**KRIHS SPECIAL REPORT SERIES**

**2017**

Special Report 35 Industrial Location Strategy toward Future Socio-Economic Changes
Special Report 36 Improving Regional Resilience against Increased Flooding due to Climate Change(I) : Development and Application of Resilience Assessment Methods
Special Report 37 Development Cooperation Between South Korea and Latin America for Urban Management
Special Report 38 Urban Shrinkage in Korea and Related Policy Tasks
Special Report 39 Housing Support for Young Generation in Korea Responding to Socioeconomic Changes

**2018**

Special Report 40 Research on Regional Resilience Improvement Coping with Flooding Disaster by Climate Change Effect (II)
Special Report 41 Strategies to Facilitate the Shared-use Mobility for Feeder Services in the Suburbs of a Metropolitan Area
Special Report 42 Policy Suggestions to Enhance the Function of Roads as Public Space in Urban Regeneration Projects
Special Report 43 Research on Proposing Open Source Geospatial Policy in order to Improve Global Geospatial Competitiveness
Special Report 44 Development Strategies of Smart City Infrastructure for Urban Regeneration
Special Report 45 Analysis of Business Demography Data for OECD Regional Development Policy

**2019**

Special Report 46 Developing a Location Affordability Index Incorporating Transportation Cost in Korea
Special Report 47 A Study on the Feasibility Study and Performance Management of Urban Regeneration Projects
Special Report 48 Development of a Big Data Platform for Converged and Integrated Applications in Land and Housing
Special Report 49 Research on Natech Disaster Management coped with Calamity : Focus on Disaster Management Mapping and Application
Special Report 50 ASEAN Smart City Network(ASCN) Pilot Project and Smart Solution
Special Report 51 Promoting the Social Real Estate for the Inclusive City

**2020**

Special Report 52 The 5th Comprehensive National Territorial Plan (2020-2040)
Special Report 53 Strategies to prevent the abolishment of social services in shrinking urban neighborhoods
Special Report 54 Improving the Readiness of Roads for the Era of Automated Vehicles : Focusing on Road Design and Planning
Special Report 55 Strategies for Urban Regeneration Linked to Innovation Cities
Special Report 56 Estimation of the Value of Travel Time Considering Road Accessibility and Future Conditions
Special Report 57 Travel Changes and Transportation Policy Issues by Construction of Metropolitan Express Railway in Korea

To read the reports above, go to:
http://www.gdpc.kr/web/contents/publications2.do

Not for sale 94300
ISBN 979-11-5898-558-5
ISBN 978-89-8182-991-9 (Set)

KRIHS SPECIAL REPORT Vol. 055

KRIHS SPECIAL REPORT

Vol. 055

2020

KRIHS Korea Research Institute for Human Settlements

# Strategies for Urban Regeneration Linked to Innovation Cities

Eunnan Kim

# Strategies for Urban Regeneration Linked to Innovation Cities

Many innovation cities in Korea have been developed as new towns, drawing criticism for accelerating population outflows and hollowing-out facilities in old city centers near them. In 2018, the central government announced a plan to promote mutually beneficial development (win-win development) between innovation cities and surrounding areas. This study shall present strategies for vitalizing urban regeneration in old city centers by making better use of public institutions relocated into innovation cities. This study recommends four strategies for this regeneration: utilizing the capabilities of relocated public institutions; making an inventory of vacant assets in old towns for conversion into cultural and consumption spaces; defining traffic strategies to enhance accessibility between innovation cities and old towns; and strengthening linkages among related projects.

KRIHS
SPECIAL
REPORT
55

# Strategies for Urban Regeneration Linked to Innovation Cities

Eunnan Kim

KOREA RESEARCH INSTITUTE FOR HUMAN SETTLEMENTS SPECIAL REPORT 2020

KRIHS

Eunnan Kim

Dr. Eunnan Kim is a research fellow at the National Balanced Development Research Center of the Korea Research Institute for Human Settlements.

She earned her Ph.D. in Regional Science at Cornell University. Her main research areas are Urban Regeneration, Urban Policy, Sharing Economy, and Creative Economy.

Her recent publications are as follows:

- A Study on Strategies for Urban Regeneration Linked to Innovation Cities. 2020. KRIHS.
- Economic-based Urban Regeneration Manual: Strategies for Regeneration of Ports, Rail Station Areas, and Transfer Sites. 2018. KRIHS.
- Challenges in Achieving Sustainable and Inclusive Economic Growth in Korea Cities. 2016. KRIHS Space & Environment, 67. pp. 18-27.
- A Study on Enhancing Urban Space Utilization based on the Sharing Economy. 2015. KRIHS.
- Urban Regeneration and Location Characteristics of Creative Industries and Classes. 2014. KRIHS.

# Contents


**Summary** 04

**Chapter I. Introduction** 05

**Chapter II. Decline in Surrounding Established Cities and Old City Centers Around Innovation Cities**

1. Analysis Method 07
2. Population Outflow from Surrounding Established Cities 08
3. Changes in the Number of Companies and Jobs in Surrounding Established Cities 11

**Chapter III. Current Policies for Win-Win Development between Innovation Cities and Adjacent Regions**

1. Central Government Policies 19
2. Current Status of Local Government Plans and Projects 20
3. Policy Limitations and Challenges 21

**Chapter IV. Best Practices: Regenerating Old City Centers by Utilizing Regional Capacity for Innovation**

1. Case of Establishing a Strategy for Old City Centers Regeneration through a Mutually Beneficial Regional Development Plan 22
2. Case of Utilizing Regional Innovative Competency and Re-located Public Institution Competency 23
3. Case of Utilizing Unused Spaces in Old City Centers as Cultural and Consumption Spaces 24
4. Case of Strengthening Accessibility and Linkage between Innovation City and Old City Center 25

**Chapter V. Strategies for Regenerating Old City Centers Linked to Innovation Cities** 27

**Chapter VI. Conclusion** 29

**References** 31

# Summary


Many innovation cities have been developed as new towns, drawing criticism for accelerating population outflows and hollowing-out facilities in old city centers near innovation cities. In 2018, the government announced a plan to promote mutually beneficial development (win-win development) between innovation cities and surrounding areas. This study shall present strategies for vitalizing urban regeneration in old city centers by making better use of public institutions relocated into innovation cities.

The net outflow from surrounding established cities to 10 innovation cities has been 92,996 persons since 2012. In addition, 51 percent of innovation city population came from old residential areas within the same municipalities. Since the beginning of public institution relocation, the growth rate of businesses based in surrounding areas of innovation cities within same municipalities was 8.1 percent between 2012 and 2017, lower than the national average of 11.6 percent. The increase in the number of workers in surrounding areas of innovation cities during the same period was 15.2 percent, lower than the national average of 16.5 percent, but higher than that of surrounding municipalities of 12.7 percent.

The central government supports urban regeneration in old towns linked to innovation cities through various public projects. In 2018, 10 local governments established their own comprehensive development plans for each innovation city. A budget has been allocated for 18 mutually beneficial development projects between innovation cities and surrounding areas, and 28 projects were selected for urban regeneration near innovation cities.

This study suggests four basic directions to regenerate original city centers near innovation cities. First, it is necessary to utilize the capabilities of relocated public institutions. Second, an inventory should be taken of vacant assets in old towns that can be converted to cultural and consumption spaces. The vacant land and buildings in old towns can also be reviewed for potential demand from innovation cities. Third, traffic strategies are needed to enhance accessibility between innovation cities and old towns. Public transport investments should be made through a step-by-step process with short- and long-term strategies. Finally, it is necessary to strengthen linkages among related projects, such as an Innovation City Comprehensive Development Plan or an Urban Regeneration New Deal.


**CHAPTER I.**

# Introduction

The Korean government has promoted building innovation cities and relocating public institutions to regional areas for fostering a new growth base of balanced national development. As a result, the relocation of all 111 public institutions was completed as of December 2019, including the final relocation of the Korea Institute of Science & Technology Evaluation and Planning that month. Currently, there are 10 innovation cities around South Korea (Figure 1).

Figure 1. Current status of 10 innovation cities

**Source:** The author's own work.

The effect of the innovation cities has been visualized as part of regional development due to increases in local tax revenues and gradual increases in the recruitment rate of local talented job applicants to relocated public institutions. Local tax revenues increased from KRW 212.8 billion in 2014 to KRW 453.4 billion in 2016 as a result of the creation of innovation cities.[1] The recruitment rate also increased from 8% in 2012 to 10.2% in 2014, 13.3% in 2016, and 23.4% in 2018 (Office of Innovation city Development in the Ministry of Land, Infrastructure, and Transport 2019b).

That being said, the initial policy goal of innovation cities (achieve balanced national development through innovation cities) has not been met because the implementation has focused on relocating public institutions. Old city centers declined as their populations were introduced to nearby innovation cities, and the development results of innovation cities were not shared with surrounding regions, preventing mutually beneficial development efforts. It has been pointed out that innovation cities located in small- and medium-sized cities caused socioeconomic problems, such as population outflow from old city centers and hollowing-out of facilities in old city centers near innovation cities, as large-scale innovation cities were built on the outskirts of established cities.

Accordingly, as local governments own important regional innovative assets, such as relocated public institutions, where innovation cities are located, they need to promote the vitality of old towns by utilizing and linking the characteristics and competency of such assets in urban regeneration projects.

The purpose of this study is to provide a measure for preventing the decline of old city centers around innovation cities while also improving regenerative systems for old towns linked to innovation cities and the innovative competency of relocated public institutions. This study's detailed contents are as follows: First, this study diagnoses the effect of innovation city policies on the decline of old towns. Second, this study analyzes the current status of policies and systems for mutually beneficial development between innovation cities and surrounding regions. Third, this study analyzes regeneration cases of old city centers that utilized regional innovative competence, thereby deriving implications. Fourth, this study proposes a measure to improve the system for regenerating old towns linked with innovation cities.

1) As soon as the public institution relocation was complete after 2016, an one-off payment for acquisition and registration taxes was made due to decreases in new land acquisition tax and building new offices. As a result, local taxes also decreased somewhat (to KRW 381.3 billion in 2018), but they increased again in 2019 to KRW 422.8 billion (Office of Innovative City Development in the Ministry of Land, Infrastructure, and Transport, 2019b, Statistical data of innovative cities, December 31).



CHAPTER II.

# Decline in Surrounding Established Cities and Old City Centers Around Innovation Cities

## 1. Analysis Method

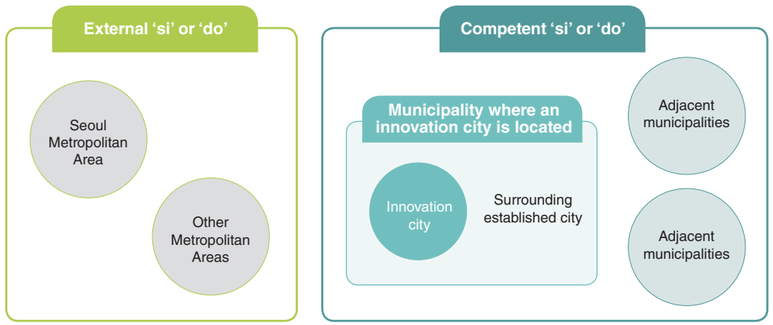
This chapter details how the effect declining surrounding established cities and old city centers, caused by the innovation cities built and public institutions built (as of 2012) was analyzed to derive regeneration tasks for old city centers. The population outflow from surrounding established cities was also investigated along with changes in the numbers of companies and new jobs and the declining trend of old city centers.

To analyze 10 innovation cities and their surrounding established cities, the operational definitions of the spatial scope for an innovation city, surrounding established city, and old city center were made. Innovation cities were defined as towns (*eup*), townships (*myeon*), or neighborhoods (*dong*), and surrounding established cities as eup, myeon, or dong except for those in innovation cities in a local government where the corresponding innovation cities belong to. The spatial scope of the innovation city, surrounding established city, local government where innovation cities locate, and adjacent municipalities are defined in Table 1.

Table 1. Operational definitions of regions, subject to analysis

| Category | | | Spatial analysis unit (eup, myeon, dong) |
|---|---|---|---|
| Competent city (si) or province (do) authority | Si, gun (county), or gu (district) (where the innovation city is located) | Innovation city | Eup, myeon, or dong where the innovation city is located |
| | | Surrounding established city | Eup, myeon, or dong except for those in the innovation city |
| | Adjacent municipalities | | Government of si, gun, or gu included in the same metropolitan si or do of an innovation city |
| External si or do other than a competent si or do authority | | | Seoul Metropolitan area, Other Metropolitan Areas |

**Source:** The author's own work.




## 2. Population Outflow from Surrounding Established Cities

### 1) Composition of net population outflow into innovation cities by region

The population outflow from surrounding established cities to the 10 innovation cities has been 92,996 persons since 2012. The population inflow to innovation cities from surrounding established cities amounted to 51% of innovation city total population with 26% of those people coming from either a metropolitan si or the do of a adjacent municipalities, and 16% coming from other metropolitan areas. The surrounding established city with the largest net outflow into an innovation city was the surrounding established city of Jeonbuk innovation city (30,010 persons), followed by the surrounding established cities of Gangwon (11,290 persons) and Chungbuk (10,934 persons) innovation cities

Figure 2. Net population inflow comparison by region before and after innovation city creation (2005–2011 and 2012–2018)

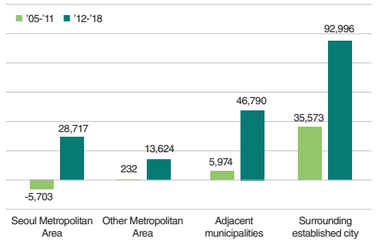
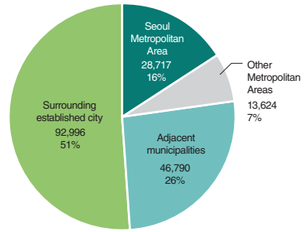



Figure 3. Regional composition of net population inflow into innovation cities by region



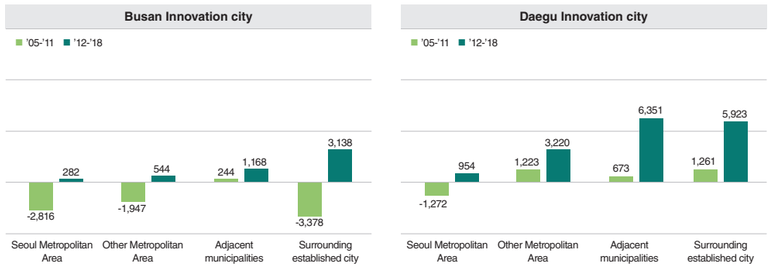

**Source:** Statistics Korea. 2005–2018. Internal Migration Statistics.

### 2) Population outflow from surrounding established cities to innovation cities

Of the innovation cities located in large cities, Busan had the largest proportion of net population inflow from its surrounding established city while Daegu and Ulsan had the largest net population inflows from a surrounding gu or gun in the same metropolitan si instead of their surrounding established cities.

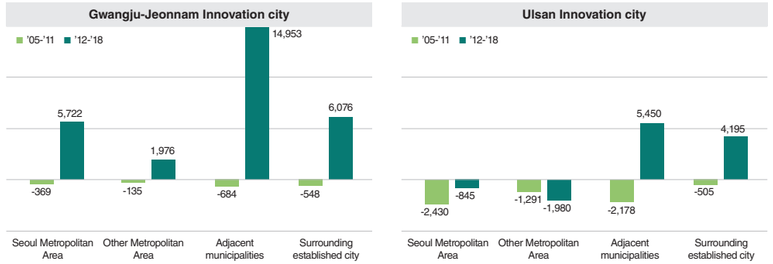
Of the innovation cities located in small- to mid-sized cities, six (except for Gwangju and Jeonnam) had the largest proportion of net population inflow from surrounding established cities. For the exceptions, the largest proportion of the net population inflow was from adjacent municipalities. These exceptions were due to greater inflow from the adjacent Gwangju metropolitan si rather than Naju, the surrounding established city.

Figure 4. Changes in net population inflow for innovation cities by region (comparing 2005–2011 and 2012–2018)



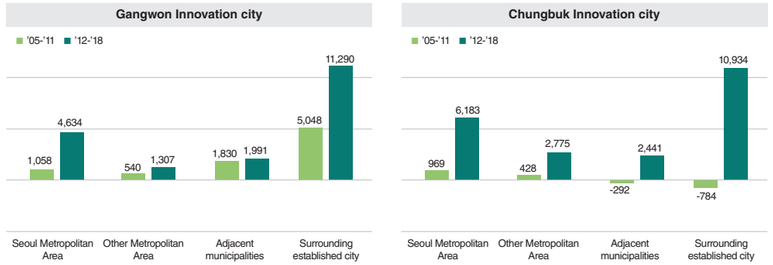

**Note:** For the Ulsan innovation city, population outflow into metropolitan areas and other metropolitan areas occurred since 2012, contrasting with the trend of other innovation cities.

**Source:** Statistics Korea. 2005–2018. Internal Migration Statistics.



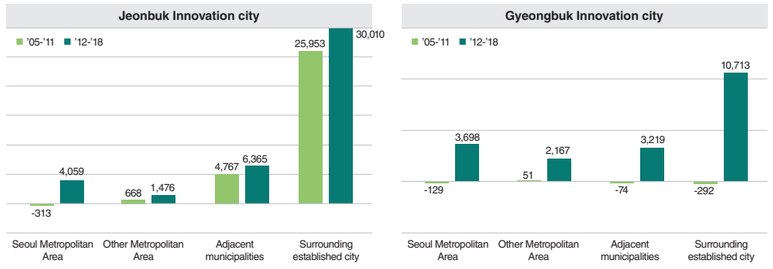






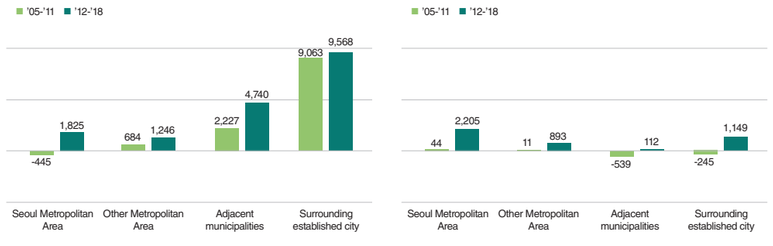
















## 3. Changes in the Number of Companies and Jobs in Surrounding Established Cities

### 1) Growth trend for the number of companies and jobs in surrounding established cities

When public institutions started to relocate, the numbers of companies and employees in surrounding established cities of innovation cities from 2012 to 2017 grew slightly and consistently compared to the previous five years. However, the growth rates for the number of companies and employees in surrounding established cities were lower than those of innovation cities and national averages.

The increase rate for the number of companies in innovation cities during 2012–2017 was 48.5%, a significant increase after the relocation of public institutions began in earnest (26.8% increase during 2007–2012). The increase rate for the number of companies in surrounding established cities of innovation cities during 2012–2017 was 8.1%, which was lower than the national average (11.6%) and adjacent municipalities (11.1%). However, that rate did increase when public institutions began relocation in earnest (7.5% during 2007–2012).

Figure 5. Changes of company and employee numbers in innovation cities, surrounding established cities, and adjacent municipalities (comparing 2007–2012 and 2012–2017)


**Source:** Statistics Korea. 2007–2017. Census on Establishment.

## 2) Changes in job and company numbers in surrounding es-tablished cities of 10 innovation cities

Most innovation cities strengthened increases in the number of companies in surrounding established cities although the impact on the number of jobs varied by region. The changes in increase rates for surrounding established cities during 2012–2017 demonstrated that all surrounding established cities (except for Jeonbuk) had a higher increase rate for the number of companies and six had a higher increase rate in the number of jobs compared to 2007–2012. Only three surrounding established cities had an increase rate of the number of companies, and only four surrounding established cities had an increase rate of the number of jobs compared to the national averages during the 2012–2017 period. The fastest respective company and job number growth for a surrounding established city during 2012–2017 period was Chungbuk (23.2%, 31.1%), followed by Jeju (19.7%, 21.3%), Gangwon (12.2%, 21.5%), and Gwangju-Jeonnam (9.6%, 18.2%).

Figure 6. Increase rate for company numbers in surrounding established cities (comparing 2007–2012 and 2012–2017)

**Source:** Statistics Korea. 2007–2017. Census on Establishment.

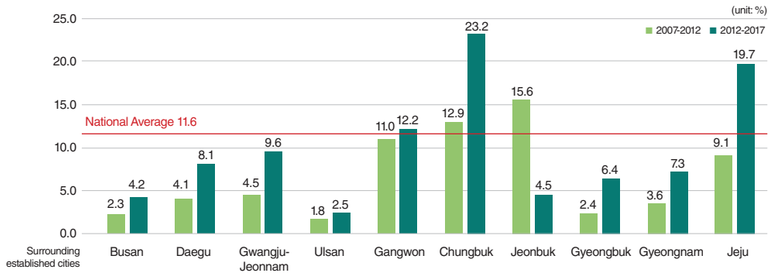



Figure 7. Increase rate for employee numbers in surrounding established cities (comparing 2007–2012 and 2012–2017)

**Source:** Statistics Korea. 2007–2017. Census on Establishment.

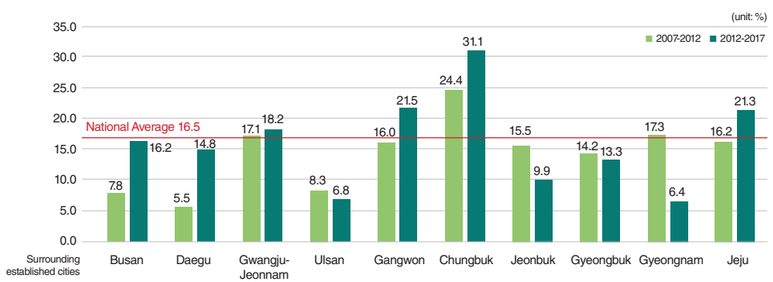
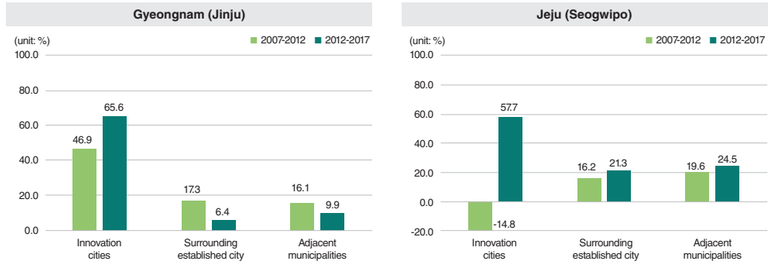





Figure 8. Rate changes of employee numbers in innovation cities, surrounding established cities, and adjacent municipalities (comparing 2007–2012 and 2012–2017)

**Source:** Statistics Korea. 2007–2017. Census on Establishment.




### 3) Relationship between innovative and surrounding established cities: Changes in company and job numbers

The relationship between innovative and surrounding established cities, in terms of changes in the number of companies and jobs, can be categorized by four observations. First, innovative and surrounding established cities can grow together. The numbers of companies and jobs increased highly in the Gwangju-Jeonnam innovation city, innovative cluster-related companies were also attracted to surrounding established city of Naju instead of its innovation city and its adjacent municipality (Gwangju). Second, innovation cities can grow while causing unsatisfactory effects on their surrounding established cities. The Gyeongnam, Daegu, Busan, and Jeonbuk innovation cities belong to this category. Third, surrounding established cities can experience growth unrelated to their innovation cities. The Chungbuk, Jeju, and Gangwon innovation cities belong to this category where few to no innovative cluster-related companies were attracted, but the increase rates of the number of companies and jobs in surrounding established cities were higher than the national averages. Finally, both innovative and surrounding established cities can experience poor growth. Few innovative cluster-related companies were attracted by the Ulsan and Gyeongbuk innovation cities and the increase rates for the numbers of companies and jobs in the surrounding established cities were substantially poor compared to national averages and adjacent municipalities.

Table 2. Changes in company and job numbers in innovative and surrounding established cities

| Category | | Increases in the numbers of companies and jobs in descending order |
|---|---|---|
| Attracted innovative cluster companies | | • Gyeongnam (355 companies), Gwangju-Jeonnam (328 companies), Busan (151 companies), Daegu (129 companies) |
| | Attracted within innovation cities | • Gyeongnam (355 companies), Gwangju-Jeonnam (242 companies), Busan (142 companies), Daegu (129 companies) |
| | Attracted in other locations (e.g., surrounding established cities) | • Gwangju-Jeonnam (55 companies), Busan (9 companies), Gyeongbuk (3 companies), Jeonbuk (2 companies) |
| Increase in the numbers of companies and jobs in innovation cities (administrative dong): 2012–2017 | | • Jeonbuk (3,159 companies, 21,874 employees), Busan (2,296 companies, 18,600 employees), Gwangju-Jeonnam (1,570 companies, 13,556 employees) |
| Increase rates for the number of companies and jobs in surrounding established cities: 2012–2017 (National averages: 11.6% and 16.5%, respectively) | | • Chungbuk (23.2%, 31.3%), Jeju (19.7%, 21.3%), Gangwon (12.2%, 21.5%), Gwangju-Jeonnam (9.6%, 18.2%) |

**Source:** Office of Innovation city Development in the Ministry of Land, Infrastructure, and Transport 2019a; Statistics Korea 2007–2017.

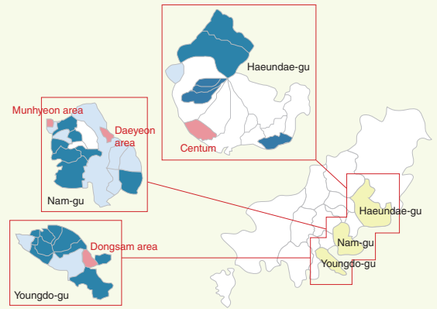
### 4) Status of decline in old city centers by location characteristics of innovation cities

Regional characteristics differ significantly to solve the problem by categorizing the relationship between innovation cities and old city centers. The effect of innovation cities located in large cities and on old city centers differs according to location conditions. For the Busan and Ulsan innovation cities (located in declining old city centers), the urban regeneration effect occurred. By contrast, the Daegu innovation city (located on the outskirts of Daegu city) increased the decline of the city center. Youngdo-gu in Busan and Jung-gu in Ulsan (where the innovation cities were located on declining city centers) saw their innovation cities delay regional decline in terms of urban regeneration. These results make it difficult to say that innovation cities cannot produce sufficient innovation to stop the overall city decline.

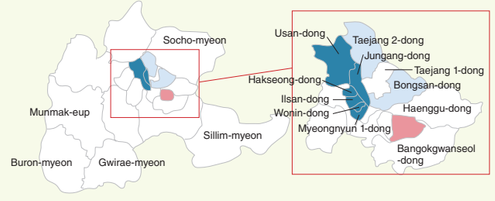
The causes of decline and regeneration for old city centers near small- and mid-sized innovation cities are needed to consider various factors. It is not necessarily true that old city center decline is caused by innovation cities. Thus, it is necessary to have a space re-arrangement strategy to meet the function and demand of innovation cities and old city centers according to regional characteristics. The local governments in small- and mid-sized cities employ a strategy to restructure the main functions of old city centers into cultural tourism, consumption, commercial, and public services as a measure to overcome old city center decline due to suburbanized residential areas. Innovation cities (such as Gimcheon, Naju, and Eumseong-Jincheon) provide good residential environments for small- and mid-sized city inhabitants. Some innovation cities (such as Chungbuk and Gwangju-Jeonnam) increased the number of companies or jobs in their surrounding established cities despite population outflow. Thus, several local governments (such

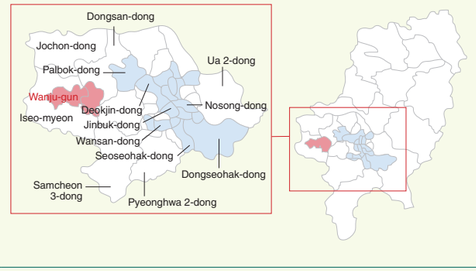
as Jinju and Naju) introduced a strategy to activate old city centers by accepting the spatially functional divisions between innovation cities and old city centers, thereby strengthening the basis of consumption, tourism, and culture in the latter.

Table 3. Status of decline in old city centers (dong regions) and the innovation city ripple effect by location characteristics

| Location characteristic | Innovative City | Innovation city Location | Status of decline in old city centers<br>Boundary with innovation city<br>Decline in two sectors Decline in three sectors | Ripple effect of innovation city |
|---|---|---|---|---|
| Large city location type | Busan | Haeundae-gu sub-downtown area (New development land) |  | - |
| | | Nam-gu downtown area (Adjacent to old city center) | | Urban regeneration effect through the creation of an innovation city |
| | | Youngdo-gu downtown area (Adjacent to old city center) | | Urban regeneration effect through the creation of an innovation city |
| | Daegu | Outskirt of Dong-gu downtown area |  | Population outflow from downtown due to innovation city and various outskirts development<br><br>Urban regeneration required utilizing a large parcel of unused land in the downtown area and a suitable relocation area to relocate the Gyeongbuk Provincial Government Office, k-2 military airport, and Daegu prison while closing the Duryu water treatment plant and performing other actions. |
| | Ulsan | Jung-gu downtown (Old city center) |  | Urban regeneration effect through the creation of an innovation city |



| Location characteristic | Innovative City | Innovation city Location | Status of decline in old city centers<br>Boundary with innovation city<br>Decline in two sectors Decline in three sectors | Ripple effect of innovation city |
|---|---|---|---|---|
| Small- to mid-size newly developed district type | Gyeongnam | Jinju downtown area (Adjacent to old city center) |  | Population outflow due to innovation city |
| | Jeju | Seogwipo center area (Adjacent to old city center) |  | Population outflow due to innovation city |
| Small- to mid-size new town type | Gwangju-Jeonnam | Outskirts of Naju downtown |  | Population outflow due to innovation city |
| | Gangwon | Outskirts of Wonju downtown |  | Population outflow due to innovation city |

| Location characteristic | Innovative City | Innovation city Location | Status of decline in old city centers<br>Boundary with innovation city<br>Decline in two sectors Decline in three sectors | Ripple effect of innovation city |
|---|---|---|---|---|
| | Chungbuk | Outskirts of Jincheon-Eumseong Note1) downtowns |  | Creation of densely populated area due to an innovation city in the gun area where the population is distributed |
| | Jeonbuk | Outskirts of Jeonju-Wanju downtowns |  | Population outflow due to innovation city |
| | Gyeongbuk | Outskirts of Gimcheon downtown |  | Population outflow due to innovation city |

**Note:** Gun areas were excluded from the analysis because no densely populated dongs exist.
**Source:** Edited by the author based on data from Gimcheon-si 2015; Naju-si 2017a; Daegu Metropolitan-si 2019; Busan Metropolitan-si 2015; Wanju-gun 2019; Ulsan Metropolitan-si 2015; Wonju-si 2019; Jeonju-si 2019; Jinju-si 2017.



CHAPTER III.

# Current Policies for Win-Win Development between Innovation Cities and Adjacent Regions

## 1. Central Government Policies

Korea's central government announced the "Measure to Promote Innovation city Season 2" in 2018 in collaboration with related ministries, including mutually beneficial development with surrounding regions as one of its five promotion tasks. The government also promoted a measure to link old city center regeneration to that development. Measures to link innovation cities with old city center regeneration were the discovery and support of urban regeneration projects near innovation cities, the development of a cultural promotion network (the Ministry of Culture, Sports and Tourism), providing incentives when establishing new direct local food shops (the Ministry of Agriculture, Food, and Rural Affairs), and the attraction of development and mandatory funding. A foundation was to be built to expand mutually beneficial development (another promotional task) and selected as a detailed strategy of the promotional tasks to make innovation cities comfortable, which was one of the four driving tasks in 2019.

Other than the above projects, various public participation projects related to old city center regeneration were promoted, including an urban regeneration new deal, the Saetul-Maul (New Garden Town) project, a living social overhead capital (SOC) complex project, a project to support cultural regeneration in industrial complexes and closed industry facilities (Ministry of Culture, Sports and Tourism), a leading renewal project for aged public buildings, and a maintenance project of construction-interrupted buildings.

## 2. Current Status of Local Government Plans and Projects

Local governments promote old city center regeneration through public contest participation (such as a comprehensive development plan for an innovation city), urban regeneration, Saetul-Maul projects, and living SOC complex projects, but project linkage is not that high.

### ① Current status of implementing a comprehensive development plan for an innovation city

There were 18 projects with budgets in 2018 and projected budgets for 2019 that were among the promotional tasks of the mutually beneficial development section of the comprehensive development plan for innovation cities. Among them, there were seven urban regeneration projects and three local food-related projects.

### ② Urban regeneration project

As of 2019, there were 28 urban regeneration projects in the surrounding regions (adjacent established cities) of innovation cities. Only five of those projects were selected by public contest to promote human resource fostering and collaboration projects with public institutions of an innovation city (if Gwangju is included, six projects were selected).

### ③ Saetul-Maul project

Thirteen Saetul-Maul projects were underway in the surrounding established cities of innovation cities to improve the residential environments of declining regions. Few of those projects are related to utilizing relocated public institution competencies or linking innovation cities.

### ④ Living SOC complex project

Although 17 living SOC complex projects were selected from surrounding regions (adjacent established cities) of innovation cities, their linkages with innovation cities were not that high.



Figure 9. Urban regeneration projects in surrounding established cities of innovation cities

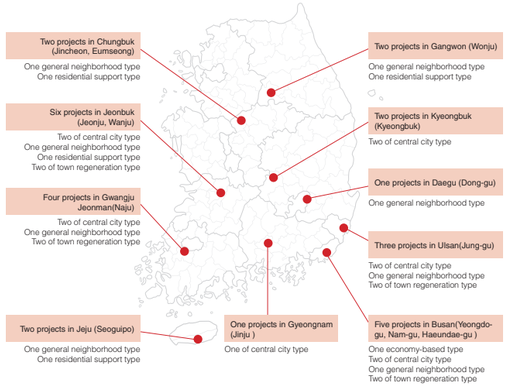
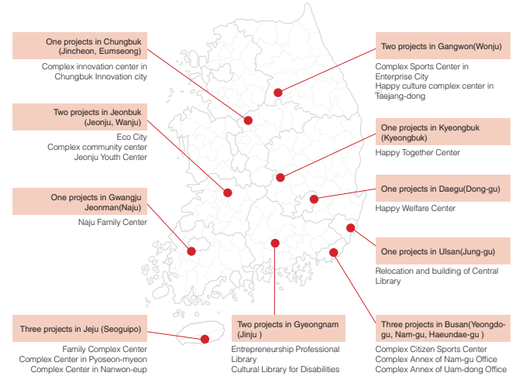



Figure 10. Living SOC complex projects in surrounding established cities of innovation cities




**Source:** (Left) Edited by the author based on the data from the Ministry of Land, Infrastructure, and Transport (2013), and the Office for Government Policy Coordination (2016, 2017, 2018, 2019a, and 2019b).
(Right) Edited by the author based on the data from the Presidential Committee for Balanced National Development et al. (2019).

## 3. Policy Limitations and Challenges

At the central government level, there are insufficient stepwise goals and strategies in the mutually beneficial development section with surrounding regions. Support is also lacking among the promotional tasks of Innovation city Season 2 for the activation of urban regeneration around innovation cities and project linkage. Therefore, appropriate stepwise goals and strategies are needed along with systematic project support.

Local governments lack urgency in relation to mutually beneficial development, have inadequate consultation channels, are ineffective at promoting tasks in the comprehensive development plan of innovation cities, and perform poorly when urban regeneration projects linked with relocated public institutions appear. Thus, improvement measures are needed, such as assigning incentives when participating in urban regeneration projects, inducting participants of relocated public institutions, and building regular consultation channels.

CHAPTER IV.

# Best Practices: Regenerating Old City Centers by Utilizing Regional Capacity for Innovation

## 1. Case of Establishing a Strategy for Old City Centers Regeneration through a Mutually Beneficial Regional Development Plan

### 1) Establishment of a systematic and organic regional mutually-beneficial development plan from a wide-area cooperation model that promotes old city centers

- **A mutually beneficial development plan that links the old city centers of Sejong-si and Jochiwon**

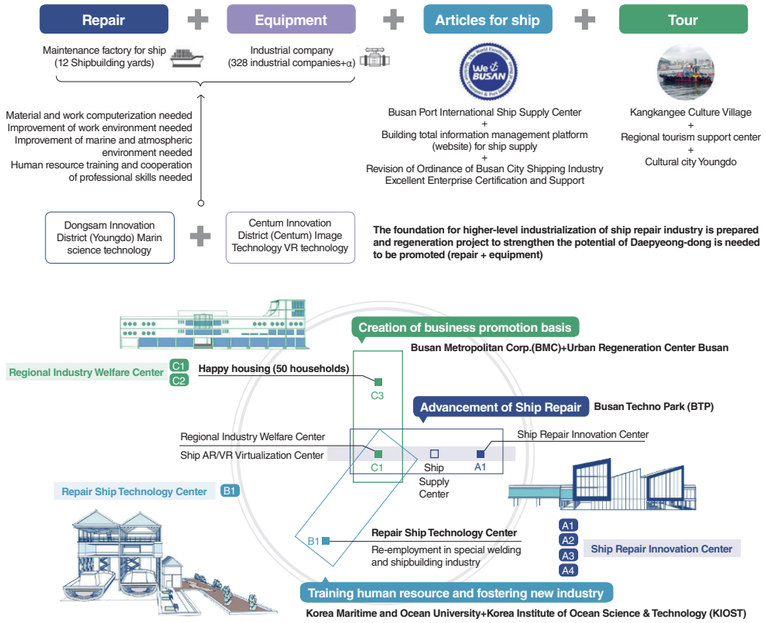
The measure of the Sejong-si and Chungcheong regions (2014), the Vision 2030 mid- to the long-term development plan for Sejong-si, an urban regeneration strategy plan of Sejong-si (2015), and the "Young Jochiwon Project" sponsored by the urban regeneration promotional plan around Jochiwon (2016) are all systematically and organically linked.

## 2. Case of Utilizing Regional Innovative Competency and Relocated Public Institution Competency

### 1) Building a regional innovation system by linking relocated public institutions and regional industries/companies

This urban regeneration project at Daepyeong-dong in Busan is a successful case of developing a regional innovation system and promoting urban regeneration by utilizing and inter-linking relocated public institutions as well as regional companies and assets. The urban regeneration project at Daepyeong-dong was jointly proposed by the Busan Metropolitan Corporation and the Korea Institute of Ocean Science & Technology. It was also selected as an economy-based urban regeneration project for the second half of 2019, providing a basis for building a regional innovation system through collaboration between a regional public corporation and a relocated public institution.

Figure 11. Urban regeneration project-tailored contents and promotion strategy at Daepyeong-dong in Busan




**Source:** Busan Metropolitan City 2020.

### 2) Promotion of public institution-led projects that contribute to the region

This relocated public institute-led project in the comprehensive development plan of the innovation city required the review of 15 best practices in "the first performance report competition of innovation cities". The results produced nine relocated public institution-led type projects, revealing clear contents and high performance compared to local government-led projects. An excellent project example is the National Pension Service, which was relocated to Jeonbuk through cooperation with the local government, a university, and 11 companies to help found the NPS+IT R&D Center. This was established to conduct collaborative projects. In addition, the Korea Institute of Ceramic Engineering and Technology was relocated to Gyeongnam, conducting a project to support regional small- and medium-sized enterprises as well as unemployed graduates majoring in science and engineering.

## 3. Case of Utilizing Unused Spaces in Old City Centers as Cultural and Consumption Spaces

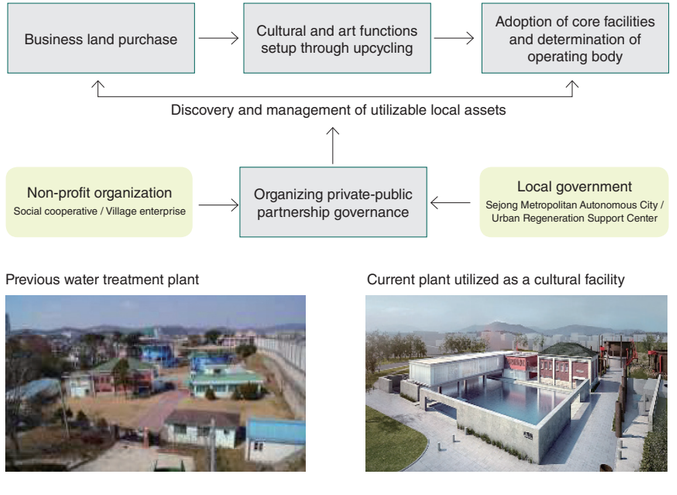
### 1) Regional assets in old city centers actively discovered and converted

An urban regeneration project to promote a commercial area in the old city center of Naju that utilized unused space inside that center devised links with institutions relocated to the innovation city, such as Korean Electric Power Corporation and the Korea Creative Content Agency (KCCA). These relocated public institutions supported the operation of a realistic media center and content authoring, along with startup companies, advertisement exhibition halls, electric car charging facilities, and road-based photovoltaic module installations.

Another project, the Young Jochiwon urban regeneration project, created a culture and art space that was not sufficiently allocated for by utilizing closed factories and a neglected water treatment plant in the old city center. As such, the project facilitated regional promotions in conjunction with surrounding historical, cultural, and tourism resources.



Figure 12. Jochiwon Culture Garden constructed by the Jochiwon Urban Regeneration Project




**Source:** Sejong Special Autonomy City 2016.

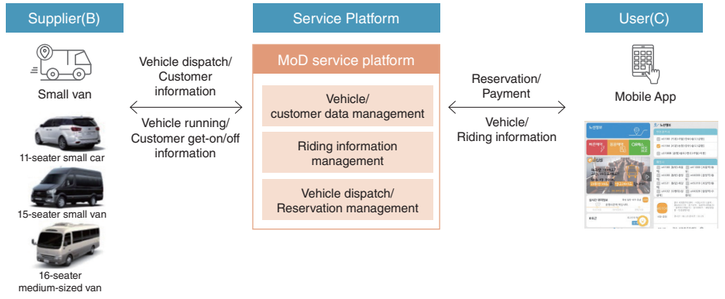
## 4. Case of Strengthening Accessibility and Linkage between Innovation City and Old City Center

### 1) Short-term Mobility on Demand utilization with a hierarchical long-term upper plan

**• The adoption of mobility on demand of Chungbuk New Town**

Chungbuk New Town reviewed the adoption of Mobility on Demand to improve service in a transportation hub that was poorly linked with metropolitan transportation. That review produced alternatives (such as a traffic demand survey, adoption of a mobile service platform, and establishing detailed operation measures).

Figure 13. Mobility on Demand service




**Source:** Ministry of Land, Infrastructure, and Transport 2019.

- **Building the bus rapid transit (BRT) system between old city centers of Sejong-si and Jochiwon**

Sejong-si founded the "Metropolitan Transportation Council of Happy City Area", which saw participation from the National Agency for Administrative City Construction and seven surrounding upper- and lower-level local autonomies. The council announced a plan to connect a 40 km radius of the metropolitan city area with the public transportation network. The council also planned a link route between the multi-functional administrative city of Sejong-si and the old city center of Jochiwon, considering the improvement of linkages between inner and outer sides of the city.



CHAPTER V.

# Strategies for Regenerating Old City Centers Linked to Innovation Cities

The detailed measures to regenerate old city centers linked to innovation cities based on the above analysis results are as follows:

### ① Utilizing the characteristics and competencies of relocated public institutions

To utilize the characteristics and competencies of relocated public institutions, participation of relocated public institutions should be encouraged from the planning phase of urban regeneration related projects. To do this, it is necessary to give merit to regeneration projects with public institution participants while providing advertisements and information on urban regeneration projects proposed by public institutions for relocated public institutions. Discovering or advertising cases that build regional innovation systems linked with public institutions and corporations will also be needed, as will finding projects that contribute to regions tailored to relocated public institutions through those institutions' regional development plans.

### ② Discovering and utilizing unused resources in old city centers

As part of the measure to utilize old city center assets as cultural and consumption spaces, cultural and historical assets in those areas require utilization. Incentives (such as assistance with planning costs for program development) would respond to cultural

demand in innovation cities, and reviewing measures to utilize unused old city center spaces when expanding would increase the demand for relocated public institutions and innovation cities.

**③ Strengthening accessibility between innovation cities and old city centers**

To strengthen accessibility between innovation cities and old city centers, analyze the demand for transportation linkages among innovation cities, wide-area transportation hubs, and old city centers. A tailored strategy for meeting regional characteristics of innovation cities is also required as is a mobility brand linking tourism strategy with old city center promotions. A stepwise building strategy of smart transport infrastructure will improve transportation accessibility that links old city centers with innovation cities. In the early days of building innovation cities, mobility on demand should be adopted with a long-term goal of building a smart traffic system. It is also necessary to induce financial and systematic support with smart city pilot projects while ensuring linkage with hierarchical upper plans and building cooperative governance between adjacent regions.

**④ Strengthening related project linkages**

Strengthening linkages between related projects is needed to achieve a smooth regeneration of old city centers linked with innovation cities. It is necessary to grant merits to urban regeneration projects linked with innovation cities when selecting a winner in the public contest of urban regeneration projects or temporarily add new public contest types. For the 2020 living SOC complex project, granting an incentive to projects that utilize unused space in declining old city centers is needed in link with urban regeneration. Demonstration cases of projects that can link the living SOC complex and regional development investment agreement are needed to be presented and advertised. Furthermore, expert consulting through development foundation and building a regular consultation channel is needed. Through this, it is necessary to discover projects that can contribute to regions by utilizing the competency of relocated public institutions in consultation with institutions from a planning phase for regeneration-related projects in the established city around innovation cities and old city centers.



**CHAPTER VI.**

# Conclusion

This study conducted a diagnosis of impact of policies of innovation cities on the decline of surrounding old city centers, analysis of the current status of policies and systems for win-win development between innovation city and surrounding regions, and analysis of regeneration cases of old city centers utilizing regional innovation competence.

The new outflow population from surrounding established cities to 10 innovation cities were 92,996 persons since 2012. Among them, 51% of them came from surrounding established cities. Thus, increase rates in the numbers of companies and employees in surrounding established cities during the 2012–2017 period were lower than that of innovation cities as well as lower than the national averages. Innovation cities developed in the outskirt of established cities were conducive to not only large-scale urban development projects but also suburbanized residential areas and hollowing-out of old city centers. Accordingly, it is necessary to adopt a strategy to strengthen and vitalize the consuming, tourism, and cultural basis of the old city center. Stepwise goals and strategies in the win-win development section with surrounding regions are not sufficient and the support for the activation of urban regeneration around innovation cities and linkage among projects is lacking among the promotion tasks of Innovation city Season 2. Thus, measures such as the assignment of incentives when participating in urban regeneration projects, induction of participation of relocated public institutions, and building a consultation channel in local government on a regular basis are needed. Through the case analysis, the following implications were derived: systematic and organic linkage of regional win-win development plan from wide-area cooperation model to the promotion of old city centers, building a regional innovation system in link with relocated public institutions and regional industries, the active discovery of regional assets of the old city center and conversion of them into the culture and consuming space, and ensuring a linkage with hierarchically upper plan related to transportation and building governance.

The proposed measures to regenerate old city centers linked to innovation cities based on the above analysis results are as follows: First, characteristics and competency of relocated public institutions are utilized. Second, assets and unused resources in old city centers are utilized as a culture and consuming space. Third, the accessibility between the innovation city and the old city center is strengthened. Fourth, the linkage among related projects is strengthened.

As described above, this study derived regenerative tasks for old city centers around innovation cities and proposed measures to improve systems by analyzing changes in population and job numbers of surrounding established cities and old city centers due to the creation of innovation cities. It also discussed mutually beneficial development systems for innovation cities and surrounding regions, and analyzed regeneration cases of old city centers that utilized regional innovation competence, such as relocated public institutions. However, regenerating old city centers linked with innovation cities is one of many possible mutually beneficial development plans. As 113 public institutions have been relocated, it is now necessary to discuss the fundamental status of innovation cities and take a wider approach to mutually beneficial development.



## References


Architectural Studios DESIGN LAB. https://www.designlab-architecture.com/blank-1 (accessed February 5, 2020).

Busan Metropolitan City. 2015. 2025 Urban Regeneration Strategy Plan in Busan Metropolitan-si. Busan: Busan Metropolitan City.

_____. 2020. Urban regeneration promotion plan in Busan (economy-based public institution proposed type) – Original place of modern shipbuilding business, Daepyeong-dong is transformed into the innovation base of the marine industry. Busan: Busan Metropolitan City.

Daegu Metropolitan-si. 2019. Change in 2025 Urban Regeneration Strategy Plan of Daegu Metropolitan-si. Daegu: Daegu Metropolitan-si.

Eunnan Kim, Yeonmi Seo and Yuseon Jeong. 2020. Study on measures to regenerate old city centers linked to innovation cities for regional win-win development. Sejong: Korea Research Institute for Human Settlements.

Gimcheon-si. 2015. 2025 Urban Regeneration Strategy Plan of Gimcheon-si (draft). Gimcheon: Gimcheon-si.

Jeonju-si. 2019. Change in Urban Regeneration Strategy Plan in Jeonju-si (draft). Jeonju: Jeonju-si.

Jinju-si. 2017. 2025 Urban Regeneration Strategy Plan in Jinju-si. Jinju: Jinju-si.

Ministry of Land, Infrastructure, and Transport. 2013. 13 urban regeneration leading regions selected. Sejong: Ministry of Land, Infrastructure, and Transport.

_____. 2019. Measure to adopt Mobility on Demand to improve the metropolitan transportation system in Chungbuk innovation city. Sejong: Ministry of Land, Infrastructure, and Transport.

Naju-si. 2017. Urban regeneration strategy plan of Naju-si. Naju: Naju-si.

Office for Government Policy Coordination. 2016. New 33 urban regeneration projects confirmed. Government-wide support through collaboration. Sejong: Office of Government Policy Coordination.

_____. 2017. 68 target places of urban regeneration new deal pilot projects confirmed. Sejong: Office of Government Policy Coordination.

_____. 2018. 2018 urban regeneration new deal projects selected. We will commit to the promotion of the local economy and leading the supply of living infrastructure. Sejong: Office of Government Policy Coordination.

_____. 2019a. 22 places of urban regeneration new deal projects selected in the first half of 2019. Sejong: Office of Government Policy Coordination.

_____. 2019b. 76 places of urban regeneration new deal projects selected in the second half of 2019. Sejong: Office of Government Policy Coordination.

Office of Innovation city Development in the Ministry of Land, Infrastructure, and Transport. 2019a. Statistical data of innovation city. June, 31. pp. 30–77. Statistics Korea. 2007–2017. Survey of national business.

_____. 2019b. Statistical data of innovation city. December, 31.

Presidential Committee for Balanced National Development. 2019a. 2020 Living SOC Complex Project selected by the end of September 2020. Seoul: Presidential Committee for Balanced National Development.

Presidential Committee for Balanced National Development. 2019b. Preliminary Review on Living SOC Complex Project by si, gun, and gu. Internal data. Seoul: Presidential Committee for Balanced National Development.

Presidential Committee for Balanced National Development, Ministry of Culture, Sports and Tourism, Ministry of Health and Welfare, Ministry of Land, Infrastructure, and Transport, and Ministry of Gender Equality and Family. 2019. Full-scale Promoting of the living SOC complex project from 2020. October, 4. Press release.

Sejong Autonomy City. 2016. Urban regeneration promotion plan around Jochiwon Station. Sejong: Sejong Special Autonomy City.

Statistics Korea. 2005-2018. Internal Migration Statistics.

Statistics Korea. 2007–2017. Census on Establishment.

Ulsan Metropolitan-si. 2015. 2025 Urban Regeneration Strategy Plan in Ulsan Metropolitan-si. Ulsan: Ulsan Metropolitan-si.

Wonju-si. 2019. Bongsan-dong Urban Regeneration Promotion Plan -Well Village of Living and Caring Flow in Bongsan-cheon. Wonju: Wonju-si.

# INDEX

**Figures**

Figure 1. Current status of 10 innovation cities **05**

Figure 2. Net population inflow comparison by region before and after innovation city creation (2005–2011 and 2012–2018) **09**

Figure 3. Regional composition of net population inflow into innovation cities by region **09**

Figure 4. Changes in net population inflow for innovation cities by region (comparing 2005–2011 and 2012–2018) **09**

Figure 5. Changes of company and employee numbers in innovation cities, surrounding established cities, and adjacent municipalities (comparing 2007–2012 and 2012–2017) **11**

Figure 6. Increase rate for company numbers in surrounding established cities (comparing 2007–2012 and 2012–2017) **12**

Figure 7. Increase rate for employee numbers in surrounding established cities (comparing 2007–2012 and 2012–2017) **12**

Figure 8. Rate changes of employee numbers in innovation cities, surrounding established cities, and adjacent municipalities (comparing 2007–2012 and 2012–2017) **13**

Figure 9. Urban regeneration projects in surrounding established cities of innovation cities **21**

Figure 10. Living SOC complex projects in surrounding established cities of innovation cities **21**

Figure 11. Urban regeneration project-tailored contents and promotion strategy at Daepyeong-dong in Busan **23**

Figure 12. Jochiwon Culture Garden constructed by the Jochiwon Urban Regeneration Project **25**

Figure 13. Mobility on Demand service **26**

**Tables**

Table 1. Operational definitions of regions, subject to analysis **08**

Table 2. Changes in company and job numbers in innovative and surrounding established cities **15**

Table 3. Status of decline in old city centers (dong regions) and the innovation city ripple effect by location **16**

KRIHS
SPECIAL
REPORT

2020

# Strategies for Urban Regeneration Linked to Innovation Cities

Eunnan Kim

Edited by **Global Development Partnership Center** (GDPC)
Editorial Team Se Hoon Park(Editor), Eunhwa Kim, Yiseon Choi
Publication Registration 25100-1994-2
Printed on October 30, 2020
ISBN 979-11-5898-558-5

Published by **Korea Research Institute for Human Settlements** (KRIHS)
Publisher **Hyun-Soo Kang**
5 Gukchaegyeonguwon-ro, Sejong-si, 30147, Republic of Korea
Tel. +82-44-960-0178 / Fax. +82-211-4772
http://www.krihs.re.kr/
http://gdpc.kr/

Designed and Produced by **Goryeo C&P Co., Ltd.**
Tel. +82-2-2277-1508~9