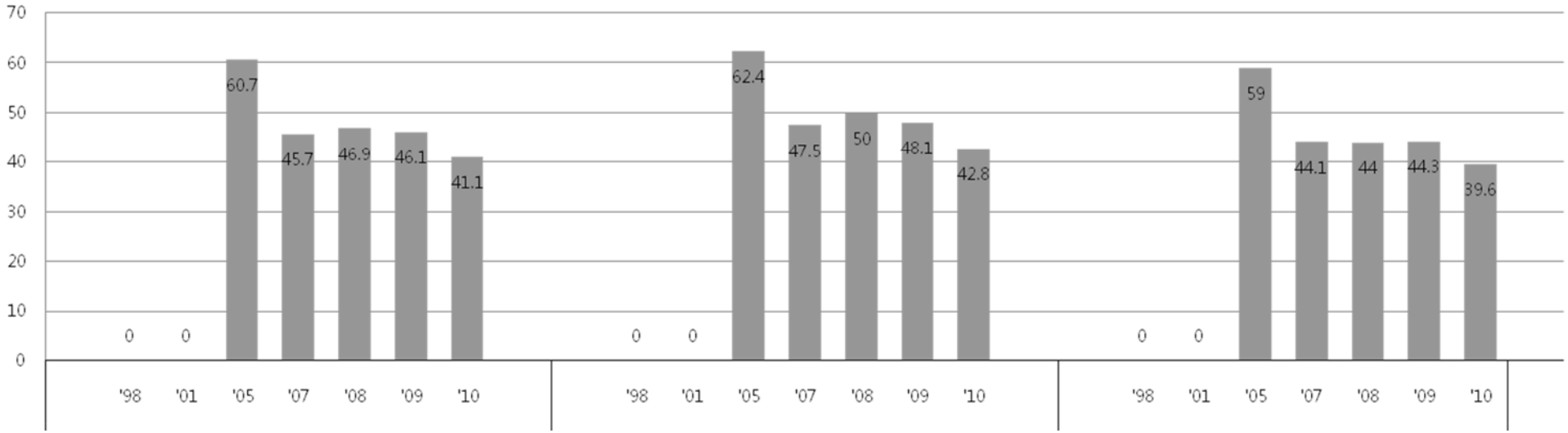
- **Prevalence rate of recommended physical activities of moderate intensity, including walking, decreases every year**

- **Smoking and alcohol use are increasing, whereas physical activity is decreasing and nutrition is getting unhealthy at the same time during 2008-2010.**

2010 Korean National Health and Nutrition Examination Survey (KNHANES)

Health Risks in Seoul

Changes in adults' walking amount according to the recommendation of 30 minutes per day



Korean National Health and Nutrition Examination Survey (KNHANES)

Between 2005 and 2010, walking decreased by 19.6%

Urban Planning in Seoul

Changes of urban planning paradigms in Seoul

- During the compressed urban growth period, urban planning in Seoul contributed to the fast provision of housing, roads, water supply, sewage treatment, and other urban infrastructures.
- Conserving natural environment and cultural heritages tended to be a relatively lower priority to pro-development projects .

Clearance and development of new apartment housings

Photo source: Citizen's Seoul

Residents' protest against massive total redevelopment

Photo source: http://naver.com

Urban Planning in Seoul

Changes of urban planning paradigms in Seoul, around late 1990s

New Constructions Renewal, Redevelopment	Regenerations
Pro-growth, growth-focused developments	Smart growth, or growth managements
Productive values	Balancing, redistribution of wealth welfare
Business, economic values efficiency, top-down, elite	Cultural values social appropriateness, bottom-up, community
Automobile- oriented	Pedestrian-oriented
Physical environment	Physical and Social environments

“Sustainable Development”

Healthy Urban Planning in Seoul

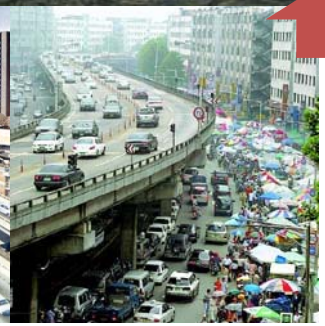
Model projects pursuing the quality of life and livability in Seoul

The Cheonggyechon Stream Restoration Project (2003-2005)

After the Korea war, the stream and environs

1960s and 70s, new constructions, covering the stream

2005. Restoration completed



1980s, 90s. Crowdedness with cars

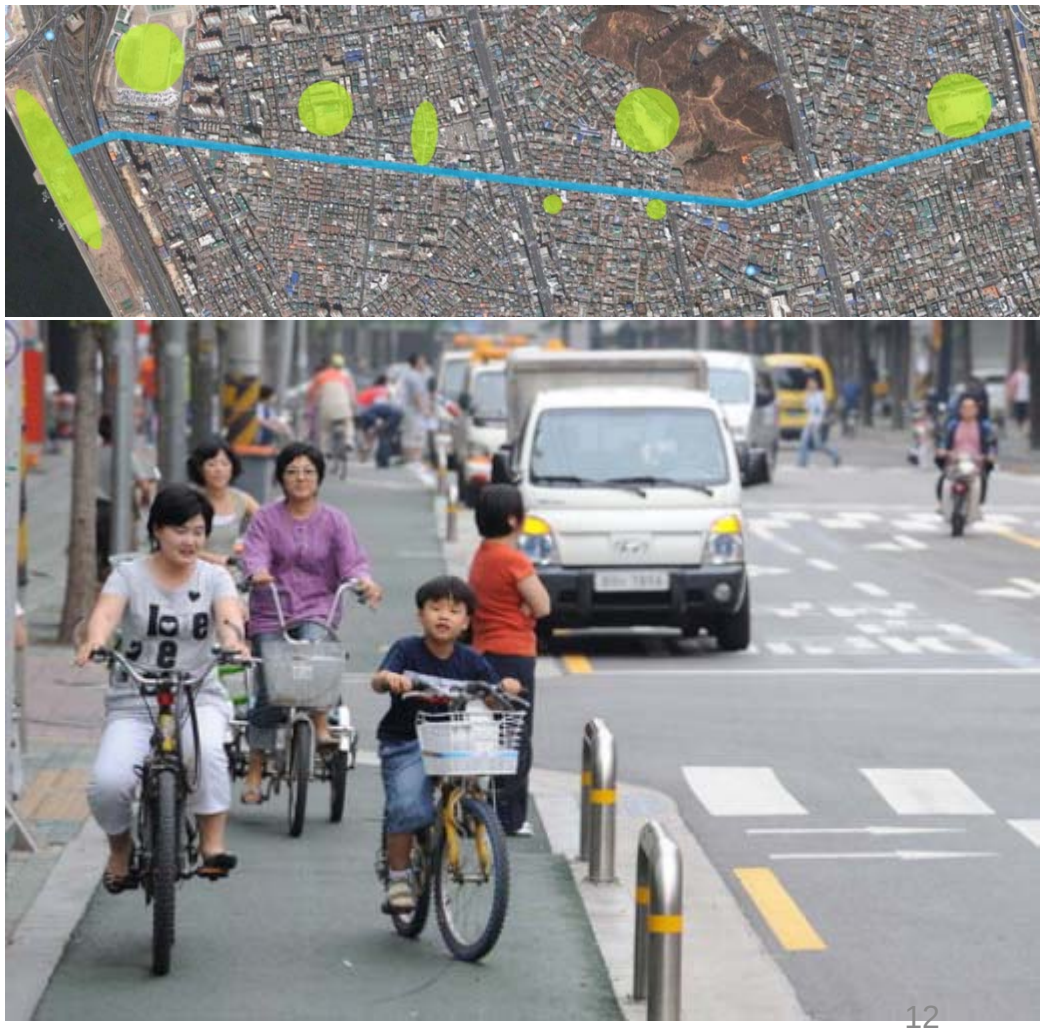
sources:http://naver.com

Healthy Urban Planning in Seoul

Model projects pursuing the quality of life, livability in Seoul

Street improvements for walking and biking

- Re-arranging street environment for pedestrians
- Providing bike lanes
- Participatory designs, community actions
- About 610,000 USD for bike path budget
- A case of Mangwon-ro bike path, 2007



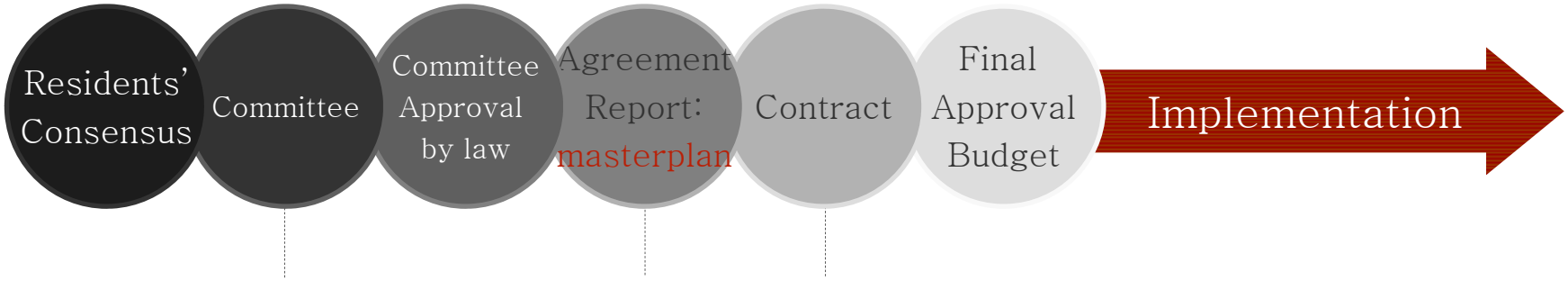
Mangwon-ro Bike path

Healthy Urban Planning in Seoul

Model projects pursuing the quality of life, livability in Seoul

Landscape agreements, a participatory neighborhood design case (2009)

- From top-down redevelopment approaches
- To bottom-up, participatory neighborhood improvement approaches

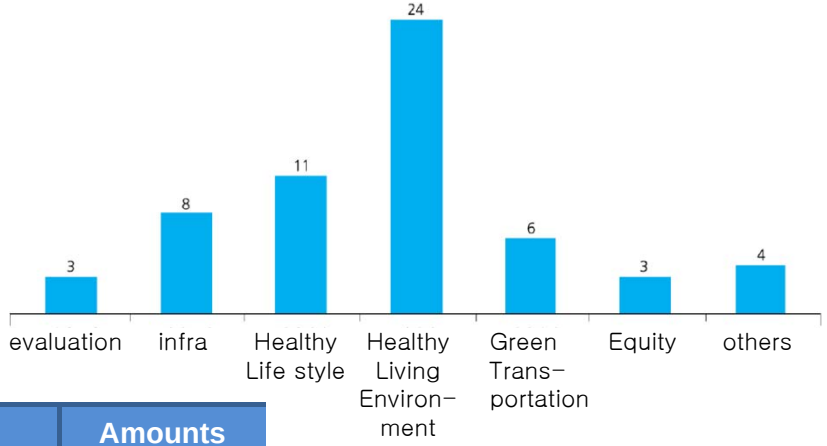


WHO's Healthy Cities Program in Seoul

Representative model projects of 2010

- **Healthy Living Environment Projects**
  (40.7% of the total Healthy Cities Projects)

- Healthy Lifestyle Projects (18.6%)



Items	Healthy Cities Projects	Amounts
Evaluation	Healthy cities application and approval	3(5.1%)
Infra	Healthy cities networks, preparation for works Healthy cities profiles	8(13.6%)
Healthy life styles	Health promotion: reducing smoking, alcohol, Encouraging physical activities, nutritions	11(18.6%)
Healthy living environment	Residential neighborhoods, schools, work places, hospitals, restaurants, markets etc	24(40.7%)
Green transportation	Healthy transportation, green transportation, road safety Green industry	6(10.2%)
Equity	Minority groups, handicapped,	3(5.1%)
others	others	4(6.8%)
total		59(100%)

Health education
Spatial improvement
Appx. 1,800,000 USD/ year 2010

Source: 2010 Healthy Cities Report, Korea Ministry of Public Health and Welfare

WHO's Healthy Cities Program in Seoul

1) Healthy Living Environment projects of 2010

•Representative model project of Healthy Cities in Seoul

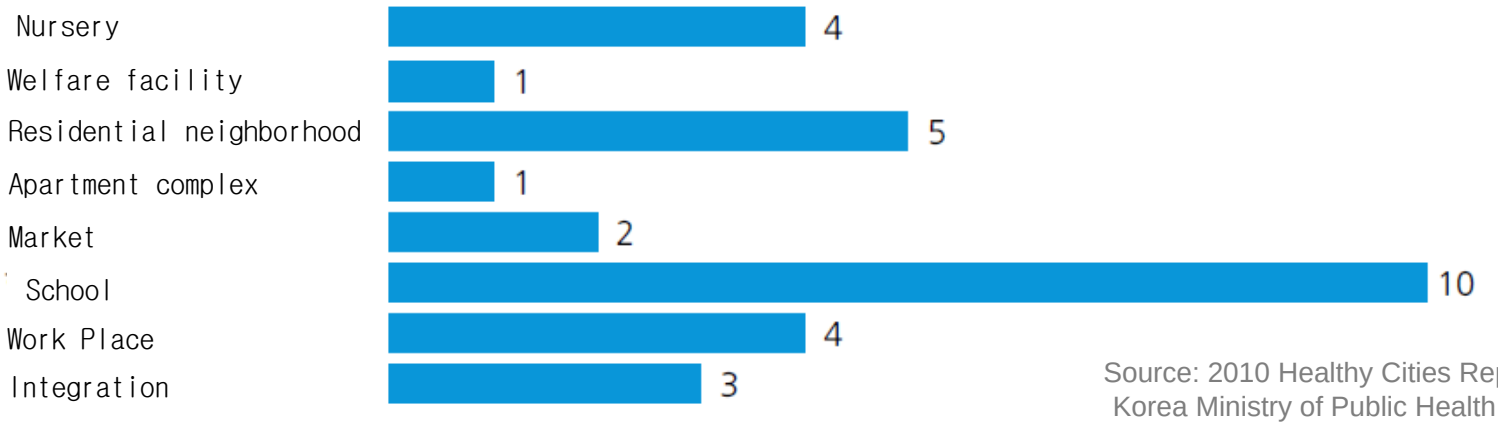
•Settings: Schools, work places, apartment complexes, shopping centers, traditional markets, residential neighborhoods, hospitals

•Goal: To improve health by improving environments

•Coordinator: Local Public Health Center

•In 2010, about 30 model projects were implemented

•In 2010, schools were the major project setting with 10 cases (33%)

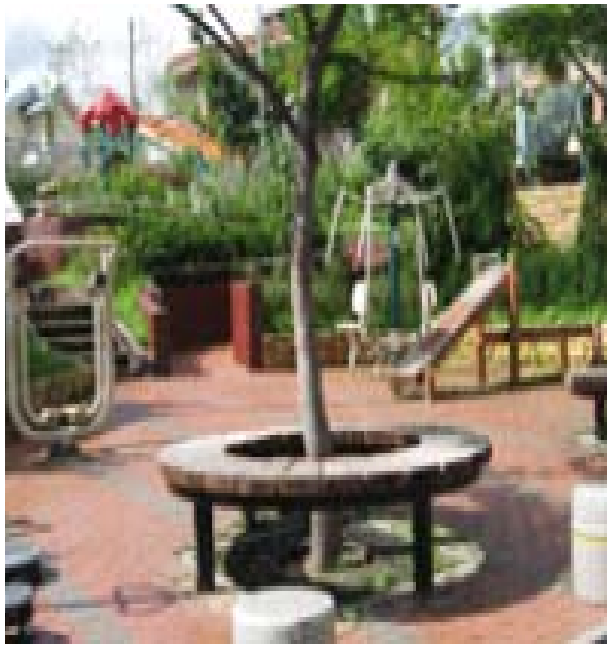


Source: 2010 Healthy Cities Report, Korea Ministry of Public Health and Welfare

WHO's Healthy Cities Program in Seoul

2) Healthy Living Environment projects of 2010:

The Case of Dobonggu-District



Provision of neighborhood exercise facilities

Neighborhood walking circles

Health education through forums (2010)

Preparation – Health Education Programs – Capacity Building – Improvement of Environment - Evaluation

source: http://h-cities.dobong.go.kr

WHO's Healthy Cities Program in Seoul

3) Healthy Living Environment projects of 2010:

The Case of Gangdonggu-District : urban green way routes

Gangdong Green-way Routes

Establishment of urban green way routes

Encouraging physical activities

Supporting Walking clubs

Award Winning Project: 2012, 5th WHO West Pacific Healthy Cities Alliance Conference, Improving Physical Activities Section

source: http://www.gangdong.go.kr

WHO's Healthy Cities Program in Seoul

4) Healthy Living Environment projects of 2010:

The Case of Gangnamgu-District : Ubiquitous Health Park Project

- RFID (Radio Frequency Identification) installed along the Yanggaecheon stream of 3.75 Km. U-health Management system established every 300 m in the park along the stream (2010. October)
- Gangmangu-District Public Health Center and the visitor center of the Yanggaecheon Stream : U-Health Centers, RFID environment
- With RFID cards, residents get health checks, physical activity consultations, nutrition advices

Photo source: http://naver.com

Healthy Cities Program in Seoul

5) Healthy Living Environment projects of 2012:

The Model Project of Health-Friendly Neighborhood in Seoul: Yechon Village

2 model projects in 2012; 50 model projects in 2014, supported by the City of Seoul

Health Campaign

Health Consultation

Yechon Village Network Meeting

Survey of Local Health Behaviors and Needs
Residents' participation in stopping smoke and alcohol
Female Health Education for Walking and Nutrition
Village Health Festival involving residents and health professionals

Photos: NAVER.COM

Review of Healthy Cities Programs in Seoul

Efforts for Residents' Health in Neighborhoods

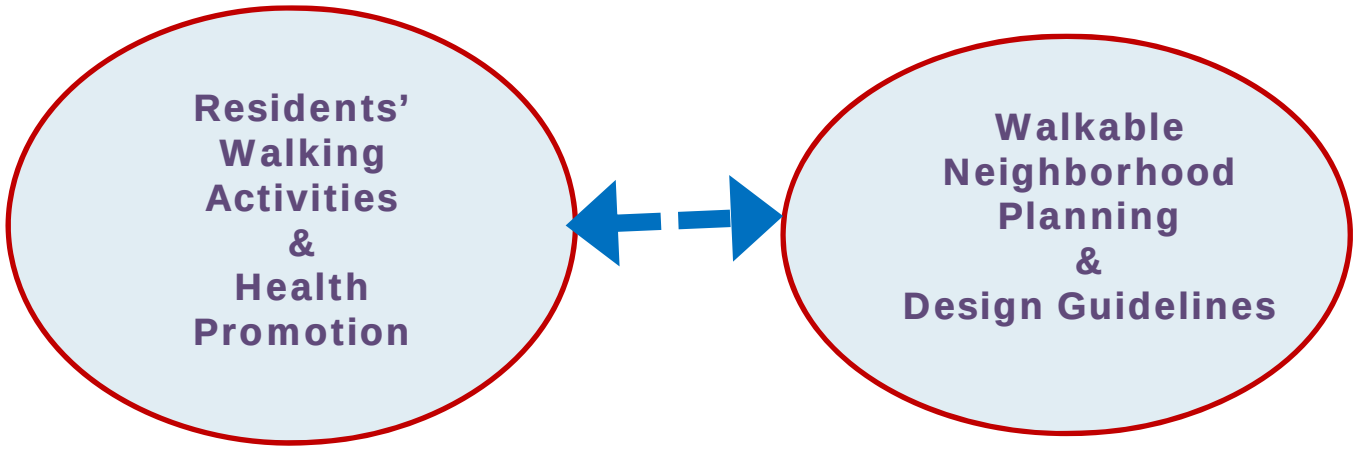
- Positive collaboration between the City of Seoul and the District Offices
- Various projects and programs targeting to improve both residents' health conditions and neighborhoods' living environment
- The model cases of the District Offices of Dobonggu, Gangdonggu, and Gangmangu, represent different merits respectively, and provide positive possibilities for further integrations.

Effective Integration of urban planning and public health

- For residents' sustainable health promotion, more effective integration of urban planning and public health components is needed.
- To supplement the aspects of impacting the general urban planning policies in Seoul, research-based, interdisciplinary approach to healthy urban planning is necessary, too.

A Collaboration Research between urban planning and public health in 2011

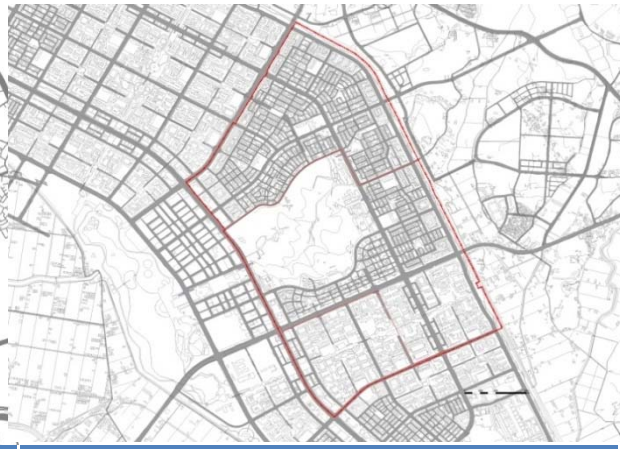
Objective: to examine the relationships among the environmental characteristics of residential neighborhoods, residents' actual walking activities, and residents' health indicators in two contrasting residential areas in Seoul, Korea.



The goal is to draw meaningful implications and practical guidelines for more walkable neighborhood design

Site Description

Characteristics of Two contrasting Neighborhoods: Haeng-dang and Il-san



	Haeng-dang	Il-san
Site area (km^2)	1.42	6.35
Year of completion of development	1999	1991
Development method	Old Area Urban redevelopment	Suburban new town development
Population density (people/km^2)	43,569	16,702
Average slope (angle of inclination)	More than 8 degree	0
Housing Type	High-rise apartments and detached houses (mixed)	High-rise apartment and detached houses (separated)
Neighborhood street pattern	Irregular pattern, loop	Grid
Type of pedestrian space	Sidewalks (partly installed)	Sidewalks and pedestrian zones
Main facility which motivates	Shopping centers, parks	Shopping centers, large parks

Site Walkability

Neighborhood environment for walkability evaluation

Environmental elements		Haeng-dang	Il-san
Regional environment	Positive factors	Neighborhood parks	Large lake-side promenades, neighborhood parks
	Negative factors	Large apartment complex cutting off street network	-
	Level of walkability	Average	Good
Street environment	Positive factors	-	Wide even sidewalks, pedestrian zone, abundant street trees
	Negative factors	Slope of street, monotonous appearance of retaining wall of apartment complex	-
	Level of walkability	poor	good
Total		**Less walkable**	**More walkable**

Research Findings

1. **Health education was found effective. After health education, housewives walked farther beyond 800 meters, a conventional neighborhood-unit boundary. The rate of farther walking, after health education, increased more in the less walkable neighborhood, although the total walking amount was still higher in the more walkable neighborhood.**

2. **Accessibility and connectivity of good-quality streets and parks are significant for longer and farther neighborhood walking.**

3. **Balance between privacy and permeability within the apartment housing complexes is important to encourage walking activities.**

4. **Connecting attractive main commercial facilities and public places to pleasant neighborhood street environments is necessary to increase residents' total walking amounts.**

Conclusions

Notes For the Department of Health and Welfare

- **Key point:**

Physical quality of residential environment and health education influence one another, and both have impacts on residents' physical activities. Health issues require neighborhood approaches.

- **Policy reference:**

Health education programs at the neighborhood unit level must consider

i) the life cycles of each target group in the neighborhood;
ii) hindering and encouraging factors of neighborhood walking;
iii) cooperation with urban planners from the development stage;
iv) the physical characteristics of pedestrian environments;
v) comprehensive evaluation of local parks and open spaces.

Conclusions

Notes For the Department of Public Parks and Greeneries

- **Key point:**

Location, accessibility, and attractiveness of parks, among others, have direct impact on the promotion of residents' physical activities. Housewives walk longer and farther to go to good quality parks.

- **Policy reference:**

Current evaluation methods for parks, mostly based on measuring only the number of parks, ratio of park areas, or frequency of utilizing park facilities, need to be modified.

In executing Health Impact Assessment or Health Equity Assessment, measuring the influence of parks in a more integrated and balanced ways needs to be provided.

Location and accessibility to the parks need to be re-assessed, considering current qualities and conditions of neighborhood parks in Seoul.

Conclusions

Notes For the Department of Roads and Transportation

- **Key point:**

Street connectivity, accessibility, and conveniences are critical elements that have impact on outdoor physical activity. These elements are significant indicators of measuring health equities in local environments.

- **Policy reference:**

Neighborhood streets need to be reviewed in terms of how they provide quality environment. Regional priorities need to be established, reflecting street hierarchies for walking and other physical activities in the neighborhoods.

Street audit system needs to be established to review the quality of pedestrian environment, which reflects specific characteristics, goals, and preferences of pedestrians.

Street improvement projects need to be based on a new audit system that reflects health promotion issues.